THE MJW COMPANIES

Radiological Consulting Professionals and Expert Technical Services

Sampling Report Addendum 1

For

3125 HIGHLAND AVENUE
NIAGARA FALLS, NEW YORK 14305
Brownfield Cleanup Program Site #C932169

Prepared for:

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Prepared by:

MJW CORPORATION
RADIATION CONSULTING PROFESSIONALS

15 Hazelwood Dr., Suite 112
Amherst, NY, 14228

September 24, 2026

MJW Project No. 26.1015.8

1.0 Introduction

Inventum Engineering, P.C. (Inventum), on behalf of Ganson Alternative Energy, LLC (GAE), is currently performing a Remedial Investigation (RI) and undertaking Interim Remedial Measures (IRM) on the 3125 Highland Avenue Brownfield Cleanup Program (BCP) Site (C932169) located at 3219 and 3301 Highland Avenue in Niagara Falls, New York (the Site). The RI and IRM are being conducted in accordance with the New York State Department of Environmental Conservation (NYSDEC) approved Remedial Investigation Work Plan (RIWP) and Interim Remedial Measures Work Plan (IRMWP), both dated March 2026. The Site is intended for redevelopment and requires various environmental monitoring activities to be performed.

Under the directive of Inventum and in compliance with the NYSDEC-approved RIWP and the attached Radiological Work Plan (RWP), MJW provided a GPS-based overland gamma survey "walkover" of the Site to assess surface and near-surface radiological conditions. After reviewing the walkover results, samples were collected to analytically evaluate the radionuclide content of soils in areas with elevated gamma readings. This report documents the results of the sampling analysis pertaining to Phase 1 of the survey. In accordance with the RWP, the survey work is being conducted in two phases:

- Phase 1: All areas on the Site that are accessible and are NOT located inside of the structures.
- Phase 2: All areas previously inaccessible due to site conditions or work activities. The NYSDEC-approved IRMWP includes the demolition of all on-site structures. After the structures are removed, the newly accessible areas will be subject to a gamma walkover survey, and if required, additional sampling.

2.0 Methodology

Six (6) samples and one field duplicate were collected from elevated locations at the Site. One sample was collected from the local background area identified in the RWP. Table 1 below gives a brief description of the area from where each sample was taken and the type of material sampled.

Table 1. Sample Location Information

Sample ID	*Description*
PC1	Fly ash material identified on the ground surface taken from the Primary Cluster
PC3	Soil taken from the Primary Cluster (Also analyzed via Alpha Spec for U & Th)
PC4	Ceramic tiles from a dilapidated former coal storage silo identified on the ground surface taken from the Primary Cluster
SC5	Soil taken from the Secondary Cluster in the courtyard (Southern half of Site)
SC6	Soil taken from the Secondary Cluster along the western boundary of the Site
NM1	Fly ash material identified within a demolished silo (previously not investigated)
BKG	Native soil collected from Hyde Park
PC3 DUP	Field duplicate of PC3 for quality assurance

Sample materials were gathered from a one-meter square area surrounding each selected location and comingled into a five (5) gallon bucket to generate an approximately 500-gram composite sample. A field duplicate was generated for the Primary Cluster. One (1)- minute scaler counts were taken at each selected location, as well as on the sample jar, using a Ludlum 2241-2 with a Ludlum 44-10 “2x2” NaI detector. All sampling was performed in accordance with MJWRCP-66 Soil Sampling Protocols Rev. 0 dated December 4, 2020 (Attachment 4).

The background sample was collected at the nearby Hyde Park (3200 Pine Ave, Niagara Falls, NY 14305). This area was selected due to its status as a known “clean” site, the similarities in ground cover, and the relative proximity to the Site.

All eight (8) samples collected were analyzed via EPA 901.1m Gamma Spectrometry with a 21-day ingrowth for Ra-226. The soil sample taken near the Primary Cluster (PC3-071426-3125) was additionally analyzed via Alpha Spectrometry for isotopic Uranium and isotopic Thorium. All samples were sent to GEL Labs facilities in Charleston, South Carolina, under a valid Chain of Custody (COC).

3.0 Sampling

3.1 Sample Results

Table 2 below summarizes relevant information from the sample results. No samples exceeded the 5.0 pCi/g DMM-5 (*Attachment 3*) limit for TENORM (Background-Comparable), the maximum reported Ra-226 concentration is 4.07 pCi/g for sample NM1-071426-3125. The local Area Background sample (ABKG) taken from Hyde Park returned a Ra-226 concentration of 1.19 ± 0.149.

3.2 Sample and Gamma Count Association

Of the 12,598 gamma data points collected during the GPS walkover, approximately 0.6% exceeded the 1.5x ABKG mean. Samples were taken at and around those areas with counts above 1.5x ABKG (*Attachment 5*), including at most elevated locations, with none of the sample results demonstrating Ra-226 concentrations above the DMM-5 limit of 5.0 pCi/g for TENORM (Background Comparable). SC5 did not show elevated analytical results (0.453 ± 0.162 pCi/g Ra-226) relative to the background sample, and the elevated gamma data were likely a geometry effect from surrounding structures or NORM in construction materials. The three different materials identified in the primary cluster were all sampled, with only the ceramic tiling returning elevated analytical results (2.18 ± 0.328 pCi/g Ra-226). These tiles were associated with the highest (>3.0x ABKG) gamma data noted in the initial walkover.

Table 2: Results of Site Sample Analysis

Nuclide Information Table												
	Sample Isotope Concentration (pCi/g)											
							GS[5]		AS[5]			
GEL Lab Sample ID[1] ↓	[Ac-228]	UNC[2]	[K-40]	UNC	[Ra-226]	UNC	[U-238]	UNC	[U-238]	UNC	[Th-232]	UNC
PC1-071426-3125	U	U	UI	UI	0.212	0.116	UI	UI	NA	NA	NA	NA
PC3-071426-3125	UI	UI	2.86	0.812	0.654	0.185	UI	UI	U	U	U	U
PC4-071426-3125	1.63	0.562	20.8	2.61	2.18	0.328	U	U	NA	NA	NA	NA
SC5-071426-3125	0.374	0.310	6.51	1.34	0.453	0.162	UI	UI	NA	NA	NA	NA
SC6-071426-3125	1.72	0.384	11.6	1.55	2.62	0.285	UI	UI	NA	NA	NA	NA
NM1-071426-3125	2.06	0.406	9.59	1.45	4.07	0.293	UI	UI	NA	NA	NA	NA
PC3-071426-3125 DUP	0.680	0.191	4.36	0.83	0.732	0.160	1.08	0.775	NA	NA	NA	NA
Bkg-071426-3125	1.36	0.235	19.8	1.52	1.19	0.149	U	U	NA	NA	NA	NA

1. GEL Lab Sample ID: PC (Primary Cluster) SC (Secondary Cluster) NM (Not Measured) - Date (mmddyy) - (3125 Highland) - DUP (Field Duplicate)
2. UNC - Counting Uncertainty
3. U - Unidentified | UI - Gamma Spec Uncertain Identification | NA - Not Analyzed
4. Background Sample Data from Hyde Park located at 3200 Pine Ave, Niagara Falls, see Attachment 1 (SDG 787535)
5. GS - Y Spec | AS - α Spec

4.0 Material Disposition and Future Use

The NM1 sample that was not previously identified during the gamma walkover survey would be classified as TENORM (Background-comparable). This material is elevated over the local area background and would have been generated via industrial processes involving coal.

The SC6 soil sample (*Figure 1*) may be considered NORM. Stone and gravel materials were identified in the area and were included in the sample as they were mixed in the first six (6) inches of soil. Stone and gravel are not materials whose radionuclide concentrations are increased by or as a result of past or present human activities.

The PC4 ceramic tile sample (*Figure 2*) may be considered NORM. Construction materials, notably bricks and other ceramics, contain NORM, including K-40, U-238, Th-232, and their progeny; the concentrations of these nuclides strongly depend on the area of origin. The lack of provenance and the low radionuclide concentration would indicate that these tiles are not TENORM.

No other samples had analytical results above background.

TENORM, at any level, cannot be disposed of in a NYS landfill per 6 NYCRR Part 363-7.1 (o)(7) and must be disposed of at an authorized facility.

The following table summarizes the proposed disposition of materials that may be generated during completion of the RI and IRM with respect to surface and near-surface radiological conditions identified within the footprint of the Phase 1 area:

Table 3: Phase 1 Area Material Disposition

Material	*Description*	*Disposition*
Soil	All surface and subsurface soil including any associated fill materials and debris piles that may be generated as part of the RI sampling program or IRM program.	NORM: Based on the results of the gamma walkover survey and samples PC1, PC3, PC4, SC5, and SC6.
Concrete/Asphalt	Concrete and asphalt that may be generated as part of the RI sampling program or IRM.	NORM: Based on the results of the gamma walkover survey.
Fly Ash Hopper	Fly ash materials identified within the silo staged adjacent to the former boiler house.	TENORM: Based on the results of sample NM1.

5.0 Attachments

Attachment 1: Images and Figures

Attachment 2: GEL Lab Report and EDD 787535

Attachment 3: NYSDEC Program Policy DMM

Attachment 4: MJWRCP-66 Soil Sampling Procedures

Attachment 5: Site Map with Gamma Walkover Data

Attachment 1: Images and Figures

Figure 1. Close-up of soils taken from the Secondary Cluster along the western boundary of the Site (SC6)



Figure 2. Ceramic tiles taken from the Primary Cluster (PC4)



Figure 3. Former Fly Ash Hopper



Attachment 2: GEL Lab Report SDG 787535

GEL Laboratories LLC
a member of The GEL Group INC

2040 Savage Road | Charleston, SC 29407
843.556.8171
gel.com

August 17, 2026

Forest Shostak
MJW Technical Services
15 Hazelwood Drive
Suite 112
Amherst, New York 14228

Re: Routine Analytical
Work Order: 787535

Dear Forest Shostak:

GEL Laboratories, LLC (GEL) appreciates the opportunity to provide the enclosed analytical results for the sample(s) we received on July 23, 2026. This original data report has been prepared and reviewed in accordance with GEL's standard operating procedures.

Test results for NELAP or ISO 17025 accredited tests are verified to meet the requirements of those standards, with any exceptions noted. The results reported relate only to the items tested and to the sample as received by the laboratory. These results may not be reproduced except as full reports without approval by the laboratory. Copies of GEL's accreditations and certifications can be found on our website at www.gel.com.

Our policy is to provide high quality, personalized analytical services to enable you to meet your analytical needs on time every time. We trust that you will find everything in order and to your satisfaction. If you have any questions, please do not hesitate to call me at (843) 556-8171, ext. 4422.

Sincerely,

J W Crook

Jacob Crook
Project Manager

Purchase Order: GELP19-0644
Enclosures

problem solved

MJW Technical Services
Routine Analytical
SDG: 787535

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Case Narrative

Case Narrative
for
MJW Technical Services
SDG: 787535

August 17, 2026

Laboratory Identification:

GEL Laboratories LLC
2040 Savage Road
Charleston, South Carolina 29407
(843) 556-8171

Summary

Sample Receipt The samples arrived at GEL Laboratories LLC, Charleston, South Carolina on July 23, 2026 for analysis. The samples were delivered with proper chain of custody documentation and signatures. All sample containers arrived without any visible signs of tampering or breakage. There are no additional comments concerning sample receipt.

The laboratory preserved the following containers:
No containers were preserved at GEL

Sample Identification The laboratory received the following samples:

Laboratory ID	Client ID
787535001	PC1-071426-3125
787535002	PC3-071426-3125
787535003	PC4-071426-3125
787535004	SC5-071426-3125
787535005	SC6-071426-3125
787535006	NM1-071426-3125
787535007	Bkg-071426-3125
787535008	PC3-071426-3125 DUP

Case Narrative

Sample analyses were conducted using methodology as outlined in GEL Laboratories, LLC (GEL) Standard Operating Procedures. Any technical or administrative problems during analysis, data review, and reduction are contained in the analytical case narratives in the enclosed data package.

Data Package

The enclosed data package contains the following sections: General Narrative, Chain of Custody and Supporting Documentation, and data from the following fractions: Radiochemistry.



Jacob Crook
Project Manager

List of current GEL Certifications as of 17 August 2026

State	Certification
Alabama	42200
Alaska	17-018
Alaska Drinking Water	SC00012
Arkansas	88-00651
CLIA	42D0904046
California	2940
Colorado	SC00012
Connecticut	PH-0169
DoD ELAP/ ISO17025 A2LA	2567.01
Florida NELAP	E87156
Foreign Soils Permit	525-24-281-19660
Georgia	SC00012
Georgia SDWA	967
Hawaii	SC00012
Idaho	SC00012
Illinois NELAP	200029
Indiana	C-SC-01
Kansas NELAP	E-10332
Kentucky SDWA	KY90129
Kentucky Wastewater	KY90129
Louisiana Drinking Water	LA024
Louisiana NELAP	03046 (AI33904)
Maine	2025022
Maryland	270
Massachusetts	M-SC012
Massachusetts PFAS Approval	Letter
Michigan	9976
Mississippi	SC00012
Nebraska	NE-OS-26-13
Nevada	NV-C24-00175
New Hampshire NELAP	205424
New Jersey NELAP	SC002
New Mexico	SC00012
New York NELAP	11501
North Carolina	233
North Carolina SDWA	45709
North Dakota	R-158
Oklahoma	2026-139
Pennsylvania NELAP	68-00485
Puerto Rico	SC00012
S. Carolina Radiochem	10120002
Sanitation Districts of LA	9255651
South Carolina Chemistry	10120001
Tennessee	TN 02934
Texas NELAP	T104704235
Utah NELAP	SC000122026-50
Vermont	VT87156
Virginia NELAP	460202
Washington	C780

Chain of Custody and Supporting Documentation

PO Number: _____
Project #: _____
GEL Quote #: _____
GEL Project Manager: _____

GEL Laboratories LLC
CHEMISTRY RADIOCHEMISTRY RADIOBIOASSAY SPECIALTY ANALYTICS
843.556.8171 | 2040 Savage Road | Charleston, SC 29407 | gel.com

Chain of Custody and Analytical Record
(1) COC Number :
Page: _____ of _____
GEL Work Order Number: 737535

GEL Client Name: MJW Companies
Phone Number: 716-631-8291
Project/Site Name: 3125 Highland
Address: 3125 Highland Ave, Niagara Falls, NY 14305
Collected By: Paul Koch
Send Results To: jobermeier@mjwcorp.com

Turn Around Time Requested. *Rush subject to surcharge.*
Standard: _____
Rush (Specify): _____

Sample ID (Each ID listed will be reported as a unique sample unless otherwise instructed. * For composites - indicate start and stop date/time)	*Date Collected (mm-dd-yy)	*Time Collected (Military) (hhmm)	(2) Field Filtered	(3) QC Code	(4) Sample Matrix	Should this sample be considered: (7) Radioactive (Y or N)	Should this sample be considered: (8) Known or possible Hazards	Total number of containers	(5) Sample Analysis Requested: Gamma Spec	Alpha Th	Alpha U							(6) Preservative Type / Comments
PC1-071426-3125	07.14.26	0900	N	G	SS			1	X									Alpha Spec for
PC3-071426-3125	07.14.26	0930	N	G	SO			1	X	X	X							U-235, U-238,
PC4-071426-3125	07.14.26	1000	N	G	SS			1	X									Th-232, & Th-234
SCS-071426-3125	07.14.26	1030	N	G	SO			1	X									
SC6-071426-3125	07.14.26	1100	N	G	SO			1	X									21-day ingrowth
NM1-071426-3125	07.14.26	1130	N	G	SS			1	X									for Ra-226
BKg-071426-3125	07.14.26	1200	N	G	SO			1	X									
PC3-071426-3125 DUP	07.14.26	0930	N	G	SO			1	X									

Chain of Custody Signatures

Relinquished By (Signed)	Date	Time	Received by (signed)	Date	Time
1	7/21/26	1600	1	7-23-26	945
2			2		
3			3		

For Lab Receiving Use Only: Custody Seal Intact? [ ] Yes [ ] No Cooler Temp: 21 °C

Select Deliverable: [ ] Results and QC Summary [ ] Calibration Summary [ ] Raw Data [ ] Standards Traceability
EDD Required? [ ] If yes, specify type.
Required Certification:
Sample Collection Time Zone: [ ] Eastern [ ] Pacific [ ] Central [ ] Mountain [ ] Other:
Additional Comments: Please store excess samples for 3 months
For sample shipping and delivery details, see Sample Receipt & Review form (SRR.)

(1) Chain of Custody Number
Client Determined

(2) Field Filtered
For liquid matrices, indicate with a Y for yes the sample was field filtered.

(3) QC Codes
Equipment Blank (EB), Field Reagent Blank, Field Duplicate (DUP), Trip Blank (TB), Matrix Spike (MS), Matrix Spike Duplicate (MSD), Composite (C), Grab (G)

(4) Matrix Codes
Biosolid (SB), Concrete (C), Drinking Water (DW), Fecal (FC), Filter (F), Groundwater (GW), Leachate (L), Misc Liquid (ML), Oil (O), Sediment (SD), Sludge (SL), Soil (SO), Solid Waste (SS), Storm Water (WS), Surface Water (SW), Tissue (T), Urine (U), Vegetation (V), Waste Water (WW), Water (W), Wipe (P)

(6) Preservative Type
Ammonium Acetate (AM), Ascorbic Acid (AA), Hexane (HX), Hydrochloric Acid (HA), Methanol (ME), Nitric Acid (NI), Sodium Hydroxide (SH), Sodium Bisulfate (SBA), Sodium BisulfiteSBI), Sulfuric Acid (SA), Trizma (TZ), Zinc Acetate (ZA), Sodium Thiosulfate (ST)
Leave blank if no preservative is added.

(7) Radioactive *** *If yes, email rso@gel.com prior to shipment for approval. Isotopic data should be included in the email and with the sample shipment.* ** **

(8) Known or Possible Hazards
Identify the "Source of the Sample" material
(e.g., NPDES discharge, waste material, stormwater, groundwater, Superfund Site etc.)

RCRA Metals: Arsenic (As), Barium (Ba), Cadmium (Cd), Chromium (Cr), Lead (Pb), Mercury (Hg), Selenium (Se), Silver (Ag), Misc. RCRA (MR)
Is this sample known or suspected to be RCRA Hazardous? *Yes [ ] No [ ]*

Characteristic: Flammable/Ignitable (FL), Corrosive (CO), Reactive (RE)
TSCA Regulated: Polychlorinated biphenyls (PCB)

Listed Waste: Listed Waste (LW) *(F,K,P and U-listed wastes.)* *Waste code(s):*

Other: Other / Unknown (OT) *(i.e.: asbestos, beryllium, High/low pH, irritants, other misc. health hazards, etc.)* *Description:*

Please provide any additional details below regarding handling and/or disposal concerns.

GEL Laboratories LLC

SAMPLE RECEIPT & REVIEW FORM

Client: MJWC	**SDG/AR/COC/Work Order:** 787535	**GEL PM:** JC
Received By: JMH	**Date Received at GEL:** 7/23/26	

Carrier (Circle Applicable)
FedEx Express (FedEx Ground) UPS Field Services Courier Client Other:

IR Temp gun # IR5-25 Daily Calibration Performed? (Y)N

Tracking Number	Temp (C)	If over 6 °C, check if samples do not require cold preservation (ie radiochem only).	Tracking Number	Temp (C)	If over 6 °C, check if samples do not require cold preservation (ie radiochem only).
874696675148	21	✓			

Suspected Hazard Information	Yes	No	*If Net Counts > 100cpm on samples not marked "radioactive", contact the Radiation Safety Group for further investigation.
A)Shipped as a DOT Hazardous?		✓	Hazard Class Shipped: UN#: If UN2910, Is the Radioactive Shipment Survey Compliant? Yes___ No___
B) Did the client designate the samples are to be received as radioactive?		✓	COC notation or radioactive stickers on containers equal client designation.
C) Did the RSO classify the samples as radioactive?		✓	Maximum Net Counts Observed* (Observed Counts - Area Background Counts): 0 CPM / mR/Hr Classified as: Rad 1 Rad 2 Rad 3
D) Are there any sample hazards to document?		✓	If yes, select Hazards below. PCBs Flammable Foreign Soil RCRA Asbestos Beryllium Corrosive Other:
E) Was an SDS received and reviewed by Lab Safety?		✓	Circle Applicable: See additional Comments below. No additional comments needed after review.

	Sample Receipt Criteria	Yes	NA	No	Comments/Qualifiers (Required for Non-Conforming Items)
1	Shipping containers received intact and sealed?	✓			Circle Applicable: Direct client dropoff Seals broken Damaged container Leaking container Other (describe)
2	Chain of custody documents included with shipment?	✓			Circle Applicable: Client contacted and provided COC COC created upon receipt
3	If there are samples requiring cold preservation, did they arrive within (0 < 6 °C)?		✓		Preservation Method: Wet Ice Ice Packs Dry Ice (None) Other: *all temperatures recorded next to tracking numbers are in Celcius
4	Sample containers intact and sealed?	✓			Circle Applicable: Seals broken Damaged container Leaking container Other (describe)
5	Samples requiring chemical preservation at proper pH?		✓		Preserved per COC request or list Sample IDs and Containers Affected:
6	Do any samples require Volatile Analysis? (If yes, answer all three additional questions.)			✓	If Yes, are Encores or Soil Kits present? Yes___ No___ (If yes, take to VOA Freezer) Do liquid VOA vials contain acid preservation? Yes___ No___ NA___(If unknown, select No) Are liquid VOA vials free of headspace? Yes___ No___ NA___ Sample IDs and containers affected:
7	Samples received within holding time?	✓			IDs and tests affected:
8	Sample IDs on COC match IDs on bottles?	✓			IDs and containers affected:
9	Date & time on COC match date & time on bottles?			✓	Circle Applicable: No dates on containers No times on containers COC missing info Other (describe)
10	Number of containers received match number indicated on COC?	✓			Circle Applicable: No container count on COC Missing Container (provide details) Other (describe)
11	Are sample containers identifiable as GEL provided by use of GEL labels?			✓	
12	COC form is properly signed in relinquished/received sections?	✓			Circle Applicable: Not relinquished Other (describe)

Comments:

PM (or PMA) review: Initials KSO Date 7/27/26

Continuation Form Required when selected

Data Review Qualifier Definitions

Data Review Qualifier Definitions

Qualifier	Explanation
*	A quality control analyte recovery is outside of specified acceptance criteria
**	Analyte is a surrogate compound
<	Result is less than value reported
>	Result is greater than value reported
^	RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL
A	The TIC is a suspected aldol-condensation product
B	Target analyte was detected in the associated blank
B	Metals-Either presence of analyte detected in the associated blank, or MDL/IDL < sample value < PQL
BD	Results are either below the MDC or tracer recovery is low
C	Analyte has been confirmed by GC/MS analysis
D	Results are reported from a diluted aliquot of the sample
d	5-day BOD-The 2:1 depletion requirement was not met for this sample
E	Organics-Concentration of the target analyte exceeds the instrument calibration range
E	Metals-%difference of sample and SD is >10%. Sample concentration must meet flagging criteria
H	Analytical holding time was exceeded
h	Preparation or preservation holding time was exceeded
J	Value is estimated
N	Metals-The Matrix spike sample recovery is not within specified control limits
N	Organics-Presumptive evidence based on mass spectral library search to make a tentative identification of the analyte (TIC). Quantitation is based on nearest internal standard response factor
N/A	Spike recovery limits do not apply. Sample concentration exceeds spike concentration by 4X or more
ND	Analyte concentration is not detected above the reporting limit
UI	Gamma Spectroscopy-Uncertain identification
X	Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
Y	QC Samples were not spiked with this compound
Z	Paint Filter Test-Particulates passed through the filter; however, no free liquids were observed.
P	Organics-The concentrations between the primary and confirmation columns/detectors is >40% difference.

For HPLC, the difference is >70%.

U Analyte was analyzed for, but not detected above the MDL, MDA, or LOD.

Radiological Analysis

Case Narrative

Radiochemistry
Technical Case Narrative
MJW Technical Services
SDG #: 787535

Product: **Alphaspec Th, Solid**
Analytical Method: DOE EML HASL-300, Th-01-RC Modified
Analytical Procedure: GL-RAD-A-038 REV# 20
Analytical Batch: 3034787

Preparation Method: Dry Soil Prep
Preparation Procedure: GL-RAD-A-021 REV# 26
Preparation Batch: 3033039

The following samples were analyzed using the above methods and analytical procedure(s).

GEL Sample ID#	Client Sample Identification
787535002	PC3-071426-3125
1206541955	Method Blank (MB) **Batch 3034787**
1206541956	787535002(PC3-071426-3125) Sample Duplicate (DUP)
1206541957	Laboratory Control Sample (LCS)

The samples in this SDG were analyzed on a "dry weight" basis.

Data Summary:

There are no exceptions, anomalies or deviations from the specified methods. All sample data provided in this report met the acceptance criteria specified in the analytical methods and procedures for initial calibration, continuing calibration, instrument controls and process controls where applicable.

Product: **Alphaspec U, Solid**
Analytical Method: DOE EML HASL-300, U-02-RC Modified
Analytical Procedure: GL-RAD-A-011 REV# 30
Analytical Batch: 3034788

Preparation Method: Dry Soil Prep
Preparation Procedure: GL-RAD-A-021 REV# 26
Preparation Batch: 3033039

The following samples were analyzed using the above methods and analytical procedure(s).

GEL Sample ID#	Client Sample Identification
787535002	PC3-071426-3125
1206541958	Method Blank (MB) **Batch 3034788**
1206541959	787535002(PC3-071426-3125) Sample Duplicate (DUP)
1206541960	Laboratory Control Sample (LCS)

The samples in this SDG were analyzed on a "dry weight" basis.

Data Summary:

There are no exceptions, anomalies or deviations from the specified methods. All sample data provided in this report met the acceptance criteria specified in the analytical methods and procedures for initial calibration, continuing calibration, instrument controls and process controls where applicable.

Product: **Dry Weight**
Preparation Method: Dry Soil Prep
Preparation Procedure: GL-RAD-A-021 REV# 26
Preparation Batch: 3033039

The following samples were analyzed using the above methods and analytical procedure(s).

GEL Sample ID#	Client Sample Identification
787535001	PC1-071426-3125
787535002	PC3-071426-3125
787535003	PC4-071426-3125
787535004	SC5-071426-3125
787535005	SC6-071426-3125
787535006	NM1-071426-3125
787535007	Bkg-071426-3125
787535008	PC3-071426-3125 DUP

The samples in this SDG were analyzed on an "as received" basis.

Data Summary:

There are no exceptions, anomalies or deviations from the specified methods. All sample data provided in this report met the acceptance criteria specified in the analytical methods and procedures for initial calibration, continuing calibration, instrument controls and process controls where applicable.

Product: **Gammaspec, Gamma, Solid (Standard List)**
Analytical Method: DOE HASL 300, 4.5.2.3/Ga-01-R
Analytical Procedure: GL-RAD-A-013 REV# 30
Analytical Batch: 3033734

Preparation Method: Dry Soil Prep
Preparation Procedure: GL-RAD-A-021 REV# 26
Preparation Batch: 3033039

The following samples were analyzed using the above methods and analytical procedure(s).

GEL Sample ID#	Client Sample Identification
787535001	PC1-071426-3125
787535002	PC3-071426-3125
787535003	PC4-071426-3125
787535004	SC5-071426-3125
787535005	SC6-071426-3125

787535006	NM1-071426-3125
787535007	Bkg-071426-3125
787535008	PC3-071426-3125 DUP
1206539882	Method Blank (MB) **Batch 3033734**
1206539883	787521001(NonSDG) Sample Duplicate (DUP)
1206539884	Laboratory Control Sample (LCS)

The samples in this SDG were analyzed on a "dry weight" basis.

Data Summary:

There are no exceptions, anomalies or deviations from the specified methods. All sample data provided in this report met the acceptance criteria specified in the analytical methods and procedures for initial calibration, continuing calibration, instrument controls and process controls where applicable.

Qualifier Information

Qualifier	Reason	Analyte	Sample
UI	Results are considered a false positive due to interference from Ac-228 at 106 keV.	Europium-155	787535006 (NM1-071426-3125)
UI	Results are considered a false positive due to low abundance.	Bismuth-214	787535001 (PC1-071426-3125)
		Cesium-134	787535005 (SC6-071426-3125)
		Cesium-134	787535007 (Bkg-071426-3125)
		Thorium-234	787535002 (PC3-071426-3125)
		Uranium-238	787535002 (PC3-071426-3125)
UI	Results are considered a false positive due to no valid peak.	Actinium-228	787535002 (PC3-071426-3125)
		Cobalt-57	787535003 (PC4-071426-3125)
		Potassium-40	787535001 (PC1-071426-3125)
		Radium-228	787535002 (PC3-071426-3125)
		Thorium-234	787535001 (PC1-071426-3125)
		Thorium-234	787535004 (SC5-071426-3125)
		Thorium-234	787535005 (SC6-071426-3125)

Thorium-234	787535006 (NM1-071426-3125)
Uranium-235	787535005 (SC6-071426-3125)
Uranium-238	787535001 (PC1-071426-3125)
Uranium-238	787535004 (SC5-071426-3125)
Uranium-238	787535005 (SC6-071426-3125)
Uranium-238	787535006 (NM1-071426-3125)

Certification Statement

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless otherwise noted in the analytical case narrative.

Moisture LogBook

Batch: 3033039
Analyst: DT2
Date/Time: 26-JUL-2026
Procedure Code:___PREPD
Procedure Description: Dry Soil Prep GL-RAD-A-021
Lab Sop: GL-RAD-A-021

Sample St	Sample Id	Rpd(%)

Sample Id	Sample Type	Original Hsn	Balance	Run Time	Container Wt	Initial Wt	Final Wt (g)	Net Initial Wt (g)	Net Final Wt (g)	Moisture (%)
787535001	SAMPLE		SP-C234673837	13:07	67.51	305.12	299.81	237.61	232.3	2.234
787535002	SAMPLE		SP-C234673837	13:07	67.45	479.74	462.19	412.29	394.74	4.256
787535003	SAMPLE		SP-C234673837	13:07	67.42	351.66	346.63	284.24	279.21	1.769
787535004	SAMPLE		SP-C234673837	13:07	67.46	270.97	233.68	203.51	166.22	18.323
787535005	SAMPLE		SP-C234673837	13:07	67.32	338.07	295.63	270.75	228.31	15.674
787535006	SAMPLE		SP-C234673837	13:07	67.49	323.26	320.56	255.77	253.07	1.055
787535007	SAMPLE		SP-C234673837	13:07	67.27	306.13	251.3	238.86	184.03	22.954
787535008	SAMPLE		SP-C234673837	13:07	67.73	425.44	406.74	357.71	339.01	5.227

Comments:

A) Result = (Net Initial - Net Final) /Net Initial * 100

Note: Aliquot is used for the determination of the effective MDL and PQL in LIMS

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Qualifier Definition Report
for

MJWC001 MJW Technical Services

Client SDG: 787535 GEL Work Order: 787535

The Qualifiers in this report are defined as follows:

* A quality control analyte recovery is outside of specified acceptance criteria
** Analyte is a Tracer compound
U Analyte was analyzed for, but not detected above the MDL, MDA, MDC or LOD.
UI Gamma Spectroscopy--Uncertain identification

Review/Validation

GEL requires all analytical data to be verified by a qualified data reviewer. In addition, all CLP-like deliverables receive a third level review of the fractional data package.

The following data validator verified the information presented in this data report:

Signature: John Petrovic **Name: John Petrovic**

Date: 19 AUG 2026 **Title: Data Validator II**

Sample Data Summary

GEL LABORATORIES LLC
2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Company : MJW Technical Services
Address : 15 Hazelwood Drive
Suite 112
Amherst, New York 14228

Report Date: August 19, 2026

Contact: Forest Shostak
Project: Routine Analytical

Client Sample ID: PC1-071426-3125
Sample ID: 787535001
Matrix: Solid
Collect Date: 14-JUL-26
Receive Date: 23-JUL-26
Collector: Client
Moisture: 2.23%

Project: MJWC01325
Client ID: MJWC001

Parameter	Qualifier	Result	Uncertainty	MDC	TPU	RL	Units	PF	DF	Analyst	Date	Time	Batch	Mtd.
Rad Gamma Spec Analysis														
Gammaspec, Gamma, Solid (Standard List) "Dry Weight Corrected"														
Actinium-228	U	0.195	+/-0.185	0.420	+/-0.205		pCi/g			GG	08/17/26	0602	3033734	1
Americium-241	U	-0.0611	+/-0.111	0.202	+/-0.115		pCi/g							
Antimony-124	U	-0.0175	+/-0.113	0.235	+/-0.113		pCi/g							
Antimony-125	U	-0.0646	+/-0.0724	0.110	+/-0.0783		pCi/g							
Barium-133	U	-0.00550	+/-0.0332	0.0611	+/-0.0333		pCi/g							
Barium-140	U	-0.272	+/-0.635	1.09	+/-0.647		pCi/g							
Beryllium-7		1.43	+/-0.720	0.762	+/-0.730		pCi/g							
Bismuth-212	U	0.322	+/-0.520	1.08	+/-0.541		pCi/g							
Bismuth-214	UI	0.000	+/-0.169	0.243	+/-0.210		pCi/g							
Cerium-139	U	0.000126	+/-0.0272	0.0508	+/-0.0272		pCi/g							
Cerium-141	U	-0.0132	+/-0.0711	0.131	+/-0.0713		pCi/g							
Cerium-144	U	-0.000879	+/-0.165	0.310	+/-0.165		pCi/g							
Cesium-134	U	-0.0325	+/-0.0354	0.0596	+/-0.0385		pCi/g							
Cesium-136	U	-0.0677	+/-0.202	0.402	+/-0.204		pCi/g							
Cesium-137	U	-0.000847	+/-0.0288	0.0555	+/-0.0288	0.100	pCi/g							
Chromium-51	U	-0.165	+/-0.495	0.880	+/-0.500		pCi/g							
Cobalt-56	U	-0.0224	+/-0.0309	0.0545	+/-0.0326		pCi/g							
Cobalt-57	U	-0.00267	+/-0.0188	0.0353	+/-0.0189		pCi/g							
Cobalt-58	U	0.0269	+/-0.0374	0.0902	+/-0.0395		pCi/g							
Cobalt-60	U	0.000203	+/-0.0254	0.0598	+/-0.0254		pCi/g							
Europium-152	U	-0.0178	+/-0.0704	0.129	+/-0.0709		pCi/g							
Europium-154	U	0.0979	+/-0.0953	0.256	+/-0.105		pCi/g							
Europium-155	U	0.0105	+/-0.0673	0.133	+/-0.0674		pCi/g							
Iridium-192	U	-0.0118	+/-0.0368	0.0654	+/-0.0372		pCi/g							
Iron-59	U	0.0170	+/-0.0811	0.190	+/-0.0815		pCi/g							
Lead-210	U	3.97	+/-5.64	5.59	+/-5.65		pCi/g							
Lead-212		0.124	+/-0.138	0.102	+/-0.139		pCi/g							
Lead-214		0.212	+/-0.116	0.115	+/-0.117		pCi/g							
Manganese-54	U	-0.00977	+/-0.0314	0.0633	+/-0.0317		pCi/g							
Mercury-203	U	-0.00682	+/-0.0402	0.0738	+/-0.0403		pCi/g							
Neodymium-147	U	0.0774	+/-1.64	3.13	+/-1.64		pCi/g							
Neptunium-239	U	0.00193	+/-0.193	0.369	+/-0.193		pCi/g							
Niobium-94	U	0.000930	+/-0.0335	0.0623	+/-0.0335		pCi/g							
Niobium-95	U	-0.00454	+/-0.0465	0.0919	+/-0.0465		pCi/g							
Potassium-40	UI	0.000	+/-0.894	0.847	+/-0.902		pCi/g							
Promethium-144	U	-0.00859	+/-0.0358	0.0625	+/-0.0360		pCi/g							
Promethium-146	U	0.0195	+/-0.0343	0.0699	+/-0.0354		pCi/g							
Radium-226		0.212	+/-0.116	0.115	+/-0.117		pCi/g							

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Certificate of Analysis

Company : MJW Technical Services
Address : 15 Hazelwood Drive
Suite 112
Amherst, New York 14228

Report Date: August 19, 2026

Contact: Forest Shostak
Project: Routine Analytical

Client Sample ID: PC1-071426-3125
Sample ID: 787535001

Project: MJWC01325
Client ID: MJWC001

Parameter	Qualifier	Result	Uncertainty	MDC	TPU	RL	Units	PF	DF	Analyst	Date	Time	Batch	Mtd.
Rad Gamma Spec Analysis														
Gammaspec, Gamma, Solid (Standard List) "Dry Weight Corrected"														
Radium-228	U	0.195	+/-0.185	0.420	+/-0.205		pCi/g							
Ruthenium-106	U	0.248	+/-0.230	0.564	+/-0.257		pCi/g							
Silver-110m	U	0.0254	+/-0.0456	0.106	+/-0.0471		pCi/g							
Sodium-22	U	0.0336	+/-0.0335	0.0899	+/-0.0369		pCi/g							
Thallium-208		0.0920	+/-0.0577	0.0573	+/-0.0582		pCi/g							
Thorium-234	UI	0.000	+/-1.46	1.46	+/-1.52		pCi/g							
Tin-113	U	-0.00971	+/-0.0415	0.0751	+/-0.0418		pCi/g							
Uranium-235	U	-0.0134	+/-0.171	0.317	+/-0.171		pCi/g							
Uranium-238	UI	0.000	+/-1.46	1.46	+/-1.52		pCi/g							
Yttrium-88	U	-0.00646	+/-0.0390	0.0843	+/-0.0392		pCi/g							
Zinc-65	U	-0.0169	+/-0.0722	0.144	+/-0.0726		pCi/g							
Zirconium-95	U	0.0717	+/-0.0780	0.183	+/-0.0847		pCi/g							

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	DT2	07/26/26	1307	3033039

The following Analytical Methods were performed

Method	Description
1	DOE HASL 300, 4.5.2.3/Ga-01-R

Surrogate/Tracer Recovery	Test	Batch ID	Recovery%	Acceptable Limits

Notes:

The MDC is a sample specific MDC.
TPU and Counting Uncertainty are calculated at the 95% confidence level (1.96-sigma).

Column headers are defined as follows:

DF: Dilution Factor
DL: Detection Limit
Lc/LC: Critical Level
MDA: Minimum Detectable Activity
MDC: Minimum Detectable Concentration
Mtd.: Method
PF: Prep Factor
RL: Reporting Limit
TPU: Total Propagated Uncertainty

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Certificate of Analysis

Company : MJW Technical Services
Address : 15 Hazelwood Drive
Suite 112
Amherst, New York 14228

Report Date: August 19, 2026

Contact: Forest Shostak
Project: Routine Analytical

Client Sample ID: PC3-071426-3125
Sample ID: 787535002
Matrix: Solid
Collect Date: 14-JUL-26
Receive Date: 23-JUL-26
Collector: Client
Moisture: 4.26%

Project: MJWC01325
Client ID: MJWC001

Parameter	Qualifier	Result	Uncertainty	MDC	TPU	RL	Units	PF	DF	Analyst	Date	Time	Batch	Mtd.
Rad Alpha Spec Analysis														
Alphaspec Th, Solid "Dry Weight Corrected"														
Thorium-230	U	0.494	+/-0.419	0.555	+/-0.426	1.00	pCi/g			SB3	08/06/26	0831	3034787	1
Thorium-232	U	0.330	+/-0.330	0.419	+/-0.333	1.00	pCi/g							
Alphaspec U, Solid "Dry Weight Corrected"														
Uranium-235/236	U	0.000	+/-0.118	0.175	+/-0.118	1.00	pCi/g			SB3	08/06/26	0821	3034788	2
Uranium-238	U	0.0965	+/-0.192	0.312	+/-0.192	1.00	pCi/g							
Rad Gamma Spec Analysis														
Gammaspec, Gamma, Solid (Standard List) "Dry Weight Corrected"														
Actinium-228	UI	0.000	+/-0.212	0.209	+/-0.214		pCi/g			GG	08/17/26	0603	3033734	3
Americium-241	U	-0.0487	+/-0.193	0.327	+/-0.194		pCi/g							
Antimony-124	U	-0.00223	+/-0.0600	0.150	+/-0.0600		pCi/g							
Antimony-125	U	-0.000630	+/-0.0936	0.168	+/-0.0936		pCi/g							
Barium-133	U	0.00436	+/-0.0481	0.0803	+/-0.0481		pCi/g							
Barium-140	U	-0.156	+/-0.514	1.01	+/-0.519		pCi/g							
Beryllium-7	U	0.0680	+/-0.289	0.620	+/-0.290		pCi/g							
Bismuth-212	U	0.00547	+/-0.494	0.978	+/-0.494		pCi/g							
Bismuth-214		0.501	+/-0.165	0.131	+/-0.170		pCi/g							
Cerium-139	U	-0.00584	+/-0.0250	0.0448	+/-0.0252		pCi/g							
Cerium-141	U	0.0560	+/-0.0819	0.160	+/-0.0858		pCi/g							
Cerium-144	U	-0.0253	+/-0.164	0.299	+/-0.165		pCi/g							
Cesium-134	U	0.00338	+/-0.0341	0.0651	+/-0.0341		pCi/g							
Cesium-136	U	-0.000952	+/-0.182	0.394	+/-0.182		pCi/g							
Cesium-137		0.461	+/-0.0921	0.0682	+/-0.0993	0.100	pCi/g							
Chromium-51	U	0.159	+/-0.480	0.931	+/-0.485		pCi/g							
Cobalt-56	U	-0.0284	+/-0.0411	0.0719	+/-0.0432		pCi/g							
Cobalt-57	U	-0.00663	+/-0.0237	0.0389	+/-0.0239		pCi/g							
Cobalt-58	U	0.00527	+/-0.0305	0.0678	+/-0.0306		pCi/g							
Cobalt-60	U	-0.00943	+/-0.0330	0.0641	+/-0.0333		pCi/g							
Europium-152	U	0.0220	+/-0.0842	0.151	+/-0.0848		pCi/g							
Europium-154	U	-0.00109	+/-0.0612	0.142	+/-0.0612		pCi/g							
Europium-155	U	0.0234	+/-0.0929	0.176	+/-0.0935		pCi/g							
Iridium-192	U	0.0221	+/-0.0330	0.0674	+/-0.0345		pCi/g							
Iron-59	U	-0.0215	+/-0.100	0.174	+/-0.101		pCi/g							
Lead-210	U	5.91	+/-7.38	15.2	+/-7.87		pCi/g							
Lead-212		0.424	+/-0.110	0.0895	+/-0.117		pCi/g							
Lead-214		0.654	+/-0.185	0.128	+/-0.194		pCi/g							
Manganese-54	U	-0.0263	+/-0.0344	0.0591	+/-0.0365		pCi/g							
Mercury-203	U	-0.0102	+/-0.0462	0.0812	+/-0.0465		pCi/g							
Neodymium-147	U	0.0132	+/-1.31	2.72	+/-1.31		pCi/g							

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Certificate of Analysis

Company : MJW Technical Services
Address : 15 Hazelwood Drive
Suite 112
Amherst, New York 14228

Report Date: August 19, 2026

Contact: Forest Shostak
Project: Routine Analytical

Client Sample ID: PC3-071426-3125
Sample ID: 787535002

Project: MJWC01325
Client ID: MJWC001

Parameter	Qualifier	Result	Uncertainty	MDC	TPU	RL	Units	PF	DF	Analyst	Date	Time	Batch	Mtd.
Rad Gamma Spec Analysis														
Gammaspec, Gamma, Solid (Standard List) "Dry Weight Corrected"														
Neptunium-239	U	-0.0496	+/-0.216	0.390	+/-0.217		pCi/g							
Niobium-94	U	0.0267	+/-0.0290	0.0674	+/-0.0315		pCi/g							
Niobium-95	U	0.0108	+/-0.0408	0.0806	+/-0.0411		pCi/g							
Potassium-40		2.86	+/-0.812	0.616	+/-0.879		pCi/g							
Promethium-144	U	0.00624	+/-0.0208	0.0475	+/-0.0210		pCi/g							
Promethium-146	U	0.000110	+/-0.0377	0.0756	+/-0.0377		pCi/g							
Radium-226		0.654	+/-0.185	0.128	+/-0.194		pCi/g							
Radium-228	UI	0.000	+/-0.212	0.209	+/-0.214		pCi/g							
Ruthenium-106	U	-0.167	+/-0.231	0.421	+/-0.244		pCi/g							
Silver-110m	U	-0.0141	+/-0.0451	0.0862	+/-0.0455		pCi/g							
Sodium-22	U	-0.00605	+/-0.0245	0.0506	+/-0.0246		pCi/g							
Thallium-208		0.123	+/-0.0934	0.0572	+/-0.0940		pCi/g							
Thorium-234	UI	0.000	+/-4.83	3.43	+/-5.47		pCi/g							
Tin-113	U	-0.00554	+/-0.0404	0.0727	+/-0.0405		pCi/g							
Uranium-235	U	-0.0386	+/-0.184	0.337	+/-0.185		pCi/g							
Uranium-238	UI	0.000	+/-4.83	3.43	+/-5.47		pCi/g							
Yttrium-88	U	0.0187	+/-0.0249	0.0818	+/-0.0263		pCi/g							
Zinc-65	U	0.0184	+/-0.0474	0.114	+/-0.0482		pCi/g							
Zirconium-95	U	0.00671	+/-0.0734	0.152	+/-0.0735		pCi/g							

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	DT2	07/26/26	1307	3033039

The following Analytical Methods were performed

Method	Description
1	DOE EML HASL-300, Th-01-RC Modified
2	DOE EML HASL-300, U-02-RC Modified
3	DOE HASL 300, 4.5.2.3/Ga-01-R

Surrogate/Tracer Recovery	Test	Batch ID	Recovery%	Acceptable Limits
Thorium-229 Tracer	Alphaspec Th, Solid "Dry Weight Corrected"	3034787	88.3	(15%-125%)
Uranium-232 Tracer	Alphaspec U, Solid "Dry Weight Corrected"	3034788	85	(15%-125%)

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Certificate of Analysis

Company : MJW Technical Services
Address : 15 Hazelwood Drive
Suite 112
Amherst, New York 14228

Report Date: August 19, 2026

Contact: Forest Shostak
Project: Routine Analytical

Client Sample ID: PC3-071426-3125
Sample ID: 787535002

Project: MJWC01325
Client ID: MJWC001

Parameter	Qualifier	Result	Uncertainty	MDC	TPU	RL	Units	PF	DF	Analyst	Date	Time	Batch	Mtd.
Surrogate/Tracer Recovery	**Test**							**Batch ID**		**Recovery%**	**Acceptable Limits**			

Notes:

The MDC is a sample specific MDC.
TPU and Counting Uncertainty are calculated at the 95% confidence level (1.96-sigma).

Column headers are defined as follows:

DF: Dilution Factor
DL: Detection Limit
Lc/LC: Critical Level
MDA: Minimum Detectable Activity
MDC: Minimum Detectable Concentration
Mtd.: Method
PF: Prep Factor
RL: Reporting Limit
TPU: Total Propagated Uncertainty

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Certificate of Analysis

Company : MJW Technical Services
Address : 15 Hazelwood Drive
Suite 112
Amherst, New York 14228

Report Date: August 19, 2026

Contact: Forest Shostak
Project: Routine Analytical

Client Sample ID: PC4-071426-3125
Sample ID: 787535003
Matrix: Solid
Collect Date: 14-JUL-26
Receive Date: 23-JUL-26
Collector: Client
Moisture: 1.77%

Project: MJWC01325
Client ID: MJWC001

Parameter	Qualifier	Result	Uncertainty	MDC	TPU	RL	Units	PF	DF	Analyst	Date	Time	Batch	Mtd.
Rad Gamma Spec Analysis														
Gammaspec, Gamma, Solid (Standard List) "Dry Weight Corrected"														
Actinium-228		1.63	+/-0.562	0.350	+/-0.594		pCi/g			GG	08/17/26	0603	3033734	1
Americium-241	U	0.110	+/-0.231	0.487	+/-0.237		pCi/g							
Antimony-124	U	-0.0622	+/-0.134	0.248	+/-0.137		pCi/g							
Antimony-125	U	-0.0684	+/-0.113	0.196	+/-0.118		pCi/g							
Barium-133	U	-0.0273	+/-0.0555	0.0901	+/-0.0569		pCi/g							
Barium-140	U	-0.0961	+/-0.846	1.58	+/-0.847		pCi/g							
Beryllium-7	U	0.565	+/-0.483	1.07	+/-0.548		pCi/g							
Bismuth-212	U	1.84	+/-0.773	1.89	+/-1.15		pCi/g							
Bismuth-214		1.58	+/-0.283	0.173	+/-0.313		pCi/g							
Cerium-139	U	0.00547	+/-0.0396	0.0772	+/-0.0397		pCi/g							
Cerium-141	U	0.00885	+/-0.106	0.208	+/-0.106		pCi/g							
Cerium-144	U	-0.184	+/-0.238	0.404	+/-0.252		pCi/g							
Cesium-134	U	0.0393	+/-0.0609	0.131	+/-0.0636		pCi/g							
Cesium-136	U	0.727	+/-0.480	0.805	+/-0.588		pCi/g							
Cesium-137	U	0.00208	+/-0.0482	0.0907	+/-0.0482	0.100	pCi/g							
Chromium-51	U	0.170	+/-0.688	1.35	+/-0.692		pCi/g							
Cobalt-56	U	-0.0508	+/-0.0672	0.121	+/-0.0712		pCi/g							
Cobalt-57	UI	0.000	+/-0.0565	0.0600	+/-0.0567		pCi/g							
Cobalt-58	U	-0.0132	+/-0.0585	0.116	+/-0.0588		pCi/g							
Cobalt-60	U	0.000182	+/-0.0342	0.0777	+/-0.0342		pCi/g							
Europium-152	U	-0.0597	+/-0.118	0.210	+/-0.121		pCi/g							
Europium-154	U	0.0282	+/-0.182	0.373	+/-0.183		pCi/g							
Europium-155	U	-0.0194	+/-0.122	0.237	+/-0.122		pCi/g							
Iridium-192	U	0.00252	+/-0.0491	0.0942	+/-0.0491		pCi/g							
Iron-59	U	-0.198	+/-0.137	0.184	+/-0.165		pCi/g							
Lead-210	U	-3.71	+/-7.78	15.7	+/-7.97		pCi/g							
Lead-212		1.96	+/-0.210	0.129	+/-0.278		pCi/g							
Lead-214		2.18	+/-0.328	0.151	+/-0.383		pCi/g							
Manganese-54	U	0.0617	+/-0.0492	0.0808	+/-0.0496		pCi/g							
Mercury-203	U	-0.00930	+/-0.0597	0.112	+/-0.0598		pCi/g							
Neodymium-147	U	-0.0874	+/-2.04	3.88	+/-2.04		pCi/g							
Neptunium-239	U	-0.172	+/-0.299	0.568	+/-0.310		pCi/g							
Niobium-94	U	0.0350	+/-0.0460	0.0950	+/-0.0487		pCi/g							
Niobium-95	U	-0.0604	+/-0.0704	0.126	+/-0.0757		pCi/g							
Potassium-40		20.8	+/-2.61	0.788	+/-3.46		pCi/g							
Promethium-144	U	0.0388	+/-0.0581	0.0908	+/-0.0607		pCi/g							
Promethium-146	U	0.0147	+/-0.0525	0.103	+/-0.0530		pCi/g							
Radium-226		2.18	+/-0.328	0.151	+/-0.383		pCi/g							
Radium-228		1.63	+/-0.562	0.350	+/-0.594		pCi/g							

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Certificate of Analysis

Company : MJW Technical Services
Address : 15 Hazelwood Drive
Suite 112
Amherst, New York 14228

Report Date: August 19, 2026

Contact: Forest Shostak
Project: Routine Analytical

Client Sample ID: PC4-071426-3125
Sample ID: 787535003

Project: MJWC01325
Client ID: MJWC001

Parameter	Qualifier	Result	Uncertainty	MDC	TPU	RL	Units	PF	DF	Analyst	Date	Time	Batch	Mtd.
Rad Gamma Spec Analysis														
Gammaspec, Gamma, Solid (Standard List) "Dry Weight Corrected"														
Ruthenium-106	U	-0.413	+/-0.512	0.821	+/-0.546		pCi/g							
Silver-110m	U	0.0411	+/-0.0526	0.125	+/-0.0560		pCi/g							
Sodium-22	U	-0.0139	+/-0.0682	0.131	+/-0.0685		pCi/g							
Thallium-208		0.526	+/-0.136	0.0883	+/-0.143		pCi/g							
Thorium-234	U	0.0994	+/-1.86	3.76	+/-1.87		pCi/g							
Tin-113	U	0.0205	+/-0.0604	0.119	+/-0.0611		pCi/g							
Uranium-235	U	-0.0767	+/-0.219	0.416	+/-0.219		pCi/g							
Uranium-238	U	0.0994	+/-1.86	3.76	+/-1.87		pCi/g							
Yttrium-88	U	0.0168	+/-0.0435	0.116	+/-0.0442		pCi/g							
Zinc-65	U	0.0833	+/-0.0919	0.220	+/-0.0996		pCi/g							
Zirconium-95	U	-0.0514	+/-0.0890	0.169	+/-0.0921		pCi/g							

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	DT2	07/26/26	1307	3033039

The following Analytical Methods were performed

Method	Description
1	DOE HASL 300, 4.5.2.3/Ga-01-R

Surrogate/Tracer Recovery	Test	Batch ID	Recovery%	Acceptable Limits

Notes:

The MDC is a sample specific MDC.
TPU and Counting Uncertainty are calculated at the 95% confidence level (1.96-sigma).

Column headers are defined as follows:

DF: Dilution Factor
DL: Detection Limit
Lc/LC: Critical Level
MDA: Minimum Detectable Activity
MDC: Minimum Detectable Concentration
Mtd.: Method
PF: Prep Factor
RL: Reporting Limit
TPU: Total Propagated Uncertainty

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Certificate of Analysis

Company : MJW Technical Services
Address : 15 Hazelwood Drive
Suite 112
Amherst, New York 14228

Report Date: August 19, 2026

Contact: Forest Shostak
Project: Routine Analytical

Client Sample ID: SC5-071426-3125
Sample ID: 787535004
Matrix: Solid
Collect Date: 14-JUL-26
Receive Date: 23-JUL-26
Collector: Client
Moisture: 18.3%

Project: MJWC01325
Client ID: MJWC001

Parameter	Qualifier	Result	Uncertainty	MDC	TPU	RL	Units	PF	DF	Analyst	Date	Time	Batch	Mtd.
Rad Gamma Spec Analysis														
Gammaspec, Gamma, Solid (Standard List) "Dry Weight Corrected"														
Actinium-228		0.374	+/-0.310	0.238	+/-0.313		pCi/g			GG	08/17/26	0603	3033734	1
Americium-241	U	0.0152	+/-0.0687	0.133	+/-0.0691		pCi/g							
Antimony-124	U	-0.0717	+/-0.0811	0.0628	+/-0.0876		pCi/g							
Antimony-125	U	0.0347	+/-0.0657	0.139	+/-0.0676		pCi/g							
Barium-133	U	0.0151	+/-0.0354	0.0673	+/-0.0361		pCi/g							
Barium-140	U	-0.377	+/-0.680	1.11	+/-0.702		pCi/g							
Beryllium-7	U	-0.0804	+/-0.266	0.482	+/-0.268		pCi/g							
Bismuth-212	U	0.446	+/-0.590	1.25	+/-0.625		pCi/g							
Bismuth-214		0.616	+/-0.161	0.108	+/-0.169		pCi/g							
Cerium-139	U	0.0136	+/-0.0217	0.0409	+/-0.0228		pCi/g							
Cerium-141	U	-0.0513	+/-0.0662	0.0978	+/-0.0702		pCi/g							
Cerium-144	U	0.179	+/-0.125	0.267	+/-0.149		pCi/g							
Cesium-134	U	0.0152	+/-0.0475	0.0896	+/-0.0480		pCi/g							
Cesium-136	U	0.105	+/-0.315	0.653	+/-0.319		pCi/g							
Cesium-137	U	0.0116	+/-0.0340	0.0728	+/-0.0344	0.100	pCi/g							
Chromium-51	U	0.0721	+/-0.356	0.729	+/-0.357		pCi/g							
Cobalt-56	U	-0.0161	+/-0.0353	0.0651	+/-0.0361		pCi/g							
Cobalt-57	U	-0.000479	+/-0.0194	0.0334	+/-0.0194		pCi/g							
Cobalt-58	U	0.0328	+/-0.0458	0.0882	+/-0.0459		pCi/g							
Cobalt-60	U	0.0210	+/-0.0400	0.0944	+/-0.0412		pCi/g							
Europium-152	U	0.0126	+/-0.0747	0.146	+/-0.0749		pCi/g							
Europium-154	U	-0.0723	+/-0.104	0.185	+/-0.110		pCi/g							
Europium-155	U	0.0891	+/-0.132	0.113	+/-0.133		pCi/g							
Iridium-192	U	-0.00349	+/-0.0274	0.0524	+/-0.0274		pCi/g							
Iron-59	U	0.0336	+/-0.105	0.228	+/-0.106		pCi/g							
Lead-210		5.79	+/-4.39	2.62	+/-4.42		pCi/g							
Lead-212		0.492	+/-0.0926	0.0734	+/-0.106		pCi/g							
Lead-214		0.453	+/-0.162	0.114	+/-0.167		pCi/g							
Manganese-54	U	0.00120	+/-0.0314	0.0645	+/-0.0314		pCi/g							
Mercury-203	U	0.0108	+/-0.0391	0.0775	+/-0.0395		pCi/g							
Neodymium-147	U	0.415	+/-1.59	3.13	+/-1.61		pCi/g							
Neptunium-239	U	-0.0113	+/-0.149	0.262	+/-0.149		pCi/g							
Niobium-94	U	-0.000951	+/-0.0311	0.0562	+/-0.0311		pCi/g							
Niobium-95	U	-0.0679	+/-0.0525	0.0785	+/-0.0611		pCi/g							
Potassium-40		6.51	+/-1.34	0.668	+/-1.54		pCi/g							
Promethium-144	U	-0.00752	+/-0.0287	0.0557	+/-0.0289		pCi/g							
Promethium-146	U	-0.00123	+/-0.0257	0.0503	+/-0.0257		pCi/g							
Radium-226		0.453	+/-0.162	0.114	+/-0.167		pCi/g							
Radium-228		0.374	+/-0.310	0.238	+/-0.313		pCi/g							

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Certificate of Analysis

Company : MJW Technical Services
Address : 15 Hazelwood Drive
Suite 112
Amherst, New York 14228

Report Date: August 19, 2026

Contact: Forest Shostak
Project: Routine Analytical

Client Sample ID: SC5-071426-3125
Sample ID: 787535004

Project: MJWC01325
Client ID: MJWC001

Parameter	Qualifier	Result	Uncertainty	MDC	TPU	RL	Units	PF	DF	Analyst	Date	Time	Batch	Mtd.
Rad Gamma Spec Analysis														
Gammaspec, Gamma, Solid (Standard List) "Dry Weight Corrected"														
Ruthenium-106	U	0.0495	+/-0.263	0.557	+/-0.264		pCi/g							
Silver-110m	U	-0.00636	+/-0.0417	0.0832	+/-0.0418		pCi/g							
Sodium-22	U	-0.0258	+/-0.0372	0.0660	+/-0.0391		pCi/g							
Thallium-208		0.123	+/-0.0567	0.0552	+/-0.0577		pCi/g							
Thorium-234	UI	0.000	+/-1.51	1.06	+/-1.53		pCi/g							
Tin-113	U	0.00308	+/-0.0365	0.0712	+/-0.0366		pCi/g							
Uranium-235	U	0.155	+/-0.130	0.261	+/-0.130		pCi/g							
Uranium-238	UI	0.000	+/-1.51	1.06	+/-1.53		pCi/g							
Yttrium-88	U	0.00486	+/-0.0317	0.0834	+/-0.0318		pCi/g							
Zinc-65	U	-0.00192	+/-0.0829	0.149	+/-0.0829		pCi/g							
Zirconium-95	U	-0.00623	+/-0.0602	0.124	+/-0.0603		pCi/g							

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	DT2	07/26/26	1307	3033039

The following Analytical Methods were performed

Method	Description
1	DOE HASL 300, 4.5.2.3/Ga-01-R

Surrogate/Tracer Recovery	Test	Batch ID	Recovery%	Acceptable Limits

Notes:

The MDC is a sample specific MDC.
TPU and Counting Uncertainty are calculated at the 95% confidence level (1.96-sigma).

Column headers are defined as follows:

DF: Dilution Factor
DL: Detection Limit
Lc/LC: Critical Level
MDA: Minimum Detectable Activity
MDC: Minimum Detectable Concentration
Mtd.: Method
PF: Prep Factor
RL: Reporting Limit
TPU: Total Propagated Uncertainty

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Company : MJW Technical Services
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Report Date: August 19, 2026

Contact: Forest Shostak
Project: Routine Analytical

Client Sample ID: SC6-071426-3125
Sample ID: 787535005
Matrix: Solid
Collect Date: 14-JUL-26
Receive Date: 23-JUL-26
Collector: Client
Moisture: 15.7%

Project: MJWC01325
Client ID: MJWC001

Parameter	Qualifier	Result	Uncertainty	MDC	TPU	RL	Units	PF	DF	Analyst	Date	Time	Batch	Mtd.
Rad Gamma Spec Analysis														
Gammaspec, Gamma, Solid (Standard List) "Dry Weight Corrected"														
Actinium-228		1.72	+/-0.384	0.272	+/-0.440		pCi/g			GG	08/17/26	0604	3033734	1
Americium-241	U	-0.00327	+/-0.0484	0.0875	+/-0.0484		pCi/g							
Antimony-124	U	0.0912	+/-0.105	0.274	+/-0.113		pCi/g							
Antimony-125	U	0.0169	+/-0.101	0.192	+/-0.101		pCi/g							
Barium-133	U	0.0173	+/-0.0491	0.0894	+/-0.0498		pCi/g							
Barium-140	U	0.183	+/-0.767	1.47	+/-0.772		pCi/g							
Beryllium-7	U	0.0557	+/-0.434	0.769	+/-0.435		pCi/g							
Bismuth-212		2.89	+/-1.42	0.908	+/-1.46		pCi/g							
Bismuth-214		2.04	+/-0.242	0.143	+/-0.316		pCi/g							
Cerium-139	U	0.00695	+/-0.0304	0.0611	+/-0.0306		pCi/g							
Cerium-141	U	0.0840	+/-0.198	0.158	+/-0.201		pCi/g							
Cerium-144	U	-0.0841	+/-0.221	0.358	+/-0.224		pCi/g							
Cesium-134	UI	0.000	+/-0.0657	0.103	+/-0.0924		pCi/g							
Cesium-136	U	-0.112	+/-0.286	0.526	+/-0.291		pCi/g							
Cesium-137	U	0.0348	+/-0.0586	0.0774	+/-0.0587	0.100	pCi/g							
Chromium-51	U	-0.226	+/-0.560	1.03	+/-0.570		pCi/g							
Cobalt-56	U	0.0838	+/-0.0685	0.0909	+/-0.0692		pCi/g							
Cobalt-57	U	0.0127	+/-0.0254	0.0456	+/-0.0260		pCi/g							
Cobalt-58	U	-0.0274	+/-0.0495	0.0792	+/-0.0512		pCi/g							
Cobalt-60	U	0.0300	+/-0.0469	0.0965	+/-0.0489		pCi/g							
Europium-152	U	0.0235	+/-0.101	0.196	+/-0.102		pCi/g							
Europium-154	U	0.110	+/-0.124	0.281	+/-0.134		pCi/g							
Europium-155	U	0.00693	+/-0.0934	0.163	+/-0.0935		pCi/g							
Iridium-192	U	0.0103	+/-0.0422	0.0823	+/-0.0425		pCi/g							
Iron-59	U	0.0357	+/-0.0956	0.210	+/-0.0970		pCi/g							
Lead-210		1.62	+/-0.888	0.696	+/-0.901		pCi/g							
Lead-212		1.60	+/-0.159	0.0996	+/-0.242		pCi/g							
Lead-214		2.62	+/-0.285	0.147	+/-0.361		pCi/g							
Manganese-54	U	0.0125	+/-0.0355	0.0750	+/-0.0360		pCi/g							
Mercury-203	U	-0.0147	+/-0.0538	0.100	+/-0.0543		pCi/g							
Neodymium-147	U	1.15	+/-1.95	3.90	+/-2.02		pCi/g							
Neptunium-239	U	-0.0826	+/-0.258	0.427	+/-0.261		pCi/g							
Niobium-94	U	0.00134	+/-0.0357	0.0713	+/-0.0357		pCi/g							
Niobium-95	U	0.0194	+/-0.0624	0.0991	+/-0.0630		pCi/g							
Potassium-40		11.6	+/-1.55	0.692	+/-1.92		pCi/g							
Promethium-144	U	-0.0250	+/-0.0351	0.0640	+/-0.0370		pCi/g							
Promethium-146	U	-0.0374	+/-0.0447	0.0739	+/-0.0479		pCi/g							
Radium-226		2.62	+/-0.285	0.147	+/-0.361		pCi/g							
Radium-228		1.72	+/-0.384	0.272	+/-0.440		pCi/g							

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Certificate of Analysis

Company : MJW Technical Services
Address : 15 Hazelwood Drive
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Amherst, New York 14228

Report Date: August 19, 2026

Contact: Forest Shostak
Project: Routine Analytical

Client Sample ID: SC6-071426-3125
Sample ID: 787535005

Project: MJWC01325
Client ID: MJWC001

Parameter	Qualifier	Result	Uncertainty	MDC	TPU	RL	Units	PF	DF	Analyst	Date	Time	Batch	Mtd.
Rad Gamma Spec Analysis														
Gammaspec, Gamma, Solid (Standard List) "Dry Weight Corrected"														
Ruthenium-106	U	0.109	+/-0.285	0.575	+/-0.289		pCi/g							
Silver-110m	U	0.0113	+/-0.0535	0.110	+/-0.0538		pCi/g							
Sodium-22	U	0.0393	+/-0.0443	0.100	+/-0.0478		pCi/g							
Thallium-208		0.477	+/-0.115	0.0780	+/-0.125		pCi/g							
Thorium-234	UI	0.000	+/-1.52	0.943	+/-1.57		pCi/g							
Tin-113	U	0.0202	+/-0.0495	0.0980	+/-0.0504		pCi/g							
Uranium-235	UI	0.000	+/-0.402	0.390	+/-0.407		pCi/g							
Uranium-238	UI	0.000	+/-1.52	0.943	+/-1.57		pCi/g							
Yttrium-88	U	-0.0223	+/-0.0491	0.0934	+/-0.0502		pCi/g							
Zinc-65	U	0.0491	+/-0.0966	0.190	+/-0.0992		pCi/g							
Zirconium-95	U	0.157	+/-0.215	0.192	+/-0.227		pCi/g							

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	DT2	07/26/26	1307	3033039

The following Analytical Methods were performed

Method	Description
1	DOE HASL 300, 4.5.2.3/Ga-01-R

Surrogate/Tracer Recovery	Test	Batch ID	Recovery%	Acceptable Limits

Notes:

The MDC is a sample specific MDC.
TPU and Counting Uncertainty are calculated at the 95% confidence level (1.96-sigma).

Column headers are defined as follows:

DF: Dilution Factor
DL: Detection Limit
Lc/LC: Critical Level
MDA: Minimum Detectable Activity
MDC: Minimum Detectable Concentration
Mtd.: Method
PF: Prep Factor
RL: Reporting Limit
TPU: Total Propagated Uncertainty

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Certificate of Analysis

Company : MJW Technical Services
Address : 15 Hazelwood Drive
Suite 112
Amherst, New York 14228

Report Date: August 19, 2026

Contact: Forest Shostak
Project: Routine Analytical

Client Sample ID: NM1-071426-3125
Sample ID: 787535006
Matrix: Solid
Collect Date: 14-JUL-26
Receive Date: 23-JUL-26
Collector: Client
Moisture: 1.06%

Project: MJWC01325
Client ID: MJWC001

Parameter	Qualifier	Result	Uncertainty	MDC	TPU	RL	Units	PF	DF	Analyst	Date	Time	Batch	Mtd.
Rad Gamma Spec Analysis														
Gammaspec, Gamma, Solid (Standard List) "Dry Weight Corrected"														
Actinium-228		2.06	+/-0.406	0.290	+/-0.473		pCi/g			GG	08/17/26	0731	3033734	1
Americium-241	U	0.0279	+/-0.198	0.386	+/-0.199		pCi/g							
Antimony-124	U	0.0865	+/-0.117	0.272	+/-0.124		pCi/g							
Antimony-125	U	0.0161	+/-0.0951	0.174	+/-0.0954		pCi/g							
Barium-133	U	0.0265	+/-0.0457	0.0808	+/-0.0473		pCi/g							
Barium-140	U	0.442	+/-0.803	1.52	+/-0.828		pCi/g							
Beryllium-7	U	-0.0125	+/-0.455	0.810	+/-0.455		pCi/g							
Bismuth-212		1.81	+/-1.07	1.04	+/-1.08		pCi/g							
Bismuth-214		3.20	+/-0.287	0.127	+/-0.394		pCi/g							
Cerium-139	U	0.0155	+/-0.0315	0.0596	+/-0.0324		pCi/g							
Cerium-141	U	-0.0489	+/-0.0996	0.167	+/-0.102		pCi/g							
Cerium-144	U	-0.0603	+/-0.204	0.376	+/-0.206		pCi/g							
Cesium-134	U	0.0110	+/-0.0499	0.0976	+/-0.0502		pCi/g							
Cesium-136	U	-0.0935	+/-0.303	0.564	+/-0.307		pCi/g							
Cesium-137	U	0.00827	+/-0.0448	0.0747	+/-0.0449	0.100	pCi/g							
Chromium-51	U	-0.663	+/-0.623	1.03	+/-0.694		pCi/g							
Cobalt-56	U	-0.0143	+/-0.0512	0.0934	+/-0.0517		pCi/g							
Cobalt-57	U	0.00674	+/-0.0257	0.0487	+/-0.0259		pCi/g							
Cobalt-58	U	0.0102	+/-0.0488	0.0894	+/-0.0490		pCi/g							
Cobalt-60	U	3.56E-05	+/-0.0418	0.0818	+/-0.0418		pCi/g							
Europium-152	U	0.0188	+/-0.107	0.196	+/-0.108		pCi/g							
Europium-154	U	-0.0710	+/-0.103	0.177	+/-0.108		pCi/g							
Europium-155	UI	0.000	+/-0.241	0.188	+/-0.243		pCi/g							
Iridium-192	U	-0.00453	+/-0.0452	0.0810	+/-0.0453		pCi/g							
Iron-59	U	-0.00696	+/-0.117	0.227	+/-0.117		pCi/g							
Lead-210	U	-0.283	+/-7.10	13.9	+/-7.10		pCi/g							
Lead-212		2.28	+/-0.167	0.106	+/-0.269		pCi/g							
Lead-214		4.07	+/-0.293	0.142	+/-0.470		pCi/g							
Manganese-54	U	-0.0218	+/-0.0369	0.0671	+/-0.0382		pCi/g							
Mercury-203	U	-0.0180	+/-0.0576	0.102	+/-0.0582		pCi/g							
Neodymium-147	U	-0.723	+/-2.11	3.60	+/-2.13		pCi/g							
Neptunium-239	U	0.0406	+/-0.262	0.494	+/-0.262		pCi/g							
Niobium-94	U	0.00877	+/-0.0400	0.0717	+/-0.0402		pCi/g							
Niobium-95	U	0.0232	+/-0.0539	0.100	+/-0.0549		pCi/g							
Potassium-40		9.59	+/-1.45	0.679	+/-1.79		pCi/g							
Promethium-144	U	-0.0245	+/-0.0356	0.0568	+/-0.0373		pCi/g							
Promethium-146	U	0.0241	+/-0.0484	0.0902	+/-0.0496		pCi/g							
Radium-226		4.07	+/-0.293	0.142	+/-0.470		pCi/g							
Radium-228		2.06	+/-0.406	0.290	+/-0.473		pCi/g							

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Certificate of Analysis

Company : MJW Technical Services
Address : 15 Hazelwood Drive
Suite 112
Amherst, New York 14228

Report Date: August 19, 2026

Contact: Forest Shostak
Project: Routine Analytical

Client Sample ID: NM1-071426-3125
Sample ID: 787535006

Project: MJWC01325
Client ID: MJWC001

Parameter	Qualifier	Result	Uncertainty	MDC	TPU	RL	Units	PF	DF	Analyst	Date	Time	Batch	Mtd.
Rad Gamma Spec Analysis														
Gammaspec, Gamma, Solid (Standard List) "Dry Weight Corrected"														
Ruthenium-106	U	0.132	+/-0.314	0.595	+/-0.319		pCi/g							
Silver-110m	U	0.0259	+/-0.0509	0.106	+/-0.0523		pCi/g							
Sodium-22	U	-0.0238	+/-0.0369	0.0644	+/-0.0385		pCi/g							
Thallium-208		0.628	+/-0.126	0.0699	+/-0.137		pCi/g							
Thorium-234	UI	0.000	+/-3.29	2.87	+/-3.42		pCi/g							
Tin-113	U	0.0148	+/-0.0537	0.0988	+/-0.0542		pCi/g							
Uranium-235	U	0.200	+/-0.376	0.370	+/-0.376		pCi/g							
Uranium-238	UI	0.000	+/-3.29	2.87	+/-3.42		pCi/g							
Yttrium-88	U	0.0140	+/-0.0395	0.0905	+/-0.0400		pCi/g							
Zinc-65	U	-0.0218	+/-0.103	0.172	+/-0.104		pCi/g							
Zirconium-95	U	0.0418	+/-0.0793	0.166	+/-0.0816		pCi/g							

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	DT2	07/26/26	1307	3033039

The following Analytical Methods were performed

Method	Description
1	DOE HASL 300, 4.5.2.3/Ga-01-R

Surrogate/Tracer Recovery	Test	Batch ID	Recovery%	Acceptable Limits

Notes:

The MDC is a sample specific MDC.
TPU and Counting Uncertainty are calculated at the 95% confidence level (1.96-sigma).

Column headers are defined as follows:

DF: Dilution Factor
DL: Detection Limit
Lc/LC: Critical Level
MDA: Minimum Detectable Activity
MDC: Minimum Detectable Concentration
Mtd.: Method
PF: Prep Factor
RL: Reporting Limit
TPU: Total Propagated Uncertainty

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Certificate of Analysis

Company : MJW Technical Services
Address : 15 Hazelwood Drive
Suite 112
Amherst, New York 14228

Report Date: August 19, 2026

Contact: Forest Shostak
Project: Routine Analytical

Client Sample ID: Bkg-071426-3125
Sample ID: 787535007
Matrix: Solid
Collect Date: 14-JUL-26
Receive Date: 23-JUL-26
Collector: Client
Moisture: 23%

Project: MJWC01325
Client ID: MJWC001

Parameter	Qualifier	Result	Uncertainty	MDC	TPU	RL	Units	PF	DF	Analyst	Date	Time	Batch	Mtd.
Rad Gamma Spec Analysis														
Gammaspec, Gamma, Solid (Standard List) "Dry Weight Corrected"														
Actinium-228		1.36	+/-0.235	0.166	+/-0.286		pCi/g			GG	08/17/26	0732	3033734	1
Americium-241	U	0.0399	+/-0.0578	0.111	+/-0.0607		pCi/g							
Antimony-124	U	-0.0603	+/-0.0744	0.120	+/-0.0794		pCi/g							
Antimony-125	U	0.0464	+/-0.0568	0.111	+/-0.0606		pCi/g							
Barium-133	U	0.00557	+/-0.0231	0.0408	+/-0.0233		pCi/g							
Barium-140	U	-0.348	+/-0.454	0.720	+/-0.481		pCi/g							
Beryllium-7	U	0.0299	+/-0.270	0.487	+/-0.271		pCi/g							
Bismuth-212		1.62	+/-0.782	0.565	+/-0.797		pCi/g							
Bismuth-214		1.05	+/-0.134	0.0812	+/-0.161		pCi/g							
Cerium-139	U	-0.00931	+/-0.0183	0.0284	+/-0.0188		pCi/g							
Cerium-141	U	-0.00124	+/-0.0485	0.0806	+/-0.0485		pCi/g							
Cerium-144	U	0.0147	+/-0.0986	0.169	+/-0.0988		pCi/g							
Cesium-134	UI	0.000	+/-0.0519	0.0619	+/-0.0629		pCi/g							
Cesium-136	U	0.0961	+/-0.207	0.407	+/-0.212		pCi/g							
Cesium-137		0.166	+/-0.0583	0.0510	+/-0.0599	0.100	pCi/g							
Chromium-51	U	0.0876	+/-0.319	0.606	+/-0.321		pCi/g							
Cobalt-56	U	0.00830	+/-0.0284	0.0563	+/-0.0287		pCi/g							
Cobalt-57	U	-0.0113	+/-0.0141	0.0221	+/-0.0150		pCi/g							
Cobalt-58	U	-0.00276	+/-0.0274	0.0519	+/-0.0274		pCi/g							
Cobalt-60	U	-0.0198	+/-0.0241	0.0412	+/-0.0258		pCi/g							
Europium-152	U	0.0266	+/-0.0543	0.104	+/-0.0556		pCi/g							
Europium-154	U	0.109	+/-0.0917	0.202	+/-0.105		pCi/g							
Europium-155	U	-0.00680	+/-0.0584	0.0993	+/-0.0585		pCi/g							
Iridium-192	U	-0.00280	+/-0.0236	0.0431	+/-0.0236		pCi/g							
Iron-59	U	0.0201	+/-0.0882	0.167	+/-0.0887		pCi/g							
Lead-210	U	-0.367	+/-1.15	2.05	+/-1.16		pCi/g							
Lead-212		1.21	+/-0.0921	0.0551	+/-0.155		pCi/g							
Lead-214		1.19	+/-0.149	0.0747	+/-0.185		pCi/g							
Manganese-54	U	0.0106	+/-0.0286	0.0554	+/-0.0291		pCi/g							
Mercury-203	U	-0.0102	+/-0.0289	0.0524	+/-0.0293		pCi/g							
Neodymium-147	U	0.00439	+/-1.11	1.98	+/-1.11		pCi/g							
Neptunium-239	U	0.0562	+/-0.138	0.243	+/-0.140		pCi/g							
Niobium-94	U	0.0209	+/-0.0226	0.0466	+/-0.0245		pCi/g							
Niobium-95	U	0.0212	+/-0.0362	0.0666	+/-0.0375		pCi/g							
Potassium-40		19.8	+/-1.52	0.460	+/-2.74		pCi/g							
Promethium-144	U	0.00539	+/-0.0238	0.0461	+/-0.0239		pCi/g							
Promethium-146	U	0.0113	+/-0.0296	0.0546	+/-0.0301		pCi/g							
Radium-226		1.19	+/-0.149	0.0747	+/-0.185		pCi/g							
Radium-228		1.36	+/-0.235	0.166	+/-0.286		pCi/g							

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Certificate of Analysis

Company : MJW Technical Services
Address : 15 Hazelwood Drive
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Amherst, New York 14228

Report Date: August 19, 2026

Contact: Forest Shostak
Project: Routine Analytical

Client Sample ID: Bkg-071426-3125
Sample ID: 787535007

Project: MJWC01325
Client ID: MJWC001

Parameter	Qualifier	Result	Uncertainty	MDC	TPU	RL	Units	PF	DF	Analyst	Date	Time	Batch	Mtd.
Rad Gamma Spec Analysis														
Gammaspec, Gamma, Solid (Standard List) "Dry Weight Corrected"														
Ruthenium-106	U	0.0325	+/-0.195	0.385	+/-0.196		pCi/g							
Silver-110m	U	-0.0166	+/-0.0392	0.0692	+/-0.0400		pCi/g							
Sodium-22	U	0.0377	+/-0.0325	0.0714	+/-0.0369		pCi/g							
Thallium-208		0.321	+/-0.0738	0.0437	+/-0.0789		pCi/g							
Thorium-234	U	0.659	+/-1.17	0.893	+/-1.18		pCi/g							
Tin-113	U	-0.00843	+/-0.0266	0.0471	+/-0.0269		pCi/g							
Uranium-235	U	0.0903	+/-0.105	0.184	+/-0.106		pCi/g							
Uranium-238	U	0.659	+/-1.17	0.893	+/-1.18		pCi/g							
Yttrium-88	U	0.0162	+/-0.0266	0.0629	+/-0.0276		pCi/g							
Zinc-65	U	-0.0267	+/-0.0787	0.119	+/-0.0797		pCi/g							
Zirconium-95	U	0.0272	+/-0.0524	0.107	+/-0.0538		pCi/g							

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	DT2	07/26/26	1307	3033039

The following Analytical Methods were performed

Method	Description
1	DOE HASL 300, 4.5.2.3/Ga-01-R

Surrogate/Tracer Recovery	Test	Batch ID	Recovery%	Acceptable Limits

Notes:

The MDC is a sample specific MDC.
TPU and Counting Uncertainty are calculated at the 95% confidence level (1.96-sigma).

Column headers are defined as follows:

DF: Dilution Factor
DL: Detection Limit
Lc/LC: Critical Level
MDA: Minimum Detectable Activity
MDC: Minimum Detectable Concentration
Mtd.: Method
PF: Prep Factor
RL: Reporting Limit
TPU: Total Propagated Uncertainty

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Company : MJW Technical Services
Address : 15 Hazelwood Drive
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Amherst, New York 14228

Report Date: August 19, 2026

Contact: Forest Shostak
Project: Routine Analytical

Client Sample ID: PC3-071426-3125 DUP
Sample ID: 787535008
Matrix: Solid
Collect Date: 14-JUL-26
Receive Date: 23-JUL-26
Collector: Client
Moisture: 5.23%

Project: MJWC01325
Client ID: MJWC001

Parameter	Qualifier	Result	Uncertainty	MDC	TPU	RL	Units	PF	DF	Analyst	Date	Time	Batch	Mtd.
Rad Gamma Spec Analysis														
Gammaspec, Gamma, Solid (Standard List) "Dry Weight Corrected"														
Actinium-228		0.680	+/-0.191	0.146	+/-0.209		pCi/g			GG	08/17/26	0732	3033734	1
Americium-241	U	0.000633	+/-0.0340	0.0590	+/-0.0340		pCi/g							
Antimony-124	U	0.00583	+/-0.0677	0.149	+/-0.0677		pCi/g							
Antimony-125	U	0.0432	+/-0.0619	0.122	+/-0.0650		pCi/g							
Barium-133	U	-0.0175	+/-0.0288	0.0452	+/-0.0299		pCi/g							
Barium-140	U	0.608	+/-0.507	1.06	+/-0.580		pCi/g							
Beryllium-7	U	-0.0754	+/-0.282	0.494	+/-0.284		pCi/g							
Bismuth-212	U	0.674	+/-0.748	0.674	+/-0.752		pCi/g							
Bismuth-214		0.659	+/-0.143	0.0845	+/-0.157		pCi/g							
Cerium-139	U	0.00224	+/-0.0186	0.0361	+/-0.0187		pCi/g							
Cerium-141	U	-0.0501	+/-0.0658	0.0909	+/-0.0698		pCi/g							
Cerium-144	U	-0.0178	+/-0.131	0.211	+/-0.131		pCi/g							
Cesium-134	U	0.0254	+/-0.0339	0.0697	+/-0.0359		pCi/g							
Cesium-136	U	-0.0909	+/-0.180	0.320	+/-0.185		pCi/g							
Cesium-137		0.629	+/-0.0737	0.0430	+/-0.0979	0.100	pCi/g							
Chromium-51	U	-0.124	+/-0.381	0.683	+/-0.385		pCi/g							
Cobalt-56	U	0.00347	+/-0.0328	0.0644	+/-0.0328		pCi/g							
Cobalt-57	U	-0.00743	+/-0.0163	0.0256	+/-0.0167		pCi/g							
Cobalt-58	U	0.00198	+/-0.0308	0.0557	+/-0.0308		pCi/g							
Cobalt-60	U	0.000363	+/-0.0320	0.0558	+/-0.0320		pCi/g							
Europium-152	U	-0.0391	+/-0.0689	0.120	+/-0.0712		pCi/g							
Europium-154	U	-0.0298	+/-0.0756	0.135	+/-0.0768		pCi/g							
Europium-155	U	0.0286	+/-0.0513	0.0915	+/-0.0530		pCi/g							
Iridium-192	U	-0.00329	+/-0.0283	0.0517	+/-0.0284		pCi/g							
Iron-59	U	-0.0516	+/-0.0801	0.137	+/-0.0836		pCi/g							
Lead-210		1.24	+/-0.645	0.450	+/-0.656		pCi/g							
Lead-212		0.528	+/-0.0833	0.0655	+/-0.103		pCi/g							
Lead-214		0.732	+/-0.160	0.0963	+/-0.171		pCi/g							
Manganese-54	U	0.000604	+/-0.0226	0.0448	+/-0.0226		pCi/g							
Mercury-203	U	-0.0323	+/-0.0353	0.0548	+/-0.0383		pCi/g							
Neodymium-147	U	0.223	+/-1.43	2.61	+/-1.43		pCi/g							
Neptunium-239	U	-0.159	+/-0.173	0.258	+/-0.188		pCi/g							
Niobium-94	U	0.00306	+/-0.0235	0.0463	+/-0.0235		pCi/g							
Niobium-95	U	-0.00574	+/-0.0408	0.0767	+/-0.0409		pCi/g							
Potassium-40		4.36	+/-0.828	0.422	+/-0.931		pCi/g							
Promethium-144	U	-0.00410	+/-0.0238	0.0456	+/-0.0239		pCi/g							
Promethium-146	U	-0.00601	+/-0.0331	0.0583	+/-0.0332		pCi/g							
Radium-226		0.732	+/-0.160	0.0963	+/-0.171		pCi/g							
Radium-228		0.680	+/-0.191	0.146	+/-0.209		pCi/g							

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Certificate of Analysis

Company : MJW Technical Services
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Amherst, New York 14228

Report Date: August 19, 2026

Contact: Forest Shostak
Project: Routine Analytical

Client Sample ID: PC3-071426-3125 DUP
Sample ID: 787535008

Project: MJWC01325
Client ID: MJWC001

Parameter	Qualifier	Result	Uncertainty	MDC	TPU	RL	Units	PF	DF	Analyst	Date	Time	Batch	Mtd.
Rad Gamma Spec Analysis														
Gammaspec, Gamma, Solid (Standard List) "Dry Weight Corrected"														
Ruthenium-106	U	-0.0125	+/-0.246	0.434	+/-0.246		pCi/g							
Silver-110m	U	0.0169	+/-0.0357	0.0740	+/-0.0366		pCi/g							
Sodium-22	U	-0.00421	+/-0.0254	0.0480	+/-0.0255		pCi/g							
Thallium-208		0.146	+/-0.0554	0.0471	+/-0.0573		pCi/g							
Thorium-234		1.08	+/-0.775	0.553	+/-0.814		pCi/g							
Tin-113	U	0.00296	+/-0.0354	0.0651	+/-0.0354		pCi/g							
Uranium-235	U	0.0624	+/-0.142	0.226	+/-0.142		pCi/g							
Uranium-238		1.08	+/-0.775	0.553	+/-0.814		pCi/g							
Yttrium-88	U	-0.0155	+/-0.0267	0.0488	+/-0.0276		pCi/g							
Zinc-65	U	0.0235	+/-0.0581	0.111	+/-0.0591		pCi/g							
Zirconium-95	U	-0.0126	+/-0.0585	0.111	+/-0.0588		pCi/g							

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	DT2	07/26/26	1307	3033039

The following Analytical Methods were performed

Method	Description
1	DOE HASL 300, 4.5.2.3/Ga-01-R

Surrogate/Tracer Recovery	Test	Batch ID	Recovery%	Acceptable Limits

Notes:

The MDC is a sample specific MDC.
TPU and Counting Uncertainty are calculated at the 95% confidence level (1.96-sigma).

Column headers are defined as follows:

DF: Dilution Factor
DL: Detection Limit
Lc/LC: Critical Level
MDA: Minimum Detectable Activity
MDC: Minimum Detectable Concentration
Mtd.: Method
PF: Prep Factor
RL: Reporting Limit
TPU: Total Propagated Uncertainty

Quality Control Data

QC Summary

Client : **MJW Technical Services**
15 Hazelwood Drive
Suite 112
Amherst, New York

Contact: **Forest Shostak**

Workorder: **787535**

Report Date: August 19, 2026

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date Time
Rad Alpha Spec										
Batch 3034787										
QC1206541956 787535002 DUP										
Thorium-230	U	0.494		0.697	pCi/g	22.6		(0% - 100%)	SB3	08/06/2608:31
	Uncert:	+/-0.419		+/-0.456						
	TPU:	+/-0.426		+/-0.468						
Thorium-232	U	0.330	U	0.174	pCi/g	0		N/A		
	Uncert:	+/-0.330		+/-0.269						
	TPU:	+/-0.333		+/-0.270						
QC1206541957 LCS										
Thorium-230				2.71	pCi/g			(75%-125%)	SB3	08/06/2608:31
	Uncert:			+/-0.824						
	TPU:			+/-0.900						
Thorium-232	17.4			18.6	pCi/g		107	(75%-125%)		
	Uncert:			+/-2.06						
	TPU:			+/-3.16						
QC1206541955 MB										
Thorium-230			U	0.352	pCi/g				SB3	08/06/2608:31
	Uncert:			+/-0.399						
	TPU:			+/-0.404						
Thorium-232			U	0.0465	pCi/g					
	Uncert:			+/-0.202						
	TPU:			+/-0.203						
Batch 3034788										
QC1206541959 787535002 DUP										
Uranium-235/236	U	0.000	U	-0.0123	pCi/g	0		N/A	SB3	08/06/2608:21
	Uncert:	+/-0.118		+/-0.106						
	TPU:	+/-0.118		+/-0.106						
Uranium-238	U	0.0965		0.477	pCi/g	41.9		(0% - 100%)		
	Uncert:	+/-0.192		+/-0.295						
	TPU:	+/-0.192		+/-0.300						
QC1206541960 LCS										
Uranium-235/236				1.09	pCi/g				SB3	08/06/2608:21
	Uncert:			+/-0.488						
	TPU:			+/-0.504						
Uranium-238	21.4			20.0	pCi/g		93.7	(75%-125%)		
	Uncert:			+/-1.82						
	TPU:			+/-2.93						

QC Summary

Workorder: 787535

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date Time
Rad Alpha Spec										
Batch 3034788										
QC1206541958 MB										
Uranium-235/236			U	-0.0273	pCi/g				SB3	08/06/2608:21
	Uncert:			+/-0.121						
	TPU:			+/-0.121						
Uranium-238			U	0.0349	pCi/g					
	Uncert:			+/-0.131						
	TPU:			+/-0.131						
Rad Gamma Spec										
Batch 3033734										
QC1206539883 787521001 DUP										
Actinium-228	U	-0.595	U	0.153	pCi/g	0			N/A GG	08/17/2608:15
	Uncert:	+/-1.46		+/-0.862						
	TPU:	+/-1.49		+/-0.865						
Americium-241	U	-0.0257	U	0.0783	pCi/g	0			N/A	
	Uncert:	+/-1.07		+/-0.329						
	TPU:	+/-1.07		+/-0.331						
Antimony-124	U	0.305	U	-0.110	pCi/g	0			N/A	
	Uncert:	+/-1.01		+/-0.764						
	TPU:	+/-1.02		+/-0.765						
Antimony-125	U	-0.0839	U	0.384	pCi/g	0			N/A	
	Uncert:	+/-0.604		+/-0.339						
	TPU:	+/-0.605		+/-0.382						
Barium-133	U	0.0560	U	-0.0931	pCi/g	0			N/A	
	Uncert:	+/-0.299		+/-0.166						
	TPU:	+/-0.300		+/-0.172						
Barium-140	U	-3.50	U	0.288	pCi/g	0			N/A	
	Uncert:	+/-3.89		+/-2.14						
	TPU:	+/-4.21		+/-2.14						
Beryllium-7	U	-1.48	U	0.336	pCi/g	0			N/A	
	Uncert:	+/-2.95		+/-1.53						
	TPU:	+/-3.02		+/-1.54						
Bismuth-212	U	0.668	U	-0.172	pCi/g	0			N/A	
	Uncert:	+/-3.04		+/-2.29						
	TPU:	+/-3.05		+/-2.29						
Bismuth-214	U	-0.504	U	0.472	pCi/g	0			N/A	
	Uncert:	+/-0.702		+/-0.600						
	TPU:	+/-0.739		+/-0.601						
Cerium-139	U	0.152	U	-0.0867	pCi/g	0			N/A	
	Uncert:	+/-0.200		+/-0.112						
	TPU:	+/-0.214		+/-0.121						
Cerium-141	U	0.458	U	-0.402	pCi/g	0			N/A	
	Uncert:	+/-0.509		+/-0.335						
	TPU:	+/-0.550		+/-0.382						
Cerium-144	U	-0.949	U	-0.107	pCi/g	0			N/A	
	Uncert:	+/-1.21		+/-0.640						
	TPU:	+/-1.29		+/-0.642						

QC Summary

Workorder: **787535**

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date Time
Rad Gamma Spec										
Batch 3033734										
Cesium-134	U	0.0554	U	-0.123	pCi/g	0			N/A	
	Uncert:	+/-0.308		+/-0.186						
	TPU:	+/-0.309		+/-0.195						
Cesium-136	U	0.262	U	0.190	pCi/g	0			N/A	
	Uncert:	+/-1.20		+/-0.903						
	TPU:	+/-1.21		+/-0.907						
Cesium-137	U	-0.267	U	0.0175	pCi/g	0			N/A	
	Uncert:	+/-0.378		+/-0.169						
	TPU:	+/-0.398		+/-0.170						
Chromium-51	U	0.649	U	0.0670	pCi/g	0			N/A	
	Uncert:	+/-3.42		+/-1.87						
	TPU:	+/-3.44		+/-1.87						
Cobalt-56	U	0.147	U	-0.0264	pCi/g	0			N/A	
	Uncert:	+/-0.338		+/-0.203						
	TPU:	+/-0.345		+/-0.203						
Cobalt-57	U	-0.0119	U	0.00386	pCi/g	0			N/A	
	Uncert:	+/-0.148		+/-0.0874						
	TPU:	+/-0.148		+/-0.0874						
Cobalt-58	U	0.200	U	-0.0484	pCi/g	0			N/A	
	Uncert:	+/-0.293		+/-0.160						
	TPU:	+/-0.308		+/-0.161						
Cobalt-60	U	-0.157	U	0.0406	pCi/g	0			N/A	
	Uncert:	+/-0.271		+/-0.146						
	TPU:	+/-0.280		+/-0.147						
Europium-152	U	0.0617	U	0.251	pCi/g	0			N/A	
	Uncert:	+/-0.686		+/-0.374						
	TPU:	+/-0.687		+/-0.391						
Europium-154	U	-0.413	U	0.113	pCi/g	0			N/A	
	Uncert:	+/-0.618		+/-0.397						
	TPU:	+/-0.647		+/-0.400						
Europium-155	U	0.307	U	0.147	pCi/g	0			N/A	
	Uncert:	+/-0.564		+/-0.294						
	TPU:	+/-0.581		+/-0.301						
Iridium-192	U	-0.155	U	0.0156	pCi/g	0			N/A	
	Uncert:	+/-0.271		+/-0.165						
	TPU:	+/-0.281		+/-0.165						
Iron-59	U	-0.123	U	-0.252	pCi/g	0			N/A	
	Uncert:	+/-0.568		+/-0.417						
	TPU:	+/-0.571		+/-0.433						
Lead-210	U	22.8	U	4.96	pCi/g	0			N/A	
	Uncert:	+/-41.4		+/-5.07						
	TPU:	+/-42.7		+/-5.09						
Lead-212	U	0.539	U	0.212	pCi/g	0			N/A	
	Uncert:	+/-0.526		+/-0.255						
	TPU:	+/-0.583		+/-0.273						

QC Summary

Workorder: **787535**

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date Time
Rad Gamma Spec										
Batch 3033734										
Lead-214	U	0.237	U	-0.336	pCi/g	0			N/A	
	Uncert:	+/-0.587		+/-0.411						
	TPU:	+/-0.597		+/-0.439						
Manganese-54	U	-0.269	U	0.0351	pCi/g	0			N/A	
	Uncert:	+/-0.310		+/-0.167						
	TPU:	+/-0.334		+/-0.167						
Mercury-203	U	-0.219	U	0.00882	pCi/g	0			N/A	
	Uncert:	+/-0.291		+/-0.163						
	TPU:	+/-0.309		+/-0.163						
Neodymium-147	U	0.517	U	6.46	pCi/g	0			N/A	
	Uncert:	+/-7.57		+/-8.37						
	TPU:	+/-7.57		+/-8.88						
Neptunium-239	U	0.293	U	0.172	pCi/g	0			N/A	
	Uncert:	+/-1.79		+/-0.840						
	TPU:	+/-1.79		+/-0.844						
Niobium-94	U	0.0301	U	-0.0354	pCi/g	0			N/A	
	Uncert:	+/-0.347		+/-0.138						
	TPU:	+/-0.348		+/-0.139						
Niobium-95	U	-0.0290	U	0.154	pCi/g	0			N/A	
	Uncert:	+/-0.352		+/-0.211						
	TPU:	+/-0.353		+/-0.223						
Potassium-40	U	1.11	U	1.68	pCi/g	0			N/A	
	Uncert:	+/-3.58		+/-2.35						
	TPU:	+/-3.58		+/-2.36						
Promethium-144	U	0.0126	U	-0.0612	pCi/g	0			N/A	
	Uncert:	+/-0.273		+/-0.151						
	TPU:	+/-0.273		+/-0.154						
Promethium-146	U	0.108	U	0.0193	pCi/g	0			N/A	
	Uncert:	+/-0.306		+/-0.184						
	TPU:	+/-0.310		+/-0.184						
Radium-226	U	0.237	U	-0.336	pCi/g	0			N/A	
	Uncert:	+/-0.587		+/-0.411						
	TPU:	+/-0.597		+/-0.439						
Radium-228	U	-0.595	U	0.153	pCi/g	0			N/A	
	Uncert:	+/-1.46		+/-0.862						
	TPU:	+/-1.49		+/-0.865						
Ruthenium-106	U	1.86	U	-0.907	pCi/g	0			N/A	
	Uncert:	+/-2.06		+/-1.47						
	TPU:	+/-2.07		+/-1.53						
Silver-110m	U	0.0496	U	-0.0661	pCi/g	0			N/A	
	Uncert:	+/-0.247		+/-0.198						
	TPU:	+/-0.248		+/-0.201						
Sodium-22	U	-0.136	U	0.0310	pCi/g	0			N/A	
	Uncert:	+/-0.224		+/-0.138						
	TPU:	+/-0.233		+/-0.139						

QC Summary

Workorder: **787535**

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date Time
Rad Gamma Spec										
Batch 3033734										
Thallium-208	U	-0.204	U	-0.125	pCi/g	0		N/A		
	Uncert:	+/-0.315		+/-0.208						
	TPU:	+/-0.328		+/-0.215						
Thorium-234	U	2.50	U	0.580	pCi/g	0		N/A		
	Uncert:	+/-6.32		+/-3.25						
	TPU:	+/-6.34		+/-3.27						
Tin-113	U	-0.0168	U	-0.0999	pCi/g	0		N/A		
	Uncert:	+/-0.326		+/-0.187						
	TPU:	+/-0.326		+/-0.193						
Uranium-235	U	-0.634	U	-0.439	pCi/g	0		N/A		
	Uncert:	+/-1.31		+/-0.859						
	TPU:	+/-1.34		+/-0.882						
Uranium-238	U	2.50	U	0.580	pCi/g	0		N/A		
	Uncert:	+/-6.32		+/-3.25						
	TPU:	+/-6.34		+/-3.27						
Yttrium-88	U	-0.00914	U	0.135	pCi/g	0		N/A		
	Uncert:	+/-0.225		+/-0.173						
	TPU:	+/-0.225		+/-0.183						
Zinc-65	U	0.196	U	-0.110	pCi/g	0		N/A		
	Uncert:	+/-0.363		+/-0.358						
	TPU:	+/-0.374		+/-0.361						
Zirconium-95	U	-0.297	U	0.00582	pCi/g	0		N/A		
	Uncert:	+/-0.628		+/-0.310						
	TPU:	+/-0.642		+/-0.310						
QC1206539884 LCS										
Actinium-228			U	0.00842	pCi/g				GG	08/17/2608:16
	Uncert:			+/-0.764						
	TPU:			+/-0.764						
Americium-241	482			512	pCi/g		106	(75%-125%)		
	Uncert:			+/-7.06						
	TPU:			+/-43.1						
Antimony-124			U	-0.0351	pCi/g					
	Uncert:			+/-0.101						
	TPU:			+/-0.103						
Antimony-125			U	0.0823	pCi/g					
	Uncert:			+/-0.666						
	TPU:			+/-0.667						
Barium-133			U	-0.116	pCi/g					
	Uncert:			+/-0.264						
	TPU:			+/-0.269						
Barium-140			U	0.117	pCi/g					
	Uncert:			+/-2.05						
	TPU:			+/-2.05						
Beryllium-7			U	2.40	pCi/g					
	Uncert:			+/-2.66						
	TPU:			+/-2.88						

QC Summary

Workorder: **787535**

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date Time
Rad Gamma Spec										
Batch 3033734										
Bismuth-212			U	-0.930	pCi/g					
	Uncert:			+/-2.16						
	TPU:			+/-2.20						
Bismuth-214			U	-0.0825	pCi/g					
	Uncert:			+/-0.390						
	TPU:			+/-0.392						
Cerium-139			U	0.110	pCi/g					
	Uncert:			+/-0.139						
	TPU:			+/-0.150						
Cerium-141			U	-0.226	pCi/g					
	Uncert:			+/-0.311						
	TPU:			+/-0.328						
Cerium-144			U	-0.00494	pCi/g					
	Uncert:			+/-0.924						
	TPU:			+/-0.924						
Cesium-134			U	-0.0431	pCi/g					
	Uncert:			+/-0.178						
	TPU:			+/-0.179						
Cesium-136			U	-1.01	pCi/g					
	Uncert:			+/-0.740						
	TPU:			+/-0.878						
Cesium-137	143			133	pCi/g		92.9	(75%-125%)		
	Uncert:			+/-1.79						
	TPU:			+/-11.2						
Chromium-51			U	-0.842	pCi/g					
	Uncert:			+/-2.38						
	TPU:			+/-2.41						
Cobalt-56			U	-0.107	pCi/g					
	Uncert:			+/-0.206						
	TPU:			+/-0.212						
Cobalt-57			U	0.0361	pCi/g					
	Uncert:			+/-0.118						
	TPU:			+/-0.120						
Cobalt-58			U	0.0619	pCi/g					
	Uncert:			+/-0.191						
	TPU:			+/-0.193						
Cobalt-60	44.1			40.8	pCi/g		92.4	(75%-125%)		
	Uncert:			+/-1.21						
	TPU:			+/-4.17						
Europium-152			U	-0.120	pCi/g					
	Uncert:			+/-0.589						
	TPU:			+/-0.592						
Europium-154			U	-0.0701	pCi/g					
	Uncert:			+/-0.280						
	TPU:			+/-0.282						

QC Summary

Workorder: **787535**

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date Time
Rad Gamma Spec										
Batch 3033734										
Europium-155			U	-0.380	pCi/g					
	Uncert:			+/-0.480						
	TPU:			+/-0.511						
Iridium-192			U	0.124	pCi/g					
	Uncert:			+/-0.204						
	TPU:			+/-0.212						
Iron-59			U	-0.134	pCi/g					
	Uncert:			+/-0.602						
	TPU:			+/-0.606						
Lead-210				3880	pCi/g					
	Uncert:			+/-164						
	TPU:			+/-409						
Lead-212			U	-0.110	pCi/g					
	Uncert:			+/-0.291						
	TPU:			+/-0.296						
Lead-214			U	0.245	pCi/g					
	Uncert:			+/-0.437						
	TPU:			+/-0.451						
Manganese-54			U	0.00236	pCi/g					
	Uncert:			+/-0.168						
	TPU:			+/-0.168						
Mercury-203			U	0.183	pCi/g					
	Uncert:			+/-0.222						
	TPU:			+/-0.238						
Neodymium-147			U	-0.943	pCi/g					
	Uncert:			+/-4.42						
	TPU:			+/-4.44						
Neptunium-239			U	0.367	pCi/g					
	Uncert:			+/-1.24						
	TPU:			+/-1.25						
Niobium-94			U	0.0588	pCi/g					
	Uncert:			+/-0.138						
	TPU:			+/-0.140						
Niobium-95			U	0.0179	pCi/g					
	Uncert:			+/-0.183						
	TPU:			+/-0.183						
Potassium-40			U	-0.179	pCi/g					
	Uncert:			+/-0.763						
	TPU:			+/-0.767						
Promethium-144			U	-0.0130	pCi/g					
	Uncert:			+/-0.137						
	TPU:			+/-0.137						
Promethium-146			U	0.0107	pCi/g					
	Uncert:			+/-0.339						
	TPU:			+/-0.339						

QC Summary

Workorder: **787535**

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date Time
Rad Gamma Spec										
Batch 3033734										
Radium-226			U	0.245	pCi/g					
	Uncert:			+/-0.437						
	TPU:			+/-0.451						
Radium-228			U	0.00842	pCi/g					
	Uncert:			+/-0.764						
	TPU:			+/-0.764						
Ruthenium-106			U	0.729	pCi/g					
	Uncert:			+/-1.74						
	TPU:			+/-1.77						
Silver-110m			U	0.243	pCi/g					
	Uncert:			+/-0.279						
	TPU:			+/-0.301						
Sodium-22			U	-0.0284	pCi/g					
	Uncert:			+/-0.0985						
	TPU:			+/-0.0994						
Thallium-208			U	-0.0321	pCi/g					
	Uncert:			+/-0.185						
	TPU:			+/-0.186						
Thorium-234			U	0.979	pCi/g					
	Uncert:			+/-6.12						
	TPU:			+/-6.14						
Tin-113			U	0.0692	pCi/g					
	Uncert:			+/-0.300						
	TPU:			+/-0.302						
Uranium-235			U	0.280	pCi/g					
	Uncert:			+/-0.879						
	TPU:			+/-0.888						
Uranium-238			U	0.979	pCi/g					
	Uncert:			+/-6.12						
	TPU:			+/-6.14						
Yttrium-88			U	-0.0607	pCi/g					
	Uncert:			+/-0.0865						
	TPU:			+/-0.0909						
Zinc-65			U	-0.162	pCi/g					
	Uncert:			+/-0.477						
	TPU:			+/-0.483						
Zirconium-95			U	-0.176	pCi/g					
	Uncert:			+/-0.323						
	TPU:			+/-0.333						
QC1206539882 MB										
Actinium-228			U	0.0141	pCi/g				GG	08/17/2608:14
	Uncert:			+/-0.0959						
	TPU:			+/-0.0961						
Americium-241			U	-0.00144	pCi/g					
	Uncert:			+/-0.0640						
	TPU:			+/-0.0640						

QC Summary

Workorder: **787535**

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date Time
Rad Gamma Spec										
Batch 3033734										
Antimony-124			U	-0.0241	pCi/g					
	Uncert:			+/-0.0335						
	TPU:			+/-0.0353						
Antimony-125			U	0.0159	pCi/g					
	Uncert:			+/-0.0304						
	TPU:			+/-0.0313						
Barium-133			U	-0.00797	pCi/g					
	Uncert:			+/-0.0153						
	TPU:			+/-0.0158						
Barium-140			U	-0.0298	pCi/g					
	Uncert:			+/-0.150						
	TPU:			+/-0.151						
Beryllium-7			U	0.0404	pCi/g					
	Uncert:			+/-0.128						
	TPU:			+/-0.130						
Bismuth-212			U	0.0388	pCi/g					
	Uncert:			+/-0.170						
	TPU:			+/-0.171						
Bismuth-214			U	0.0275	pCi/g					
	Uncert:			+/-0.0684						
	TPU:			+/-0.0684						
Cerium-139			U	-0.00209	pCi/g					
	Uncert:			+/-0.00904						
	TPU:			+/-0.00910						
Cerium-141			U	-0.0367	pCi/g					
	Uncert:			+/-0.0225						
	TPU:			+/-0.0280						
Cerium-144			U	-0.0422	pCi/g					
	Uncert:			+/-0.0601						
	TPU:			+/-0.0631						
Cesium-134			U	0.00248	pCi/g					
	Uncert:			+/-0.0126						
	TPU:			+/-0.0126						
Cesium-136			U	0.00157	pCi/g					
	Uncert:			+/-0.0541						
	TPU:			+/-0.0542						
Cesium-137			U	0.0105	pCi/g					
	Uncert:			+/-0.0278						
	TPU:			+/-0.0278						
Chromium-51			U	0.0190	pCi/g					
	Uncert:			+/-0.157						
	TPU:			+/-0.157						
Cobalt-56			U	0.00560	pCi/g					
	Uncert:			+/-0.0143						
	TPU:			+/-0.0146						

QC Summary

Workorder: **787535**

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date Time
Rad Gamma Spec										
Batch 3033734										
Cobalt-57			U	-0.00155	pCi/g					
	Uncert:			+/-0.00817						
	TPU:			+/-0.00820						
Cobalt-58			U	-0.0125	pCi/g					
	Uncert:			+/-0.0153						
	TPU:			+/-0.0164						
Cobalt-60			U	-0.00226	pCi/g					
	Uncert:			+/-0.0159						
	TPU:			+/-0.0160						
Europium-152			U	0.0227	pCi/g					
	Uncert:			+/-0.0407						
	TPU:			+/-0.0420						
Europium-154			U	0.0310	pCi/g					
	Uncert:			+/-0.0398						
	TPU:			+/-0.0423						
Europium-155			U	0.000450	pCi/g					
	Uncert:			+/-0.0401						
	TPU:			+/-0.0401						
Iridium-192			U	0.00734	pCi/g					
	Uncert:			+/-0.0138						
	TPU:			+/-0.0142						
Iron-59			U	0.00880	pCi/g					
	Uncert:			+/-0.0210						
	TPU:			+/-0.0214						
Lead-210			U	2.49	pCi/g					
	Uncert:			+/-2.43						
	TPU:			+/-2.69						
Lead-212			U	0.00141	pCi/g					
	Uncert:			+/-0.0248						
	TPU:			+/-0.0249						
Lead-214			U	0.0604	pCi/g					
	Uncert:			+/-0.0571						
	TPU:			+/-0.0635						
Manganese-54			U	-0.0130	pCi/g					
	Uncert:			+/-0.0141						
	TPU:			+/-0.0154						
Mercury-203			U	-0.00507	pCi/g					
	Uncert:			+/-0.0140						
	TPU:			+/-0.0142						
Neodymium-147			U	0.108	pCi/g					
	Uncert:			+/-0.297						
	TPU:			+/-0.301						
Neptunium-239			U	-0.0101	pCi/g					
	Uncert:			+/-0.0803						
	TPU:			+/-0.0804						

QC Summary

Workorder: **787535**

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date Time
Rad Gamma Spec										
Batch 3033734										
Niobium-94			U	0.00356	pCi/g					
	Uncert:			+/-0.0105						
	TPU:			+/-0.0106						
Niobium-95			U	-0.0149	pCi/g					
	Uncert:			+/-0.0238						
	TPU:			+/-0.0247						
Potassium-40			U	-0.445	pCi/g					
	Uncert:			+/-0.233						
	TPU:			+/-0.312						
Promethium-144			U	0.0137	pCi/g					
	Uncert:			+/-0.0149						
	TPU:			+/-0.0162						
Promethium-146			U	0.00313	pCi/g					
	Uncert:			+/-0.0167						
	TPU:			+/-0.0168						
Radium-226			U	0.0604	pCi/g					
	Uncert:			+/-0.0571						
	TPU:			+/-0.0635						
Radium-228			U	0.0141	pCi/g					
	Uncert:			+/-0.0959						
	TPU:			+/-0.0961						
Ruthenium-106			U	-0.116	pCi/g					
	Uncert:			+/-0.154						
	TPU:			+/-0.163						
Silver-110m			U	-0.0100	pCi/g					
	Uncert:			+/-0.0176						
	TPU:			+/-0.0182						
Sodium-22			U	0.0101	pCi/g					
	Uncert:			+/-0.0138						
	TPU:			+/-0.0146						
Thallium-208			U	-0.00599	pCi/g					
	Uncert:			+/-0.0199						
	TPU:			+/-0.0201						
Thorium-234			U	1.40	pCi/g					
	Uncert:			+/-1.89						
	TPU:			+/-2.02						
Tin-113			U	-0.0128	pCi/g					
	Uncert:			+/-0.0195						
	TPU:			+/-0.0204						
Uranium-235			U	-0.0244	pCi/g					
	Uncert:			+/-0.0778						
	TPU:			+/-0.0786						
Uranium-238			U	1.40	pCi/g					
	Uncert:			+/-1.89						
	TPU:			+/-2.02						

QC Summary

Workorder: **787535**

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date Time
Rad Gamma Spec										
Batch 3033734										
Yttrium-88			U	-0.0184	pCi/g					
	Uncert:			+/-0.0231						
	TPU:			+/-0.0246						
Zinc-65			U	0.00574	pCi/g					
	Uncert:			+/-0.0253						
	TPU:			+/-0.0254						
Zirconium-95			U	-0.00996	pCi/g					
	Uncert:			+/-0.0269						
	TPU:			+/-0.0273						

Notes:

TPU and Counting Uncertainty are calculated at the 95% confidence level (1.96-sigma).

The Qualifiers in this report are defined as follows:

U	U	Analyte was analyzed for, but not detected above the MDL, MDA, MDC or LOD.
UI	UI	Gamma Spectroscopy--Uncertain identification

N/A indicates that spike recovery limits do not apply when sample concentration exceeds spike conc. by a factor of 4 or more or %RPD not applicable.
** Indicates analyte is a surrogate/tracer compound.
^ The Relative Percent Difference (RPD) obtained from the sample duplicate (DUP) is evaluated against the acceptence criteria when the sample is greater than five times (5X) the contract required detection limit (RL). In cases where either the sample or duplicate value is less than 5X the RL, a control limit of +/- the RL is used to evaluate the DUP result.
For PS, PSD, and SDILT results, the values listed are the measured amounts, not final concentrations.

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless qualified on the QC Summary.

Alpha Spectroscopy Raw Data

Batch 3034787 Check-list

This check-list was completed on 06-AUG-26 by Melanie Aycock

This batch was reviewed by Melanie Aycock on 06-AUG-26, Jessica Davis on 12-AUG-26 and Jessica Davis on 14-AUG-26.

Batch ID: 3034787 **Product:** ASP__THS **Description:** Alpha Spec Thorium GL-RAD-A-038

#	Criteria	Yes	No	Comments
Preparation Information				
1	Was the preservation correct for this analysis?	Yes		
Internal Checklist Information				
2	Are instrument source checks within limits?	Yes		
3	Have samples been blank corrected?		No	
4	Has an Aliquot Correction been completed for this batch?		No	
5	Have sample historical results been reviewed for this batch?	Yes		
Technical Information				
6	Were all the samples prepared/analyzed within the required holding time period?	Yes		
7	Are any sample results more negative than 3xTPU?		No	
Quality Control (QC) Information				
8	Was the method blank (MB) within the acceptance criteria?	Yes		
9	Were all tracer/carrier recoveries within the required acceptance limits?	Yes		
10	Were the laboratory control sample (LCS/LCSD) recoveries within the acceptance limits?	Yes		
11	Were the relative percent differences and/or error (RPD/RER) between the sample and its duplicate within acceptable limits?	Yes		
12	Has the method required detection limit been met?	Yes		
Miscellaneous Information				
13	Were manual integrations performed on any sample or QC data files in this batch?		No	
14	Are sample-specific MDA/MDC calculated and reported?	Yes		

Prep Logbook

Thorium

Batch ID: **3034787**
Analyst: Shelby Brooks (SB3)
Prep: Ben Staubs (BS3)
Method: DOE EML HASL-300, Th-01-RC Modified
Lab SOP: GL-RAD-A-038 REV# 20
Instrument: BAL-C442912708

Due Dates for Lab: 18-AUG-2026 **Package: 19-AUG-2026** **SDG: 20-AUG-2026**

Type	Sample Id	Description	Serial Number	Spike Amount	Spike Units
LCS	1206541957	2 bottles-Stock, RASP S	1513-O	.1	mL

#	Sample ID	Prep Date	Min RDL (pCi/g)	Dry or Wet	Unadjusted Aliquot (g)	Aliquot (g)
1	787535002	03-AUG-2026	1	Dry to Dry	0.106	0.106
2	1206541955 MB	03-AUG-2026	1	Dry to Wet		0.117
3	1206541956 DUP (787535002)	03-AUG-2026	1	Dry to Dry	0.117	0.117
4	1206541957 LCS	03-AUG-2026	1	Dry to Wet		0.117

Reagent/Solvent Lot ID	Description	Amount
WORK 1845-P	Thorium-229 AS TRACER, RASP	.1 mL
REGNT 6273218.4	Acetone	1 mL
REGNT 6320197	Hydrogen Peroxide 30% ACS Reagent	3 mL
REGNT 6339096	RASP-2M Hydrochloric Acid	4 mL
REGNT 6324790	5% Saturated Boric Acid	1 mL
REGNT 6254779	Anion Exchange Resin 1x8 100-200 Mesh Resin	3 mL
REGNT 6340849	RASP- Ethyl Alcohol (80%)	5 mL
REGNT 6324793	Iron Carrier	2 mL
REGNT 6342463	Neodymium 500 MG/L in 4% HNO3	.1 mL
REGNT 6326256	RASP-Neodymium Substrate	5 mL
REGNT 6342743	8M Nitric Acid	30 mL
REGNT 6349187	9M Hydrochloric Acid	20 mL
REGNT 6341968.18	Ammonium Hydroxide	10 mL
REGNT 6347633.6	RASP-Hydrochloric Acid	20 mL
REGNT 6326147.7	RASP-Hydrofluoric Acid	30 mL
REGNT 6342535.6	HNO3	20 mL

Comments:

Pipet ID: RAD-ASP-K20007O
Data Entry Date2: 03-AUG-2026 00:00

GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

Instrument SOP: GL-RAD-I-009
Analytical SOP: GL-RAD-A-038

BATCH NUMBER : 3034787	CHAMBER : 042	LIB FILE : TH
SAMPLE ID : S0787535002_TH	DETECTOR S/N : 172099	BKG FILE : B042.CNF;2869
SAMPLE QTY : 0.106 G +/-0.943 %	AVERAGE %EFFICIENCY : 34.4033	BKG DATE : 01-Aug-2026
SAMPLE DATE : 14-Jul-2026 00:00:00	AVERAGE %EFF ERROR : 0.6655	BKG LIVE TIME(SEC) : 60000.00
ANALYST : SB3	COUNT DATE : 06-Aug-2026 08:31:15	EFF FILE : W042.CNF;746
% YIELD : 88.3 +/-5.923 %	ELAPSED LIVE TIME(SEC) : 14399.99	CAL DATE : 04-Aug-2026

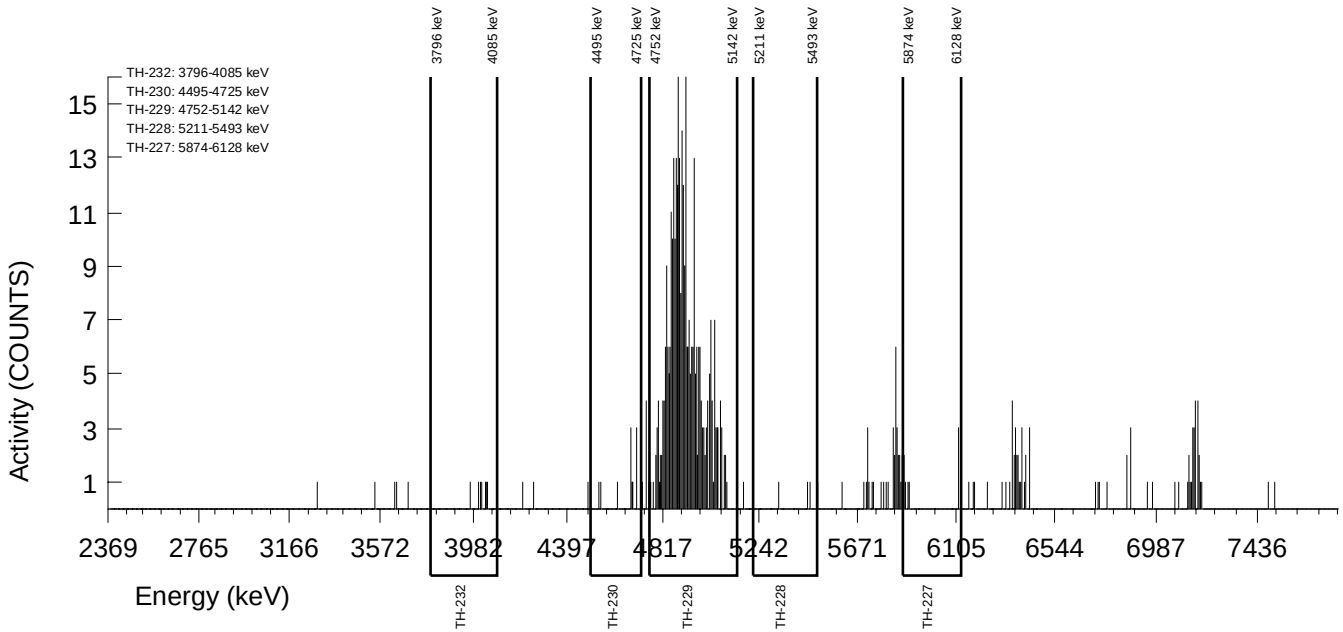
TRACER
ID : 1845-P
NUCLIDE : TH-229
NOMINAL : 4.8302E+00 dpm
RESULTS : 4.2667E+00 dpm

NUCLIDE ACTIVITY SUMMARY

NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM	GROSS AREA	NET AREA	BKG AREA	BKG StDev	%ABUN	ACTIVITY pCi/G	1.96-sigma TPU pCi/G	MDA pCi/G	Lc pCi/G	1.96-sigma cnt Unc pCi/G
TH-227	5994.04	5942.76	0.000	12.000	5.280	6.720	2.5923	57.440	1.28E+00	1.82E+00	3.02E+00	1.15E+00	1.82E+00
TH-228	5363.00	5416.53	132.929	3.000	0.835	2.160	1.4697	99.940	4.98E-02	2.50E-01	5.01E-01	1.61E-01	2.50E-01
TH-229	4900.00	4916.21	117.954	353.000	350.600	2.400	1.5492	99.520	2.05E+01	3.33E+00	5.08E-01	1.66E-01	2.16E+00
TH-230	4671.39	4659.61	29.540	12.000	8.450	1.440	1.2000	99.700	4.94E-01	4.26E-01	5.55E-01	1.90E-01	4.19E-01
TH-232	3972.00	4016.79	78.773	7.000	5.659	1.200	1.0954	100.000	3.30E-01	3.33E-01	4.19E-01	1.22E-01	3.30E-01

NOTES:

* Corrections made to the following net areas due to tracer impurity:
TH-228 (0.005 +/-0.000)
TH-230 (2.110 +/-0.033)
TH-232 (0.141 +/-0.002)



GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

Instrument SOP: GL-RAD-I-009
Analytical SOP: GL-RAD-A-038

BATCH NUMBER : 3034787	CHAMBER : 043	LIB FILE : TH
SAMPLE ID : S1206541955_TH	DETECTOR S/N : 155792	BKG FILE : B043.CNF;2899
SAMPLE QTY : 0.117 G +/-0.855 %	AVERAGE %EFFICIENCY : 34.0778	BKG DATE : 01-Aug-2026
SAMPLE DATE : 03-Aug-2026 00:00:00	AVERAGE %EFF ERROR : 0.6595	BKG LIVE TIME(SEC) : 60000.00
ANALYST : SB3	COUNT DATE : 06-Aug-2026 08:31:16	EFF FILE : W043.CNF;796
% YIELD : 66.3 +/-6.704 %	ELAPSED LIVE TIME(SEC) : 14400.00	CAL DATE : 04-Aug-2026

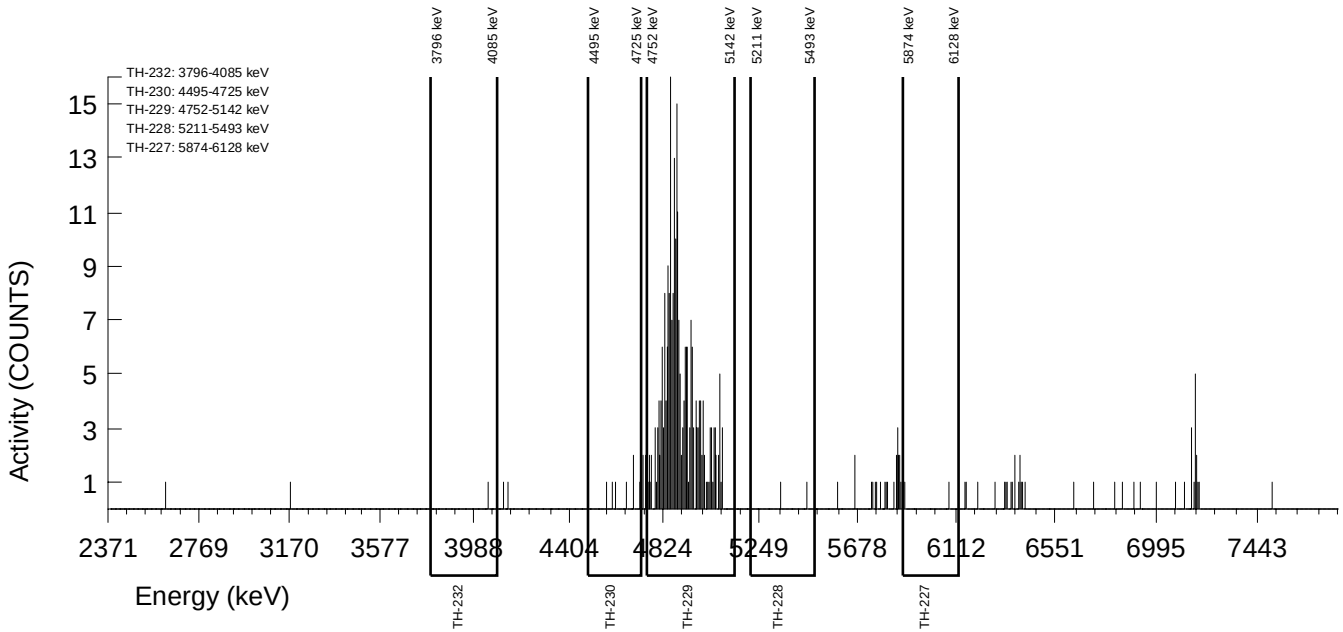
TRACER
ID : 1845-P
NUCLIDE : TH-229
NOMINAL : 4.8302E+00 dpm
RESULTS : 3.2042E+00 dpm

NUCLIDE ACTIVITY SUMMARY

NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM	GROSS AREA	NET AREA	BKG AREA	BKG StDev	%ABUN	ACTIVITY pCi/G	1.96-sigma TPU pCi/G	MDA pCi/G	Lc pCi/G	1.96-sigma cnt Unc pCi/G
TH-227	5994.04	5932.78	0.000	4.000	-1.040	5.040	2.2450	57.440	-1.46E-01	6.89E-01	1.58E+00	5.77E-01	6.89E-01
TH-228	5363.00	5398.55	113.505	2.000	-0.404	2.400	1.5492	99.940	-2.88E-02	2.66E-01	6.18E-01	2.02E-01	2.66E-01
TH-229	4900.00	4901.12	44.826	262.000	260.800	1.200	1.0954	99.520	1.86E+01	3.42E+00	5.00E-01	1.43E-01	2.27E+00
TH-230	4671.39	4649.14	4.935	7.000	4.950	0.480	0.6928	99.700	3.52E-01	4.04E-01	5.58E-01	1.72E-01	3.99E-01
TH-232	3972.00	4049.92	4.935	1.000	0.655	0.240	0.4899	100.000	4.65E-02	2.03E-01	3.61E-01	7.41E-02	2.02E-01

NOTES:

* Corrections made to the following net areas due to tracer impurity:
TH-228 (0.004 +/-0.000)
TH-230 (1.570 +/-0.024)
TH-232 (0.105 +/-0.002)



GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

Instrument SOP: GL-RAD-I-009
Analytical SOP: GL-RAD-A-038

BATCH NUMBER : 3034787	CHAMBER : 044	LIB FILE : TH
SAMPLE ID : S1206541956_TH	DETECTOR S/N : 172103	BKG FILE : B044.CNF;2908
SAMPLE QTY : 0.117 G +/-0.855 %	AVERAGE %EFFICIENCY : 35.3943	BKG DATE : 01-Aug-2026
SAMPLE DATE : 14-Jul-2026 00:00:00	AVERAGE %EFF ERROR : 0.6842	BKG LIVE TIME(SEC) : 60000.00
ANALYST : SB3	COUNT DATE : 06-Aug-2026 08:31:16	EFF FILE : W044.CNF;781
% YIELD : 76.0 +/-6.213 %	ELAPSED LIVE TIME(SEC) : 14400.00	CAL DATE : 04-Aug-2026

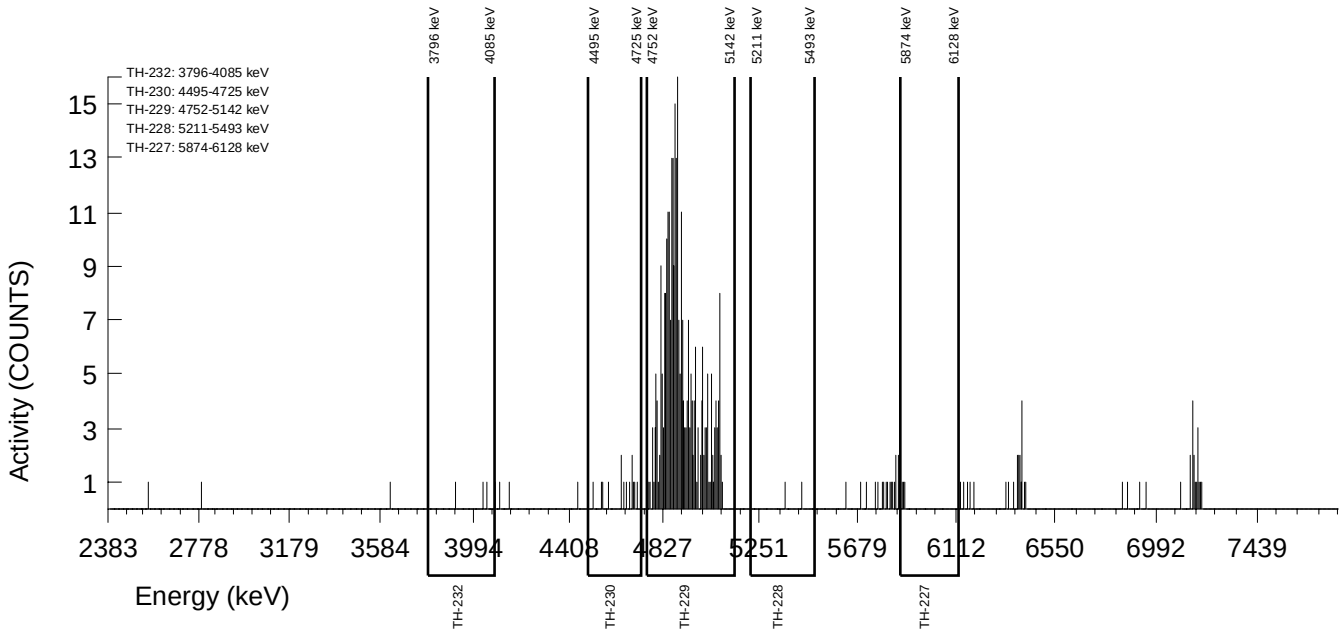
TRACER
ID : 1845-P
NUCLIDE : TH-229
NOMINAL : 4.8302E+00 dpm
RESULTS : 3.6731E+00 dpm

NUCLIDE ACTIVITY SUMMARY

NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM	GROSS AREA	NET AREA	BKG AREA	BKG StDev	%ABUN	ACTIVITY pCi/G	1.96-sigma TPU pCi/G	MDA pCi/G	Lc pCi/G	1.96-sigma cnt Unc pCi/G
TH-227	5994.04	5884.22	14.755	3.000	-2.040	5.040	2.2450	57.440	-5.05E-01	1.11E+00	2.78E+00	1.02E+00	1.11E+00
TH-228	5363.00	5400.23	73.775	2.000	1.276	0.720	0.8485	99.940	7.79E-02	2.15E-01	3.73E-01	9.51E-02	2.15E-01
TH-229	4900.00	4907.64	88.003	311.000	310.520	0.480	0.6928	99.520	1.86E+01	3.17E+00	3.32E-01	7.60E-02	2.07E+00
TH-230	4671.39	4642.17	51.642	14.000	11.651	0.480	0.6928	99.700	6.96E-01	4.68E-01	4.88E-01	1.54E-01	4.56E-01
TH-232	3972.00	4020.82	0.000	4.000	2.915	0.960	0.9798	100.000	1.74E-01	2.70E-01	4.04E-01	1.12E-01	2.69E-01

NOTES:

* Corrections made to the following net areas due to tracer impurity:
TH-228 (0.004 +/-0.000)
TH-230 (1.869 +/-0.029)
TH-232 (0.125 +/-0.002)



GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

Instrument SOP: GL-RAD-I-009
Analytical SOP: GL-RAD-A-038

BATCH NUMBER : 3034787	CHAMBER : 045	LIB FILE : TH
SAMPLE ID : S1206541957_TH	DETECTOR S/N : 148021	BKG FILE : B045.CNF;2889
SAMPLE QTY : 0.117 G +/-0.855 %	AVERAGE %EFFICIENCY : 32.8412	BKG DATE : 01-Aug-2026
SAMPLE DATE : 03-Aug-2026 00:00:00	AVERAGE %EFF ERROR : 0.6360	BKG LIVE TIME(SEC) : 60000.00
ANALYST : SB3	COUNT DATE : 06-Aug-2026 08:31:16	EFF FILE : W045.CNF;760
% YIELD : 82.7 +/-6.203 %	ELAPSED LIVE TIME(SEC) : 14400.00	CAL DATE : 04-Aug-2026

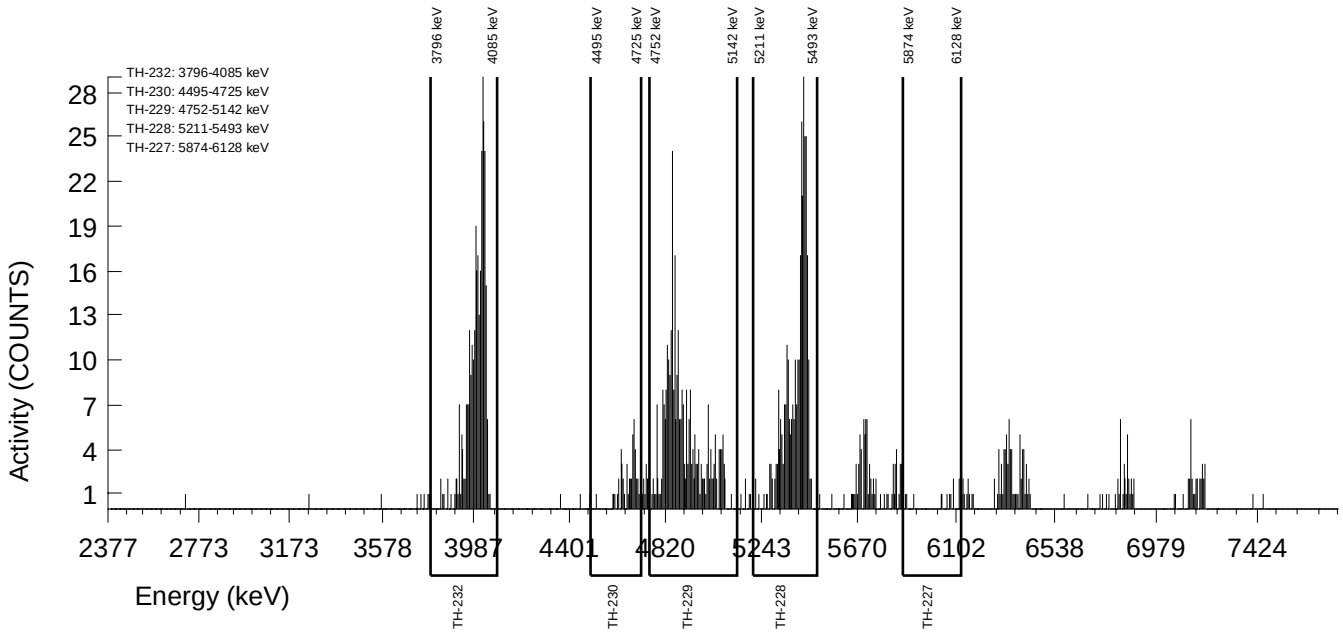
TRACER		LCS	
ID	: 1845-P	ID	1513-O
NUCLIDE	: TH-229	NUCLIDE	TH-232
NOMINAL	: 4.8302E+00 dpm	NOMINAL (pCi/G)	1.7437E+01
RESULTS	: 3.9944E+00 dpm	% RECOVERY	106.677

NUCLIDE ACTIVITY SUMMARY

NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM	GROSS AREA	NET AREA	BKG AREA	BKG StDev	%ABUN	ACTIVITY pCi/G	1.96-sigma TPU pCi/G	MDA pCi/G	Lc pCi/G	1.96-sigma cnt Unc pCi/G
TH-227	5994.04	6046.40	31.976	14.000	6.800	7.200	2.6833	57.440	7.94E-01	9.44E-01	1.50E+00	5.74E-01	9.38E-01
TH-228	5363.00	5400.54	33.031	324.000	322.076	1.920	1.3856	99.940	1.91E+01	3.23E+00	4.79E-01	1.51E-01	2.10E+00
TH-229	4900.00	4903.39	16.994	315.000	313.320	1.680	1.2961	99.520	1.86E+01	3.16E+00	4.60E-01	1.41E-01	2.07E+00
TH-230	4671.39	4658.45	62.723	49.000	45.674	1.440	1.2000	99.700	2.71E+00	9.00E-01	5.51E-01	1.87E-01	8.24E-01
TH-232	3972.00	3995.81	47.711	316.000	314.914	0.960	0.9798	100.000	1.86E+01	3.16E+00	4.00E-01	1.11E-01	2.06E+00

NOTES:

* Corrections made to the following net areas due to tracer impurity:
TH-228 (0.004 +/-0.000)
TH-230 (1.886 +/-0.029)
TH-232 (0.126 +/-0.002)



Batch 3034788 Check-list

This check-list was completed on 06-AUG-26 by Melanie Aycock

This batch was reviewed by Melanie Aycock on 06-AUG-26, Jessica Davis on 12-AUG-26 and Jessica Davis on 13-AUG-26.

Batch ID: 3034788 **Product:** ASP__UUS **Description:** Alpha Spec Uranium GL-RAD-A-011

#	Criteria	Yes	No	Comments
Preparation Information				
1	Was the preservation correct for this analysis?	Yes		
Internal Checklist Information				
2	Are instrument source checks within limits?	Yes		
3	Have samples been blank corrected?		No	
4	Has an Aliquot Correction been completed for this batch?		No	
5	Have sample historical results been reviewed for this batch?	Yes		
Technical Information				
6	Were all the samples prepared/analyzed within the required holding time period?	Yes		
7	Are any sample results more negative than 3xTPU?		No	
Quality Control (QC) Information				
8	Was the method blank (MB) within the acceptance criteria?	Yes		
9	Were all tracer/carrier recoveries within the required acceptance limits?	Yes		
10	Were the laboratory control sample (LCS/LCSD) recoveries within the acceptance limits?	Yes		
11	Were the relative percent differences and/or error (RPD/RER) between the sample and its duplicate within acceptable limits?	Yes		
12	Has the method required detection limit been met?	Yes		
Miscellaneous Information				
13	Were manual integrations performed on any sample or QC data files in this batch?		No	
14	Are sample-specific MDA/MDC calculated and reported?	Yes		

Prep Logbook

Uranium

Batch ID: **3034788**
Analyst: Shelby Brooks (SB3)
Prep: Ben Staubs (BS3)
Method: DOE EML HASL-300, U-02-RC Modified
Lab SOP: GL-RAD-A-011 REV# 30
Instrument: BAL-C442912708

Due Dates for Lab: 18-AUG-2026 **Package: 19-AUG-2026** **SDG: 20-AUG-2026**

Type	Sample Id	Description	Serial Number	Spike Amount	Spike Units
LCS	1206541960	Uranium-238 AS SPIKE	1600-S	.1	mL

#	Sample ID	Prep Date	Min RDL (pCi/g)	Dry or Wet	Unadjusted Aliquot (g)	Aliquot (g)
1	787535002	03-AUG-2026	1	Dry to Dry	0.123	0.123
2	1206541958 MB	03-AUG-2026	1	Dry to Wet		0.126
3	1206541959 DUP (787535002)	03-AUG-2026	1	Dry to Dry	0.126	0.126
4	1206541960 LCS	03-AUG-2026	1	Dry to Wet		0.126

Reagent/Solvent Lot ID	Description	Amount
WORK 1564-PP	Uranium-232 AS TRACER- 2 bottles (RASP, STOCK)	.1 ml
REGNT 6273218.4	Acetone	1 mL
REGNT 6320197	Hydrogen Peroxide 30% ACS Reagent	.1 mL
REGNT 6345324	0.1M HCl	15 mL
REGNT 6324790	5% Saturated Boric Acid	1 mL
REGNT 6343462	6M Hydrochloric Acid/0.52M Hydrofluoric Acid	15 mL
REGNT 6347048	RASP-6M Hydrochloric Acid	5 mL
REGNT 6254779	Anion Exchange Resin 1x8 100-200 Mesh Resin	3 mL
REGNT 6340849	RASP- Ethyl Alcohol (80%)	5 mL
REGNT 6324793	Iron Carrier	2 mL
REGNT 6342463	Neodymium 500 MG/L in 4% HNO3	.1 mL
REGNT 6326256	RASP-Neodymium Substrate	5 mL
REGNT 6229428.8	Titanium (III) Chloride, 20% solution	.5 mL
REGNT 6349187	9M Hydrochloric Acid	30 mL
REGNT 6341968.18	Ammonium Hydroxide	10 mL
REGNT 6347633.6	RASP-Hydrochloric Acid	20 mL
REGNT 6326147.7	RASP-Hydrofluoric Acid	30 mL
REGNT 6342535.6	HNO3	20 mL

Comments:

Pipet Id: RAD-ASP-K20007O
Pu-236 Tracer Used: No
Analyzed With: N/A
Data Entry Date2: 03-AUG-2026 00:00

GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

Instrument SOP: GL-RAD-I-009
Analytical SOP: GL-RAD-A-011

BATCH NUMBER : 3034788	CHAMBER : 152	LIB FILE : UU
SAMPLE ID : S0787535002_UU	DETECTOR S/N : 155296	BKG FILE : B152.CNF;2142
SAMPLE QTY : 0.123 G +/-0.813 %	AVERAGE %EFFICIENCY : 37.9367	BKG DATE : 31-Jul-2026
SAMPLE DATE : 14-Jul-2026 00:00:00	AVERAGE %EFF ERROR : 0.7324	BKG LIVE TIME(SEC) : 60000.00
ANALYST : SB3	COUNT DATE : 06-Aug-2026 08:21:04	EFF FILE : W152.CNF;182
% YIELD : 85.0 +/-5.610 %	ELAPSED LIVE TIME(SEC) : 14400.00	CAL DATE : 13-Jul-2026

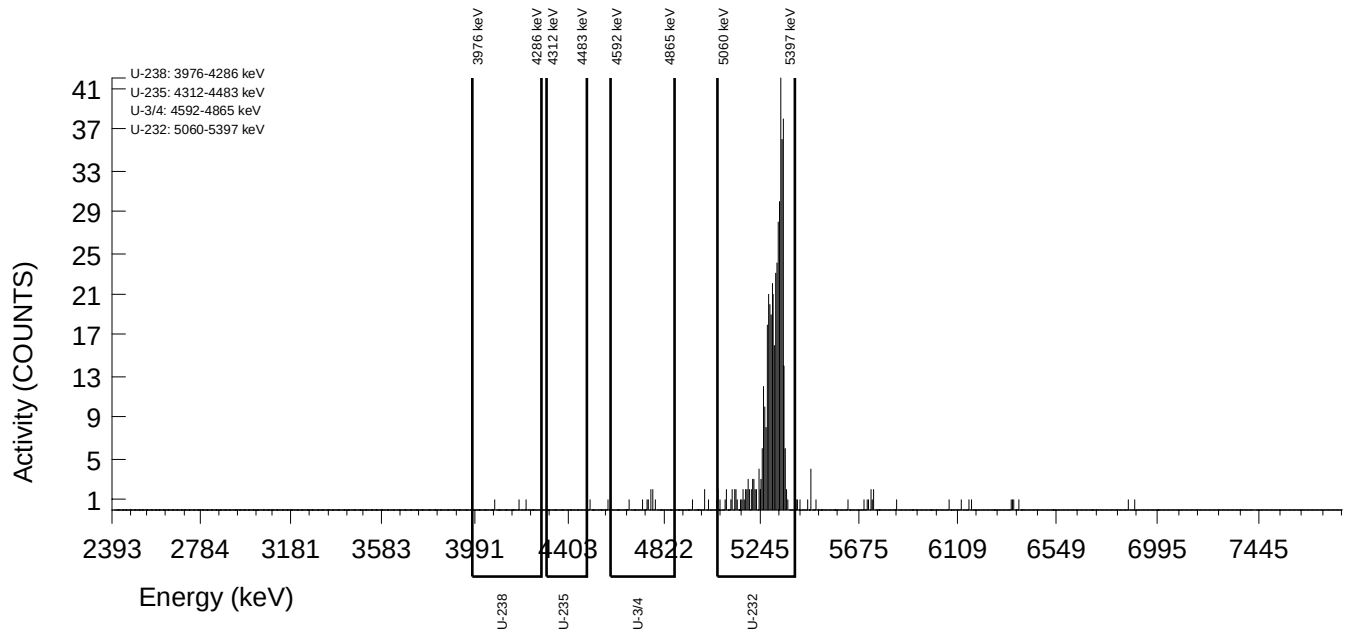
TRACER
ID : 1564-PP
NUCLIDE : U-232
NOMINAL : 6.0048E+00 dpm
RESULTS : 5.1057E+00 dpm

NUCLIDE ACTIVITY SUMMARY

NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM	GROSS AREA	NET AREA	BKG AREA	BKG StDev	%ABUN	ACTIVITY pCi/G	1.96-sigma TPU pCi/G	MDA pCi/G	Lc pCi/G	1.96-sigma cnt Unc pCi/G
U-232	5302.10	5301.13	48.758	466.000	464.560	1.440	1.2000	100.000	2.20E+01	3.27E+00	3.50E-01	1.04E-01	2.01E+00
U-3/4	4763.02	4751.05	14.567	9.000	6.901	0.480	0.6928	100.000	3.26E-01	3.00E-01	3.74E-01	1.16E-01	2.96E-01
U-235	4391.00	4397.16	0.000	0.000	0.000	0.000	1.0000	80.900	0.00E+00	1.18E-01	1.75E-01	1.07E-01	1.18E-01
U-238	4184.73	4160.18	135.955	3.000	2.040	0.960	0.9798	100.000	9.65E-02	1.92E-01	3.12E-01	8.49E-02	1.92E-01

NOTES:

* Correction made to the following net area due to tracer impurity:
U-3/4 (1.619 +/-0.049)



GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

Instrument SOP: GL-RAD-I-009
Analytical SOP: GL-RAD-A-011

BATCH NUMBER : 3034788	CHAMBER : 153	LIB FILE : UU
SAMPLE ID : S1206541958_UU	DETECTOR S/N : 155298	BKG FILE : B153.CNF;2142
SAMPLE QTY : 0.126 G +/-0.794 %	AVERAGE %EFFICIENCY : 38.4629	BKG DATE : 31-Jul-2026
SAMPLE DATE : 03-Aug-2026 00:00:00	AVERAGE %EFF ERROR : 0.7422	BKG LIVE TIME(SEC) : 60000.00
ANALYST : SB3	COUNT DATE : 06-Aug-2026 08:21:06	EFF FILE : W153.CNF;179
% YIELD : 84.3 +/-5.604 %	ELAPSED LIVE TIME(SEC) : 14400.00	CAL DATE : 13-Jul-2026

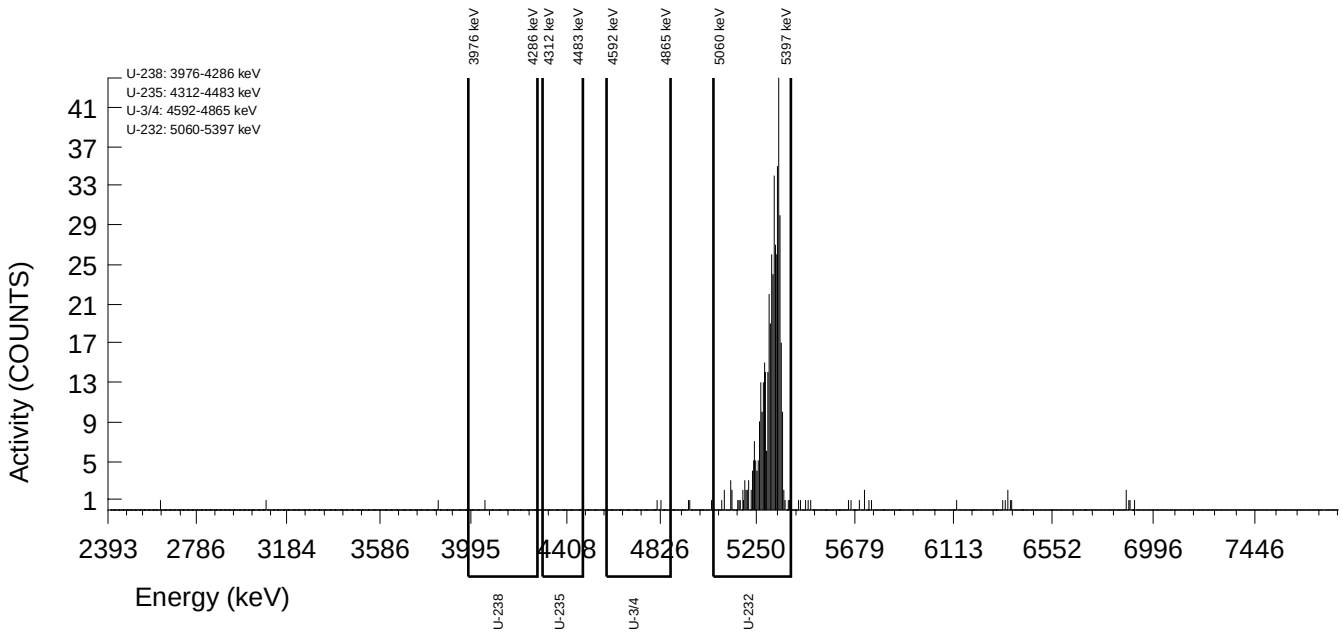
TRACER
ID : 1564-PP
NUCLIDE : U-232
NOMINAL : 6.0014E+00 dpm
RESULTS : 5.0577E+00 dpm

NUCLIDE ACTIVITY SUMMARY

NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM	GROSS AREA	NET AREA	BKG AREA	BKG StDev	%ABUN	ACTIVITY pCi/G	1.96-sigma TPU pCi/G	MDA pCi/G	Lc pCi/G	1.96-sigma cnt Unc pCi/G
U-232	5302.10	5307.89	39.902	469.000	466.840	2.160	1.4697	100.000	2.15E+01	3.18E+00	3.85E-01	1.24E-01	1.95E+00
U-3/4	4763.02	4818.46	19.496	2.000	-0.587	0.960	0.9798	100.000	-2.70E-02	1.63E-01	3.92E-01	1.27E-01	1.63E-01
U-235	4391.00	4397.16	0.000	0.000	-0.480	0.480	0.6928	80.900	-2.73E-02	1.21E-01	3.15E-01	7.21E-02	1.21E-01
U-238	4184.73	4051.09	4.874	1.000	0.760	0.240	0.4899	100.000	3.49E-02	1.31E-01	2.20E-01	4.12E-02	1.31E-01

NOTES:

* Correction made to the following net area due to tracer impurity:
U-3/4 (1.627 +/-0.049)



GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

Instrument SOP: GL-RAD-I-009
Analytical SOP: GL-RAD-A-011

BATCH NUMBER : 3034788	CHAMBER : 155	LIB FILE : UU
SAMPLE ID : S1206541959_UU	DETECTOR S/N : 155300	BKG FILE : B155.CNF;2156
SAMPLE QTY : 0.126 G +/-0.794 %	AVERAGE %EFFICIENCY : 40.3510	BKG DATE : 31-Jul-2026
SAMPLE DATE : 14-Jul-2026 00:00:00	AVERAGE %EFF ERROR : 0.7778	BKG LIVE TIME(SEC) : 60000.00
ANALYST : SB3	COUNT DATE : 06-Aug-2026 08:21:08	EFF FILE : W155.CNF;175
% YIELD : 89.1 +/-5.425 %	ELAPSED LIVE TIME(SEC) : 14400.00	CAL DATE : 13-Jul-2026

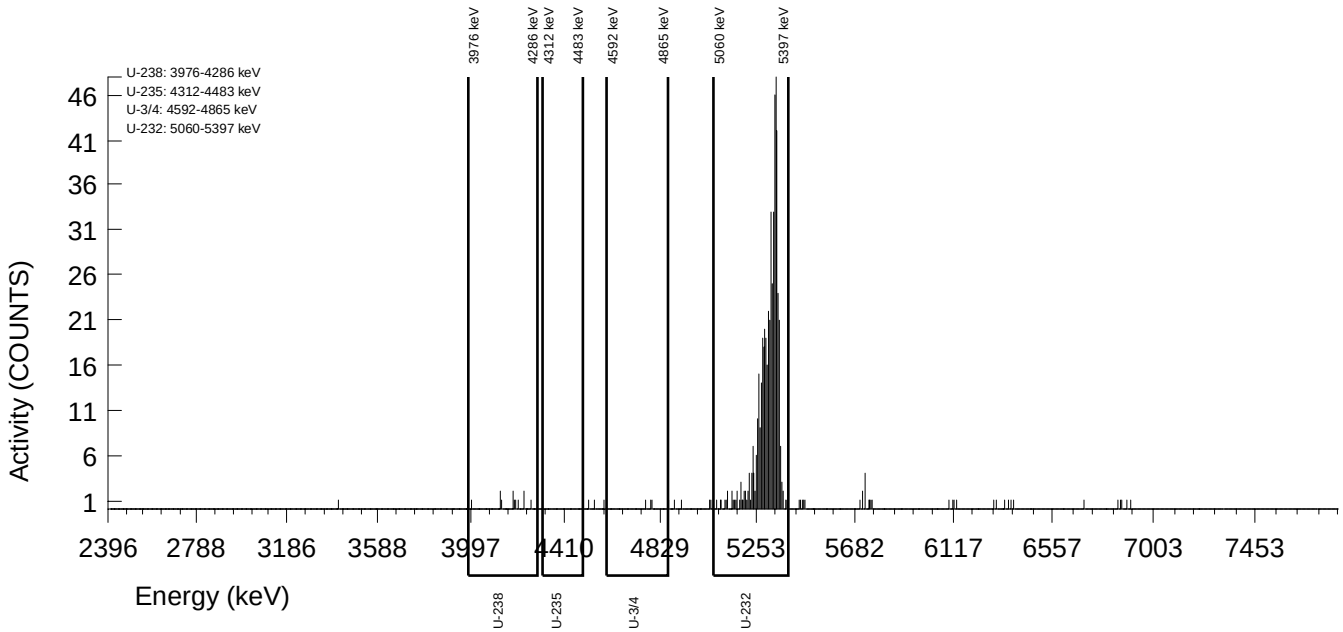
TRACER
ID : 1564-PP
NUCLIDE : U-232
NOMINAL : 6.0048E+00 dpm
RESULTS : 5.3524E+00 dpm

NUCLIDE ACTIVITY SUMMARY

NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM	GROSS AREA	NET AREA	BKG AREA	BKG StDev	%ABUN	ACTIVITY pCi/G	1.96-sigma TPU pCi/G	MDA pCi/G	Lc pCi/G	1.96-sigma cnt Unc pCi/G
U-232	5302.10	5305.46	32.850	524.000	518.000	6.000	2.4495	100.000	2.15E+01	3.07E+00	4.96E-01	1.86E-01	1.86E+00
U-3/4	4763.02	4802.40	0.000	4.000	1.235	0.960	0.9798	100.000	5.11E-02	1.87E-01	3.60E-01	1.18E-01	1.87E-01
U-235	4391.00	4397.16	0.000	0.000	-0.240	0.240	0.4899	80.900	-1.23E-02	1.06E-01	2.45E-01	4.59E-02	1.06E-01
U-238	4184.73	4169.87	102.199	12.000	11.520	0.480	0.6928	100.000	4.77E-01	3.00E-01	2.29E-01	5.26E-02	2.95E-01

NOTES:

* Correction made to the following net area due to tracer impurity:
U-3/4 (1.805 +/-0.054)



GEL Laboratories LLC
ALPHA SPECTROSCOPY REPORT

Instrument SOP: GL-RAD-I-009
Analytical SOP: GL-RAD-A-011

BATCH NUMBER : 3034788	CHAMBER : 156	LIB FILE : UU
SAMPLE ID : S1206541960_UU	DETECTOR S/N : 155301	BKG FILE : B156.CNF;2166
SAMPLE QTY : 0.126 G +/-0.794 %	AVERAGE %EFFICIENCY : 39.0648	BKG DATE : 31-Jul-2026
SAMPLE DATE : 03-Aug-2026 00:00:00	AVERAGE %EFF ERROR : 0.7535	BKG LIVE TIME(SEC) : 60000.00
ANALYST : SB3	COUNT DATE : 06-Aug-2026 08:21:10	EFF FILE : W156.CNF;181
% YIELD : 89.1 +/-5.468 %	ELAPSED LIVE TIME(SEC) : 14400.00	CAL DATE : 13-Jul-2026

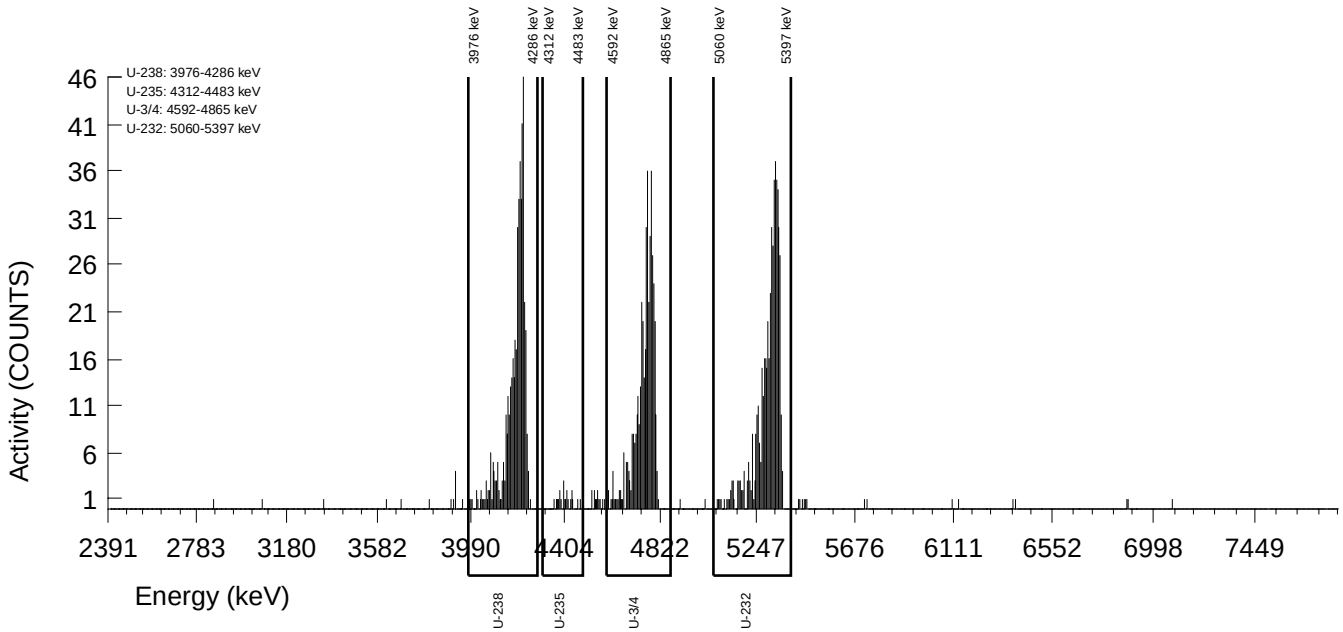
TRACER		LCS	
ID	: 1564-PP	ID	1600-S
NUCLIDE	: U-232	NUCLIDE	U-238
NOMINAL	: 6.0014E+00 dpm	NOMINAL (pCi/G)	2.1383E+01
RESULTS	: 5.3450E+00 dpm	% RECOVERY	93.658

NUCLIDE ACTIVITY SUMMARY

NUCLIDE	LIBRARY ENERGY	PEAK ENERGY	PEAK FWHM	GROSS AREA	NET AREA	BKG AREA	BKG StDev	%ABUN	ACTIVITY pCi/G	1.96-sigma TPU pCi/G	MDA pCi/G	Lc pCi/G	1.96-sigma cnt Unc pCi/G
U-232	5302.10	5300.33	52.486	503.000	501.080	1.920	1.3856	100.000	2.15E+01	3.10E+00	3.46E-01	1.09E-01	1.89E+00
U-3/4	4763.02	4754.51	56.589	430.000	427.534	0.720	0.8485	100.000	1.83E+01	2.74E+00	3.57E-01	1.14E-01	1.74E+00
U-235	4391.00	4407.39	53.458	21.000	20.520	0.480	0.6928	80.900	1.09E+00	5.04E-01	2.93E-01	6.72E-02	4.88E-01
U-238	4184.73	4185.14	31.573	468.000	467.760	0.240	0.4899	100.000	2.00E+01	2.93E+00	2.05E-01	3.84E-02	1.82E+00

NOTES:

* Correction made to the following net area due to tracer impurity:
U-3/4 (1.746 +/-0.052)



Continuing Calibration Data

Review of Alpha Spectrometer QA results (Daily checks) 6-AUG-2026 13:54:43.31

Bank 1 through bank 29 (detectors 1 through 256)

DETECTORS NOT LISTED HAVE PASSED ALL QUALITY ASSURANCE PARAMETERS

	Detector	Parameter	Flag
6-AUG-2026	23	PSFWHM-5000	Below
6-AUG-2026	23	PSENERGY-5000	Above
6-AUG-2026	23	PSCENTRD-5000	Below
6-AUG-2026	23	PSCTSS-5000	Below
23-MAR-2026	116	PSFWHM-5000	Below
23-MAR-2026	116	PSCTSS-5000	Below
11-MAR-2026	119	PSENERGY-5000	Below
11-MAR-2026	119	PSCTSS-5000	Below
6-AUG-2026	123	PSCENTRD-5000	Above
28-JUL-2026	129	PSCTSS-5000	Below
28-JUL-2026	130	PSCTSS-5000	Below
11-JUL-2026	169	PSFWHM-5000	Above
11-JUL-2026	169	PSCTSS-5000	Below
6-AUG-2026	187	Second Check Required for D	
10-FEB-2026	198	PSFWHM-5000	Below
10-FEB-2026	198	PSCTSS-5000	Above
5-JUL-2024	201	PSCTSS-5000	Below
5-JUL-2024	202	PSCTSS-5000	Below
6-AUG-2026	208	PSFWHM-5000	Above
29-JAN-2026	221	PSENERGY-5000	Below
29-JAN-2026	221	PSCTSS-5000	Below
24-MAR-2026	223	PSCENTRD-5000	Above
23-MAR-2026	225	PSCTSS-5000	Below
23-MAR-2026	227	PSFWHM-5000	Below
23-MAR-2026	227	PSCTSS-5000	Below
6-AUG-2026	229	PSFWHM-5000	Above
6-AUG-2026	252	PSFWHM-5000	Below
6-AUG-2026	252	PSCTSS-5000	Below

The following detectors that may not have properly transfered to the QA file

115	may	not	have	run	since	6-AUG-2026			
116	may	not	have	run	since	6-AUG-2026			
119	may	not	have	run	since	6-AUG-2026			
120	may	not	have	run	since	6-AUG-2026			
121	may	not	have	run	since	6-AUG-2026			
122	may	not	have	run	since	6-AUG-2026			
129	may	not	have	run	since	6-AUG-2026			
130	may	not	have	run	since	6-AUG-2026			
143	may	not	have	run	since	6-AUG-2026			
144	may	not	have	run	since	6-AUG-2026			
163	may	not	have	run	since	6-AUG-2026			
164	may	not	have	run	since	6-AUG-2026			
169	may	not	have	run	since	6-AUG-2026			
183	may	not	have	run	since	6-AUG-2026			
184	may	not	have	run	since	6-AUG-2026			
198	may	not	have	run	since	6-AUG-2026			
201	may	not	have	run	since	6-AUG-2026			
202	may	not	have	run	since	6-AUG-2026			
209	may	not	have	run	since	6-AUG-2026			
210	may	not	have	run	since	6-AUG-2026			
211	may	not	have	run	since	6-AUG-2026			
212	may	not	have	run	since	6-AUG-2026			
221	may	not	have	run	since	6-AUG-2026			
223	may	not	have	run	since	6-AUG-2026			
225	may	not	have	run	since	6-AUG-2026			
226	may	not	have	run	since	6-AUG-2026			
227	may	not	have	run	since	6-AUG-2026			
241	may	not	have	run	since	6-AUG-2026			
242	may	not	have	run	since	6-AUG-2026			

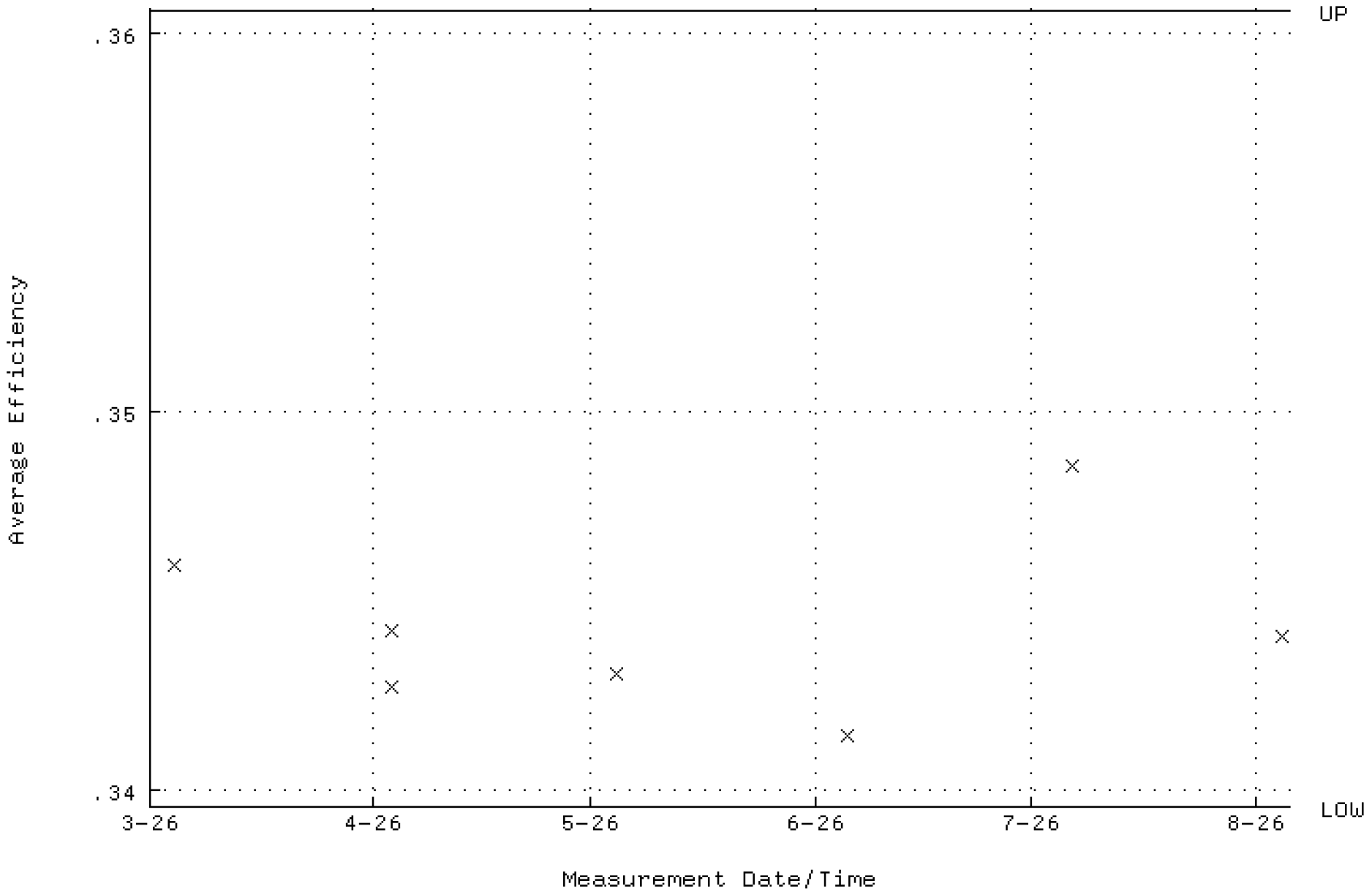
APPROVAL DATE: 8/6/26 APPROVAL TIME: 1417

APPROVED BY:  PROCEDURE # GL-RAD-I-009

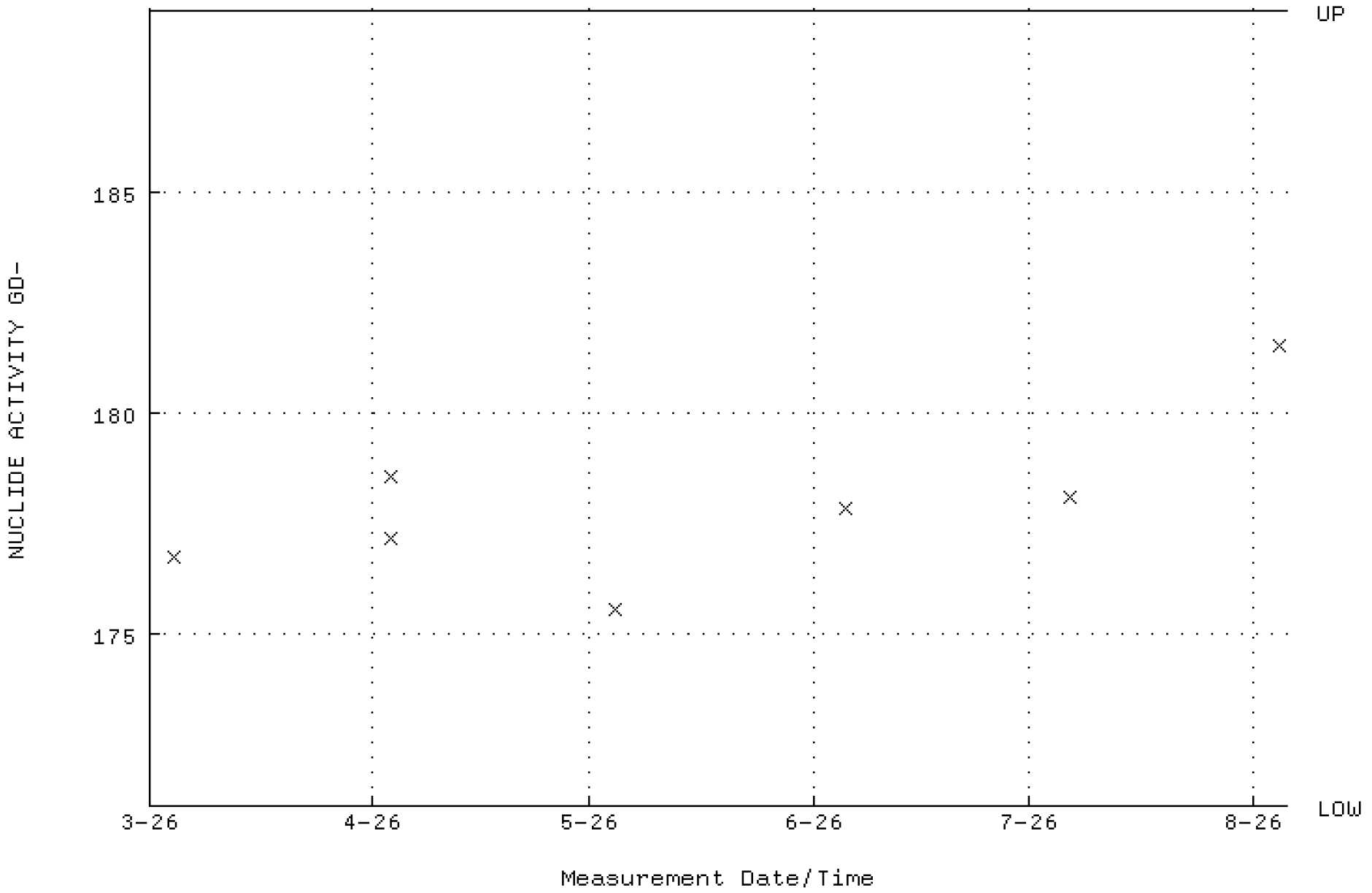
Report completed at 6-AUG-2026 13:56:52.26

Background and Efficiency Data

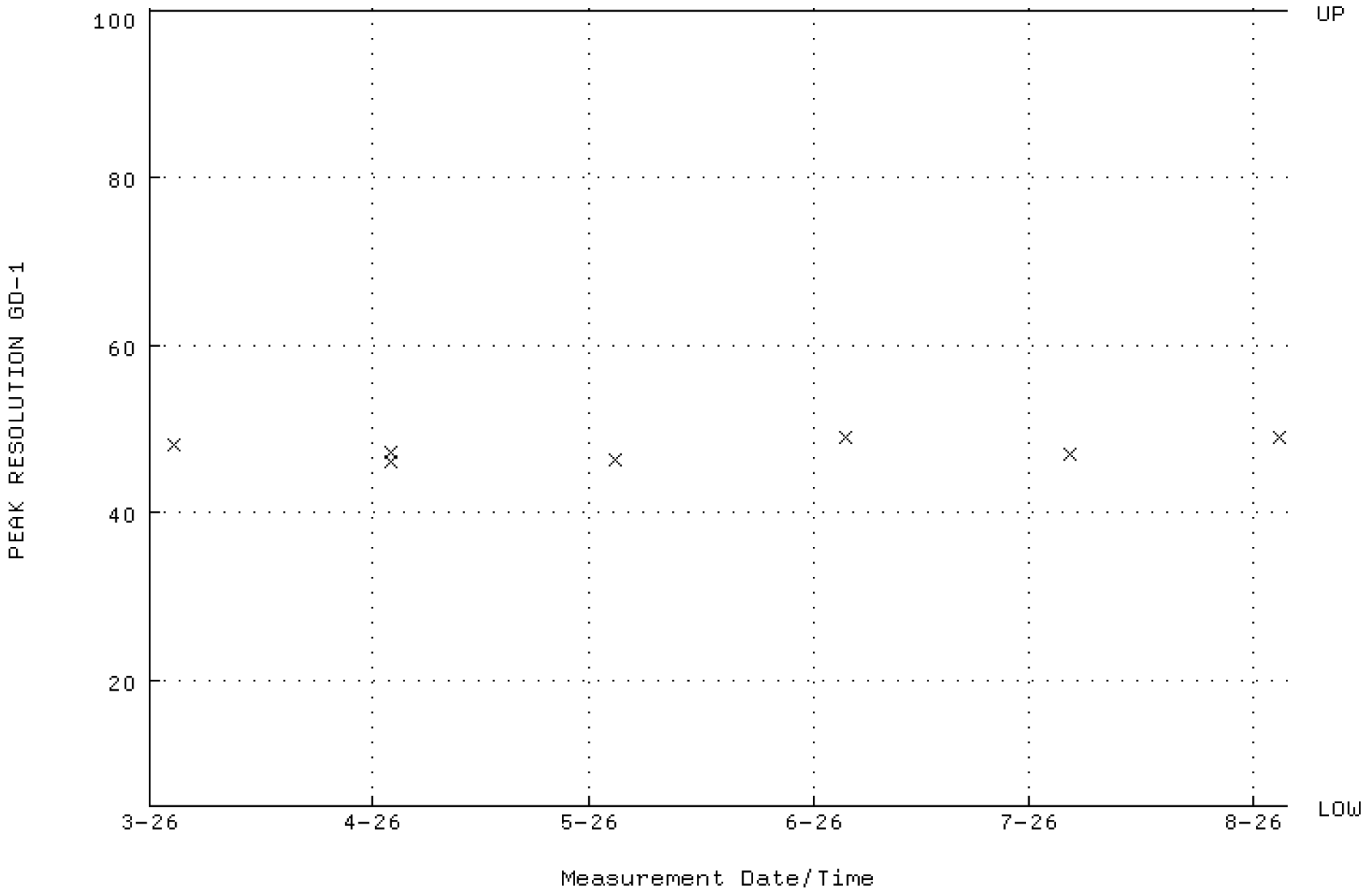
QA filename : DKA100:[ENV_ALPHA.QA.W]W042.QAF;8
Parameter Name : AVRGEFF (Average Efficiency)
Start/End Dates : 4-MAR-2026 10:20:04 through 5-AUG-2026 12:00:00
Lower/Upper Lmts: 0.339560 through 0.360570



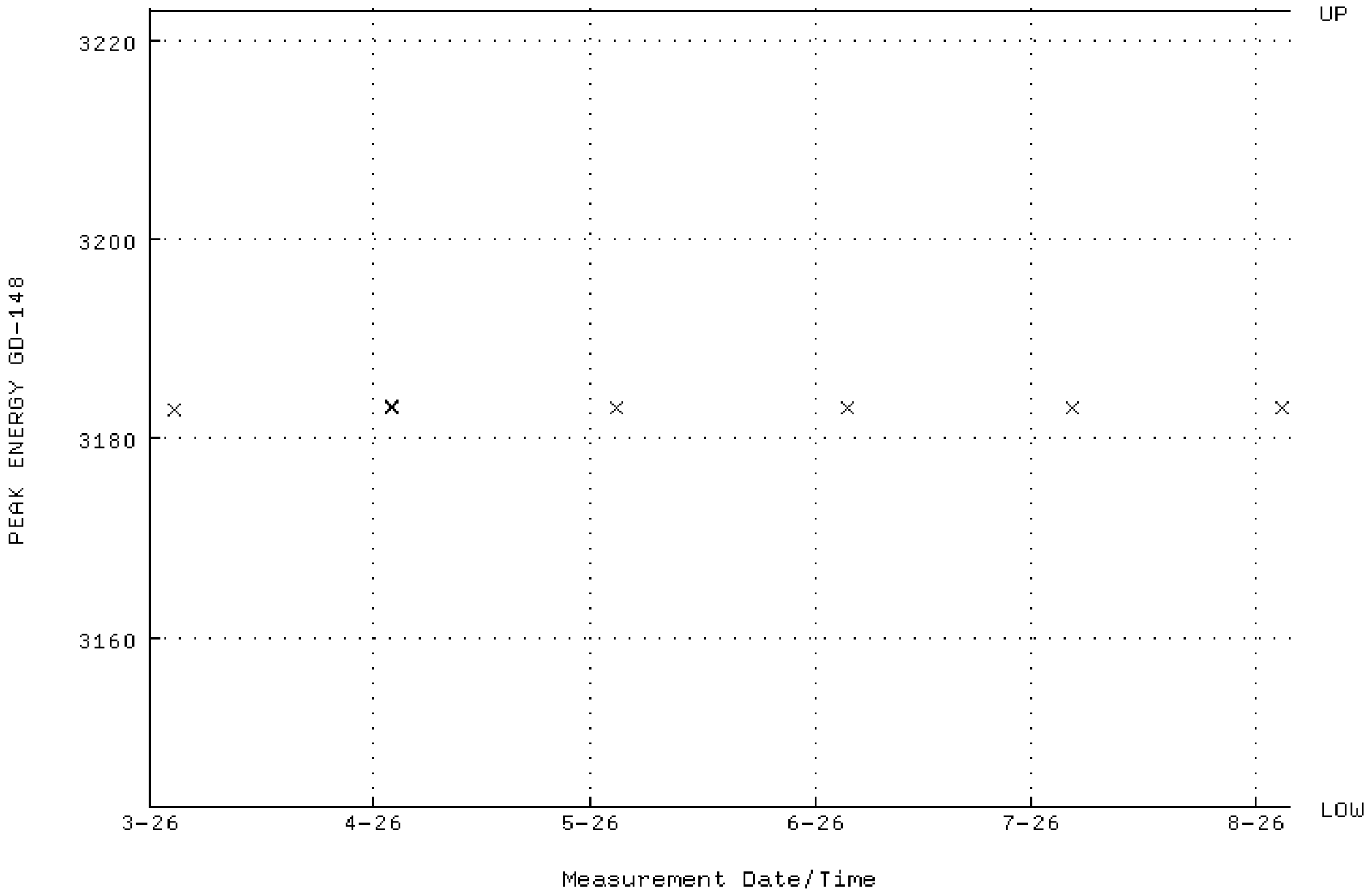
QA filename : DKA100:[ENV_ALPHA.QA.W]W042.QAF;8
Parameter Name : NLACTVTY-GD148 (NUCLIDE ACTIVITY GD-148)
Start/End Dates : 4-MAR-2026 10:20:04 through 5-AUG-2026 12:00:00
Lower/Upper Lmts: 171.090 through 189.100



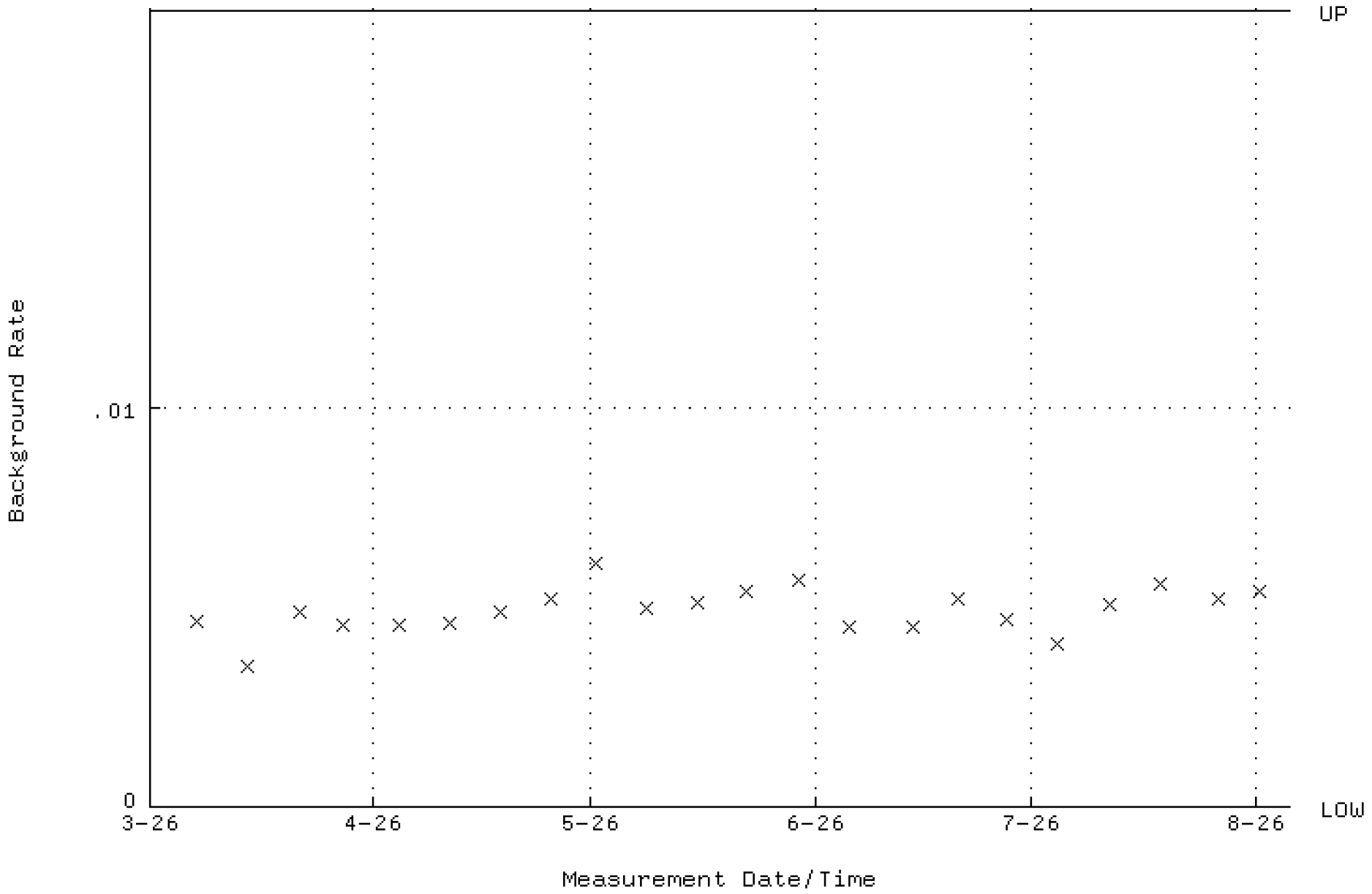
QA filename : DKA100:[ENV_ALPHA.QA.W]W042.QAF;8
Parameter Name : PSFWHM-GD148 (PEAK RESOLUTION GD-148)
Start/End Dates : 4-MAR-2026 10:20:04 through 5-AUG-2026 12:00:00
Lower/Upper Lmts: 5.00000 through 100.000



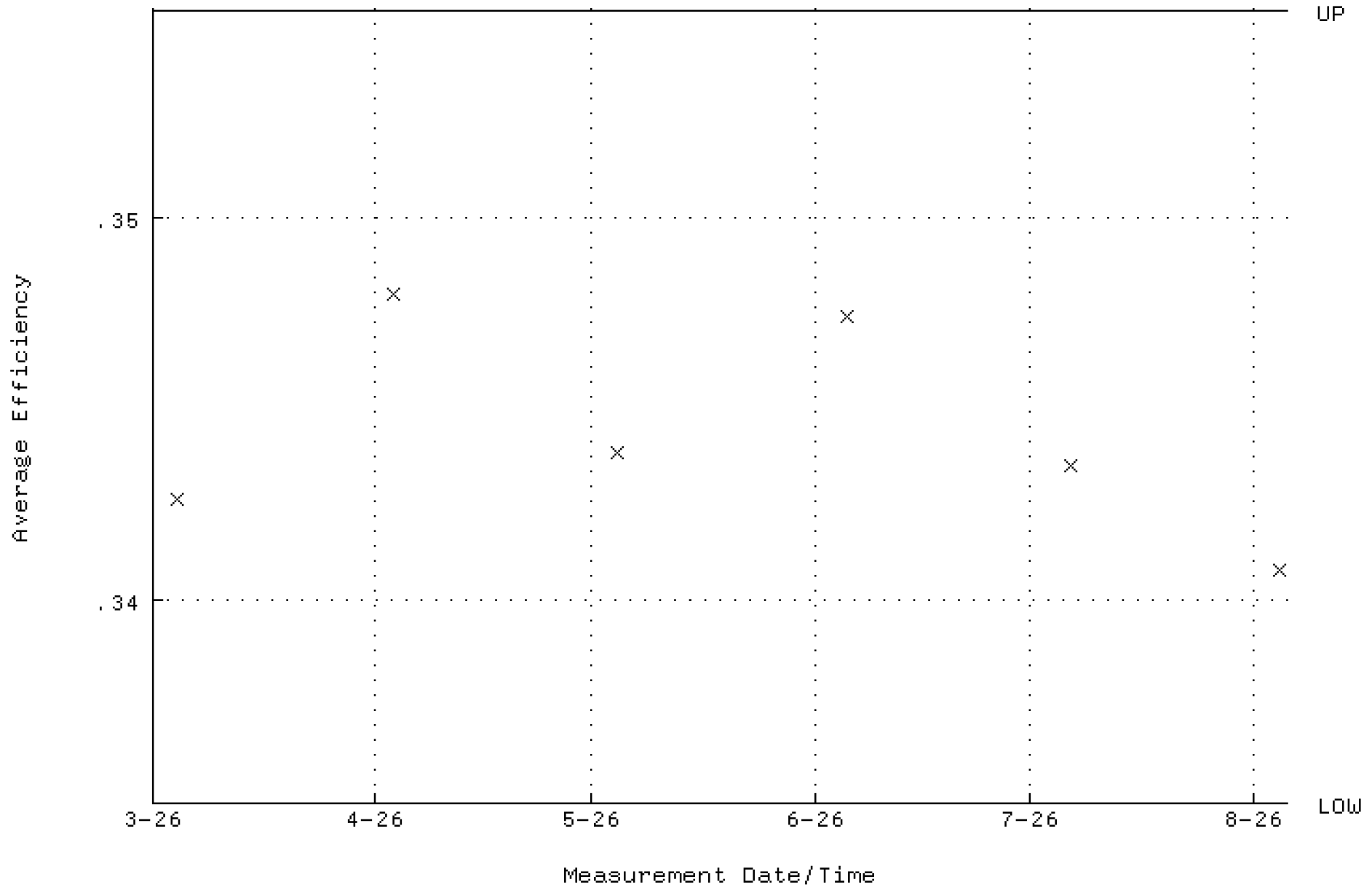
QA filename : DKA100:[ENV_ALPHA.QA.W]W042.QAF;8
Parameter Name : PSENERGY-GD148 (PEAK ENERGY GD-148)
Start/End Dates : 4-MAR-2026 10:20:04 through 5-AUG-2026 12:00:00
Lower/Upper Lmts: 3143.00 through 3223.00



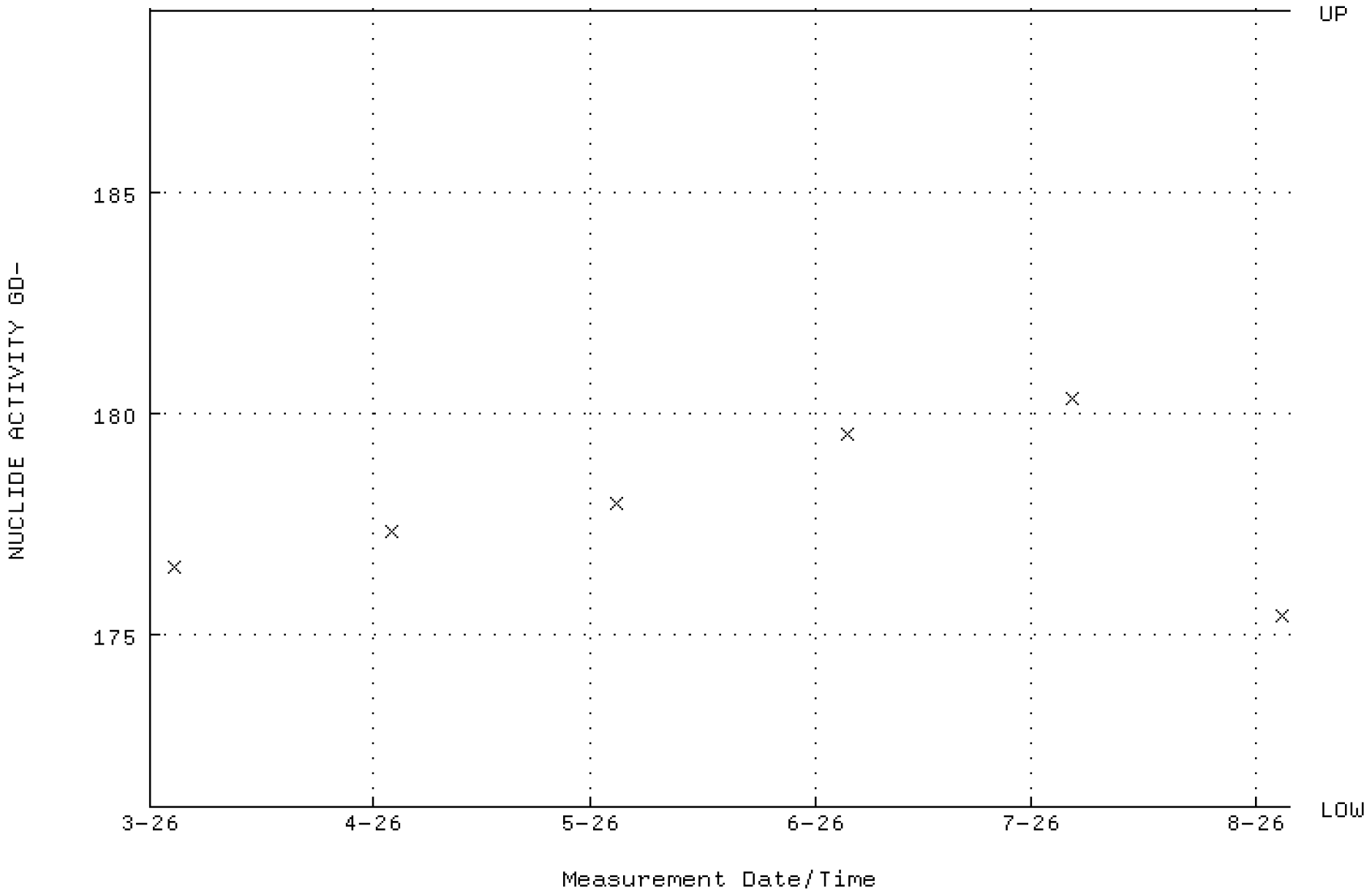
QA filename : DKA100:[ENV_ALPHA.QA.B]B042.QAF;5
Parameter Name : BACKRATE (Background Rate)
Start/End Dates : 7-MAR-2026 12:21:48 through 5-AUG-2026 12:00:00
Lower/Upper Lmts: 0.000000E+00 through 2.000000E-02



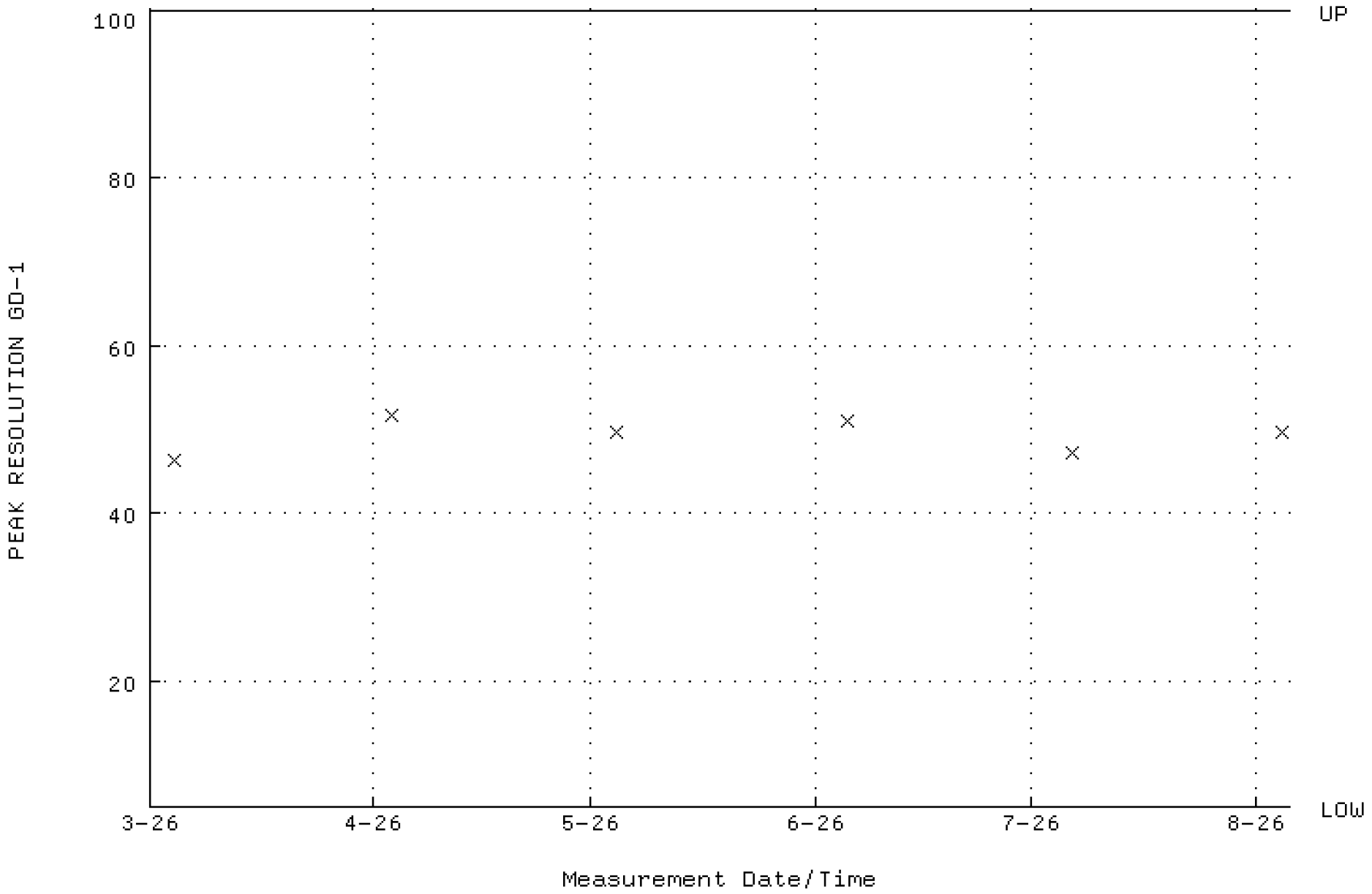
QA filename : DKA100:[ENV_ALPHA.QA.W]W043.QAF;109
Parameter Name : AVRGEFF (Average Efficiency)
Start/End Dates : 4-MAR-2026 10:15:19 through 5-AUG-2026 12:00:00
Lower/Upper Lmts: 0.334700 through 0.355400



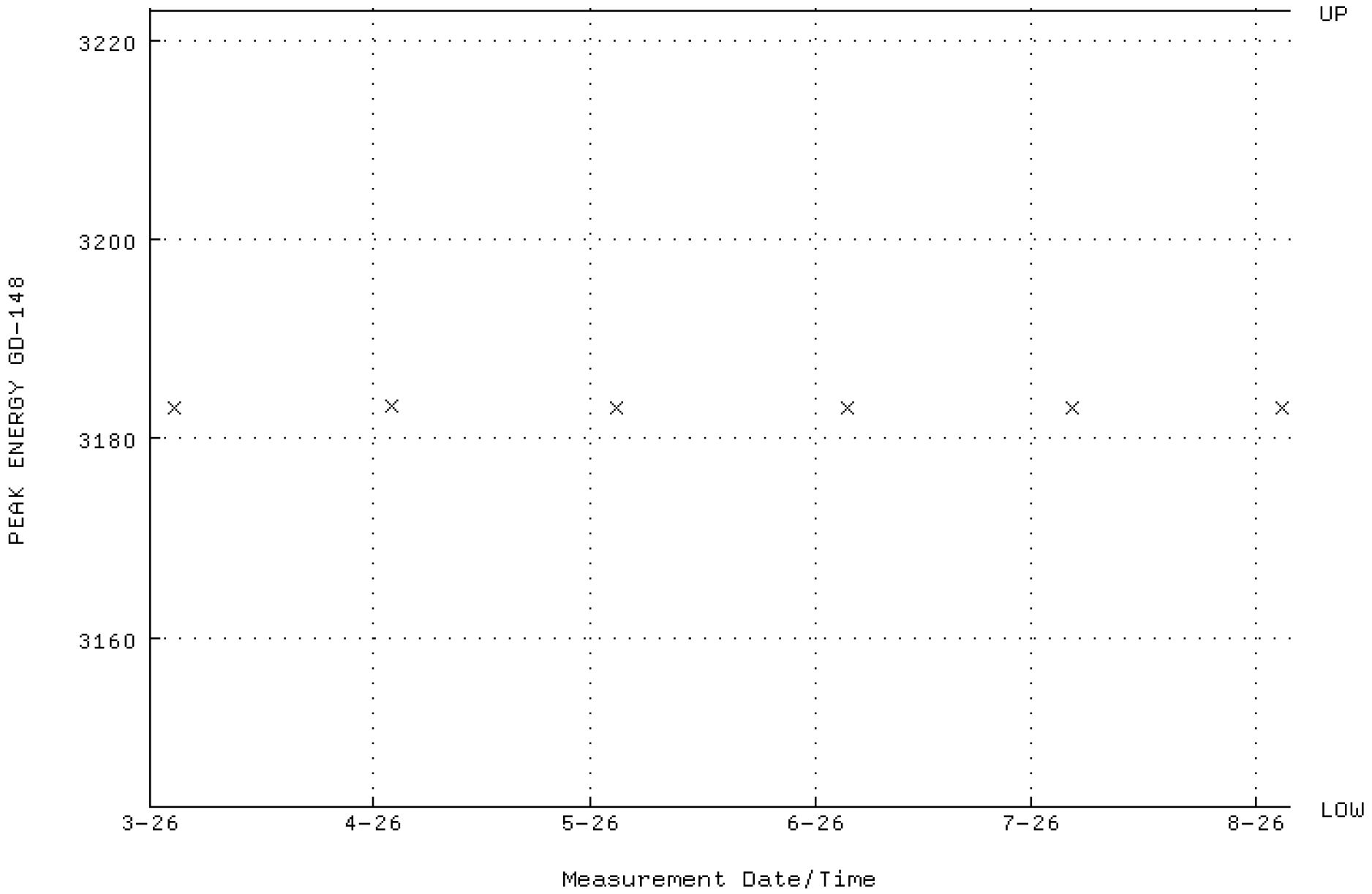
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Parameter Name : NLACTVTY-GD148 (NUCLIDE ACTIVITY GD-148)
Start/End Dates : 4-MAR-2026 10:15:19 through 5-AUG-2026 12:00:00
Lower/Upper Lmts: 171.090 through 189.100



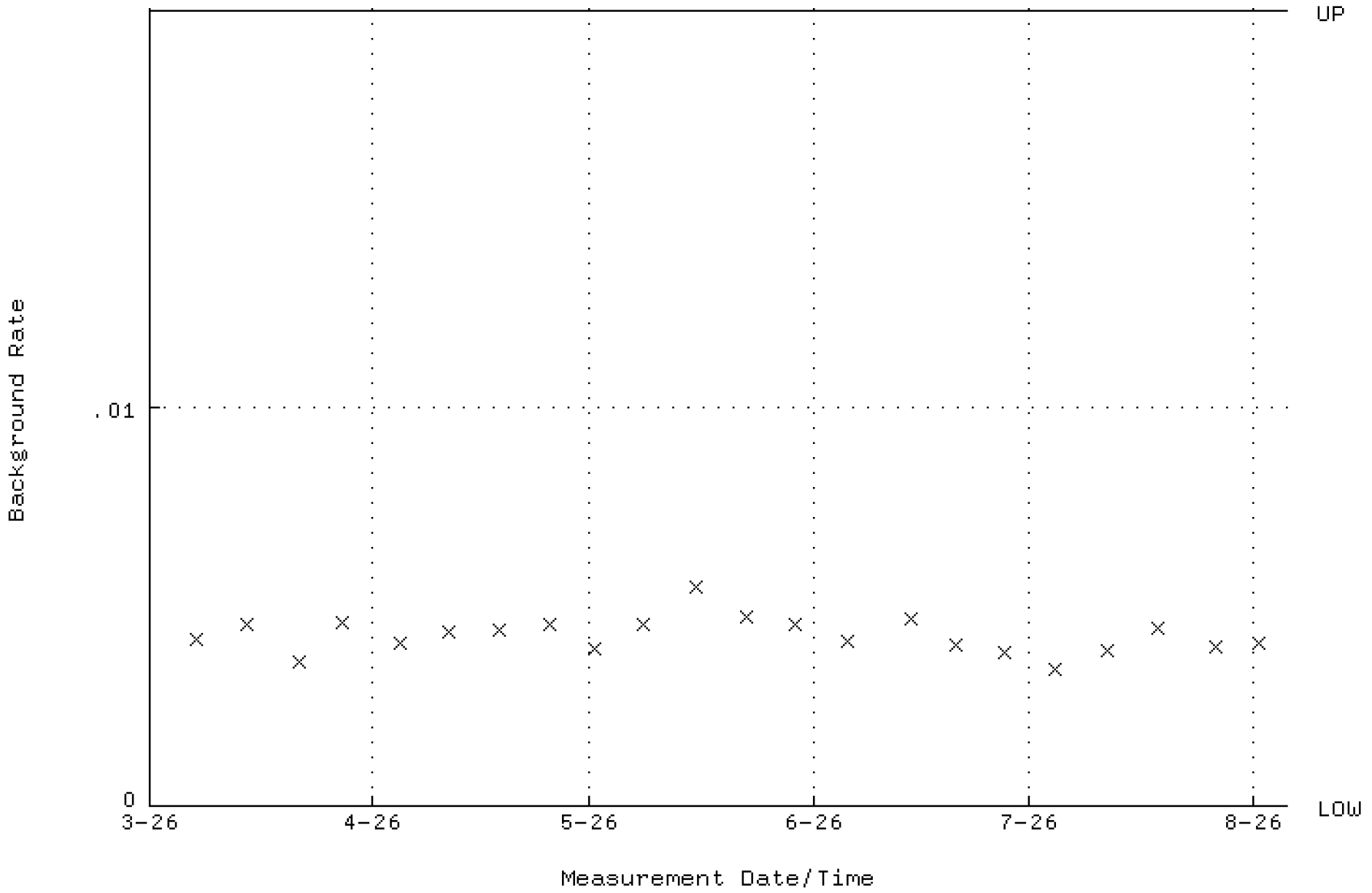
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Parameter Name : PSFWHM-GD148 (PEAK RESOLUTION GD-148)
Start/End Dates : 4-MAR-2026 10:15:19 through 5-AUG-2026 12:00:00
Lower/Upper Lmts: 5.00000 through 100.000



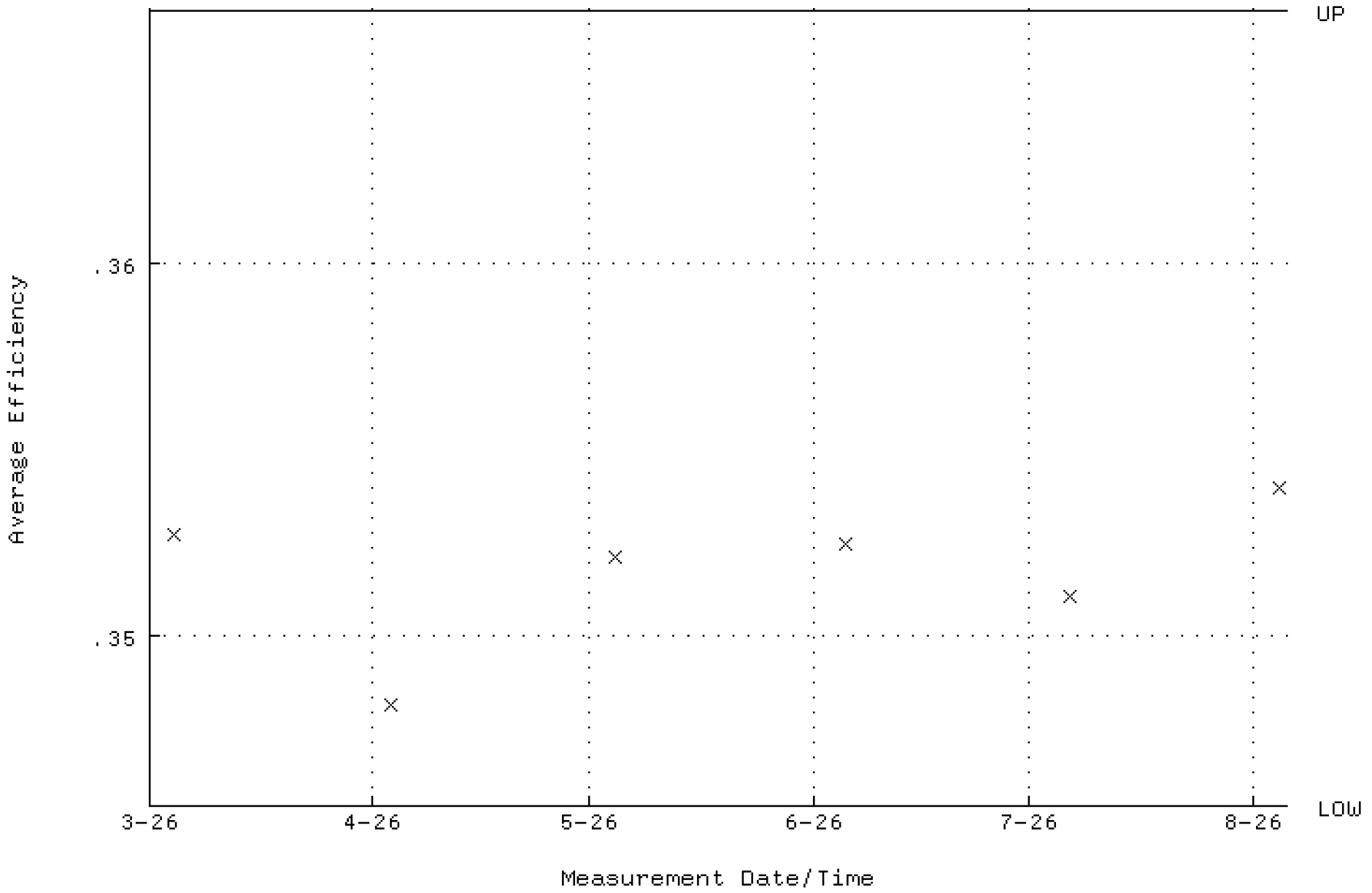
QA filename : DKA100:[ENV_ALPHA.QA.W]W043.QAF;109
Parameter Name : PSENERGY-GD148 (PEAK ENERGY GD-148)
Start/End Dates : 4-MAR-2026 10:15:19 through 5-AUG-2026 12:00:00
Lower/Upper Lmts: 3143.00 through 3223.00



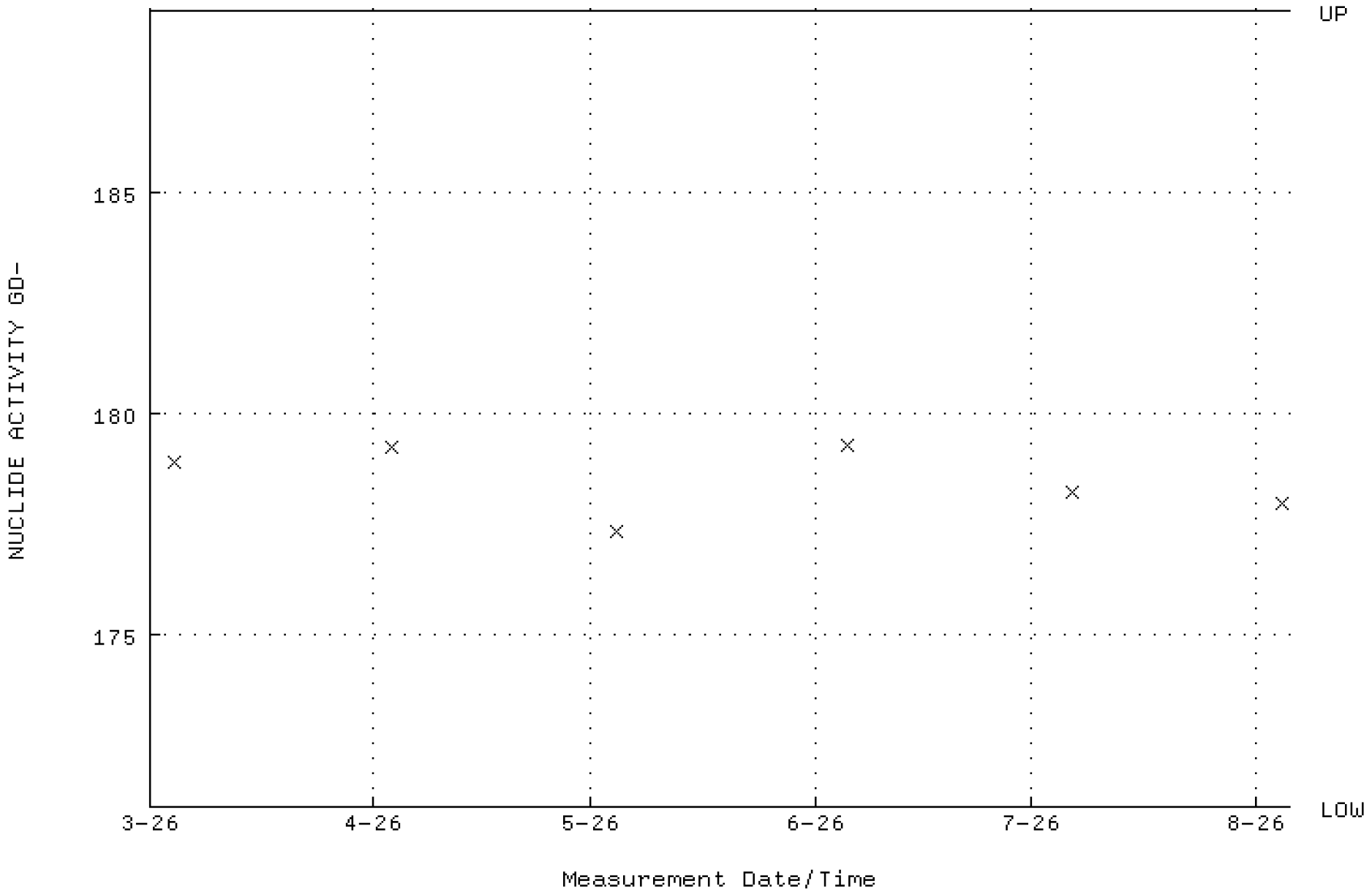
QA filename : DKA100:[ENV_ALPHA.QA.B]B043.QAF;7
Parameter Name : BACKRATE (Background Rate)
Start/End Dates : 7-MAR-2026 12:21:49 through 5-AUG-2026 12:00:00
Lower/Upper Lmts: 0.000000E+00 through 2.000000E-02



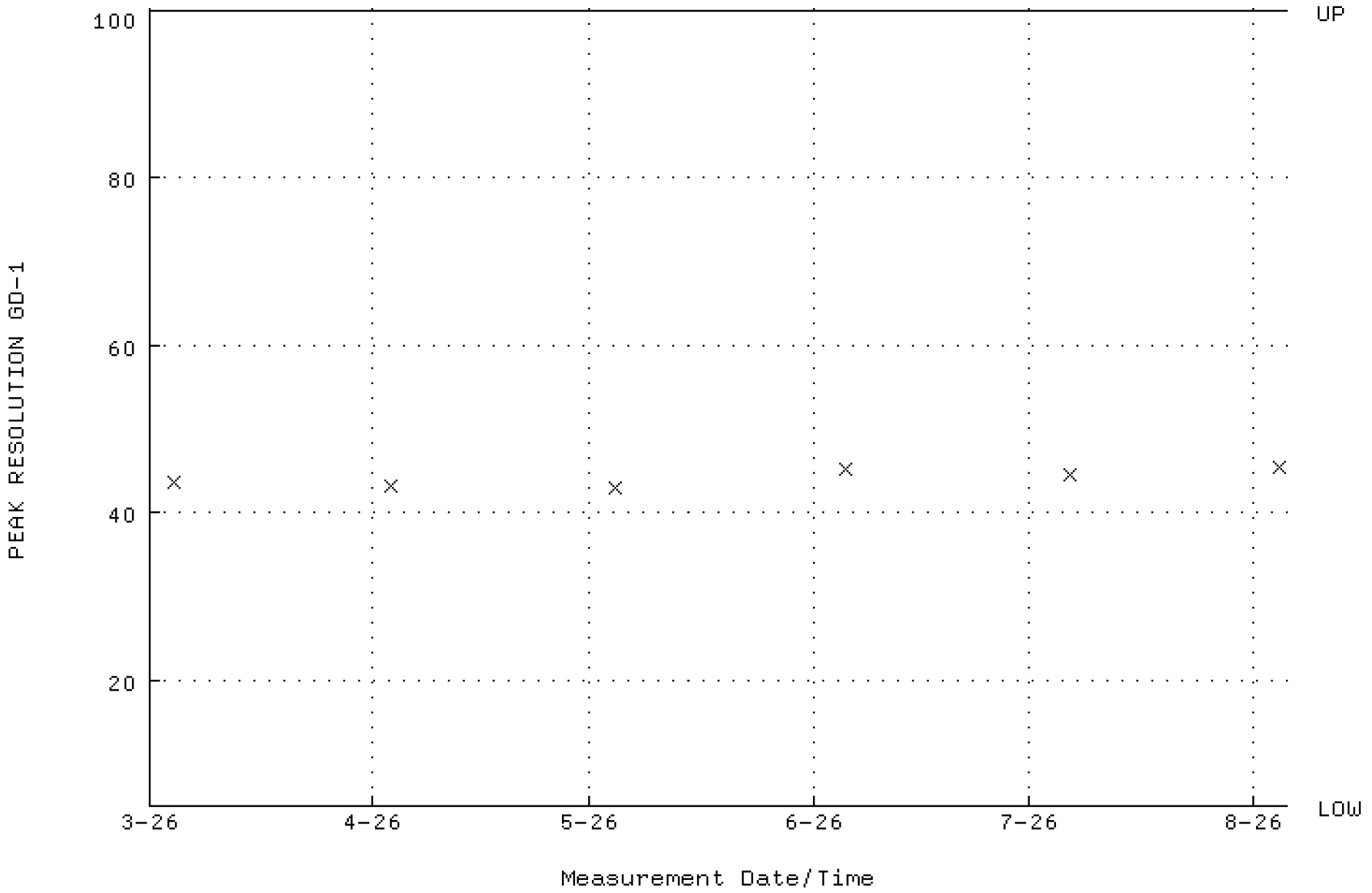
QA filename : DKA100:[ENV_ALPHA.QA.W]W044.QAF;9
Parameter Name : AVRGEFF (Average Efficiency)
Start/End Dates : 4-MAR-2026 10:15:19 through 5-AUG-2026 12:00:00
Lower/Upper Lmts: 0.345410 through 0.366780



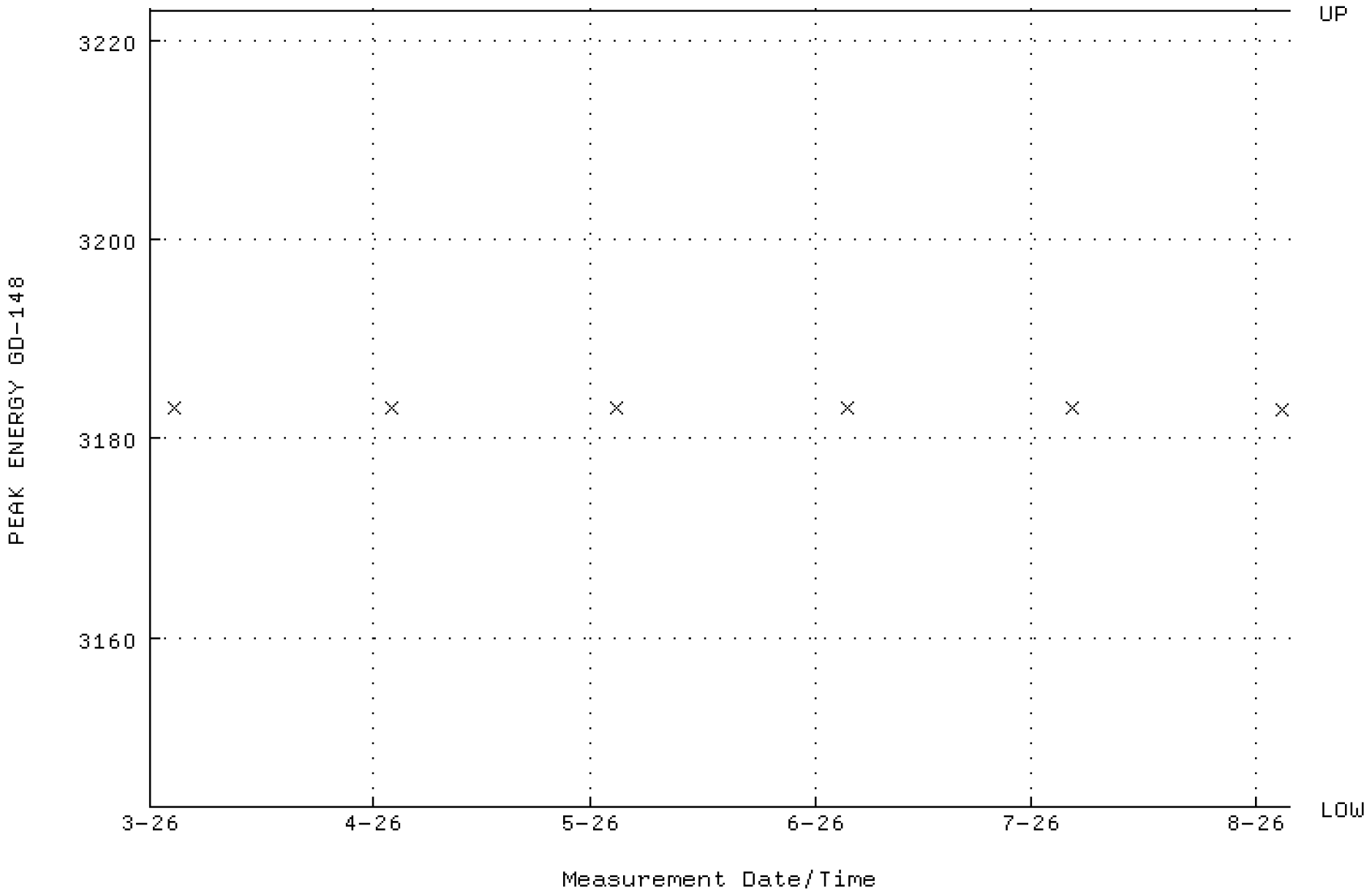
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Parameter Name : NLACTVTY-GD148 (NUCLIDE ACTIVITY GD-148)
Start/End Dates : 4-MAR-2026 10:15:19 through 5-AUG-2026 12:00:00
Lower/Upper Lmts: 171.090 through 189.100



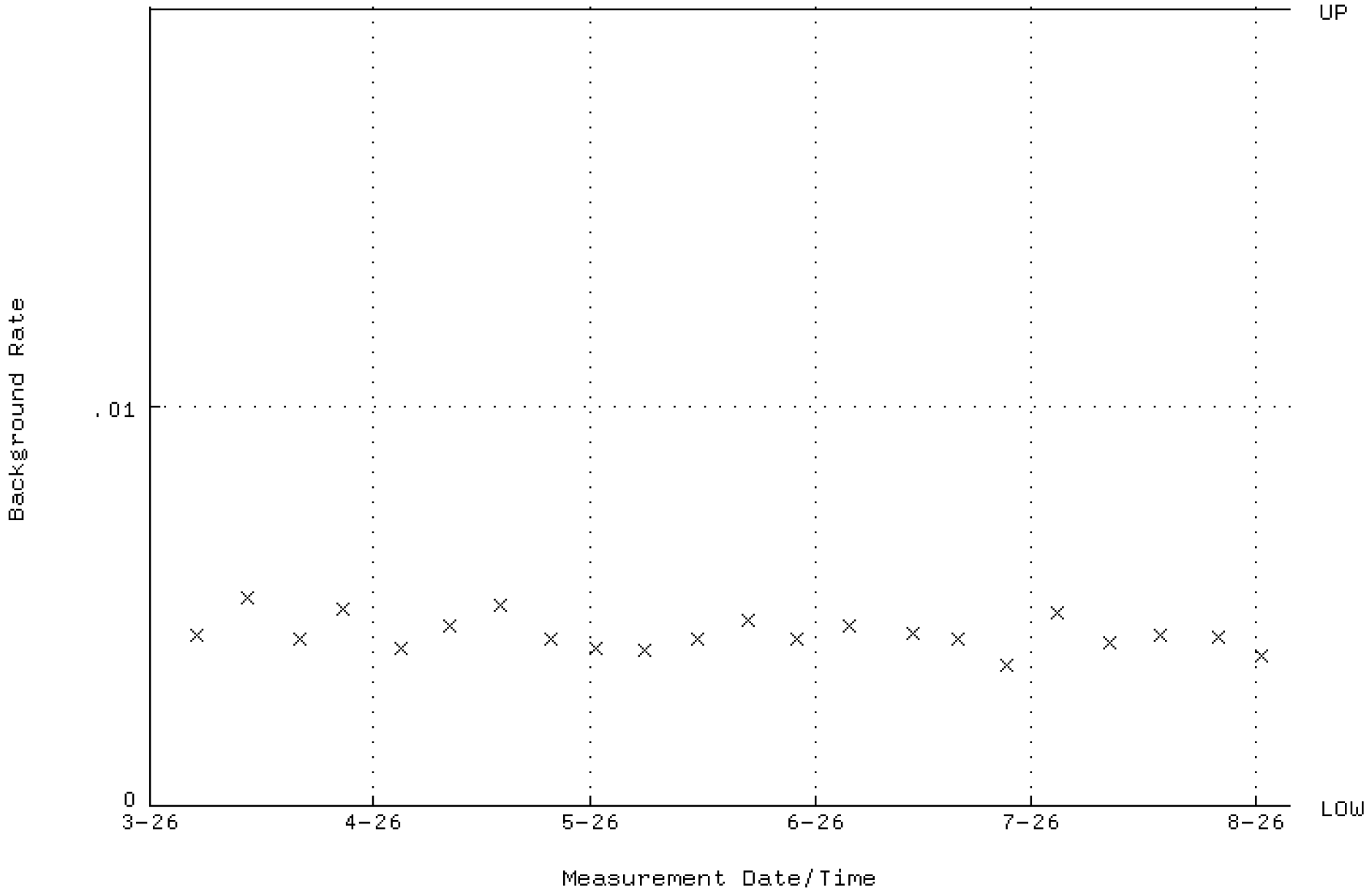
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Parameter Name : PSFWHM-GD148 (PEAK RESOLUTION GD-148)
Start/End Dates : 4-MAR-2026 10:15:19 through 5-AUG-2026 12:00:00
Lower/Upper Lmts: 5.00000 through 100.000



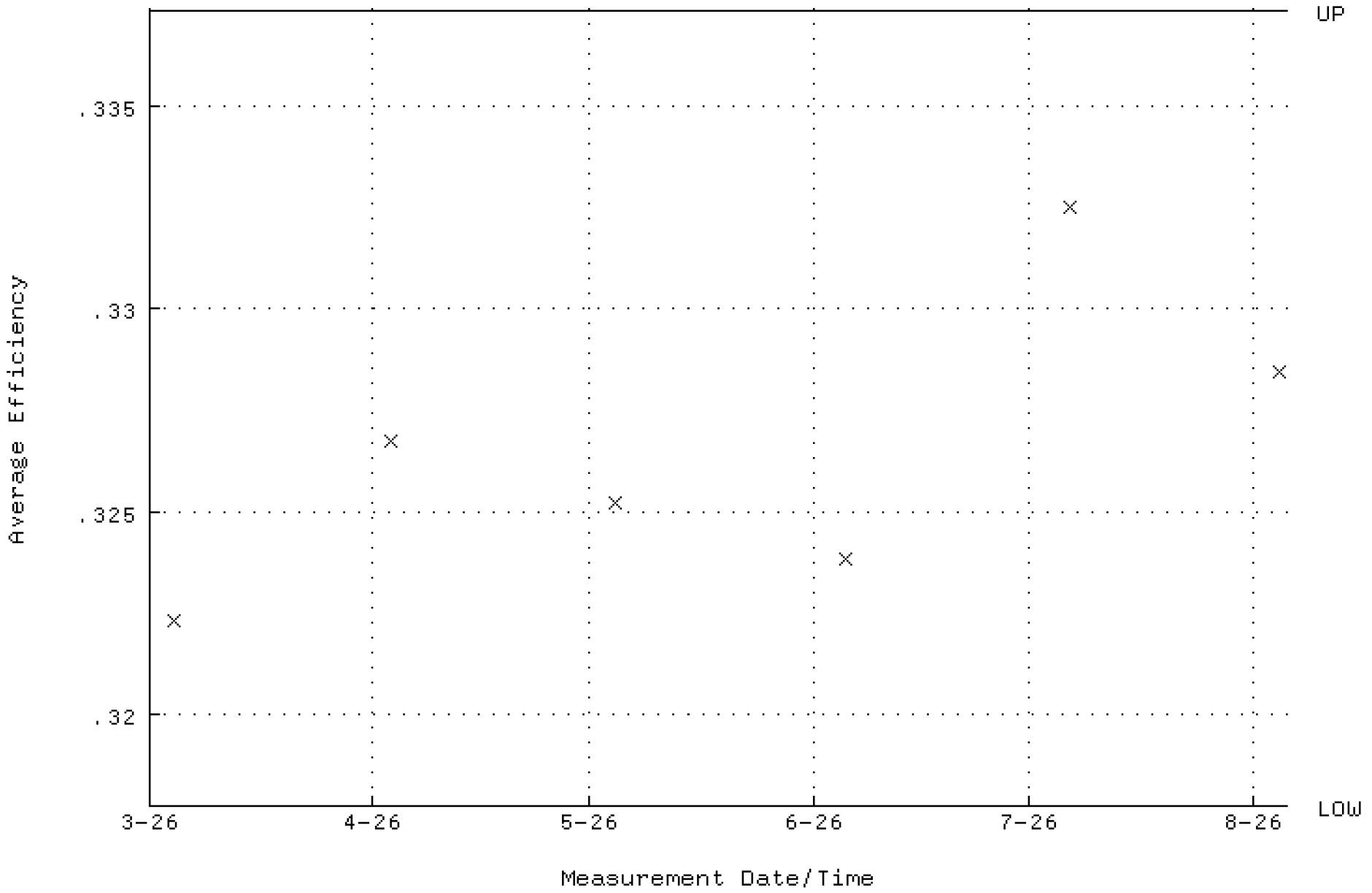
QA filename : DKA100:[ENV_ALPHA.QA.W]W044.QAF;9
Parameter Name : PSENERGY-GD148 (PEAK ENERGY GD-148)
Start/End Dates : 4-MAR-2026 10:15:19 through 5-AUG-2026 12:00:00
Lower/Upper Lmts: 3143.00 through 3223.00



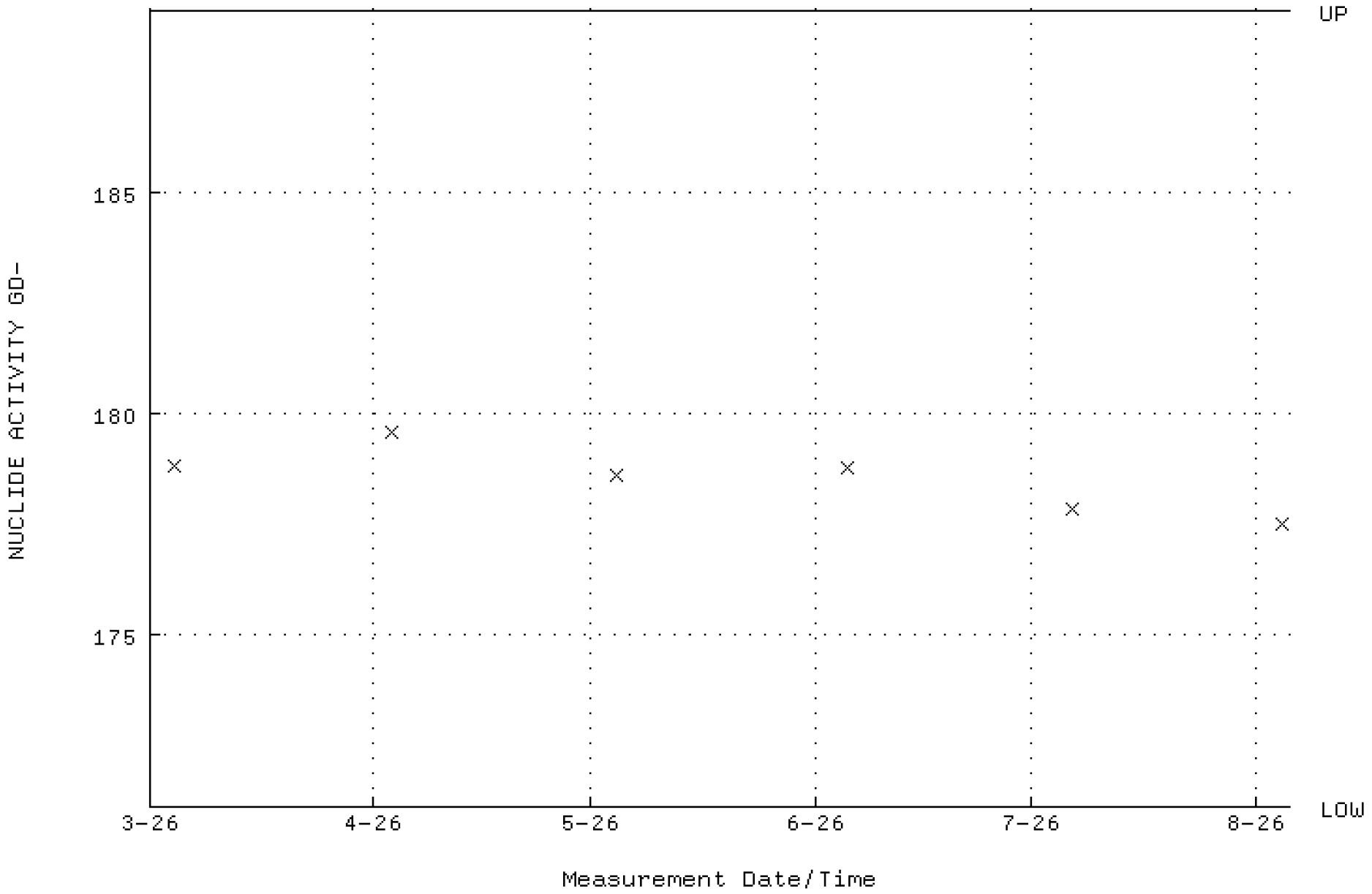
QA filename : DKA100:[ENV_ALPHA.QA.B]B044.QAF;6
Parameter Name : BACKRATE (Background Rate)
Start/End Dates : 7-MAR-2026 12:21:49 through 5-AUG-2026 12:00:00
Lower/Upper Lmts: 0.000000E+00 through 2.000000E-02



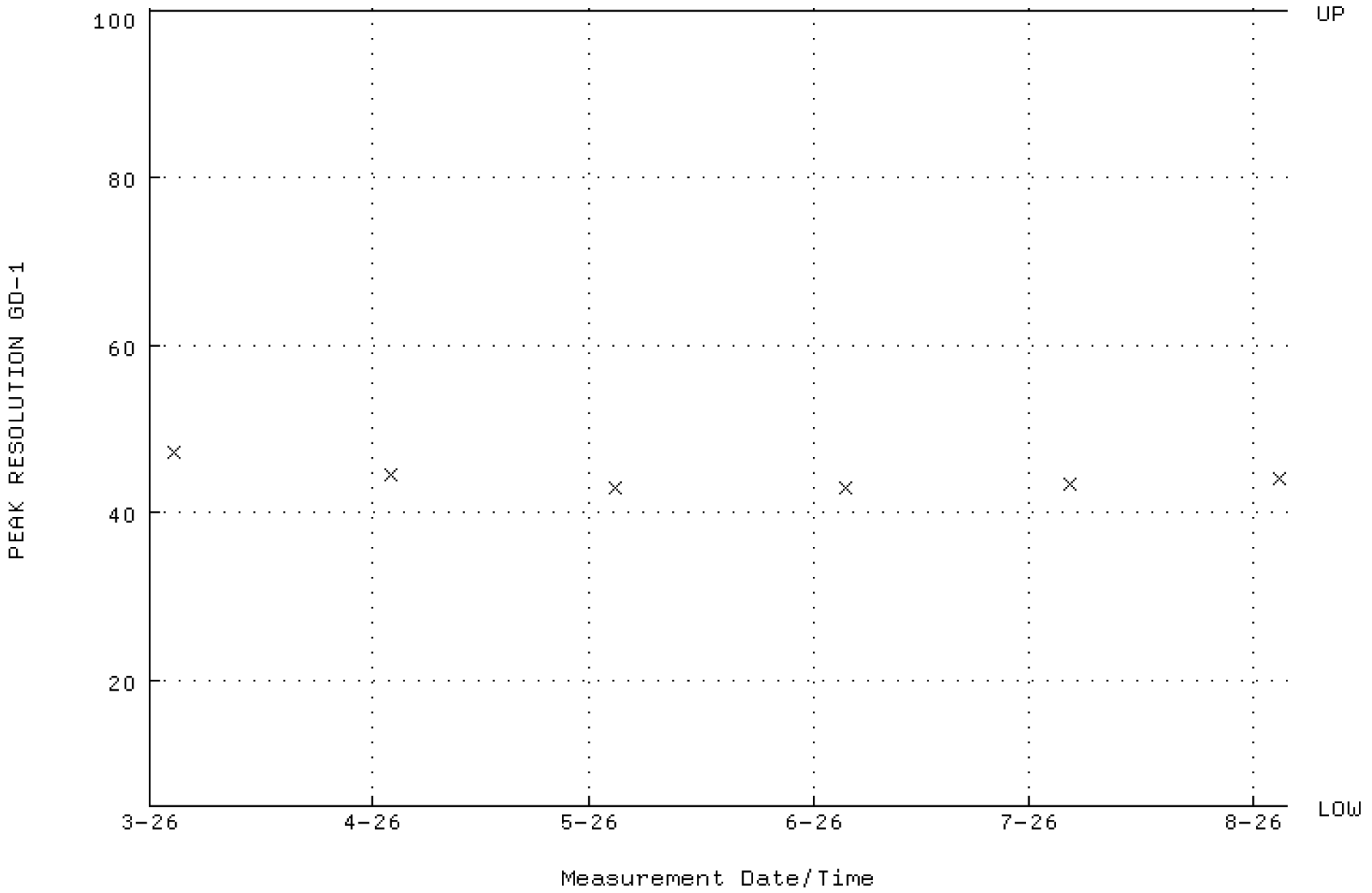
QA filename : DKA100:[ENV_ALPHA.QA.W]W045.QAF;8
Parameter Name : AVRGEFF (Average Efficiency)
Start/End Dates : 4-MAR-2026 10:15:19 through 5-AUG-2026 12:00:00
Lower/Upper Lmts: 0.317720 through 0.337370



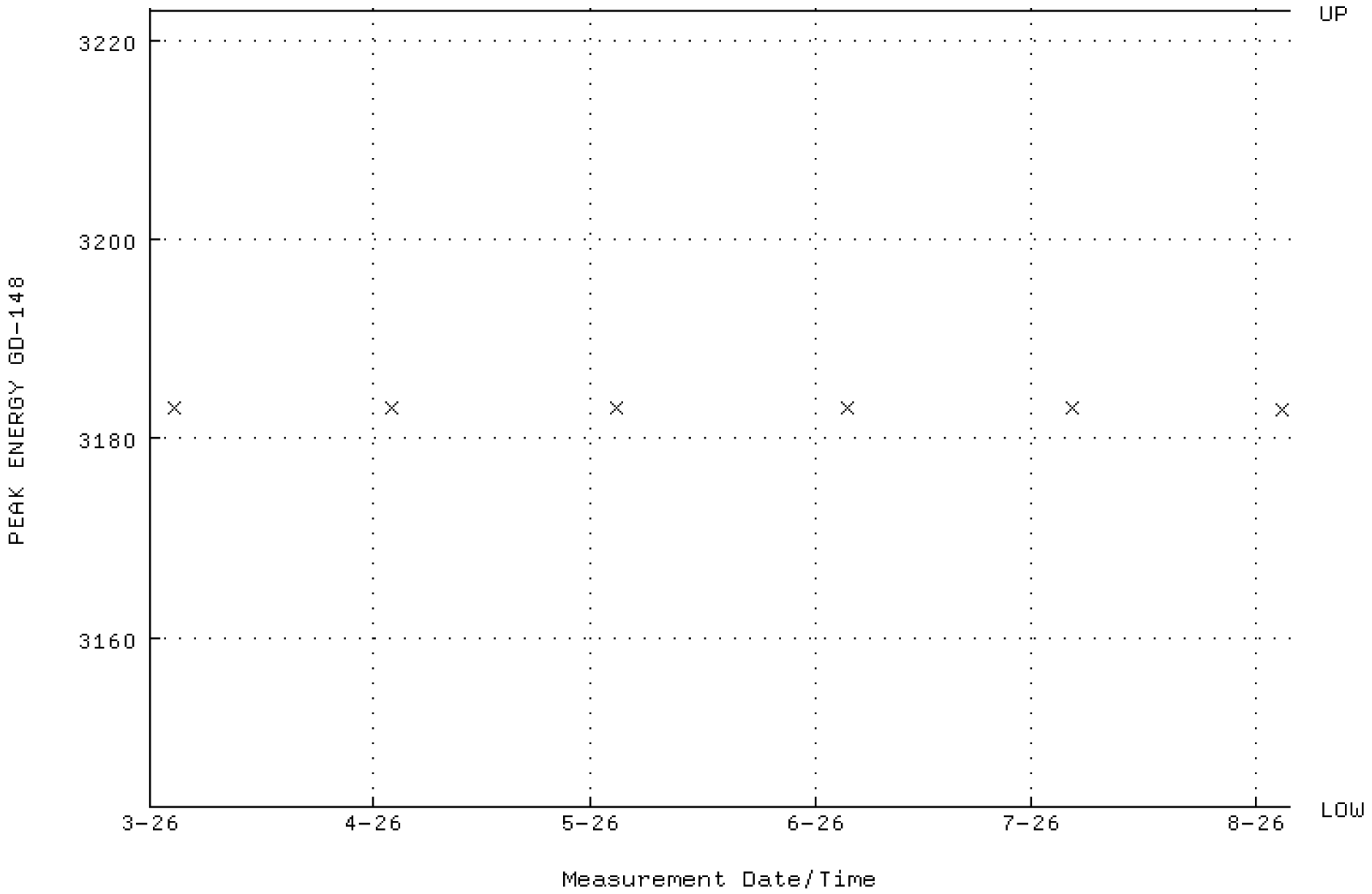
QA filename : DKA100:[ENV_ALPHA.QA.W]W045.QAF;8
Parameter Name : NLACTVTY-GD148 (NUCLIDE ACTIVITY GD-148)
Start/End Dates : 4-MAR-2026 10:15:19 through 5-AUG-2026 12:00:00
Lower/Upper Lmts: 171.090 through 189.100



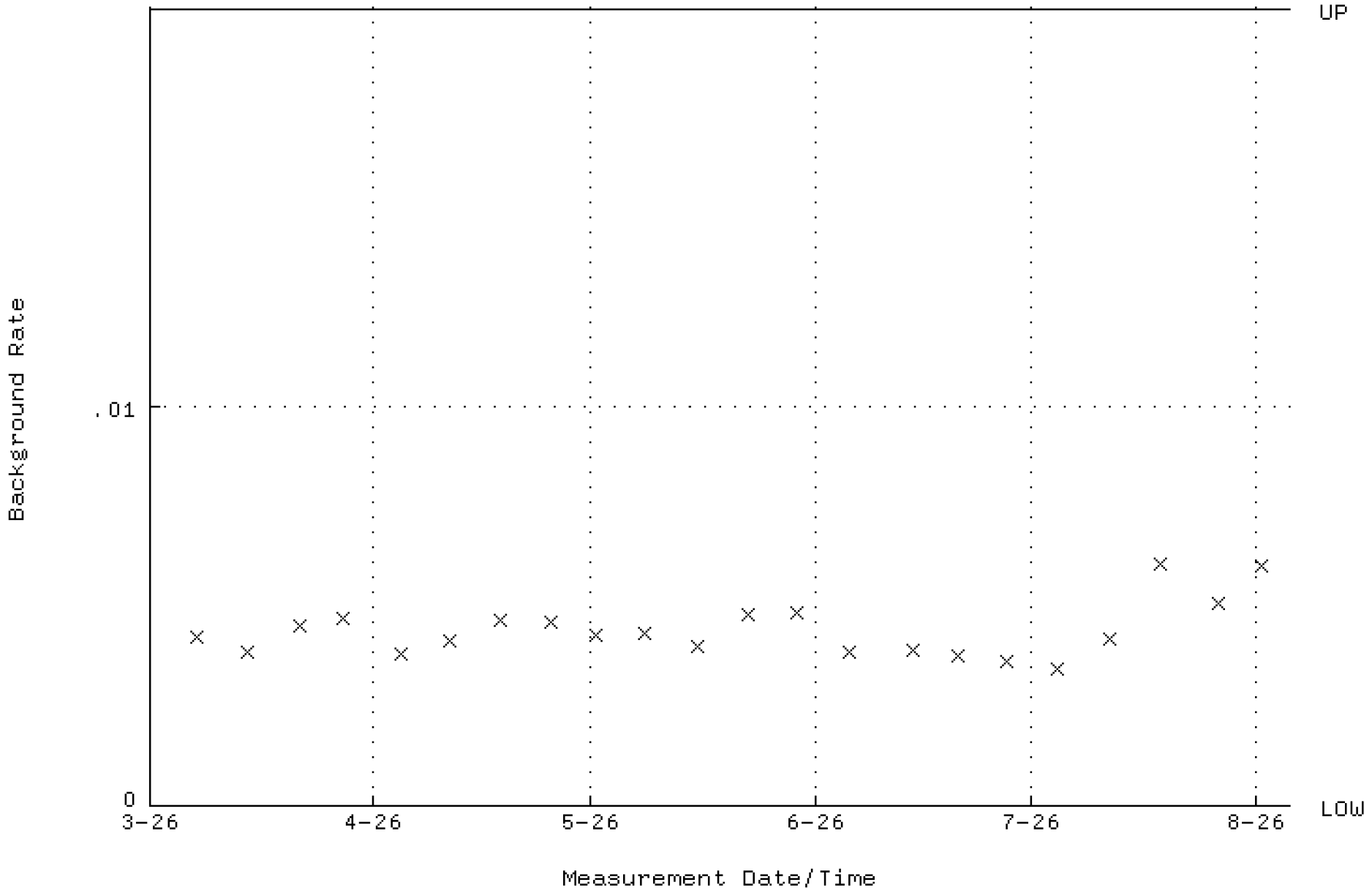
QA filename : DKA100:[ENV_ALPHA.QA.W]W045.QAF;8
Parameter Name : PSFWHM-GD148 (PEAK RESOLUTION GD-148)
Start/End Dates : 4-MAR-2026 10:15:19 through 5-AUG-2026 12:00:00
Lower/Upper Lmts: 5.00000 through 100.000



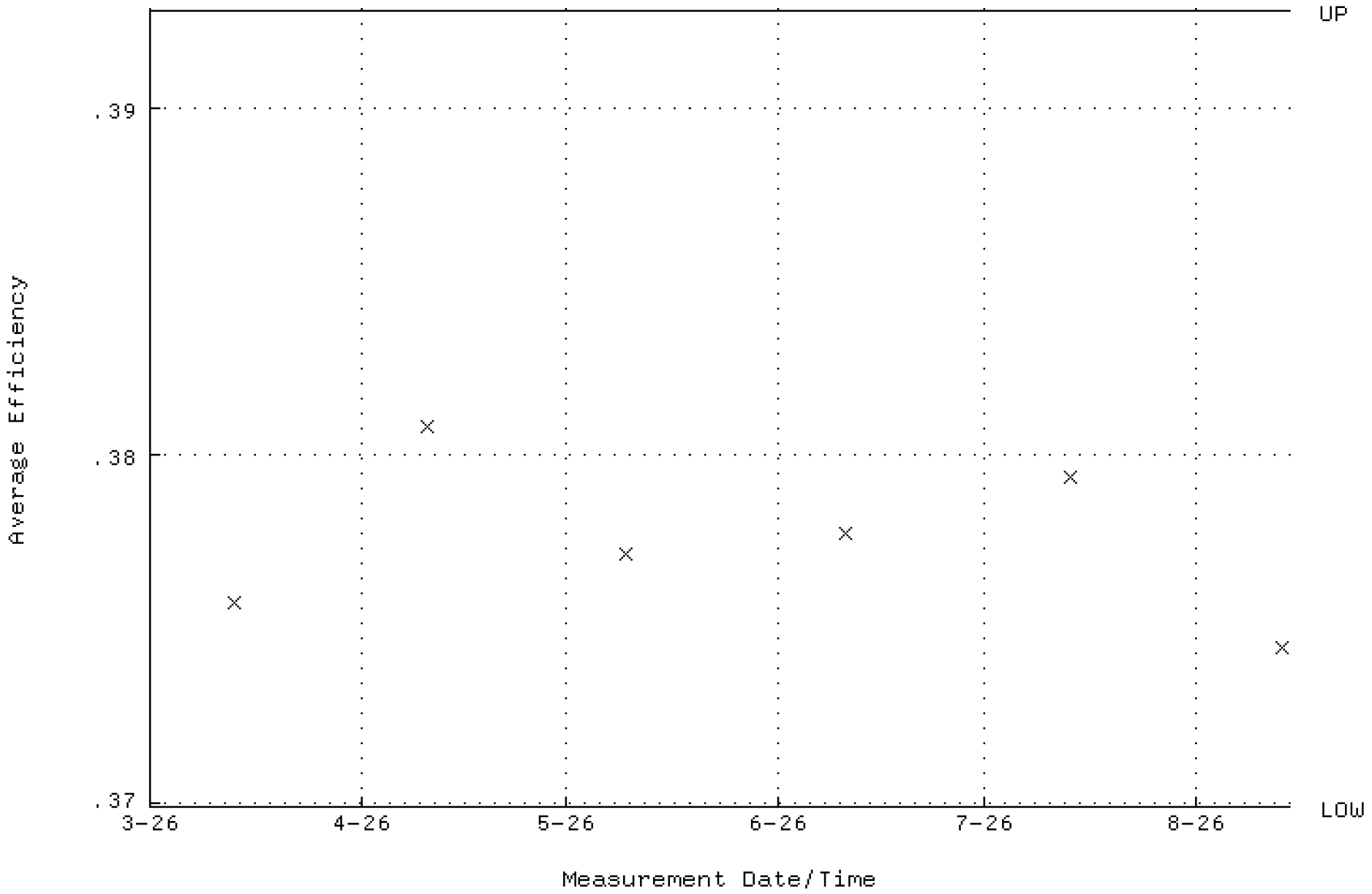
QA filename : DKA100:[ENV_ALPHA.QA.W]W045.QAF;8
Parameter Name : PSENERGY-GD148 (PEAK ENERGY GD-148)
Start/End Dates : 4-MAR-2026 10:15:19 through 5-AUG-2026 12:00:00
Lower/Upper Lmts: 3143.00 through 3223.00



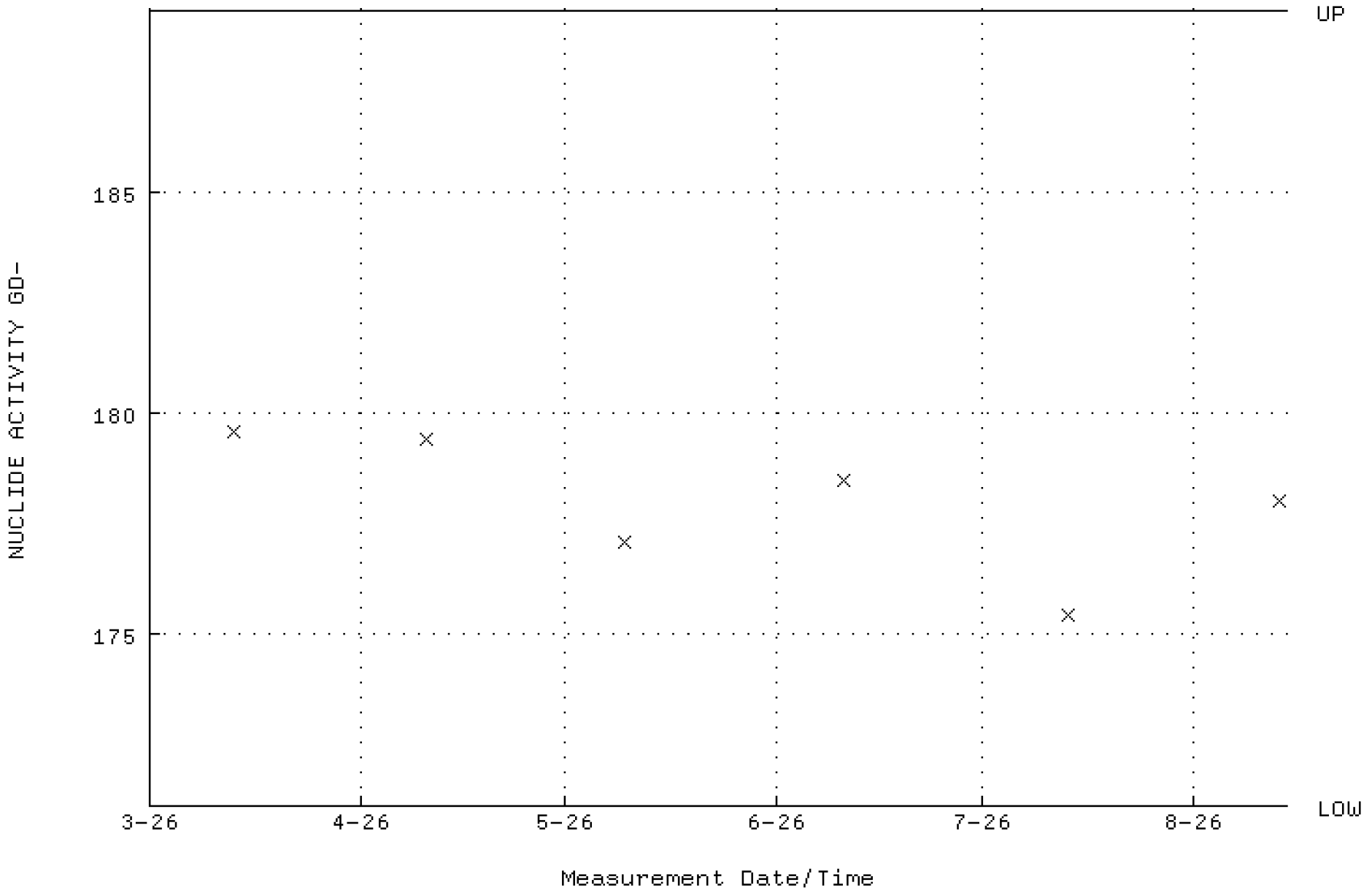
QA filename : DKA100:[ENV_ALPHA.QA.B]B045.QAF;5
Parameter Name : BACKRATE (Background Rate)
Start/End Dates : 7-MAR-2026 12:21:49 through 5-AUG-2026 12:00:00
Lower/Upper Lmts: 0.000000E+00 through 2.000000E-02



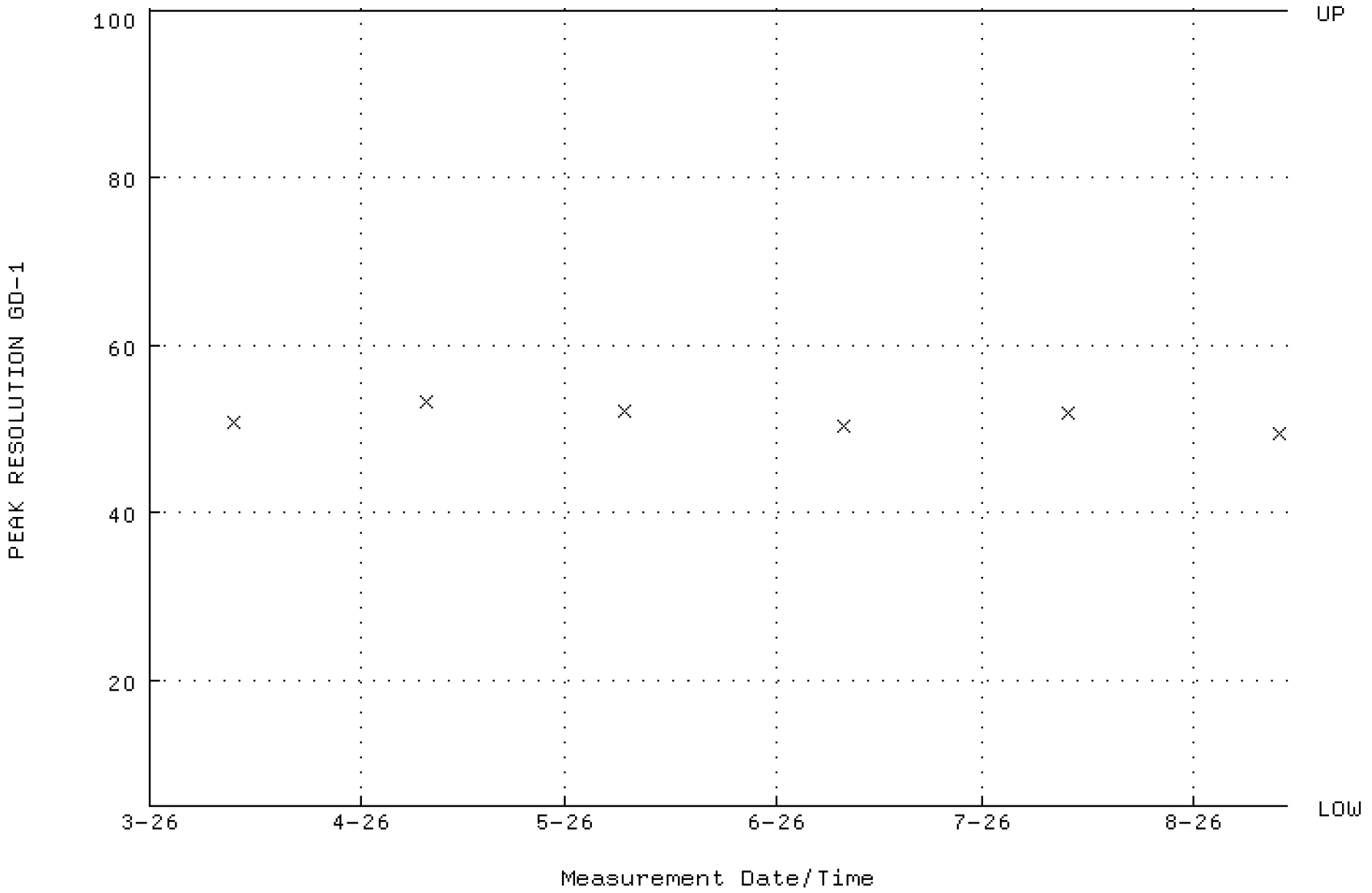
QA filename : DKA100:[ENV_ALPHA.QA.W]W152.QAF;3
Parameter Name : AVRGEFF (Average Efficiency)
Start/End Dates : 13-MAR-2026 09:25:25 through 14-AUG-2026 12:00:00
Lower/Upper Lmts: 0.369900 through 0.392790



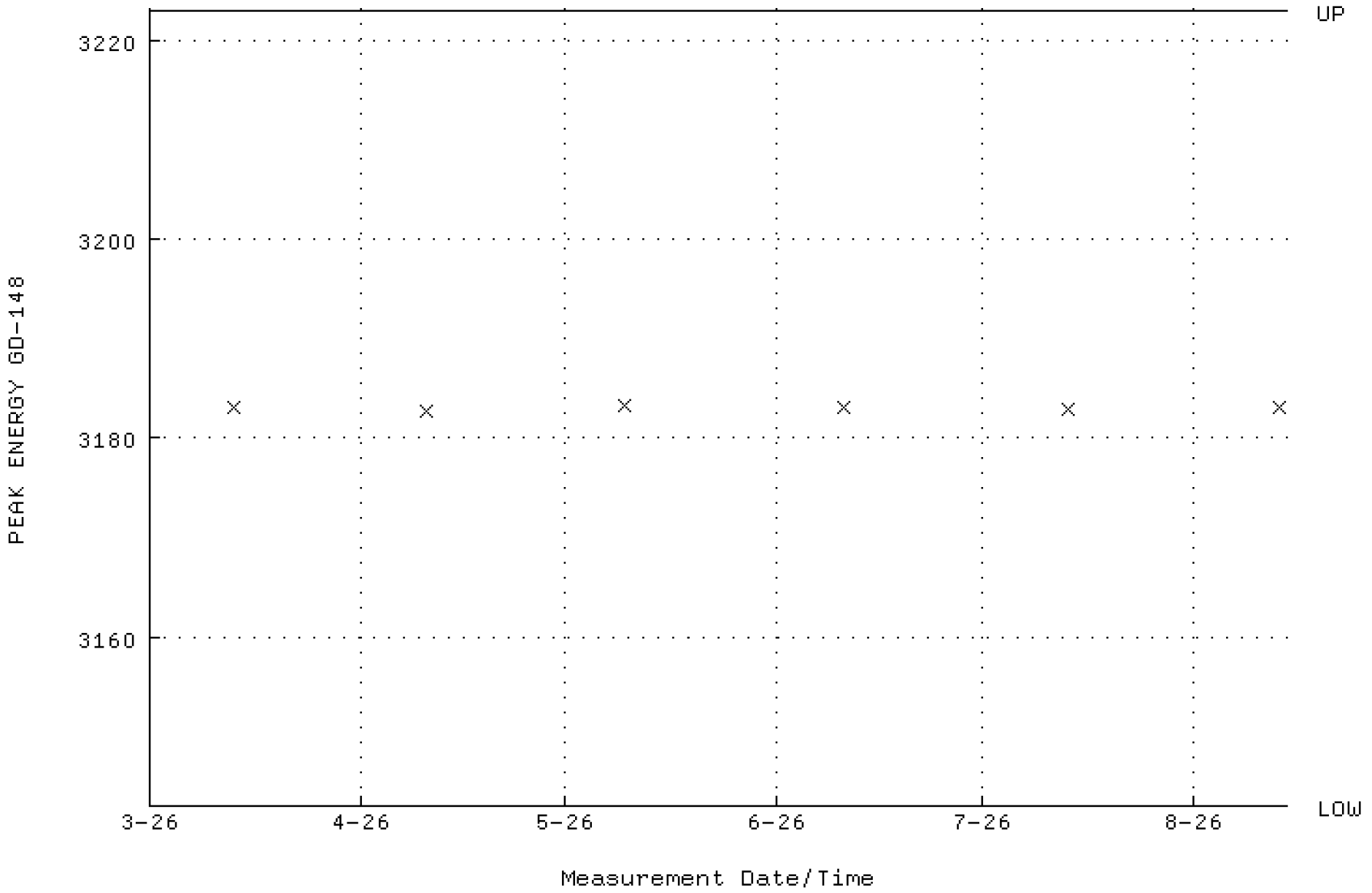
QA filename : DKA100:[ENV_ALPHA.QA.W]W152.QAF;3
Parameter Name : NLACTVTY-GD148 (NUCLIDE ACTIVITY GD-148)
Start/End Dates : 13-MAR-2026 09:25:25 through 14-AUG-2026 12:00:00
Lower/Upper Lmts: 171.090 through 189.100



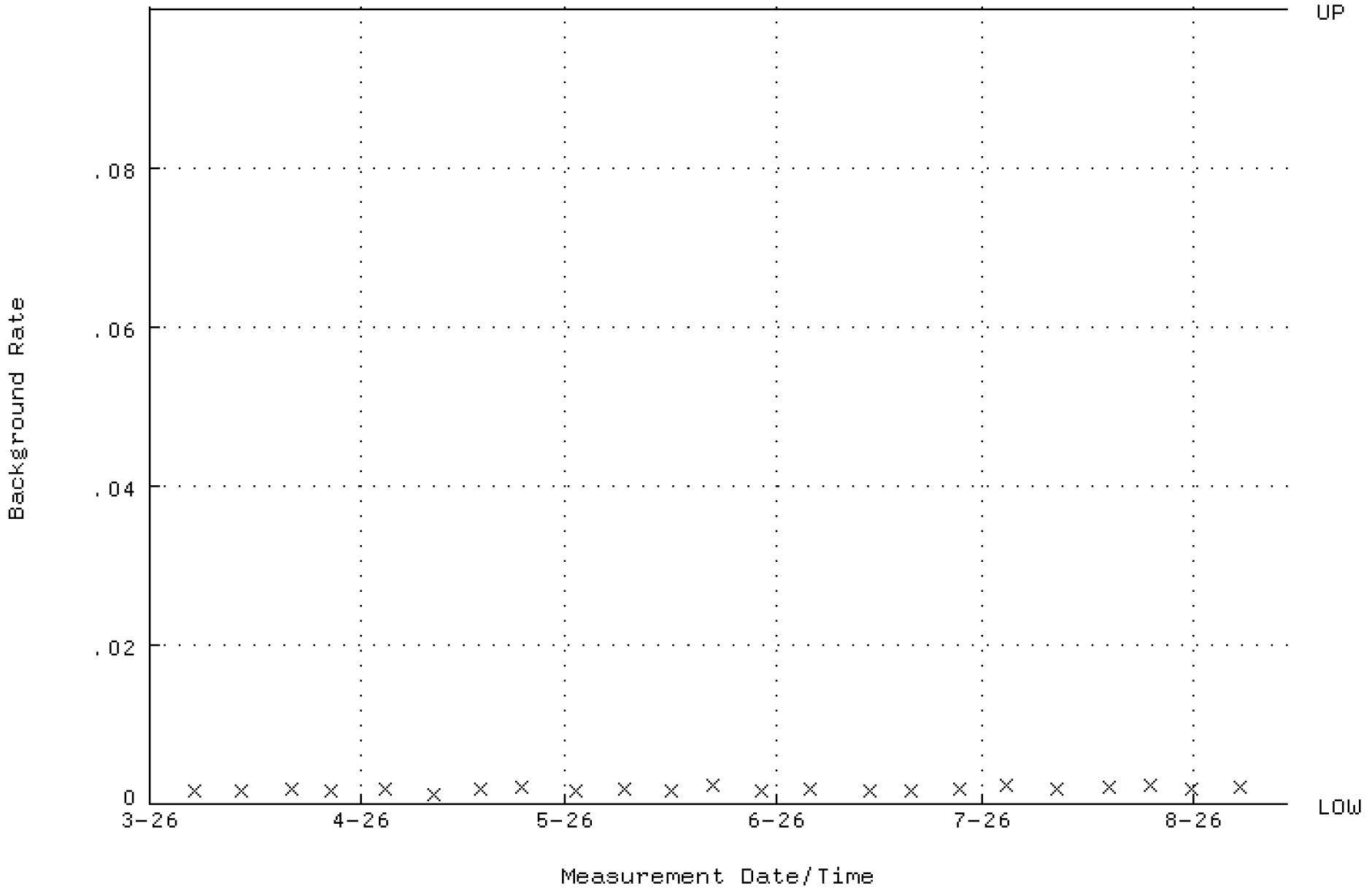
QA filename : DKA100:[ENV_ALPHA.QA.W]W152.QAF;3
Parameter Name : PSFWHM-GD148 (PEAK RESOLUTION GD-148)
Start/End Dates : 13-MAR-2026 09:25:25 through 14-AUG-2026 12:00:00
Lower/Upper Lmts: 5.00000 through 100.000



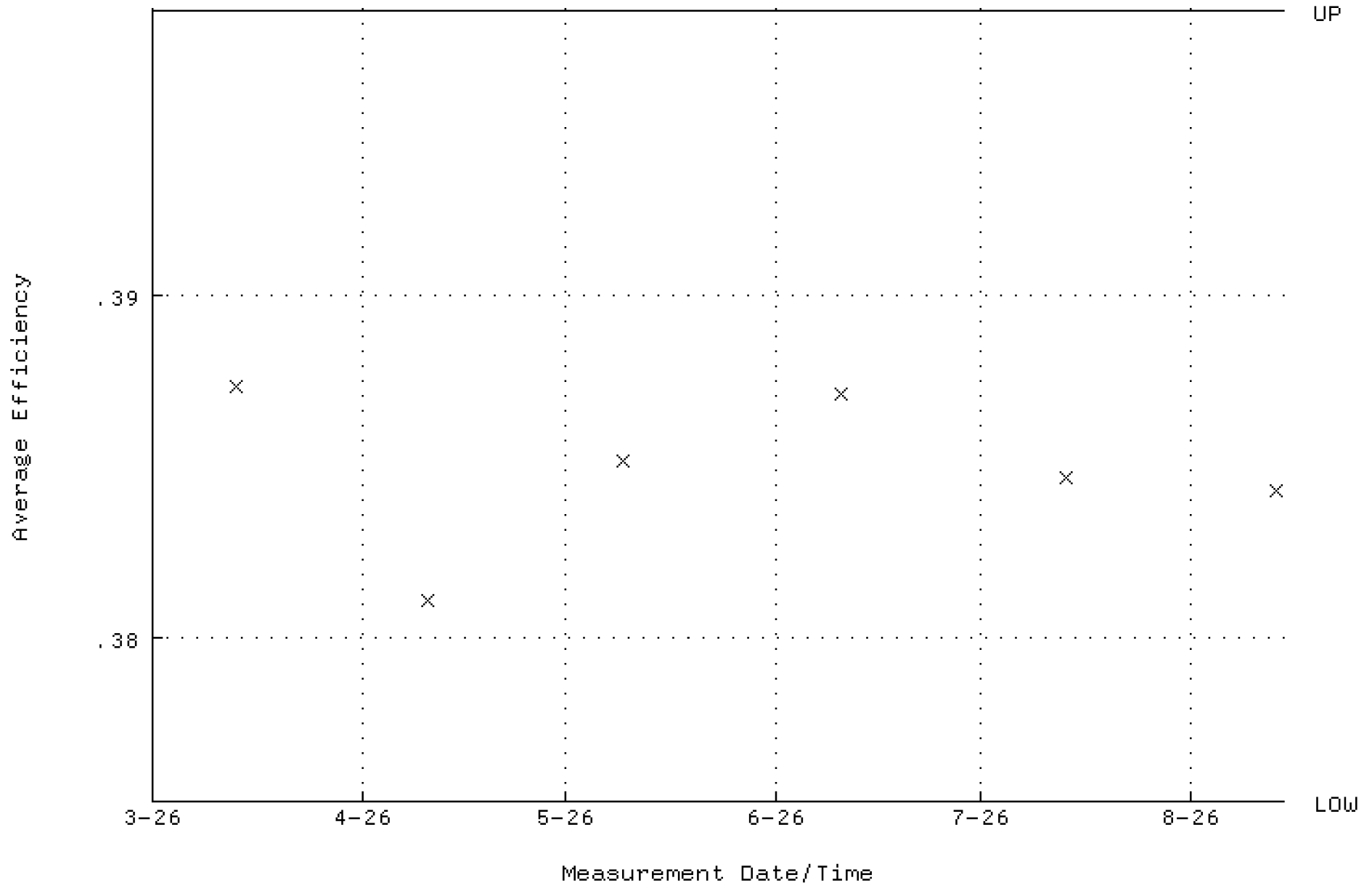
QA filename : DKA100:[ENV_ALPHA.QA.W]W152.QAF;3
Parameter Name : PSENERGY-GD148 (PEAK ENERGY GD-148)
Start/End Dates : 13-MAR-2026 09:25:25 through 14-AUG-2026 12:00:00
Lower/Upper Lmts: 3143.00 through 3223.00



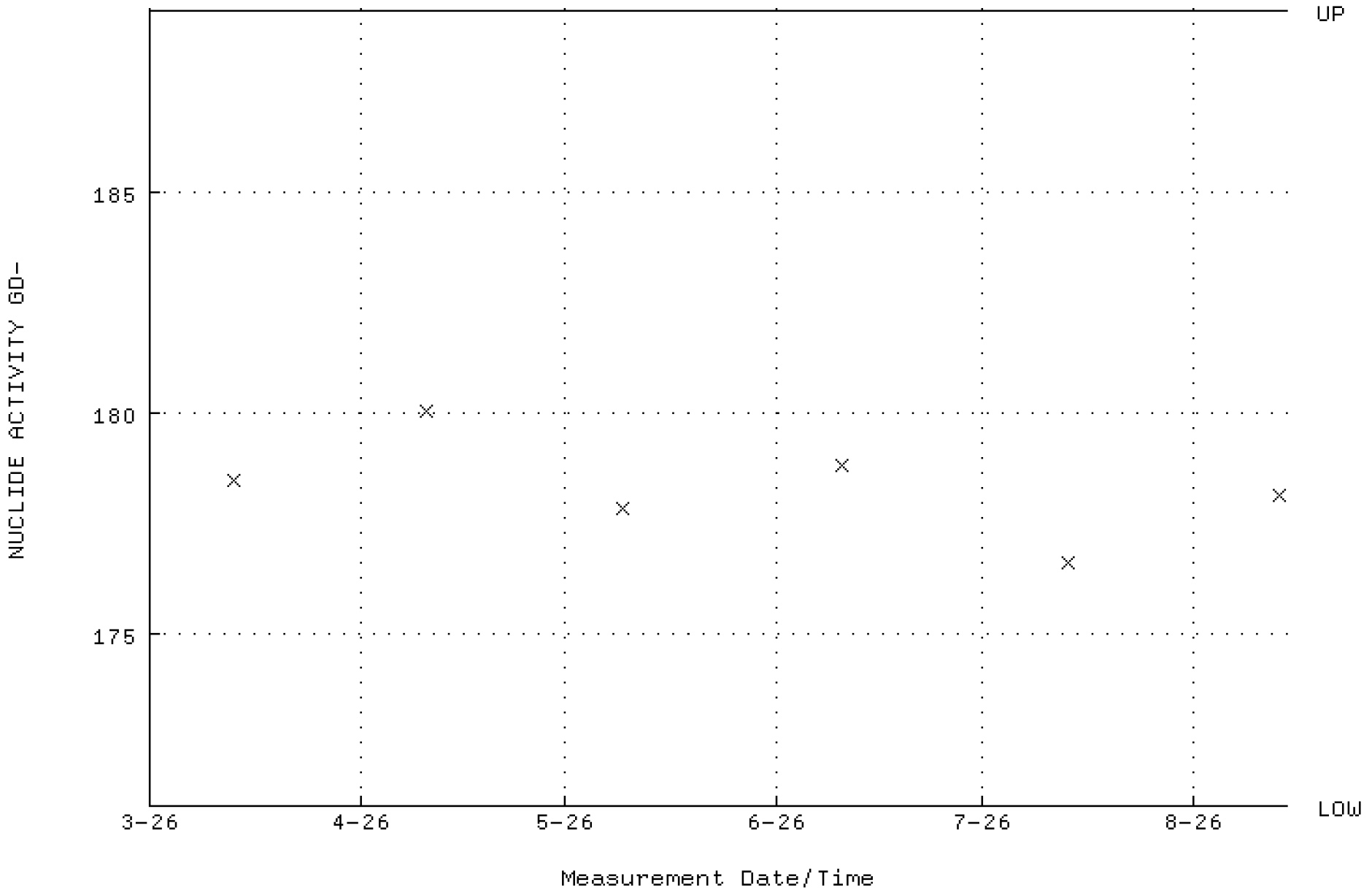
QA filename : DKA100:[ENV_ALPHA.QA.B]B152.QAF;5
Parameter Name : BACKRATE (Background Rate)
Start/End Dates : 7-MAR-2026 10:51:21 through 14-AUG-2026 12:00:00
Lower/Upper Lmts: 0.000000E+00 through 0.100000



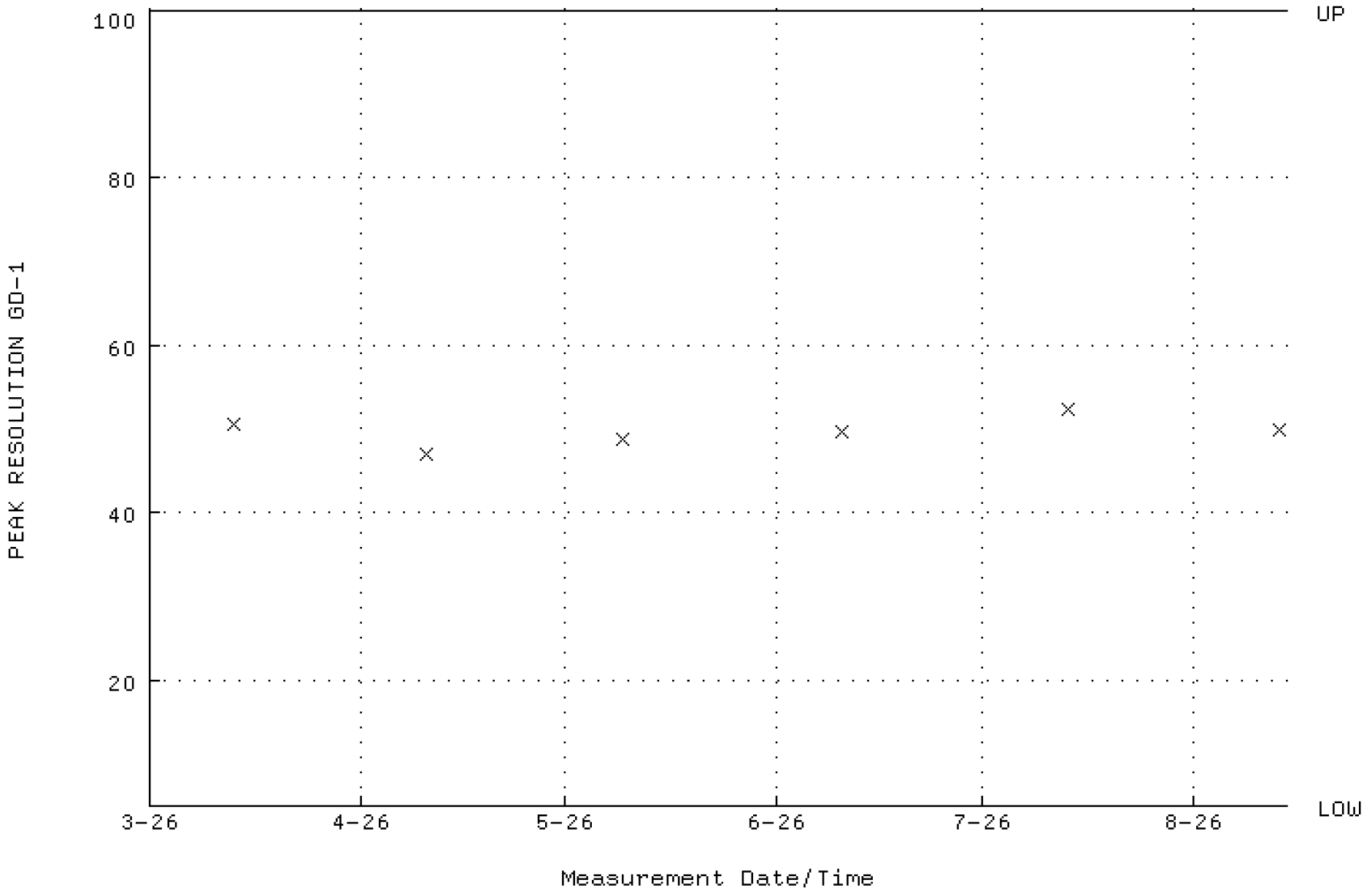
QA filename : DKA100:[ENV_ALPHA.QA.W]W153.QAF;3
Parameter Name : AVRGEFF (Average Efficiency)
Start/End Dates : 13-MAR-2026 09:05:42 through 14-AUG-2026 12:00:00
Lower/Upper Lmts: 0.375170 through 0.398380



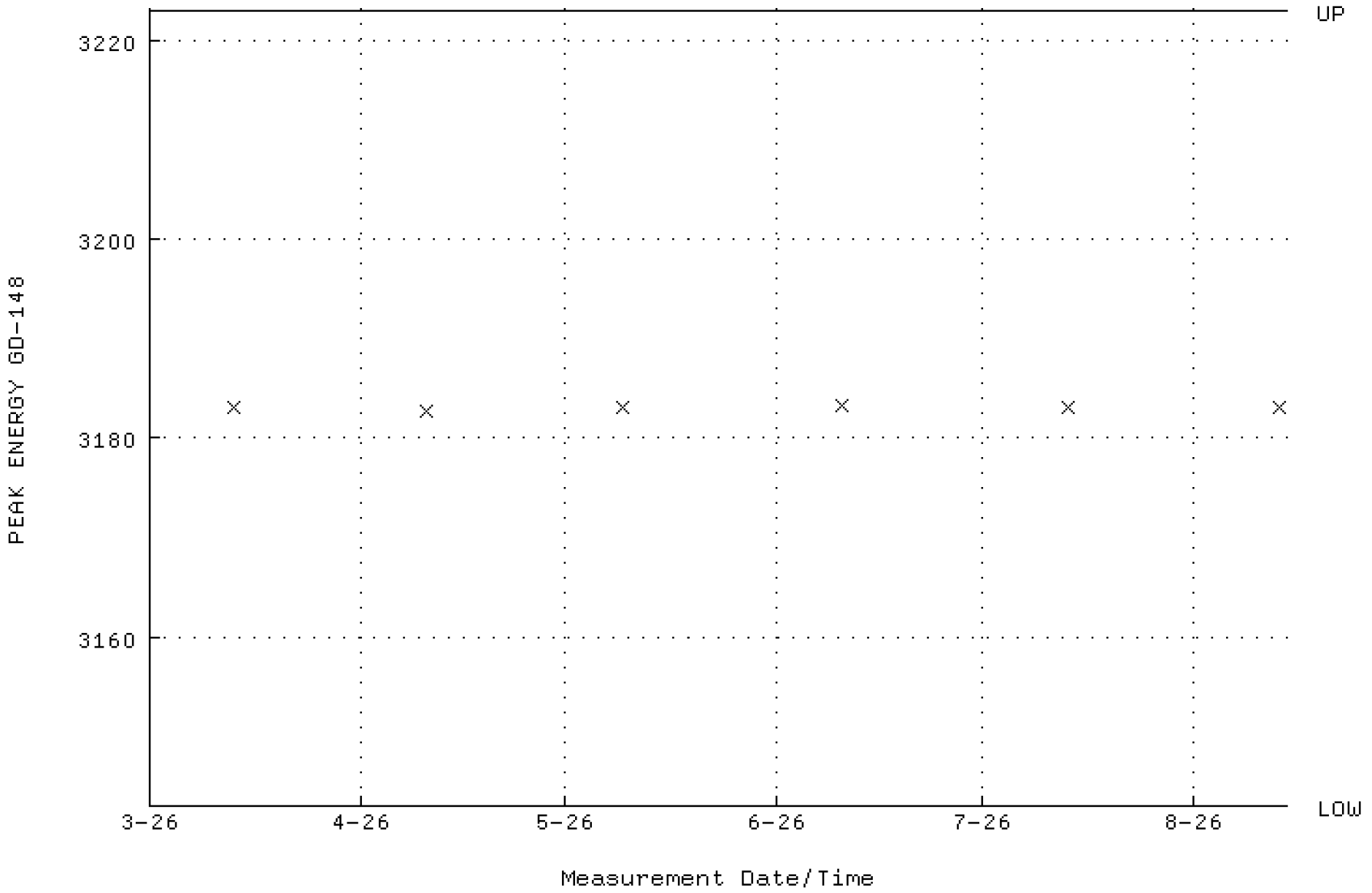
QA filename : DKA100:[ENV_ALPHA.QA.W]W153.QAF;3
Parameter Name : NLACTVTY-GD148 (NUCLIDE ACTIVITY GD-148)
Start/End Dates : 13-MAR-2026 09:05:42 through 14-AUG-2026 12:00:00
Lower/Upper Lmts: 171.090 through 189.100



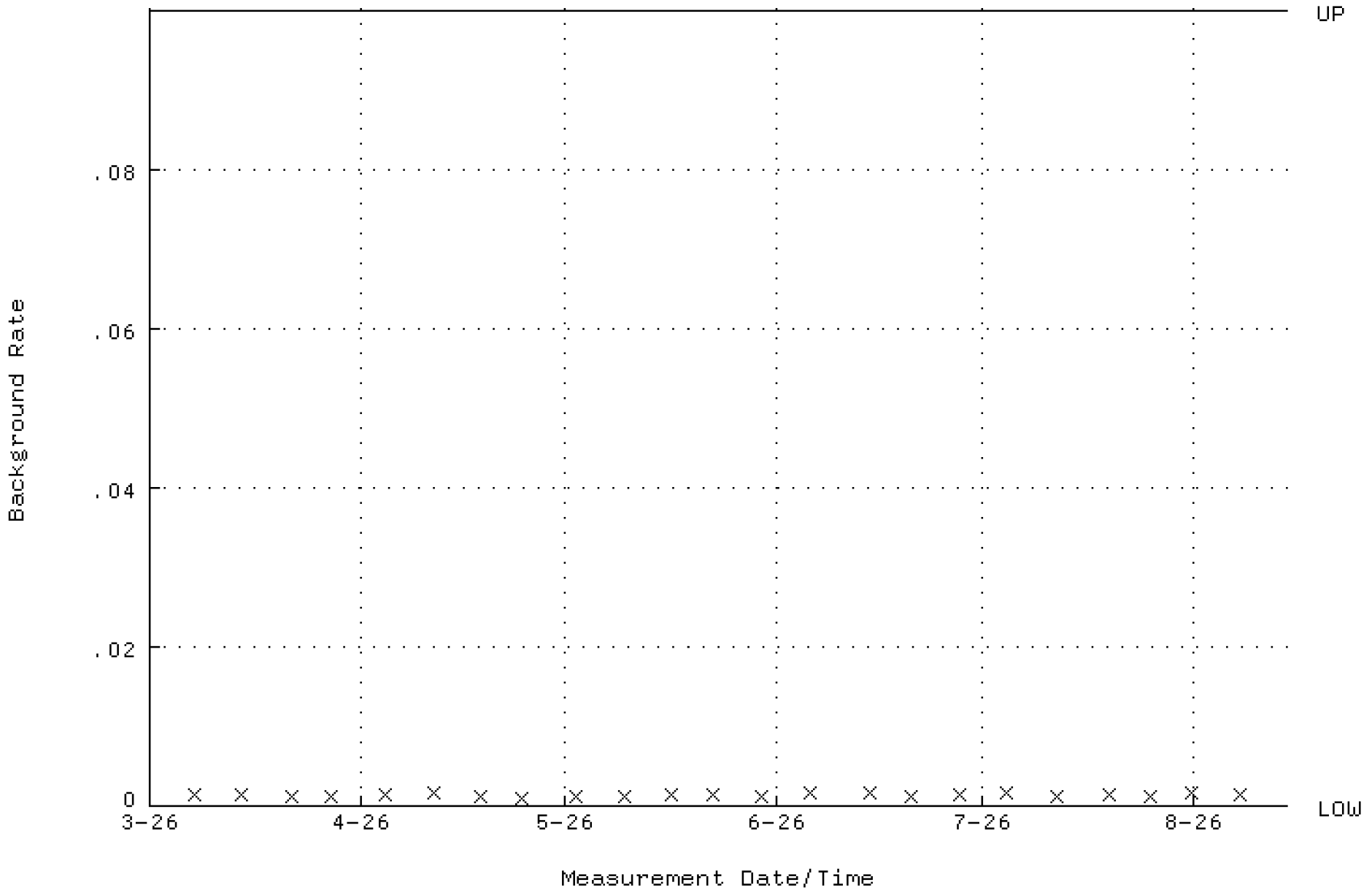
QA filename : DKA100:[ENV_ALPHA.QA.W]W153.QAF;3
Parameter Name : PSFWHM-GD148 (PEAK RESOLUTION GD-148)
Start/End Dates : 13-MAR-2026 09:05:42 through 14-AUG-2026 12:00:00
Lower/Upper Lmts: 5.00000 through 100.000



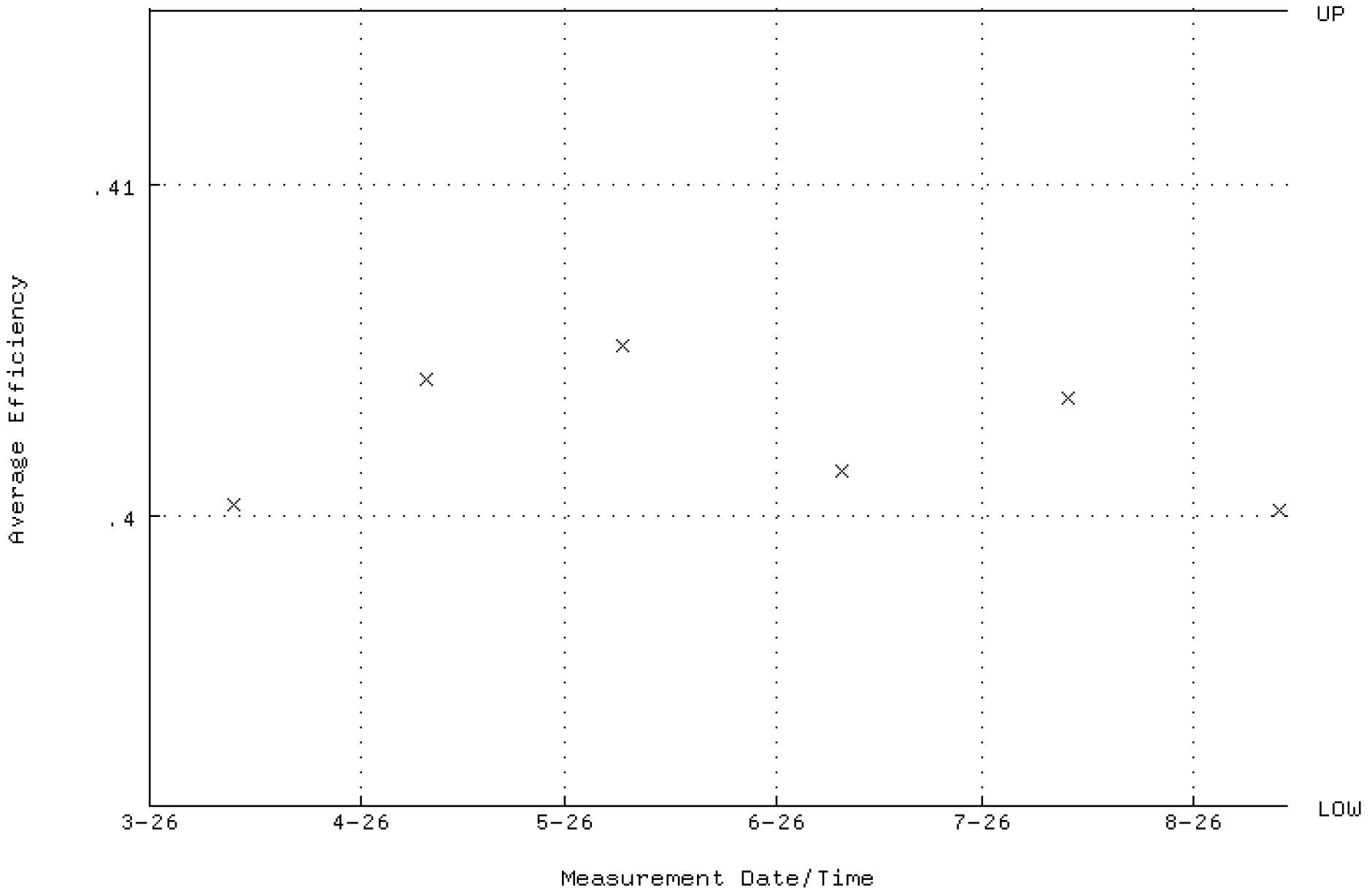
QA filename : DKA100:[ENV_ALPHA.QA.W]W153.QAF;3
Parameter Name : PSENERGY-GD148 (PEAK ENERGY GD-148)
Start/End Dates : 13-MAR-2026 09:05:42 through 14-AUG-2026 12:00:00
Lower/Upper Lmts: 3143.00 through 3223.00



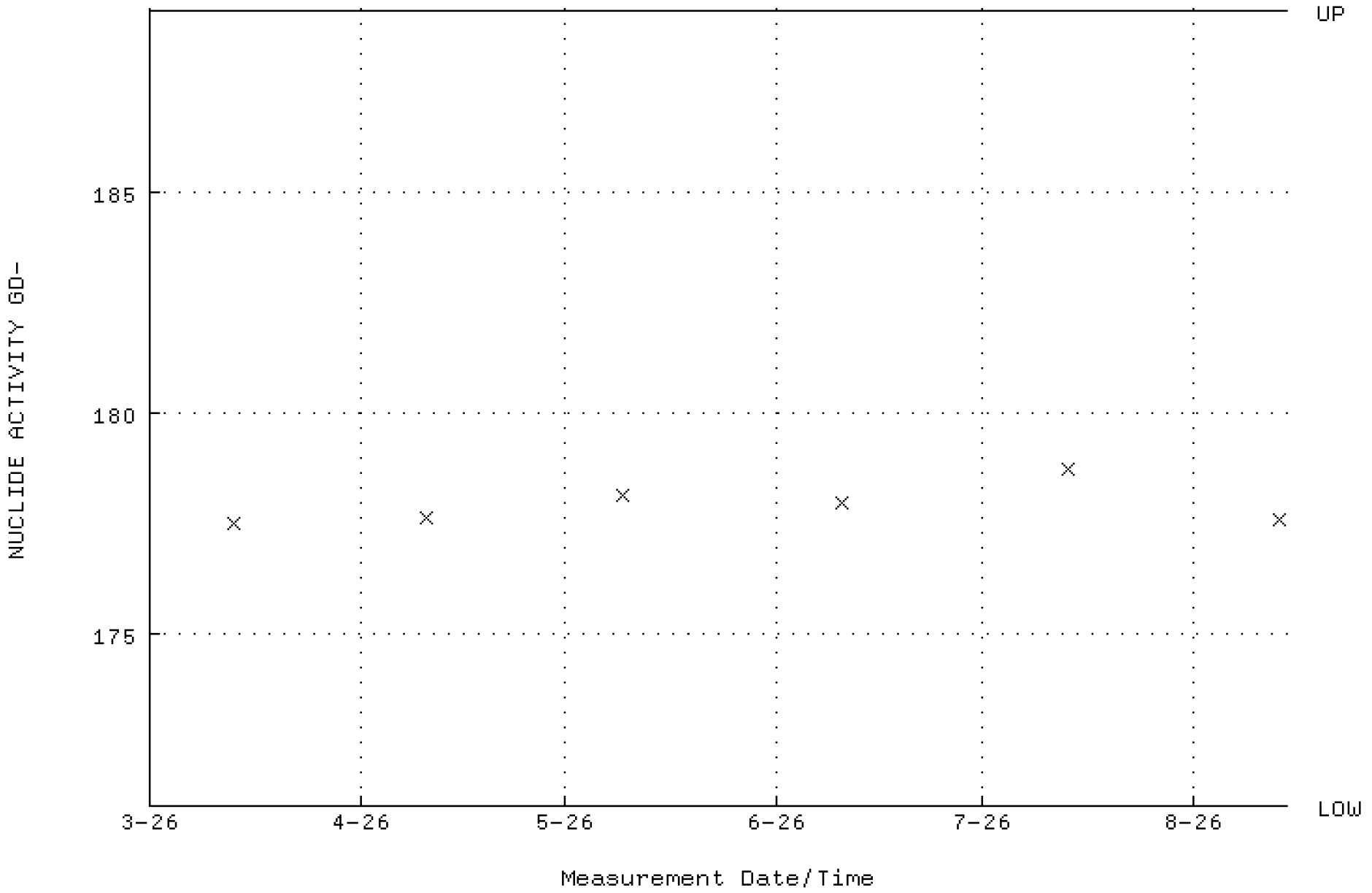
QA filename : DKA100:[ENV_ALPHA.QA.B]B153.QAF;5
Parameter Name : BACKRATE (Background Rate)
Start/End Dates : 7-MAR-2026 10:51:25 through 14-AUG-2026 12:00:00
Lower/Upper Lmts: 0.000000E+00 through 0.100000



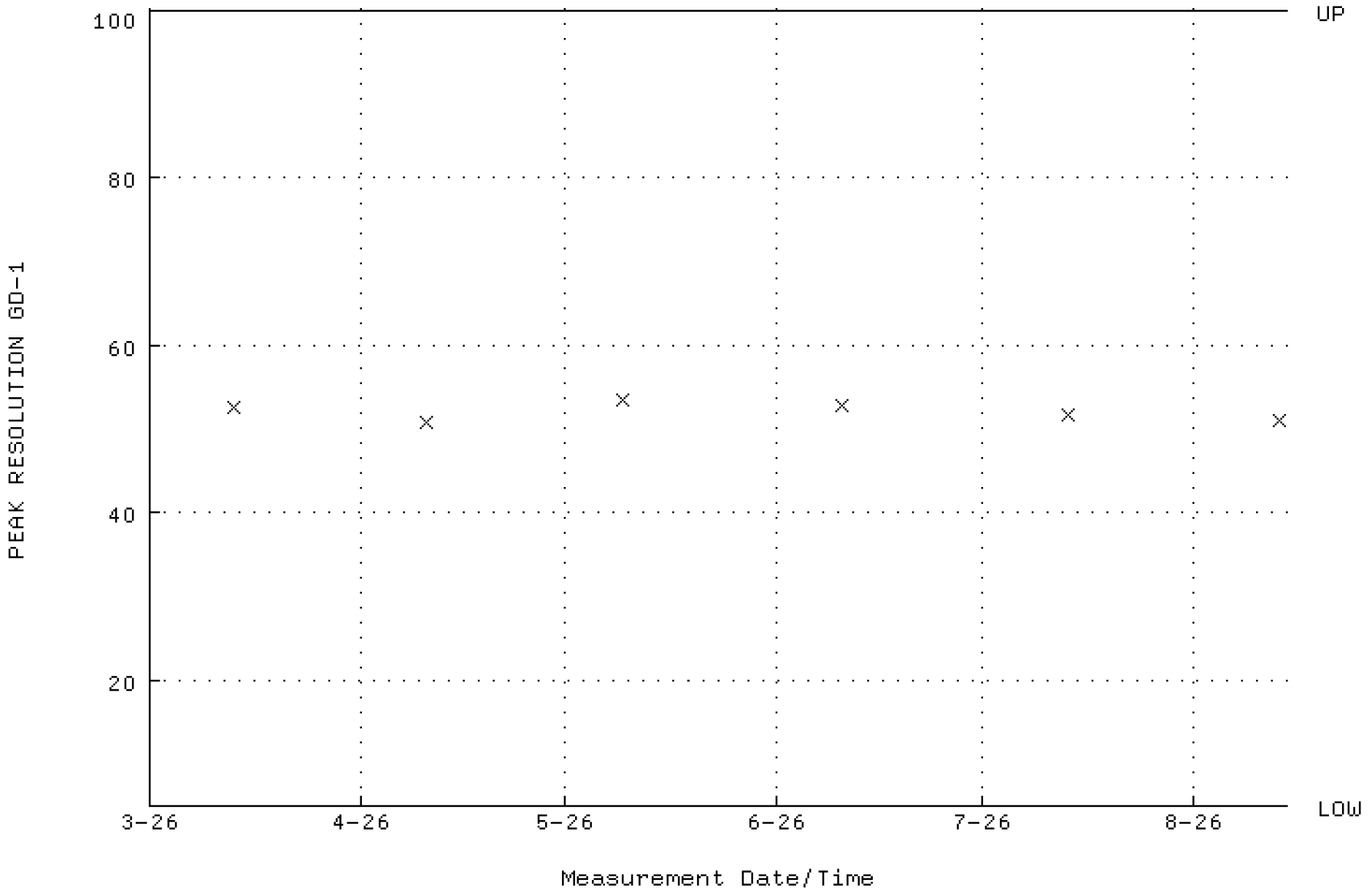
QA filename : DKA100:[ENV_ALPHA.QA.W]W155.QAF;3
Parameter Name : AVRGEFF (Average Efficiency)
Start/End Dates : 13-MAR-2026 09:05:50 through 14-AUG-2026 12:00:00
Lower/Upper Lmts: 0.391200 through 0.415300



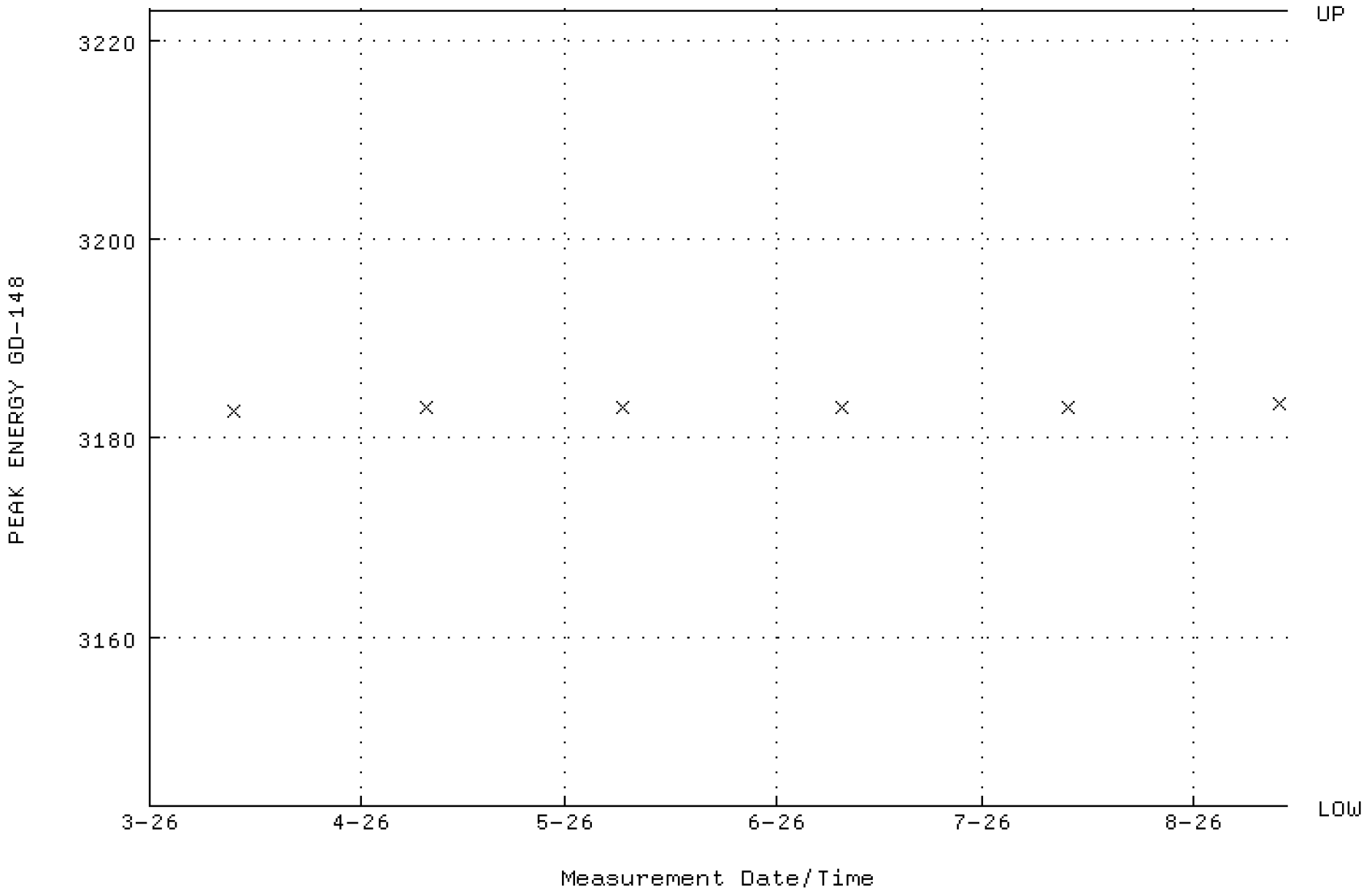
QA filename : DKA100:[ENV_ALPHA.QA.W]W155.QAF;3
Parameter Name : NLACTVTY-GD148 (NUCLIDE ACTIVITY GD-148)
Start/End Dates : 13-MAR-2026 09:05:50 through 14-AUG-2026 12:00:00
Lower/Upper Lmts: 171.090 through 189.100



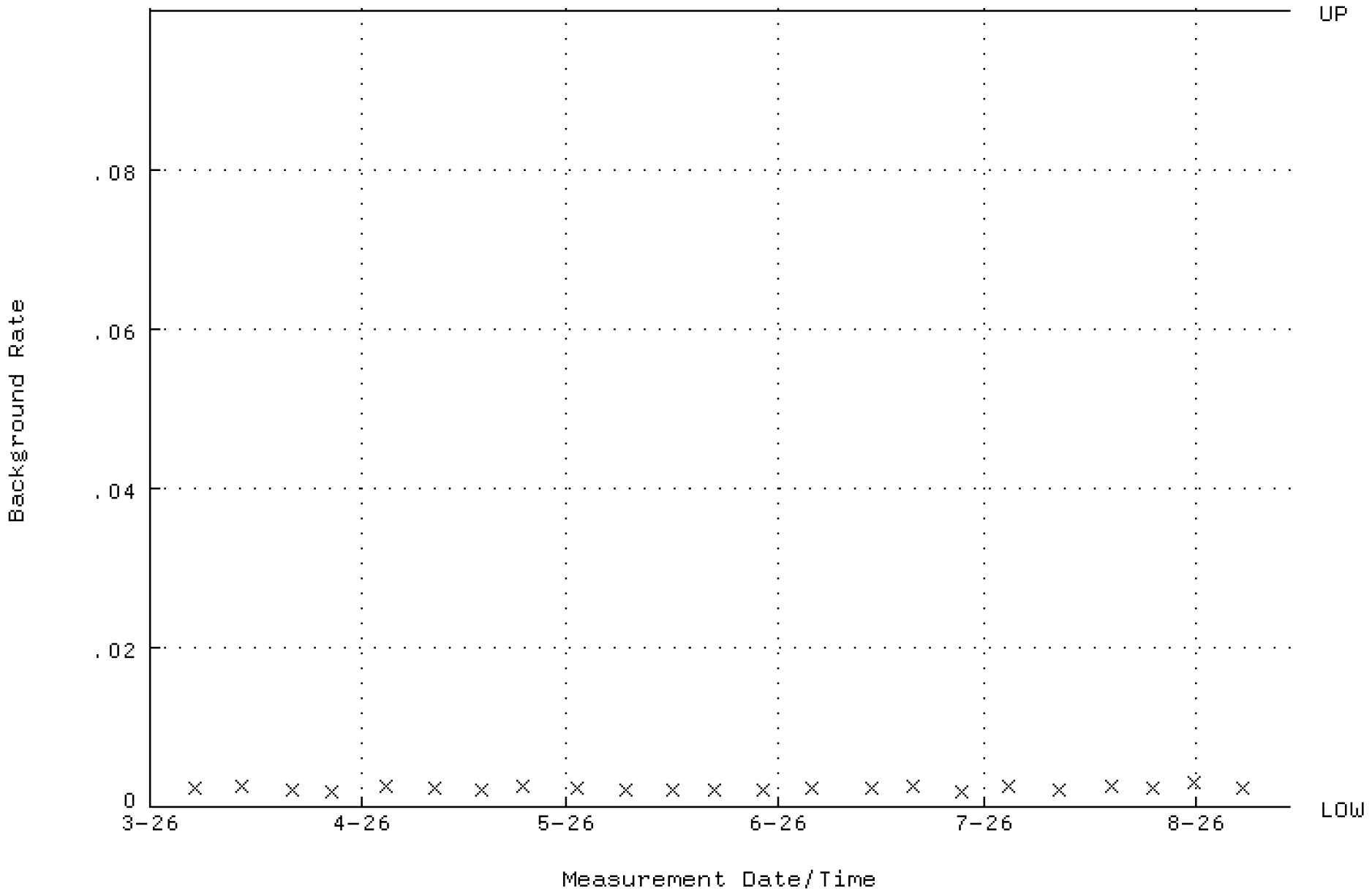
QA filename : DKA100:[ENV_ALPHA.QA.W]W155.QAF;3
Parameter Name : PSFWHM-GD148 (PEAK RESOLUTION GD-148)
Start/End Dates : 13-MAR-2026 09:05:50 through 14-AUG-2026 12:00:00
Lower/Upper Lmts: 5.00000 through 100.000



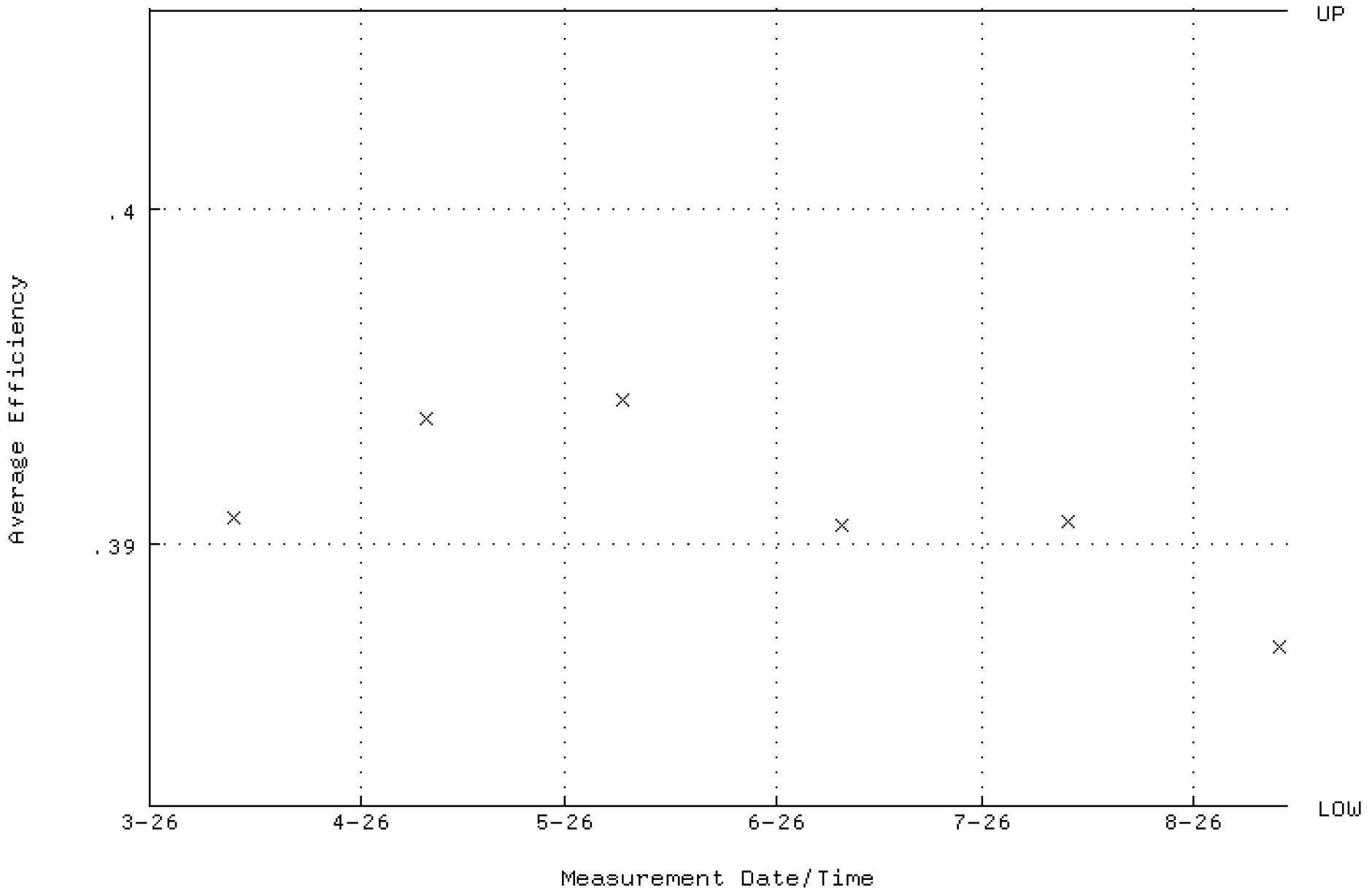
QA filename : DKA100:[ENV_ALPHA.QA.W]W155.QAF;3
Parameter Name : PSENERGY-GD148 (PEAK ENERGY GD-148)
Start/End Dates : 13-MAR-2026 09:05:50 through 14-AUG-2026 12:00:00
Lower/Upper Lmts: 3143.00 through 3223.00



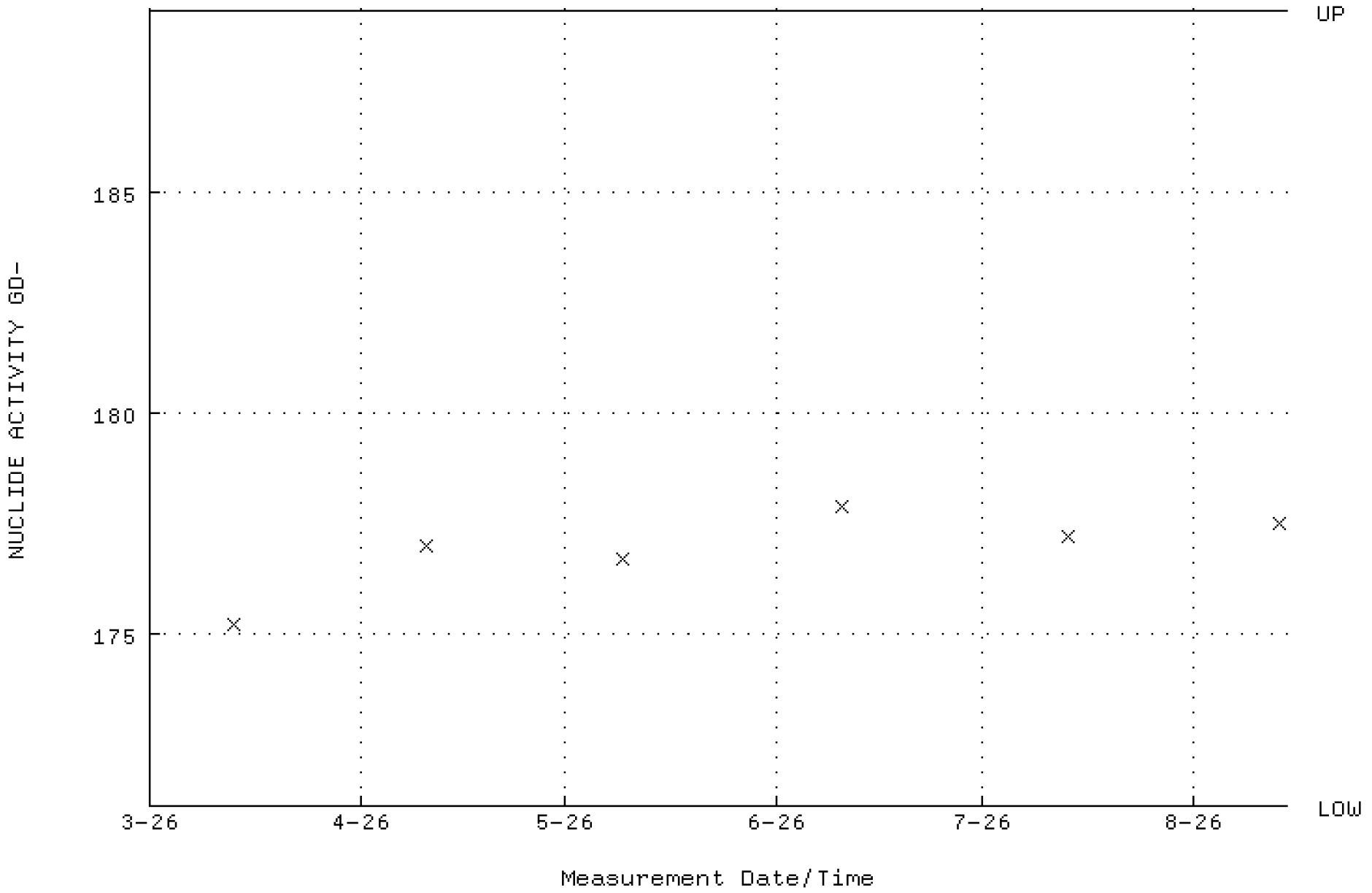
QA filename : DKA100:[ENV_ALPHA.QA.B]B155.QAF;5
Parameter Name : BACKRATE (Background Rate)
Start/End Dates : 7-MAR-2026 10:51:33 through 14-AUG-2026 12:00:00
Lower/Upper Lmts: 0.000000E+00 through 0.100000



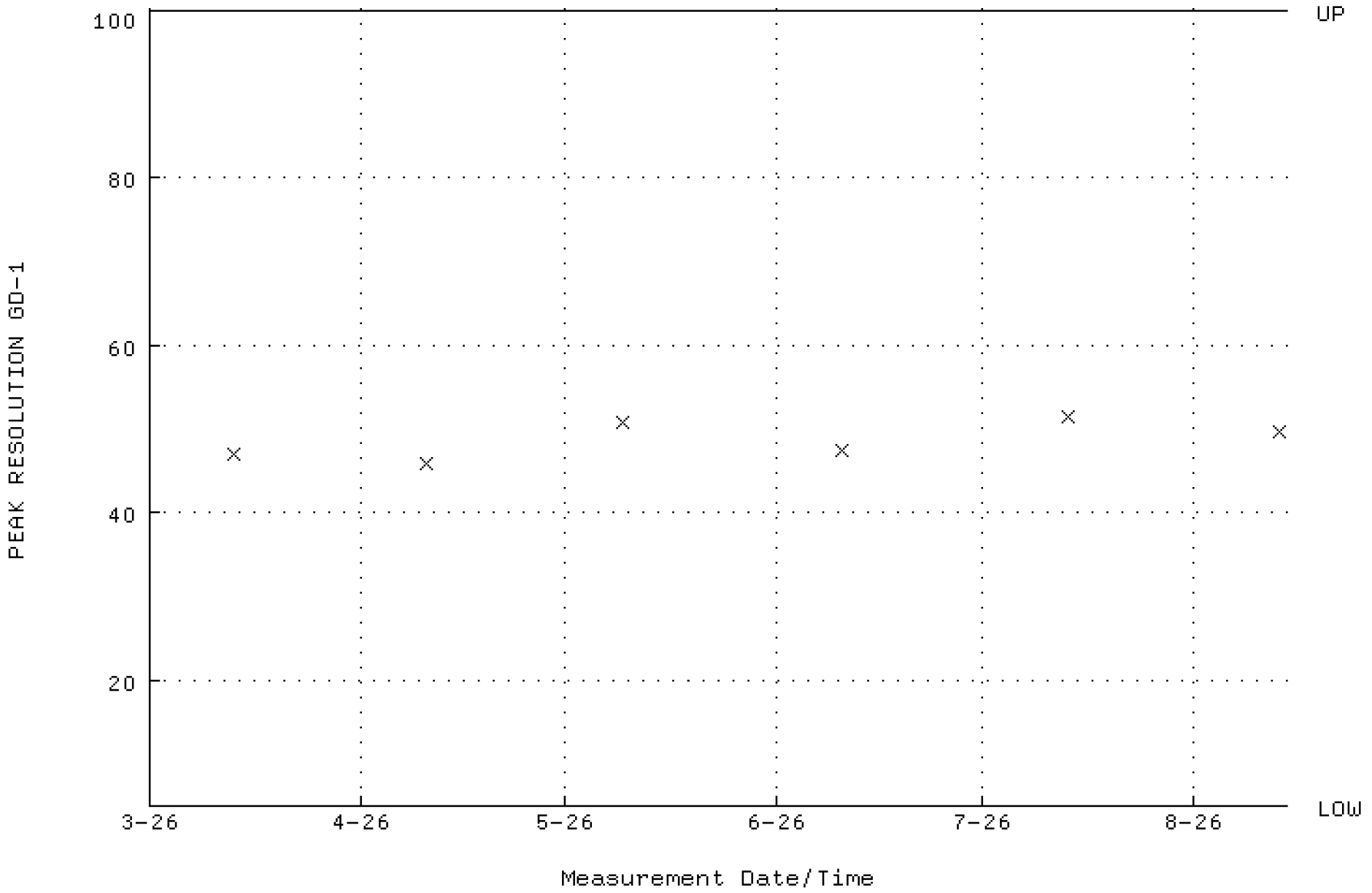
QA filename : DKA100:[ENV_ALPHA.QA.W]W156.QAF;3
Parameter Name : AVRGEFF (Average Efficiency)
Start/End Dates : 13-MAR-2026 09:05:55 through 14-AUG-2026 12:00:00
Lower/Upper Lmts: 0.382200 through 0.405900



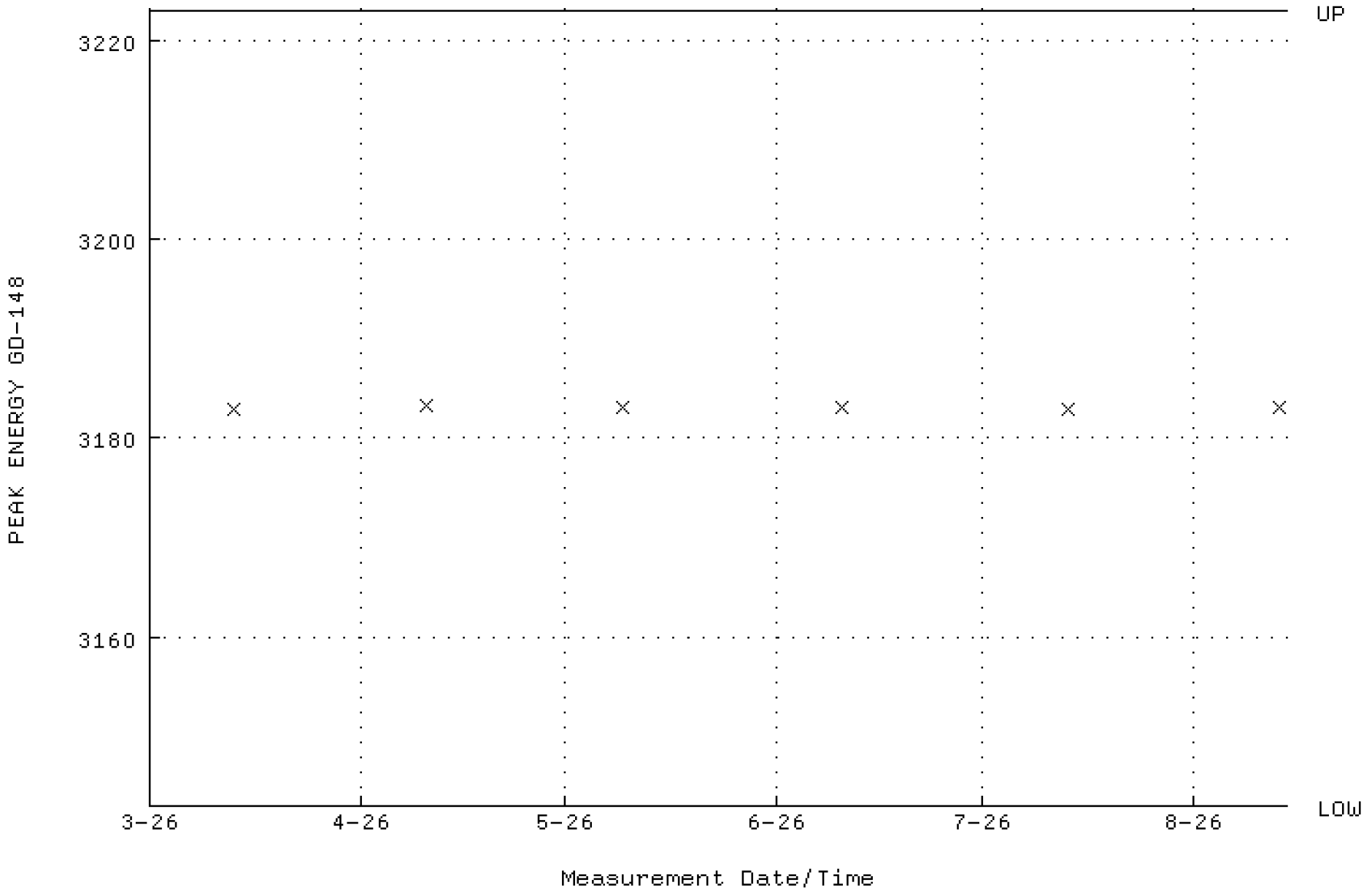
QA filename : DKA100:[ENV_ALPHA.QA.W]W156.QAF;3
Parameter Name : NLACTVTY-GD148 (NUCLIDE ACTIVITY GD-148)
Start/End Dates : 13-MAR-2026 09:05:55 through 14-AUG-2026 12:00:00
Lower/Upper Lmts: 171.090 through 189.100



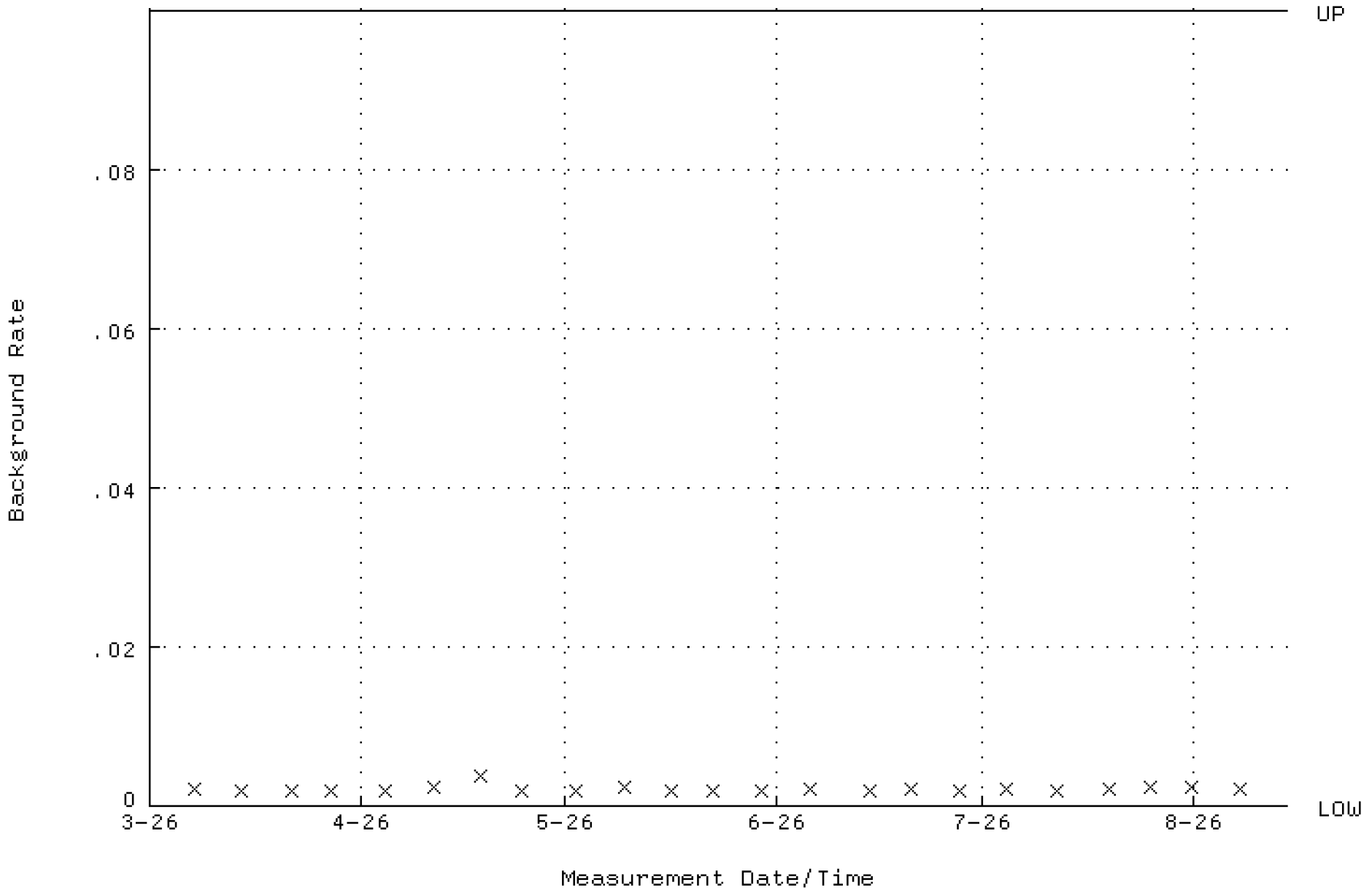
QA filename : DKA100:[ENV_ALPHA.QA.W]W156.QAF;3
Parameter Name : PSFWHM-GD148 (PEAK RESOLUTION GD-148)
Start/End Dates : 13-MAR-2026 09:05:55 through 14-AUG-2026 12:00:00
Lower/Upper Lmts: 5.00000 through 100.000



QA filename : DKA100:[ENV_ALPHA.QA.W]W156.QAF;3
Parameter Name : PSENERGY-GD148 (PEAK ENERGY GD-148)
Start/End Dates : 13-MAR-2026 09:05:55 through 14-AUG-2026 12:00:00
Lower/Upper Lmts: 3143.00 through 3223.00



QA filename : DKA100:[ENV_ALPHA.QA.B]B156.QAF;5
Parameter Name : BACKRATE (Background Rate)
Start/End Dates : 7-MAR-2026 10:51:37 through 14-AUG-2026 12:00:00
Lower/Upper Lmts: 0.000000E+00 through 0.100000



RAD Standards Traceability

Eckert & Ziegler
Analytics

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

1845

Received: 12-1-17 12:00

CERTIFICATE OF CALIBRATION
Standard Reference Source

SRS Number: 108018
Source Description: 5 mL Liquid in Flame Sealed Ampoule
Product Code: 8229
Customer: GEL Laboratories LLC
P.O. Number: GEL1718798, Item 1

This standard radionuclide source was prepared gravimetrically from a master solution calibrated by Eckert & Ziegler Analytics (EZA). The master solution was calibrated by liquid scintillation counting. Radionuclide calibration and purity were checked by germanium gamma-ray spectrometry, liquid scintillation counting, and/or alpha spectrometry, as applicable. The nuclear decay rate and reference date for this source are given below. EZA maintains traceability to the National Institute of Standards and Technology (NIST) through a Measurements Assurance Program as described in USNRC Regulatory Guide 4.15, Revision 2, July 2007, and compliance with ANSI N42.22-1995, "Traceability of Radioactive Sources to NIST."

Reference Date: 29-November-2017 12:00 PM EST

Isotope	Half-Life, d	Activity, Bq	Uncertainty u_A, %	Uncertainty u_B, %	Uncertainty U, %*	Calibration Method**
Th-229	2.897E+06	1.999E+04	0.5	1.5	3.1	4π LS

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

(Certificate continued on reverse side)

Corporate Office
Laboratory

SRS Number: 108018

Comments:

5.21561 g of 0.5 M HNO_3 solution, carrier free.

Impurities:

γ-impurities (other than decay products) < 0.1%

α-impurities: Th-228 6.6E+00 Bq, Th-230 1.2E+02 Bq, Th-232 8.0E+00 Bq

This source was wipe tested in its inactive areas with leak test results < 185 Bq (5 nCi) of removable activity per ISO 9978:1992.

Source Prepared by: _____

K. Eardley, Radiochemist

QC Approved by: _____ Date: 27-Nov-17

J. Lahr, Spectroscopist

Standard Logbook

Serial ID:	1845	**Open/Reference Date:**	29-NOV-17	**Aliquot :**	5.21561 g
Name:	Thorium-229	**Received:**	01-DEC-17	**Density :**	Hand Calculated
Type:	Source Material	**Expires:**	01-DEC-18	**Logbook Num :**	GL-CED-297-138
Employee:	Tim Chandler			**Lot Number :**	108018
Supplier:	Eckert & Ziegler			**Solvent :**	0.5M HNO3
				Uncertainty :	1.55 percent

Description: 1 ampoule

Comments: None

Analyte	Concentration	Analyte	Concentration
Thorium-229	19990 Bq		

Standard Traceability Log Rad

Source Material Info	
Parent Code:	1845
Prepared By:	Tim Chandler
Carrier Conc:	0.5M HNO3
Reference Date:	11/29/2017
Ampoule Mass (g):	5.21561 g
Uncertainty:	+/- 1.55 %
LogBook No:	GL-CED-297-138
Supplier:	Eckert & Ziegler

A Solution Material Info			
Isotope:	Thorium-229		
Prepared By:	Tim Chandler		
Prep Date:	06/08/2018		
Verification Date:	10/17/2024		
Expiration Date:	10/17/2025		
Primary Code:	1845-A		
Dilution(mL):	100 mL		
Mass of Parent(g):	5.1906 g		
Density(g/mL):	1.0291	Balance ID:	B733529066

Calculations Converting parent activity to dpm/mL|dpm/g

(Mass of parent(g)) * (Parm Activity (Bq)) * (conversion dpm to Bq) / (Ampoule Mass(g) *(Dilution Vol)) = Parent Activity (dpm/mL)
(Mass of parent(g)) * (Parm Activity (Bq)) * (conversion dpm to Bq) / Density / (Ampoule Mass (g) * (Dilution Vol)) = Parent Activity (dpm/g)
(5.1906 g) * (19990 Bq) * (60 dpm/Bq) / (5.21561 g * 100 mL) = 11936.4861 dpm/mL
(5.1906 g) * (19990 Bq) * (60 dpm/Bq) / (1.0291 g/mL)/ (5.21561 g * 100 mL) = 11598.7987 dpm/g

Secondary Standards

Prep Date	Preparer	Mass Primary	Dilution (mL)	Code	Conc dpm/mL	Verification Date	Expiration Date
06/08/2018	Tim Chandler	2.0385	1000	1845-B	23.6442 dpm/mL	06/01/2020	06/01/2021
07/10/2019	Tim Chandler	4.0198	1000	1845-C	46.62485 dpm/mL	07/07/2020	07/07/2021
10/26/2020	Tim Chandler	4.0184	1000	1845-D	46.6086 dpm/mL	10/27/2020	10/27/2021
04/23/2021	Tim Chandler	4.2911	1000	1845-E	49.7716 dpm/mL	04/26/2021	04/26/2022
11/10/2021	Matelon DeFreese	4.211	1000	1845-F	48.8425 dpm/mL	11/10/2021	11/10/2022
05/11/2022	Matelon DeFreese	4.1951	1000	1845-G	48.6581 dpm/mL	05/12/2022	05/11/2023
01/11/2023	Matelon DeFreese	4.1664	1000	1845-H	48.3252 dpm/mL	01/11/2023	01/11/2024
06/27/2023	Matelon DeFreese	4.1464	1000	1845-I	48.093259 dpm/mL	06/27/2023	06/27/2024
03/04/2024	Matelon DeFreese	4.1756	1000	1845-J	48.4319439 dpm/mL	03/04/2024	03/04/2025

10/16/2024	Matelon DeFreese	4.1749	1000	1845-K	48.4238247 dpm/mL	10/17/2024	10/17/2025
02/19/2025	Christina Kimball	.09	250	1845-L	4.1756 dpm/ml	02/19/2025	02/19/2026
04/23/2025	Christina Kimball	.14	250	1845-M	6.4953 dpm/ml	04/23/2025	04/23/2026
06/16/2025	Matelon DeFreese	4.1519	1000	1845-N	48.1570523 dpm/mL	06/17/2025	06/17/2026
06/24/2025	Christina Kimball	.104419	250	1845-O	4.8446 dpm/ml	06/18/2026	06/18/2027
06/24/2025	Gregory Ramsay	.104419	250	2234-A	4.8446 dpm/ml	06/18/2026	06/18/2027
06/24/2025	Christina Kimball	.104419	250	1845-O SPIKE	4.8446 dpm/ml	06/18/2026	06/18/2027
02/26/2026	Matelon DeFreese	4.1678	1000	1845-P	48.3414732 dpm/mL	02/26/2026	02/26/2027
01/11/2023	Tim Chandler	4.1664	1000	2073-A	48.3252 dpm/mL	01/11/2023	01/11/2024
01/11/2023	Tim Chandler	4.1664	1000	2074-A	48.3252 dpm/mL	01/11/2023	01/11/2024
10/16/2024	Matelon DeFreese	4.1749	1000	2177-A	48.4238247 dpm/mL	10/17/2024	10/17/2025
10/16/2024	Matelon DeFreese	4.1749	1000	2178-A	48.4238247 dpm/mL	10/17/2024	10/17/2025
06/16/2025	Matelon DeFreese	4.1519	1000	2233-A	48.1570523 dpm/mL	06/17/2025	06/17/2026
02/26/2026	Matelon DeFreese	4.1678	1000	2261-A	48.3414732 dpm/mL	02/26/2026	02/26/2027

GEL Laboratories LLC
Version 1.0 9/18/2000

Verification for Th-229 Standard 1845-P

v1.2

Analyst	MXS2
Verification Prep Date	2/26/2026

Tracer Information	
Isotope	Th-232
Serial Number	1513-L
Amount of Std. (mL)	0.1
Expiration Date	5/22/2026

Standard Information	
Isotope	Th-229
Serial Number	1845-P
Isotope Halflife	7.3400E+03 Y
Reference Date	11/29/2017
Ref. Act. (dpm/mL)	48.3414732
Amount of Std. (mL)	0.1
Standard Prep Date	2/26/2026

Std #	Count Date	Activity pCi	Standard dpm/mL
1	2/26/2026	2.200	48.84
2	2/26/2026	2.110	46.84
3	2/26/2026	2.260	50.17
Mean Value =		2.190	48.618
Stdev =		0.075498344	1.676063245

	pCi	dpm/mL
Certificate Value* =	**2.1758**	**48.3039**
Two sigma =	0.1510	3.3521
10 % of Mean =	0.2190	4.8618
Rule A (Pass/Fail)	**Pass**	**Pass**
% Recovery	100.65%	100.65%
Rule B (Pass/Fail)	**Pass**	**Pass**
Expiration Date	**2/26/2027**	

Verification Rules

Rule A = The two sigma value used for the 95% confidence interval shall not exceed 10% of the mean value of the three verification measurements.

Rule B = The determined mean value shall be within 5% of the certificate value.

*** Certificate Value is decay corrected to Verification Prep Date.**

The analyst prepared three standard verification sources for Th-229 standard 1845-P using 0.1 mL for each source. Each standard was combined with 0.1 mL of Th-232 standard 1513-L and was diluted in a centrifuge tube containing 4 mL of 2M HCl and 10 mL of DI water. 0.1 mL of neodymium carrier and 2 mL of 48% HF was added to precipitate neodymium (and Thorium) fluoride. After 30 minutes, each sample was filtered following routine procedures for alpha spectroscopy source preparation. Each source was counted using routine alpha spec procedures. DPM values for Th-229 were calculated by comparison to Th-232 certified values.

MSD 3.16.26

Eckert & Ziegler
Isotope Products

24937 Avenue Tibbitts
Valencia, California 91355

Tel 661•309•1010
Fax 661•257•8303

~~1506~~ 1513
32 11/30/10

RECEIVED
10/14/10 23
21

CERTIFICATE OF CALIBRATION
ALPHA STANDARD SOLUTION

Radionuclide:	Th-232	**Customer:**	GEL LABORATORIES, LLC
Half-life:	(1.405 ± 0.006)E+10 years	**P.O. No.:**	7347RD
Catalog No.:	7232	**Reference Date:**	1-Nov-10 12:00 PST
Source No.:	1451-62	**Contained Radioactivity: (Th-232 only)**	50.26 **nCi** 1860 **Bq**

Physical Description:

A. Mass of solution:	5.73256 g in 5 mL flame-sealed ampoule
B. Chemical form:	$Th(NO_3)_4$ in H_2O
C. Carrier content:	None
D. Density:	1.15 g/mL @ 20°C

Radioimpurities:

Not determined

Radionuclide Concentration: 8.767 nCi/g, 324.4 Bq/g

Method of Calibration:

Activity calculations are based upon known specific activity and mass.

Uncertainty of Measurement:

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

Notes:

- See reverse side for leak test(s) performed on this source.
- EZIP participates in a NIST measurement assurance program to establish and maintain implicit traceability for a number of nuclides, based on the blind assay (and later NIST certification) of Standard Reference Materials (as in NRC Regulatory Guide 4.15).
- Nuclear data was taken from NCRP Report No. 58, 1985.
- This solution has a working life of 5 years.

Daniel James Van Dalsem
Quality Control

15-OCT-10
Date

EZIP Ref. No.: 1451-62

RC-S-060-058

Standard Logbook

Serial ID:	1513	**Open/Reference Date:**	01-NOV-10	**Aliquot :**	5.73256 g
Name:	Thorium-232	**Received:**	21-OCT-10	**Density :**	Hand Calculated g/mL
Type:	Source Material	**Expires:**	30-NOV-11	**Logbook Num :**	RC-S-060-058
Employee:	Gregory Ramsay	**Verified:**	28-APR-11	**Lot Number :**	1451-62
Supplier:	Eckert & Ziegler			**Solvent :**	DI water
				Uncertainty :	1.172 PERCENT

Description: in water

Comments: None

Analyte	Concentration	Analyte	Concentration
Thorium-232	324.4 Bq/g		

Standard Traceability Log Rad

Source Material Info	
Parent Code:	1513
Prepared By:	Gregory Ramsay
Carrier Conc:	DI water
Reference Date:	11/01/2010
Ampoule Mass (g):	5.73256 g
Uncertainty:	+/- 1.172 %
LogBook No:	RC-S-060-058
Supplier:	Eckert & Ziegler

A Solution Material Info			
Isotope:	Thorium-232		
Prepared By:	Christina Kimball		
Prep Date:	04/19/2011		
Verification Date:	01/13/2026		
Expiration Date:	01/13/2027		
Primary Code:	1513-A		
Dilution(mL):	250 mL		
Mass of Parent(g):	5.672 g		
Density(g/mL):	0.0227	Balance ID:	60108592

Calculations Converting parent activity to dpm/mL|dpm/g

(Mass of parent(g)) * (Parm Activity (Bq/g)) * (conversion dpm to Bq) / (Dilution Vol) = Parent Activity (dpm/mL)
(Mass of parent(g)) * (Parm Activity (Bq/g)) * (conversion dpm to Bq) / Density (g/mL)/ (Dilution Vol) = Parent Activity (dpm/g)
(5.672 g) * (324.4 Bq/g) * (60 dpm/Bq) / (250 mL) = 441.5992 dpm/mL
(5.672 g) * (324.4 Bq/g) * (60 dpm/Bq) / (0.0227 g/mL) / (250 mL) = 19464.0014 dpm/g

Secondary Standards

Prep Date	Preparer	Mass Primary	Dilution (mL)	Code	Conc dpm/mL	Verification Date	Expiration Date
04/19/2011	Christina Kimball	5.0665	100	1513-B	22.3299 dpm/mL	04/11/2013	04/11/2014
02/26/2014	Matelon DeFreese	100.0316	1000	1513-C	44.08747 dpm/mL	12/14/2022	12/14/2023
04/18/2014	Christina Kimball	5.0477	100	1513-D	22.247 dpm/mL	07/12/2024	07/12/2025
01/04/2016	Christina Kimball	.2487	100	1513-E	1.096117 dpm/mL	02/11/2020	02/11/2021
08/01/2016	Christina Kimball	2.053	250	1513-F	3.61932 dpm/mL	06/18/2026	06/18/2027
02/21/2020	Christina Kimball	.248	100	1513-G	1.093 dpm/mL	02/16/2023	02/16/2024
11/11/2022	Christina Kimball	.3	100	1513-H	1.3222 dpm/mL	11/14/2022	11/14/2023
12/13/2022	Christina Kimball	.23	100	1513-I	1.0137 dpm/mL	12/20/2023	12/20/2024
04/25/2023	Matelon DeFreese	25.022	250	1513-J	44.1123247 dpm/mL	04/20/2024	04/20/2025

06/16/2023	Christina Kimball	5.02	100	1513-K	22.1249 dpm/mL	06/18/2026	06/18/2027
06/10/2024	Matelon DeFreese	25.0217	250	1513-L	44.1117958 dpm/mL	05/22/2025	05/22/2026
12/13/2024	Christina Kimball	.2598	100	1513-M	1.145 dpm/mL	12/17/2025	12/17/2026
11/10/2025	Christina Kimball	.2517	100	1513-N	1.1093 dpm/mL	11/10/2025	11/10/2026
01/13/2026	Matelon DeFreese	25.6903	250	1513-O	45.2905 dpm/mL	01/13/2026	01/13/2027

GEL Laboratories LLC
Version 1.0 9/18/2000

Verification for Th-232 Standard 1513-O

v1.2

Analyst	MXS2
Verification Prep Date	1/13/2026

Tracer Information	
Isotope	Th-229
Serial Number	1845-N
Amount of Std. (mL)	0.1
Expiration Date	6/17/2026

Standard Information	
Isotope	Th-232
Serial Number	1513-O
Isotope Halflife	1.4050E+10 Y
Reference Date	11/1/2010
Ref. Act. (dpm/mL)	45.2905
Amount of Std. (mL)	0.1
Standard Prep Date	1/13/2026

Std #	Count Date	Activity pCi	Standard dpm/mL
1	1/13/2026	2.020	44.84
2	1/14/2026	2.200	48.84
3	1/13/2026	2.080	46.18
Mean Value =		2.100	46.620
Stdev =		0.091651514	2.034663609

	pCi	dpm/mL
Certificate Value* =	**2.0401**	**45.2905**
Two sigma =	0.1833	4.0693
10 % of Mean =	0.2100	4.6620
Rule A (Pass/Fail)	**Pass**	**Pass**
% Recovery	102.94%	102.94%
Rule B (Pass/Fail)	**Pass**	**Pass**
Expiration Date	**1/13/2027**	

Verification Rules

Rule A = The two sigma value used for the 95% confidence interval shall not exceed 10% of the mean value of the three verification measurements.

Rule B = The determined mean value shall be within 5% of the certificate value.

*** Certificate Value is decay corrected to Verification Prep Date.**

The analyst prepared three standard verification sources for Th-232 standard 1513-O using 0.1 mL for each source. Each standard was combined with 0.1 mL of Th-229 standard 1845-N and was diluted in a centrifuge tube containing 4 mL 2M HCl, diluted to 40 mL with DI water.. 0.1 mL of neodymium carrier and 5 mL of 48% HF was added to precipitate neodymium (and Thorium) fluoride. After 30 minutes, each sample was filtered following routine procedures for alpha spectroscopy source preparation. Each source was counted using routine alpha spec procedures. DPM values for Th-232 were calculated by comparison to Th-229 certified values.

1564

Eckert & Ziegler
Analytics

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

CERTIFICATE OF CALIBRATION
Standard Radionuclide Source

85621-278
5 mL Liquid in Flame Sealed Vial

Customer: General Engineering Labs/Charleston, SC
P.O. No.: 936814RD, Item 1

This standard radionuclide source was prepared gravimetrically from a master solution, calibrated by the Department Des Applications Et De La Metrologie Des Rayonnements Ionisants (DAMRI), Paris, France. Radionuclide purity and calibration were checked by germanium gamma-ray spectrometry. The nuclear decay rate and reference date for this source are given below. Eckert & Ziegler Analytics (EZA) maintains traceability to the National Institute of Standards and Technology through a Measurements Assurance Program as described in USNRC Regulatory Guide 4.15, Revision 1, February, 1979, and compliance with ANSI N42.22-1995, "Traceability of Radioactive Sources to NIST." EZA is accredited by the Health Physics Society (HPS) for the production of NIST-traceable sources, and this source was produced in accordance with the HPS accreditation requirements. Customers may report any concerns with the accreditation program to the HPS Secretariat, 1313 Dolley Madison Blvd., Ste. 402, McLean, VA 22101.

Isotope	Half-Life, Days	Activity (Bq)	Uncertainty*, % Type u_A	u_B	U	Reference Date (12:00 PM EST)
U-232	2.517E+04	3.393E+04	0.5	2.4	4.9	09/12/2011

***Uncertainty:** U - Relative expanded uncertainty, k = 2. See NIST Technical Note 1297, "Guidelines for Evaluating and Expressing the Uncertainty of NIST Measurement Results."

Comments:
Impurities: γ-impurities (other than decay products) < 0.1 %, U-233 < 1.20E2 Bq, Am-241 < 5.8E1 Bq. 5.06048 grams 2M HNO3 solution.

Source Prepared by: M Taskaeva
M. I. Taskaeva, Radiochemist

QA Approved:
J. D. McCorvey, QA Manager Alternate

Date: 9/12/11

RECEIVED 9/14/11 tm

ACCREDITED SOURCE CALIBRATION LABORATORY HEALTH PHYSICS SOCIETY FOUNDED 1956

ANA Form005 Rev. --

Single Isotope Certificate, Rev 1 9/28/2009

Standard Logbook

Serial ID:	1564	**Open/Reference Date:**	12-SEP-11	**Aliquot :**	5.06048 g
Name:	Uranium-232	**Received:**	14-SEP-11	**Density :**	Hand Calculated
Type:	Source Material	**Expires:**	26-SEP-14	**Logbook Num :**	RC-S-060-109
Employee:	Ashley Drochter			**Lot Number :**	85621-278
Supplier:	Eckert & Ziegler			**Solvent :**	2M HNO3
				Uncertainty :	2.45 percent

Description: Ampoule

Comments: None

Analyte	Concentration	Analyte	Concentration
Uranium-232	33930 Bq		

Standard Traceability Log Rad

Source Material Info	
Parent Code:	1564
Prepared By:	Ashley Drochter
Carrier Conc:	2M HNO3
Reference Date:	09/12/2011
Ampoule Mass (g):	5.06048 g
Uncertainty:	+/- 2.45 %
LogBook No:	RC-S-060-109
Supplier:	Eckert & Ziegler

A Solution Material Info			
Isotope:	Uranium-232		
Prepared By:	Ashley Drochter		
Prep Date:	11/15/2012		
Verification Date:	03/17/2026		
Expiration Date:	03/17/2027		
Primary Code:	1564-A		
Dilution(mL):	100 mL		
Mass of Parent(g):	4.9067 g		
Density(g/mL):	1.0615	Balance ID:	38080204

Calculations Converting parent activity to dpm/mL|dpm/g

(Mass of parent(g)) * (Parm Activity (Bq)) * (conversion dpm to Bq) / (Ampoule Mass(g) *(Dilution Vol)) = Parent Activity (dpm/mL)
(Mass of parent(g)) * (Parm Activity (Bq)) * (conversion dpm to Bq) / Density / (Ampoule Mass (g) * (Dilution Vol)) = Parent Activity (dpm/g)
(4.9067 g) * (33930 Bq) * (60 dpm/Bq) / (5.06048 g * 100 mL) = 19739.3525 dpm/mL
(4.9067 g) * (33930 Bq) * (60 dpm/Bq) / (1.0615 g/mL)/ (5.06048 g * 100 mL) = 18595.7160 dpm/g

Secondary Standards

Prep Date	Preparer	Mass Primary	Dilution (mL)	Code	Conc dpm/mL	Verification Date	Expiration Date
11/16/2012	Ashley Drochter	2.6179	1000	1564-B	48.6817 dpm/mL	11/13/2013	11/13/2014
07/26/2021	Christina Kimball	.635	500	1564-BB	23.6166 dpm/mL	07/21/2022	07/21/2023
07/26/2021	Christina Kimball	.635	500	1564-BB Spike	23.6166 dpm/mL	07/21/2022	07/21/2023
01/15/2013	Christina Kimball	.265	250	1564-C	19.7115 dpm/mL	01/13/2014	01/13/2015
12/14/2021	Tim Chandler	2.6412	1000	1564-CC	49.115 dpm/mL	12/15/2021	12/15/2022
02/18/2013	Christina Kimball	.116	500	1564-D	4.31421 dpm/mL	02/16/2015	02/13/2016
04/13/2022	Matelon DeFreese	2.7103	1000	1564-DD	50.4 dpm/mL	04/13/2022	04/13/2023
01/02/2014	Gregory Ramsay	2.6936	1000	1564-E	50.08942 dpm/mL	12/10/2014	12/10/2015
09/21/2022	Tim Chandler	2.6897	1000	1564-EE	50.0169 dpm/mL	09/21/2022	09/21/2023

03/17/2014	Christina Kimball	.266	250	1564-F	19.78584 dpm/mL	03/25/2015	03/25/2016
12/27/2022	Christina Kimball	.61	500	1564-FF	22.6868 dpm/mL	12/02/2024	12/02/2025
12/27/2022	Christina Kimball	.61	500	1564-FF Spike	22.6868 dpm/mL	12/02/2024	12/02/2025
12/10/2014	Tim Chandler	2.6312	1000	1564-G	48.929 dpm/mL	12/10/2014	12/10/2015
01/19/2023	Matelon DeFreese	2.689	1000	1564-GG	50.0039 dpm/mL	01/20/2023	01/20/2024
07/20/2015	Christina Kimball	.266	250	1564-H	19.78584 dpm/mL	07/25/2016	07/25/2017
05/19/2023	Matelon DeFreese	2.685	1000	1564-HH	49.9294975 dpm/mL	05/19/2023	05/19/2024
11/23/2015	Tim Chandler	2.6117	1000	1564-I	48.5664 dpm/mL	11/23/2015	11/23/2016
10/09/2023	Matelon DeFreese	2.6864	1000	1564-II	49.9555315 dpm/mL	10/10/2023	10/10/2024
01/05/2016	Christina Kimball	.119	500	1564-J	4.4258 dpm/mL	12/27/2017	12/27/2018
01/05/2016	Christina Kimball	.119	500	1564-J Spike	4.4258 dpm/mL	12/27/2017	12/27/2018
04/03/2024	Matelon DeFreese	2.6968	1000	1564-JJ	50.1489269 dpm/mL	04/03/2024	04/03/2025
09/20/2016	Tim Chandler	2.6389	1000	1564-K	49.0722 dpm/mL	09/18/2017	09/18/2018
08/12/2024	Matelon DeFreese	2.6799	1000	1564-KK	49.8346593 dpm/mL	08/12/2024	08/12/2025
12/20/2016	Christina Kimball	.276	250	1564-L	20.52974 dpm/mL	12/21/2017	12/21/2018
12/18/2024	Matelon DeFreese	2.6914	1000	1564-LL	49.8346593 dpm/mL	12/18/2024	12/18/2025
06/20/2017	Tim Chandler	2.6611	1000	1564-M	49.4851 dpm/mL	06/19/2018	06/19/2019
01/03/2025	Christina Kimball	.65	500	1564-MM	24.1744 dpm/mL	12/31/2025	12/31/2026
01/03/2025	Christina Kimball	.65	500	1564-MM Spike	24.1744 dpm/mL	12/31/2025	12/31/2026
01/18/2018	Tim Chandler	2.6367	1000	1564-N	49.0313 dpm/mL	04/25/2018	04/25/2019
05/13/2025	Matelon DeFreese	2.6646	1000	1564-NN	49.5501449 dpm/mL	05/13/2025	05/13/2026
04/25/2018	Tim Chandler	2.6505	1000	1564-O	49.2879 dpm/mL	04/25/2018	04/25/2019
10/08/2025	Matelon DeFreese	3.7651	1000	1564-OO	70.0147303 dpm/mL	10/08/2025	10/08/2026

08/06/2018	Christina Kimball	.106	500	1564-P	3.9423 dpm/mL	12/19/2019	12/19/2020
08/06/2018	Christina Kimball	.106	500	1564-P Spike	3.9423 dpm/mL	12/19/2019	12/19/2020
03/17/2026	Matelon DeFreese	3.7489	1000	1564-PP	69.7135 dpm/mL	03/17/2026	03/17/2027
12/13/2018	Tim Chandler	2.6502	1000	1564-Q	49.2824 dpm/mL	12/13/2018	12/13/2019
01/08/2019	Christina Kimball	.29	250	1564-R	21.571 dpm/mL	01/08/2019	01/08/2020
01/08/2019	Christina Kimball	.29	250	1564-R Spike	21.571 dpm/mL	01/08/2019	01/08/2020
10/01/2019	Tim Chandler	2.6957	1000	1564-S	50.1285 dpm/mL	10/01/2019	10/01/2020
12/18/2019	Christina Kimball	.307	250	1564-T	22.83554 dpm/mL	12/19/2019	12/19/2020
12/18/2019	Christina Kimball	.307	250	1564-T Spike	22.83554 dpm/mL	12/19/2019	12/19/2020
03/31/2020	Tim Chandler	2.6645	1000	1564-U	49.5483 dpm/mL	03/31/2020	03/31/2021
08/14/2020	Christina Kimball	.111	500	1564-V	4.1282 dpm/mL	08/14/2020	08/14/2021
08/14/2020	Christina Kimball	.111	500	1564-V Spike	4.1282 dpm/mL	08/14/2020	08/14/2021
10/13/2020	Tim Chandler	2.6983	1000	1564-W	50.1768 dpm/mL	10/13/2020	10/13/2021
11/04/2020	Christina Kimball	.315	250	1564-X	23.4306 dpm/mL	11/04/2020	11/04/2021
11/04/2020	Christina Kimball	.315	250	1564-X Spike	23.4306 dpm/mL	11/04/2020	11/04/2021
03/19/2021	Matelon DeFreese	2.7599	1000	1564-Y	51.32232 dpm/mL	03/19/2021	03/19/2022
03/19/2021	Matelon DeFreese	2.7599	1000	1564-Z	51.32232 dpm/mL	03/20/2021	03/20/2022

Verification for U-232 Standard 1564-PP

v1.2

Analyst	MSD
Verification Prep Date	3/17/2026

Tracer Information	
Isotope	U-238
Serial Number	1600-S
Amount of Std. (mL)	0.2
Expiration Date	5/13/2026

Standard Information	
Isotope	U-232
Serial Number	1564-PP
Isotope Halflife	68.9000 Y
Reference Date	9/12/2011
Ref. Act. (dpm/mL)	69.7135
Amount of Std. (mL)	0.2
Standard Prep Date	3/17/2026

Std #	Count Date	Activity pCi	Standard dpm/mL
1	3/17/2026	5.370	59.61
2	3/17/2026	5.630	62.49
3	3/17/2026	5.270	58.50
Mean Value =		5.423	60.199
Stdev =		0.185831465	2.06272926

	pCi	dpm/mL
Certificate Value* =	**5.4274**	**60.2447**
Two sigma =	0.3717	4.1255
10 % of Mean =	0.5423	6.0199
Rule A (Pass/Fail)	**Pass**	**Pass**
% Recovery	99.92%	99.92%
Rule B (Pass/Fail)	**Pass**	**Pass**
Expiration Date	**3/17/2027**	

Verification Rules

Rule A = The two sigma value used for the 95% confidence interval shall not exceed 10% of the mean value of the three verification measurements.

Rule B = The determined mean value shall be within 5% of the certificate value.

*** Certificate Value is decay corrected to Verification Prep Date.**

The analyst prepared three standard verification sources for U-232 standard 1564-PP using 0.2 mL for each source. Each standard was combined with 0.2 mL of U-238 standard 1600-S and was diluted in a centrifuge tube containing 15 mL of 0.1M HCL diluted to 40 mL with DI water. 0.1 mL of neodymium carrier, 0.5 mL of titanium (III) chloride, and 5 mL of 48% HF was added to precipitate neodymium (and Uranium) fluoride. After 30 minutes, each sample was filtered following routine procedures for alpha spectroscopy source preparation. Each source was counted using routine alpha spec procedures. DPM values for U-232 were calculated by comparison to U-238 certified values.

MSD 3-23-26

Eckert & Ziegler
Isotope Products

24937 Avenue Tibbitts
Valencia, California 91355

Tel 661·309·1010
Fax 661·257·8303

HE Rec 3/29/12
1600

CERTIFICATE OF CALIBRATION
ALPHA STANDARD SOLUTION

Radionuclide:	U-238 (Nat)	**Customer:**	GENERAL ENGINEERING LABS.
Half-life:	(4.468 ± 0.005)E+09 years	**P.O. No.:**	936823 RD
Catalog No.:	7338	**Reference Date:**	15-Apr-12 12:00 PST
Source No.:	1577-71-2	**Contained Radioactivity: (Total Uranium)**	1.023 µCi 37.85 kBq

Physical Description:

A. Mass of solution:	7.05210 g in 10 mL flame-sealed ampoule
B. Chemical form:	$UO_2(NO_3)_2$ in dilute HNO_3
C. Carrier content:	None
D. Density:	Approximately 1.41 g/mL @ 20°C

Radioimpurities:

See Technical Data Sheet

Radionuclide Concentration: 0.1451 µCi/g, 5.369 kBq/g

Method of Calibration:

Activity calculations are based upon known specific activity and mass.

Uncertainty of Measurement:

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

Notes:

- See reverse side for leak test(s) performed on this source.
- EZIP participates in a NIST measurement assurance program to establish and maintain implicit traceability for a number of nuclides, based on the blind assay (and later NIST certification) of Standard Reference Materials (as in NRC Regulatory Guide 4.15).
- Nuclear data was taken from "Table of Radioactive Isotopes", edited by Virginia Shirley, 1986.
- This solution has a working life of 5 years.

Daniel James Van Dalsem
Quality Control

21-Mar-12
Date

EZIP Ref. No.: 1577-71

RC-S-065-030a

Eckert & Ziegler
Isotope Products

24937 Avenue Tibbitts
Valencia, California 91355

Tel 661·309·1010
Fax 661·257·8303

U-238 Natural Technical Data

The U-238 Natural used to prepare your order was taken from Eckert & Ziegler Isotope Products Lot #4550102
It had the following composition as of 9 Feb 10:

Nuclide	Atom %	Activity %
U-234	0.0055	49.086
U-235	0.7200	2.241
U-238	99.274	48.673

Isotopic composition provided by New Brunswick Laboratory.

If you have any question, please contact Eckert & Ziegler Isotope Products Technical Service: (661) 309-1010

Standard Logbook

Serial ID:	1600	**Open/Reference Date:**	15-APR-12	**Aliquot :**	7.0521 g
Name:	Uranium-238	**Received:**	24-MAR-12	**Density :**	Hand Calculated g/mL
Type:	Source Material	**Expires:**	26-MAR-15	**Logbook Num :**	RC-S-065-030
Employee:	Ashley Drochter			**Lot Number :**	4550102
Supplier:	Eckert & Ziegler			**Solvent :**	UO2(NO3)2 in dilute HNO3
				Uncertainty :	1.17 percent

Description: Ampoule

Comments: None

Analyte	Concentration	Analyte	Concentration
Uranium-238	18.42 kbq		

Standard Traceability Log Rad

Source Material Info	
Parent Code:	1600
Prepared By:	Ashley Drochter
Carrier Conc:	UO2(NO3)2 in dilute HNO3
Reference Date:	04/15/2012
Ampoule Mass (g):	7.0521 g
Uncertainty:	+/- 1.17 %
LogBook No:	RC-S-065-030
Supplier:	Eckert & Ziegler

A Solution Material Info			
Isotope:	Uranium-238		
Prepared By:	Ashley Drochter		
Prep Date:	09/04/2012		
Verification Date:	07/06/2026		
Expiration Date:	07/06/2027		
Primary Code:	1600-A		
Dilution(mL):	100 mL		
Mass of Parent(g):	6.8204 g		
Density(g/mL):	1.0789	Balance ID:	38080204

Calculations Converting parent activity to dpm/mL|dpm/g

(Mass of parent(g)) * (Parm Activity (kbq)) * (conversion dpm to kbq) / (Ampoule Mass(g) *(Dilution Vol)) = Parent Activity (dpm/mL)
(Mass of parent(g)) * (Parm Activity (kbq)) * (conversion dpm to kbq) / Density / (Ampoule Mass (g) * (Dilution Vol)) = Parent Activity (dpm/g)
(6.8204 g) * (18.42 kbq) * (60000 dpm/kbq) / (7.0521 g * 100 mL) = 10688.8814 dpm/mL
(6.8204 g) * (18.42 kbq) * (60000 dpm/kbq) / (1.0789 g/mL)/ (7.0521 g * 100 mL) = 9907.0626 dpm/g

Secondary Standards

Prep Date	Preparer	Mass Primary	Dilution (mL)	Code	Conc dpm/mL	Verification Date	Expiration Date
09/04/2012	Ashley Drochter	1.4579	500	1600-B	28.8913 dpm/mL	09/04/2012	09/04/2013
09/11/2012	Ashley Drochter	3.0288	500	1600-C	60.0219 dpm/mL	09/04/2013	09/04/2014
03/27/2014	Tim Chandler	3.0445	500	1600-D	60.3241 dpm/mL	03/18/2015	03/18/2016
07/24/2015	Tim Chandler	3.0177	500	1600-E	59.7931 dpm/mL	07/10/2017	07/10/2018
02/16/2017	Tim Chandler	3.0261	500	1600-F	59.9595 dpm/mL	02/06/2018	02/06/2019
10/10/2017	Christina Kimball	.539	250	1600-G	21.3596 dpm/mL	12/31/2025	12/31/2026
04/02/2018	Tim Chandler	3.0544	500	1600-H	60.5203 dpm/mL	03/29/2019	03/29/2020

06/21/2019	Tim Chandler	3.0536	500	1600-I	60.5044 dpm/mL	06/21/2019	06/21/2020
01/30/2020	Tim Chandler	3.0563	500	1600-J	60.5579 dpm/mL	01/26/2021	01/26/2022
03/13/2020	Christina Kimball	.01222	500	1600-K	.24207 dpm/mL	03/15/2022	03/15/2023
04/23/2021	Tim Chandler	3.0507	500	1600-L	60.4469 dpm/mL	04/26/2021	04/26/2022
01/21/2022	Matelon DeFreese	3.1075	500	1600-M	61.5723941 dpm/mL	01/21/2022	01/21/2023
05/19/2022	Christina Kimball	.01275	500	1600-N	.2527 dpm/mL	05/14/2024	05/14/2025
09/06/2022	Matelon DeFreese	3.1499	500	1600-O	62.412513 dpm/mL	09/06/2022	09/06/2023
05/08/2023	Matelon DeFreese	6.0105	1000	1600-P	59.5463998 dpm/mL	05/03/2024	05/03/2025
05/30/2024	Christina Kimball	.012077	500	1600-Q	.2393 dpm/mL	05/29/2026	05/29/2027
06/10/2024	Matelon DeFreese	6.011	1000	1600-R	59.5513533 dpm/mL	05/22/2025	05/22/2026
05/13/2025	Matelon DeFreese	6.0373	1000	1600-S	59.811909 dpm/mL	05/06/2026	05/06/2027
07/06/2026	Christina Kimball	.011946	500	1600-T	.2367 dpm/mL	07/16/2026	07/16/2027

GEL Laboratories LLC
Version 1.0 9/18/2000

Verification for U-238 Standard 1600-S

v1.2

Analyst	MXS2
Verification Prep Date	5/6/2026

Tracer Information	
Isotope	U-232
Serial Number	1564-PP
Amount of Std. (mL)	0.2
Expiration Date	3/17/2027

Standard Information	
Isotope	U-238
Serial Number	1600-S
Isotope Halflife	4.4680E+09 Y
Reference Date	4/15/2012
Ref. Act. (dpm/mL)	59.811909
Amount of Std. (mL)	0.2
Standard Prep Date	5/13/2025

Std #	Count Date	Activity pCi	Standard dpm/mL
1	5/6/2026	5.070	56.28
2	5/6/2026	5.530	61.38
3	5/6/2026	5.600	62.16
Mean Value =		5.400	59.940
Stdev =		0.287923601	3.195951971

	pCi	dpm/mL
Certificate Value* =	**5.3885**	**59.8119**
Two sigma =	0.5758	6.3919
10 % of Mean =	0.5400	5.9940
Rule A (Pass/Fail)	**Fail**	**Fail**
% Recovery	100.21%	100.21%
Rule B (Pass/Fail)	**Pass**	**Pass**
Expiration Date	**5/6/2027**	

Verification Rules

Rule A = The two sigma value used for the 95% confidence interval shall not exceed 10% of the mean value of the three verification measurements.

Rule B = The determined mean value shall be within 5% of the certificate value.

*** Certificate Value is decay corrected to Verification Prep Date.**

The analyst prepared three standard verification sources for U-238 standard 1600-S using 0.2 mL for each source. Each standard was combined with 0.2 mL of U-232 standard 1564-PP and was diluted in a centrifuge tube containing 20 mL of 0.1M HCL diluted to 40 mL with DI water. 0.1 mL of neodymium carrier, 0.5 mL of titanium (III) chloride, and 5 mL of 48% HF was added to precipitate neodymium (and Uranium) fluoride. After 30 minutes, each sample was filtered following routine procedures for alpha spectroscopy source preparation. Each source was counted using routine alpha spec procedures. DPM values for U-238 were calculated by comparison to U-232 certified values.

MXS 5-11-26

Runlogs

Instrument Run Log

Instrument Type: ALPHA SPECTROMETER **Batch ID: 3034787**

Sample ID	Sample Type	Analyst	Instrument	Run Date	Status	Geometry	Calibration Date
787535002	SAMPLE	SB3	1042	AUG-06-26 08:31:15	DONE		04-AUG-26 11:26
1206541955	MB	SB3	1043	AUG-06-26 08:31:16	DONE		04-AUG-26 11:51
1206541956	DUP	SB3	1044	AUG-06-26 08:31:16	DONE		04-AUG-26 11:51
1206541957	LCS	SB3	1045	AUG-06-26 08:31:16	DONE		04-AUG-26 11:51

Instrument Run Log

Instrument Type: ALPHA SPECTROMETER **Batch ID: 3034788**

Sample ID	Sample Type	Analyst	Instrument	Run Date	Status	Geometry	Calibration Date
787535002	SAMPLE	SB3	1152	AUG-06-26 08:21:04	DONE		13-JUL-26 11:54
1206541958	MB	SB3	1153	AUG-06-26 08:21:06	DONE		13-JUL-26 11:54
1206541959	DUP	SB3	1155	AUG-06-26 08:21:08	DONE		13-JUL-26 11:54
1206541960	LCS	SB3	1156	AUG-06-26 08:21:10	DONE		13-JUL-26 11:54

Gamma Spectroscopy Raw Data

Batch 3033734 Check-list

This check-list was completed on 17-AUG-26 by Tim Winters

This batch was reviewed by Spencer Collins on 17-AUG-26 and Tim Winters on 17-AUG-26.

Batch ID: 3033734 **Product:** GSCGAMMS **Description:** Gamma Spec Solid RAD A-013

#	Criteria	Yes	No	Comments
Preparation Information				
1	Did any sample(s) require dilution?		No	
2	Were all of the samples homogenous? Include sample description if not homogenous	Yes		
3	Was the preservation correct for this analysis?	Yes		
Internal Checklist Information				
4	Are instrument source checks within limits?	Yes		
5	Have sample historical results been reviewed for this batch?	Yes		
Technical Information				
6	Were any additional radionuclides added that were not requested by the client?		No	
7	Were all the samples prepared/analyzed within the required holding time period?	Yes		
Quality Control (QC) Information				
8	Was the method blank (MB) within the acceptance criteria?	Yes		
9	Were the laboratory control sample (LCS/LCSD) recoveries within the acceptance limits?	Yes		
10	Were the relative percent differences and/or error (RPD/RER) between the sample and its duplicate within acceptable limits?	Yes		
11	Has the method required detection limit been met?	Yes		
Miscellaneous Information				
12	Are sample-specific MDA/MDC calculated and reported?	Yes		

Prep Logbook

Gamma Spectroscopy

Batch ID: **3033734**
Analyst: Gianna Geberth (GG)
Method: DOE HASL 300, 4.5.2.3/Ga-01-R
Lab SOP: GL-RAD-A-013 REV# 30
Instrument: No instrument-manual method

Due Dates for Lab: 18-AUG-2026 **Hold: 26-JUL-2026** **Package: 19-AUG-2026** **SDG: 20-AU**

Type	Sample Id	Description	Serial Number	Spike Amount	Spike Units
LCS	1206539884	84680-278	1556	1	mL

#	Sample ID	Prep Date	Min RDL (pCi/g)	Dry or Wet	Unadjusted Aliquot (g)	Aliquot (g)	Adjusted Aliquot (g)
1	787521001	28-JUL-2026	.1	Dry to Dry	11.02	11.02	11.02
2	787535001	27-JUL-2026	.1	Dry to Dry	81.85	81.85	81.85
3	787535002	27-JUL-2026	.1	Dry to Dry	112.88	112.88	112.88
4	787535003	27-JUL-2026	.1	Dry to Dry	149.31	149.31	149.31
5	787535004	27-JUL-2026	.1	Dry to Dry	98.74	98.74	98.74
6	787535005	27-JUL-2026	.1	Dry to Dry	128.7	128.7	128.7
7	787535006	27-JUL-2026	.1	Dry to Dry	126.92	126.92	126.92
8	787535007	27-JUL-2026	.1	Dry to Dry	116.25	116.25	116.25
9	787535008	27-JUL-2026	.1	Dry to Dry	104.68	104.68	104.68
10	787944001	28-JUL-2026	5	Dry to Dry	146.77	146.77	146.77
11	1206539882 MB	28-JUL-2026	.1	Dry to Wet	149.31	149.31	149.31
12	1206539883 DUP (787521001)	28-JUL-2026	.1	Dry to Dry	11.02	11.02	11.02
13	1206539884 LCS	28-JUL-2026	.1	Dry to Wet	115	115	115

Reagent/Solvent Lot ID	Description	Amount

Comments:

VAX/VMS Nuclide Identification Report Generated 17-AUG-2026 07:02:50.88

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*************************************************************************
*                            GEL Laboratories LLC                       *
*                              2040 Savage Road                         *
*                            Charleston, SC 29407                       *
*************************************************************************
Configuration    : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G787521001.CNF;1
Background file  : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]BKG_GAM16.CNF;977
                                       Background date  : 16-AUG-2026 08:54:54
Sample date      : 21-JUL-2026 10:00:00 Acquisition date : 17-AUG-2026 06:02:27
Sample ID        : G787521001           Sample quantity  : 1.10200E+01 GRAM
Detector name    : GAM16                Detector geometry: CAN
Elapsed live time: 0 01:00:00.00        Elapsed real time: 0 01:00:00.37  0.0%
Energy tolerance : 1.50000 keV          Analyst Initials : GG
Abundance limit  : 75.00000             Sensitivity      : 3.00000
Batch ID         : 3033734              Detector SN#     :
Matrix Spike ID  :                      LCS ID           :
*************************************************************************
```

BACKGROUND CORRECTED SAMPLE PEAK REPORT

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	1	63.18*	9	33	1.05	126.81	122	16	2.38E-03	128.9	4.11E+00
2	1	64.87*	1	33	1.05	130.19	122	16	3.18E-04	955.1	
3	1	66.37*	1	33	1.06	133.19	122	16	3.40E-04	876.1	
4	0	85.36*	9	60	0.95	171.15	166	8	2.44E-03	163.3	
5	5	90.00	22	13	1.22	180.42	179	11	6.06E-03	27.4	4.61E+00
6	5	92.16*	15	68	1.64	184.76	179	11	4.20E-03	120.2	
7	0	238.82*	30	47	2.83	477.98	472	11	8.47E-03	49.8	
8	0	304.44	25	16	1.58	609.20	605	8	7.01E-03	33.8	
9	0	499.95*	11	13	1.45	1000.13	993	10	2.93E-03	78.0	
10	0	621.09	9	6	0.54	1242.39	1238	8	2.56E-03	56.5	
11	0	666.21	13	12	0.69	1332.61	1326	10	3.59E-03	58.0	
12	0	753.73	10	7	1.33	1507.65	1502	9	2.88E-03	54.6	
13	0	1000.29*	7	0	0.73	2000.78	1995	9	1.86E-03	49.4	
14	0	1459.91*	2	0	1.56	2920.15	2916	9	6.74E-04	163.8	
15	0	1762.61*	11	0	1.18	3525.74	3519	13	3.12E-03	41.5	

Flag: "*" = Peak area was modified by background subtraction

VMS Nuclide Identification Report V3.1 Generated 17-AUG-2026 07:02:52

Configuration	: DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G787521001.CNF;1		
Analyses by	: PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.4		
Sample title	: GG		
Sample date	: 21-JUL-2026 10:00:00	Acquisition date	: 17-AUG-2026 06:02:27
Sample ID	: G787521001	Sample quantity	: 11.020 GRAM
Sample type	: SOLID	Sample geometry	:
Detector name	: GAMMA16	Detector geometry	: CAN
Elapsed live time	: 0 01:00:00.00	Elapsed real time	: 0 01:00:00.37 0.0%
Energy tolerance	: 1.50 keV	Half life ratio	: 10.00
Errors propagated	: No	Systematic Error	: 0.00 %
Efficiency type	: Empirical	Efficiencies at	: Peak Energy
Abundance limit	: 75.00		

Interference Report

No interference correction performed

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
K-40	1460.82	2	10.66*	1.225E+00	1.114E+00	1.114E+00	327.64
RH-106	621.93	7	9.93*	2.694E+00	1.773E+00	1.864E+00	112.96
	1050.41	------	1.56	1.651E+00	------ Line Not Found		------
RU-106	621.93	7	9.93*	2.694E+00	1.773E+00	1.864E+00	112.96
	1050.41	------	1.56	1.651E+00	------ Line Not Found		------
PA-234M	63.29	4	3.70*	2.696E+00	2.500E+00	2.500E+00	257.84
	92.59	7	4.23	6.217E+00	1.886E+00	1.886E+00	240.43
TH-234	63.29	4	3.70*	2.696E+00	2.500E+00	2.500E+00	257.84
	92.59	7	4.23	6.217E+00	1.886E+00	1.886E+00	240.43
U-238	63.29	4	3.70*	2.696E+00	2.500E+00	2.500E+00	257.84
	92.59	7	4.23	6.217E+00	1.886E+00	1.886E+00	240.43

Flag: "*" = Keyline

VAX/VMS Nuclide Identification Report Generated 17-AUG-2026 07:02:52.87

```
*****************************************************************************
*                            GEL Laboratories LLC                           *
*                              2040 Savage Road                             *
*                            Charleston, SC 29407                           *
*****************************************************************************
*                                                                           *
*                          DETECTOR AND SAMPLE DATA                         *
*                                                                           *
* Configuration    : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G787521001.CNF;1   *
* Acquisition date : 17-AUG-2026 06:02:27 Sensitivity     : 3.000           *
* Detector ID      : GAM16                Energy tolerance: 1.500           *
* Elapsed live time:    0 01:00:00.00     Abundance limit : 75.000          *
* Elapsed real time:    0 01:00:00.37     Half life ratio : *****           *
* Sample date      : 21-JUL-2026 10:00:00 Analyst initials: GG              *
* Sample ID        : G787521001           Sample Quantity : 1.1020E+01 GRAM *
* Batch Number     : 3033734              Wet Weight      :    0.00000      *
* Wet wt corr      :    1.00000           Dry Weight      :    0.00000      *
* Nuclide Library  : SOLID.NLB;19                                           *
*****************************************************************************
*                                                                           *
*                          CALIBRATION INFORMATION                          *
*                                                                           *
* Eff. Cal. date   : 20-MAR-2026 15:37:42 Eff. Geometry   : CAN             *
* Eff. File        : DKA100:[CANBERRA.GAMMA]EFF_GAM16_CAN.CNF;26            *
*****************************************************************************
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Combined Activity-MDA Report

NOTE: Not all "Identified Nuclides" are valid.
Please refer to Certificate of Analysis.

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Cnt uncert (1.96-sigma)	MDA (pCi/GRAM)
K-40	1.114E+00	3.576E+00	1.362E+00
RH-106	1.864E+00	2.064E+00	4.518E+00
RU-106	1.864E+00	2.064E+00	4.518E+00
PA-234M	2.500E+00	6.316E+00	1.317E+01
TH-234	2.500E+00	6.316E+00	1.317E+01
U-238	2.500E+00	6.316E+00	1.317E+01

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Cnt Uncert (1.96-sigma)	MDA (pCi/GRAM)	
BE-7	-1.482E+00	2.946E+00	4.641E+00	NOT IDENT.
NA-22	-1.364E-01	2.239E-01	4.325E-01	NOT IDENT.
NA-24	0.000E+00	2.193E+12	0.000E+00	SHORT HLIF
AL-26	-7.327E-03	1.863E-01	4.542E-01	NOT IDENT.
SC-46	3.032E-01	2.747E-01	6.778E-01	NOT IDENT.
V-48	1.170E-01	8.195E-01	1.700E+00	NOT IDENT.
CR-51	6.485E-01	3.423E+00	6.067E+00	NOT IDENT.
MN-52	1.630E+00	5.327E+00	1.391E+01	NOT IDENT.
MN-54	-2.691E-01	3.097E-01	5.067E-01	NOT IDENT.
CO-56	1.469E-01	3.383E-01	7.094E-01	NOT IDENT.
MN-56	0.000E+00	1.960E+41	0.000E+00	SHORT HLIF
CO-57	-1.191E-02	1.480E-01	2.489E-01	NOT IDENT.
CO-58	1.998E-01	2.934E-01	6.580E-01	NOT IDENT.
FE-59	-1.229E-01	5.681E-01	1.143E+00	NOT IDENT.
CO-60	-1.569E-01	2.705E-01	4.637E-01	NOT IDENT.
ZN-65	1.963E-01	3.631E-01	9.617E-01	NOT IDENT.
GE-68	1.056E+00	8.629E+00	1.810E+01	NOT IDENT.
AS-73	1.989E+00	8.743E+00	1.287E+01	NOT IDENT.
AS-74	-5.045E-01	1.063E+00	1.680E+00	NOT IDENT.
SE-75	1.906E-01	3.060E-01	5.704E-01	NOT IDENT.
BR-77	0.000E+00	2.504E+03	0.000E+00	SHORT HLIF
SR-82	1.190E+00	3.426E+00	7.071E+00	NOT IDENT.
RB-83	-3.375E-02	5.096E-01	8.997E-01	NOT IDENT.
RB-84	-2.296E-02	5.417E-01	1.101E+00	NOT IDENT.

KR-85	-5.785E+01	6.635E+01	9.653E+01	NOT IDENT.
SR-85	-3.465E-01	3.978E-01	5.789E-01	NOT IDENT.
RB-86	1.101E+00	8.179E+00	1.719E+01	NOT IDENT.
Y-88	-9.142E-03	2.251E-01	5.477E-01	NOT IDENT.
Y-91	4.385E+01	1.495E+02	3.268E+02	NOT IDENT.
NB-94	3.014E-02	3.472E-01	5.945E-01	NOT IDENT.
NB-95	-2.896E-02	3.524E-01	6.717E-01	NOT IDENT.
NB-95M	-3.116E-01	8.434E-01	1.262E+00	NOT IDENT.
ZR-95	-2.965E-01	6.277E-01	9.810E-01	NOT IDENT.
NB-97	0.000E+00	1.960E+41	0.000E+00	SHORT HLIF
ZR-97	0.000E+00	1.588E+12	0.000E+00	SHORT HLIF
MO-99	3.599E+02	1.128E+03	2.434E+03	NOT IDENT.
TC-99M	0.000E+00	2.522E+31	0.000E+00	SHORT HLIF
RH-101	8.689E-02	2.244E-01	3.846E-01	NOT IDENT.
RH-102	-8.845E-02	2.656E-01	4.553E-01	NOT IDENT.
RU-103	2.216E-02	3.746E-01	6.188E-01	NOT IDENT.
AG-108M	2.704E-02	2.086E-01	3.737E-01	NOT IDENT.
CD-109	6.382E+00	4.511E+00	7.902E+00	NOT IDENT.
AG-110	-4.350E+00	6.558E+00	9.768E+00	NOT IDENT.
AG-110M	4.959E-02	2.466E-01	5.620E-01	FAIL ABUN
SN-113	-1.680E-02	3.256E-01	5.638E-01	NOT IDENT.
CD-115	0.000E+00	2.388E+03	0.000E+00	SHORT HLIF
SN-117M	2.560E-01	6.392E-01	1.118E+00	NOT IDENT.
SB-122	1.611E+02	2.721E+02	5.403E+02	NOT IDENT.
TE-123M	6.842E-02	1.885E-01	3.301E-01	NOT IDENT.
SB-124	3.053E-01	1.008E+00	2.233E+00	NOT IDENT.
SB-125	-8.385E-02	6.036E-01	1.038E+00	NOT IDENT.
TE-125M	1.484E+01	7.116E+01	1.212E+02	NOT IDENT.
I-126	3.415E+00	3.885E+00	6.845E+00	FAIL ABUN
SB-126	-1.504E-01	1.724E+00	3.090E+00	FAIL ABUN
SN-126	2.380E-01	4.954E-01	7.476E-01	FAIL ABUN
SB-127	8.782E+00	7.027E+01	1.321E+02	NOT IDENT.
I-131	-7.363E-01	2.442E+00	4.003E+00	NOT IDENT.
I-132	0.000E+00	1.590E+41	0.000E+00	SHORT HLIF
TE-132	-5.272E+00	6.479E+01	1.082E+02	NOT IDENT.
BA-133	5.604E-02	2.990E-01	5.308E-01	NOT IDENT.
I-133	0.000E+00	4.008E+08	0.000E+00	SHORT HLIF
CS-134	5.542E-02	3.078E-01	6.177E-01	NOT IDENT.
I-135	0.000E+00	2.479E+29	0.000E+00	SHORT HLIF
CS-136	2.623E-01	1.201E+00	2.623E+00	NOT IDENT.
BA-137M	-2.523E-01	3.582E-01	4.659E-01	NOT IDENT.
CS-137	-2.666E-01	3.784E-01	4.921E-01	NOT IDENT.
LA-138	-2.982E-02	2.159E-01	5.259E-01	NOT IDENT.
CE-139	1.519E-01	2.001E-01	3.634E-01	NOT IDENT.
BA-140	-3.501E+00	3.891E+00	5.496E+00	FAIL ABUN
LA-140	-6.154E-01	1.548E+00	2.795E+00	NOT IDENT.
CE-141	4.584E-01	5.086E-01	9.261E-01	NOT IDENT.
CE-143	0.000E+00	2.647E+05	0.000E+00	SHORT HLIF
CE-144	-9.488E-01	1.209E+00	1.863E+00	NOT IDENT.
PM-144	1.263E-02	2.733E-01	4.847E-01	NOT IDENT.
PR-144	6.837E-01	2.053E+01	3.632E+01	NOT IDENT.
PM-146	1.080E-01	3.058E-01	5.674E-01	NOT IDENT.
ND-147	5.166E-01	7.569E+00	1.383E+01	FAIL ABUN
PM-147	-4.055E+02	4.069E+03	6.855E+03	NOT IDENT.
PM-149	0.000E+00	2.129E+04	0.000E+00	SHORT HLIF
EU-150	1.966E-01	1.872E-01	3.688E-01	NOT IDENT.
EU-152	6.171E-02	6.859E-01	1.199E+00	NOT IDENT.
GD-153	-1.528E-01	4.524E-01	7.405E-01	NOT IDENT.
EU-154	-4.126E-01	6.181E-01	1.169E+00	NOT IDENT.
EU-155	3.067E-01	5.635E-01	1.015E+00	FAIL ABUN
TB-160	-1.329E-01	1.091E+00	2.110E+00	FAIL ABUN
HO-166M	-4.232E-02	4.437E-01	7.727E-01	FAIL ABUN
TM-171	-7.634E+01	1.933E+02	2.526E+02	FAIL ABUN
HF-172	5.474E-01	1.351E+00	2.322E+00	FAIL ABUN
LU-172	-1.484E-01	3.118E-01	5.764E-01	FAIL ABUN
LU-176	3.766E-02	1.593E-01	2.743E-01	NOT IDENT.
HF-181	-1.364E-01	4.189E-01	6.842E-01	NOT IDENT.
TA-182	-3.115E-01	1.159E+00	2.232E+00	FAIL ABUN
RE-183	2.600E-02	1.846E+00	2.621E+00	FAIL ABUN
RE-184	3.832E-02	1.210E+00	2.391E+00	NOT IDENT.
W-188	1.731E+01	5.585E+01	9.963E+01	FAIL ABUN
IR-192	-1.546E-01	2.711E-01	4.266E-01	NOT IDENT.
HG-203	-2.191E-01	2.912E-01	4.453E-01	NOT IDENT.
TL-204	-1.284E+01	3.084E+01	4.035E+01	NOT IDENT.
BI-207	1.537E-01	3.764E-01	8.179E-01	NOT IDENT.
TL-208	-2.044E-01	3.146E-01	5.208E-01	NOT IDENT.
BI-210	2.276E+01	4.135E+01	6.328E+01	NOT IDENT.
PB-210	2.276E+01	4.135E+01	6.328E+01	NOT IDENT.

BI-211	-6.704E-01	1.683E+00	2.818E+00	NOT IDENT.
PB-211	6.055E-01	5.426E+00	9.503E+00	NOT IDENT.
BI-212	6.680E-01	3.039E+00	5.927E+00	NOT IDENT.
PB-212	5.391E-01	5.263E-01	8.633E-01	FAIL ABUN
BI-213	-4.398E-02	8.039E-01	1.378E+00	NOT IDENT.
BI-214	-5.039E-01	7.016E-01	1.210E+00	NOT IDENT.
PB-214	2.371E-01	5.867E-01	1.091E+00	NOT IDENT.
RN-219	-1.458E+00	2.764E+00	4.369E+00	NOT IDENT.
RN-222	2.371E-01	5.867E-01	1.091E+00	NOT IDENT.
RA-223	2.665E+00	4.311E+00	8.104E+00	NOT IDENT.
RA-224	2.705E-01	4.564E+00	7.026E+00	NOT IDENT.
AC-225	1.057E+01	1.041E+01	1.904E+01	NOT IDENT.
RA-226	2.371E-01	5.867E-01	1.091E+00	NOT IDENT.
AC-227	5.031E-01	1.816E+00	3.184E+00	FAIL ABUN
TH-227	5.031E-01	1.816E+00	3.184E+00	FAIL ABUN
AC-228	-5.953E-01	1.462E+00	2.853E+00	NOT IDENT.
RA-228	-5.953E-01	1.462E+00	2.853E+00	NOT IDENT.
TH-228	5.391E-01	5.263E-01	8.633E-01	FAIL ABUN
TH-229	6.902E-01	3.404E+00	5.876E+00	FAIL ABUN
TH-230	2.371E-01	5.866E-01	1.091E+00	NOT IDENT.
PA-231	-5.991E-01	3.494E+00	5.392E+00	NOT IDENT.
TH-231	2.665E+00	4.311E+00	8.104E+00	NOT IDENT.
TH-232	-5.953E-01	1.462E+00	2.853E+00	NOT IDENT.
PA-233	9.156E-02	3.865E-01	7.045E-01	NOT IDENT.
PA-234	-1.178E+00	1.907E+00	3.305E+00	NOT IDENT.
U-234	2.371E-01	5.866E-01	1.091E+00	NOT IDENT.
U-235	-6.337E-01	1.312E+00	2.037E+00	FAIL ABUN
NP-237	9.156E-02	3.865E-01	7.045E-01	NOT IDENT.
NP-238	0.000E+00	5.676E+03	0.000E+00	SHORT HLIF
NP-239	2.933E-01	1.788E+00	3.023E+00	NOT IDENT.
PU-239	-1.545E+03	2.158E+03	3.350E+03	NOT IDENT.
AM-241	-2.567E-02	1.065E+00	1.525E+00	NOT IDENT.
AM-243	1.768E-01	3.348E-01	5.138E-01	NOT IDENT.
CM-243	-3.875E-01	5.939E-01	9.323E-01	NOT IDENT.
BK-247	2.603E-01	5.047E-01	9.323E-01	FAIL ABUN
CM-247	5.943E-03	2.597E-01	4.542E-01	NOT IDENT.
CF-249	3.552E-02	2.690E-01	4.808E-01	NOT IDENT.
CF-251	-3.029E-01	7.775E-01	1.260E+00	NOT IDENT.
ANH-511	-8.913E-01	4.382E-01	7.887E-01	NOT IDENT.

VAX/VMS Nuclide Identification Report Generated 17-AUG-2026 07:02:51.63

Nuclide Line Activity Report

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
K-40	1460.82	2	10.66*	1.225E+00	1.114E+00	1.114E+00	327.64
RH-106	621.93	7	9.93*	2.694E+00	1.773E+00	1.864E+00	112.96
	1050.41	------	1.56	1.651E+00	------ Line Not Found		------
RU-106	621.93	7	9.93*	2.694E+00	1.773E+00	1.864E+00	112.96
	1050.41	------	1.56	1.651E+00	------ Line Not Found		------
PA-234M	63.29	4	3.70*	2.696E+00	2.500E+00	2.500E+00	257.84
	92.59	7	4.23	6.217E+00	1.886E+00	1.886E+00	240.43
TH-234	63.29	4	3.70*	2.696E+00	2.500E+00	2.500E+00	257.84
	92.59	7	4.23	6.217E+00	1.886E+00	1.886E+00	240.43
U-238	63.29	4	3.70*	2.696E+00	2.500E+00	2.500E+00	257.84
	92.59	7	4.23	6.217E+00	1.886E+00	1.886E+00	240.43

Flag: "*" = Keyline

Sample ID : G787521001 Acquisition date : 17-AUG-2026 06:02:27

Total number of lines in spectrum	15	
Number of unidentified lines	3	
Number of lines tentatively identified by NID	12	80.00%

Nuclide Type :

Nuclide	Hlife	Decay	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
K-40	1.25E+09Y	1.00	1.114E+00	1.114E+00	3.649E+00	327.64	
RH-106	371.80D	1.05	1.773E+00	1.864E+00	2.106E+00	112.96	
RU-106	371.80D	1.05	1.773E+00	1.864E+00	2.106E+00	112.96	
PA-234M	4.47E+09Y	1.00	2.500E+00	2.500E+00	6.445E+00	257.84	
TH-234	4.47E+09Y	1.00	2.500E+00	2.500E+00	6.445E+00	257.84	
U-238	4.47E+09Y	1.00	2.500E+00	2.500E+00	6.445E+00	257.84	
Total Activity :			1.216E+01	1.234E+01			
Grand Total Activity :			1.216E+01	1.234E+01			

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

Sample ID : G787521001 Acquisition date : 17-AUG-2026 06:02:27

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
1	66.37	1	14	1.06	133.19	122	16	3.40E-04	****	3.19E+00	T
0	85.36	4	28	0.95	171.15	166	8	2.44E-03	****	5.64E+00	T
5	90.00	10	6	1.22	180.42	179	11	6.06E-03	54.7	6.05E+00	T
0	238.82	19	29	2.83	477.98	472	11	8.47E-03	99.6	5.47E+00	T
0	304.44	17	10	1.58	609.20	605	8	7.01E-03	67.7	4.63E+00	T
0	499.95	8	10	1.45	1000.13	993	10	2.93E-03	****	3.22E+00	
0	666.21	10	9	0.69	1332.61	1326	10	3.59E-03	****	2.53E+00	T
0	753.73	8	5	1.33	1507.65	1502	9	2.88E-03	****	2.27E+00	T
0	1000.29	6	0	0.73	2000.78	1995	9	1.86E-03	98.7	1.73E+00	
0	1762.61	10	0	1.18	3525.74	3519	13	3.12E-03	83.0	1.09E+00	

Flags: "T" = Tentatively associated

VAX/VMS Nuclide Identification Report Generated 17-AUG-2026 07:03:03.03

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*********************************************************************************
*                            GEL Laboratories LLC                                 *
*                              2040 Savage Road                                   *
*                            Charleston, SC 29407                                 *
*********************************************************************************
*                                                                                *
*                          DETECTOR AND SAMPLE DATA                              *
*                                                                                *
* Configuration    : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G787521001.CNF;1       *
* Acquisition date : 17-AUG-2026 06:02:27 Sensitivity     : 3.000               *
* Detector ID      : GAM16                Energy tolerance: 1.500               *
* Elapsed live time:    0 01:00:00.00     Abundance limit : 75.000              *
* Elapsed real time:    0 01:00:00.37     Half life ratio : *****               *
* Sample date      : 21-JUL-2026 10:00:00 Nuclide Library : SOLID               *
* Sample ID        : G787521001           Analyst initials: GG                  *
* Batch Number     : 3033734              Sample Quantity : 1.1020E+01 GRAM     *
* Wet wt corr      :    1.00000           Wet Weight      :    0.00000          *
*                                         Dry Weight      :    0.00000          *
*********************************************************************************
*                                                                                *
*                          CALIBRATION INFORMATION                               *
*                                                                                *
* Eff. Cal. date   : 20-MAR-2026 15:37:42 Eff. Geometry   : CAN                  *
* Eff. File        : DKA100:[CANBERRA.GAMMA]EFF_GAM16_CAN.CNF;26                 *
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Combined Critical Level Report

NOTE: Not all "Identified Nuclides" are valid.
Please refer to Certificate of Analysis.

---- Identified Nuclides ----

Nuclide	Lc (pCi/GRAM)
K-40	0.000E+00
RH-106	1.923E+00
RU-106	1.923E+00
PA-234M	5.829E+00
TH-234	5.829E+00
U-238	5.829E+00

---- Non-Identified Nuclides ----

Nuclide	Lc (pCi/GRAM)	
BE-7	1.977E+00	NOT IDENT.
NA-22	1.508E-01	NOT IDENT.
NA-24	0.000E+00	SHORT HLIF
AL-26	1.435E-01	NOT IDENT.
SC-46	2.831E-01	NOT IDENT.
V-48	6.913E-01	NOT IDENT.
CR-51	2.669E+00	NOT IDENT.
MN-52	4.959E+00	NOT IDENT.
MN-54	2.088E-01	NOT IDENT.
CO-56	3.005E-01	NOT IDENT.
MN-56	0.000E+00	SHORT HLIF
CO-57	1.108E-01	NOT IDENT.
CO-58	2.757E-01	NOT IDENT.
FE-59	4.221E-01	NOT IDENT.
CO-60	1.643E-01	NOT IDENT.
ZN-65	3.608E-01	NOT IDENT.
GE-68	7.245E+00	NOT IDENT.
AS-73	5.715E+00	NOT IDENT.
AS-74	6.923E-01	NOT IDENT.
SE-75	2.534E-01	NOT IDENT.
BR-77	0.000E+00	SHORT HLIF
SR-82	2.996E+00	NOT IDENT.
RB-83	3.750E-01	NOT IDENT.
RB-84	4.368E-01	NOT IDENT.
KR-85	4.205E+01	NOT IDENT.

SR-85	2.522E-01	NOT IDENT.
RB-86	6.889E+00	NOT IDENT.
Y-88	1.731E-01	NOT IDENT.
Y-91	1.313E+02	NOT IDENT.
NB-94	2.617E-01	NOT IDENT.
NB-95	2.842E-01	NOT IDENT.
NB-95M	5.514E-01	NOT IDENT.
ZR-95	3.968E-01	NOT IDENT.
NB-97	0.000E+00	SHORT HLIF
ZR-97	0.000E+00	SHORT HLIF
MO-99	9.477E+02	NOT IDENT.
TC-99M	0.000E+00	SHORT HLIF
RH-101	1.760E-01	NOT IDENT.
RH-102	1.694E-01	NOT IDENT.
RU-103	2.633E-01	NOT IDENT.
AG-108M	1.610E-01	NOT IDENT.
CD-109	3.582E+00	NOT IDENT.
AG-110	4.085E+00	NOT IDENT.
AG-110M	2.151E-01	FAIL ABUN
SN-113	2.429E-01	NOT IDENT.
CD-115	0.000E+00	SHORT HLIF
SN-117M	5.062E-01	NOT IDENT.
SB-122	2.316E+02	NOT IDENT.
TE-123M	1.489E-01	NOT IDENT.
SB-124	8.862E-01	NOT IDENT.
SB-125	4.401E-01	NOT IDENT.
TE-125M	5.490E+01	NOT IDENT.
I-126	2.990E+00	FAIL ABUN
SB-126	1.240E+00	FAIL ABUN
SN-126	3.382E-01	FAIL ABUN
SB-127	5.416E+01	NOT IDENT.
I-131	1.747E+00	NOT IDENT.
I-132	0.000E+00	SHORT HLIF
TE-132	4.862E+01	NOT IDENT.
BA-133	2.330E-01	NOT IDENT.
I-133	0.000E+00	SHORT HLIF
CS-134	2.609E-01	NOT IDENT.
I-135	0.000E+00	SHORT HLIF
CS-136	1.040E+00	NOT IDENT.
BA-137M	1.955E-01	NOT IDENT.
CS-137	2.066E-01	NOT IDENT.
LA-138	1.538E-01	NOT IDENT.
CE-139	1.648E-01	NOT IDENT.
BA-140	2.255E+00	FAIL ABUN
LA-140	1.048E+00	NOT IDENT.
CE-141	4.220E-01	NOT IDENT.
CE-143	0.000E+00	SHORT HLIF
CE-144	8.258E-01	NOT IDENT.
PM-144	2.051E-01	NOT IDENT.
PR-144	1.535E+01	NOT IDENT.
PM-146	2.461E-01	NOT IDENT.
ND-147	5.765E+00	FAIL ABUN
PM-147	3.038E+03	NOT IDENT.
PM-149	0.000E+00	SHORT HLIF
EU-150	1.645E-01	NOT IDENT.
EU-152	5.259E-01	NOT IDENT.
GD-153	3.261E-01	NOT IDENT.
EU-154	4.002E-01	NOT IDENT.
EU-155	4.535E-01	FAIL ABUN
TB-160	8.652E-01	FAIL ABUN
HO-166M	3.199E-01	FAIL ABUN
TM-171	1.120E+02	FAIL ABUN
HF-172	1.062E+00	FAIL ABUN
LU-172	1.981E-01	FAIL ABUN
LU-176	1.180E-01	NOT IDENT.
HF-181	2.930E-01	NOT IDENT.
TA-182	8.476E-01	FAIL ABUN
RE-183	1.160E+00	FAIL ABUN
RE-184	9.940E-01	NOT IDENT.
W-188	4.424E+01	FAIL ABUN
IR-192	1.848E-01	NOT IDENT.
HG-203	1.921E-01	NOT IDENT.
TL-204	1.764E+01	NOT IDENT.
BI-207	3.370E-01	NOT IDENT.
TL-208	2.252E-01	NOT IDENT.
BI-210	2.838E+01	NOT IDENT.
PB-210	2.838E+01	NOT IDENT.
BI-211	1.256E+00	NOT IDENT.

PB-211	4.166E+00	NOT IDENT.
BI-212	2.414E+00	NOT IDENT.
PB-212	3.977E-01	FAIL ABUN
BI-213	5.980E-01	NOT IDENT.
BI-214	5.368E-01	NOT IDENT.
PB-214	4.900E-01	NOT IDENT.
RN-219	1.851E+00	NOT IDENT.
RN-222	4.900E-01	NOT IDENT.
RA-223	3.585E+00	NOT IDENT.
RA-224	3.148E+00	NOT IDENT.
AC-225	8.732E+00	NOT IDENT.
RA-226	4.900E-01	NOT IDENT.
AC-227	1.427E+00	FAIL ABUN
TH-227	1.427E+00	FAIL ABUN
AC-228	1.249E+00	NOT IDENT.
RA-228	1.249E+00	NOT IDENT.
TH-228	3.977E-01	FAIL ABUN
TH-229	2.646E+00	FAIL ABUN
TH-230	4.900E-01	NOT IDENT.
PA-231	2.366E+00	NOT IDENT.
TH-231	3.585E+00	NOT IDENT.
TH-232	1.249E+00	NOT IDENT.
PA-233	3.052E-01	NOT IDENT.
PA-234	1.255E+00	NOT IDENT.
U-234	4.900E-01	NOT IDENT.
U-235	9.168E-01	FAIL ABUN
NP-237	3.052E-01	NOT IDENT.
NP-238	0.000E+00	SHORT HLIF
NP-239	1.374E+00	NOT IDENT.
PU-239	1.502E+03	NOT IDENT.
AM-241	6.642E-01	NOT IDENT.
AM-243	2.310E-01	NOT IDENT.
CM-243	4.115E-01	NOT IDENT.
BK-247	4.127E-01	FAIL ABUN
CM-247	1.965E-01	NOT IDENT.
CF-249	2.079E-01	NOT IDENT.
CF-251	5.593E-01	NOT IDENT.
ANH-511	3.677E-01	NOT IDENT.

VAX/VMS Nuclide Identification Report Generated 17-AUG-2026 07:03:07.27

GEL Laboratories LLC
2040 Savage Road
Charleston, SC 29407

DETECTOR AND SAMPLE DATA

Configuration	: DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G787521001.CNF;1		
Acquisition date	: 17-AUG-2026 06:02:27	Sensitivity	: 3.000
Detector ID	: GAM16	Energy tolerance	: 1.500
Elapsed live time	: 0 01:00:00.00	Abundance limit	: 75.000
Elapsed real time	: 0 01:00:00.37	Half life ratio	: *****
Sample date	: 21-JUL-2026 10:00:00	Nuclide Library	: SOLID
Sample ID	: G787521001	Analyst initials	: GG
Batch Number	: 3033734	Sample Quantity	: 1.1020E+01 GRAM
		Quantity Err(%)	: 3.0853E-03 %
Wet wt corr	: 1.00000	Wet Weight	: 0.00000
		Dry Weight	: 0.00000

CALIBRATION INFORMATION

Eff. Cal. date	: 20-MAR-2026 15:37:42	Eff. Geometry	: CAN
Eff. File	: DKA100:[CANBERRA.GAMMA]EFF_GAM16_CAN.CNF;26		

Combined Activity-MDA Report

NOTE: Not all "Identified Nuclides" are valid.
Please refer to Certificate of Analysis.

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act Error (1.96-sigma)	TPU (1.96-sigma)
K-40	1.114E+00	3.579E+00	3.579E+00
RH-106	1.864E+00	2.071E+00	2.071E+00
RU-106	1.864E+00	2.071E+00	2.071E+00
PA-234M	2.500E+00	6.342E+00	6.342E+00
TH-234	2.500E+00	6.342E+00	6.342E+00
U-238	2.500E+00	6.342E+00	6.342E+00

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L Act error (1.96-sigma)	TPU (1.96-sigma)	
BE-7	-1.482E+00	2.949E+00	3.024E+00	NOT IDENT.
NA-22	-1.364E-01	2.243E-01	2.326E-01	NOT IDENT.
NA-24	-1.608E+10	2.193E+12	2.193E+12	SHORT HLIF
AL-26	-7.327E-03	1.863E-01	1.864E-01	NOT IDENT.
SC-46	3.032E-01	2.772E-01	3.091E-01	NOT IDENT.
V-48	1.170E-01	8.196E-01	8.213E-01	NOT IDENT.
CR-51	6.485E-01	3.424E+00	3.437E+00	NOT IDENT.
MN-52	1.630E+00	5.330E+00	5.380E+00	NOT IDENT.
MN-54	-2.691E-01	3.111E-01	3.340E-01	NOT IDENT.
CO-56	1.469E-01	3.387E-01	3.451E-01	NOT IDENT.
MN-56	1.000E+41	2.282E+41	0.000E+00	SHORT HLIF
CO-57	-1.191E-02	1.480E-01	1.481E-01	NOT IDENT.
CO-58	1.998E-01	2.941E-01	3.076E-01	NOT IDENT.
FE-59	-1.229E-01	5.683E-01	5.710E-01	NOT IDENT.
CO-60	-1.569E-01	2.710E-01	2.801E-01	NOT IDENT.
ZN-65	1.963E-01	3.636E-01	3.742E-01	NOT IDENT.
GE-68	1.056E+00	8.630E+00	8.643E+00	NOT IDENT.
AS-73	1.989E+00	8.753E+00	8.799E+00	NOT IDENT.
AS-74	-5.045E-01	1.064E+00	1.088E+00	NOT IDENT.
SE-75	1.906E-01	3.069E-01	3.187E-01	NOT IDENT.
BR-77	2.565E+03	3.211E+03	3.412E+03	SHORT HLIF
SR-82	1.190E+00	3.428E+00	3.470E+00	NOT IDENT.
RB-83	-3.375E-02	5.096E-01	5.098E-01	NOT IDENT.
RB-84	-2.296E-02	5.417E-01	5.418E-01	NOT IDENT.

KR-85	-5.785E+01	6.653E+01	7.146E+01	NOT IDENT.
SR-85	-3.465E-01	3.989E-01	4.284E-01	NOT IDENT.
RB-86	1.101E+00	8.180E+00	8.195E+00	NOT IDENT.
Y-88	-9.142E-03	2.251E-01	2.252E-01	NOT IDENT.
Y-91	4.385E+01	1.495E+02	1.508E+02	NOT IDENT.
NB-94	3.014E-02	3.472E-01	3.475E-01	NOT IDENT.
NB-95	-2.896E-02	3.525E-01	3.527E-01	NOT IDENT.
NB-95M	-3.116E-01	8.443E-01	8.559E-01	NOT IDENT.
ZR-95	-2.965E-01	6.283E-01	6.424E-01	NOT IDENT.
NB-97	-1.000E+41	2.203E+41	0.000E+00	SHORT HLIF
ZR-97	-4.305E+11	1.589E+12	1.601E+12	SHORT HLIF
MO-99	3.599E+02	1.129E+03	1.140E+03	NOT IDENT.
TC-99M	8.955E+30	2.524E+31	0.000E+00	SHORT HLIF
RH-101	8.689E-02	2.250E-01	2.283E-01	NOT IDENT.
RH-102	-8.845E-02	2.658E-01	2.688E-01	NOT IDENT.
RU-103	2.216E-02	3.746E-01	3.747E-01	NOT IDENT.
AG-108M	2.704E-02	2.086E-01	2.090E-01	NOT IDENT.
CD-109	6.382E+00	4.555E+00	5.387E+00	NOT IDENT.
AG-110	-4.350E+00	6.568E+00	6.854E+00	NOT IDENT.
AG-110M	4.959E-02	2.466E-01	2.476E-01	FAIL ABUN
SN-113	-1.680E-02	3.256E-01	3.257E-01	NOT IDENT.
CD-115	-6.161E+02	2.389E+03	2.405E+03	SHORT HLIF
SN-117M	2.560E-01	6.395E-01	6.498E-01	NOT IDENT.
SB-122	1.611E+02	2.724E+02	2.819E+02	NOT IDENT.
TE-123M	6.842E-02	1.886E-01	1.911E-01	NOT IDENT.
SB-124	3.053E-01	1.008E+00	1.017E+00	NOT IDENT.
SB-125	-8.385E-02	6.036E-01	6.048E-01	NOT IDENT.
TE-125M	1.484E+01	7.116E+01	7.148E+01	NOT IDENT.
I-126	3.415E+00	3.898E+00	4.191E+00	FAIL ABUN
SB-126	-1.504E-01	1.724E+00	1.725E+00	FAIL ABUN
SN-126	2.380E-01	4.958E-01	5.072E-01	FAIL ABUN
SB-127	8.782E+00	7.028E+01	7.040E+01	NOT IDENT.
I-131	-7.363E-01	2.444E+00	2.466E+00	NOT IDENT.
I-132	1.000E+41	2.297E+41	0.000E+00	SHORT HLIF
TE-132	-5.272E+00	6.479E+01	6.484E+01	NOT IDENT.
BA-133	5.604E-02	2.991E-01	3.001E-01	NOT IDENT.
I-133	1.158E+08	4.014E+08	4.048E+08	SHORT HLIF
CS-134	5.542E-02	3.079E-01	3.089E-01	NOT IDENT.
I-135	-2.472E+27	2.479E+29	0.000E+00	SHORT HLIF
CS-136	2.623E-01	1.202E+00	1.208E+00	NOT IDENT.
BA-137M	-2.523E-01	3.587E-01	3.763E-01	NOT IDENT.
CS-137	-2.666E-01	3.790E-01	3.976E-01	NOT IDENT.
LA-138	-2.982E-02	2.160E-01	2.164E-01	NOT IDENT.
CE-139	1.519E-01	2.026E-01	2.139E-01	NOT IDENT.
BA-140	-3.501E+00	3.902E+00	4.209E+00	FAIL ABUN
LA-140	-6.154E-01	1.550E+00	1.574E+00	NOT IDENT.
CE-141	4.584E-01	5.097E-01	5.500E-01	NOT IDENT.
CE-143	-7.843E+04	2.649E+05	2.672E+05	SHORT HLIF
CE-144	-9.488E-01	1.211E+00	1.285E+00	NOT IDENT.
PM-144	1.263E-02	2.733E-01	2.734E-01	NOT IDENT.
PR-144	6.837E-01	2.053E+01	2.053E+01	NOT IDENT.
PM-146	1.080E-01	3.060E-01	3.099E-01	NOT IDENT.
ND-147	5.166E-01	7.569E+00	7.573E+00	FAIL ABUN
PM-147	-4.055E+02	4.069E+03	4.074E+03	NOT IDENT.
PM-149	-4.625E+03	2.131E+04	2.141E+04	SHORT HLIF
EU-150	1.966E-01	1.886E-01	2.083E-01	NOT IDENT.
EU-152	6.171E-02	6.859E-01	6.865E-01	NOT IDENT.
GD-153	-1.528E-01	4.525E-01	4.577E-01	NOT IDENT.
EU-154	-4.126E-01	6.196E-01	6.469E-01	NOT IDENT.
EU-155	3.067E-01	5.642E-01	5.809E-01	FAIL ABUN
TB-160	-1.329E-01	1.091E+00	1.093E+00	FAIL ABUN
HO-166M	-4.232E-02	4.438E-01	4.442E-01	FAIL ABUN
TM-171	-7.634E+01	1.935E+02	1.965E+02	FAIL ABUN
HF-172	5.474E-01	1.355E+00	1.377E+00	FAIL ABUN
LU-172	-1.484E-01	3.125E-01	3.196E-01	FAIL ABUN
LU-176	3.766E-02	1.594E-01	1.603E-01	NOT IDENT.
HF-181	-1.364E-01	4.191E-01	4.236E-01	NOT IDENT.
TA-182	-3.115E-01	1.160E+00	1.168E+00	FAIL ABUN
RE-183	2.600E-02	1.846E+00	1.846E+00	FAIL ABUN
RE-184	3.832E-02	1.210E+00	1.210E+00	NOT IDENT.
W-188	1.731E+01	5.592E+01	5.646E+01	FAIL ABUN
IR-192	-1.546E-01	2.718E-01	2.806E-01	NOT IDENT.
HG-203	-2.191E-01	2.927E-01	3.090E-01	NOT IDENT.
TL-204	-1.284E+01	3.087E+01	3.141E+01	NOT IDENT.
BI-207	1.537E-01	3.768E-01	3.831E-01	NOT IDENT.
TL-208	-2.044E-01	3.151E-01	3.283E-01	NOT IDENT.
BI-210	2.276E+01	4.141E+01	4.266E+01	NOT IDENT.
PB-210	2.276E+01	4.141E+01	4.266E+01	NOT IDENT.

BI-211	-6.704E-01	1.685E+00	1.712E+00	NOT IDENT.
PB-211	6.055E-01	5.426E+00	5.433E+00	NOT IDENT.
BI-212	6.680E-01	3.039E+00	3.054E+00	NOT IDENT.
PB-212	5.391E-01	5.299E-01	5.830E-01	FAIL ABUN
BI-213	-4.398E-02	8.039E-01	8.041E-01	NOT IDENT.
BI-214	-5.039E-01	7.029E-01	7.387E-01	NOT IDENT.
PB-214	2.371E-01	5.872E-01	5.968E-01	NOT IDENT.
RN-219	-1.458E+00	2.772E+00	2.849E+00	NOT IDENT.
RN-222	2.371E-01	5.872E-01	5.968E-01	NOT IDENT.
RA-223	2.665E+00	4.324E+00	4.488E+00	NOT IDENT.
RA-224	2.705E-01	4.565E+00	4.566E+00	NOT IDENT.
AC-225	1.057E+01	1.048E+01	1.151E+01	NOT IDENT.
RA-226	2.371E-01	5.872E-01	5.968E-01	NOT IDENT.
AC-227	5.031E-01	1.819E+00	1.833E+00	FAIL ABUN
TH-227	5.031E-01	1.819E+00	1.833E+00	FAIL ABUN
AC-228	-5.953E-01	1.464E+00	1.488E+00	NOT IDENT.
RA-228	-5.953E-01	1.464E+00	1.488E+00	NOT IDENT.
TH-228	5.391E-01	5.299E-01	5.830E-01	FAIL ABUN
TH-229	6.902E-01	3.405E+00	3.419E+00	FAIL ABUN
TH-230	2.371E-01	5.872E-01	5.968E-01	NOT IDENT.
PA-231	-5.991E-01	3.497E+00	3.508E+00	NOT IDENT.
TH-231	2.665E+00	4.324E+00	4.488E+00	NOT IDENT.
TH-232	-5.953E-01	1.464E+00	1.488E+00	NOT IDENT.
PA-233	9.156E-02	3.867E-01	3.889E-01	NOT IDENT.
PA-234	-1.178E+00	2.339E+00	2.399E+00	NOT IDENT.
U-234	2.371E-01	5.872E-01	5.968E-01	NOT IDENT.
U-235	-6.337E-01	1.313E+00	1.344E+00	FAIL ABUN
NP-237	9.156E-02	3.867E-01	3.889E-01	NOT IDENT.
NP-238	3.178E+03	5.688E+03	5.866E+03	SHORT HLIF
NP-239	2.933E-01	1.788E+00	1.793E+00	NOT IDENT.
PU-239	-1.545E+03	2.162E+03	2.271E+03	NOT IDENT.
AM-241	-2.567E-02	1.065E+00	1.066E+00	NOT IDENT.
AM-243	1.768E-01	3.351E-01	3.445E-01	NOT IDENT.
CM-243	-3.875E-01	5.953E-01	6.204E-01	NOT IDENT.
BK-247	2.603E-01	5.083E-01	5.217E-01	FAIL ABUN
CM-247	5.943E-03	2.597E-01	2.598E-01	NOT IDENT.
CF-249	3.552E-02	2.690E-01	2.695E-01	NOT IDENT.
CF-251	-3.029E-01	7.785E-01	7.904E-01	NOT IDENT.
ANH-511	-8.913E-01	4.446E-01	5.993E-01	NOT IDENT.

GEL Laboratories LLC
2040 Savage Road
Charleston, SC 29407

GAMMA SPECTROSCOPY BACKGROUND REPORT

ENERGY	MDA COUNTS	ENERGY	MDA COUNTS	ENERGY	MDA COUNTS
43.53	17.6476	85.43	20.2974	133.02	31.7839
45.60	16.3928	86.55	30.1370	133.52	30.9915
46.54	17.8085	86.79	25.1259	136.00	27.8294
49.72	24.8857	86.94	25.1333	136.47	27.8486
51.35	15.2776	87.09	25.1406	140.51	24.7142
51.87	23.6448	87.57	22.6479	143.76	30.6203
52.39	26.4642	88.03	12.0897	144.24	28.9844
52.97	22.3209	88.34	21.1698	145.44	22.3965
53.44	18.1589	88.47	21.1752	152.43	29.3091
54.07	15.3913	89.96	28.0619	153.25	21.7963
57.36	0.0000	1093.63	28.0986	323.87	27.6997
57.53	19.7680	91.11	28.1237	156.02	22.7178
57.98	19.7908	92.59	28.2025	158.56	25.3258
59.27	19.8559	93.35	28.2429	159.00	23.6506
59.32	15.6030	94.56	22.4411	162.33	21.2074
59.54	15.6117	94.65	22.4449	162.66	22.0648
60.96	14.2429	94.67	22.4458	163.33	32.2765
61.17	14.2503	94.87	21.4334	165.86	21.3024
62.93	20.0369	97.43	22.3034	176.31	18.1257
63.29	20.0543	98.43	20.8029	176.60	23.3127
63.58	20.0684	98.44	20.8033	177.52	25.9314
64.28	20.1023	99.53	25.4761	181.07	24.3052
66.73	20.2192	100.11	23.1841	181.52	30.3975
67.24	20.2433	102.03	22.4877	184.41	32.2435
125.81	20.2641	103.18	27.9723	143.76	38.4020
67.75	20.2673	103.37	27.2044	193.51	24.6564
68.89	21.7720	105.31	17.1575	197.03	22.9857
69.67	11.6324	106.12	31.2390	198.01	31.8609
70.82	21.8676	106.47	30.4762	201.83	32.8837
70.83	21.8681	109.28	28.2662	203.43	18.6964
72.81	20.5005	111.00	34.6472	205.31	31.2242
72.87	20.5033	111.76	26.0182	210.85	26.0250
74.66	19.1136	114.06	28.4911	215.65	29.7643
74.82	27.9448	116.30	32.5661	218.12	25.3195
74.97	27.9538	116.74	30.9996	222.11	25.4233
77.11	23.6484	119.76	27.1555	227.09	23.7267
78.74	29.6625	121.12	21.6108	227.38	24.6463
79.69	19.3189	121.22	21.6143	228.16	27.4063
80.03	22.3066	121.78	20.8320	228.18	25.5797
80.12	22.3109	122.06	23.2457	116.74	25.5797
80.19	22.3141	122.92	24.0795	235.69	20.8616
80.57	19.3542	123.07	24.0850	235.96	20.8671
81.00	25.3319	265.00	29.7331	238.63	19.3831
81.07	25.3355	125.81	32.2491	238.98	0.0000
81.75	22.3860	127.23	33.1265	240.99	22.2026
82.47	20.9244	127.91	33.1606	242.00	20.9892
83.79	20.9803	129.30	35.6614	244.70	20.4246
84.00	20.9891	131.20	24.3837	252.40	18.7027

ENERGY	MDA COUNTS	ENERGY	MDA COUNTS	ENERGY	MDA COUNTS
252.80	23.3868	345.93	17.1696	564.24	6.9133
254.15	0.0000	351.06	14.1927	569.33	9.2417
256.23	21.5843	351.93	7.1008	946.00	10.3975
260.90	0.0000	355.39	0.0000	569.70	10.3986
264.66	14.1847	356.01	15.2609	583.19	10.4683
264.80	14.1866	364.49	19.4476	584.27	16.2926
265.00	14.1893	366.42	7.1747	595.83	11.7035
269.46	18.0444	372.51	12.3519	427.87	16.4225
270.03	19.0039	375.05	7.2181	602.52	0.0000
271.23	26.6337	377.52	13.4277	604.72	15.2796
273.65	17.1579	356.01	12.4486	607.14	21.1805
276.40	15.2881	388.16	12.4849	609.32	11.7792
277.37	17.2134	388.63	12.4889	610.33	17.6770
277.60	13.3907	391.69	13.5574	614.28	9.4453
278.00	11.4818	264.66	12.5892	618.01	7.8849
279.20	22.0300	401.81	15.7484	620.36	7.1045
279.54	22.0363	402.40	13.6538	621.93	11.0594
279.70	17.2480	404.85	15.7796	630.19	0.0000
280.46	16.3007	410.95	12.6738	631.29	4.7605
283.69	14.4228	413.71	14.8122	633.25	7.1470
284.31	12.5061	414.70	9.5282	634.78	9.5361
285.41	21.1843	423.72	8.5181	635.95	11.9263
285.90	0.0000	427.09	10.6702	636.99	14.3188
287.50	14.4695	427.87	11.7429	657.50	15.6565
290.67	17.4095	433.94	11.7872	657.76	15.6581
293.27	0.0000	439.40	19.3535	657.90	0.0000
351.93	14.5628	440.45	15.0621	661.66	17.6969
295.96	12.6291	453.88	10.8463	664.57	0.0000
879.38	16.5502	463.37	7.6353	666.33	8.4637
299.98	14.6201	468.07	9.8438	666.50	6.4489
300.09	17.5457	473.00	9.8720	667.71	0.0000
300.13	15.5967	475.06	14.2767	677.62	8.5056
301.36	19.5154	476.78	4.3972	685.70	6.0968
302.85	20.8418	477.60	16.4971	692.65	6.1151
256.23	13.6958	482.18	15.4377	695.00	8.5697
304.85	13.6996	487.02	17.6914	696.49	9.8003
306.78	10.4541	492.35	0.0000	696.51	9.8003
308.46	10.7952	497.08	10.3787	697.00	17.1539
311.90	11.8088	505.52	15.6406	697.30	17.1565
316.51	20.7411	507.63	0.0000	697.49	15.9318
319.41	21.7778	511.00	23.5314	702.65	17.1949
320.08	15.8467	514.00	26.9370	706.68	9.8428
321.04	24.7795	514.00	26.9370	711.68	8.6304
323.87	12.9135	520.40	9.0103	720.70	6.1877
325.23	21.8765	520.69	0.0000	721.93	0.0000
328.76	16.9502	522.65	0.0000	722.78	6.1932
333.37	13.0075	527.90	0.0000	722.91	8.6710
333.97	11.0114	528.26	6.7859	723.31	7.4333
334.37	16.0215	529.59	7.9224	724.19	6.1969
338.28	17.0726	529.87	0.0000	727.33	4.9639
338.32	17.0732	531.02	7.9284	733.00	6.2195
311.90	13.0770	537.26	15.9089	735.93	4.9814
340.48	13.0770	546.56	0.0000	333.97	6.2308
340.55	13.0778	552.55	8.0177	739.50	2.4944
344.28	16.1401	563.25	8.0617	744.23	9.9966

ENERGY	MDA COUNTS	ENERGY	MDA COUNTS	ENERGY	MDA COUNTS
747.24	5.0044	964.08	7.2191	1457.56	0.0000
748.06	7.0085	966.17	9.9329	1460.82	0.0000
752.31	6.6862	968.97	5.4231	1489.16	5.2055
753.82	6.6901	983.53	5.4487	1505.03	3.1348
756.73	10.0469	984.45	0.0000	1584.12	4.2536
756.80	10.0474	1274.44	0.0000	1596.21	5.3308
884.68	4.1982	1002.74	1.3706	1620.50	6.4307
765.81	10.9238	1004.73	4.5715	1621.92	6.4326
766.84	8.4062	507.63	0.0000	1678.03	0.0000
772.60	0.0000	1025.87	0.0000	1690.97	3.2632
776.52	7.5945	1028.54	0.0000	1750.46	0.0000
739.50	5.9100	1037.84	6.4668	1764.49	1.6560
778.90	11.8245	1038.76	0.0000	1063.66	2.2104
783.70	10.1543	631.29	9.2635	1771.35	2.2109
788.74	4.2393	1048.07	3.7070	1791.20	0.0000
792.07	5.0935	1049.04	0.9270	1808.65	1.1136
795.86	8.5018	1050.41	3.7096	1810.72	0.0000
810.06	6.8382	1063.66	4.6558	1836.06	1.1195
810.29	6.8389	1077.00	4.6745		
344.28	4.2745	1077.34	4.6753		
810.76	4.2751	1085.87	4.6871		
815.77	5.1396	1093.63	3.7581		
1048.07	3.4300	1099.45	3.7646		
832.01	7.7563	1112.07	0.9447		
834.85	12.0780	1112.84	3.7796		
836.80	0.0000	1115.54	0.9456		
846.75	0.0000	1120.29	2.8408		
846.77	6.9320	1120.55	2.8411		
856.80	7.8270	1221.41	0.9472		
860.56	9.5793	1129.67	1.8991		
871.09	5.2449	1131.51	0.0000		
873.19	8.7480	1147.95	0.0000		
875.33	0.0000	1173.23	4.8067		
879.38	7.8904	1177.95	4.8128		
880.51	3.5083	1189.05	6.7590		
881.60	5.2644	1204.77	3.8789		
883.24	6.1455	1221.41	4.8706		
884.68	2.6351	1231.02	3.9066		
889.28	1.7596	1235.36	6.8445		
894.76	2.6444	1238.28	0.9786		
898.04	5.2949	1260.41	0.0000		
900.72	6.1831	1271.87	1.9746		
903.28	7.9567	1274.44	1.9759		
911.20	8.8652	1274.54	1.9759		
912.08	15.0749	1291.59	0.9924		
923.98	0.0000	1298.22	0.0000		
926.50	6.2381	1312.11	2.9927		
929.11	7.1354	1332.49	5.0138		
935.54	5.3633	1362.66	0.0000		
937.49	4.4722	1365.19	2.0218		
944.13	2.6893	1368.63	0.0000		
946.00	7.1761	1384.29	2.0314		
949.00	3.5916	1408.01	1.0215		
667.71	0.0000	1434.09	1.0278		
962.31	7.2148	1435.80	1.0283		

VAX/VMS Nuclide Identification Report Generated 17-AUG-2026 07:03:34.86

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*************************************************************************
*                          GEL Laboratories LLC                         *
*                            2040 Savage Road                           *
*                          Charleston, SC 29407                         *
*************************************************************************
Configuration    : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G787535001.CNF;1
Background file  : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]BKG_GAM29.CNF;885
                                      Background date  : 16-AUG-2026 08:55:24
Sample date      : 14-JUL-2026 09:00:00 Acquisition date : 17-AUG-2026 06:02:52
Sample ID        : G787535001           Sample quantity  : 8.18500E+01 GRAM
Detector name    : GAM29                Detector geometry: CAN
Elapsed live time: 0 01:00:00.00        Elapsed real time: 0 01:00:00.23  0.0%
Energy tolerance : 1.50000 keV          Analyst Initials : GG
Abundance limit  : 75.00000             Sensitivity      : 3.00000
Batch ID         : 3033734              Detector SN#     :
Matrix Spike ID  :                      LCS ID           :
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BACKGROUND CORRECTED SAMPLE PEAK REPORT

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	46.71*	22	72	0.87	93.89	90	8	6.14E-03	72.5	
2	0	63.53*	32	34	2.76	127.50	124	8	8.78E-03	40.3	
3	2	74.79	43	47	1.05	150.00	146	13	1.19E-02	29.3	8.45E-01
4	2	77.01	46	50	1.27	154.44	146	13	1.29E-02	32.3	
5	0	80.79	22	24	0.82	161.99	159	6	6.09E-03	41.9	
6	0	92.98*	3	79	1.32	186.36	182	11	8.87E-04	604.4	
7	0	186.09*	15	80	1.67	372.45	367	12	4.29E-03	124.4	
8	0	197.86	20	27	1.13	395.97	393	7	5.45E-03	50.0	
9	0	209.90	17	20	1.44	420.03	417	8	4.65E-03	53.8	
10	0	239.61*	37	93	1.07	479.41	474	12	1.04E-02	56.7	
11	0	295.48*	46	38	1.72	591.08	585	13	1.27E-02	32.6	
12	0	352.06*	40	23	0.95	704.15	700	8	1.10E-02	27.8	
13	0	434.51	21	17	4.58	868.96	862	14	5.87E-03	47.2	
14	0	458.39	11	11	3.29	916.69	910	11	2.92E-03	68.2	
15	0	477.93	40	20	1.66	955.74	951	9	1.11E-02	25.7	
16	0	511.40*	32	32	2.99	1022.64	1014	17	8.89E-03	55.4	
17	0	570.14*	15	6	3.09	1140.04	1133	13	4.04E-03	54.0	
18	0	583.35*	28	12	2.10	1166.45	1161	10	7.71E-03	32.0	
19	0	609.90*	43	27	1.64	1219.52	1213	14	1.19E-02	31.3	
20	0	627.38	7	4	0.96	1254.45	1248	8	1.84E-03	65.7	
21	0	734.45	7	3	0.96	1468.48	1465	6	1.97E-03	53.6	
22	0	762.32	5	4	0.97	1524.20	1519	8	1.39E-03	82.5	
23	0	780.46	13	0	1.53	1560.46	1553	13	3.61E-03	27.7	
24	0	916.98	6	2	0.77	1833.35	1829	7	1.72E-03	53.8	
25	0	965.63	10	9	2.73	1930.61	1922	11	2.64E-03	67.1	
26	0	969.48*	12	3	1.23	1938.31	1934	10	3.28E-03	45.2	
27	0	1461.55*	19	7	1.68	2922.06	2913	14	5.30E-03	39.7	

Flag: "*" = Peak area was modified by background subtraction

VMS Nuclide Identification Report V3.1 Generated 17-AUG-2026 07:03:36

Configuration	: DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G787535001.CNF;1		
Analyses by	: PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.4		
Sample title	: GG		
Sample date	: 14-JUL-2026 09:00:00	Acquisition date	: 17-AUG-2026 06:02:52
Sample ID	: G787535001	Sample quantity	: 81.850 GRAM
Sample type	: SOLID	Sample geometry	:
Detector name	: GAMMA29	Detector geometry	: CAN
Elapsed live time	: 0 01:00:00.00	Elapsed real time	: 0 01:00:00.23 0.0%
Energy tolerance	: 1.50 keV	Half life ratio	: 10.00
Errors propagated	: No	Systematic Error	: 0.00 %
Efficiency type	: Empirical	Efficiencies at	: Peak Energy
Abundance limit	: 75.00		

Interference Report

No interference correction performed

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
BE-7	477.60	36	10.44*	3.454E+00	9.179E-01	1.427E+00	51.47
K-40	1460.82	18	10.66*	1.319E+00	1.149E+00	1.149E+00	79.45
TL-208	277.37	------	6.60	5.106E+00	------ Line Not Found		------
	583.19	25	85.00*	2.954E+00	9.199E-02	9.199E-02	63.95
	860.56	------	12.50	2.111E+00	------ Line Not Found		------
BI-210	46.54	19	4.25*	1.042E+00	3.953E+00	3.965E+00	145.08
PB-210	46.54	19	4.25*	1.042E+00	3.953E+00	3.965E+00	145.08
BI-211	72.87	------	1.23	5.076E+00	------ Line Not Found		------
	351.06	36	12.92*	4.324E+00	5.851E-01	5.851E-01	55.66
PB-212	74.82	37	10.28	5.323E+00	6.283E-01	6.283E-01	58.54
	77.11	41	17.10	5.590E+00	3.892E-01	3.892E-01	64.55
	238.63	33	43.60*	5.630E+00	1.243E-01	1.243E-01	113.40
	300.09	------	3.30	4.837E+00	------ Line Not Found		------
PB-214	74.82	37	5.80	5.323E+00	1.114E+00	1.114E+00	58.54
	77.11	41	9.70	5.590E+00	6.861E-01	6.861E-01	64.55
	87.09	------	3.41	6.551E+00	------ Line Not Found		------
	242.00	------	7.25	5.594E+00	------ Line Not Found		------
	295.22	41	18.42	4.889E+00	4.171E-01	4.172E-01	65.19
	351.93	36	35.60*	4.324E+00	2.124E-01	2.124E-01	55.66
RN-222	74.82	37	5.80	5.323E+00	1.114E+00	1.114E+00	58.54
	77.11	41	9.70	5.590E+00	6.861E-01	6.861E-01	64.55
	87.09	------	3.41	6.551E+00	------ Line Not Found		------
	242.00	------	7.25	5.594E+00	------ Line Not Found		------
	295.22	41	18.42	4.889E+00	4.171E-01	4.172E-01	65.19
	351.93	36	35.60*	4.324E+00	2.124E-01	2.124E-01	55.66
RA-224	240.99	33	4.10*	5.630E+00	1.322E+00	1.322E+00	113.40
RA-226	74.82	37	5.80	5.323E+00	1.114E+00	1.114E+00	58.54
	77.11	41	9.70	5.590E+00	6.861E-01	6.861E-01	64.55
	87.09	------	3.41	6.551E+00	------ Line Not Found		------
	242.00	------	7.25	5.594E+00	------ Line Not Found		------
	295.22	41	18.42	4.889E+00	4.171E-01	4.172E-01	65.19
	351.93	36	35.60*	4.324E+00	2.124E-01	2.124E-01	55.66
TH-228	74.82	37	10.28	5.323E+00	6.283E-01	6.283E-01	58.54
	77.11	41	17.10	5.590E+00	3.892E-01	3.892E-01	64.55
	238.63	33	43.60*	5.630E+00	1.243E-01	1.243E-01	113.40
	300.09	------	3.30	4.837E+00	------ Line Not Found		------
TH-230	74.82	37	5.80	5.323E+00	1.114E+00	1.114E+00	58.54
	77.11	41	9.70	5.590E+00	6.861E-01	6.861E-01	64.55
	87.09	------	3.41	6.551E+00	------ Line Not Found		------
	242.00	------	7.25	5.594E+00	------ Line Not Found		------
	295.22	41	18.42	4.889E+00	4.171E-01	4.171E-01	65.19
	351.93	36	35.60*	4.324E+00	2.124E-01	2.124E-01	55.66
PA-234M	63.29	27	3.70*	3.687E+00	1.847E+00	1.847E+00	80.61
	92.59	3	4.23	6.937E+00	8.742E-02	8.742E-02	1208.73
TH-234	63.29	27	3.70*	3.687E+00	1.847E+00	1.847E+00	80.61
	92.59	3	4.23	6.937E+00	8.742E-02	8.742E-02	1208.73
U-234	74.82	37	5.80	5.323E+00	1.114E+00	1.114E+00	58.54
	77.11	41	9.70	5.590E+00	6.861E-01	6.861E-01	64.55
	87.09	------	3.41	6.551E+00	------ Line Not Found		------

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
	242.00	------	7.25	5.594E+00	------ Line Not Found		------
	295.22	41	18.42	4.889E+00	4.171E-01	4.171E-01	65.19
	351.93	36	35.60*	4.324E+00	2.124E-01	2.124E-01	55.66
U-238	63.29	27	3.70*	3.687E+00	1.847E+00	1.847E+00	80.61
	92.59	3	4.23	6.937E+00	8.742E-02	8.742E-02	1208.73
AM-243	43.53	------	5.90	6.801E-01	------ Line Not Found		------
	74.66	37	67.20*	5.323E+00	9.612E-02	9.612E-02	58.54
ANH-511	511.00	29	100.00*	3.279E+00	8.101E-02	8.101E-02	110.76

Flag: "*" = Keyline

VAX/VMS Nuclide Identification Report Generated 17-AUG-2026 07:03:37.18

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*****************************************************************************
*                            GEL Laboratories LLC                           *
*                              2040 Savage Road                             *
*                            Charleston, SC 29407                           *
*****************************************************************************
*                                                                           *
*                          DETECTOR AND SAMPLE DATA                         *
*                                                                           *
* Configuration    : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G787535001.CNF;1   *
* Acquisition date : 17-AUG-2026 06:02:52 Sensitivity     : 3.000           *
* Detector ID      : GAM29                Energy tolerance: 1.500           *
* Elapsed live time:    0 01:00:00.00     Abundance limit : 75.000          *
* Elapsed real time:    0 01:00:00.23     Half life ratio : *****           *
* Sample date      : 14-JUL-2026 09:00:00 Analyst initials: GG              *
* Sample ID        : G787535001           Sample Quantity : 8.1850E+01 GRAM *
* Batch Number     : 3033734              Wet Weight      :    0.00000      *
* Wet wt corr      :    1.00000           Dry Weight      :    0.00000      *
* Nuclide Library  : SOLID.NLB;19                                           *
*****************************************************************************
*                                                                           *
*                          CALIBRATION INFORMATION                          *
*                                                                           *
* Eff. Cal. date   : 30-JUL-2026 09:33:07 Eff. Geometry   : CAN             *
* Eff. File        : DKA100:[CANBERRA.GAMMA]EFF_GAM29_CAN.CNF;24            *
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Combined Activity-MDA Report

NOTE: Not all "Identified Nuclides" are valid.
Please refer to Certificate of Analysis.

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Cnt uncert (1.96-sigma)	MDA (pCi/GRAM)
BE-7	1.427E+00	7.199E-01	7.622E-01
K-40	1.149E+00	8.944E-01	8.467E-01
TL-208	9.199E-02	5.765E-02	5.733E-02
BI-210	3.965E+00	5.637E+00	5.592E+00
PB-210	3.965E+00	5.637E+00	5.592E+00
BI-211	5.851E-01	3.192E-01	3.164E-01
PB-212	1.243E-01	1.381E-01	1.016E-01
PB-214	2.124E-01	1.158E-01	1.151E-01
RN-222	2.124E-01	1.158E-01	1.151E-01
RA-224	1.322E+00	1.469E+00	1.089E+00
RA-226	2.124E-01	1.158E-01	1.151E-01
TH-228	1.243E-01	1.381E-01	1.016E-01
TH-230	2.124E-01	1.158E-01	1.151E-01
PA-234M	1.847E+00	1.459E+00	1.460E+00
TH-234	1.847E+00	1.459E+00	1.460E+00
U-234	2.124E-01	1.158E-01	1.151E-01
U-238	1.847E+00	1.459E+00	1.460E+00
AM-243	9.612E-02	5.514E-02	6.588E-02
ANH-511	8.101E-02	8.794E-02	5.432E-02

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Cnt Uncert (1.96-sigma)	MDA (pCi/GRAM)	
NA-22	3.362E-02	3.349E-02	8.994E-02	NOT IDENT.
NA-24	0.000E+00	8.215E+14	0.000E+00	SHORT HLIF
AL-26	5.923E-03	2.710E-02	7.083E-02	NOT IDENT.
SC-46	1.778E-02	4.160E-02	9.353E-02	NOT IDENT.
V-48	2.157E-02	8.819E-02	2.209E-01	NOT IDENT.
CR-51	-1.646E-01	4.946E-01	8.799E-01	NOT IDENT.
MN-52	-6.232E-01	2.657E+00	5.252E+00	NOT IDENT.
MN-54	-9.765E-03	3.136E-02	6.334E-02	NOT IDENT.
CO-56	-2.243E-02	3.090E-02	5.453E-02	NOT IDENT.
MN-56	0.000E+00	1.378E+41	0.000E+00	SHORT HLIF
CO-57	-2.672E-03	1.881E-02	3.533E-02	NOT IDENT.

CO-58	2.693E-02	3.744E-02	9.018E-02	NOT IDENT.
FE-59	1.702E-02	8.110E-02	1.898E-01	NOT IDENT.
CO-60	2.031E-04	2.542E-02	5.977E-02	NOT IDENT.
ZN-65	-1.689E-02	7.218E-02	1.444E-01	NOT IDENT.
GE-68	-2.443E-01	8.507E-01	1.750E+00	NOT IDENT.
AS-73	-8.439E-01	7.936E-01	1.291E+00	NOT IDENT.
AS-74	9.046E-02	1.968E-01	3.949E-01	NOT IDENT.
SE-75	1.767E-02	3.596E-02	7.393E-02	NOT IDENT.
BR-77	0.000E+00	5.125E+03	0.000E+00	SHORT HLIF
SR-82	-1.991E-01	3.774E-01	6.101E-01	NOT IDENT.
RB-83	6.185E-03	7.284E-02	1.402E-01	NOT IDENT.
RB-84	-2.908E-02	7.637E-02	1.475E-01	NOT IDENT.
KR-85	3.845E+00	7.538E+00	1.482E+01	NOT IDENT.
SR-85	2.462E-02	4.863E-02	9.556E-02	NOT IDENT.
RB-86	-1.461E-01	1.084E+00	2.315E+00	NOT IDENT.
Y-88	-6.461E-03	3.904E-02	8.425E-02	NOT IDENT.
Y-91	4.014E+00	1.958E+01	4.385E+01	NOT IDENT.
NB-94	9.302E-04	3.354E-02	6.233E-02	NOT IDENT.
NB-95	-4.540E-03	4.645E-02	9.187E-02	NOT IDENT.
NB-95M	5.799E-02	1.328E-01	2.434E-01	NOT IDENT.
ZR-95	7.171E-02	7.802E-02	1.828E-01	NOT IDENT.
NB-97	0.000E+00	1.960E+41	0.000E+00	SHORT HLIF
ZR-97	0.000E+00	2.101E+14	0.000E+00	SHORT HLIF
MO-99	0.000E+00	9.907E+02	0.000E+00	SHORT HLIF
TC-99M	0.000E+00	9.405E+38	0.000E+00	SHORT HLIF
RH-101	-2.192E-02	2.345E-02	3.805E-02	FAIL ABUN
RH-102	2.371E-02	4.480E-02	9.702E-02	NOT IDENT.
RU-103	1.324E-02	4.689E-02	9.439E-02	FAIL ABUN
RH-106	2.479E-01	2.299E-01	5.639E-01	NOT IDENT.
RU-106	2.479E-01	2.299E-01	5.639E-01	NOT IDENT.
AG-108M	0.000E+00	4.812E-02	4.213E-02	FAIL ABUN
CD-109	-8.748E-02	5.372E-01	1.006E+00	NOT IDENT.
AG-110	1.294E-01	6.325E-01	1.273E+00	NOT IDENT.
AG-110M	2.542E-02	4.561E-02	1.057E-01	NOT IDENT.
SN-113	-9.709E-03	4.154E-02	7.514E-02	NOT IDENT.
CD-115	0.000E+00	2.768E+03	0.000E+00	SHORT HLIF
SN-117M	7.118E-02	1.222E-01	2.410E-01	NOT IDENT.
SB-122	0.000E+00	2.341E+02	0.000E+00	SHORT HLIF
TE-123M	9.732E-03	2.725E-02	5.260E-02	NOT IDENT.
SB-124	-1.748E-02	1.129E-01	2.351E-01	NOT IDENT.
SB-125	-6.459E-02	7.244E-02	1.102E-01	NOT IDENT.
TE-125M	6.116E+00	9.011E+00	1.833E+01	NOT IDENT.
I-126	6.652E-02	5.256E-01	1.024E+00	NOT IDENT.
SB-126	1.267E-01	3.687E-01	7.528E-01	NOT IDENT.
SN-126	1.735E-02	5.184E-02	1.019E-01	FAIL ABUN
SB-127	-2.119E+00	3.360E+01	6.295E+01	NOT IDENT.
I-131	1.848E-02	5.171E-01	9.761E-01	FAIL ABUN
I-132	0.000E+00	1.260E+41	0.000E+00	SHORT HLIF
TE-132	0.000E+00	3.198E+01	0.000E+00	SHORT HLIF
BA-133	-5.495E-03	3.316E-02	6.112E-02	FAIL ABUN
I-133	0.000E+00	1.658E+10	0.000E+00	SHORT HLIF
CS-134	-3.251E-02	3.544E-02	5.959E-02	FAIL ABUN
I-135	0.000E+00	2.177E+36	0.000E+00	SHORT HLIF
CS-136	-6.770E-02	2.017E-01	4.024E-01	NOT IDENT.
BA-137M	-8.016E-04	2.730E-02	5.254E-02	NOT IDENT.
CS-137	-8.469E-04	2.884E-02	5.551E-02	NOT IDENT.
LA-138	-7.746E-04	5.024E-02	1.104E-01	NOT IDENT.
CE-139	1.264E-04	2.719E-02	5.080E-02	NOT IDENT.
BA-140	-2.717E-01	6.347E-01	1.087E+00	NOT IDENT.
LA-140	-8.610E-02	1.519E-01	2.598E-01	NOT IDENT.
CE-141	-1.317E-02	7.109E-02	1.311E-01	NOT IDENT.
CE-143	0.000E+00	1.275E+06	0.000E+00	SHORT HLIF
CE-144	-8.793E-04	1.647E-01	3.097E-01	FAIL ABUN
PM-144	-8.594E-03	3.575E-02	6.254E-02	FAIL ABUN
PR-144	-6.495E-01	2.702E+00	4.726E+00	NOT IDENT.
PM-146	1.948E-02	3.426E-02	6.986E-02	FAIL ABUN
ND-147	7.739E-02	1.638E+00	3.127E+00	NOT IDENT.
PM-147	1.798E+02	5.490E+02	1.084E+03	NOT IDENT.
PM-149	0.000E+00	2.612E+04	0.000E+00	SHORT HLIF
EU-150	-2.755E-03	2.116E-02	3.920E-02	FAIL ABUN
EU-152	-1.783E-02	7.042E-02	1.288E-01	NOT IDENT.
GD-153	-4.881E-02	7.697E-02	1.222E-01	NOT IDENT.
EU-154	9.793E-02	9.529E-02	2.557E-01	NOT IDENT.
EU-155	1.049E-02	6.726E-02	1.326E-01	NOT IDENT.
TB-160	-6.615E-02	1.218E-01	2.234E-01	FAIL ABUN
HO-166M	-2.398E-02	4.788E-02	7.883E-02	FAIL ABUN
TM-171	5.612E+00	1.531E+01	2.654E+01	NOT IDENT.
HF-172	9.118E-02	1.452E-01	2.868E-01	FAIL ABUN

LU-172	-2.683E-02	4.843E-02	8.873E-02	NOT IDENT.
LU-176	-1.457E-02	2.178E-02	3.641E-02	NOT IDENT.
HF-181	-6.824E-02	5.501E-02	7.370E-02	NOT IDENT.
TA-182	-9.160E-02	1.309E-01	2.216E-01	NOT IDENT.
RE-183	1.407E-01	1.779E-01	3.687E-01	NOT IDENT.
RE-184	3.062E-02	1.627E-01	3.507E-01	NOT IDENT.
W-188	3.480E+00	7.615E+00	1.436E+01	FAIL ABUN
IR-192	-1.179E-02	3.683E-02	6.539E-02	FAIL ABUN
HG-203	-6.817E-03	4.021E-02	7.378E-02	NOT IDENT.
TL-204	3.035E+00	3.570E+00	7.020E+00	FAIL ABUN
BI-207	-4.387E-02	7.274E-02	1.425E-01	FAIL ABUN
PB-211	2.031E-01	5.858E-01	1.178E+00	NOT IDENT.
BI-212	3.223E-01	5.201E-01	1.078E+00	NOT IDENT.
BI-213	3.988E-02	8.927E-02	1.826E-01	NOT IDENT.
BI-214	0.000E+00	1.686E-01	2.431E-01	FAIL ABUN
RN-219	-5.878E-02	3.295E-01	6.039E-01	NOT IDENT.
RA-223	1.759E-02	5.828E-01	1.088E+00	FAIL ABUN
AC-225	2.084E-01	1.778E+00	3.373E+00	NOT IDENT.
AC-227	1.353E-01	2.271E-01	4.533E-01	FAIL ABUN
TH-227	1.353E-01	2.271E-01	4.533E-01	FAIL ABUN
AC-228	1.948E-01	1.845E-01	4.197E-01	FAIL ABUN
RA-228	1.948E-01	1.845E-01	4.197E-01	FAIL ABUN
TH-229	-9.258E-02	4.059E-01	7.407E-01	FAIL ABUN
PA-231	-4.636E-02	3.602E-01	6.691E-01	NOT IDENT.
TH-231	1.759E-02	5.828E-01	1.088E+00	FAIL ABUN
TH-232	1.948E-01	1.845E-01	4.197E-01	FAIL ABUN
PA-233	-6.274E-03	6.050E-02	1.106E-01	NOT IDENT.
PA-234	-1.756E-01	1.539E-01	1.052E-01	FAIL ABUN
U-235	-1.344E-02	1.709E-01	3.173E-01	FAIL ABUN
NP-237	-6.274E-03	6.050E-02	1.106E-01	NOT IDENT.
NP-238	0.000E+00	5.590E+03	0.000E+00	SHORT HLIF
NP-239	1.933E-03	1.932E-01	3.685E-01	NOT IDENT.
PU-239	1.709E+02	2.494E+02	5.079E+02	NOT IDENT.
AM-241	-6.109E-02	1.110E-01	2.016E-01	NOT IDENT.
CM-243	5.701E-02	7.072E-02	1.485E-01	NOT IDENT.
BK-247	7.996E-03	5.626E-02	1.105E-01	NOT IDENT.
CM-247	1.039E-02	3.054E-02	6.139E-02	NOT IDENT.
CF-249	1.383E-02	3.844E-02	7.522E-02	NOT IDENT.
CF-251	1.639E-02	1.109E-01	2.098E-01	NOT IDENT.

VAX/VMS Nuclide Identification Report Generated 17-AUG-2026 07:03:35.67

Nuclide Line Activity Report

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
BE-7	477.60	36	10.44*	3.454E+00	9.179E-01	1.427E+00	51.47
K-40	1460.82	18	10.66*	1.319E+00	1.149E+00	1.149E+00	79.45
TL-208	277.37	------	6.60	5.106E+00	------	Line Not Found	------
	583.19	25	85.00*	2.954E+00	9.199E-02	9.199E-02	63.95
	860.56	------	12.50	2.111E+00	------	Line Not Found	------
BI-210	46.54	19	4.25*	1.042E+00	3.953E+00	3.965E+00	145.08
PB-210	46.54	19	4.25*	1.042E+00	3.953E+00	3.965E+00	145.08
BI-211	72.87	------	1.23	5.076E+00	------	Line Not Found	------
	351.06	36	12.92*	4.324E+00	5.851E-01	5.851E-01	55.66
PB-212	74.82	37	10.28	5.323E+00	6.283E-01	6.283E-01	58.54
	77.11	41	17.10	5.590E+00	3.892E-01	3.892E-01	64.55
	238.63	33	43.60*	5.630E+00	1.243E-01	1.243E-01	113.40
	300.09	------	3.30	4.837E+00	------	Line Not Found	------
PB-214	74.82	37	5.80	5.323E+00	1.114E+00	1.114E+00	58.54
	77.11	41	9.70	5.590E+00	6.861E-01	6.861E-01	64.55
	87.09	------	3.41	6.551E+00	------	Line Not Found	------
	242.00	------	7.25	5.594E+00	------	Line Not Found	------
	295.22	41	18.42	4.889E+00	4.171E-01	4.172E-01	65.19
	351.93	36	35.60*	4.324E+00	2.124E-01	2.124E-01	55.66
RN-222	74.82	37	5.80	5.323E+00	1.114E+00	1.114E+00	58.54
	77.11	41	9.70	5.590E+00	6.861E-01	6.861E-01	64.55
	87.09	------	3.41	6.551E+00	------	Line Not Found	------
	242.00	------	7.25	5.594E+00	------	Line Not Found	------
	295.22	41	18.42	4.889E+00	4.171E-01	4.172E-01	65.19
	351.93	36	35.60*	4.324E+00	2.124E-01	2.124E-01	55.66
RA-224	240.99	33	4.10*	5.630E+00	1.322E+00	1.322E+00	113.40
RA-226	74.82	37	5.80	5.323E+00	1.114E+00	1.114E+00	58.54
	77.11	41	9.70	5.590E+00	6.861E-01	6.861E-01	64.55
	87.09	------	3.41	6.551E+00	------	Line Not Found	------
	242.00	------	7.25	5.594E+00	------	Line Not Found	------
	295.22	41	18.42	4.889E+00	4.171E-01	4.172E-01	65.19
	351.93	36	35.60*	4.324E+00	2.124E-01	2.124E-01	55.66
TH-228	74.82	37	10.28	5.323E+00	6.283E-01	6.283E-01	58.54
	77.11	41	17.10	5.590E+00	3.892E-01	3.892E-01	64.55
	238.63	33	43.60*	5.630E+00	1.243E-01	1.243E-01	113.40
	300.09	------	3.30	4.837E+00	------	Line Not Found	------
TH-230	74.82	37	5.80	5.323E+00	1.114E+00	1.114E+00	58.54
	77.11	41	9.70	5.590E+00	6.861E-01	6.861E-01	64.55
	87.09	------	3.41	6.551E+00	------	Line Not Found	------
	242.00	------	7.25	5.594E+00	------	Line Not Found	------
	295.22	41	18.42	4.889E+00	4.171E-01	4.171E-01	65.19
	351.93	36	35.60*	4.324E+00	2.124E-01	2.124E-01	55.66
PA-234M	63.29	27	3.70*	3.687E+00	1.847E+00	1.847E+00	80.61
	92.59	3	4.23	6.937E+00	8.742E-02	8.742E-02	1208.73
TH-234	63.29	27	3.70*	3.687E+00	1.847E+00	1.847E+00	80.61
	92.59	3	4.23	6.937E+00	8.742E-02	8.742E-02	1208.73
U-234	74.82	37	5.80	5.323E+00	1.114E+00	1.114E+00	58.54

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
	77.11	41	9.70	5.590E+00	6.861E-01	6.861E-01	64.55
	87.09	------	3.41	6.551E+00	------ Line Not Found		------
	242.00	------	7.25	5.594E+00	------ Line Not Found		------
	295.22	41	18.42	4.889E+00	4.171E-01	4.171E-01	65.19
	351.93	36	35.60*	4.324E+00	2.124E-01	2.124E-01	55.66
U-238	63.29	27	3.70*	3.687E+00	1.847E+00	1.847E+00	80.61
	92.59	3	4.23	6.937E+00	8.742E-02	8.742E-02	1208.73
AM-243	43.53	------	5.90	6.801E-01	------ Line Not Found		------
	74.66	37	67.20*	5.323E+00	9.612E-02	9.612E-02	58.54
ANH-511	511.00	29	100.00*	3.279E+00	8.101E-02	8.101E-02	110.76

Flag: "*" = Keyline

Sample ID : G787535001 Acquisition date : 17-AUG-2026 06:02:52

Total number of lines in spectrum	27	
Number of unidentified lines	5	
Number of lines tentatively identified by NID	22	81.48%

Nuclide Type :

Nuclide	Hlife	Decay	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
BE-7	53.22D	1.56	9.179E-01	1.427E+00	0.735E+00	51.47	
K-40	1.25E+09Y	1.00	1.149E+00	1.149E+00	0.913E+00	79.45	
TL-208	1.41E+10Y	1.00	9.199E-02	9.199E-02	5.883E-02	63.95	
BI-210	22.20Y	1.00	3.953E+00	3.965E+00	5.752E+00	145.08	
PB-210	22.20Y	1.00	3.953E+00	3.965E+00	5.752E+00	145.08	
BI-211	7.04E+08Y	1.00	5.851E-01	5.851E-01	3.257E-01	55.66	
PB-212	1.41E+10Y	1.00	1.243E-01	1.243E-01	1.410E-01	113.40	
PB-214	1600.00Y	1.00	2.124E-01	2.124E-01	1.182E-01	55.66	
RN-222	1600.00Y	1.00	2.124E-01	2.124E-01	1.182E-01	55.66	
RA-224	1.41E+10Y	1.00	1.322E+00	1.322E+00	1.499E+00	113.40	
RA-226	1600.00Y	1.00	2.124E-01	2.124E-01	1.182E-01	55.66	
TH-228	1.41E+10Y	1.00	1.243E-01	1.243E-01	1.410E-01	113.40	
TH-230	7.54E+04Y	1.00	2.124E-01	2.124E-01	1.182E-01	55.66	
PA-234M	4.47E+09Y	1.00	1.847E+00	1.847E+00	1.489E+00	80.61	
TH-234	4.47E+09Y	1.00	1.847E+00	1.847E+00	1.489E+00	80.61	
U-234	2.45E+05Y	1.00	2.124E-01	2.124E-01	1.182E-01	55.66	
U-238	4.47E+09Y	1.00	1.847E+00	1.847E+00	1.489E+00	80.61	
AM-243	7370.00Y	1.00	9.612E-02	9.612E-02	5.627E-02	58.54	
ANH-511	1.00E+09Y	1.00	8.101E-02	8.101E-02	8.973E-02	110.76	
	Total Activity :		1.900E+01	1.953E+01			

Grand Total Activity : 1.900E+01 1.953E+01

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
0	80.79	19	21	0.82	161.99	159	6	6.09E-03	83.8	6.00E+00	T
0	186.09	14	71	1.67	372.45	367	12	4.29E-03	****	6.57E+00	T
0	197.86	17	24	1.13	395.97	393	7	5.45E-03	99.9	6.34E+00	T
0	209.90	15	18	1.44	420.03	417	8	4.65E-03	****	6.12E+00	T
0	434.51	19	15	4.58	868.96	862	14	5.87E-03	94.3	3.71E+00	T
0	458.39	9	9	3.29	916.69	910	11	2.92E-03	****	3.57E+00	
0	570.14	13	6	3.09	1140.04	1133	13	4.04E-03	****	3.01E+00	T
0	609.90	39	24	1.64	1219.52	1213	14	1.19E-02	62.7	2.85E+00	T
0	627.38	6	4	0.96	1254.45	1248	8	1.84E-03	****	2.78E+00	
0	734.45	6	3	0.96	1468.48	1465	6	1.97E-03	****	2.43E+00	T
0	762.32	5	4	0.97	1524.20	1519	8	1.39E-03	****	2.35E+00	
0	780.46	12	0	1.53	1560.46	1553	13	3.61E-03	55.5	2.31E+00	
0	916.98	6	2	0.77	1833.35	1829	7	1.72E-03	****	1.99E+00	
0	965.63	9	8	2.73	1930.61	1922	11	2.64E-03	****	1.90E+00	T
0	969.48	11	3	1.23	1938.31	1934	10	3.28E-03	90.5	1.89E+00	T

Flags: "T" = Tentatively associated

VAX/VMS Nuclide Identification Report Generated 17-AUG-2026 07:03:47.33

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**********************************************************************
*                          GEL Laboratories LLC                      *
*                            2040 Savage Road                        *
*                          Charleston, SC 29407                      *
**********************************************************************
*                                                                    *
*                       DETECTOR AND SAMPLE DATA                     *
*                                                                    *
* Configuration    : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G787535001.CNF;1    *
* Acquisition date : 17-AUG-2026 06:02:52 Sensitivity     : 3.000            *
* Detector ID      : GAM29                Energy tolerance: 1.500            *
* Elapsed live time:    0 01:00:00.00     Abundance limit : 75.000           *
* Elapsed real time:    0 01:00:00.23     Half life ratio : *****            *
* Sample date      : 14-JUL-2026 09:00:00 Nuclide Library : SOLID            *
* Sample ID        : G787535001           Analyst initials: GG               *
* Batch Number     : 3033734              Sample Quantity : 8.1850E+01 GRAM  *
* Wet wt corr      :    1.00000           Wet Weight      :    0.00000       *
*                                         Dry Weight      :    0.00000       *
**********************************************************************
*                                                                    *
*                       CALIBRATION INFORMATION                      *
*                                                                    *
* Eff. Cal. date   : 30-JUL-2026 09:33:07 Eff. Geometry   : CAN              *
* Eff. File        : DKA100:[CANBERRA.GAMMA]EFF_GAM29_CAN.CNF;24             *
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Combined Critical Level Report

NOTE: Not all "Identified Nuclides" are valid.
Please refer to Certificate of Analysis.

---- Identified Nuclides ----

Nuclide	Lc (pCi/GRAM)
BE-7	3.289E-01
K-40	3.365E-01
TL-208	2.383E-02
BI-210	2.521E+00
PB-210	2.521E+00
BI-211	1.366E-01
PB-212	4.592E-02
PB-214	4.967E-02
RN-222	4.967E-02
RA-224	4.920E-01
RA-226	4.967E-02
TH-228	4.592E-02
TH-230	4.967E-02
PA-234M	6.414E-01
TH-234	6.414E-01
U-234	4.967E-02
U-238	6.414E-01
AM-243	2.959E-02
ANH-511	2.346E-02

---- Non-Identified Nuclides ----

Nuclide	Lc (pCi/GRAM)	
NA-22	3.649E-02	NOT IDENT.
NA-24	0.000E+00	SHORT HLIF
AL-26	2.476E-02	NOT IDENT.
SC-46	3.889E-02	NOT IDENT.
V-48	8.198E-02	NOT IDENT.
CR-51	3.783E-01	NOT IDENT.
MN-52	2.015E+00	NOT IDENT.
MN-54	2.562E-02	NOT IDENT.
CO-56	1.955E-02	NOT IDENT.
MN-56	0.000E+00	SHORT HLIF
CO-57	1.565E-02	NOT IDENT.
CO-58	3.744E-02	NOT IDENT.

FE-59	7.315E-02	NOT IDENT.
CO-60	2.118E-02	NOT IDENT.
ZN-65	5.624E-02	NOT IDENT.
GE-68	6.340E-01	NOT IDENT.
AS-73	5.686E-01	NOT IDENT.
AS-74	1.709E-01	NOT IDENT.
SE-75	3.224E-02	NOT IDENT.
BR-77	0.000E+00	SHORT HLIF
SR-82	2.169E-01	NOT IDENT.
RB-83	5.914E-02	NOT IDENT.
RB-84	5.622E-02	NOT IDENT.
KR-85	6.549E+00	NOT IDENT.
SR-85	4.223E-02	NOT IDENT.
RB-86	8.676E-01	NOT IDENT.
Y-88	2.867E-02	NOT IDENT.
Y-91	1.740E+01	NOT IDENT.
NB-94	2.635E-02	NOT IDENT.
NB-95	3.843E-02	NOT IDENT.
NB-95M	1.094E-01	NOT IDENT.
ZR-95	7.778E-02	NOT IDENT.
NB-97	0.000E+00	SHORT HLIF
ZR-97	0.000E+00	SHORT HLIF
MO-99	0.000E+00	SHORT HLIF
TC-99M	0.000E+00	SHORT HLIF
RH-101	1.664E-02	FAIL ABUN
RH-102	4.054E-02	NOT IDENT.
RU-103	3.996E-02	FAIL ABUN
RH-106	2.355E-01	NOT IDENT.
RU-106	2.355E-01	NOT IDENT.
AG-108M	1.746E-02	FAIL ABUN
CD-109	4.514E-01	NOT IDENT.
AG-110	5.258E-01	NOT IDENT.
AG-110M	4.390E-02	NOT IDENT.
SN-113	3.186E-02	NOT IDENT.
CD-115	0.000E+00	SHORT HLIF
SN-117M	1.095E-01	NOT IDENT.
SB-122	0.000E+00	SHORT HLIF
TE-123M	2.385E-02	NOT IDENT.
SB-124	8.572E-02	NOT IDENT.
SB-125	4.399E-02	NOT IDENT.
TE-125M	8.273E+00	NOT IDENT.
I-126	4.262E-01	NOT IDENT.
SB-126	3.152E-01	NOT IDENT.
SN-126	4.602E-02	FAIL ABUN
SB-127	2.575E+01	NOT IDENT.
I-131	4.224E-01	FAIL ABUN
I-132	0.000E+00	SHORT HLIF
TE-132	0.000E+00	SHORT HLIF
BA-133	2.598E-02	FAIL ABUN
I-133	0.000E+00	SHORT HLIF
CS-134	2.331E-02	FAIL ABUN
I-135	0.000E+00	SHORT HLIF
CS-136	1.496E-01	NOT IDENT.
BA-137M	2.118E-02	NOT IDENT.
CS-137	2.237E-02	NOT IDENT.
LA-138	4.122E-02	NOT IDENT.
CE-139	2.284E-02	NOT IDENT.
BA-140	4.439E-01	NOT IDENT.
LA-140	6.440E-02	NOT IDENT.
CE-141	5.855E-02	NOT IDENT.
CE-143	0.000E+00	SHORT HLIF
CE-144	1.392E-01	FAIL ABUN
PM-144	2.615E-02	FAIL ABUN
PR-144	1.976E+00	NOT IDENT.
PM-146	2.968E-02	FAIL ABUN
ND-147	1.316E+00	NOT IDENT.
PM-147	4.850E+02	NOT IDENT.
PM-149	0.000E+00	SHORT HLIF
EU-150	1.679E-02	FAIL ABUN
EU-152	5.398E-02	NOT IDENT.
GD-153	5.472E-02	NOT IDENT.
EU-154	1.040E-01	NOT IDENT.
EU-155	5.854E-02	NOT IDENT.
TB-160	8.465E-02	FAIL ABUN
HO-166M	3.041E-02	FAIL ABUN
TM-171	1.185E+01	NOT IDENT.
HF-172	1.289E-01	FAIL ABUN
LU-172	3.252E-02	NOT IDENT.

LU-176	1.549E-02	NOT IDENT.
HF-181	2.920E-02	NOT IDENT.
TA-182	7.452E-02	NOT IDENT.
RE-183	1.667E-01	NOT IDENT.
RE-184	1.446E-01	NOT IDENT.
W-188	6.330E+00	FAIL ABUN
IR-192	2.838E-02	FAIL ABUN
HG-203	3.207E-02	NOT IDENT.
TL-204	3.189E+00	FAIL ABUN
BI-207	6.184E-02	FAIL ABUN
PB-211	5.070E-01	NOT IDENT.
BI-212	4.647E-01	NOT IDENT.
BI-213	7.859E-02	NOT IDENT.
BI-214	1.122E-01	FAIL ABUN
RN-219	2.553E-01	NOT IDENT.
RA-223	4.780E-01	FAIL ABUN
AC-225	1.501E+00	NOT IDENT.
AC-227	2.031E-01	FAIL ABUN
TH-227	2.031E-01	FAIL ABUN
AC-228	1.863E-01	FAIL ABUN
RA-228	1.863E-01	FAIL ABUN
TH-229	3.278E-01	FAIL ABUN
PA-231	2.877E-01	NOT IDENT.
TH-231	4.780E-01	FAIL ABUN
TH-232	1.863E-01	FAIL ABUN
PA-233	4.863E-02	NOT IDENT.
PA-234	0.000E+00	FAIL ABUN
U-235	1.438E-01	FAIL ABUN
NP-237	4.863E-02	NOT IDENT.
NP-238	0.000E+00	SHORT HLIF
NP-239	1.643E-01	NOT IDENT.
PU-239	2.287E+02	NOT IDENT.
AM-241	8.983E-02	NOT IDENT.
CM-243	6.645E-02	NOT IDENT.
BK-247	4.761E-02	NOT IDENT.
CM-247	2.641E-02	NOT IDENT.
CF-249	3.306E-02	NOT IDENT.
CF-251	9.457E-02	NOT IDENT.

VAX/VMS Nuclide Identification Report Generated 17-AUG-2026 07:03:51.31

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*****************************************************************************
*                            GEL Laboratories LLC                           *
*                              2040 Savage Road                             *
*                            Charleston, SC 29407                           *
*****************************************************************************
*                                                                           *
*                          DETECTOR AND SAMPLE DATA                         *
*                                                                           *
* Configuration    : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G787535001.CNF;1   *
* Acquisition date : 17-AUG-2026 06:02:52 Sensitivity     : 3.000           *
* Detector ID      : GAM29                Energy tolerance: 1.500           *
* Elapsed live time:    0 01:00:00.00     Abundance limit : 75.000          *
* Elapsed real time:    0 01:00:00.23     Half life ratio : *****           *
* Sample date      : 14-JUL-2026 09:00:00 Nuclide Library : SOLID           *
* Sample ID        : G787535001           Analyst initials: GG              *
* Batch Number     : 3033734              Sample Quantity : 8.1850E+01 GRAM *
*                                         Quantity Err(%) : 1.2217E-03 %    *
* Wet wt corr      :    1.00000           Wet Weight      :    0.00000      *
*                                         Dry Weight      :    0.00000      *
*****************************************************************************
*                                                                           *
*                          CALIBRATION INFORMATION                          *
*                                                                           *
* Eff. Cal. date   : 30-JUL-2026 09:33:07 Eff. Geometry   : CAN             *
* Eff. File        : DKA100:[CANBERRA.GAMMA]EFF_GAM29_CAN.CNF;24            *
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Combined Activity-MDA Report

NOTE: Not all "Identified Nuclides" are valid.
Please refer to Certificate of Analysis.

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act Error (1.96-sigma)	TPU (1.96-sigma)
BE-7	1.427E+00	7.299E-01	7.299E-01
K-40	1.149E+00	9.019E-01	9.019E-01
TL-208	9.199E-02	5.818E-02	5.818E-02
BI-210	3.965E+00	5.649E+00	5.649E+00
PB-210	3.965E+00	5.649E+00	5.649E+00
BI-211	5.851E-01	3.230E-01	3.230E-01
PB-212	1.243E-01	1.385E-01	1.385E-01
PB-214	2.124E-01	1.172E-01	1.172E-01
RN-222	2.124E-01	1.172E-01	1.172E-01
RA-224	1.322E+00	1.473E+00	1.473E+00
RA-226	2.124E-01	1.172E-01	1.172E-01
TH-228	1.243E-01	1.385E-01	1.385E-01
TH-230	2.124E-01	1.172E-01	1.172E-01
PA-234M	1.847E+00	1.518E+00	1.518E+00
TH-234	1.847E+00	1.518E+00	1.518E+00
U-234	2.124E-01	1.172E-01	1.172E-01
U-238	1.847E+00	1.518E+00	1.518E+00
AM-243	9.612E-02	5.562E-02	5.562E-02
ANH-511	8.101E-02	8.820E-02	8.820E-02

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L Act error (1.96-sigma)	TPU (1.96-sigma)	
NA-22	3.362E-02	3.363E-02	3.689E-02	NOT IDENT.
NA-24	4.233E+14	8.228E+14	8.446E+14	SHORT HLIF
AL-26	5.923E-03	2.710E-02	2.723E-02	NOT IDENT.
SC-46	1.778E-02	4.164E-02	4.240E-02	NOT IDENT.
V-48	2.157E-02	8.822E-02	8.875E-02	NOT IDENT.
CR-51	-1.646E-01	4.948E-01	5.003E-01	NOT IDENT.
MN-52	-6.232E-01	2.658E+00	2.673E+00	NOT IDENT.
MN-54	-9.765E-03	3.137E-02	3.168E-02	NOT IDENT.
CO-56	-2.243E-02	3.098E-02	3.259E-02	NOT IDENT.
MN-56	-1.000E+41	1.381E+41	0.000E+00	SHORT HLIF
CO-57	-2.672E-03	1.881E-02	1.885E-02	NOT IDENT.

CO-58	2.693E-02	3.753E-02	3.945E-02	NOT IDENT.
FE-59	1.702E-02	8.112E-02	8.148E-02	NOT IDENT.
CO-60	2.031E-04	2.542E-02	2.542E-02	NOT IDENT.
ZN-65	-1.689E-02	7.219E-02	7.259E-02	NOT IDENT.
GE-68	-2.443E-01	8.510E-01	8.581E-01	NOT IDENT.
AS-73	-8.439E-01	8.129E-01	8.975E-01	NOT IDENT.
AS-74	9.046E-02	1.970E-01	2.012E-01	NOT IDENT.
SE-75	1.767E-02	3.599E-02	3.686E-02	NOT IDENT.
BR-77	4.612E+03	6.839E+03	7.148E+03	SHORT HLIF
SR-82	-1.991E-01	3.778E-01	3.883E-01	NOT IDENT.
RB-83	6.185E-03	7.285E-02	7.290E-02	NOT IDENT.
RB-84	-2.908E-02	7.643E-02	7.754E-02	NOT IDENT.
KR-85	3.845E+00	7.545E+00	7.742E+00	NOT IDENT.
SR-85	2.462E-02	4.868E-02	4.992E-02	NOT IDENT.
RB-86	-1.461E-01	1.084E+00	1.086E+00	NOT IDENT.
Y-88	-6.461E-03	3.904E-02	3.915E-02	NOT IDENT.
Y-91	4.014E+00	1.959E+01	1.967E+01	NOT IDENT.
NB-94	9.302E-04	3.354E-02	3.354E-02	NOT IDENT.
NB-95	-4.540E-03	4.645E-02	4.650E-02	NOT IDENT.
NB-95M	5.799E-02	1.329E-01	1.355E-01	NOT IDENT.
ZR-95	7.171E-02	7.830E-02	8.471E-02	NOT IDENT.
NB-97	1.000E+41	2.899E+41	0.000E+00	SHORT HLIF
ZR-97	3.167E+13	2.101E+14	2.106E+14	SHORT HLIF
MO-99	-2.322E+02	9.910E+02	9.965E+02	SHORT HLIF
TC-99M	-9.027E+37	9.405E+38	0.000E+00	SHORT HLIF
RH-101	-2.192E-02	2.380E-02	2.577E-02	FAIL ABUN
RH-102	2.371E-02	4.487E-02	4.613E-02	NOT IDENT.
RU-103	1.324E-02	4.690E-02	4.728E-02	FAIL ABUN
RH-106	2.479E-01	2.311E-01	2.567E-01	NOT IDENT.
RU-106	2.479E-01	2.311E-01	2.567E-01	NOT IDENT.
AG-108M	5.205E-02	4.832E-02	5.371E-02	FAIL ABUN
CD-109	-8.748E-02	5.373E-01	5.388E-01	NOT IDENT.
AG-110	1.294E-01	6.326E-01	6.352E-01	NOT IDENT.
AG-110M	2.542E-02	4.569E-02	4.710E-02	NOT IDENT.
SN-113	-9.709E-03	4.154E-02	4.177E-02	NOT IDENT.
CD-115	2.108E+03	2.775E+03	2.933E+03	SHORT HLIF
SN-117M	7.118E-02	1.223E-01	1.264E-01	NOT IDENT.
SB-122	2.061E+01	2.341E+02	2.343E+02	SHORT HLIF
TE-123M	9.732E-03	2.726E-02	2.761E-02	NOT IDENT.
SB-124	-1.748E-02	1.129E-01	1.132E-01	NOT IDENT.
SB-125	-6.459E-02	7.263E-02	7.825E-02	NOT IDENT.
TE-125M	6.116E+00	9.022E+00	9.434E+00	NOT IDENT.
I-126	6.652E-02	5.256E-01	5.265E-01	NOT IDENT.
SB-126	1.267E-01	3.690E-01	3.734E-01	NOT IDENT.
SN-126	1.735E-02	5.186E-02	5.245E-02	FAIL ABUN
SB-127	-2.119E+00	3.360E+01	3.362E+01	NOT IDENT.
I-131	1.848E-02	5.171E-01	5.172E-01	FAIL ABUN
I-132	-1.000E+41	2.441E+41	0.000E+00	SHORT HLIF
TE-132	-2.094E+01	3.207E+01	3.343E+01	SHORT HLIF
BA-133	-5.495E-03	3.316E-02	3.325E-02	FAIL ABUN
I-133	-6.811E+09	1.665E+10	1.693E+10	SHORT HLIF
CS-134	-3.251E-02	3.557E-02	3.847E-02	FAIL ABUN
I-135	4.237E+35	2.201E+36	0.000E+00	SHORT HLIF
CS-136	-6.770E-02	2.019E-01	2.042E-01	NOT IDENT.
BA-137M	-8.016E-04	2.730E-02	2.730E-02	NOT IDENT.
CS-137	-8.469E-04	2.884E-02	2.884E-02	NOT IDENT.
LA-138	-7.746E-04	5.024E-02	5.024E-02	NOT IDENT.
CE-139	1.264E-04	2.719E-02	2.719E-02	NOT IDENT.
BA-140	-2.717E-01	6.351E-01	6.468E-01	NOT IDENT.
LA-140	-8.610E-02	1.521E-01	1.570E-01	NOT IDENT.
CE-141	-1.317E-02	7.110E-02	7.134E-02	NOT IDENT.
CE-143	1.766E+05	1.275E+06	1.277E+06	SHORT HLIF
CE-144	-8.793E-04	1.647E-01	1.647E-01	FAIL ABUN
PM-144	-8.594E-03	3.576E-02	3.597E-02	FAIL ABUN
PR-144	-6.495E-01	2.703E+00	2.719E+00	NOT IDENT.
PM-146	1.948E-02	3.432E-02	3.543E-02	FAIL ABUN
ND-147	7.739E-02	1.638E+00	1.638E+00	NOT IDENT.
PM-147	1.798E+02	5.492E+02	5.551E+02	NOT IDENT.
PM-149	1.084E+04	2.618E+04	2.663E+04	SHORT HLIF
EU-150	-2.755E-03	2.116E-02	2.120E-02	FAIL ABUN
EU-152	-1.783E-02	7.044E-02	7.089E-02	NOT IDENT.
GD-153	-4.881E-02	7.705E-02	8.013E-02	NOT IDENT.
EU-154	9.793E-02	9.573E-02	1.054E-01	NOT IDENT.
EU-155	1.049E-02	6.727E-02	6.743E-02	NOT IDENT.
TB-160	-6.615E-02	1.220E-01	1.256E-01	FAIL ABUN
HO-166M	-2.398E-02	4.793E-02	4.913E-02	FAIL ABUN
TM-171	5.612E+00	1.532E+01	1.552E+01	NOT IDENT.
HF-172	9.118E-02	1.461E-01	1.517E-01	FAIL ABUN

LU-172	-2.683E-02	4.856E-02	5.004E-02	NOT IDENT.
LU-176	-1.457E-02	2.181E-02	2.278E-02	NOT IDENT.
HF-181	-6.824E-02	5.531E-02	6.329E-02	NOT IDENT.
TA-182	-9.160E-02	1.312E-01	1.375E-01	NOT IDENT.
RE-183	1.407E-01	1.786E-01	1.896E-01	NOT IDENT.
RE-184	3.062E-02	1.627E-01	1.633E-01	NOT IDENT.
W-188	3.480E+00	7.629E+00	7.789E+00	FAIL ABUN
IR-192	-1.179E-02	3.685E-02	3.723E-02	FAIL ABUN
HG-203	-6.817E-03	4.021E-02	4.033E-02	NOT IDENT.
TL-204	3.035E+00	3.582E+00	3.835E+00	FAIL ABUN
BI-207	-4.387E-02	7.286E-02	7.550E-02	FAIL ABUN
PB-211	2.031E-01	5.861E-01	5.932E-01	NOT IDENT.
BI-212	3.223E-01	5.210E-01	5.408E-01	NOT IDENT.
BI-213	3.988E-02	8.933E-02	9.112E-02	NOT IDENT.
BI-214	2.745E-01	1.702E-01	2.104E-01	FAIL ABUN
RN-219	-5.878E-02	3.296E-01	3.307E-01	NOT IDENT.
RA-223	1.759E-02	5.828E-01	5.829E-01	FAIL ABUN
AC-225	2.084E-01	1.778E+00	1.780E+00	NOT IDENT.
AC-227	1.353E-01	2.280E-01	2.360E-01	FAIL ABUN
TH-227	1.353E-01	2.280E-01	2.360E-01	FAIL ABUN
AC-228	1.948E-01	1.857E-01	2.054E-01	FAIL ABUN
RA-228	1.948E-01	1.857E-01	2.054E-01	FAIL ABUN
TH-229	-9.258E-02	4.060E-01	4.081E-01	FAIL ABUN
PA-231	-4.636E-02	3.603E-01	3.610E-01	NOT IDENT.
TH-231	1.759E-02	5.828E-01	5.829E-01	FAIL ABUN
TH-232	1.948E-01	1.857E-01	2.054E-01	FAIL ABUN
PA-233	-6.274E-03	6.051E-02	6.057E-02	NOT IDENT.
PA-234	-1.756E-01	2.536E-01	2.656E-01	FAIL ABUN
U-235	-1.344E-02	1.709E-01	1.711E-01	FAIL ABUN
NP-237	-6.274E-03	6.051E-02	6.057E-02	NOT IDENT.
NP-238	-4.441E+03	5.607E+03	5.954E+03	SHORT HLIF
NP-239	1.933E-03	1.932E-01	1.932E-01	NOT IDENT.
PU-239	1.709E+02	2.497E+02	2.613E+02	NOT IDENT.
AM-241	-6.109E-02	1.111E-01	1.145E-01	NOT IDENT.
CM-243	5.701E-02	7.097E-02	7.548E-02	NOT IDENT.
BK-247	7.996E-03	5.629E-02	5.640E-02	NOT IDENT.
CM-247	1.039E-02	3.060E-02	3.096E-02	NOT IDENT.
CF-249	1.383E-02	3.847E-02	3.897E-02	NOT IDENT.
CF-251	1.639E-02	1.110E-01	1.112E-01	NOT IDENT.

GEL Laboratories LLC
2040 Savage Road
Charleston, SC 29407

GAMMA SPECTROSCOPY BACKGROUND REPORT

ENERGY	MDA COUNTS	ENERGY	MDA COUNTS	ENERGY	MDA COUNTS
74.66	23.4604	81.75	29.6389	125.81	16.1114
879.38	28.0058	82.47	20.1372	127.23	26.3356
46.54	28.0712	83.79	20.1827	127.91	27.2091
228.16	0.0000	265.00	22.3151	129.30	18.7397
52.39	20.9234	193.51	30.3584	131.20	32.4475
1093.63	25.4376	105.31	24.8124	133.02	21.3963
52.39	13.4831	86.79	25.6230	133.52	26.5479
125.81	19.5014	86.94	23.2269	136.00	21.4760
53.44	27.7816	87.09	23.2326	136.47	24.9267
54.07	26.3173	87.57	24.8546	739.50	0.0000
293.27	0.0000	88.03	28.0829	140.51	0.0000
482.18	31.0650	306.78	28.9001	143.76	23.4145
57.98	19.7189	88.47	32.1182	144.24	13.8831
59.27	26.6180	143.76	23.6109	145.44	26.0683
59.32	29.6631	90.64	24.7112	152.43	29.7858
59.54	29.6770	531.02	25.8054	1048.07	14.9069
60.96	17.2997	92.59	25.8667	154.21	19.3124
61.17	17.3072	93.35	25.8982	158.56	21.9913
62.93	17.6257	94.56	25.9478	159.00	26.4780
63.29	17.6386	311.90	25.9514	162.33	32.7770
290.67	17.6490	946.00	25.9524	537.26	29.2441
87.57	17.6741	94.87	25.9604	163.33	27.4921
66.73	16.4736	97.43	30.4082	165.86	26.6789
67.24	19.5820	98.43	22.8414	427.87	29.6746
67.68	12.3783	98.44	22.8419	176.60	26.9847
1221.41	12.3799	103.37	20.4285	177.52	26.1104
70.82	22.4883	116.74	20.4285	181.07	0.0000
97.43	30.2884	100.11	16.3573	181.52	18.0814
70.82	20.7554	102.03	18.8654	184.41	25.3882
279.20	20.7558	103.18	16.4330	185.72	25.4220
1063.66	39.5833	103.37	14.7938	193.51	22.8737
72.87	34.3790	105.31	17.3091	197.03	26.9307
351.06	34.3790	106.12	20.6305	198.01	18.3789
74.66	26.1309	106.47	18.9898	201.83	13.8348
351.93	26.1386	109.28	19.8961	203.43	21.2452
238.63	26.1386	111.00	22.4381	205.31	20.3575
351.93	26.1386	111.76	0.0000	210.85	15.8120
238.63	26.1386	114.06	18.3618	215.65	13.0789
74.97	26.1459	116.30	0.0000	218.12	20.5985
77.11	26.2474	116.74	22.6187	222.11	20.6720
78.74	17.3738	119.76	22.7118	227.09	16.0439
256.23	17.4030	264.66	20.2253	227.38	19.8240
80.03	20.0516	121.22	20.2280	228.16	0.0000
133.52	20.0551	344.28	21.0867	228.18	21.7271
364.49	20.0574	122.06	21.9383	235.69	20.2835
711.68	20.0708	122.92	22.8082	235.96	31.7001
356.01	20.0858	1274.44	22.8128	238.63	29.5478
323.87	20.0883	123.68	21.9855	238.98	0.0000

ENERGY	MDA COUNTS	ENERGY	MDA COUNTS	ENERGY	MDA COUNTS
240.99	29.6069	911.20	13.3432	537.26	10.3085
242.00	25.4899	340.48	18.5015	1260.41	0.0000
244.70	24.9086	340.55	18.5021	552.55	9.2280
685.70	18.3175	344.28	11.3347	795.86	10.4321
388.16	16.3948	345.93	10.3152	564.24	0.0000
507.63	0.0000	351.06	13.4543	569.33	1.1623
256.23	17.4073	351.93	13.4618	569.50	1.1624
527.90	0.0000	355.39	0.0000	569.70	1.1625
264.66	10.7093	356.01	12.4585	583.19	8.1865
264.80	11.6840	364.49	13.5689	584.27	3.1201
265.00	11.6858	366.42	0.0000	595.83	9.4077
269.46	12.7036	372.51	13.6364	600.60	9.4272
270.03	6.8436	375.05	6.3036	602.52	0.0000
401.81	20.5495	377.52	11.5737	604.72	14.1658
273.65	8.8234	383.85	12.6746	607.14	9.4536
276.40	16.7017	388.16	13.7661	609.32	11.8280
583.19	13.7642	666.33	12.7108	610.33	11.8329
277.60	13.7667	391.69	12.7339	614.28	15.8040
402.40	25.5747	400.66	14.9344	618.01	7.1228
279.20	16.7370	401.81	11.7422	884.68	4.7534
279.54	16.7411	402.40	9.6106	621.93	1.5855
279.70	14.7734	404.85	9.6240	630.19	0.0000
280.46	14.7821	410.95	17.1694	631.29	4.7751
301.36	19.7571	413.71	15.0472	633.25	3.5843
284.31	21.7429	720.70	15.0557	634.78	4.7820
285.41	16.8153	423.72	9.7278	635.95	3.5881
285.90	0.0000	427.09	8.6633	636.99	4.7864
287.50	16.8412	427.87	13.0005	657.50	6.0330
290.67	13.2397	433.94	8.6960	657.76	4.8269
293.27	0.0000	439.40	7.2683	657.90	0.0000
295.22	15.9404	440.45	8.7271	661.66	6.0431
316.51	15.9492	453.88	5.8602	664.57	0.0000
298.58	14.6479	463.37	16.5642	666.33	7.2653
299.98	11.9967	468.07	9.9630	666.50	7.2656
300.09	11.9974	473.00	11.0980	667.71	0.0000
300.13	11.9978	631.29	11.8506	677.62	9.7305
311.90	11.9978	696.49	13.3436	685.70	7.3209
301.36	14.0098	477.60	13.3491	692.65	0.0000
302.85	15.0266	482.18	16.7253	695.00	9.7964
304.50	9.0264	487.02	5.5888	696.49	11.0270
304.85	15.0481	492.35	0.0000	696.51	11.0270
306.78	18.0824	497.08	7.8639	697.00	11.0292
308.46	16.0923	505.52	7.5205	697.30	11.0303
311.90	19.1554	507.63	0.0000	697.49	11.0314
316.51	18.2054	511.00	13.5732	702.65	9.8252
319.41	16.2148	514.00	13.5930	706.68	8.6103
320.08	16.2222	514.00	13.5930	711.68	7.3942
321.04	17.2475	520.40	9.0898	720.70	6.1826
323.87	17.2812	520.69	0.0000	721.93	0.0000
325.23	15.2618	667.71	0.0000	1690.97	8.6624
1596.21	11.2189	527.90	0.0000	722.91	8.6628
333.37	9.2074	528.26	6.8430	723.31	6.1887
333.97	13.3047	529.59	10.2711	756.73	3.7145
334.37	22.5217	529.87	0.0000	727.33	7.4377
338.28	13.3428	531.02	9.1362	733.00	3.3125

ENERGY	MDA COUNTS	ENERGY	MDA COUNTS	ENERGY	MDA COUNTS
735.93	6.6322	983.53	5.3320	1368.63	0.0000
737.46	6.6361	946.00	4.4460	1384.29	3.9844
739.50	0.0000	949.00	0.0000	1408.01	5.0065
1434.09	7.4843	954.55	0.0000	1434.09	5.0354
747.24	8.7410	962.31	4.0210	1435.80	3.0222
748.06	7.4945	964.08	4.0232	1457.56	0.0000
752.31	5.8382	966.17	0.0000	1460.82	5.0643
753.82	5.8413	968.97	1.3430	1489.16	2.0381
756.73	4.0096	983.53	1.7984	1505.03	1.0224
756.80	4.0098	984.45	0.0000	1584.12	2.0781
763.94	11.3066	996.26	5.4153	1596.21	2.0832
765.81	7.0400	1002.74	5.4255	1620.50	0.0000
766.84	5.8687	1004.73	9.0479	1621.92	3.1406
772.60	0.0000	1021.30	0.0000	1678.03	0.0000
776.52	5.0476	1025.87	0.0000	1690.97	3.1829
777.92	0.0000	1028.54	0.0000	1750.46	0.0000
778.90	1.6839	1037.84	3.6533	1764.49	2.1512
783.70	1.2651	1038.76	0.0000	1770.23	0.0000
1435.80	8.4489	1046.59	2.7468	1771.35	0.0000
903.28	9.3045	1048.07	4.5801	1791.20	0.0000
795.86	11.0111	1049.04	6.4138	1808.65	1.0843
801.95	5.0925	1050.41	5.4995	1810.72	0.0000
810.06	6.8092	1063.66	11.0391	1836.06	2.1792
810.29	4.2560	1077.00	3.6934		
810.45	4.2562	1077.34	3.6937		
810.76	3.4054	1085.87	4.6277		
815.77	6.8223	1093.63	5.5649		
818.51	1.7072	1099.45	2.7869		
832.01	5.1450	1112.07	3.7285		
834.85	5.1499	1112.84	2.7969		
836.80	0.0000	1115.54	5.5981		
846.75	0.0000	1120.29	7.4733		
846.77	6.0319	1120.55	8.4082		
856.80	2.5936	1121.30	4.6720		
860.56	5.1937	1808.65	3.7458		
871.09	6.0800	1131.51	0.0000		
873.19	4.3459	1147.95	0.0000		
875.33	0.0000	1332.49	2.8413		
879.38	5.2253	1177.95	3.7930		
880.51	3.4849	1189.05	3.8037		
881.60	4.3577	1204.77	3.8187		
883.24	7.8479	1221.41	4.7933		
884.68	4.3620	1231.02	5.7656		
889.28	5.2419	1235.36	3.8480		
894.76	5.2512	1238.28	1.9253		
1836.06	4.3805	1260.41	0.0000		
900.72	8.7683	1271.87	5.8232		
903.28	6.1428	1274.44	0.9711		
911.20	5.2783	1274.54	0.9711		
912.08	6.3357	1291.59	6.8257		
984.45	0.0000	1298.22	0.0000		
926.50	8.8391	1312.11	4.8991		
929.11	2.6538	1332.49	1.9689		
935.54	5.3181	1362.66	0.0000		
937.49	3.5475	1365.19	4.9589		

VAX/VMS Nuclide Identification Report Generated 17-AUG-2026 07:04:18.34

```
*************************************************************************
*                          GEL Laboratories LLC                         *
*                            2040 Savage Road                           *
*                          Charleston, SC 29407                         *
*************************************************************************
Configuration    : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G787535002.CNF;1
Background file  : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]BKG_GAM33.CNF;704
                                    Background date  : 16-AUG-2026 08:55:34
Sample date      : 14-JUL-2026 09:30:00 Acquisition date : 17-AUG-2026 06:03:12
Sample ID        : G787535002           Sample quantity  : 1.12880E+02 GRAM
Detector name    : GAM33                Detector geometry: CAN
Elapsed live time: 0 01:00:00.00        Elapsed real time: 0 01:00:00.36  0.0%
Energy tolerance : 1.50000 keV          Analyst Initials : GG
Abundance limit  : 75.00000             Sensitivity      : 3.00000
Batch ID         : 3033734              Detector SN#     :
Matrix Spike ID  :                      LCS ID           :
*************************************************************************
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BACKGROUND CORRECTED SAMPLE PEAK REPORT

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	64.10*	59	123	3.77	128.68	120	19	1.63E-02	48.4	
2	0	77.58	30	116	0.91	155.63	152	7	8.33E-03	64.4	
3	0	98.72*	15	56	1.42	197.91	194	9	4.20E-03	96.0	
4	0	119.21*	20	83	2.28	238.89	229	13	5.43E-03	100.4	
5	0	152.51	33	75	4.57	305.47	297	14	9.06E-03	59.6	
6	0	185.83*	32	63	1.45	372.09	366	11	8.92E-03	58.3	
7	0	209.60	27	97	1.34	419.63	413	15	7.61E-03	80.7	
8	2	238.86*	133	33	1.84	478.14	470	35	3.69E-02	13.3	1.10E+00
9	2	242.03	60	33	1.85	484.46	470	35	1.66E-02	27.0	
10	0	295.00	70	49	1.27	590.39	583	13	1.96E-02	23.6	
11	0	328.77*	12	15	0.92	657.92	654	7	3.31E-03	67.3	
12	2	338.65	43	24	1.94	677.67	669	19	1.19E-02	28.2	1.15E+00
13	2	341.75	23	10	1.67	683.88	669	19	6.27E-03	35.7	
14	0	352.04*	130	53	1.54	704.46	698	15	3.60E-02	14.4	
15	0	511.45*	16	36	2.09	1023.24	1013	21	4.37E-03	120.2	
16	0	583.74*	41	34	2.23	1167.80	1158	18	1.13E-02	38.8	
17	0	609.48*	86	27	1.26	1219.27	1213	12	2.38E-02	16.8	
18	0	661.82	138	15	1.36	1323.95	1318	12	3.84E-02	10.2	
19	0	684.62	11	5	0.73	1369.55	1363	10	3.06E-03	48.5	
20	0	770.39	10	16	1.23	1541.09	1534	11	2.70E-03	91.3	
21	0	793.79	17	11	3.38	1587.89	1579	15	4.68E-03	49.8	
22	1	908.95	11	2	1.73	1818.21	1816	13	3.16E-03	29.1	9.04E-01
23	1	911.35*	15	6	1.92	1823.00	1816	13	4.30E-03	48.4	
24	0	969.35	25	4	1.14	1939.01	1930	18	6.91E-03	28.2	
25	0	1088.48	6	3	1.31	2177.29	2174	6	1.79E-03	57.0	
26	0	1096.80	8	3	2.86	2193.94	2188	12	2.18E-03	56.9	
27	0	1119.60	27	4	3.87	2239.54	2234	13	7.59E-03	23.6	
28	0	1132.23	8	7	0.50	2264.79	2256	14	2.24E-03	77.9	
29	0	1238.71	11	6	1.43	2477.77	2472	12	3.06E-03	53.8	
30	0	1377.36	11	5	3.31	2755.12	2748	12	2.95E-03	54.9	
31	0	1461.14*	54	0	2.48	2922.72	2915	14	1.50E-02	14.5	
32	0	1764.98*	17	0	1.82	3530.53	3524	12	4.69E-03	26.4	

Flag: "*" = Peak area was modified by background subtraction

VMS Nuclide Identification Report V3.1 Generated 17-AUG-2026 07:04:19

Configuration	: DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G787535002.CNF;1		
Analyses by	: PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.4		
Sample title	: GG		
Sample date	: 14-JUL-2026 09:30:00	Acquisition date	: 17-AUG-2026 06:03:12
Sample ID	: G787535002	Sample quantity	: 112.88 GRAM
Sample type	: SOLID	Sample geometry	:
Detector name	: GAMMA33	Detector geometry	: CAN
Elapsed live time	: 0 01:00:00.00	Elapsed real time	: 0 01:00:00.36 0.0%
Energy tolerance	: 1.50 keV	Half life ratio	: 10.00
Errors propagated	: No	Systematic Error	: 0.00 %
Efficiency type	: Empirical	Efficiencies at	: Peak Energy
Abundance limit	: 75.00		

Interference Report

No interference correction performed

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
K-40	1460.82	51	10.66*	1.112E+00	2.861E+00	2.861E+00	28.96
BA-137M	661.66	134	89.90*	2.280E+00	4.356E-01	4.365E-01	20.38
CS-137	661.66	134	85.10*	2.280E+00	4.602E-01	4.612E-01	20.38
TL-208	277.37	------	6.60	4.360E+00	------ Line Not Found		------
	583.19	40	85.00*	2.528E+00	1.228E-01	1.228E-01	77.61
	860.56	------	12.50	1.806E+00	------ Line Not Found		------
BI-211	72.87	------	1.23	3.380E+00	------ Line Not Found		------
	351.06	129	12.92*	3.686E+00	1.803E+00	1.803E+00	28.85
PB-212	74.82	------	10.28	3.628E+00	------ Line Not Found		------
	77.11	32	17.10	3.964E+00	3.103E-01	3.103E-01	128.78
	238.63	134	43.60*	4.832E+00	4.238E-01	4.238E-01	26.57
	300.09	------	3.30	4.126E+00	------ Line Not Found		------
BI-214	609.32	84	45.49*	2.442E+00	5.009E-01	5.009E-01	33.54
	1120.29	26	14.92	1.407E+00	8.246E-01	8.246E-01	47.16
	1764.49	16	15.30	9.853E-01	6.962E-01	6.962E-01	52.79
PB-214	74.82	------	5.80	3.628E+00	------ Line Not Found		------
	77.11	32	9.70	3.964E+00	5.470E-01	5.470E-01	128.78
	87.09	------	3.41	4.947E+00	------ Line Not Found		------
	242.00	60	7.25	4.789E+00	1.156E+00	1.156E+00	54.10
	295.22	71	18.42	4.176E+00	6.111E-01	6.111E-01	47.30
	351.93	129	35.60*	3.686E+00	6.543E-01	6.544E-01	28.85
RN-222	74.82	------	5.80	3.628E+00	------ Line Not Found		------
	77.11	32	9.70	3.964E+00	5.470E-01	5.470E-01	128.78
	87.09	------	3.41	4.947E+00	------ Line Not Found		------
	242.00	60	7.25	4.789E+00	1.156E+00	1.156E+00	54.10
	295.22	71	18.42	4.176E+00	6.111E-01	6.111E-01	47.30
	351.93	129	35.60*	3.686E+00	6.543E-01	6.544E-01	28.85
RA-224	240.99	60	4.10*	4.789E+00	2.044E+00	2.044E+00	54.10
RA-226	74.82	------	5.80	3.628E+00	------ Line Not Found		------
	77.11	32	9.70	3.964E+00	5.470E-01	5.470E-01	128.78
	87.09	------	3.41	4.947E+00	------ Line Not Found		------
	242.00	60	7.25	4.789E+00	1.156E+00	1.156E+00	54.10
	295.22	71	18.42	4.176E+00	6.111E-01	6.111E-01	47.30
	351.93	129	35.60*	3.686E+00	6.543E-01	6.544E-01	28.85
AC-228	338.32	43	11.27	3.788E+00	6.656E-01	6.656E-01	56.45
	911.20	15	25.80*	1.711E+00	2.240E-01	2.240E-01	96.76
	968.97	24	15.80	1.614E+00	6.209E-01	6.209E-01	56.45
RA-228	338.32	43	11.27	3.788E+00	6.656E-01	6.656E-01	56.45
	911.20	15	25.80*	1.711E+00	2.240E-01	2.240E-01	96.76
	968.97	24	15.80	1.614E+00	6.209E-01	6.209E-01	56.45
TH-228	74.82	------	10.28	3.628E+00	------ Line Not Found		------
	77.11	32	17.10	3.964E+00	3.103E-01	3.103E-01	128.78
	238.63	134	43.60*	4.832E+00	4.238E-01	4.238E-01	26.57
	300.09	------	3.30	4.126E+00	------ Line Not Found		------
TH-230	74.82	------	5.80	3.628E+00	------ Line Not Found		------
	77.11	32	9.70	3.964E+00	5.470E-01	5.470E-01	128.78
	87.09	------	3.41	4.947E+00	------ Line Not Found		------
	242.00	60	7.25	4.789E+00	1.156E+00	1.156E+00	54.10
	295.22	71	18.42	4.176E+00	6.111E-01	6.111E-01	47.30

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
	351.93	129	35.60*	3.686E+00	6.543E-01	6.543E-01	28.85
TH-232	338.32	43	11.27	3.788E+00	6.656E-01	6.656E-01	56.45
	911.20	15	25.80*	1.711E+00	2.240E-01	2.240E-01	96.76
	968.97	24	15.80	1.614E+00	6.209E-01	6.209E-01	56.45
U-234	74.82	------	5.80	3.628E+00	------ Line Not Found		------
	77.11	32	9.70	3.964E+00	5.470E-01	5.470E-01	128.78
	87.09	------	3.41	4.947E+00	------ Line Not Found		------
	242.00	60	7.25	4.789E+00	1.156E+00	1.156E+00	54.10
	295.22	71	18.42	4.176E+00	6.111E-01	6.111E-01	47.30
	351.93	129	35.60*	3.686E+00	6.543E-01	6.543E-01	28.85
ANH-511	511.00	15	100.00*	2.804E+00	3.665E-02	3.665E-02	240.44

Flag: "*" = Keyline

VAX/VMS Nuclide Identification Report Generated 17-AUG-2026 07:04:20.52

GEL Laboratories LLC
2040 Savage Road
Charleston, SC 29407

DETECTOR AND SAMPLE DATA

Configuration	: DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G787535002.CNF;1		
Acquisition date	: 17-AUG-2026 06:03:12	Sensitivity	: 3.000
Detector ID	: GAM33	Energy tolerance	: 1.500
Elapsed live time	: 0 01:00:00.00	Abundance limit	: 75.000
Elapsed real time	: 0 01:00:00.36	Half life ratio	: *****
Sample date	: 14-JUL-2026 09:30:00	Analyst initials	: GG
Sample ID	: G787535002	Sample Quantity	: 1.1288E+02 GRAM
Batch Number	: 3033734	Wet Weight	: 0.00000
Wet wt corr	: 1.00000	Dry Weight	: 0.00000
Nuclide Library	: SOLID.NLB;19		

CALIBRATION INFORMATION

Eff. Cal. date	: 5-DEC-2025 15:42:05	Eff. Geometry	: CAN
Eff. File	: DKA100:[CANBERRA.GAMMA]EFF_GAM33_CAN.CNF;18		

Combined Activity-MDA Report

NOTE: Not all "Identified Nuclides" are valid.
Please refer to Certificate of Analysis.

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Cnt uncert (1.96-sigma)	MDA (pCi/GRAM)
K-40	2.861E+00	8.121E-01	6.164E-01
BA-137M	4.365E-01	8.720E-02	6.451E-02
CS-137	4.612E-01	9.212E-02	6.815E-02
TL-208	1.228E-01	9.339E-02	5.718E-02
BI-211	1.803E+00	5.097E-01	3.511E-01
PB-212	4.238E-01	1.104E-01	8.947E-02
BI-214	5.009E-01	1.646E-01	1.309E-01
PB-214	6.544E-01	1.850E-01	1.277E-01
RN-222	6.544E-01	1.850E-01	1.277E-01
RA-224	2.044E+00	1.084E+00	9.583E-01
RA-226	6.544E-01	1.850E-01	1.277E-01
AC-228	2.240E-01	2.124E-01	2.089E-01
RA-228	2.240E-01	2.124E-01	2.089E-01
TH-228	4.238E-01	1.104E-01	8.947E-02
TH-230	6.543E-01	1.850E-01	1.277E-01
TH-232	2.240E-01	2.124E-01	2.089E-01
U-234	6.543E-01	1.850E-01	1.277E-01
ANH-511	3.665E-02	8.637E-02	4.047E-02

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Cnt Uncert (1.96-sigma)	MDA (pCi/GRAM)	
BE-7	6.804E-02	2.885E-01	6.195E-01	NOT IDENT.
NA-22	-6.047E-03	2.447E-02	5.058E-02	NOT IDENT.
NA-24	0.000E+00	6.288E+14	0.000E+00	SHORT HLIF
AL-26	2.052E-02	2.322E-02	7.314E-02	NOT IDENT.
SC-46	1.870E-02	3.562E-02	8.175E-02	FAIL ABUN
V-48	5.386E-02	9.309E-02	2.364E-01	NOT IDENT.
CR-51	1.589E-01	4.798E-01	9.312E-01	NOT IDENT.
MN-52	-4.817E-01	1.049E+00	2.969E+00	NOT IDENT.
MN-54	-2.632E-02	3.443E-02	5.912E-02	NOT IDENT.
CO-56	-2.835E-02	4.113E-02	7.187E-02	FAIL ABUN
MN-56	0.000E+00	1.439E+41	0.000E+00	SHORT HLIF
CO-57	-6.628E-03	2.366E-02	3.888E-02	NOT IDENT.

CO-58	5.268E-03	3.052E-02	6.780E-02	NOT IDENT.
FE-59	-2.149E-02	1.003E-01	1.743E-01	NOT IDENT.
CO-60	-9.426E-03	3.304E-02	6.413E-02	NOT IDENT.
ZN-65	1.841E-02	4.742E-02	1.141E-01	NOT IDENT.
GE-68	-3.840E-01	1.108E+00	2.095E+00	NOT IDENT.
AS-73	8.679E-01	1.528E+00	3.080E+00	NOT IDENT.
AS-74	1.993E-03	1.552E-01	3.161E-01	NOT IDENT.
SE-75	3.254E-02	4.461E-02	8.879E-02	NOT IDENT.
BR-77	0.000E+00	4.070E+03	0.000E+00	SHORT HLIF
SR-82	1.805E-01	4.114E-01	9.271E-01	NOT IDENT.
RB-83	-1.719E-02	5.632E-02	1.111E-01	NOT IDENT.
RB-84	2.749E-03	8.535E-02	1.762E-01	NOT IDENT.
KR-85	7.541E+00	6.046E+00	1.390E+01	NOT IDENT.
SR-85	4.850E-02	3.899E-02	8.961E-02	NOT IDENT.
RB-86	-6.203E-01	1.390E+00	2.549E+00	NOT IDENT.
Y-88	1.867E-02	2.487E-02	8.181E-02	NOT IDENT.
Y-91	3.783E+00	1.561E+01	3.604E+01	NOT IDENT.
NB-94	2.673E-02	2.899E-02	6.743E-02	NOT IDENT.
NB-95	1.081E-02	4.077E-02	8.062E-02	NOT IDENT.
NB-95M	1.500E-03	1.241E-01	2.256E-01	NOT IDENT.
ZR-95	6.705E-03	7.343E-02	1.517E-01	NOT IDENT.
NB-97	0.000E+00	1.151E+41	0.000E+00	SHORT HLIF
ZR-97	0.000E+00	1.135E+14	0.000E+00	SHORT HLIF
MO-99	0.000E+00	9.594E+02	0.000E+00	SHORT HLIF
TC-99M	0.000E+00	9.315E+38	0.000E+00	SHORT HLIF
RH-101	-1.024E-02	2.587E-02	4.561E-02	NOT IDENT.
RH-102	-1.566E-03	4.267E-02	8.707E-02	NOT IDENT.
RU-103	-8.591E-03	4.406E-02	8.711E-02	FAIL ABUN
RH-106	-1.671E-01	2.312E-01	4.209E-01	NOT IDENT.
RU-106	-1.671E-01	2.312E-01	4.209E-01	NOT IDENT.
AG-108M	-1.448E-02	2.097E-02	3.844E-02	NOT IDENT.
CD-109	3.973E-01	8.132E-01	1.548E+00	NOT IDENT.
AG-110	3.529E-01	5.284E-01	1.184E+00	NOT IDENT.
AG-110M	-1.405E-02	4.507E-02	8.616E-02	NOT IDENT.
SN-113	-5.541E-03	4.041E-02	7.272E-02	NOT IDENT.
CD-115	0.000E+00	2.736E+03	0.000E+00	SHORT HLIF
SN-117M	-3.254E-02	1.218E-01	2.138E-01	NOT IDENT.
SB-122	0.000E+00	2.175E+02	0.000E+00	SHORT HLIF
TE-123M	-5.396E-03	2.533E-02	4.488E-02	NOT IDENT.
SB-124	-2.231E-03	6.001E-02	1.500E-01	NOT IDENT.
SB-125	-6.299E-04	9.359E-02	1.682E-01	NOT IDENT.
TE-125M	-2.800E+00	1.069E+01	1.918E+01	NOT IDENT.
I-126	9.234E-01	5.176E-01	1.278E+00	NOT IDENT.
SB-126	-1.574E-01	3.158E-01	5.858E-01	NOT IDENT.
SN-126	1.278E-02	7.891E-02	1.462E-01	FAIL ABUN
SB-127	3.882E+01	3.693E+01	6.709E+01	FAIL ABUN
I-131	2.232E-01	5.433E-01	1.050E+00	NOT IDENT.
I-132	0.000E+00	1.830E+41	0.000E+00	SHORT HLIF
TE-132	0.000E+00	3.698E+01	0.000E+00	SHORT HLIF
BA-133	4.360E-03	4.805E-02	8.029E-02	NOT IDENT.
I-133	0.000E+00	1.346E+10	0.000E+00	SHORT HLIF
CS-134	3.379E-03	3.407E-02	6.508E-02	NOT IDENT.
I-135	0.000E+00	1.999E+36	0.000E+00	SHORT HLIF
CS-136	-9.520E-04	1.816E-01	3.936E-01	FAIL ABUN
LA-138	-4.796E-02	4.204E-02	2.430E-02	NOT IDENT.
CE-139	-5.844E-03	2.502E-02	4.479E-02	NOT IDENT.
BA-140	-1.555E-01	5.142E-01	1.012E+00	NOT IDENT.
LA-140	-1.134E-01	2.100E-01	3.665E-01	FAIL ABUN
CE-141	5.599E-02	8.189E-02	1.596E-01	NOT IDENT.
CE-143	0.000E+00	1.594E+06	0.000E+00	SHORT HLIF
CE-144	-2.527E-02	1.644E-01	2.985E-01	NOT IDENT.
PM-144	6.238E-03	2.084E-02	4.754E-02	NOT IDENT.
PR-144	4.715E-01	1.575E+00	3.593E+00	NOT IDENT.
PM-146	1.100E-04	3.773E-02	7.556E-02	NOT IDENT.
ND-147	1.318E-02	1.308E+00	2.718E+00	NOT IDENT.
PM-147	2.097E+01	6.514E+02	1.093E+03	NOT IDENT.
PM-149	0.000E+00	2.707E+04	0.000E+00	SHORT HLIF
EU-150	8.019E-03	2.411E-02	4.338E-02	FAIL ABUN
EU-152	2.202E-02	8.419E-02	1.508E-01	NOT IDENT.
GD-153	6.940E-02	1.305E-01	1.383E-01	FAIL ABUN
EU-154	-1.089E-03	6.120E-02	1.419E-01	NOT IDENT.
EU-155	2.340E-02	9.287E-02	1.761E-01	NOT IDENT.
TB-160	1.484E-02	1.175E-01	2.529E-01	NOT IDENT.
HO-166M	-1.799E-02	4.511E-02	8.584E-02	FAIL ABUN
TM-171	-1.946E+01	2.957E+01	5.213E+01	NOT IDENT.
HF-172	-1.548E-01	1.592E-01	2.602E-01	FAIL ABUN
LU-172	2.211E-02	2.540E-02	8.066E-02	FAIL ABUN
LU-176	-1.597E-03	2.110E-02	3.846E-02	NOT IDENT.

HF-181	2.540E-02	4.863E-02	1.056E-01	NOT IDENT.
TA-182	-5.076E-02	1.606E-01	3.046E-01	FAIL ABUN
RE-183	-9.721E-02	3.507E-01	5.915E-01	NOT IDENT.
RE-184	-7.254E-03	8.834E-02	1.977E-01	NOT IDENT.
W-188	-8.925E-01	7.656E+00	1.265E+01	FAIL ABUN
IR-192	2.211E-02	3.298E-02	6.742E-02	FAIL ABUN
HG-203	-1.018E-02	4.622E-02	8.117E-02	NOT IDENT.
TL-204	2.332E-01	4.882E+00	8.561E+00	NOT IDENT.
BI-207	3.325E-02	4.342E-02	1.027E-01	NOT IDENT.
BI-210	5.905E+00	7.378E+00	1.522E+01	NOT IDENT.
PB-210	5.905E+00	7.378E+00	1.522E+01	NOT IDENT.
PB-211	6.553E-02	7.186E-01	1.309E+00	NOT IDENT.
BI-212	5.474E-03	4.942E-01	9.782E-01	NOT IDENT.
BI-213	1.754E-02	7.536E-02	1.602E-01	NOT IDENT.
RN-219	-1.447E-01	4.183E-01	7.095E-01	NOT IDENT.
RA-223	2.915E-01	5.583E-01	1.123E+00	FAIL ABUN
AC-225	9.222E-01	1.920E+00	3.683E+00	NOT IDENT.
AC-227	1.005E-01	2.028E-01	3.992E-01	NOT IDENT.
TH-227	1.005E-01	2.028E-01	3.992E-01	NOT IDENT.
TH-229	1.667E-01	4.676E-01	8.818E-01	FAIL ABUN
PA-231	-3.055E-01	4.557E-01	7.426E-01	NOT IDENT.
TH-231	2.915E-01	5.583E-01	1.123E+00	FAIL ABUN
PA-233	3.739E-02	5.820E-02	1.156E-01	FAIL ABUN
PA-234	-9.328E-02	2.138E-01	4.026E-01	FAIL ABUN
PA-234M	0.000E+00	4.825E+00	3.426E+00	FAIL ABUN
TH-234	0.000E+00	4.825E+00	3.426E+00	FAIL ABUN
U-235	-3.856E-02	1.843E-01	3.373E-01	FAIL ABUN
NP-237	3.739E-02	5.820E-02	1.156E-01	FAIL ABUN
NP-238	0.000E+00	5.827E+03	0.000E+00	SHORT HLIF
U-238	0.000E+00	4.825E+00	3.426E+00	FAIL ABUN
NP-239	-4.959E-02	2.159E-01	3.900E-01	FAIL ABUN
PU-239	-4.467E+01	2.968E+02	5.353E+02	NOT IDENT.
AM-241	-4.865E-02	1.925E-01	3.271E-01	NOT IDENT.
AM-243	4.957E-02	7.558E-02	1.334E-01	NOT IDENT.
CM-243	4.262E-02	8.956E-02	1.747E-01	FAIL ABUN
BK-247	5.910E-02	7.131E-02	1.438E-01	FAIL ABUN
CM-247	2.624E-02	3.295E-02	6.789E-02	NOT IDENT.
CF-249	-1.014E-02	2.811E-02	4.879E-02	NOT IDENT.
CF-251	-2.508E-02	1.123E-01	1.993E-01	NOT IDENT.

VAX/VMS Nuclide Identification Report Generated 17-AUG-2026 07:04:19.09

Nuclide Line Activity Report

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
K-40	1460.82	51	10.66*	1.112E+00	2.861E+00	2.861E+00	28.96
BA-137M	661.66	134	89.90*	2.280E+00	4.356E-01	4.365E-01	20.38
CS-137	661.66	134	85.10*	2.280E+00	4.602E-01	4.612E-01	20.38
TL-208	277.37	------	6.60	4.360E+00	------	Line Not Found	------
	583.19	40	85.00*	2.528E+00	1.228E-01	1.228E-01	77.61
	860.56	------	12.50	1.806E+00	------	Line Not Found	------
BI-211	72.87	------	1.23	3.380E+00	------	Line Not Found	------
	351.06	129	12.92*	3.686E+00	1.803E+00	1.803E+00	28.85
PB-212	74.82	------	10.28	3.628E+00	------	Line Not Found	------
	77.11	32	17.10	3.964E+00	3.103E-01	3.103E-01	128.78
	238.63	134	43.60*	4.832E+00	4.238E-01	4.238E-01	26.57
	300.09	------	3.30	4.126E+00	------	Line Not Found	------
BI-214	609.32	84	45.49*	2.442E+00	5.009E-01	5.009E-01	33.54
	1120.29	26	14.92	1.407E+00	8.246E-01	8.246E-01	47.16
	1764.49	16	15.30	9.853E-01	6.962E-01	6.962E-01	52.79
PB-214	74.82	------	5.80	3.628E+00	------	Line Not Found	------
	77.11	32	9.70	3.964E+00	5.470E-01	5.470E-01	128.78
	87.09	------	3.41	4.947E+00	------	Line Not Found	------
	242.00	60	7.25	4.789E+00	1.156E+00	1.156E+00	54.10
	295.22	71	18.42	4.176E+00	6.111E-01	6.111E-01	47.30
	351.93	129	35.60*	3.686E+00	6.543E-01	6.544E-01	28.85
RN-222	74.82	------	5.80	3.628E+00	------	Line Not Found	------
	77.11	32	9.70	3.964E+00	5.470E-01	5.470E-01	128.78
	87.09	------	3.41	4.947E+00	------	Line Not Found	------
	242.00	60	7.25	4.789E+00	1.156E+00	1.156E+00	54.10
	295.22	71	18.42	4.176E+00	6.111E-01	6.111E-01	47.30
	351.93	129	35.60*	3.686E+00	6.543E-01	6.544E-01	28.85
RA-224	240.99	60	4.10*	4.789E+00	2.044E+00	2.044E+00	54.10
RA-226	74.82	------	5.80	3.628E+00	------	Line Not Found	------
	77.11	32	9.70	3.964E+00	5.470E-01	5.470E-01	128.78
	87.09	------	3.41	4.947E+00	------	Line Not Found	------
	242.00	60	7.25	4.789E+00	1.156E+00	1.156E+00	54.10
	295.22	71	18.42	4.176E+00	6.111E-01	6.111E-01	47.30
	351.93	129	35.60*	3.686E+00	6.543E-01	6.544E-01	28.85
AC-228	338.32	43	11.27	3.788E+00	6.656E-01	6.656E-01	56.45
	911.20	15	25.80*	1.711E+00	2.240E-01	2.240E-01	96.76
	968.97	24	15.80	1.614E+00	6.209E-01	6.209E-01	56.45
RA-228	338.32	43	11.27	3.788E+00	6.656E-01	6.656E-01	56.45
	911.20	15	25.80*	1.711E+00	2.240E-01	2.240E-01	96.76
	968.97	24	15.80	1.614E+00	6.209E-01	6.209E-01	56.45
TH-228	74.82	------	10.28	3.628E+00	------	Line Not Found	------
	77.11	32	17.10	3.964E+00	3.103E-01	3.103E-01	128.78
	238.63	134	43.60*	4.832E+00	4.238E-01	4.238E-01	26.57
	300.09	------	3.30	4.126E+00	------	Line Not Found	------
TH-230	74.82	------	5.80	3.628E+00	------	Line Not Found	------
	77.11	32	9.70	3.964E+00	5.470E-01	5.470E-01	128.78
	87.09	------	3.41	4.947E+00	------	Line Not Found	------

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
	242.00	60	7.25	4.789E+00	1.156E+00	1.156E+00	54.10
	295.22	71	18.42	4.176E+00	6.111E-01	6.111E-01	47.30
	351.93	129	35.60*	3.686E+00	6.543E-01	6.543E-01	28.85
TH-232	338.32	43	11.27	3.788E+00	6.656E-01	6.656E-01	56.45
	911.20	15	25.80*	1.711E+00	2.240E-01	2.240E-01	96.76
	968.97	24	15.80	1.614E+00	6.209E-01	6.209E-01	56.45
U-234	74.82	------	5.80	3.628E+00	------ Line Not Found		------
	77.11	32	9.70	3.964E+00	5.470E-01	5.470E-01	128.78
	87.09	------	3.41	4.947E+00	------ Line Not Found		------
	242.00	60	7.25	4.789E+00	1.156E+00	1.156E+00	54.10
	295.22	71	18.42	4.176E+00	6.111E-01	6.111E-01	47.30
	351.93	129	35.60*	3.686E+00	6.543E-01	6.543E-01	28.85
ANH-511	511.00	15	100.00*	2.804E+00	3.665E-02	3.665E-02	240.44

Flag: "*" = Keyline

Sample ID : G787535002 Acquisition date : 17-AUG-2026 06:03:12

Total number of lines in spectrum	32	
Number of unidentified lines	6	
Number of lines tentatively identified by NID	26	81.25%

Nuclide Type :

Nuclide	Hlife	Decay	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
K-40	1.25E+09Y	1.00	2.861E+00	2.861E+00	0.829E+00	28.96	
BA-137M	30.08Y	1.00	4.356E-01	4.365E-01	0.890E-01	20.38	
CS-137	30.08Y	1.00	4.602E-01	4.612E-01	0.940E-01	20.38	
TL-208	1.41E+10Y	1.00	1.228E-01	1.228E-01	0.953E-01	77.61	
BI-211	7.04E+08Y	1.00	1.803E+00	1.803E+00	0.520E+00	28.85	
PB-212	1.41E+10Y	1.00	4.238E-01	4.238E-01	1.126E-01	26.57	
BI-214	1600.00Y	1.00	5.009E-01	5.009E-01	1.680E-01	33.54	
PB-214	1600.00Y	1.00	6.543E-01	6.544E-01	1.888E-01	28.85	
RN-222	1600.00Y	1.00	6.543E-01	6.544E-01	1.888E-01	28.85	
RA-224	1.41E+10Y	1.00	2.044E+00	2.044E+00	1.106E+00	54.10	
RA-226	1600.00Y	1.00	6.543E-01	6.544E-01	1.888E-01	28.85	
AC-228	1.41E+10Y	1.00	2.240E-01	2.240E-01	2.167E-01	96.76	
RA-228	1.41E+10Y	1.00	2.240E-01	2.240E-01	2.167E-01	96.76	
TH-228	1.41E+10Y	1.00	4.238E-01	4.238E-01	1.126E-01	26.57	
TH-230	7.54E+04Y	1.00	6.543E-01	6.543E-01	1.888E-01	28.85	
TH-232	1.41E+10Y	1.00	2.240E-01	2.240E-01	2.167E-01	96.76	
U-234	2.45E+05Y	1.00	6.543E-01	6.543E-01	1.888E-01	28.85	
ANH-511	1.00E+09Y	1.00	3.665E-02	3.665E-02	8.813E-02	240.44	
	Total Activity :		1.306E+01	1.306E+01			
	Grand Total Activity :		1.306E+01	1.306E+01			

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

Sample ID : G787535002 Acquisition date : 17-AUG-2026 06:03:12

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
0	64.10	62	130	3.77	128.68	120	19	1.63E-02	96.7	2.20E+00	T
0	98.72	16	58	1.42	197.91	194	9	4.20E-03	****	5.76E+00	T
0	119.21	20	87	2.28	238.89	229	13	5.43E-03	****	6.36E+00	T
0	152.51	34	78	4.57	305.47	297	14	9.06E-03	****	6.20E+00	T
0	185.83	33	64	1.45	372.09	366	11	8.92E-03	****	5.66E+00	T
0	209.60	28	98	1.34	419.63	413	15	7.61E-03	****	5.26E+00	T
0	328.77	12	15	0.92	657.92	654	7	3.31E-03	****	3.87E+00	T
2	341.75	23	10	1.67	683.88	669	19	6.27E-03	71.4	3.76E+00	T
0	684.62	11	5	0.73	1369.55	1363	10	3.06E-03	97.1	2.22E+00	T
0	770.39	9	16	1.23	1541.09	1534	11	2.70E-03	****	2.00E+00	
0	793.79	16	11	3.38	1587.89	1579	15	4.68E-03	99.5	1.94E+00	
1	908.95	11	2	1.73	1818.21	1816	13	3.16E-03	58.3	1.72E+00	
0	1088.48	6	2	1.31	2177.29	2174	6	1.79E-03	****	1.45E+00	
0	1096.80	7	3	2.86	2193.94	2188	12	2.18E-03	****	1.43E+00	
0	1132.23	8	7	0.50	2264.79	2256	14	2.24E-03	****	1.39E+00	T
0	1238.71	10	6	1.43	2477.77	2472	12	3.06E-03	****	1.28E+00	T
0	1377.36	10	5	3.31	2755.12	2748	12	2.95E-03	****	1.17E+00	

Flags: "T" = Tentatively associated

VAX/VMS Nuclide Identification Report Generated 17-AUG-2026 07:04:30.10

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*********************************************************************************
*                            GEL Laboratories LLC                                 *
*                              2040 Savage Road                                   *
*                            Charleston, SC 29407                                 *
*********************************************************************************
*                                                                                *
*                          DETECTOR AND SAMPLE DATA                              *
*                                                                                *
* Configuration    : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G787535002.CNF;1       *
* Acquisition date : 17-AUG-2026 06:03:12 Sensitivity     : 3.000                *
* Detector ID      : GAM33                Energy tolerance: 1.500                *
* Elapsed live time:    0 01:00:00.00     Abundance limit : 75.000               *
* Elapsed real time:    0 01:00:00.36     Half life ratio : *****                *
* Sample date      : 14-JUL-2026 09:30:00 Nuclide Library : SOLID                *
* Sample ID        : G787535002           Analyst initials: GG                   *
* Batch Number     : 3033734              Sample Quantity : 1.1288E+02 GRAM      *
* Wet wt corr      :    1.00000           Wet Weight      :    0.00000           *
*                                         Dry Weight      :    0.00000           *
*********************************************************************************
*                                                                                *
*                          CALIBRATION INFORMATION                               *
*                                                                                *
* Eff. Cal. date   :  5-DEC-2025 15:42:05 Eff. Geometry   : CAN                  *
* Eff. File        : DKA100:[CANBERRA.GAMMA]EFF_GAM33_CAN.CNF;18                 *
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Combined Critical Level Report

NOTE: Not all "Identified Nuclides" are valid.
Please refer to Certificate of Analysis.

---- Identified Nuclides ----

Nuclide	Lc (pCi/GRAM)
K-40	2.327E-01
BA-137M	2.786E-02
CS-137	2.943E-02
TL-208	2.440E-02
BI-211	1.566E-01
PB-212	4.044E-02
BI-214	5.733E-02
PB-214	5.695E-02
RN-222	5.695E-02
RA-224	4.331E-01
RA-226	5.695E-02
AC-228	8.409E-02
RA-228	8.409E-02
TH-228	4.044E-02
TH-230	5.695E-02
TH-232	8.409E-02
U-234	5.695E-02
ANH-511	1.702E-02

---- Non-Identified Nuclides ----

Nuclide	Lc (pCi/GRAM)	
BE-7	2.643E-01	NOT IDENT.
NA-22	1.792E-02	NOT IDENT.
NA-24	0.000E+00	SHORT HLIF
AL-26	2.738E-02	NOT IDENT.
SC-46	3.409E-02	FAIL ABUN
V-48	9.366E-02	NOT IDENT.
CR-51	4.116E-01	NOT IDENT.
MN-52	9.544E-01	NOT IDENT.
MN-54	2.434E-02	NOT IDENT.
CO-56	2.928E-02	FAIL ABUN
MN-56	0.000E+00	SHORT HLIF
CO-57	1.762E-02	NOT IDENT.
CO-58	2.730E-02	NOT IDENT.

FE-59	6.836E-02	NOT IDENT.
CO-60	2.451E-02	NOT IDENT.
ZN-65	4.323E-02	NOT IDENT.
GE-68	8.391E-01	NOT IDENT.
AS-73	1.407E+00	NOT IDENT.
AS-74	1.350E-01	NOT IDENT.
SE-75	4.024E-02	NOT IDENT.
BR-77	0.000E+00	SHORT HLIF
SR-82	3.876E-01	NOT IDENT.
RB-83	4.601E-02	NOT IDENT.
RB-84	7.301E-02	NOT IDENT.
KR-85	6.200E+00	NOT IDENT.
SR-85	3.998E-02	NOT IDENT.
RB-86	1.024E+00	NOT IDENT.
Y-88	2.932E-02	NOT IDENT.
Y-91	1.410E+01	NOT IDENT.
NB-94	2.956E-02	NOT IDENT.
NB-95	3.383E-02	NOT IDENT.
NB-95M	1.020E-01	NOT IDENT.
ZR-95	6.409E-02	NOT IDENT.
NB-97	0.000E+00	SHORT HLIF
ZR-97	0.000E+00	SHORT HLIF
MO-99	0.000E+00	SHORT HLIF
TC-99M	0.000E+00	SHORT HLIF
RH-101	2.067E-02	NOT IDENT.
RH-102	3.664E-02	NOT IDENT.
RU-103	3.726E-02	FAIL ABUN
RH-106	1.702E-01	NOT IDENT.
RU-106	1.702E-01	NOT IDENT.
AG-108M	1.607E-02	NOT IDENT.
CD-109	7.225E-01	NOT IDENT.
AG-110	4.962E-01	NOT IDENT.
AG-110M	3.537E-02	NOT IDENT.
SN-113	3.136E-02	NOT IDENT.
CD-115	0.000E+00	SHORT HLIF
SN-117M	9.722E-02	NOT IDENT.
SB-122	0.000E+00	SHORT HLIF
TE-123M	2.028E-02	NOT IDENT.
SB-124	4.742E-02	NOT IDENT.
SB-125	7.443E-02	NOT IDENT.
TE-125M	8.767E+00	NOT IDENT.
I-126	5.651E-01	NOT IDENT.
SB-126	2.400E-01	NOT IDENT.
SN-126	6.817E-02	FAIL ABUN
SB-127	2.862E+01	FAIL ABUN
I-131	4.678E-01	NOT IDENT.
I-132	0.000E+00	SHORT HLIF
TE-132	0.000E+00	SHORT HLIF
BA-133	3.614E-02	NOT IDENT.
I-133	0.000E+00	SHORT HLIF
CS-134	2.694E-02	NOT IDENT.
I-135	0.000E+00	SHORT HLIF
CS-136	1.522E-01	FAIL ABUN
LA-138	0.000E+00	NOT IDENT.
CE-139	2.015E-02	NOT IDENT.
BA-140	4.197E-01	NOT IDENT.
LA-140	1.265E-01	FAIL ABUN
CE-141	7.365E-02	NOT IDENT.
CE-143	0.000E+00	SHORT HLIF
CE-144	1.353E-01	NOT IDENT.
PM-144	1.935E-02	NOT IDENT.
PR-144	1.462E+00	NOT IDENT.
PM-146	3.320E-02	NOT IDENT.
ND-147	1.144E+00	NOT IDENT.
PM-147	4.951E+02	NOT IDENT.
PM-149	0.000E+00	SHORT HLIF
EU-150	1.922E-02	FAIL ABUN
EU-152	6.626E-02	NOT IDENT.
GD-153	6.303E-02	FAIL ABUN
EU-154	5.029E-02	NOT IDENT.
EU-155	8.083E-02	NOT IDENT.
TB-160	1.031E-01	NOT IDENT.
HO-166M	3.515E-02	FAIL ABUN
TM-171	2.352E+01	NOT IDENT.
HF-172	1.171E-01	FAIL ABUN
LU-172	3.008E-02	FAIL ABUN
LU-176	1.685E-02	NOT IDENT.
HF-181	4.617E-02	NOT IDENT.

TA-182	1.209E-01	FAIL ABUN
RE-183	2.691E-01	NOT IDENT.
RE-184	7.231E-02	NOT IDENT.
W-188	5.579E+00	FAIL ABUN
IR-192	2.993E-02	FAIL ABUN
HG-203	3.635E-02	NOT IDENT.
TL-204	3.901E+00	NOT IDENT.
BI-207	4.321E-02	NOT IDENT.
BI-210	6.971E+00	NOT IDENT.
PB-210	6.971E+00	NOT IDENT.
PB-211	5.830E-01	NOT IDENT.
BI-212	4.250E-01	NOT IDENT.
BI-213	6.902E-02	NOT IDENT.
RN-219	3.139E-01	NOT IDENT.
RA-223	5.036E-01	FAIL ABUN
AC-225	1.680E+00	NOT IDENT.
AC-227	1.789E-01	NOT IDENT.
TH-227	1.789E-01	NOT IDENT.
TH-229	4.037E-01	FAIL ABUN
PA-231	3.302E-01	NOT IDENT.
TH-231	5.036E-01	FAIL ABUN
PA-233	5.197E-02	FAIL ABUN
PA-234	1.560E-01	FAIL ABUN
PA-234M	1.595E+00	FAIL ABUN
TH-234	1.595E+00	FAIL ABUN
U-235	1.555E-01	FAIL ABUN
NP-237	5.197E-02	FAIL ABUN
NP-238	0.000E+00	SHORT HLIF
U-238	1.595E+00	FAIL ABUN
NP-239	1.769E-01	FAIL ABUN
PU-239	2.451E+02	NOT IDENT.
AM-241	1.476E-01	NOT IDENT.
AM-243	6.294E-02	NOT IDENT.
CM-243	8.003E-02	FAIL ABUN
BK-247	6.518E-02	FAIL ABUN
CM-247	3.020E-02	NOT IDENT.
CF-249	2.041E-02	NOT IDENT.
CF-251	9.058E-02	NOT IDENT.

VAX/VMS Nuclide Identification Report Generated 17-AUG-2026 07:04:34.10

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*****************************************************************************
*                            GEL Laboratories LLC                           *
*                              2040 Savage Road                             *
*                            Charleston, SC 29407                           *
*****************************************************************************
*                                                                           *
*                          DETECTOR AND SAMPLE DATA                         *
*                                                                           *
* Configuration    : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G787535002.CNF;1   *
* Acquisition date : 17-AUG-2026 06:03:12 Sensitivity     : 3.000           *
* Detector ID      : GAM33                Energy tolerance: 1.500           *
* Elapsed live time:    0 01:00:00.00     Abundance limit : 75.000          *
* Elapsed real time:    0 01:00:00.36     Half life ratio : *****           *
* Sample date      : 14-JUL-2026 09:30:00 Nuclide Library : SOLID           *
* Sample ID        : G787535002           Analyst initials: GG              *
* Batch Number     : 3033734              Sample Quantity : 1.1288E+02 GRAM *
*                                         Quantity Err(%) : 1.7718E-03 %    *
* Wet wt corr      :    1.00000           Wet Weight      :    0.00000      *
*                                         Dry Weight      :    0.00000      *
*****************************************************************************
*                                                                           *
*                          CALIBRATION INFORMATION                          *
*                                                                           *
* Eff. Cal. date   :  5-DEC-2025 15:42:05 Eff. Geometry   : CAN             *
* Eff. File        : DKA100:[CANBERRA.GAMMA]EFF_GAM33_CAN.CNF;18            *
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Combined Activity-MDA Report

NOTE: Not all "Identified Nuclides" are valid.
Please refer to Certificate of Analysis.

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act Error (1.96-sigma)	TPU (1.96-sigma)
K-40	2.861E+00	8.794E-01	8.794E-01
BA-137M	4.365E-01	9.404E-02	9.404E-02
CS-137	4.612E-01	9.934E-02	9.934E-02
TL-208	1.228E-01	9.396E-02	9.396E-02
BI-211	1.803E+00	5.354E-01	5.354E-01
PB-212	4.238E-01	1.169E-01	1.169E-01
BI-214	5.009E-01	1.698E-01	1.698E-01
PB-214	6.544E-01	1.940E-01	1.940E-01
RN-222	6.544E-01	1.940E-01	1.940E-01
RA-224	2.044E+00	1.100E+00	1.100E+00
RA-226	6.544E-01	1.940E-01	1.940E-01
AC-228	2.240E-01	2.142E-01	2.142E-01
RA-228	2.240E-01	2.142E-01	2.142E-01
TH-228	4.238E-01	1.169E-01	1.169E-01
TH-230	6.543E-01	1.940E-01	1.940E-01
TH-232	2.240E-01	2.142E-01	2.142E-01
U-234	6.543E-01	1.940E-01	1.940E-01
ANH-511	3.665E-02	8.642E-02	8.642E-02

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L Act error (1.96-sigma)	TPU (1.96-sigma)	
BE-7	6.804E-02	2.886E-01	2.902E-01	NOT IDENT.
NA-22	-6.047E-03	2.448E-02	2.463E-02	NOT IDENT.
NA-24	-1.420E+14	6.291E+14	6.324E+14	SHORT HLIF
AL-26	2.052E-02	2.328E-02	2.505E-02	NOT IDENT.
SC-46	1.870E-02	3.569E-02	3.668E-02	FAIL ABUN
V-48	5.386E-02	9.329E-02	9.640E-02	NOT IDENT.
CR-51	1.589E-01	4.800E-01	4.853E-01	NOT IDENT.
MN-52	-4.817E-01	1.050E+00	1.072E+00	NOT IDENT.
MN-54	-2.632E-02	3.455E-02	3.653E-02	NOT IDENT.
CO-56	-2.835E-02	4.125E-02	4.318E-02	FAIL ABUN
MN-56	-1.000E+41	1.444E+41	0.000E+00	SHORT HLIF
CO-57	-6.628E-03	2.367E-02	2.386E-02	NOT IDENT.

CO-58	5.268E-03	3.052E-02	3.061E-02	NOT IDENT.
FE-59	-2.149E-02	1.003E-01	1.008E-01	NOT IDENT.
CO-60	-9.426E-03	3.306E-02	3.333E-02	NOT IDENT.
ZN-65	1.841E-02	4.745E-02	4.817E-02	NOT IDENT.
GE-68	-3.840E-01	1.109E+00	1.123E+00	NOT IDENT.
AS-73	8.679E-01	1.541E+00	1.589E+00	NOT IDENT.
AS-74	1.993E-03	1.552E-01	1.552E-01	NOT IDENT.
SE-75	3.254E-02	4.472E-02	4.707E-02	NOT IDENT.
BR-77	1.563E+04	1.587E+04	1.737E+04	SHORT HLIF
SR-82	1.805E-01	4.118E-01	4.198E-01	NOT IDENT.
RB-83	-1.719E-02	5.638E-02	5.691E-02	NOT IDENT.
RB-84	2.749E-03	8.535E-02	8.536E-02	NOT IDENT.
KR-85	7.541E+00	6.079E+00	6.965E+00	NOT IDENT.
SR-85	4.850E-02	3.921E-02	4.489E-02	NOT IDENT.
RB-86	-6.203E-01	1.392E+00	1.419E+00	NOT IDENT.
Y-88	1.867E-02	2.491E-02	2.629E-02	NOT IDENT.
Y-91	3.783E+00	1.562E+01	1.571E+01	NOT IDENT.
NB-94	2.673E-02	2.908E-02	3.148E-02	NOT IDENT.
NB-95	1.081E-02	4.078E-02	4.107E-02	NOT IDENT.
NB-95M	1.500E-03	1.241E-01	1.241E-01	NOT IDENT.
ZR-95	6.705E-03	7.343E-02	7.350E-02	NOT IDENT.
NB-97	1.000E+41	1.154E+41	0.000E+00	SHORT HLIF
ZR-97	1.158E+13	1.135E+14	1.136E+14	SHORT HLIF
MO-99	5.538E+02	9.610E+02	9.929E+02	SHORT HLIF
TC-99M	3.314E+38	9.323E+38	0.000E+00	SHORT HLIF
RH-101	-1.024E-02	2.594E-02	2.635E-02	NOT IDENT.
RH-102	-1.566E-03	4.267E-02	4.268E-02	NOT IDENT.
RU-103	-8.591E-03	4.407E-02	4.424E-02	FAIL ABUN
RH-106	-1.671E-01	2.318E-01	2.437E-01	NOT IDENT.
RU-106	-1.671E-01	2.318E-01	2.437E-01	NOT IDENT.
AG-108M	-1.448E-02	2.101E-02	2.200E-02	NOT IDENT.
CD-109	3.973E-01	8.142E-01	8.337E-01	NOT IDENT.
AG-110	3.529E-01	5.291E-01	5.525E-01	NOT IDENT.
AG-110M	-1.405E-02	4.510E-02	4.554E-02	NOT IDENT.
SN-113	-5.541E-03	4.041E-02	4.049E-02	NOT IDENT.
CD-115	-6.385E+02	2.736E+03	2.751E+03	SHORT HLIF
SN-117M	-3.254E-02	1.218E-01	1.227E-01	NOT IDENT.
SB-122	-6.083E+01	2.175E+02	2.192E+02	SHORT HLIF
TE-123M	-5.396E-03	2.533E-02	2.545E-02	NOT IDENT.
SB-124	-2.231E-03	6.001E-02	6.002E-02	NOT IDENT.
SB-125	-6.299E-04	9.359E-02	9.359E-02	NOT IDENT.
TE-125M	-2.800E+00	1.069E+01	1.076E+01	NOT IDENT.
I-126	9.234E-01	5.246E-01	6.697E-01	NOT IDENT.
SB-126	-1.574E-01	3.164E-01	3.243E-01	NOT IDENT.
SN-126	1.278E-02	7.892E-02	7.913E-02	FAIL ABUN
SB-127	3.882E+01	3.756E+01	4.144E+01	FAIL ABUN
I-131	2.232E-01	5.436E-01	5.529E-01	NOT IDENT.
I-132	1.000E+41	2.778E+41	0.000E+00	SHORT HLIF
TE-132	1.693E+01	3.704E+01	3.782E+01	SHORT HLIF
BA-133	4.360E-03	4.805E-02	4.809E-02	NOT IDENT.
I-133	-2.494E+08	1.346E+10	1.346E+10	SHORT HLIF
CS-134	3.379E-03	3.407E-02	3.410E-02	NOT IDENT.
I-135	-6.442E+35	2.061E+36	0.000E+00	SHORT HLIF
CS-136	-9.520E-04	1.816E-01	1.816E-01	FAIL ABUN
LA-138	-4.796E-02	4.240E-02	4.759E-02	NOT IDENT.
CE-139	-5.844E-03	2.505E-02	2.518E-02	NOT IDENT.
BA-140	-1.555E-01	5.143E-01	5.191E-01	NOT IDENT.
LA-140	-1.134E-01	2.103E-01	2.165E-01	FAIL ABUN
CE-141	5.599E-02	8.199E-02	8.578E-02	NOT IDENT.
CE-143	1.644E+06	1.602E+06	1.766E+06	SHORT HLIF
CE-144	-2.527E-02	1.644E-01	1.648E-01	NOT IDENT.
PM-144	6.238E-03	2.085E-02	2.104E-02	NOT IDENT.
PR-144	4.715E-01	1.576E+00	1.590E+00	NOT IDENT.
PM-146	1.100E-04	3.773E-02	3.773E-02	NOT IDENT.
ND-147	1.318E-02	1.308E+00	1.308E+00	NOT IDENT.
PM-147	2.097E+01	6.514E+02	6.515E+02	NOT IDENT.
PM-149	-1.150E+04	2.714E+04	2.763E+04	SHORT HLIF
EU-150	8.019E-03	2.412E-02	2.439E-02	FAIL ABUN
EU-152	2.202E-02	8.422E-02	8.480E-02	NOT IDENT.
GD-153	6.940E-02	1.306E-01	1.343E-01	FAIL ABUN
EU-154	-1.089E-03	6.121E-02	6.121E-02	NOT IDENT.
EU-155	2.340E-02	9.289E-02	9.349E-02	NOT IDENT.
TB-160	1.484E-02	1.175E-01	1.177E-01	NOT IDENT.
HO-166M	-1.799E-02	4.514E-02	4.587E-02	FAIL ABUN
TM-171	-1.946E+01	2.968E+01	3.095E+01	NOT IDENT.
HF-172	-1.548E-01	1.614E-01	1.759E-01	FAIL ABUN
LU-172	2.211E-02	2.557E-02	2.745E-02	FAIL ABUN
LU-176	-1.597E-03	2.110E-02	2.111E-02	NOT IDENT.

HF-181	2.540E-02	4.868E-02	5.001E-02	NOT IDENT.
TA-182	-5.076E-02	1.607E-01	1.623E-01	FAIL ABUN
RE-183	-9.721E-02	3.509E-01	3.537E-01	NOT IDENT.
RE-184	-7.254E-03	8.834E-02	8.840E-02	NOT IDENT.
W-188	-8.925E-01	7.657E+00	7.667E+00	FAIL ABUN
IR-192	2.211E-02	3.305E-02	3.452E-02	FAIL ABUN
HG-203	-1.018E-02	4.623E-02	4.646E-02	NOT IDENT.
TL-204	2.332E-01	4.882E+00	4.883E+00	NOT IDENT.
BI-207	3.325E-02	4.356E-02	4.607E-02	NOT IDENT.
BI-210	5.905E+00	7.405E+00	7.869E+00	NOT IDENT.
PB-210	5.905E+00	7.405E+00	7.869E+00	NOT IDENT.
PB-211	6.553E-02	7.187E-01	7.193E-01	NOT IDENT.
BI-212	5.474E-03	4.942E-01	4.942E-01	NOT IDENT.
BI-213	1.754E-02	7.537E-02	7.578E-02	NOT IDENT.
RN-219	-1.447E-01	4.189E-01	4.239E-01	NOT IDENT.
RA-223	2.915E-01	5.591E-01	5.743E-01	FAIL ABUN
AC-225	9.222E-01	1.923E+00	1.967E+00	NOT IDENT.
AC-227	1.005E-01	2.034E-01	2.084E-01	NOT IDENT.
TH-227	1.005E-01	2.034E-01	2.084E-01	NOT IDENT.
TH-229	1.667E-01	4.678E-01	4.738E-01	FAIL ABUN
PA-231	-3.055E-01	4.611E-01	4.812E-01	NOT IDENT.
TH-231	2.915E-01	5.591E-01	5.743E-01	FAIL ABUN
PA-233	3.739E-02	5.831E-02	6.070E-02	FAIL ABUN
PA-234	-9.328E-02	2.391E-01	2.428E-01	FAIL ABUN
PA-234M	5.089E+00	4.969E+00	5.473E+00	FAIL ABUN
TH-234	5.089E+00	4.969E+00	5.473E+00	FAIL ABUN
U-235	-3.856E-02	1.844E-01	1.852E-01	FAIL ABUN
NP-237	3.739E-02	5.831E-02	6.070E-02	FAIL ABUN
NP-238	-4.941E+01	5.827E+03	5.827E+03	SHORT HLIF
U-238	5.089E+00	4.969E+00	5.473E+00	FAIL ABUN
NP-239	-4.959E-02	2.159E-01	2.171E-01	FAIL ABUN
PU-239	-4.467E+01	2.968E+02	2.975E+02	NOT IDENT.
AM-241	-4.865E-02	1.925E-01	1.938E-01	NOT IDENT.
AM-243	4.957E-02	7.570E-02	7.893E-02	NOT IDENT.
CM-243	4.262E-02	8.968E-02	9.171E-02	FAIL ABUN
BK-247	5.910E-02	7.246E-02	7.720E-02	FAIL ABUN
CM-247	2.624E-02	3.329E-02	3.533E-02	NOT IDENT.
CF-249	-1.014E-02	2.813E-02	2.850E-02	NOT IDENT.
CF-251	-2.508E-02	1.123E-01	1.129E-01	NOT IDENT.

GEL Laboratories LLC
2040 Savage Road
Charleston, SC 29407

GAMMA SPECTROSCOPY BACKGROUND REPORT

ENERGY	MDA COUNTS	ENERGY	MDA COUNTS	ENERGY	MDA COUNTS
43.53	22.1386	85.43	56.9092	133.02	32.9444
45.60	38.6278	86.55	65.1172	133.52	34.0210
46.54	27.0788	86.79	65.1338	136.00	36.2210
49.72	0.0000	86.94	65.1445	136.47	30.9063
51.35	30.1965	87.09	63.1187	140.51	0.0000
51.87	36.0680	87.57	60.0956	143.76	38.5917
52.39	39.0218	88.03	55.0296	144.24	39.6783
52.97	31.2434	88.34	64.2223	145.44	35.4225
53.44	28.3333	88.47	64.2309	152.43	26.9806
54.07	36.1816	89.96	61.2685	153.25	26.9974
57.36	0.0000	1093.63	104.2303	323.87	31.6997
57.53	39.3034	91.11	110.4159	156.02	28.8574
57.98	39.3272	92.59	50.1727	158.56	35.7790
59.27	31.5166	93.35	55.3357	159.00	30.3678
59.32	31.5187	94.56	105.3361	162.33	32.6170
59.54	32.8416	94.65	105.3455	162.66	22.8374
60.96	37.5099	94.67	105.3478	163.33	35.9049
61.17	37.5203	94.87	105.3690	165.86	30.5208
62.93	37.6065	97.43	30.1833	176.31	41.7289
63.29	37.6239	98.43	26.7800	176.60	36.2458
63.58	37.6380	98.44	26.7802	177.52	37.3680
64.28	37.6718	99.53	26.8091	181.07	0.0000
66.73	37.7884	100.11	24.7610	181.52	39.6749
67.24	37.8124	102.03	41.3458	184.41	34.2317
125.81	37.8333	103.18	32.0787	143.76	34.2620
67.75	37.8365	103.37	32.0846	193.51	33.3293
68.89	26.5892	105.31	37.3291	197.03	37.8599
69.67	31.9375	106.12	46.6974	198.01	38.9985
70.82	34.6471	106.47	46.7128	201.83	32.3922
70.83	34.6476	109.28	42.6732	203.43	27.9530
72.81	55.1003	111.00	32.3167	205.31	31.3445
72.87	55.1041	111.76	0.0000	210.85	28.0838
74.66	69.6110	114.06	39.0281	215.65	40.5604
74.82	69.6243	116.30	0.0000	218.12	28.2097
74.97	69.6364	116.74	35.6295	222.11	20.3601
77.11	82.5630	119.76	36.4260	227.09	30.6313
78.74	45.7293	121.12	29.4561	227.38	34.0407
79.69	41.7392	121.22	29.4588	228.16	0.0000
80.03	28.2856	121.78	29.4731	228.18	35.1919
80.12	28.2886	122.06	36.4996	116.74	35.1919
80.19	28.2910	122.92	37.9317	235.69	29.6459
80.57	41.7805	123.07	31.6138	235.96	29.6507
81.00	45.8459	265.00	30.5762	238.63	29.6963
81.07	50.5692	125.81	43.3079	238.98	0.0000
81.75	46.5587	127.23	38.0723	240.99	29.7364
82.47	52.6736	127.91	30.6873	242.00	29.7534
83.79	34.4903	129.30	42.3767	244.70	29.7995
84.00	35.5130	131.20	30.7722	252.40	18.4172

ENERGY	MDA COUNTS	ENERGY	MDA COUNTS	ENERGY	MDA COUNTS
252.80	18.4214	345.93	10.8550	564.24	0.0000
254.15	0.0000	351.06	22.9695	569.33	12.2540
256.23	18.4564	351.93	22.9782	946.00	10.5039
260.90	0.0000	355.39	0.0000	569.70	10.5044
264.66	20.8586	356.01	25.8470	583.19	11.4295
264.80	17.3836	364.49	17.0258	584.27	11.4332
265.00	19.7035	366.42	0.0000	595.83	11.4750
269.46	27.8833	372.51	20.7462	427.87	16.7966
270.03	34.8642	375.05	17.1039	602.52	0.0000
271.23	29.0726	377.52	14.6759	604.72	15.9331
273.65	25.6161	356.01	13.4892	607.14	9.3011
276.40	25.6537	388.16	12.2852	609.32	16.8422
277.37	19.8332	388.63	12.2876	610.33	16.8469
277.60	19.8358	391.69	14.7638	614.28	11.9850
278.00	19.8399	264.66	20.9932	618.01	8.8879
279.20	28.0261	401.81	24.7095	620.36	10.6733
279.54	36.2070	402.40	12.3578	621.93	9.7884
279.70	36.2099	404.85	21.0290	630.19	0.0000
280.46	26.8766	410.95	9.9207	631.29	9.8161
283.69	22.2390	413.71	18.6218	633.25	7.1432
284.31	16.3922	414.70	7.4517	634.78	9.8264
285.41	23.4302	423.72	16.2036	635.95	11.6173
285.90	0.0000	427.09	11.2327	636.99	4.4696
287.50	14.0731	427.87	19.9756	657.50	4.0472
290.67	20.3606	433.94	15.0172	657.76	4.0475
293.27	0.0000	439.40	8.3606	657.90	0.0000
351.93	25.9021	440.45	10.8730	661.66	13.5071
295.96	25.9115	453.88	17.6547	664.57	0.0000
879.38	26.7320	463.37	15.1864	666.33	2.7051
299.98	23.6035	468.07	16.9031	666.50	0.0000
300.09	23.6047	473.00	12.7005	667.71	0.0000
300.13	23.6047	475.06	13.5573	677.62	5.4280
301.36	27.1623	476.78	11.0224	685.70	9.5208
302.85	11.8185	477.60	9.3294	692.65	0.0000
256.23	17.7420	482.18	11.0441	695.00	10.9097
304.85	18.9282	487.02	10.2124	696.49	4.5475
306.78	17.7617	492.35	0.0000	696.51	4.5475
308.46	13.0360	497.08	13.6654	697.00	3.6385
311.90	17.8061	505.52	17.9896	697.30	4.5485
316.51	13.0870	507.63	0.0000	697.49	4.5487
319.41	22.6361	511.00	9.4413	702.65	5.4666
320.08	15.4926	514.00	9.4509	706.68	10.9453
321.04	27.4227	514.00	9.4509	711.68	10.0471
323.87	15.5204	520.40	10.3330	720.70	10.9878
325.23	20.7076	520.69	0.0000	721.93	0.0000
328.76	10.7696	522.65	0.0000	722.78	13.7427
333.37	20.7865	527.90	0.0000	722.91	13.7433
333.97	15.9941	528.26	10.3608	723.31	7.3307
334.37	12.7975	529.59	10.3657	724.19	10.0820
338.28	14.4232	529.87	0.0000	727.33	14.6771
338.32	14.4236	531.02	9.5064	733.00	7.3499
311.90	14.4379	537.26	10.3926	735.93	10.1142
340.48	14.4379	546.56	0.0000	333.97	3.6795
340.55	14.4382	552.55	6.9639	739.50	0.0000
344.28	14.4628	563.25	15.7236	744.23	9.2155

ENERGY	MDA COUNTS	ENERGY	MDA COUNTS	ENERGY	MDA COUNTS
747.24	7.3783	964.08	5.8352	1457.56	0.0000
748.06	3.6899	966.17	5.8379	1460.82	3.2087
752.31	10.1590	968.97	5.8416	1489.16	4.2982
753.82	8.3152	983.53	1.9535	1505.03	6.4639
756.73	9.2464	984.45	0.0000	1584.12	2.1820
756.80	9.2464	1274.44	4.8975	1596.21	4.3721
884.68	5.5583	1002.74	6.8661	1620.50	1.0971
765.81	6.9516	1004.73	10.7946	1621.92	4.3893
766.84	4.1721	507.63	0.0000	1678.03	0.0000
772.60	0.0000	1025.87	0.0000	1690.97	1.1088
776.52	5.5769	1028.54	0.0000	1750.46	0.0000
739.50	0.0000	1037.84	2.9648	1764.49	1.1208
778.90	9.3005	1038.76	0.0000	1063.66	2.2435
783.70	7.4495	631.29	4.9508	1771.35	1.1219
788.74	5.5945	1048.07	3.9619	1791.20	0.0000
792.07	6.5326	1049.04	4.9532	1808.65	0.0000
795.86	7.0059	1050.41	4.9548	1810.72	0.0000
810.06	4.6877	1063.66	3.9749	1836.06	0.0000
810.29	5.6255	1077.00	8.9685		
344.28	5.6257	1077.34	7.9720		
810.76	4.6885	1085.87	8.9846		
815.77	6.5722	1093.63	0.0000		
1048.07	4.6977	1099.45	6.0063		
832.01	4.7135	1112.07	5.0183		
834.85	14.1504	1112.84	2.0076		
836.80	0.0000	1115.54	1.5065		
846.75	0.0000	1120.29	5.0264		
846.77	12.3002	1120.55	5.0269		
856.80	3.7939	1221.41	5.0277		
860.56	6.6454	1129.67	5.0358		
871.09	7.6143	1131.51	0.0000		
873.19	6.6659	1147.95	0.0000		
875.33	0.0000	1173.23	4.0635		
879.38	5.7219	1177.95	4.0674		
880.51	8.5854	1189.05	5.0948		
881.60	7.6335	1204.77	3.0662		
883.24	5.7273	1221.41	7.1772		
884.68	9.5487	1231.02	8.2174		
889.28	4.7797	1235.36	6.1680		
894.76	6.7001	1238.28	3.0857		
898.04	6.7052	1260.41	0.0000		
900.72	8.6265	1271.87	5.1750		
903.28	2.8772	1274.44	2.0710		
911.20	5.7651	1274.54	3.1064		
912.08	5.7664	1291.59	4.1549		
923.98	0.0000	1298.22	0.0000		
926.50	2.8928	1312.11	4.1702		
929.11	4.8242	1332.49	5.2315		
935.54	5.7976	1362.66	0.0000		
937.49	11.6006	1365.19	3.1570		
944.13	5.8091	1368.63	0.0000		
946.00	6.7801	1384.29	4.2233		
949.00	4.8462	1408.01	5.3007		
667.71	0.0000	1434.09	0.0000		
962.31	1.4583	1435.80	5.3255		

VAX/VMS Nuclide Identification Report Generated 17-AUG-2026 07:05:00.80

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*****************************************************************************
*                            GEL Laboratories LLC                           *
*                              2040 Savage Road                             *
*                            Charleston, SC 29407                           *
*****************************************************************************
Configuration    : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G787535003.CNF;1
Background file  : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]BKG_GAM34.CNF;286
                                       Background date  : 16-AUG-2026 08:55:40
Sample date      : 14-JUL-2026 10:00:00 Acquisition date : 17-AUG-2026 06:03:31
Sample ID        : G787535003           Sample quantity  : 1.49310E+02 GRAM
Detector name    : GAM34                Detector geometry: CAN
Elapsed live time: 0 01:00:00.00        Elapsed real time: 0 01:00:00.44  0.0%
Energy tolerance : 1.50000 keV          Analyst Initials : GG
Abundance limit  : 75.00000             Sensitivity      : 3.00000
Batch ID         : 3033734              Detector SN#     :
Matrix Spike ID  :                      LCS ID           :
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BACKGROUND CORRECTED SAMPLE PEAK REPORT

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	51.58	32	161	0.59	104.09	101	8	8.99E-03	69.7	
2	4	74.07	82	187	1.61	149.02	145	18	2.28E-02	31.8	8.12E+00
3	4	77.15*	304	219	1.62	155.19	145	18	8.44E-02	11.2	
4	0	89.28	75	436	3.48	179.42	170	13	2.07E-02	59.2	
5	0	93.11*	94	222	2.13	187.08	184	10	2.61E-02	32.6	
6	0	121.50	41	113	0.65	243.81	241	7	1.13E-02	46.4	
7	0	130.24	42	187	1.26	261.27	258	9	1.17E-02	61.7	
8	0	186.05*	101	226	1.36	372.79	368	13	2.80E-02	32.6	
9	0	197.13*	39	126	2.43	394.93	392	9	1.09E-02	54.4	
10	0	209.62	115	122	1.46	419.88	415	12	3.20E-02	21.2	
11	3	238.67*	525	90	1.27	477.93	470	21	1.46E-01	5.5	1.27E+00
12	3	241.82	102	105	1.76	484.23	470	21	2.84E-02	26.5	
13	0	248.33	23	141	1.80	497.24	492	13	6.46E-03	107.0	
14	0	270.83	54	114	1.79	542.21	533	14	1.49E-02	44.7	
15	1	295.36*	167	72	1.23	591.22	587	21	4.65E-02	11.4	2.82E+00
16	1	300.26*	42	97	1.49	601.02	587	21	1.16E-02	43.6	
17	0	328.26	25	54	1.37	656.96	652	8	7.08E-03	53.7	
18	0	338.79*	88	108	1.17	678.02	671	14	2.43E-02	27.7	
19	0	351.98*	355	86	1.33	704.38	698	14	9.87E-02	7.7	
20	0	387.69	23	23	0.96	775.75	772	7	6.44E-03	40.6	
21	0	463.75*	18	58	1.10	927.74	922	13	5.09E-03	88.0	
22	0	504.81	21	15	1.57	1009.80	1007	6	5.95E-03	35.7	
23	0	511.92*	40	73	1.54	1024.01	1016	17	1.10E-02	56.1	
24	0	583.37*	137	45	1.22	1166.82	1160	12	3.80E-02	13.2	
25	0	609.58*	212	39	1.47	1219.20	1213	12	5.90E-02	9.1	
26	0	695.61	10	16	0.86	1391.15	1388	6	2.65E-03	76.3	
27	0	835.71	13	5	0.61	1671.21	1668	6	3.55E-03	40.7	
28	0	861.16	21	16	1.20	1722.08	1715	14	5.90E-03	46.7	
29	0	866.34	8	3	1.06	1732.44	1729	6	2.22E-03	49.2	
30	0	879.56	18	6	3.78	1758.86	1753	11	4.86E-03	35.3	
31	0	896.32	9	24	3.47	1792.37	1782	13	2.54E-03	118.4	
32	0	911.50*	87	29	1.82	1822.71	1815	16	2.41E-02	17.6	
33	0	924.12	13	8	3.07	1847.94	1843	10	3.69E-03	47.5	
34	0	934.42	14	11	2.73	1868.53	1864	9	3.92E-03	50.3	

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
35	0	969.43*	59	22	1.64	1938.52	1932	11	1.65E-02	20.3	
36	0	1003.34*	27	11	4.25	2006.31	1999	16	7.38E-03	36.0	
37	0	1020.47	11	4	0.79	2040.56	2035	9	2.96E-03	47.0	
38	0	1046.79	18	5	1.71	2093.18	2089	10	4.92E-03	33.7	
39	7	1072.71	14	14	1.87	2145.00	2136	18	3.99E-03	56.0	3.07E+00
40	7	1075.37	9	14	2.64	2150.31	2136	18	2.54E-03	67.5	
41	0	1087.25	8	8	0.65	2174.07	2169	10	2.28E-03	71.7	
42	0	1093.63	10	11	2.83	2186.83	2178	14	2.80E-03	75.5	
43	0	1109.72	16	7	1.97	2218.99	2213	10	4.36E-03	41.2	
44	0	1120.83*	53	16	1.79	2241.20	2234	13	1.47E-02	21.1	
45	0	1162.46	33	78	18.13	2324.43	2304	44	9.15E-03	94.0	
46	0	1220.72	18	12	4.79	2440.91	2434	12	5.03E-03	44.9	
47	0	1365.85	10	0	1.53	2731.10	2725	10	2.78E-03	31.6	
48	0	1377.66	15	7	1.94	2754.71	2749	10	4.05E-03	43.8	
49	0	1407.69	13	3	2.43	2814.76	2809	11	3.67E-03	36.7	
50	0	1461.11*	298	15	2.14	2921.58	2914	14	8.29E-02	6.4	
51	0	1497.24	6	3	0.69	2993.83	2987	10	1.77E-03	61.1	
52	0	1588.77	15	0	1.75	3176.87	3171	11	4.17E-03	25.8	
53	0	1730.01	12	0	1.89	3459.33	3454	10	3.33E-03	28.9	
54	0	1764.66*	34	0	1.19	3528.64	3522	13	9.53E-03	17.6	

Flag: "*" = Peak area was modified by background subtraction

VMS Nuclide Identification Report V3.1 Generated 17-AUG-2026 07:05:02

Configuration	: DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G787535003.CNF;1		
Analyses by	: PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.4		
Sample title	: GG		
Sample date	: 14-JUL-2026 10:00:00	Acquisition date	: 17-AUG-2026 06:03:31
Sample ID	: G787535003	Sample quantity	: 149.31 GRAM
Sample type	: SOLID	Sample geometry	:
Detector name	: GAMMA34	Detector geometry	: CAN
Elapsed live time	: 0 01:00:00.00	Elapsed real time	: 0 01:00:00.44 0.0%
Energy tolerance	: 1.50 keV	Half life ratio	: 10.00
Errors propagated	: No	Systematic Error	: 0.00 %
Efficiency type	: Empirical	Efficiencies at	: Peak Energy
Abundance limit	: 75.00		

Interference Report

No interference correction performed

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
K-40	1460.82	288	10.66*	6.529E-01	2.077E+01	2.077E+01	12.82
MN-54	834.85	13	99.98*	1.148E+00	5.721E-02	6.168E-02	81.33
CO-57	122.06	50	85.60*	5.105E+00	5.699E-02	6.213E-02	92.72
	136.47	------	10.68	5.041E+00	------ Line Not Found		------
CD-109	88.03	94	3.70*	4.246E+00	2.993E+00	3.149E+00	118.35
PR-144	696.51	10	1.34*	1.379E+00	2.702E+00	2.934E+00	152.65
	1489.16	------	0.28	6.420E-01	------ Line Not Found		------
PM-147	121.22	50	0.00*	5.105E+00	1.712E+03	1.754E+03	92.72
TM-171	51.35	42	0.27	6.677E-01	1.183E+02	1.223E+02	139.45
	52.39	42	0.47*	6.677E-01	6.795E+01	7.026E+01	139.45
	66.73	------	0.14	2.218E+00	------ Line Not Found		------
TL-208	277.37	------	6.60	3.146E+00	------ Line Not Found		------
	583.19	145	85.00*	1.631E+00	5.255E-01	5.255E-01	26.42
	860.56	22	12.50	1.113E+00	7.821E-01	7.821E-01	93.32
BI-211	72.87	105	1.23	3.003E+00	1.423E+01	1.423E+01	63.52
	351.06	395	12.92*	2.563E+00	6.002E+00	6.002E+00	15.37
PB-212	74.82	105	10.28	3.003E+00	1.703E+00	1.703E+00	63.52
	77.11	386	17.10	3.304E+00	3.434E+00	3.434E+00	22.48
	238.63	605	43.60*	3.568E+00	1.956E+00	1.956E+00	10.97
	300.09	47	3.30	2.940E+00	2.448E+00	2.448E+00	87.16
BI-214	609.32	224	45.49*	1.565E+00	1.582E+00	1.582E+00	18.27
	1120.29	52	14.92	8.468E-01	2.089E+00	2.089E+00	42.20
	1764.49	32	15.30	5.640E-01	1.887E+00	1.887E+00	35.25
PB-214	74.82	105	5.80	3.003E+00	3.018E+00	3.018E+00	63.52
	77.11	386	9.70	3.304E+00	6.053E+00	6.054E+00	22.48
	87.09	------	3.41	4.106E+00	------ Line Not Found		------
	242.00	118	7.25	3.530E+00	2.315E+00	2.315E+00	52.97
	295.22	189	18.42	2.982E+00	1.730E+00	1.730E+00	22.79
	351.93	395	35.60*	2.563E+00	2.178E+00	2.178E+00	15.37
RN-222	74.82	105	5.80	3.003E+00	3.018E+00	3.018E+00	63.52
	77.11	386	9.70	3.304E+00	6.053E+00	6.054E+00	22.48
	87.09	------	3.41	4.106E+00	------ Line Not Found		------
	242.00	118	7.25	3.530E+00	2.315E+00	2.315E+00	52.97
	295.22	189	18.42	2.982E+00	1.730E+00	1.730E+00	22.79
	351.93	395	35.60*	2.563E+00	2.178E+00	2.178E+00	15.37
RA-224	240.99	118	4.10*	3.530E+00	4.094E+00	4.094E+00	52.97
RA-226	74.82	105	5.80	3.003E+00	3.018E+00	3.018E+00	63.52
	77.11	386	9.70	3.304E+00	6.053E+00	6.054E+00	22.48
	87.09	------	3.41	4.106E+00	------ Line Not Found		------
	242.00	118	7.25	3.530E+00	2.315E+00	2.315E+00	52.97
	295.22	189	18.42	2.982E+00	1.730E+00	1.730E+00	22.79
	351.93	395	35.60*	2.563E+00	2.178E+00	2.178E+00	15.37
AC-228	338.32	98	11.27	2.649E+00	1.646E+00	1.646E+00	55.41
	911.20	88	25.80*	1.050E+00	1.629E+00	1.629E+00	35.20
	968.97	60	15.80	9.848E-01	1.928E+00	1.928E+00	40.67
RA-228	338.32	98	11.27	2.649E+00	1.646E+00	1.646E+00	55.41
	911.20	88	25.80*	1.050E+00	1.629E+00	1.629E+00	35.20
	968.97	60	15.80	9.848E-01	1.928E+00	1.928E+00	40.67
TH-228	74.82	105	10.28	3.003E+00	1.703E+00	1.703E+00	63.52

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
	77.11	386	17.10	3.304E+00	3.434E+00	3.434E+00	22.48
	238.63	605	43.60*	3.568E+00	1.956E+00	1.956E+00	10.97
	300.09	47	3.30	2.940E+00	2.448E+00	2.448E+00	87.16
TH-230	74.82	105	5.80	3.003E+00	3.018E+00	3.018E+00	63.52
	77.11	386	9.70	3.304E+00	6.053E+00	6.053E+00	22.48
	87.09	------	3.41	4.106E+00	------ Line Not Found		------
	242.00	118	7.25	3.530E+00	2.315E+00	2.315E+00	52.97
	295.22	189	18.42	2.982E+00	1.730E+00	1.730E+00	22.79
	351.93	395	35.60*	2.563E+00	2.178E+00	2.178E+00	15.37
PA-231	283.69	------	1.70	3.086E+00	------ Line Not Found		------
	301.36	47	5.35*	2.940E+00	1.510E+00	1.510E+00	87.16
TH-232	338.32	98	11.27	2.649E+00	1.646E+00	1.646E+00	55.41
	911.20	88	25.80*	1.050E+00	1.629E+00	1.629E+00	35.20
	968.97	60	15.80	9.848E-01	1.928E+00	1.928E+00	40.67
U-234	74.82	105	5.80	3.003E+00	3.018E+00	3.018E+00	63.52
	77.11	386	9.70	3.304E+00	6.053E+00	6.053E+00	22.48
	87.09	------	3.41	4.106E+00	------ Line Not Found		------
	242.00	118	7.25	3.530E+00	2.315E+00	2.315E+00	52.97
	295.22	189	18.42	2.982E+00	1.730E+00	1.730E+00	22.79
	351.93	395	35.60*	2.563E+00	2.178E+00	2.178E+00	15.37
U-235	89.96	94	3.47	4.246E+00	3.191E+00	3.191E+00	118.35
	93.35	117	5.60	4.461E+00	2.361E+00	2.361E+00	65.11
	143.76	------	10.96*	4.963E+00	------ Line Not Found		------
	163.33	------	5.08	4.682E+00	------ Line Not Found		------
	185.72	119	57.20	4.317E+00	2.415E-01	2.415E-01	65.25
	205.31	------	5.01	4.020E+00	------ Line Not Found		------
AM-243	43.53	------	5.90	1.917E-01	------ Line Not Found		------
	74.66	105	67.20*	3.003E+00	2.605E-01	2.605E-01	63.52
CF-249	252.80	------	2.50	3.402E+00	------ Line Not Found		------
	333.37	------	14.60	2.686E+00	------ Line Not Found		------
	388.16	26	66.00*	2.356E+00	8.264E-02	8.266E-02	81.29
ANH-511	511.00	43	100.00*	1.840E+00	1.165E-01	1.165E-01	112.12

Flag: "*" = Keyline

VAX/VMS Nuclide Identification Report Generated 17-AUG-2026 07:05:03.44

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*************************************************************************
*                          GEL Laboratories LLC                         *
*                            2040 Savage Road                           *
*                          Charleston, SC 29407                         *
*************************************************************************
*                                                                       *
*                        DETECTOR AND SAMPLE DATA                       *
*                                                                       *
* Configuration    : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G787535003.CNF;1    *
* Acquisition date : 17-AUG-2026 06:03:31 Sensitivity     : 3.000        *
* Detector ID      : GAM34                Energy tolerance: 1.500        *
* Elapsed live time:    0 01:00:00.00     Abundance limit : 75.000       *
* Elapsed real time:    0 01:00:00.44     Half life ratio : *****        *
* Sample date      : 14-JUL-2026 10:00:00 Analyst initials: GG           *
* Sample ID        : G787535003           Sample Quantity : 1.4931E+02 GRAM   *
* Batch Number     : 3033734              Wet Weight      :    0.00000   *
* Wet wt corr      :    1.00000           Dry Weight      :    0.00000   *
* Nuclide Library  : SOLID.NLB;19                                        *
*************************************************************************
*                                                                       *
*                        CALIBRATION INFORMATION                        *
*                                                                       *
* Eff. Cal. date   :  3-SEP-2025 09:10:23 Eff. Geometry   : CAN          *
* Eff. File        : DKA100:[CANBERRA.GAMMA]EFF_GAM34_CAN.CNF;7          *
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Combined Activity-MDA Report

NOTE: Not all "Identified Nuclides" are valid.
Please refer to Certificate of Analysis.

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Cnt uncert (1.96-sigma)	MDA (pCi/GRAM)
K-40	2.077E+01	2.611E+00	7.881E-01
MN-54	6.168E-02	4.916E-02	8.078E-02
CO-57	6.213E-02	5.645E-02	6.003E-02
CD-109	3.149E+00	3.652E+00	1.854E+00
PR-144	2.934E+00	4.389E+00	6.854E+00
PM-147	1.754E+03	1.594E+03	1.695E+03
TM-171	7.026E+01	9.602E+01	6.590E+01
TL-208	5.255E-01	1.361E-01	8.830E-02
BI-211	6.002E+00	9.038E-01	4.140E-01
PB-212	1.956E+00	2.103E-01	1.294E-01
BI-214	1.582E+00	2.833E-01	1.726E-01
PB-214	2.178E+00	3.280E-01	1.506E-01
RN-222	2.178E+00	3.280E-01	1.506E-01
RA-224	4.094E+00	2.125E+00	1.389E+00
RA-226	2.178E+00	3.280E-01	1.506E-01
AC-228	1.629E+00	5.621E-01	3.504E-01
RA-228	1.629E+00	5.621E-01	3.504E-01
TH-228	1.956E+00	2.103E-01	1.294E-01
TH-230	2.178E+00	3.280E-01	1.506E-01
PA-231	1.510E+00	1.290E+00	1.142E+00
TH-232	1.629E+00	5.621E-01	3.504E-01
U-234	2.178E+00	3.280E-01	1.506E-01
U-235	-7.666E-02	2.193E-01	4.159E-01
AM-243	2.605E-01	1.622E-01	1.134E-01
CF-249	8.266E-02	6.585E-02	7.711E-02
ANH-511	1.165E-01	1.280E-01	6.744E-02

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Cnt Uncert (1.96-sigma)	MDA (pCi/GRAM)	
BE-7	5.650E-01	4.828E-01	1.068E+00	NOT IDENT.
NA-22	-1.389E-02	6.816E-02	1.305E-01	NOT IDENT.
NA-24	0.000E+00	1.074E+15	0.000E+00	SHORT HLIF
AL-26	-1.835E-02	2.820E-02	4.103E-02	NOT IDENT.

SC-46	6.831E-02	6.925E-02	1.492E-01	FAIL ABUN
V-48	8.702E-03	1.950E-01	4.056E-01	NOT IDENT.
CR-51	1.697E-01	6.875E-01	1.349E+00	NOT IDENT.
MN-52	-4.990E-01	3.313E+00	6.701E+00	FAIL ABUN
CO-56	-5.082E-02	6.715E-02	1.208E-01	NOT IDENT.
MN-56	0.000E+00	1.328E+41	0.000E+00	SHORT HLIF
CO-58	-1.321E-02	5.847E-02	1.162E-01	NOT IDENT.
FE-59	-1.982E-01	1.366E-01	1.838E-01	NOT IDENT.
CO-60	1.817E-04	3.421E-02	7.772E-02	NOT IDENT.
ZN-65	8.331E-02	9.190E-02	2.202E-01	NOT IDENT.
GE-68	-2.218E-01	1.789E+00	3.208E+00	NOT IDENT.
AS-73	7.986E-01	1.857E+00	3.701E+00	NOT IDENT.
AS-74	-3.507E-02	2.487E-01	4.545E-01	NOT IDENT.
SE-75	3.172E-03	6.062E-02	1.084E-01	FAIL ABUN
BR-77	0.000E+00	7.709E+03	0.000E+00	SHORT HLIF
SR-82	3.231E-02	7.181E-01	1.477E+00	NOT IDENT.
RB-83	-1.528E-02	9.146E-02	1.700E-01	NOT IDENT.
RB-84	1.448E-02	1.189E-01	2.332E-01	NOT IDENT.
KR-85	4.371E+00	8.973E+00	1.786E+01	NOT IDENT.
SR-85	2.830E-02	5.792E-02	1.153E-01	NOT IDENT.
RB-86	5.105E-01	1.983E+00	3.960E+00	NOT IDENT.
Y-88	1.676E-02	4.350E-02	1.164E-01	NOT IDENT.
Y-91	-1.632E-01	3.426E+01	6.869E+01	NOT IDENT.
NB-94	3.497E-02	4.595E-02	9.500E-02	NOT IDENT.
NB-95	-6.043E-02	7.042E-02	1.262E-01	NOT IDENT.
NB-95M	5.183E-02	1.880E-01	3.410E-01	NOT IDENT.
ZR-95	-5.137E-02	8.897E-02	1.693E-01	NOT IDENT.
NB-97	0.000E+00	1.960E+41	0.000E+00	SHORT HLIF
ZR-97	0.000E+00	2.527E+14	0.000E+00	SHORT HLIF
MO-99	0.000E+00	1.738E+03	0.000E+00	SHORT HLIF
TC-99M	0.000E+00	1.142E+39	0.000E+00	SHORT HLIF
RH-101	1.665E-02	4.039E-02	7.587E-02	FAIL ABUN
RH-102	1.870E-02	8.269E-02	1.574E-01	FAIL ABUN
RU-103	9.197E-03	6.690E-02	1.295E-01	FAIL ABUN
RH-106	-4.127E-01	5.115E-01	8.208E-01	NOT IDENT.
RU-106	-4.127E-01	5.115E-01	8.208E-01	NOT IDENT.
AG-108M	4.108E-03	3.001E-02	5.939E-02	NOT IDENT.
AG-110	2.119E-01	9.030E-01	1.783E+00	NOT IDENT.
AG-110M	4.114E-02	5.257E-02	1.251E-01	NOT IDENT.
SN-113	2.052E-02	6.038E-02	1.193E-01	NOT IDENT.
CD-115	0.000E+00	4.231E+03	0.000E+00	SHORT HLIF
SN-117M	-5.398E-02	1.563E-01	2.965E-01	NOT IDENT.
SB-122	0.000E+00	3.045E+02	0.000E+00	SHORT HLIF
TE-123M	-2.347E-02	3.554E-02	6.575E-02	NOT IDENT.
SB-124	-6.221E-02	1.342E-01	2.481E-01	NOT IDENT.
SB-125	-6.844E-02	1.134E-01	1.964E-01	FAIL ABUN
TE-125M	1.114E+01	1.365E+01	2.841E+01	NOT IDENT.
I-126	-6.023E-01	8.915E-01	1.453E+00	FAIL ABUN
SB-126	-1.471E-01	3.780E-01	7.532E-01	FAIL ABUN
SN-126	1.863E-01	1.091E-01	2.213E-01	NOT IDENT.
SB-127	-1.944E+01	4.991E+01	8.635E+01	NOT IDENT.
I-131	1.761E-01	6.967E-01	1.367E+00	NOT IDENT.
I-132	0.000E+00	1.960E+41	0.000E+00	SHORT HLIF
TE-132	0.000E+00	4.606E+01	0.000E+00	SHORT HLIF
BA-133	-2.725E-02	5.551E-02	9.013E-02	NOT IDENT.
I-133	0.000E+00	1.975E+10	0.000E+00	SHORT HLIF
CS-134	3.925E-02	6.093E-02	1.314E-01	FAIL ABUN
I-135	0.000E+00	3.097E+36	0.000E+00	SHORT HLIF
CS-136	7.269E-01	4.797E-01	8.046E-01	FAIL ABUN
BA-137M	1.968E-03	4.565E-02	8.587E-02	NOT IDENT.
CS-137	2.079E-03	4.822E-02	9.072E-02	NOT IDENT.
LA-138	3.096E-02	6.728E-02	1.612E-01	NOT IDENT.
CE-139	5.474E-03	3.958E-02	7.716E-02	NOT IDENT.
BA-140	-9.607E-02	8.460E-01	1.581E+00	NOT IDENT.
LA-140	-3.085E-01	3.967E-01	6.473E-01	FAIL ABUN
CE-141	8.851E-03	1.060E-01	2.075E-01	NOT IDENT.
CE-143	0.000E+00	1.881E+06	0.000E+00	SHORT HLIF
CE-144	-1.843E-01	2.377E-01	4.039E-01	NOT IDENT.
PM-144	3.882E-02	5.807E-02	9.075E-02	FAIL ABUN
PM-146	1.473E-02	5.253E-02	1.031E-01	NOT IDENT.
ND-147	-8.741E-02	2.039E+00	3.875E+00	NOT IDENT.
PM-149	0.000E+00	3.864E+04	0.000E+00	SHORT HLIF
EU-150	7.218E-04	3.530E-02	6.208E-02	FAIL ABUN
EU-152	-5.972E-02	1.177E-01	2.100E-01	FAIL ABUN
GD-153	7.762E-02	1.017E-01	2.007E-01	NOT IDENT.
EU-154	2.823E-02	1.821E-01	3.731E-01	FAIL ABUN
EU-155	-1.935E-02	1.220E-01	2.365E-01	NOT IDENT.
TB-160	3.775E-01	2.610E-01	3.904E-01	FAIL ABUN

HO-166M	-2.731E-03	6.201E-02	1.296E-01	NOT IDENT.
HF-172	-2.155E-02	2.232E-01	4.353E-01	FAIL ABUN
LU-172	9.521E-02	1.408E-01	1.540E-01	FAIL ABUN
LU-176	2.067E-02	2.913E-02	6.033E-02	FAIL ABUN
HF-181	7.056E-02	7.502E-02	1.596E-01	NOT IDENT.
TA-182	5.241E-01	4.610E-01	6.850E-01	FAIL ABUN
RE-183	2.833E-01	3.882E-01	8.281E-01	NOT IDENT.
RE-184	8.334E-02	2.301E-01	4.969E-01	NOT IDENT.
W-188	-5.095E+00	1.093E+01	1.978E+01	NOT IDENT.
IR-192	2.518E-03	4.911E-02	9.418E-02	FAIL ABUN
HG-203	-9.302E-03	5.969E-02	1.121E-01	FAIL ABUN
TL-204	2.227E-01	6.535E+00	1.234E+01	NOT IDENT.
BI-207	-4.773E-02	6.105E-02	1.064E-01	FAIL ABUN
BI-210	-3.706E+00	7.778E+00	1.566E+01	NOT IDENT.
PB-210	-3.706E+00	7.778E+00	1.566E+01	NOT IDENT.
PB-211	1.413E-01	8.899E-01	1.713E+00	NOT IDENT.
BI-212	1.843E+00	7.733E-01	1.893E+00	NOT IDENT.
BI-213	-4.899E-02	1.170E-01	2.091E-01	NOT IDENT.
RN-219	2.457E-01	5.355E-01	1.059E+00	FAIL ABUN
RA-223	-9.239E-02	8.260E-01	1.430E+00	FAIL ABUN
AC-225	8.966E-01	2.561E+00	5.045E+00	NOT IDENT.
AC-227	3.519E-02	3.206E-01	6.156E-01	FAIL ABUN
TH-227	3.519E-02	3.206E-01	6.156E-01	FAIL ABUN
TH-229	-1.667E-01	6.298E-01	1.098E+00	FAIL ABUN
TH-231	-9.239E-02	8.260E-01	1.430E+00	FAIL ABUN
PA-233	-2.970E-02	7.280E-02	1.328E-01	FAIL ABUN
PA-234	-4.562E-02	3.422E-01	6.968E-01	FAIL ABUN
PA-234M	9.937E-02	1.864E+00	3.760E+00	FAIL ABUN
TH-234	9.937E-02	1.864E+00	3.760E+00	FAIL ABUN
NP-237	-2.970E-02	7.280E-02	1.328E-01	FAIL ABUN
NP-238	0.000E+00	1.081E+04	0.000E+00	SHORT HLIF
U-238	9.937E-02	1.864E+00	3.760E+00	FAIL ABUN
NP-239	-1.720E-01	2.992E-01	5.678E-01	NOT IDENT.
PU-239	7.981E+02	9.650E+02	8.571E+02	FAIL ABUN
AM-241	1.096E-01	2.314E-01	4.866E-01	NOT IDENT.
CM-243	4.069E-03	1.178E-01	2.318E-01	NOT IDENT.
BK-247	1.209E-02	9.706E-02	1.752E-01	NOT IDENT.
CM-247	2.273E-02	4.918E-02	9.732E-02	NOT IDENT.
CF-251	3.493E-02	1.459E-01	2.875E-01	NOT IDENT.

VAX/VMS Nuclide Identification Report Generated 17-AUG-2026 07:05:01.68

Nuclide Line Activity Report

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
K-40	1460.82	288	10.66*	6.529E-01	2.077E+01	2.077E+01	12.82
MN-54	834.85	13	99.98*	1.148E+00	5.721E-02	6.168E-02	81.33
CO-57	122.06	50	85.60*	5.105E+00	5.699E-02	6.213E-02	92.72
	136.47	------	10.68	5.041E+00	------ Line Not Found		------
CD-109	88.03	94	3.70*	4.246E+00	2.993E+00	3.149E+00	118.35
PR-144	696.51	10	1.34*	1.379E+00	2.702E+00	2.934E+00	152.65
	1489.16	------	0.28	6.420E-01	------ Line Not Found		------
PM-147	121.22	50	0.00*	5.105E+00	1.712E+03	1.754E+03	92.72
TM-171	51.35	42	0.27	6.677E-01	1.183E+02	1.223E+02	139.45
	52.39	42	0.47*	6.677E-01	6.795E+01	7.026E+01	139.45
	66.73	------	0.14	2.218E+00	------ Line Not Found		------
TL-208	277.37	------	6.60	3.146E+00	------ Line Not Found		------
	583.19	145	85.00*	1.631E+00	5.255E-01	5.255E-01	26.42
	860.56	22	12.50	1.113E+00	7.821E-01	7.821E-01	93.32
BI-211	72.87	105	1.23	3.003E+00	1.423E+01	1.423E+01	63.52
	351.06	395	12.92*	2.563E+00	6.002E+00	6.002E+00	15.37
PB-212	74.82	105	10.28	3.003E+00	1.703E+00	1.703E+00	63.52
	77.11	386	17.10	3.304E+00	3.434E+00	3.434E+00	22.48
	238.63	605	43.60*	3.568E+00	1.956E+00	1.956E+00	10.97
	300.09	47	3.30	2.940E+00	2.448E+00	2.448E+00	87.16
BI-214	609.32	224	45.49*	1.565E+00	1.582E+00	1.582E+00	18.27
	1120.29	52	14.92	8.468E-01	2.089E+00	2.089E+00	42.20
	1764.49	32	15.30	5.640E-01	1.887E+00	1.887E+00	35.25
PB-214	74.82	105	5.80	3.003E+00	3.018E+00	3.018E+00	63.52
	77.11	386	9.70	3.304E+00	6.053E+00	6.054E+00	22.48
	87.09	------	3.41	4.106E+00	------ Line Not Found		------
	242.00	118	7.25	3.530E+00	2.315E+00	2.315E+00	52.97
	295.22	189	18.42	2.982E+00	1.730E+00	1.730E+00	22.79
	351.93	395	35.60*	2.563E+00	2.178E+00	2.178E+00	15.37
RN-222	74.82	105	5.80	3.003E+00	3.018E+00	3.018E+00	63.52
	77.11	386	9.70	3.304E+00	6.053E+00	6.054E+00	22.48
	87.09	------	3.41	4.106E+00	------ Line Not Found		------
	242.00	118	7.25	3.530E+00	2.315E+00	2.315E+00	52.97
	295.22	189	18.42	2.982E+00	1.730E+00	1.730E+00	22.79
	351.93	395	35.60*	2.563E+00	2.178E+00	2.178E+00	15.37
RA-224	240.99	118	4.10*	3.530E+00	4.094E+00	4.094E+00	52.97
RA-226	74.82	105	5.80	3.003E+00	3.018E+00	3.018E+00	63.52
	77.11	386	9.70	3.304E+00	6.053E+00	6.054E+00	22.48
	87.09	------	3.41	4.106E+00	------ Line Not Found		------
	242.00	118	7.25	3.530E+00	2.315E+00	2.315E+00	52.97
	295.22	189	18.42	2.982E+00	1.730E+00	1.730E+00	22.79
	351.93	395	35.60*	2.563E+00	2.178E+00	2.178E+00	15.37
AC-228	338.32	98	11.27	2.649E+00	1.646E+00	1.646E+00	55.41
	911.20	88	25.80*	1.050E+00	1.629E+00	1.629E+00	35.20
	968.97	60	15.80	9.848E-01	1.928E+00	1.928E+00	40.67
RA-228	338.32	98	11.27	2.649E+00	1.646E+00	1.646E+00	55.41
	911.20	88	25.80*	1.050E+00	1.629E+00	1.629E+00	35.20

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
	968.97	60	15.80	9.848E-01	1.928E+00	1.928E+00	40.67
TH-228	74.82	105	10.28	3.003E+00	1.703E+00	1.703E+00	63.52
	77.11	386	17.10	3.304E+00	3.434E+00	3.434E+00	22.48
	238.63	605	43.60*	3.568E+00	1.956E+00	1.956E+00	10.97
	300.09	47	3.30	2.940E+00	2.448E+00	2.448E+00	87.16
TH-230	74.82	105	5.80	3.003E+00	3.018E+00	3.018E+00	63.52
	77.11	386	9.70	3.304E+00	6.053E+00	6.053E+00	22.48
	87.09	------	3.41	4.106E+00	------ Line Not Found		------
	242.00	118	7.25	3.530E+00	2.315E+00	2.315E+00	52.97
	295.22	189	18.42	2.982E+00	1.730E+00	1.730E+00	22.79
	351.93	395	35.60*	2.563E+00	2.178E+00	2.178E+00	15.37
PA-231	283.69	------	1.70	3.086E+00	------ Line Not Found		------
	301.36	47	5.35*	2.940E+00	1.510E+00	1.510E+00	87.16
TH-232	338.32	98	11.27	2.649E+00	1.646E+00	1.646E+00	55.41
	911.20	88	25.80*	1.050E+00	1.629E+00	1.629E+00	35.20
	968.97	60	15.80	9.848E-01	1.928E+00	1.928E+00	40.67
U-234	74.82	105	5.80	3.003E+00	3.018E+00	3.018E+00	63.52
	77.11	386	9.70	3.304E+00	6.053E+00	6.053E+00	22.48
	87.09	------	3.41	4.106E+00	------ Line Not Found		------
	242.00	118	7.25	3.530E+00	2.315E+00	2.315E+00	52.97
	295.22	189	18.42	2.982E+00	1.730E+00	1.730E+00	22.79
	351.93	395	35.60*	2.563E+00	2.178E+00	2.178E+00	15.37
U-235	89.96	94	3.47	4.246E+00	3.191E+00	3.191E+00	118.35
	93.35	117	5.60	4.461E+00	2.361E+00	2.361E+00	65.11
	143.76	------	10.96*	4.963E+00	------ Line Not Found		------
	163.33	------	5.08	4.682E+00	------ Line Not Found		------
	185.72	119	57.20	4.317E+00	2.415E-01	2.415E-01	65.25
	205.31	------	5.01	4.020E+00	------ Line Not Found		------
AM-243	43.53	------	5.90	1.917E-01	------ Line Not Found		------
	74.66	105	67.20*	3.003E+00	2.605E-01	2.605E-01	63.52
CF-249	252.80	------	2.50	3.402E+00	------ Line Not Found		------
	333.37	------	14.60	2.686E+00	------ Line Not Found		------
	388.16	26	66.00*	2.356E+00	8.264E-02	8.266E-02	81.29
ANH-511	511.00	43	100.00*	1.840E+00	1.165E-01	1.165E-01	112.12

Flag: "*" = Keyline

Sample ID : G787535003 Acquisition date : 17-AUG-2026 06:03:31

Total number of lines in spectrum	54	
Number of unidentified lines	11	
Number of lines tentatively identified by NID	43	79.63%

Nuclide Type :

Nuclide	Hlife	Decay	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
K-40	1.25E+09Y	1.00	2.077E+01	2.077E+01	0.266E+01	12.82	
MN-54	312.05D	1.08	5.721E-02	6.168E-02	5.017E-02	81.33	
CO-57	271.74D	1.09	5.699E-02	6.213E-02	5.760E-02	92.72	
CD-109	461.40D	1.05	2.993E+00	3.149E+00	3.727E+00	118.35	
PR-144	284.91D	1.09	2.702E+00	2.934E+00	4.478E+00	152.65	
PM-147	2.62Y	1.02	1.712E+03	1.754E+03	1.626E+03	92.72	
TM-171	1.92Y	1.03	6.795E+01	7.026E+01	9.798E+01	139.45	
TL-208	1.41E+10Y	1.00	5.255E-01	5.255E-01	1.389E-01	26.42	
BI-211	7.04E+08Y	1.00	6.002E+00	6.002E+00	0.922E+00	15.37	
PB-212	1.41E+10Y	1.00	1.956E+00	1.956E+00	0.215E+00	10.97	
BI-214	1600.00Y	1.00	1.582E+00	1.582E+00	0.289E+00	18.27	
PB-214	1600.00Y	1.00	2.178E+00	2.178E+00	0.335E+00	15.37	
RN-222	1600.00Y	1.00	2.178E+00	2.178E+00	0.335E+00	15.37	
RA-224	1.41E+10Y	1.00	4.094E+00	4.094E+00	2.169E+00	52.97	
RA-226	1600.00Y	1.00	2.178E+00	2.178E+00	0.335E+00	15.37	
AC-228	1.41E+10Y	1.00	1.629E+00	1.629E+00	0.574E+00	35.20	
RA-228	1.41E+10Y	1.00	1.629E+00	1.629E+00	0.574E+00	35.20	
TH-228	1.41E+10Y	1.00	1.956E+00	1.956E+00	0.215E+00	10.97	
TH-230	7.54E+04Y	1.00	2.178E+00	2.178E+00	0.335E+00	15.37	
PA-231	7.04E+08Y	1.00	1.510E+00	1.510E+00	1.316E+00	87.16	
TH-232	1.41E+10Y	1.00	1.629E+00	1.629E+00	0.574E+00	35.20	
U-234	2.45E+05Y	1.00	2.178E+00	2.178E+00	0.335E+00	15.37	
U-235	7.04E+08Y	1.00	2.415E-01	2.415E-01	1.576E-01	65.25	K
AM-243	7370.00Y	1.00	2.605E-01	2.605E-01	1.655E-01	63.52	
CF-249	351.00Y	1.00	8.264E-02	8.266E-02	6.719E-02	81.29	
ANH-511	1.00E+09Y	1.00	1.165E-01	1.165E-01	1.306E-01	112.12	
			---------	---------			
	Total Activity :		1.840E+03	1.885E+03			
	Grand Total Activity :		1.840E+03	1.885E+03			

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

Sample ID : G787535003 Acquisition date : 17-AUG-2026 06:03:31

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
0	130.24	51	227	1.26	261.27	258	9	1.17E-02	****	5.09E+00	T
0	197.13	46	148	2.43	394.93	392	9	1.09E-02	****	4.14E+00	T
0	209.62	134	142	1.46	419.88	415	12	3.20E-02	42.5	3.96E+00	T
0	248.33	27	162	1.80	497.24	492	13	6.46E-03	****	3.45E+00	
0	270.83	61	130	1.79	542.21	533	14	1.49E-02	89.4	3.21E+00	T
0	328.26	29	60	1.37	656.96	652	8	7.08E-03	****	2.72E+00	T
0	463.75	20	62	1.10	927.74	922	13	5.09E-03	****	2.01E+00	T
0	504.81	23	16	1.57	1009.80	1007	6	5.95E-03	71.4	1.86E+00	T
0	866.34	8	3	1.06	1732.44	1729	6	2.22E-03	98.4	1.11E+00	
0	879.56	18	6	3.78	1758.86	1753	11	4.86E-03	70.6	1.09E+00	T
0	896.32	9	24	3.47	1792.37	1782	13	2.54E-03	****	1.07E+00	
0	924.12	13	8	3.07	1847.94	1843	10	3.69E-03	94.9	1.04E+00	T
0	934.42	14	11	2.73	1868.53	1864	9	3.92E-03	****	1.02E+00	T
0	1003.34	27	11	4.25	2006.31	1999	16	7.38E-03	71.9	9.50E-01	T
0	1020.47	11	4	0.79	2040.56	2035	9	2.96E-03	94.0	9.34E-01	T
0	1046.79	18	5	1.71	2093.18	2089	10	4.92E-03	67.3	9.09E-01	T
7	1072.71	14	14	1.87	2145.00	2136	18	3.99E-03	****	8.86E-01	
7	1075.37	9	14	2.64	2150.31	2136	18	2.54E-03	****	8.84E-01	
0	1087.25	8	8	0.65	2174.07	2169	10	2.28E-03	****	8.74E-01	T
0	1093.63	10	11	2.83	2186.83	2178	14	2.80E-03	****	8.69E-01	T
0	1109.72	16	7	1.97	2218.99	2213	10	4.36E-03	82.3	8.56E-01	
0	1162.46	33	77	18.13	2324.43	2304	44	9.15E-03	****	8.16E-01	
0	1220.72	18	12	4.79	2440.91	2434	12	5.03E-03	89.8	7.76E-01	T
0	1365.85	10	0	1.53	2731.10	2725	10	2.78E-03	63.2	6.95E-01	T
0	1377.66	14	7	1.94	2754.71	2749	10	4.05E-03	87.6	6.89E-01	
0	1407.69	13	3	2.43	2814.76	2809	11	3.67E-03	73.4	6.75E-01	T
0	1497.24	6	3	0.69	2993.83	2987	10	1.77E-03	****	6.39E-01	
0	1588.77	14	0	1.75	3176.87	3171	11	4.17E-03	51.6	6.08E-01	
0	1730.01	11	0	1.89	3459.33	3454	10	3.33E-03	57.7	5.71E-01	

Flags: "T" = Tentatively associated

VAX/VMS Nuclide Identification Report Generated 17-AUG-2026 07:05:13.02

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*********************************************************************************
*                            GEL Laboratories LLC                               *
*                              2040 Savage Road                                 *
*                            Charleston, SC 29407                               *
*********************************************************************************
*                                                                               *
*                          DETECTOR AND SAMPLE DATA                             *
*                                                                               *
* Configuration    : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G787535003.CNF;1      *
* Acquisition date : 17-AUG-2026 06:03:31 Sensitivity     : 3.000              *
* Detector ID      : GAM34                Energy tolerance: 1.500              *
* Elapsed live time:    0 01:00:00.00     Abundance limit : 75.000             *
* Elapsed real time:    0 01:00:00.44     Half life ratio : *****              *
* Sample date      : 14-JUL-2026 10:00:00 Nuclide Library : SOLID              *
* Sample ID        : G787535003           Analyst initials: GG                 *
* Batch Number     : 3033734              Sample Quantity : 1.4931E+02 GRAM    *
* Wet wt corr      :    1.00000           Wet Weight      :    0.00000         *
*                                         Dry Weight      :    0.00000         *
*********************************************************************************
*                                                                               *
*                          CALIBRATION INFORMATION                              *
*                                                                               *
* Eff. Cal. date   :  3-SEP-2025 09:10:23 Eff. Geometry   : CAN                 *
* Eff. File        : DKA100:[CANBERRA.GAMMA]EFF_GAM34_CAN.CNF;7                 *
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Combined Critical Level Report

NOTE: Not all "Identified Nuclides" are valid.
Please refer to Certificate of Analysis.

---- Identified Nuclides ----

Nuclide	Lc (pCi/GRAM)
K-40	2.957E-01
MN-54	3.388E-02
CO-57	2.822E-02
CD-109	8.774E-01
PR-144	3.018E+00
PM-147	7.966E+02
TM-171	3.074E+01
TL-208	3.911E-02
BI-211	1.857E-01
PB-212	6.015E-02
BI-214	7.648E-02
PB-214	6.756E-02
RN-222	6.756E-02
RA-224	6.453E-01
RA-226	6.756E-02
AC-228	1.497E-01
RA-228	1.497E-01
TH-228	6.015E-02
TH-230	6.756E-02
PA-231	5.258E-01
TH-232	1.497E-01
U-234	6.756E-02
U-235	1.947E-01
AM-243	5.316E-02
CF-249	3.401E-02
ANH-511	2.992E-02

---- Non-Identified Nuclides ----

Nuclide	Lc (pCi/GRAM)	
BE-7	4.808E-01	NOT IDENT.
NA-22	5.579E-02	NOT IDENT.
NA-24	0.000E+00	SHORT HLIF
AL-26	8.213E-03	NOT IDENT.
SC-46	6.610E-02	FAIL ABUN

V-48	1.719E-01	NOT IDENT.
CR-51	6.145E-01	NOT IDENT.
MN-52	2.664E+00	FAIL ABUN
CO-56	5.211E-02	NOT IDENT.
MN-56	0.000E+00	SHORT HLIF
CO-58	4.991E-02	NOT IDENT.
FE-59	6.795E-02	NOT IDENT.
CO-60	2.909E-02	NOT IDENT.
ZN-65	9.248E-02	NOT IDENT.
GE-68	1.339E+00	NOT IDENT.
AS-73	1.735E+00	NOT IDENT.
AS-74	1.995E-01	NOT IDENT.
SE-75	4.972E-02	FAIL ABUN
BR-77	0.000E+00	SHORT HLIF
SR-82	6.447E-01	NOT IDENT.
RB-83	7.371E-02	NOT IDENT.
RB-84	9.771E-02	NOT IDENT.
KR-85	8.045E+00	NOT IDENT.
SR-85	5.194E-02	NOT IDENT.
RB-86	1.662E+00	NOT IDENT.
Y-88	4.266E-02	NOT IDENT.
Y-91	2.933E+01	NOT IDENT.
NB-94	4.240E-02	NOT IDENT.
NB-95	5.512E-02	NOT IDENT.
NB-95M	1.590E-01	NOT IDENT.
ZR-95	7.009E-02	NOT IDENT.
NB-97	0.000E+00	SHORT HLIF
ZR-97	0.000E+00	SHORT HLIF
MO-99	0.000E+00	SHORT HLIF
TC-99M	0.000E+00	SHORT HLIF
RH-101	3.582E-02	FAIL ABUN
RH-102	7.034E-02	FAIL ABUN
RU-103	5.735E-02	FAIL ABUN
RH-106	3.617E-01	NOT IDENT.
RU-106	3.617E-01	NOT IDENT.
AG-108M	2.605E-02	NOT IDENT.
AG-110	7.745E-01	NOT IDENT.
AG-110M	5.291E-02	NOT IDENT.
SN-113	5.397E-02	NOT IDENT.
CD-115	0.000E+00	SHORT HLIF
SN-117M	1.384E-01	NOT IDENT.
SB-122	0.000E+00	SHORT HLIF
TE-123M	3.069E-02	NOT IDENT.
SB-124	8.756E-02	NOT IDENT.
SB-125	8.699E-02	FAIL ABUN
TE-125M	1.340E+01	NOT IDENT.
I-126	6.362E-01	FAIL ABUN
SB-126	3.116E-01	FAIL ABUN
SN-126	1.059E-01	NOT IDENT.
SB-127	3.717E+01	NOT IDENT.
I-131	6.187E-01	NOT IDENT.
I-132	0.000E+00	SHORT HLIF
TE-132	0.000E+00	SHORT HLIF
BA-133	4.055E-02	NOT IDENT.
I-133	0.000E+00	SHORT HLIF
CS-134	5.878E-02	FAIL ABUN
I-135	0.000E+00	SHORT HLIF
CS-136	3.459E-01	FAIL ABUN
BA-137M	3.757E-02	NOT IDENT.
CS-137	3.969E-02	NOT IDENT.
LA-138	6.483E-02	NOT IDENT.
CE-139	3.629E-02	NOT IDENT.
BA-140	6.877E-01	NOT IDENT.
LA-140	2.492E-01	FAIL ABUN
CE-141	9.757E-02	NOT IDENT.
CE-143	0.000E+00	SHORT HLIF
CE-144	1.880E-01	NOT IDENT.
PM-144	3.996E-02	FAIL ABUN
PM-146	4.623E-02	NOT IDENT.
ND-147	1.683E+00	NOT IDENT.
PM-149	0.000E+00	SHORT HLIF
EU-150	2.829E-02	FAIL ABUN
EU-152	9.480E-02	FAIL ABUN
GD-153	9.444E-02	NOT IDENT.
EU-154	1.600E-01	FAIL ABUN
EU-155	1.112E-01	NOT IDENT.
TB-160	1.660E-01	FAIL ABUN
HO-166M	5.525E-02	NOT IDENT.

HF-172	2.047E-01	FAIL ABUN
LU-172	6.396E-02	FAIL ABUN
LU-176	2.754E-02	FAIL ABUN
HF-181	7.200E-02	NOT IDENT.
TA-182	3.023E-01	FAIL ABUN
RE-183	3.903E-01	NOT IDENT.
RE-184	2.152E-01	NOT IDENT.
W-188	9.076E+00	NOT IDENT.
IR-192	4.290E-02	FAIL ABUN
HG-203	5.144E-02	FAIL ABUN
TL-204	5.818E+00	NOT IDENT.
BI-207	4.283E-02	FAIL ABUN
BI-210	7.300E+00	NOT IDENT.
PB-210	7.300E+00	NOT IDENT.
PB-211	7.744E-01	NOT IDENT.
BI-212	8.680E-01	NOT IDENT.
BI-213	9.166E-02	NOT IDENT.
RN-219	4.830E-01	FAIL ABUN
RA-223	6.507E-01	FAIL ABUN
AC-225	2.352E+00	NOT IDENT.
AC-227	2.856E-01	FAIL ABUN
TH-227	2.856E-01	FAIL ABUN
TH-229	5.104E-01	FAIL ABUN
TH-231	6.507E-01	FAIL ABUN
PA-233	5.995E-02	FAIL ABUN
PA-234	2.914E-01	FAIL ABUN
PA-234M	1.772E+00	FAIL ABUN
TH-234	1.772E+00	FAIL ABUN
NP-237	5.995E-02	FAIL ABUN
NP-238	0.000E+00	SHORT HLIF
U-238	1.772E+00	FAIL ABUN
NP-239	2.660E-01	NOT IDENT.
PU-239	4.062E+02	FAIL ABUN
AM-241	2.289E-01	NOT IDENT.
CM-243	1.088E-01	NOT IDENT.
BK-247	8.036E-02	NOT IDENT.
CM-247	4.437E-02	NOT IDENT.
CF-251	1.344E-01	NOT IDENT.

VAX/VMS Nuclide Identification Report Generated 17-AUG-2026 07:05:16.97

GEL Laboratories LLC
2040 Savage Road
Charleston, SC 29407

DETECTOR AND SAMPLE DATA

Configuration	: DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G787535003.CNF;1		
Acquisition date	: 17-AUG-2026 06:03:31	Sensitivity	: 3.000
Detector ID	: GAM34	Energy tolerance	: 1.500
Elapsed live time	: 0 01:00:00.00	Abundance limit	: 75.000
Elapsed real time	: 0 01:00:00.44	Half life ratio	: *****
Sample date	: 14-JUL-2026 10:00:00	Nuclide Library	: SOLID
Sample ID	: G787535003	Analyst initials	: GG
Batch Number	: 3033734	Sample Quantity	: 1.4931E+02 GRAM
		Quantity Err(%)	: 1.3395E-03 %
Wet wt corr	: 1.00000	Wet Weight	: 0.00000
		Dry Weight	: 0.00000

CALIBRATION INFORMATION

Eff. Cal. date	: 3-SEP-2025 09:10:23	Eff. Geometry	: CAN
Eff. File	: DKA100:[CANBERRA.GAMMA]EFF_GAM34_CAN.CNF;7		

Combined Activity-MDA Report

NOTE: Not all "Identified Nuclides" are valid.
Please refer to Certificate of Analysis.

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act Error (1.96-sigma)	TPU (1.96-sigma)
K-40	2.077E+01	3.456E+00	3.456E+00
MN-54	6.168E-02	4.959E-02	4.959E-02
CO-57	6.213E-02	5.674E-02	5.674E-02
CD-109	3.149E+00	3.670E+00	3.670E+00
PR-144	2.934E+00	4.396E+00	4.396E+00
PM-147	1.754E+03	1.602E+03	1.602E+03
TM-171	7.026E+01	9.631E+01	9.631E+01
TL-208	5.255E-01	1.433E-01	1.433E-01
BI-211	6.002E+00	1.059E+00	1.059E+00
PB-212	1.956E+00	2.776E-01	2.776E-01
BI-214	1.582E+00	3.133E-01	3.133E-01
PB-214	2.178E+00	3.826E-01	3.826E-01
RN-222	2.178E+00	3.826E-01	3.826E-01
RA-224	4.094E+00	2.159E+00	2.159E+00
RA-226	2.178E+00	3.826E-01	3.826E-01
AC-228	1.629E+00	5.939E-01	5.939E-01
RA-228	1.629E+00	5.939E-01	5.939E-01
TH-228	1.956E+00	2.776E-01	2.776E-01
TH-230	2.178E+00	3.825E-01	3.825E-01
PA-231	1.510E+00	1.336E+00	1.336E+00
TH-232	1.629E+00	5.939E-01	5.939E-01
U-234	2.178E+00	3.825E-01	3.825E-01
U-235	-7.666E-02	2.194E-01	2.194E-01
AM-243	2.605E-01	1.639E-01	1.639E-01
CF-249	8.266E-02	6.646E-02	6.646E-02
ANH-511	1.165E-01	1.284E-01	1.284E-01

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L Act error (1.96-sigma)	TPU (1.96-sigma)	
BE-7	5.650E-01	4.853E-01	5.480E-01	NOT IDENT.
NA-22	-1.389E-02	6.818E-02	6.846E-02	NOT IDENT.
NA-24	3.905E+14	1.075E+15	1.089E+15	SHORT HLIF
AL-26	-1.835E-02	2.824E-02	2.942E-02	NOT IDENT.

SC-46	6.831E-02	6.968E-02	7.618E-02	FAIL ABUN
V-48	8.702E-03	1.950E-01	1.951E-01	NOT IDENT.
CR-51	1.697E-01	6.877E-01	6.920E-01	NOT IDENT.
MN-52	-4.990E-01	3.314E+00	3.321E+00	FAIL ABUN
CO-56	-5.082E-02	6.736E-02	7.115E-02	NOT IDENT.
MN-56	-1.000E+41	1.333E+41	0.000E+00	SHORT HLIF
CO-58	-1.321E-02	5.848E-02	5.878E-02	NOT IDENT.
FE-59	-1.982E-01	1.385E-01	1.648E-01	NOT IDENT.
CO-60	1.817E-04	3.421E-02	3.421E-02	NOT IDENT.
ZN-65	8.331E-02	9.224E-02	9.959E-02	NOT IDENT.
GE-68	-2.218E-01	1.789E+00	1.792E+00	NOT IDENT.
AS-73	7.986E-01	1.865E+00	1.899E+00	NOT IDENT.
AS-74	-3.507E-02	2.488E-01	2.493E-01	NOT IDENT.
SE-75	3.172E-03	6.062E-02	6.064E-02	FAIL ABUN
BR-77	7.172E+04	7.080E+04	7.783E+04	SHORT HLIF
SR-82	3.231E-02	7.182E-01	7.183E-01	NOT IDENT.
RB-83	-1.528E-02	9.149E-02	9.175E-02	NOT IDENT.
RB-84	1.448E-02	1.189E-01	1.191E-01	NOT IDENT.
KR-85	4.371E+00	8.981E+00	9.195E+00	NOT IDENT.
SR-85	2.830E-02	5.797E-02	5.936E-02	NOT IDENT.
RB-86	5.105E-01	1.984E+00	1.997E+00	NOT IDENT.
Y-88	1.676E-02	4.352E-02	4.417E-02	NOT IDENT.
Y-91	-1.632E-01	3.426E+01	3.426E+01	NOT IDENT.
NB-94	3.497E-02	4.605E-02	4.867E-02	NOT IDENT.
NB-95	-6.043E-02	7.066E-02	7.573E-02	NOT IDENT.
NB-95M	5.183E-02	1.881E-01	1.895E-01	NOT IDENT.
ZR-95	-5.137E-02	8.910E-02	9.206E-02	NOT IDENT.
NB-97	1.000E+41	3.140E+41	0.000E+00	SHORT HLIF
ZR-97	4.502E+13	2.528E+14	2.536E+14	SHORT HLIF
MO-99	-1.295E+03	1.743E+03	1.838E+03	SHORT HLIF
TC-99M	9.829E+38	1.148E+39	0.000E+00	SHORT HLIF
RH-101	1.665E-02	4.052E-02	4.121E-02	FAIL ABUN
RH-102	1.870E-02	8.271E-02	8.314E-02	FAIL ABUN
RU-103	9.197E-03	6.691E-02	6.703E-02	FAIL ABUN
RH-106	-4.127E-01	5.131E-01	5.457E-01	NOT IDENT.
RU-106	-4.127E-01	5.131E-01	5.457E-01	NOT IDENT.
AG-108M	4.108E-03	3.001E-02	3.006E-02	NOT IDENT.
AG-110	2.119E-01	9.032E-01	9.082E-01	NOT IDENT.
AG-110M	4.114E-02	5.279E-02	5.595E-02	NOT IDENT.
SN-113	2.052E-02	6.040E-02	6.110E-02	NOT IDENT.
CD-115	-1.553E+03	4.234E+03	4.292E+03	SHORT HLIF
SN-117M	-5.398E-02	1.563E-01	1.582E-01	NOT IDENT.
SB-122	4.622E+01	3.046E+02	3.053E+02	SHORT HLIF
TE-123M	-2.347E-02	3.559E-02	3.713E-02	NOT IDENT.
SB-124	-6.221E-02	1.343E-01	1.372E-01	NOT IDENT.
SB-125	-6.844E-02	1.135E-01	1.177E-01	FAIL ABUN
TE-125M	1.114E+01	1.369E+01	1.458E+01	NOT IDENT.
I-126	-6.023E-01	8.932E-01	9.336E-01	FAIL ABUN
SB-126	-1.471E-01	3.785E-01	3.842E-01	FAIL ABUN
SN-126	1.863E-01	1.107E-01	1.389E-01	NOT IDENT.
SB-127	-1.944E+01	5.002E+01	5.078E+01	NOT IDENT.
I-131	1.761E-01	6.969E-01	7.014E-01	NOT IDENT.
I-132	1.000E+41	7.986E+41	0.000E+00	SHORT HLIF
TE-132	2.815E+01	4.619E+01	4.790E+01	SHORT HLIF
BA-133	-2.725E-02	5.556E-02	5.691E-02	NOT IDENT.
I-133	6.877E+09	1.981E+10	2.005E+10	SHORT HLIF
CS-134	3.925E-02	6.106E-02	6.357E-02	FAIL ABUN
I-135	-1.997E+35	3.100E+36	0.000E+00	SHORT HLIF
CS-136	7.269E-01	4.885E-01	5.882E-01	FAIL ABUN
BA-137M	1.968E-03	4.565E-02	4.566E-02	NOT IDENT.
CS-137	2.079E-03	4.822E-02	4.823E-02	NOT IDENT.
LA-138	3.096E-02	6.736E-02	6.879E-02	NOT IDENT.
CE-139	5.474E-03	3.960E-02	3.968E-02	NOT IDENT.
BA-140	-9.607E-02	8.461E-01	8.472E-01	NOT IDENT.
LA-140	-3.085E-01	3.978E-01	4.214E-01	FAIL ABUN
CE-141	8.851E-03	1.060E-01	1.061E-01	NOT IDENT.
CE-143	-1.490E+04	1.881E+06	1.881E+06	SHORT HLIF
CE-144	-1.843E-01	2.384E-01	2.524E-01	NOT IDENT.
PM-144	3.882E-02	5.817E-02	6.074E-02	FAIL ABUN
PM-146	1.473E-02	5.255E-02	5.297E-02	NOT IDENT.
ND-147	-8.741E-02	2.039E+00	2.040E+00	NOT IDENT.
PM-149	2.181E+04	3.880E+04	4.003E+04	SHORT HLIF
EU-150	7.218E-04	3.530E-02	3.530E-02	FAIL ABUN
EU-152	-5.972E-02	1.178E-01	1.208E-01	FAIL ABUN
GD-153	7.762E-02	1.019E-01	1.078E-01	NOT IDENT.
EU-154	2.823E-02	1.821E-01	1.826E-01	FAIL ABUN
EU-155	-1.935E-02	1.220E-01	1.224E-01	NOT IDENT.
TB-160	3.775E-01	2.648E-01	3.148E-01	FAIL ABUN

HO-166M	-2.731E-03	6.201E-02	6.203E-02	NOT IDENT.
HF-172	-2.155E-02	2.233E-01	2.235E-01	FAIL ABUN
LU-172	9.521E-02	1.414E-01	1.478E-01	FAIL ABUN
LU-176	2.067E-02	2.920E-02	3.065E-02	FAIL ABUN
HF-181	7.056E-02	7.526E-02	8.171E-02	NOT IDENT.
TA-182	5.241E-01	4.636E-01	5.203E-01	FAIL ABUN
RE-183	2.833E-01	3.895E-01	4.099E-01	NOT IDENT.
RE-184	8.334E-02	2.304E-01	2.334E-01	NOT IDENT.
W-188	-5.095E+00	1.095E+01	1.119E+01	NOT IDENT.
IR-192	2.518E-03	4.911E-02	4.912E-02	FAIL ABUN
HG-203	-9.302E-03	5.969E-02	5.984E-02	FAIL ABUN
TL-204	2.227E-01	6.536E+00	6.536E+00	NOT IDENT.
BI-207	-4.773E-02	6.125E-02	6.491E-02	FAIL ABUN
BI-210	-3.706E+00	7.787E+00	7.965E+00	NOT IDENT.
PB-210	-3.706E+00	7.787E+00	7.965E+00	NOT IDENT.
PB-211	1.413E-01	8.900E-01	8.922E-01	NOT IDENT.
BI-212	1.843E+00	7.924E-01	1.148E+00	NOT IDENT.
BI-213	-4.899E-02	1.170E-01	1.191E-01	NOT IDENT.
RN-219	2.457E-01	5.366E-01	5.480E-01	FAIL ABUN
RA-223	-9.239E-02	8.261E-01	8.271E-01	FAIL ABUN
AC-225	8.966E-01	2.562E+00	2.594E+00	NOT IDENT.
AC-227	3.519E-02	3.206E-01	3.210E-01	FAIL ABUN
TH-227	3.519E-02	3.206E-01	3.210E-01	FAIL ABUN
TH-229	-1.667E-01	6.299E-01	6.344E-01	FAIL ABUN
TH-231	-9.239E-02	8.261E-01	8.271E-01	FAIL ABUN
PA-233	-2.970E-02	7.286E-02	7.408E-02	FAIL ABUN
PA-234	-4.562E-02	3.462E-01	3.468E-01	FAIL ABUN
PA-234M	9.937E-02	1.864E+00	1.865E+00	FAIL ABUN
TH-234	9.937E-02	1.864E+00	1.865E+00	FAIL ABUN
NP-237	-2.970E-02	7.286E-02	7.408E-02	FAIL ABUN
NP-238	4.620E+03	1.082E+04	1.102E+04	SHORT HLIF
U-238	9.937E-02	1.864E+00	1.865E+00	FAIL ABUN
NP-239	-1.720E-01	2.998E-01	3.097E-01	NOT IDENT.
PU-239	7.981E+02	9.676E+02	1.032E+03	FAIL ABUN
AM-241	1.096E-01	2.315E-01	2.367E-01	NOT IDENT.
CM-243	4.069E-03	1.178E-01	1.178E-01	NOT IDENT.
BK-247	1.209E-02	9.709E-02	9.724E-02	NOT IDENT.
CM-247	2.273E-02	4.935E-02	5.041E-02	NOT IDENT.
CF-251	3.493E-02	1.460E-01	1.469E-01	NOT IDENT.

GEL Laboratories LLC
2040 Savage Road
Charleston, SC 29407

GAMMA SPECTROSCOPY BACKGROUND REPORT

ENERGY	MDA COUNTS	ENERGY	MDA COUNTS	ENERGY	MDA COUNTS
43.53	75.9202	85.43	103.8776	133.02	72.5740
45.60	77.0609	86.55	104.0564	133.52	79.7588
46.54	74.1039	86.79	104.0943	136.00	70.7343
49.72	0.0000	86.94	104.1179	136.47	75.2509
51.35	64.6352	87.09	104.1416	140.51	0.0000
51.87	64.7059	87.57	104.2182	143.76	75.8674
52.39	64.7763	88.03	104.2901	144.24	75.9071
52.97	64.8545	88.34	104.3393	145.44	80.5313
53.44	64.3896	88.47	104.3592	152.43	75.6684
54.07	59.1881	89.96	104.5928	153.25	85.7713
57.36	0.0000	1093.63	91.1884	323.87	61.1972
57.53	65.4542	91.11	91.2519	156.02	83.2755
57.98	72.7020	92.59	84.6771	158.56	74.3196
59.27	81.6949	93.35	84.7710	159.00	80.7786
59.32	81.7030	94.56	84.9197	162.33	77.3708
59.54	73.7242	94.65	84.9304	162.66	71.8682
60.96	71.5140	94.67	84.9327	163.33	70.0729
61.17	74.7579	94.87	84.9571	165.86	80.4195
62.93	70.1663	97.43	65.9409	176.31	71.9090
63.29	81.5121	98.43	81.1195	176.60	73.7973
63.58	82.3635	98.44	81.1202	177.52	64.5127
64.28	73.5760	99.53	69.2713	181.07	0.0000
66.73	80.4012	100.11	75.3188	181.52	61.3168
67.24	86.1646	102.03	80.6679	184.41	63.0517
125.81	89.4866	103.18	59.3074	143.76	63.1284
67.75	89.4975	103.37	74.7981	193.51	64.5282
68.89	88.8635	105.31	84.4767	197.03	61.8768
69.67	75.1066	106.12	63.8580	198.01	61.9313
70.82	89.4356	106.47	67.3413	201.83	67.5580
70.83	89.4373	109.28	71.9259	203.43	73.7149
72.81	74.6936	111.00	91.1957	205.31	54.9774
72.87	74.7012	111.76	0.0000	210.85	40.4664
74.66	74.9268	114.06	79.3487	215.65	54.1748
74.82	74.9470	116.30	0.0000	218.12	56.2247
74.97	74.9657	116.74	87.4939	222.11	63.2187
77.11	75.2323	119.76	72.6020	227.09	70.3125
78.74	75.4323	121.12	81.8142	227.38	70.3290
79.69	75.5482	121.22	81.8241	228.16	0.0000
80.03	81.9567	121.78	81.8809	228.18	43.9838
80.12	81.9695	122.06	81.9086	116.74	43.9838
80.19	81.9786	122.92	72.8846	235.69	57.6864
80.57	92.0047	123.07	71.7220	235.96	57.6990
81.00	74.3199	265.00	82.3645	238.63	57.8198
81.07	74.3281	125.81	85.8208	238.98	0.0000
81.75	72.1874	127.23	83.8987	240.99	57.9264
82.47	95.6180	127.91	89.8801	242.00	57.9720
83.79	113.6418	129.30	76.4048	244.70	47.5305
84.00	113.6792	131.20	76.5754	252.40	58.4348

ENERGY	MDA COUNTS	ENERGY	MDA COUNTS	ENERGY	MDA COUNTS
252.80	61.1087	345.93	30.7594	564.24	0.0000
254.15	0.0000	351.06	25.5344	569.33	15.4185
256.23	52.9418	351.93	25.5476	946.00	14.2332
260.90	0.0000	355.39	0.0000	569.70	14.2346
264.66	40.2051	356.01	35.5693	583.19	20.2798
264.80	40.2087	364.49	26.8097	584.27	20.2881
265.00	38.8744	366.42	0.0000	595.83	19.1855
269.46	43.3714	372.51	28.0114	427.87	14.4170
270.03	43.3884	375.05	22.6579	602.52	0.0000
271.23	43.4265	377.52	23.7698	604.72	12.8366
273.65	43.1641	356.01	23.1322	607.14	16.0612
276.40	48.6548	388.16	18.8404	609.32	20.4967
277.37	43.6154	388.63	13.0466	610.33	20.5050
277.60	45.6523	391.69	25.0489	614.28	25.7721
278.00	39.5760	264.66	35.0225	618.01	30.2460
279.20	44.6875	401.81	28.4732	620.36	9.6875
279.54	52.8252	402.40	28.4819	621.93	30.2933
279.70	52.8315	404.85	27.4231	630.19	0.0000
280.46	51.8436	410.95	35.2168	631.29	20.6752
283.69	48.9038	413.71	27.5536	633.25	20.6907
284.31	43.8280	414.70	13.2327	634.78	24.3567
285.41	46.9223	423.72	23.2674	635.95	21.9309
285.90	0.0000	427.09	18.8687	636.99	13.4076
287.50	41.8821	427.87	28.8691	657.50	12.2845
290.67	50.1634	433.94	15.5941	657.76	13.5143
293.27	0.0000	439.40	22.3395	657.90	0.0000
351.93	45.1830	440.45	22.3511	661.66	15.9953
295.96	45.2058	453.88	21.3773	664.57	0.0000
879.38	45.2850	463.37	20.3472	666.33	25.8834
299.98	45.3280	468.07	24.1706	666.50	23.4207
300.09	45.3320	473.00	11.3571	667.71	0.0000
300.13	45.3320	475.06	23.8737	677.62	17.3282
301.36	45.3696	476.78	19.3424	685.70	17.3804
302.85	34.4055	477.60	12.5204	692.65	0.0000
256.23	41.3318	482.18	15.9700	695.00	24.9133
304.85	33.0723	487.02	24.0102	696.49	18.2796
306.78	25.8705	492.35	0.0000	696.51	18.2796
308.46	31.0794	497.08	18.3799	697.00	18.2832
311.90	35.3022	505.52	20.7581	697.30	14.9604
316.51	34.3666	507.63	0.0000	697.49	14.9612
319.41	34.4301	511.00	20.8100	702.65	13.7399
320.08	31.3138	514.00	20.8389	706.68	16.6789
321.04	22.9775	514.00	20.8389	711.68	11.6963
323.87	36.2716	520.40	16.2550	720.70	10.8952
325.23	32.1145	520.69	0.0000	721.93	0.0000
328.76	41.9812	522.65	0.0000	722.78	5.8712
333.37	33.6816	527.90	0.0000	722.91	5.8712
333.97	35.0983	528.26	19.8077	723.31	7.5498
334.37	35.1064	529.59	12.8242	724.19	21.8180
338.28	34.8389	529.87	0.0000	727.33	8.4005
338.32	34.8399	531.02	15.1653	733.00	15.9926
311.90	34.8863	537.26	16.3772	735.93	14.3244
340.48	34.8863	546.56	0.0000	333.97	14.3320
340.55	34.8883	552.55	22.3746	739.50	0.0000
344.28	37.0860	563.25	21.2937	744.23	16.0552

ENERGY	MDA COUNTS	ENERGY	MDA COUNTS	ENERGY	MDA COUNTS
747.24	21.1477	964.08	14.9310	1457.56	0.0000
748.06	11.8455	966.17	12.2234	1460.82	3.0564
752.31	11.8632	968.97	15.4042	1489.16	1.0247
753.82	7.6304	983.53	10.0081	1505.03	4.1117
756.73	12.7295	984.45	0.0000	1584.12	4.6978
756.80	12.7301	1274.44	10.0435	1596.21	9.4167
884.68	15.3127	1002.74	7.3174	1620.50	4.2044
765.81	26.3883	1004.73	7.3213	1621.92	2.1029
766.84	25.5469	507.63	0.0000	1678.03	0.0000
772.60	0.0000	1025.87	0.0000	1690.97	4.2594
776.52	15.3779	1028.54	0.0000	1750.46	0.0000
739.50	0.0000	1037.84	9.2342	1764.49	2.1579
778.90	17.0996	1038.76	0.0000	1063.66	1.0800
783.70	19.6964	631.29	8.3298	1771.35	3.2407
788.74	13.7246	1048.07	9.7224	1791.20	0.0000
792.07	23.1855	1049.04	4.1678	1808.65	2.1745
795.86	16.3359	1050.41	12.5079	1810.72	0.0000
810.06	11.2290	1063.66	12.0870	1836.06	1.0924
810.29	12.0939	1077.00	6.9971		
344.28	12.0945	1077.34	9.7968		
810.76	14.6875	1085.87	7.0135		
815.77	9.5189	1093.63	11.2441		
1048.07	7.7952	1099.45	14.0759		
832.01	15.6577	1112.07	7.0605		
834.85	9.1418	1112.84	5.6494		
836.80	0.0000	1115.54	2.8267		
846.75	0.0000	1120.29	12.2637		
846.77	20.0997	1120.55	12.2647		
856.80	7.8896	1221.41	12.2668		
860.56	9.2153	1129.67	11.3467		
871.09	12.3269	1131.51	0.0000		
873.19	9.6917	1147.95	0.0000		
875.33	0.0000	1173.23	10.0352		
879.38	5.2964	1177.95	10.5256		
880.51	5.2981	1189.05	11.5127		
881.60	7.9497	1204.77	11.5566		
883.24	10.6050	1221.41	8.7012		
884.68	4.2439	1231.02	15.5039		
889.28	9.2964	1235.36	20.3694		
894.76	11.5289	1238.28	23.2949		
898.04	10.6523	1260.41	0.0000		
900.72	9.7723	1271.87	12.7165		
903.28	10.6689	1274.44	10.7664		
911.20	11.5850	1274.54	13.7026		
912.08	11.5882	1291.59	5.8955		
923.98	0.0000	1298.22	0.0000		
926.50	10.7422	1312.11	8.8835		
929.11	16.1257	1332.49	2.9746		
935.54	16.1558	1362.66	0.0000		
937.49	9.4293	1365.19	5.9917		
944.13	9.8971	1368.63	0.0000		
946.00	9.9025	1384.29	7.0188		
949.00	10.8120	1408.01	3.0232		
667.71	0.0000	1434.09	6.0791		
962.31	18.0884	1435.80	3.0408		

VAX/VMS Nuclide Identification Report Generated 17-AUG-2026 07:05:43.65

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*****************************************************************************
*                            GEL Laboratories LLC                           *
*                              2040 Savage Road                             *
*                            Charleston, SC 29407                           *
*****************************************************************************
Configuration    : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G787535004.CNF;1
Background file  : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]BKG_GAM52.CNF;176
                                       Background date  : 16-AUG-2026 08:56:06
Sample date      : 14-JUL-2026 10:30:00 Acquisition date : 17-AUG-2026 06:03:53
Sample ID        : G787535004           Sample quantity  : 9.87400E+01 GRAM
Detector name    : GAM52                Detector geometry: CAN
Elapsed live time: 0 01:00:00.00        Elapsed real time: 0 01:00:00.35  0.0%
Energy tolerance : 1.50000 keV          Analyst Initials : GG
Abundance limit  : 75.00000             Sensitivity      : 3.00000
Batch ID         : 3033734              Detector SN#     :
Matrix Spike ID  :                      LCS ID           :
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BACKGROUND CORRECTED SAMPLE PEAK REPORT

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	47.48*	64	119	1.23	95.03	89	13	1.76E-02	38.7	
2	0	63.56*	27	90	1.32	127.23	123	9	7.52E-03	68.4	
3	0	74.46*	71	98	1.07	149.05	145	8	1.98E-02	27.4	
4	0	77.09*	72	72	1.01	154.32	153	6	1.99E-02	22.6	
5	0	87.33*	42	56	1.17	174.83	172	6	1.16E-02	32.7	
6	3	89.99	34	39	1.03	180.14	178	12	9.48E-03	30.5	1.31E+00
7	3	92.67*	31	61	1.04	185.52	178	12	8.50E-03	49.6	
8	0	106.49	20	65	2.29	213.19	208	9	5.58E-03	75.8	
9	0	129.11	20	50	1.00	258.49	254	8	5.48E-03	66.9	
10	0	186.24*	39	66	1.15	372.89	367	13	1.09E-02	47.3	
11	0	199.27*	2	42	1.06	398.98	394	8	6.52E-04	509.6	
12	0	225.68*	12	29	1.08	451.86	449	7	3.42E-03	80.1	
13	4	235.76	23	40	1.66	472.05	464	18	6.42E-03	58.0	2.07E+00
14	4	238.73*	166	28	1.13	477.99	464	18	4.60E-02	9.6	
15	0	241.90	48	26	1.76	484.34	482	7	1.34E-02	22.7	
16	0	271.10	11	36	0.92	542.82	537	9	3.06E-03	102.9	
17	0	285.11	16	27	2.36	570.88	566	9	4.44E-03	63.7	
18	0	295.31*	82	24	1.17	591.30	587	8	2.27E-02	15.7	
19	0	338.31	40	35	1.10	677.41	671	12	1.10E-02	34.1	
20	0	352.06*	93	50	1.26	704.96	699	11	2.59E-02	18.2	
21	0	373.13	4	23	0.66	747.15	740	9	1.10E-03	257.2	
22	0	511.69*	13	34	2.99	1024.62	1017	20	3.73E-03	130.0	
23	0	518.64	8	6	0.60	1038.55	1036	5	2.23E-03	58.1	
24	0	583.34*	39	12	1.10	1168.11	1164	8	1.09E-02	23.5	
25	0	599.23	22	3	3.89	1199.93	1194	11	6.18E-03	25.6	
26	0	609.38*	101	18	1.67	1220.27	1215	11	2.82E-02	13.3	
27	0	706.96	5	10	0.69	1415.68	1406	11	1.50E-03	124.6	
28	0	793.73	26	4	2.91	1589.46	1582	15	7.27E-03	25.4	
29	0	810.42	6	5	1.31	1622.89	1616	9	1.79E-03	71.2	
30	0	842.25	7	8	0.99	1686.63	1683	7	1.81E-03	78.8	
31	0	860.00	16	3	1.77	1722.18	1715	13	4.46E-03	33.9	
32	0	911.85*	24	14	2.47	1826.03	1818	15	6.57E-03	42.3	
33	0	969.53	33	5	1.13	1941.54	1937	14	9.28E-03	21.2	
34	0	1120.85	29	3	1.46	2244.62	2239	12	8.14E-03	21.8	

Sample ID : G787535004 Acquisition date : 17-AUG-2026 06:03:53

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
35	0	1228.50	4	9	0.86	2460.22	2453	11	1.01E-03	163.5	
36	0	1354.88	11	0	4.82	2713.36	2706	13	3.06E-03	30.2	
37	0	1461.02*	110	4	3.02	2925.95	2918	15	3.04E-02	10.5	
38	0	1763.72*	11	3	0.70	3532.29	3523	15	3.19E-03	51.3	

Flag: "*" = Peak area was modified by background subtraction

VMS Nuclide Identification Report V3.1 Generated 17-AUG-2026 07:05:45

Configuration	: DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G787535004.CNF;1		
Analyses by	: PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.4		
Sample title	: GG		
Sample date	: 14-JUL-2026 10:30:00	Acquisition date	: 17-AUG-2026 06:03:53
Sample ID	: G787535004	Sample quantity	: 98.740 GRAM
Sample type	: SOLID	Sample geometry	:
Detector name	: GAMMA52	Detector geometry	: CAN
Elapsed live time	: 0 01:00:00.00	Elapsed real time	: 0 01:00:00.35 0.0%
Energy tolerance	: 1.50 keV	Half life ratio	: 10.00
Errors propagated	: No	Systematic Error	: 0.00 %
Efficiency type	: Empirical	Efficiencies at	: Peak Energy
Abundance limit	: 75.00		

Interference Report

No interference correction performed

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
K-40	1460.82	102	10.66*	1.120E+00	6.512E+00	6.512E+00	21.02
CO-58	810.76	6	99.45*	1.971E+00	2.356E-02	3.280E-02	142.42
NB-95M	235.69	22	24.80*	5.670E+00	1.197E-01	1.726E-01	116.06
CD-109	88.03	41	3.70*	7.385E+00	1.131E+00	1.190E+00	65.47
SN-126	64.28	26	9.60	4.815E+00	4.338E-01	4.338E-01	136.84
	86.94	41	8.90	7.385E+00	4.704E-01	4.704E-01	65.47
	87.57	41	37.00*	7.385E+00	1.131E-01	1.131E-01	65.47
EU-155	86.55	41	30.70	7.385E+00	1.364E-01	1.382E-01	65.47
	105.31	19	21.10*	7.966E+00	8.788E-02	8.907E-02	151.67
TL-208	277.37	------	6.60	5.032E+00	------ Line Not Found		------
	583.19	37	85.00*	2.706E+00	1.228E-01	1.228E-01	47.09
	860.56	15	12.50	1.858E+00	4.942E-01	4.942E-01	67.74
BI-210	46.54	62	4.25*	1.926E+00	5.772E+00	5.789E+00	77.31
PB-210	46.54	62	4.25*	1.926E+00	5.772E+00	5.789E+00	77.31
BI-211	72.87	------	1.23	6.128E+00	------ Line Not Found		------
	351.06	89	12.92*	4.178E+00	1.249E+00	1.249E+00	36.47
PB-212	74.82	69	10.28	6.311E+00	8.140E-01	8.140E-01	54.78
	77.11	70	17.10	6.589E+00	4.707E-01	4.707E-01	45.17
	238.63	158	43.60*	5.620E+00	4.917E-01	4.917E-01	19.22
	300.09	------	3.30	4.738E+00	------ Line Not Found		------
BI-214	609.32	96	45.49*	2.599E+00	6.159E-01	6.159E-01	26.67
	1120.29	27	14.92	1.425E+00	9.821E-01	9.822E-01	43.69
	1764.49	11	15.30	9.844E-01	5.392E-01	5.392E-01	102.70
PB-214	74.82	69	5.80	6.311E+00	1.443E+00	1.443E+00	54.78
	77.11	70	9.70	6.589E+00	8.298E-01	8.298E-01	45.17
	87.09	41	3.41	7.385E+00	1.228E+00	1.228E+00	65.47
	242.00	46	7.25	5.567E+00	8.698E-01	8.699E-01	45.40
	295.22	78	18.42	4.797E+00	6.717E-01	6.718E-01	31.41
	351.93	89	35.60*	4.178E+00	4.533E-01	4.533E-01	36.47
RN-222	74.82	69	5.80	6.311E+00	1.443E+00	1.443E+00	54.78
	77.11	70	9.70	6.589E+00	8.298E-01	8.298E-01	45.17
	87.09	41	3.41	7.385E+00	1.228E+00	1.228E+00	65.47
	242.00	46	7.25	5.567E+00	8.698E-01	8.699E-01	45.40
	295.22	78	18.42	4.797E+00	6.717E-01	6.718E-01	31.41
	351.93	89	35.60*	4.178E+00	4.533E-01	4.533E-01	36.47
RA-224	240.99	46	4.10*	5.567E+00	1.538E+00	1.538E+00	45.40
RA-226	74.82	69	5.80	6.311E+00	1.443E+00	1.443E+00	54.78
	77.11	70	9.70	6.589E+00	8.298E-01	8.298E-01	45.17
	87.09	41	3.41	7.385E+00	1.228E+00	1.228E+00	65.47
	242.00	46	7.25	5.567E+00	8.698E-01	8.699E-01	45.40
	295.22	78	18.42	4.797E+00	6.717E-01	6.718E-01	31.41
	351.93	89	35.60*	4.178E+00	4.533E-01	4.533E-01	36.47
AC-228	338.32	38	11.27	4.313E+00	5.913E-01	5.913E-01	68.16
	911.20	22	25.80*	1.751E+00	3.741E-01	3.741E-01	84.55
	968.97	31	15.80	1.646E+00	9.170E-01	9.170E-01	42.42
RA-228	338.32	38	11.27	4.313E+00	5.913E-01	5.913E-01	68.16
	911.20	22	25.80*	1.751E+00	3.741E-01	3.741E-01	84.55
	968.97	31	15.80	1.646E+00	9.170E-01	9.170E-01	42.42
TH-228	74.82	69	10.28	6.311E+00	8.140E-01	8.140E-01	54.78

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
	77.11	70	17.10	6.589E+00	4.707E-01	4.707E-01	45.17
	238.63	158	43.60*	5.620E+00	4.917E-01	4.917E-01	19.22
	300.09	------	3.30	4.738E+00	------ Line Not Found		------
TH-230	74.82	69	5.80	6.311E+00	1.443E+00	1.443E+00	54.78
	77.11	70	9.70	6.589E+00	8.298E-01	8.298E-01	45.17
	87.09	41	3.41	7.385E+00	1.228E+00	1.228E+00	65.47
	242.00	46	7.25	5.567E+00	8.698E-01	8.698E-01	45.40
	295.22	78	18.42	4.797E+00	6.717E-01	6.717E-01	31.41
	351.93	89	35.60*	4.178E+00	4.533E-01	4.533E-01	36.47
TH-232	338.32	38	11.27	4.313E+00	5.913E-01	5.913E-01	68.16
	911.20	22	25.80*	1.751E+00	3.741E-01	3.741E-01	84.55
	968.97	31	15.80	1.646E+00	9.170E-01	9.170E-01	42.42
PA-234M	63.29	26	3.70*	4.815E+00	1.126E+00	1.126E+00	136.84
	92.59	30	4.23	7.645E+00	6.971E-01	6.971E-01	99.24
TH-234	63.29	26	3.70*	4.815E+00	1.126E+00	1.126E+00	136.84
	92.59	30	4.23	7.645E+00	6.971E-01	6.971E-01	99.24
U-234	74.82	69	5.80	6.311E+00	1.443E+00	1.443E+00	54.78
	77.11	70	9.70	6.589E+00	8.298E-01	8.298E-01	45.17
	87.09	41	3.41	7.385E+00	1.228E+00	1.228E+00	65.47
	242.00	46	7.25	5.567E+00	8.698E-01	8.698E-01	45.40
	295.22	78	18.42	4.797E+00	6.717E-01	6.717E-01	31.41
	351.93	89	35.60*	4.178E+00	4.533E-01	4.533E-01	36.47
U-235	89.96	33	3.47	7.526E+00	9.634E-01	9.634E-01	60.92
	93.35	30	5.60	7.645E+00	5.265E-01	5.265E-01	99.24
	143.76	------	10.96*	7.580E+00	------ Line Not Found		------
	163.33	------	5.08	7.149E+00	------ Line Not Found		------
	185.72	38	57.20	6.636E+00	7.540E-02	7.540E-02	94.69
	205.31	------	5.01	6.236E+00	------ Line Not Found		------
U-238	63.29	26	3.70*	4.815E+00	1.126E+00	1.126E+00	136.84
	92.59	30	4.23	7.645E+00	6.971E-01	6.971E-01	99.24
AM-243	43.53	------	5.90	1.280E+00	------ Line Not Found		------
	74.66	69	67.20*	6.311E+00	1.245E-01	1.245E-01	54.78
ANH-511	511.00	13	100.00*	3.047E+00	3.170E-02	3.170E-02	259.94

Flag: "*" = Keyline

VAX/VMS Nuclide Identification Report Generated 17-AUG-2026 07:05:46.14

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*************************************************************************
*                          GEL Laboratories LLC                         *
*                            2040 Savage Road                           *
*                          Charleston, SC 29407                         *
*************************************************************************
*                                                                       *
*                        DETECTOR AND SAMPLE DATA                       *
*                                                                       *
* Configuration    : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G787535004.CNF;1    *
* Acquisition date : 17-AUG-2026 06:03:53 Sensitivity     : 3.000          *
* Detector ID      : GAM52                Energy tolerance: 1.500          *
* Elapsed live time:    0 01:00:00.00     Abundance limit : 75.000         *
* Elapsed real time:    0 01:00:00.35     Half life ratio : *****          *
* Sample date      : 14-JUL-2026 10:30:00 Analyst initials: GG             *
* Sample ID        : G787535004           Sample Quantity : 9.8740E+01 GRAM   *
* Batch Number     : 3033734              Wet Weight      :    0.00000     *
* Wet wt corr      :    1.00000           Dry Weight      :    0.00000     *
* Nuclide Library  : SOLID.NLB;19                                         *
*************************************************************************
*                                                                       *
*                        CALIBRATION INFORMATION                        *
*                                                                       *
* Eff. Cal. date   :  3-AUG-2026 11:49:46 Eff. Geometry   : CAN           *
* Eff. File        : DKA100:[CANBERRA.GAMMA]EFF_GAM52_CAN.CNF;8           *
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Combined Activity-MDA Report

NOTE: Not all "Identified Nuclides" are valid.
Please refer to Certificate of Analysis.

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Cnt uncert (1.96-sigma)	MDA (pCi/GRAM)
K-40	6.512E+00	1.341E+00	6.676E-01
CO-58	3.280E-02	4.578E-02	8.822E-02
NB-95M	1.726E-01	1.963E-01	1.840E-01
CD-109	1.190E+00	7.639E-01	6.578E-01
SN-126	1.131E-01	7.260E-02	6.269E-02
EU-155	8.907E-02	1.324E-01	1.126E-01
TL-208	1.228E-01	5.668E-02	5.522E-02
BI-210	5.789E+00	4.386E+00	2.620E+00
PB-210	5.789E+00	4.386E+00	2.620E+00
BI-211	1.249E+00	4.464E-01	3.144E-01
PB-212	4.917E-01	9.264E-02	7.338E-02
BI-214	6.159E-01	1.610E-01	1.083E-01
PB-214	4.533E-01	1.620E-01	1.144E-01
RN-222	4.533E-01	1.620E-01	1.144E-01
RA-224	1.538E+00	6.843E-01	6.593E-01
RA-226	4.533E-01	1.620E-01	1.144E-01
AC-228	3.741E-01	3.100E-01	2.375E-01
RA-228	3.741E-01	3.100E-01	2.375E-01
TH-228	4.917E-01	9.264E-02	7.338E-02
TH-230	4.533E-01	1.620E-01	1.144E-01
TH-232	3.741E-01	3.100E-01	2.375E-01
PA-234M	1.126E+00	1.510E+00	1.062E+00
TH-234	1.126E+00	1.510E+00	1.062E+00
U-234	4.533E-01	1.620E-01	1.144E-01
U-235	1.553E-01	1.297E-01	2.613E-01
U-238	1.126E+00	1.510E+00	1.062E+00
AM-243	1.245E-01	6.685E-02	5.202E-02
ANH-511	3.170E-02	8.076E-02	5.013E-02

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Cnt Uncert (1.96-sigma)	MDA (pCi/GRAM)	
BE-7	-8.037E-02	2.657E-01	4.815E-01	NOT IDENT.
NA-22	-2.577E-02	3.721E-02	6.601E-02	NOT IDENT.

NA-24	0.000E+00	6.381E+14	0.000E+00	SHORT HLIF
AL-26	-1.694E-02	3.198E-02	5.717E-02	NOT IDENT.
SC-46	-1.898E-02	3.948E-02	7.117E-02	FAIL ABUN
V-48	4.245E-02	1.173E-01	2.701E-01	NOT IDENT.
CR-51	7.207E-02	3.556E-01	7.293E-01	NOT IDENT.
MN-52	3.370E-01	2.181E+00	5.073E+00	NOT IDENT.
MN-54	1.203E-03	3.137E-02	6.445E-02	NOT IDENT.
CO-56	-1.605E-02	3.531E-02	6.509E-02	NOT IDENT.
MN-56	0.000E+00	1.960E+41	0.000E+00	SHORT HLIF
CO-57	-4.794E-04	1.939E-02	3.335E-02	NOT IDENT.
FE-59	3.358E-02	1.047E-01	2.282E-01	NOT IDENT.
CO-60	2.099E-02	4.000E-02	9.437E-02	NOT IDENT.
ZN-65	-1.923E-03	8.294E-02	1.489E-01	NOT IDENT.
GE-68	-1.551E+00	1.485E+00	2.137E+00	NOT IDENT.
AS-73	2.997E-01	4.306E-01	8.846E-01	NOT IDENT.
AS-74	2.799E-02	1.546E-01	3.028E-01	NOT IDENT.
SE-75	3.328E-03	2.838E-02	5.780E-02	NOT IDENT.
BR-77	0.000E+00	3.376E+03	0.000E+00	SHORT HLIF
SR-82	-2.444E-01	5.452E-01	9.948E-01	NOT IDENT.
RB-83	-4.694E-02	8.049E-02	1.164E-01	NOT IDENT.
RB-84	2.524E-02	1.098E-01	2.248E-01	NOT IDENT.
KR-85	3.313E+00	7.431E+00	1.355E+01	NOT IDENT.
SR-85	2.122E-02	4.792E-02	8.733E-02	NOT IDENT.
RB-86	-1.486E+00	1.761E+00	2.727E+00	NOT IDENT.
Y-88	4.863E-03	3.174E-02	8.335E-02	NOT IDENT.
Y-91	2.079E+01	2.608E+01	5.903E+01	NOT IDENT.
NB-94	-9.507E-04	3.112E-02	5.624E-02	NOT IDENT.
NB-95	-6.791E-02	5.249E-02	7.849E-02	NOT IDENT.
ZR-95	-6.233E-03	6.019E-02	1.243E-01	NOT IDENT.
NB-97	0.000E+00	1.960E+41	0.000E+00	SHORT HLIF
ZR-97	0.000E+00	1.420E+14	0.000E+00	SHORT HLIF
MO-99	0.000E+00	9.974E+02	0.000E+00	SHORT HLIF
TC-99M	0.000E+00	6.777E+38	0.000E+00	SHORT HLIF
RH-101	6.093E-03	1.889E-02	3.496E-02	FAIL ABUN
RH-102	-2.425E-02	4.399E-02	8.130E-02	NOT IDENT.
RU-103	-2.795E-02	3.639E-02	5.575E-02	FAIL ABUN
RH-106	4.954E-02	2.632E-01	5.571E-01	NOT IDENT.
RU-106	4.954E-02	2.632E-01	5.571E-01	NOT IDENT.
AG-108M	2.889E-03	1.824E-02	3.733E-02	NOT IDENT.
AG-110	2.555E-02	5.211E-01	1.111E+00	NOT IDENT.
AG-110M	-6.363E-03	4.173E-02	8.315E-02	FAIL ABUN
SN-113	3.077E-03	3.652E-02	7.116E-02	NOT IDENT.
CD-115	0.000E+00	2.989E+03	0.000E+00	SHORT HLIF
SN-117M	-3.285E-02	9.925E-02	1.584E-01	NOT IDENT.
SB-122	0.000E+00	2.106E+02	0.000E+00	SHORT HLIF
TE-123M	-7.796E-03	2.215E-02	3.519E-02	NOT IDENT.
SB-124	-7.167E-02	8.110E-02	6.282E-02	NOT IDENT.
SB-125	3.471E-02	6.568E-02	1.392E-01	FAIL ABUN
TE-125M	1.935E+00	7.860E+00	1.430E+01	NOT IDENT.
I-126	3.521E-01	5.123E-01	1.149E+00	NOT IDENT.
SB-126	-2.456E-01	3.813E-01	6.736E-01	NOT IDENT.
SB-127	7.527E+00	3.047E+01	6.540E+01	NOT IDENT.
I-131	-3.402E-02	4.270E-01	8.112E-01	FAIL ABUN
I-132	0.000E+00	7.937E+40	0.000E+00	SHORT HLIF
TE-132	0.000E+00	3.102E+01	0.000E+00	SHORT HLIF
BA-133	1.511E-02	3.543E-02	6.734E-02	NOT IDENT.
I-133	0.000E+00	1.596E+10	0.000E+00	SHORT HLIF
CS-134	1.522E-02	4.748E-02	8.964E-02	NOT IDENT.
I-135	0.000E+00	1.769E+36	0.000E+00	SHORT HLIF
CS-136	1.052E-01	3.154E-01	6.533E-01	NOT IDENT.
BA-137M	1.094E-02	3.220E-02	6.887E-02	NOT IDENT.
CS-137	1.156E-02	3.401E-02	7.276E-02	NOT IDENT.
LA-138	3.176E-02	5.221E-02	1.328E-01	NOT IDENT.
CE-139	1.355E-02	2.172E-02	4.087E-02	NOT IDENT.
BA-140	-3.770E-01	6.799E-01	1.110E+00	NOT IDENT.
LA-140	-9.636E-02	2.950E-01	5.672E-01	NOT IDENT.
CE-141	-5.131E-02	6.618E-02	9.780E-02	NOT IDENT.
CE-143	0.000E+00	9.626E+05	0.000E+00	SHORT HLIF
CE-144	1.791E-01	1.247E-01	2.667E-01	NOT IDENT.
PM-144	-7.518E-03	2.874E-02	5.571E-02	NOT IDENT.
PR-144	-5.466E-01	2.177E+00	4.228E+00	NOT IDENT.
PM-146	-1.225E-03	2.567E-02	5.030E-02	NOT IDENT.
ND-147	4.152E-01	1.594E+00	3.130E+00	FAIL ABUN
PM-147	-1.968E+02	5.232E+02	8.556E+02	NOT IDENT.
PM-149	0.000E+00	3.824E+04	0.000E+00	SHORT HLIF
EU-150	6.135E-03	1.879E-02	3.626E-02	FAIL ABUN
EU-152	1.257E-02	7.466E-02	1.463E-01	FAIL ABUN
GD-153	-4.150E-02	4.938E-02	7.659E-02	NOT IDENT.

EU-154	-7.232E-02	1.044E-01	1.852E-01	NOT IDENT.
TB-160	1.168E-01	1.517E-01	3.475E-01	FAIL ABUN
HO-166M	1.808E-02	4.503E-02	1.007E-01	FAIL ABUN
TM-171	-3.472E+00	7.248E+00	1.296E+01	NOT IDENT.
HF-172	6.144E-02	1.183E-01	2.245E-01	FAIL ABUN
LU-172	1.324E-02	5.552E-02	1.196E-01	FAIL ABUN
LU-176	9.784E-03	1.805E-02	3.796E-02	FAIL ABUN
HF-181	-2.280E-03	4.703E-02	8.833E-02	NOT IDENT.
TA-182	-4.784E-02	1.705E-01	3.150E-01	FAIL ABUN
RE-183	-3.732E-02	1.051E-01	1.888E-01	NOT IDENT.
RE-184	-8.802E-03	2.025E-01	3.910E-01	NOT IDENT.
W-188	3.335E+00	5.798E+00	1.222E+01	FAIL ABUN
IR-192	-3.489E-03	2.736E-02	5.241E-02	FAIL ABUN
HG-203	1.083E-02	3.913E-02	7.752E-02	NOT IDENT.
TL-204	-1.726E+00	2.433E+00	4.039E+00	NOT IDENT.
BI-207	-3.665E-02	4.830E-02	8.003E-02	FAIL ABUN
PB-211	-1.726E-02	5.651E-01	1.065E+00	NOT IDENT.
BI-212	4.464E-01	5.898E-01	1.253E+00	NOT IDENT.
BI-213	4.547E-02	7.302E-02	1.581E-01	NOT IDENT.
RN-219	1.304E-01	2.178E-01	4.968E-01	FAIL ABUN
RA-223	-8.491E-02	3.840E-01	7.291E-01	FAIL ABUN
AC-225	5.426E-01	1.284E+00	2.689E+00	NOT IDENT.
AC-227	6.505E-02	1.676E-01	3.452E-01	FAIL ABUN
TH-227	6.505E-02	1.676E-01	3.452E-01	FAIL ABUN
TH-229	-2.455E-01	3.050E-01	5.501E-01	FAIL ABUN
PA-231	-1.247E-01	3.270E-01	5.977E-01	FAIL ABUN
TH-231	-8.491E-02	3.840E-01	7.291E-01	FAIL ABUN
PA-233	-2.065E-02	3.899E-02	6.980E-02	NOT IDENT.
PA-234	-2.841E-02	3.334E-01	6.392E-01	NOT IDENT.
NP-237	-2.065E-02	3.899E-02	6.980E-02	NOT IDENT.
NP-238	0.000E+00	7.541E+03	0.000E+00	SHORT HLIF
NP-239	-1.133E-02	1.489E-01	2.616E-01	FAIL ABUN
PU-239	2.921E+02	3.831E+02	4.428E+02	FAIL ABUN
AM-241	1.520E-02	6.873E-02	1.325E-01	NOT IDENT.
CM-243	-4.869E-02	5.966E-02	9.177E-02	NOT IDENT.
BK-247	4.857E-03	4.903E-02	9.856E-02	FAIL ABUN
CM-247	-1.512E-02	2.406E-02	4.052E-02	NOT IDENT.
CF-249	-1.132E-02	3.246E-02	5.786E-02	NOT IDENT.
CF-251	-1.063E-02	8.946E-02	1.747E-01	FAIL ABUN

VAX/VMS Nuclide Identification Report Generated 17-AUG-2026 07:05:44.60

Nuclide Line Activity Report

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
K-40	1460.82	102	10.66*	1.120E+00	6.512E+00	6.512E+00	21.02
CO-58	810.76	6	99.45*	1.971E+00	2.356E-02	3.280E-02	142.42
NB-95M	235.69	22	24.80*	5.670E+00	1.197E-01	1.726E-01	116.06
CD-109	88.03	41	3.70*	7.385E+00	1.131E+00	1.190E+00	65.47
SN-126	64.28	26	9.60	4.815E+00	4.338E-01	4.338E-01	136.84
	86.94	41	8.90	7.385E+00	4.704E-01	4.704E-01	65.47
	87.57	41	37.00*	7.385E+00	1.131E-01	1.131E-01	65.47
EU-155	86.55	41	30.70	7.385E+00	1.364E-01	1.382E-01	65.47
	105.31	19	21.10*	7.966E+00	8.788E-02	8.907E-02	151.67
TL-208	277.37	------	6.60	5.032E+00	------ Line Not Found		------
	583.19	37	85.00*	2.706E+00	1.228E-01	1.228E-01	47.09
	860.56	15	12.50	1.858E+00	4.942E-01	4.942E-01	67.74
BI-210	46.54	62	4.25*	1.926E+00	5.772E+00	5.789E+00	77.31
PB-210	46.54	62	4.25*	1.926E+00	5.772E+00	5.789E+00	77.31
BI-211	72.87	------	1.23	6.128E+00	------ Line Not Found		------
	351.06	89	12.92*	4.178E+00	1.249E+00	1.249E+00	36.47
PB-212	74.82	69	10.28	6.311E+00	8.140E-01	8.140E-01	54.78
	77.11	70	17.10	6.589E+00	4.707E-01	4.707E-01	45.17
	238.63	158	43.60*	5.620E+00	4.917E-01	4.917E-01	19.22
	300.09	------	3.30	4.738E+00	------ Line Not Found		------
BI-214	609.32	96	45.49*	2.599E+00	6.159E-01	6.159E-01	26.67
	1120.29	27	14.92	1.425E+00	9.821E-01	9.822E-01	43.69
	1764.49	11	15.30	9.844E-01	5.392E-01	5.392E-01	102.70
PB-214	74.82	69	5.80	6.311E+00	1.443E+00	1.443E+00	54.78
	77.11	70	9.70	6.589E+00	8.298E-01	8.298E-01	45.17
	87.09	41	3.41	7.385E+00	1.228E+00	1.228E+00	65.47
	242.00	46	7.25	5.567E+00	8.698E-01	8.699E-01	45.40
	295.22	78	18.42	4.797E+00	6.717E-01	6.718E-01	31.41
	351.93	89	35.60*	4.178E+00	4.533E-01	4.533E-01	36.47
RN-222	74.82	69	5.80	6.311E+00	1.443E+00	1.443E+00	54.78
	77.11	70	9.70	6.589E+00	8.298E-01	8.298E-01	45.17
	87.09	41	3.41	7.385E+00	1.228E+00	1.228E+00	65.47
	242.00	46	7.25	5.567E+00	8.698E-01	8.699E-01	45.40
	295.22	78	18.42	4.797E+00	6.717E-01	6.718E-01	31.41
	351.93	89	35.60*	4.178E+00	4.533E-01	4.533E-01	36.47
RA-224	240.99	46	4.10*	5.567E+00	1.538E+00	1.538E+00	45.40
RA-226	74.82	69	5.80	6.311E+00	1.443E+00	1.443E+00	54.78
	77.11	70	9.70	6.589E+00	8.298E-01	8.298E-01	45.17
	87.09	41	3.41	7.385E+00	1.228E+00	1.228E+00	65.47
	242.00	46	7.25	5.567E+00	8.698E-01	8.699E-01	45.40
	295.22	78	18.42	4.797E+00	6.717E-01	6.718E-01	31.41
	351.93	89	35.60*	4.178E+00	4.533E-01	4.533E-01	36.47
AC-228	338.32	38	11.27	4.313E+00	5.913E-01	5.913E-01	68.16
	911.20	22	25.80*	1.751E+00	3.741E-01	3.741E-01	84.55
	968.97	31	15.80	1.646E+00	9.170E-01	9.170E-01	42.42
RA-228	338.32	38	11.27	4.313E+00	5.913E-01	5.913E-01	68.16
	911.20	22	25.80*	1.751E+00	3.741E-01	3.741E-01	84.55

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
	968.97	31	15.80	1.646E+00	9.170E-01	9.170E-01	42.42
TH-228	74.82	69	10.28	6.311E+00	8.140E-01	8.140E-01	54.78
	77.11	70	17.10	6.589E+00	4.707E-01	4.707E-01	45.17
	238.63	158	43.60*	5.620E+00	4.917E-01	4.917E-01	19.22
	300.09	------	3.30	4.738E+00	------ Line Not Found		------
TH-230	74.82	69	5.80	6.311E+00	1.443E+00	1.443E+00	54.78
	77.11	70	9.70	6.589E+00	8.298E-01	8.298E-01	45.17
	87.09	41	3.41	7.385E+00	1.228E+00	1.228E+00	65.47
	242.00	46	7.25	5.567E+00	8.698E-01	8.698E-01	45.40
	295.22	78	18.42	4.797E+00	6.717E-01	6.717E-01	31.41
	351.93	89	35.60*	4.178E+00	4.533E-01	4.533E-01	36.47
TH-232	338.32	38	11.27	4.313E+00	5.913E-01	5.913E-01	68.16
	911.20	22	25.80*	1.751E+00	3.741E-01	3.741E-01	84.55
	968.97	31	15.80	1.646E+00	9.170E-01	9.170E-01	42.42
PA-234M	63.29	26	3.70*	4.815E+00	1.126E+00	1.126E+00	136.84
	92.59	30	4.23	7.645E+00	6.971E-01	6.971E-01	99.24
TH-234	63.29	26	3.70*	4.815E+00	1.126E+00	1.126E+00	136.84
	92.59	30	4.23	7.645E+00	6.971E-01	6.971E-01	99.24
U-234	74.82	69	5.80	6.311E+00	1.443E+00	1.443E+00	54.78
	77.11	70	9.70	6.589E+00	8.298E-01	8.298E-01	45.17
	87.09	41	3.41	7.385E+00	1.228E+00	1.228E+00	65.47
	242.00	46	7.25	5.567E+00	8.698E-01	8.698E-01	45.40
	295.22	78	18.42	4.797E+00	6.717E-01	6.717E-01	31.41
	351.93	89	35.60*	4.178E+00	4.533E-01	4.533E-01	36.47
U-235	89.96	33	3.47	7.526E+00	9.634E-01	9.634E-01	60.92
	93.35	30	5.60	7.645E+00	5.265E-01	5.265E-01	99.24
	143.76	------	10.96*	7.580E+00	------ Line Not Found		------
	163.33	------	5.08	7.149E+00	------ Line Not Found		------
	185.72	38	57.20	6.636E+00	7.540E-02	7.540E-02	94.69
	205.31	------	5.01	6.236E+00	------ Line Not Found		------
U-238	63.29	26	3.70*	4.815E+00	1.126E+00	1.126E+00	136.84
	92.59	30	4.23	7.645E+00	6.971E-01	6.971E-01	99.24
AM-243	43.53	------	5.90	1.280E+00	------ Line Not Found		------
	74.66	69	67.20*	6.311E+00	1.245E-01	1.245E-01	54.78
ANH-511	511.00	13	100.00*	3.047E+00	3.170E-02	3.170E-02	259.94

Flag: "*" = Keyline

Sample ID : G787535004 Acquisition date : 17-AUG-2026 06:03:53

Total number of lines in spectrum	38	
Number of unidentified lines	5	
Number of lines tentatively identified by NID	33	86.84%

Nuclide Type :

Nuclide	Hlife	Decay	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
K-40	1.25E+09Y	1.00	6.512E+00	6.512E+00	1.369E+00	21.02	
CO-58	70.86D	1.39	2.356E-02	3.280E-02	4.671E-02	142.42	
NB-95M	64.03D	1.44	1.197E-01	1.726E-01	2.003E-01	116.06	
CD-109	461.40D	1.05	1.131E+00	1.190E+00	0.779E+00	65.47	
SN-126	2.30E+05Y	1.00	1.131E-01	1.131E-01	0.741E-01	65.47	
EU-155	4.75Y	1.01	8.788E-02	8.907E-02	13.51E-02	151.67	
TL-208	1.41E+10Y	1.00	1.228E-01	1.228E-01	0.578E-01	47.09	
BI-210	22.20Y	1.00	5.772E+00	5.789E+00	4.476E+00	77.31	
PB-210	22.20Y	1.00	5.772E+00	5.789E+00	4.476E+00	77.31	
BI-211	7.04E+08Y	1.00	1.249E+00	1.249E+00	0.456E+00	36.47	
PB-212	1.41E+10Y	1.00	4.917E-01	4.917E-01	0.945E-01	19.22	
BI-214	1600.00Y	1.00	6.159E-01	6.159E-01	1.643E-01	26.67	
PB-214	1600.00Y	1.00	4.533E-01	4.533E-01	1.653E-01	36.47	
RN-222	1600.00Y	1.00	4.533E-01	4.533E-01	1.653E-01	36.47	
RA-224	1.41E+10Y	1.00	1.538E+00	1.538E+00	0.698E+00	45.40	
RA-226	1600.00Y	1.00	4.533E-01	4.533E-01	1.653E-01	36.47	
AC-228	1.41E+10Y	1.00	3.741E-01	3.741E-01	3.163E-01	84.55	
RA-228	1.41E+10Y	1.00	3.741E-01	3.741E-01	3.163E-01	84.55	
TH-228	1.41E+10Y	1.00	4.917E-01	4.917E-01	0.945E-01	19.22	
TH-230	7.54E+04Y	1.00	4.533E-01	4.533E-01	1.653E-01	36.47	
TH-232	1.41E+10Y	1.00	3.741E-01	3.741E-01	3.163E-01	84.55	
PA-234M	4.47E+09Y	1.00	1.126E+00	1.126E+00	1.540E+00	136.84	
TH-234	4.47E+09Y	1.00	1.126E+00	1.126E+00	1.540E+00	136.84	
U-234	2.45E+05Y	1.00	4.533E-01	4.533E-01	1.653E-01	36.47	
U-235	7.04E+08Y	1.00	7.540E-02	7.540E-02	7.139E-02	94.69	K
U-238	4.47E+09Y	1.00	1.126E+00	1.126E+00	1.540E+00	136.84	
AM-243	7370.00Y	1.00	1.245E-01	1.245E-01	0.682E-01	54.78	
ANH-511	1.00E+09Y	1.00	3.170E-02	3.170E-02	8.241E-02	259.94	
			---------	---------			
	Total Activity :		3.104E+01	3.120E+01			

Grand Total Activity : 3.104E+01 3.120E+01

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

Sample ID : G787535004 Acquisition date : 17-AUG-2026 06:03:53

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
0	129.11	19	49	1.00	258.49	254	8	5.48E-03	****	7.85E+00	T
0	199.27	2	41	1.06	398.98	394	8	6.52E-04	****	6.36E+00	T
0	225.68	12	28	1.08	451.86	449	7	3.42E-03	****	5.85E+00	T
0	271.10	11	34	0.92	542.82	537	9	3.06E-03	****	5.12E+00	T
0	285.11	15	26	2.36	570.88	566	9	4.44E-03	****	4.93E+00	T
0	373.13	4	22	0.66	747.15	740	9	1.10E-03	****	3.99E+00	T
0	518.64	8	6	0.60	1038.55	1036	5	2.23E-03	****	3.01E+00	
0	599.23	21	3	3.89	1199.93	1194	11	6.18E-03	51.3	2.64E+00	T
0	706.96	5	9	0.69	1415.68	1406	11	1.50E-03	****	2.26E+00	T
0	793.73	25	4	2.91	1589.46	1582	15	7.27E-03	50.7	2.01E+00	
0	842.25	6	7	0.99	1686.63	1683	7	1.81E-03	****	1.90E+00	
0	1228.50	3	9	0.86	2460.22	2453	11	1.01E-03	****	1.30E+00	
0	1354.88	10	0	4.82	2713.36	2706	13	3.06E-03	60.3	1.19E+00	

Flags: "T" = Tentatively associated

VAX/VMS Nuclide Identification Report Generated 17-AUG-2026 07:05:55.78

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**********************************************************************
*                          GEL Laboratories LLC                      *
*                            2040 Savage Road                        *
*                          Charleston, SC 29407                      *
**********************************************************************
*                                                                    *
*                       DETECTOR AND SAMPLE DATA                     *
*                                                                    *
* Configuration    : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G787535004.CNF;1    *
* Acquisition date : 17-AUG-2026 06:03:53 Sensitivity     : 3.000            *
* Detector ID      : GAM52                Energy tolerance: 1.500            *
* Elapsed live time:    0 01:00:00.00     Abundance limit : 75.000           *
* Elapsed real time:    0 01:00:00.35     Half life ratio : *****            *
* Sample date      : 14-JUL-2026 10:30:00 Nuclide Library : SOLID            *
* Sample ID        : G787535004           Analyst initials: GG               *
* Batch Number     : 3033734              Sample Quantity : 9.8740E+01 GRAM  *
* Wet wt corr      :    1.00000           Wet Weight      :    0.00000       *
*                                         Dry Weight      :    0.00000       *
**********************************************************************
*                                                                    *
*                       CALIBRATION INFORMATION                      *
*                                                                    *
* Eff. Cal. date   :  3-AUG-2026 11:49:46 Eff. Geometry   : CAN              *
* Eff. File        : DKA100:[CANBERRA.GAMMA]EFF_GAM52_CAN.CNF;8              *
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Combined Critical Level Report

NOTE: Not all "Identified Nuclides" are valid.
Please refer to Certificate of Analysis.

---- Identified Nuclides ----

Nuclide	Lc (pCi/GRAM)
K-40	2.484E-01
CO-58	3.687E-02
NB-95M	8.155E-02
CD-109	2.898E-01
SN-126	2.761E-02
EU-155	5.012E-02
TL-208	2.318E-02
BI-210	1.173E+00
PB-210	1.173E+00
BI-211	1.384E-01
PB-212	3.253E-02
BI-214	4.555E-02
PB-214	5.034E-02
RN-222	5.034E-02
RA-224	2.850E-01
RA-226	5.034E-02
AC-228	9.620E-02
RA-228	9.620E-02
TH-228	3.253E-02
TH-230	5.034E-02
TH-232	9.620E-02
PA-234M	4.733E-01
TH-234	4.733E-01
U-234	5.034E-02
U-235	1.184E-01
U-238	4.733E-01
AM-243	2.361E-02
ANH-511	2.172E-02

---- Non-Identified Nuclides ----

Nuclide	Lc (pCi/GRAM)	
BE-7	1.938E-01	NOT IDENT.
NA-22	2.471E-02	NOT IDENT.
NA-24	0.000E+00	SHORT HLIF

AL-26	1.807E-02	NOT IDENT.
SC-46	2.807E-02	FAIL ABUN
V-48	1.078E-01	NOT IDENT.
CR-51	3.113E-01	NOT IDENT.
MN-52	1.942E+00	NOT IDENT.
MN-54	2.648E-02	NOT IDENT.
CO-56	2.522E-02	NOT IDENT.
MN-56	0.000E+00	SHORT HLIF
CO-57	1.504E-02	NOT IDENT.
FE-59	9.304E-02	NOT IDENT.
CO-60	3.867E-02	NOT IDENT.
ZN-65	5.894E-02	NOT IDENT.
GE-68	8.356E-01	NOT IDENT.
AS-73	3.982E-01	NOT IDENT.
AS-74	1.270E-01	NOT IDENT.
SE-75	2.486E-02	NOT IDENT.
BR-77	0.000E+00	SHORT HLIF
SR-82	4.145E-01	NOT IDENT.
RB-83	4.828E-02	NOT IDENT.
RB-84	9.573E-02	NOT IDENT.
KR-85	5.996E+00	NOT IDENT.
SR-85	3.865E-02	NOT IDENT.
RB-86	1.083E+00	NOT IDENT.
Y-88	2.841E-02	NOT IDENT.
Y-91	2.511E+01	NOT IDENT.
NB-94	2.362E-02	NOT IDENT.
NB-95	3.218E-02	NOT IDENT.
ZR-95	4.933E-02	NOT IDENT.
NB-97	0.000E+00	SHORT HLIF
ZR-97	0.000E+00	SHORT HLIF
MO-99	0.000E+00	SHORT HLIF
TC-99M	0.000E+00	SHORT HLIF
RH-101	1.553E-02	FAIL ABUN
RH-102	3.328E-02	NOT IDENT.
RU-103	2.135E-02	FAIL ABUN
RH-106	2.357E-01	NOT IDENT.
RU-106	2.357E-01	NOT IDENT.
AG-108M	1.546E-02	NOT IDENT.
AG-110	4.526E-01	NOT IDENT.
AG-110M	3.304E-02	FAIL ABUN
SN-113	3.055E-02	NOT IDENT.
CD-115	0.000E+00	SHORT HLIF
SN-117M	7.006E-02	NOT IDENT.
SB-122	0.000E+00	SHORT HLIF
TE-123M	1.555E-02	NOT IDENT.
SB-124	0.000E+00	NOT IDENT.
SB-125	5.976E-02	FAIL ABUN
TE-125M	6.437E+00	NOT IDENT.
I-126	4.951E-01	NOT IDENT.
SB-126	2.796E-01	NOT IDENT.
SB-127	2.743E+01	NOT IDENT.
I-131	3.484E-01	FAIL ABUN
I-132	0.000E+00	SHORT HLIF
TE-132	0.000E+00	SHORT HLIF
BA-133	2.968E-02	NOT IDENT.
I-133	0.000E+00	SHORT HLIF
CS-134	3.870E-02	NOT IDENT.
I-135	0.000E+00	SHORT HLIF
CS-136	2.770E-01	NOT IDENT.
BA-137M	2.971E-02	NOT IDENT.
CS-137	3.139E-02	NOT IDENT.
LA-138	5.269E-02	NOT IDENT.
CE-139	1.830E-02	NOT IDENT.
BA-140	4.647E-01	NOT IDENT.
LA-140	2.194E-01	NOT IDENT.
CE-141	4.313E-02	NOT IDENT.
CE-143	0.000E+00	SHORT HLIF
CE-144	1.205E-01	NOT IDENT.
PM-144	2.308E-02	NOT IDENT.
PR-144	1.753E+00	NOT IDENT.
PM-146	2.046E-02	NOT IDENT.
ND-147	1.342E+00	FAIL ABUN
PM-147	3.816E+02	NOT IDENT.
PM-149	0.000E+00	SHORT HLIF
EU-150	1.569E-02	FAIL ABUN
EU-152	6.408E-02	FAIL ABUN
GD-153	3.332E-02	NOT IDENT.
EU-154	6.935E-02	NOT IDENT.

TB-160	1.480E-01	FAIL ABUN
HO-166M	4.192E-02	FAIL ABUN
TM-171	5.683E+00	NOT IDENT.
HF-172	1.004E-01	FAIL ABUN
LU-172	4.835E-02	FAIL ABUN
LU-176	1.664E-02	FAIL ABUN
HF-181	3.730E-02	NOT IDENT.
TA-182	1.222E-01	FAIL ABUN
RE-183	8.358E-02	NOT IDENT.
RE-184	1.662E-01	NOT IDENT.
W-188	5.379E+00	FAIL ABUN
IR-192	2.248E-02	FAIL ABUN
HG-203	3.463E-02	NOT IDENT.
TL-204	1.795E+00	NOT IDENT.
BI-207	3.089E-02	FAIL ABUN
PB-211	4.602E-01	NOT IDENT.
BI-212	5.568E-01	NOT IDENT.
BI-213	6.774E-02	NOT IDENT.
RN-219	2.072E-01	FAIL ABUN
RA-223	3.073E-01	FAIL ABUN
AC-225	1.188E+00	NOT IDENT.
AC-227	1.525E-01	FAIL ABUN
TH-227	1.525E-01	FAIL ABUN
TH-229	2.393E-01	FAIL ABUN
PA-231	2.585E-01	FAIL ABUN
TH-231	3.073E-01	FAIL ABUN
PA-233	2.913E-02	NOT IDENT.
PA-234	2.693E-01	NOT IDENT.
NP-237	2.913E-02	NOT IDENT.
NP-238	0.000E+00	SHORT HLIF
NP-239	1.147E-01	FAIL ABUN
PU-239	2.008E+02	FAIL ABUN
AM-241	5.936E-02	NOT IDENT.
CM-243	3.970E-02	NOT IDENT.
BK-247	4.275E-02	FAIL ABUN
CM-247	1.648E-02	NOT IDENT.
CF-249	2.493E-02	NOT IDENT.
CF-251	7.870E-02	FAIL ABUN

VAX/VMS Nuclide Identification Report Generated 17-AUG-2026 07:05:59.89

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*****************************************************************************
*                            GEL Laboratories LLC                           *
*                              2040 Savage Road                             *
*                            Charleston, SC 29407                           *
*****************************************************************************
*                                                                           *
*                          DETECTOR AND SAMPLE DATA                         *
*                                                                           *
* Configuration    : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G787535004.CNF;1   *
* Acquisition date : 17-AUG-2026 06:03:53 Sensitivity     : 3.000           *
* Detector ID      : GAM52                Energy tolerance: 1.500           *
* Elapsed live time:    0 01:00:00.00     Abundance limit : 75.000          *
* Elapsed real time:    0 01:00:00.35     Half life ratio : *****           *
* Sample date      : 14-JUL-2026 10:30:00 Nuclide Library : SOLID           *
* Sample ID        : G787535004           Analyst initials: GG              *
* Batch Number     : 3033734              Sample Quantity : 9.8740E+01 GRAM *
*                                         Quantity Err(%) : 1.0128E-03 %    *
* Wet wt corr      :    1.00000           Wet Weight      :    0.00000      *
*                                         Dry Weight      :    0.00000      *
*****************************************************************************
*                                                                           *
*                          CALIBRATION INFORMATION                          *
*                                                                           *
* Eff. Cal. date   :  3-AUG-2026 11:49:46 Eff. Geometry   : CAN             *
* Eff. File        : DKA100:[CANBERRA.GAMMA]EFF_GAM52_CAN.CNF;8              *
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Combined Activity-MDA Report

NOTE: Not all "Identified Nuclides" are valid.
Please refer to Certificate of Analysis.

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act Error (1.96-sigma)	TPU (1.96-sigma)
K-40	6.512E+00	1.536E+00	1.536E+00
CO-58	3.280E-02	4.590E-02	4.590E-02
NB-95M	1.726E-01	1.974E-01	1.974E-01
CD-109	1.190E+00	7.731E-01	7.731E-01
SN-126	1.131E-01	7.323E-02	7.323E-02
EU-155	8.907E-02	1.326E-01	1.326E-01
TL-208	1.228E-01	5.766E-02	5.766E-02
BI-210	5.789E+00	4.423E+00	4.423E+00
PB-210	5.789E+00	4.423E+00	4.423E+00
BI-211	1.249E+00	4.616E-01	4.616E-01
PB-212	4.917E-01	1.057E-01	1.057E-01
BI-214	6.159E-01	1.693E-01	1.693E-01
PB-214	4.533E-01	1.674E-01	1.674E-01
RN-222	4.533E-01	1.674E-01	1.674E-01
RA-224	1.538E+00	7.028E-01	7.028E-01
RA-226	4.533E-01	1.674E-01	1.674E-01
AC-228	3.741E-01	3.132E-01	3.132E-01
RA-228	3.741E-01	3.132E-01	3.132E-01
TH-228	4.917E-01	1.057E-01	1.057E-01
TH-230	4.533E-01	1.674E-01	1.674E-01
TH-232	3.741E-01	3.132E-01	3.132E-01
PA-234M	1.126E+00	1.531E+00	1.531E+00
TH-234	1.126E+00	1.531E+00	1.531E+00
U-234	4.533E-01	1.674E-01	1.674E-01
U-235	1.553E-01	1.303E-01	1.303E-01
U-238	1.126E+00	1.531E+00	1.531E+00
AM-243	1.245E-01	6.761E-02	6.761E-02
ANH-511	3.170E-02	8.081E-02	8.081E-02

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L Act error (1.96-sigma)	TPU (1.96-sigma)	
BE-7	-8.037E-02	2.658E-01	2.683E-01	NOT IDENT.
NA-22	-2.577E-02	3.731E-02	3.908E-02	NOT IDENT.

NA-24	-7.646E+13	6.382E+14	6.391E+14	SHORT HLIF
AL-26	-1.694E-02	3.201E-02	3.291E-02	NOT IDENT.
SC-46	-1.898E-02	3.954E-02	4.046E-02	FAIL ABUN
V-48	4.245E-02	1.174E-01	1.189E-01	NOT IDENT.
CR-51	7.207E-02	3.557E-01	3.572E-01	NOT IDENT.
MN-52	3.370E-01	2.182E+00	2.187E+00	NOT IDENT.
MN-54	1.203E-03	3.137E-02	3.138E-02	NOT IDENT.
CO-56	-1.605E-02	3.535E-02	3.609E-02	NOT IDENT.
MN-56	-1.000E+41	2.204E+41	0.000E+00	SHORT HLIF
CO-57	-4.794E-04	1.939E-02	1.940E-02	NOT IDENT.
FE-59	3.358E-02	1.048E-01	1.059E-01	NOT IDENT.
CO-60	2.099E-02	4.007E-02	4.117E-02	NOT IDENT.
ZN-65	-1.923E-03	8.294E-02	8.294E-02	NOT IDENT.
GE-68	-1.551E+00	1.493E+00	1.649E+00	NOT IDENT.
AS-73	2.997E-01	4.353E-01	4.558E-01	NOT IDENT.
AS-74	2.799E-02	1.546E-01	1.552E-01	NOT IDENT.
SE-75	3.328E-03	2.839E-02	2.842E-02	NOT IDENT.
BR-77	1.792E+04	1.791E+04	1.965E+04	SHORT HLIF
SR-82	-2.444E-01	5.458E-01	5.568E-01	NOT IDENT.
RB-83	-4.694E-02	8.082E-02	8.354E-02	NOT IDENT.
RB-84	2.524E-02	1.099E-01	1.105E-01	NOT IDENT.
KR-85	3.313E+00	7.436E+00	7.585E+00	NOT IDENT.
SR-85	2.122E-02	4.795E-02	4.890E-02	NOT IDENT.
RB-86	-1.486E+00	1.768E+00	1.890E+00	NOT IDENT.
Y-88	4.863E-03	3.174E-02	3.182E-02	NOT IDENT.
Y-91	2.079E+01	2.615E+01	2.778E+01	NOT IDENT.
NB-94	-9.507E-04	3.112E-02	3.112E-02	NOT IDENT.
NB-95	-6.791E-02	5.291E-02	6.112E-02	NOT IDENT.
ZR-95	-6.233E-03	6.020E-02	6.026E-02	NOT IDENT.
NB-97	-1.000E+41	5.013E+41	0.000E+00	SHORT HLIF
ZR-97	-2.755E+12	1.420E+14	1.420E+14	SHORT HLIF
MO-99	-6.498E+02	9.995E+02	1.042E+03	SHORT HLIF
TC-99M	-6.222E+38	6.817E+38	0.000E+00	SHORT HLIF
RH-101	6.093E-03	1.893E-02	1.913E-02	FAIL ABUN
RH-102	-2.425E-02	4.408E-02	4.541E-02	NOT IDENT.
RU-103	-2.795E-02	3.648E-02	3.859E-02	FAIL ABUN
RH-106	4.954E-02	2.632E-01	2.642E-01	NOT IDENT.
RU-106	4.954E-02	2.632E-01	2.642E-01	NOT IDENT.
AG-108M	2.889E-03	1.824E-02	1.828E-02	NOT IDENT.
AG-110	2.555E-02	5.211E-01	5.212E-01	NOT IDENT.
AG-110M	-6.363E-03	4.174E-02	4.183E-02	FAIL ABUN
SN-113	3.077E-03	3.652E-02	3.655E-02	NOT IDENT.
CD-115	1.944E+02	2.989E+03	2.991E+03	SHORT HLIF
SN-117M	-3.285E-02	9.929E-02	1.004E-01	NOT IDENT.
SB-122	-5.566E+01	2.107E+02	2.122E+02	SHORT HLIF
TE-123M	-7.796E-03	2.216E-02	2.243E-02	NOT IDENT.
SB-124	-7.167E-02	8.138E-02	8.756E-02	NOT IDENT.
SB-125	3.471E-02	6.575E-02	6.758E-02	FAIL ABUN
TE-125M	1.935E+00	7.861E+00	7.910E+00	NOT IDENT.
I-126	3.521E-01	5.134E-01	5.373E-01	NOT IDENT.
SB-126	-2.456E-01	3.826E-01	3.983E-01	NOT IDENT.
SB-127	7.527E+00	3.050E+01	3.069E+01	NOT IDENT.
I-131	-3.402E-02	4.271E-01	4.273E-01	FAIL ABUN
I-132	-1.000E+41	2.233E+41	0.000E+00	SHORT HLIF
TE-132	7.988E+00	3.103E+01	3.124E+01	SHORT HLIF
BA-133	1.511E-02	3.546E-02	3.611E-02	NOT IDENT.
I-133	-4.441E+08	1.596E+10	1.596E+10	SHORT HLIF
CS-134	1.522E-02	4.750E-02	4.800E-02	NOT IDENT.
I-135	2.814E+35	1.782E+36	0.000E+00	SHORT HLIF
CS-136	1.052E-01	3.157E-01	3.193E-01	NOT IDENT.
BA-137M	1.094E-02	3.221E-02	3.259E-02	NOT IDENT.
CS-137	1.156E-02	3.403E-02	3.442E-02	NOT IDENT.
LA-138	3.176E-02	5.233E-02	5.426E-02	NOT IDENT.
CE-139	1.355E-02	2.192E-02	2.276E-02	NOT IDENT.
BA-140	-3.770E-01	6.807E-01	7.016E-01	NOT IDENT.
LA-140	-9.636E-02	2.952E-01	2.984E-01	NOT IDENT.
CE-141	-5.131E-02	6.631E-02	7.023E-02	NOT IDENT.
CE-143	3.743E+04	9.627E+05	9.628E+05	SHORT HLIF
CE-144	1.791E-01	1.255E-01	1.492E-01	NOT IDENT.
PM-144	-7.518E-03	2.874E-02	2.894E-02	NOT IDENT.
PR-144	-5.466E-01	2.177E+00	2.191E+00	NOT IDENT.
PM-146	-1.225E-03	2.567E-02	2.567E-02	NOT IDENT.
ND-147	4.152E-01	1.594E+00	1.605E+00	FAIL ABUN
PM-147	-1.968E+02	5.234E+02	5.308E+02	NOT IDENT.
PM-149	3.065E+04	3.857E+04	4.097E+04	SHORT HLIF
EU-150	6.135E-03	1.880E-02	1.900E-02	FAIL ABUN
EU-152	1.257E-02	7.468E-02	7.489E-02	FAIL ABUN
GD-153	-4.150E-02	4.948E-02	5.290E-02	NOT IDENT.

EU-154	-7.232E-02	1.047E-01	1.097E-01	NOT IDENT.
TB-160	1.168E-01	1.524E-01	1.612E-01	FAIL ABUN
HO-166M	1.808E-02	4.507E-02	4.580E-02	FAIL ABUN
TM-171	-3.472E+00	7.257E+00	7.424E+00	NOT IDENT.
HF-172	6.144E-02	1.188E-01	1.220E-01	FAIL ABUN
LU-172	1.324E-02	5.555E-02	5.587E-02	FAIL ABUN
LU-176	9.784E-03	1.808E-02	1.861E-02	FAIL ABUN
HF-181	-2.280E-03	4.703E-02	4.704E-02	NOT IDENT.
TA-182	-4.784E-02	1.706E-01	1.719E-01	FAIL ABUN
RE-183	-3.732E-02	1.052E-01	1.065E-01	NOT IDENT.
RE-184	-8.802E-03	2.025E-01	2.026E-01	NOT IDENT.
W-188	3.335E+00	5.818E+00	6.009E+00	FAIL ABUN
IR-192	-3.489E-03	2.737E-02	2.741E-02	FAIL ABUN
HG-203	1.083E-02	3.915E-02	3.945E-02	NOT IDENT.
TL-204	-1.726E+00	2.440E+00	2.561E+00	NOT IDENT.
BI-207	-3.665E-02	4.844E-02	5.118E-02	FAIL ABUN
PB-211	-1.726E-02	5.651E-01	5.652E-01	NOT IDENT.
BI-212	4.464E-01	5.913E-01	6.246E-01	NOT IDENT.
BI-213	4.547E-02	7.312E-02	7.594E-02	NOT IDENT.
RN-219	1.304E-01	2.186E-01	2.263E-01	FAIL ABUN
RA-223	-8.491E-02	3.841E-01	3.860E-01	FAIL ABUN
AC-225	5.426E-01	1.286E+00	1.309E+00	NOT IDENT.
AC-227	6.505E-02	1.680E-01	1.705E-01	FAIL ABUN
TH-227	6.505E-02	1.680E-01	1.705E-01	FAIL ABUN
TH-229	-2.455E-01	3.059E-01	3.253E-01	FAIL ABUN
PA-231	-1.247E-01	3.282E-01	3.330E-01	FAIL ABUN
TH-231	-8.491E-02	3.841E-01	3.860E-01	FAIL ABUN
PA-233	-2.065E-02	3.905E-02	4.014E-02	NOT IDENT.
PA-234	-2.841E-02	3.350E-01	3.352E-01	NOT IDENT.
NP-237	-2.065E-02	3.905E-02	4.014E-02	NOT IDENT.
NP-238	2.084E+03	7.544E+03	7.602E+03	SHORT HLIF
NP-239	-1.133E-02	1.489E-01	1.489E-01	FAIL ABUN
PU-239	2.921E+02	3.837E+02	4.057E+02	FAIL ABUN
AM-241	1.520E-02	6.875E-02	6.909E-02	NOT IDENT.
CM-243	-4.869E-02	5.989E-02	6.378E-02	NOT IDENT.
BK-247	4.857E-03	4.904E-02	4.909E-02	FAIL ABUN
CM-247	-1.512E-02	2.422E-02	2.516E-02	NOT IDENT.
CF-249	-1.132E-02	3.248E-02	3.288E-02	NOT IDENT.
CF-251	-1.063E-02	8.947E-02	8.960E-02	FAIL ABUN

GEL Laboratories LLC
2040 Savage Road
Charleston, SC 29407

GAMMA SPECTROSCOPY BACKGROUND REPORT

ENERGY	MDA COUNTS	ENERGY	MDA COUNTS	ENERGY	MDA COUNTS
43.53	15.1969	85.43	30.7351	133.02	24.2996
45.60	24.5231	86.55	18.3027	133.52	10.8159
46.54	24.6958	86.79	18.3215	136.00	19.0659
49.72	0.0000	86.94	18.3335	136.47	27.2742
51.35	13.2501	87.09	18.3455	140.51	0.0000
51.87	24.6942	87.57	18.3833	143.76	11.1372
52.39	22.8745	88.03	18.4197	144.24	12.5461
52.97	17.2223	88.34	21.9024	145.44	30.7697
53.44	18.2356	88.47	21.9145	152.43	38.4771
54.07	26.0211	89.96	31.3386	153.25	18.5657
57.36	0.0000	1093.63	31.4276	323.87	20.0438
57.53	29.5546	91.11	31.4890	156.02	21.5767
57.98	24.6969	92.59	31.6818	158.56	24.6123
59.27	21.9045	93.35	31.7803	159.00	24.6398
59.32	21.9112	94.56	29.5704	162.33	20.4617
59.54	21.9402	94.65	23.6649	162.66	24.8665
60.96	19.1089	94.67	23.6667	163.33	27.8378
61.17	19.1325	94.87	23.6856	165.86	16.2170
62.93	22.3805	97.43	21.5340	176.31	23.4231
63.29	22.4265	98.43	18.0151	176.60	30.2435
63.58	22.4636	98.44	18.0157	177.52	29.5499
64.28	22.5526	99.53	20.5040	181.07	0.0000
66.73	24.9386	100.11	19.3408	181.52	19.3695
67.24	23.9655	102.03	13.3938	184.41	15.3905
125.81	32.3779	103.18	22.0117	143.76	15.4349
67.75	35.5247	103.37	24.4748	193.51	24.3294
68.89	35.7416	105.31	22.1852	197.03	15.8127
69.67	17.9445	106.12	22.2506	198.01	15.0528
70.82	31.8562	106.47	22.2789	201.83	19.1638
70.83	31.8583	109.28	23.7541	203.43	15.2206
72.81	32.1822	111.00	11.3200	205.31	19.2990
72.87	32.1918	111.76	0.0000	210.85	29.2676
74.66	32.4806	114.06	22.8801	215.65	17.2323
74.82	32.5063	116.30	0.0000	218.12	14.8403
74.97	32.5305	116.74	17.9569	222.11	14.9521
77.11	23.0094	119.76	16.8411	227.09	25.7094
78.74	30.9181	121.12	28.6263	227.38	23.4861
79.69	28.8378	121.22	28.6353	228.16	0.0000
80.03	21.1065	121.78	20.8633	228.18	21.2803
80.12	21.1161	122.06	28.7129	116.74	21.2803
80.19	16.6759	122.92	22.2482	235.69	20.4338
80.57	24.5013	123.07	22.2588	235.96	20.4434
81.00	25.6655	265.00	26.2376	238.63	20.5397
81.07	25.6739	125.81	17.1690	238.98	0.0000
81.75	25.7539	127.23	17.2447	240.99	13.7493
82.47	20.2217	127.91	21.2689	242.00	6.8867
83.79	24.8621	129.30	21.3594	244.70	16.1436
84.00	24.8853	131.20	12.0839	252.40	21.0267

ENERGY	MDA COUNTS	ENERGY	MDA COUNTS	ENERGY	MDA COUNTS
252.80	18.4106	345.93	17.0239	564.24	0.0000
254.15	0.0000	351.06	18.1395	569.33	21.1566
256.23	14.9882	351.93	18.1588	946.00	21.1587
260.90	0.0000	355.39	0.0000	569.70	21.1618
264.66	11.6186	356.01	13.5177	583.19	9.2240
264.80	11.6210	364.49	13.3142	584.27	5.0354
265.00	13.4134	366.42	0.0000	595.83	7.6190
269.46	11.7067	372.51	8.2705	427.87	7.6461
270.03	11.7170	375.05	4.1473	602.52	0.0000
271.23	11.7392	377.52	13.5173	604.72	10.2256
273.65	10.8768	356.01	15.7091	607.14	12.8052
276.40	19.1146	388.16	16.8374	609.32	9.4052
277.37	18.2312	388.63	20.0049	610.33	9.4124
277.60	19.1498	391.69	11.6214	614.28	6.4359
278.00	20.0738	264.66	7.4683	618.01	9.4648
279.20	20.1100	401.81	4.2728	620.36	9.4809
279.54	17.3770	402.40	11.7577	621.93	8.6283
279.70	17.3811	404.85	13.9323	630.19	0.0000
280.46	20.1483	410.95	19.4161	631.29	11.2920
283.69	15.6449	413.71	18.3909	633.25	8.6979
284.31	15.6594	414.70	16.2442	634.78	7.8365
285.41	15.6848	423.72	9.8383	635.95	9.5861
285.90	0.0000	427.09	8.7751	636.99	6.1048
287.50	12.3397	427.87	7.6844	657.50	6.1917
290.67	12.0875	433.94	6.6271	657.76	7.0775
293.27	0.0000	439.40	9.9951	657.90	0.0000
351.93	14.9751	440.45	6.6703	661.66	7.9830
295.96	14.9907	453.88	6.7582	664.57	0.0000
879.38	22.5703	463.37	11.3663	666.33	7.1185
299.98	10.3655	468.07	6.8500	666.50	7.1191
300.09	10.3669	473.00	10.3222	667.71	0.0000
300.13	10.3676	475.06	8.0435	677.62	5.3789
301.36	17.9389	476.78	9.2073	685.70	7.2103
302.85	12.2998	477.60	8.0623	692.65	0.0000
256.23	18.9661	482.18	10.4095	695.00	11.7871
304.85	17.0782	487.02	5.8084	696.49	9.9835
306.78	11.4159	492.35	0.0000	696.51	9.9835
308.46	15.2568	497.08	9.3772	697.00	8.1709
311.90	13.4125	505.52	6.2980	697.30	4.5402
316.51	13.4967	507.63	0.0000	697.49	4.5408
319.41	13.5493	511.00	14.2377	702.65	9.5673
320.08	9.6869	514.00	14.2742	706.68	4.1107
321.04	14.5486	514.00	14.2749	711.68	5.4983
323.87	11.6829	520.40	14.3525	720.70	13.8239
325.23	15.6050	520.69	0.0000	721.93	0.0000
328.76	21.5562	522.65	0.0000	722.78	13.8416
333.37	6.5710	527.90	0.0000	722.91	13.8428
333.97	10.5218	528.26	8.4279	723.31	16.6157
334.37	10.5273	529.59	13.2585	724.19	13.8538
338.28	16.8615	529.87	0.0000	727.33	12.9552
338.32	16.8625	531.02	9.6538	733.00	9.2863
311.90	17.2402	537.26	14.5554	735.93	10.2333
340.48	17.2402	546.56	0.0000	333.97	7.4492
340.55	17.2413	552.55	4.9124	739.50	0.0000
344.28	14.9904	563.25	14.8630	744.23	6.5448

ENERGY	MDA COUNTS	ENERGY	MDA COUNTS	ENERGY	MDA COUNTS
747.24	3.7467	964.08	3.7838	1457.56	0.0000
748.06	6.5599	966.17	6.3125	1460.82	2.8618
752.31	4.6977	968.97	6.3208	1489.16	0.0000
753.82	5.6423	983.53	3.1820	1505.03	6.7706
756.73	5.6521	984.45	0.0000	1584.12	7.9233
756.80	5.6523	1274.44	12.8027	1596.21	5.9637
884.68	9.4604	1002.74	2.1401	1620.50	1.0009
765.81	19.8883	1004.73	6.4260	1621.92	2.0027
766.84	13.2668	507.63	0.0000	1678.03	0.0000
772.60	0.0000	1025.87	0.0000	1690.97	3.0628
776.52	12.3890	1028.54	0.0000	1750.46	0.0000
739.50	0.0000	1037.84	6.5220	1764.49	3.3324
778.90	6.6804	1038.76	0.0000	1063.66	4.1719
783.70	10.5269	631.29	3.2734	1771.35	3.1298
788.74	7.1982	1048.07	7.6431	1791.20	0.0000
792.07	5.7693	1049.04	8.7383	1808.65	3.1604
795.86	10.1180	1050.41	8.7435	1810.72	0.0000
810.06	7.2852	1063.66	7.6944	1836.06	1.0609
810.29	8.7433	1077.00	12.1611		
344.28	8.7440	1077.34	13.2686		
810.76	8.7455	1085.87	6.6582		
815.77	10.7189	1093.63	4.4531		
1048.07	5.8555	1099.45	4.4639		
832.01	6.8821	1112.07	8.9746		
834.85	6.8926	1112.84	4.4889		
836.80	0.0000	1115.54	5.0555		
846.75	0.0000	1120.29	5.6283		
846.77	6.9371	1120.55	5.6287		
856.80	2.9889	1221.41	5.6303		
860.56	6.9878	1129.67	3.3899		
871.09	7.0265	1131.51	0.0000		
873.19	9.0439	1147.95	0.0000		
875.33	0.0000	1173.23	5.7487		
879.38	5.0405	1177.95	4.6074		
880.51	6.0520	1189.05	8.0977		
881.60	9.0831	1204.77	4.6553		
883.24	10.1009	1221.41	5.8557		
884.68	6.0649	1231.02	2.8209		
889.28	8.1058	1235.36	8.8293		
894.76	7.1122	1238.28	6.1874		
898.04	8.1419	1260.41	0.0000		
900.72	6.1147	1271.87	4.4745		
903.28	11.2247	1274.44	7.1655		
911.20	6.1467	1274.54	7.1660		
912.08	6.1494	1291.59	3.6050		
923.98	0.0000	1298.22	0.0000		
926.50	1.0322	1312.11	4.5389		
929.11	5.1678	1332.49	3.6570		
935.54	11.4046	1362.66	0.0000		
937.49	6.2268	1365.19	2.7737		
944.13	10.4110	1368.63	0.0000		
946.00	10.4203	1384.29	0.0000		
949.00	7.3048	1408.01	1.8756		
667.71	0.0000	1434.09	2.8374		
962.31	10.5017	1435.80	1.8927		

VAX/VMS Nuclide Identification Report Generated 17-AUG-2026 07:06:26.43

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*************************************************************************
*                          GEL Laboratories LLC                         *
*                            2040 Savage Road                           *
*                          Charleston, SC 29407                         *
*************************************************************************
Configuration    : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G787535005.CNF;1
Background file  : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]BKG_GAM64.CNF;62
                                     Background date  : 16-AUG-2026 08:56:27
Sample date      : 14-JUL-2026 11:00:00 Acquisition date : 17-AUG-2026 06:04:42
Sample ID        : G787535005           Sample quantity  : 1.28700E+02 GRAM
Detector name    : GAM64                Detector geometry: CAN
Elapsed live time: 0 01:00:00.00        Elapsed real time: 0 01:00:00.89  0.0%
Energy tolerance : 1.50000 keV          Analyst Initials : GG
Abundance limit  : 75.00000             Sensitivity      : 3.00000
Batch ID         : 3033734              Detector SN#     :
Matrix Spike ID  :                      LCS ID           :
*************************************************************************
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BACKGROUND CORRECTED SAMPLE PEAK REPORT

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	3	46.61*	69	112	0.98	94.52	90	15	1.91E-02	28.0	1.23E+00
2	3	50.10	25	98	0.99	101.49	90	15	6.99E-03	68.8	
3	0	53.83	41	138	0.94	108.95	106	7	1.14E-02	49.6	
4	0	63.04*	72	282	0.93	127.36	123	10	2.01E-02	45.7	
5	2	72.93*	27	113	0.91	147.13	145	15	7.60E-03	54.8	3.60E+00
6	2	74.99*	257	226	0.93	151.23	145	15	7.14E-02	11.4	
7	2	77.21	425	189	0.87	155.68	145	15	1.18E-01	6.8	
8	2	81.05	91	219	1.01	163.35	160	20	2.52E-02	27.6	2.64E+00
9	2	84.05*	182	202	1.02	169.35	160	20	5.05E-02	14.8	
10	2	87.34*	130	180	1.03	175.93	160	20	3.60E-02	19.7	
11	0	90.36	61	192	0.93	181.95	179	6	1.70E-02	38.1	
12	0	92.83*	39	247	1.09	186.89	185	6	1.09E-02	67.8	
13	0	98.22	83	198	2.65	197.66	194	9	2.31E-02	32.7	
14	0	112.70	27	115	0.75	226.61	225	6	7.44E-03	67.0	
15	0	141.29	36	108	1.53	283.75	282	6	1.01E-02	48.3	
16	0	144.62*	58	141	1.15	290.40	287	8	1.62E-02	38.0	
17	0	154.36	46	179	0.69	309.88	306	8	1.28E-02	52.3	
18	0	185.92*	171	220	1.38	372.96	367	14	4.74E-02	20.3	
19	2	209.44	61	130	1.34	419.98	415	11	1.70E-02	35.5	9.94E-01
20	2	211.16	17	79	0.90	423.41	415	11	4.77E-03	84.6	
21	4	233.50	27	32	1.67	468.06	466	25	7.50E-03	35.1	5.24E+00
22	4	236.15	101	83	1.68	473.36	466	25	2.82E-02	21.6	
23	4	238.76*	526	55	0.95	478.58	466	25	1.46E-01	5.1	
24	4	241.35*	139	90	1.54	483.76	466	25	3.85E-02	20.2	
25	0	256.40	52	146	2.17	513.84	509	11	1.44E-02	47.1	
26	3	269.53	81	64	1.22	540.09	537	11	2.24E-02	17.4	3.49E+00
27	3	271.12	73	109	1.60	543.27	537	11	2.03E-02	31.5	
28	0	295.47*	307	77	0.96	591.94	586	11	8.54E-02	8.1	
29	0	300.40*	73	75	1.78	601.80	597	10	2.02E-02	25.4	
30	0	327.56	15	90	0.60	656.08	654	7	4.23E-03	105.4	
31	0	338.46	119	52	1.01	677.87	673	9	3.31E-02	14.2	
32	0	352.01*	549	97	1.25	704.95	699	11	1.52E-01	5.6	
33	0	369.83	79	95	7.26	740.58	730	21	2.20E-02	32.7	
34	0	403.78	113	109	5.12	808.44	799	24	3.13E-02	26.2	

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
35	0	437.50	28	73	1.27	875.84	870	14	7.76E-03	67.7	
36	3	460.16	34	29	1.92	921.15	917	15	9.36E-03	32.7	6.30E-01
37	3	463.29	45	38	1.66	927.40	917	15	1.26E-02	30.4	
38	0	481.08	25	76	3.10	962.98	955	16	7.08E-03	79.0	
39	0	511.13*	44	82	1.25	1023.04	1017	13	1.21E-02	50.8	
40	0	583.51*	165	53	1.50	1167.74	1161	13	4.58E-02	12.3	
41	0	609.33*	364	25	1.31	1219.36	1212	12	1.01E-01	6.1	
42	0	661.55*	11	24	1.05	1323.77	1320	8	3.02E-03	86.0	
43	0	727.79*	66	36	1.51	1456.21	1447	18	1.83E-02	25.1	
44	6	750.59	18	15	3.07	1501.79	1498	25	4.95E-03	39.7	1.37E+00
45	6	756.32	20	25	3.08	1513.24	1498	25	5.45E-03	69.9	
46	0	762.94	15	19	0.87	1526.47	1523	10	4.28E-03	57.3	
47	0	768.68	34	47	1.34	1537.95	1533	12	9.51E-03	42.9	
48	2	786.34	19	11	1.94	1573.27	1569	14	5.41E-03	39.5	1.57E+00
49	2	788.84	27	10	2.14	1578.26	1569	14	7.47E-03	32.7	
50	0	794.95	37	11	2.57	1590.47	1584	11	1.02E-02	24.0	
51	0	807.13	24	33	0.94	1614.84	1606	15	6.67E-03	56.4	
52	0	818.61	10	14	0.97	1637.79	1633	9	2.64E-03	76.9	
53	1	842.32	11	3	1.68	1685.19	1683	18	2.94E-03	34.0	1.71E+00
54	1	845.41	19	12	1.99	1691.36	1683	18	5.20E-03	41.7	
55	0	860.70*	41	20	4.33	1721.94	1713	16	1.15E-02	29.6	
56	0	911.22*	127	16	1.51	1822.95	1814	15	3.52E-02	11.4	
57	0	935.21	18	19	3.34	1870.92	1863	13	4.95E-03	56.3	
58	2	964.96*	27	1	2.31	1930.42	1921	23	7.63E-03	28.7	1.08E+00
59	2	969.18*	61	3	1.55	1938.85	1921	23	1.70E-02	15.1	
60	0	1001.06*	11	25	1.73	2002.60	1993	14	3.16E-03	99.5	
61	0	1120.13*	76	20	2.54	2240.69	2234	13	2.11E-02	17.3	
62	0	1125.32	11	7	1.12	2251.08	2247	8	2.98E-03	54.4	
63	0	1238.40*	33	16	3.30	2477.21	2471	13	9.27E-03	31.1	
64	0	1337.51	10	5	1.42	2675.43	2671	8	2.75E-03	52.5	
65	0	1370.98	7	6	1.42	2742.37	2736	9	2.01E-03	73.4	
66	0	1377.28	43	0	2.42	2754.98	2745	19	1.19E-02	15.2	
67	0	1435.91	42	0	1.53	2872.24	2865	15	1.17E-02	15.4	
68	1	1461.00*	243	4	2.48	2922.42	2911	23	6.74E-02	6.8	4.61E+00
69	1	1464.79	17	4	2.26	2930.00	2911	23	4.65E-03	28.7	
70	0	1587.43	20	3	0.77	3175.29	3168	13	5.47E-03	29.4	
71	0	1592.06	9	0	1.65	3184.56	3180	8	2.50E-03	33.3	
72	0	1729.72	27	0	1.71	3459.93	3453	13	7.50E-03	19.2	
73	0	1764.73*	63	4	1.55	3529.96	3522	15	1.74E-02	15.4	
74	0	1846.85*	14	0	2.75	3694.22	3688	12	3.83E-03	31.6	

Flag: "*" = Peak area was modified by background subtraction

VMS Nuclide Identification Report V3.1 Generated 17-AUG-2026 07:06:27

Configuration : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G787535005.CNF;1
Analyses by : PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.4,INTERF V2.4
Sample title : GG
Sample date : 14-JUL-2026 11:00:00 Acquisition date : 17-AUG-2026 06:04:42
Sample ID : G787535005 Sample quantity : 128.70 GRAM
Sample type : SOLID Sample geometry :
Detector name : GAMMA64 Detector geometry: CAN
Elapsed live time: 0 01:00:00.00 Elapsed real time: 0 01:00:00.89 0.0%
Energy tolerance : 1.50 keV Half life ratio : 10.00
Errors propagated: No Systematic Error : 0.00 %
Efficiency type : Empirical Efficiencies at : Peak Energy
Abundance limit : 75.00

Interference Report

Interfering		Interfered	
Nuclide	Line	Nuclide	Line
U-235	143.76	TH-231	144.24
U-235	143.76	RA-223	144.24
U-235	143.76	CE-141	145.44

Nuclide Type:

Nuclide	Energy	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error	Status
K-40	1460.82	10.66*	1.088E+00	1.162E+01	1.162E+01	13.65	OK
CO-56	846.77	99.94*	1.746E+00	6.185E-02	8.378E-02	83.44	OK
	1037.84	14.17	1.457E+00	----- Line	Not Found	-----	Absent
	1238.28	66.90	1.250E+00	2.240E-01	3.035E-01	62.25	OK
	1771.35	15.47	9.381E-01	----- Line	Not Found	-----	Absent
AS-73	53.44	10.30*	7.456E+00	3.666E-01	4.909E-01	99.27	OK
NB-95M	235.69	24.80*	4.754E+00	5.383E-01	7.763E-01	43.10	OK
CD-109	88.03	3.70*	7.676E+00	3.038E+00	3.196E+00	39.40	OK
SN-126	64.28	9.60	7.777E+00	6.559E-01	6.559E-01	91.32	OK
	86.94	8.90	7.676E+00	1.263E+00	1.263E+00	39.40	OK
	87.57	37.00*	7.676E+00	3.038E-01	3.038E-01	39.40	OK
BA-137M	661.66	89.90*	2.160E+00	3.283E-02	3.290E-02	172.04	OK
CS-137	661.66	85.10*	2.160E+00	3.468E-02	3.475E-02	172.04	OK
LA-138	788.74	34.50	1.855E+00	2.433E-01	2.433E-01	65.40	OK
	1435.80	65.50*	1.104E+00	3.229E-01	3.229E-01	30.86	OK
CE-141	145.44	48.29*	6.353E+00	4.084E-02	8.398E-02	240.58	OK
TM-171	51.35	0.27	7.217E+00	8.859E+00	9.160E+00	137.57	OK
	52.39	0.47*	7.456E+00	8.035E+00	8.308E+00	99.27	OK
	66.73	0.14	7.827E+00	----- Line	Not Found	-----	Absent
TL-208	277.37	6.60	4.262E+00	----- Line	Not Found	-----	Absent
	583.19	85.00*	2.403E+00	4.769E-01	4.769E-01	24.68	OK
	860.56	12.50	1.718E+00	1.107E+00	1.107E+00	59.22	OK
BI-210	46.54	4.25*	6.918E+00	1.614E+00	1.619E+00	55.95	OK
PB-210	46.54	4.25*	6.918E+00	1.614E+00	1.619E+00	55.95	OK
BI-211	72.87	1.23	7.844E+00	1.904E+00	1.904E+00	109.56	OK
	351.06	12.92*	3.588E+00	7.227E+00	7.227E+00	11.11	OK
BI-212	727.33	6.67*	1.990E+00	2.888E+00	2.888E+00	50.28	OK
	1620.50	1.47	1.003E+00	----- Line	Not Found	-----	Absent
PB-212	74.82	10.28	7.834E+00	2.142E+00	2.142E+00	22.84	OK
	77.11	17.10	7.817E+00	2.130E+00	2.130E+00	13.69	OK
	238.63	43.60*	4.719E+00	1.599E+00	1.599E+00	10.12	OK
	300.09	3.30	4.029E+00	3.367E+00	3.367E+00	50.81	OK
BI-214	609.32	45.49*	2.317E+00	2.035E+00	2.035E+00	12.11	OK
	1120.29	14.92	1.363E+00	2.107E+00	2.107E+00	34.53	OK
	1764.49	15.30	9.407E-01	2.388E+00	2.389E+00	30.78	OK
PB-214	74.82	5.80	7.834E+00	3.796E+00	3.796E+00	22.84	OK
	77.11	9.70	7.817E+00	3.756E+00	3.756E+00	13.69	OK
	87.09	3.41	7.676E+00	3.296E+00	3.296E+00	39.40	OK
	242.00	7.25	4.685E+00	2.554E+00	2.554E+00	40.45	OK
	295.22	18.42	4.076E+00	2.526E+00	2.526E+00	16.11	OK
	351.93	35.60*	3.588E+00	2.623E+00	2.623E+00	11.11	OK
RN-222	74.82	5.80	7.834E+00	3.796E+00	3.796E+00	22.84	OK
	77.11	9.70	7.817E+00	3.756E+00	3.756E+00	13.69	OK
	87.09	3.41	7.676E+00	3.296E+00	3.296E+00	39.40	OK
	242.00	7.25	4.685E+00	2.554E+00	2.554E+00	40.45	OK
	295.22	18.42	4.076E+00	2.526E+00	2.526E+00	16.11	OK
	351.93	35.60*	3.588E+00	2.623E+00	2.623E+00	11.11	OK
RA-223	81.07	15.00	7.775E+00	5.187E-01	5.187E-01	55.16	OK
	83.79	24.70	7.731E+00	6.345E-01	6.345E-01	29.59	OK

Nuclide Type:

Nuclide	Energy	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error	Status
	94.56	8.67	7.533E+00	----- Line	Not Found	-----	Absent
	144.24	3.27	6.353E+00	6.031E-01	6.031E-01	240.58	OK
	154.21	5.70	6.140E+00	8.466E-01	8.466E-01	104.55	OK
	269.46	13.90	4.347E+00	8.300E-01	8.300E-01	34.74	OK
	323.87	3.99*	3.816E+00	----- Line	Not Found	-----	Absent
	338.28	2.84	3.695E+00	6.954E+00	6.954E+00	28.44	OK
RA-224	240.99	4.10*	4.685E+00	4.516E+00	4.516E+00	40.45	OK
RA-226	74.82	5.80	7.834E+00	3.796E+00	3.796E+00	22.84	OK
	77.11	9.70	7.817E+00	3.756E+00	3.756E+00	13.69	OK
	87.09	3.41	7.676E+00	3.296E+00	3.296E+00	39.40	OK
	242.00	7.25	4.685E+00	2.554E+00	2.554E+00	40.45	OK
	295.22	18.42	4.076E+00	2.526E+00	2.526E+00	16.11	OK
	351.93	35.60*	3.588E+00	2.623E+00	2.623E+00	11.11	OK
AC-227	79.69	2.64	7.775E+00	2.947E+00	2.947E+00	55.16	OK
	235.96	17.50	4.754E+00	7.629E-01	7.629E-01	43.10	OK
	256.23	9.50*	4.499E+00	7.577E-01	7.577E-01	94.13	OK
	299.98	3.00	4.029E+00	3.704E+00	3.704E+00	50.81	OK
	304.50	1.56	3.990E+00	----- Line	Not Found	-----	Absent
	334.37	1.54	3.728E+00	----- Line	Not Found	-----	Absent
TH-227	79.69	2.64	7.775E+00	2.947E+00	2.947E+00	55.16	OK
	235.96	17.50	4.754E+00	7.629E-01	7.629E-01	43.10	OK
	256.23	9.50*	4.499E+00	7.577E-01	7.577E-01	94.13	OK
	299.98	3.00	4.029E+00	3.704E+00	3.704E+00	50.81	OK
	304.50	1.56	3.990E+00	----- Line	Not Found	-----	Absent
	334.37	1.54	3.728E+00	----- Line	Not Found	-----	Absent
AC-228	338.32	11.27	3.695E+00	1.752E+00	1.752E+00	28.44	OK
	911.20	25.80*	1.634E+00	1.723E+00	1.723E+00	22.74	OK
	968.97	15.80	1.548E+00	1.432E+00	1.432E+00	30.26	OK
RA-228	338.32	11.27	3.695E+00	1.752E+00	1.752E+00	28.44	OK
	911.20	25.80*	1.634E+00	1.723E+00	1.723E+00	22.74	OK
	968.97	15.80	1.548E+00	1.432E+00	1.432E+00	30.26	OK
TH-228	74.82	10.28	7.834E+00	2.142E+00	2.142E+00	22.84	OK
	77.11	17.10	7.817E+00	2.130E+00	2.130E+00	13.69	OK
	238.63	43.60*	4.719E+00	1.599E+00	1.599E+00	10.12	OK
	300.09	3.30	4.029E+00	3.367E+00	3.367E+00	50.81	OK
TH-229	85.43	14.70	7.731E+00	1.066E+00	1.066E+00	29.59	OK
	88.47	24.00	7.676E+00	4.683E-01	4.683E-01	39.40	OK
	193.51	4.41*	5.394E+00	----- Line	Not Found	-----	Absent
	210.85	2.80	5.110E+00	7.561E-01	7.562E-01	169.11	OK
TH-230	74.82	5.80	7.834E+00	3.796E+00	3.796E+00	22.84	OK
	77.11	9.70	7.817E+00	3.756E+00	3.756E+00	13.69	OK
	87.09	3.41	7.676E+00	3.296E+00	3.296E+00	39.40	OK
	242.00	7.25	4.685E+00	2.554E+00	2.554E+00	40.45	OK
	295.22	18.42	4.076E+00	2.526E+00	2.526E+00	16.11	OK
	351.93	35.60*	3.588E+00	2.623E+00	2.623E+00	11.11	OK
PA-231	283.69	1.70	4.195E+00	----- Line	Not Found	-----	Absent
	301.36	5.35*	4.029E+00	2.077E+00	2.077E+00	50.81	OK
TH-231	81.07	15.00	7.775E+00	5.187E-01	5.187E-01	55.16	OK
	83.79	24.70	7.731E+00	6.345E-01	6.345E-01	29.59	OK

Nuclide Type:

Nuclide	Energy	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error	Status
	94.87	5.69	7.526E+00	----- Line	Not Found	-----	Absent
	144.24	3.27	6.353E+00	6.031E-01	6.031E-01	240.58	OK
	154.21	5.70	6.140E+00	8.466E-01	8.466E-01	104.55	OK
	269.46	13.90	4.347E+00	8.300E-01	8.300E-01	34.74	OK
	323.87	3.99*	3.816E+00	----- Line	Not Found	-----	Absent
	338.28	2.84	3.695E+00	6.954E+00	6.954E+00	28.44	OK
TH-232	338.32	11.27	3.695E+00	1.752E+00	1.752E+00	28.44	OK
	911.20	25.80*	1.634E+00	1.723E+00	1.723E+00	22.74	OK
	968.97	15.80	1.548E+00	1.432E+00	1.432E+00	30.26	OK
PA-234M	63.29	3.70*	7.777E+00	1.702E+00	1.702E+00	91.32	OK
	92.59	4.23	7.569E+00	8.142E-01	8.142E-01	135.50	OK
TH-234	63.29	3.70*	7.777E+00	1.702E+00	1.702E+00	91.32	OK
	92.59	4.23	7.569E+00	8.142E-01	8.142E-01	135.50	OK
U-234	74.82	5.80	7.834E+00	3.796E+00	3.796E+00	22.84	OK
	77.11	9.70	7.817E+00	3.756E+00	3.756E+00	13.69	OK
	87.09	3.41	7.676E+00	3.296E+00	3.296E+00	39.40	OK
	242.00	7.25	4.685E+00	2.554E+00	2.554E+00	40.45	OK
	295.22	18.42	4.076E+00	2.526E+00	2.526E+00	16.11	OK
	351.93	35.60*	3.588E+00	2.623E+00	2.623E+00	11.11	OK
U-235	89.96	3.47	7.619E+00	1.540E+00	1.540E+00	76.11	OK
	93.35	5.60	7.569E+00	6.150E-01	6.150E-01	135.50	OK
	143.76	10.96*	6.372E+00	----- Line	Not Found	-----	<<INT Reject
	163.33	5.08	5.954E+00	----- Line	Not Found	-----	Absent
	185.72	57.20	5.526E+00	3.432E-01	3.432E-01	40.56	OK
	205.31	5.01	5.201E+00	----- Line	Not Found	-----	Absent
U-238	63.29	3.70*	7.777E+00	1.702E+00	1.702E+00	91.32	OK
	92.59	4.23	7.569E+00	8.142E-01	8.142E-01	135.50	OK
AM-243	43.53	5.90	6.583E+00	----- Line	Not Found	-----	Absent
	74.66	67.20*	7.834E+00	3.276E-01	3.276E-01	22.84	OK
CM-247	278.00	3.40	4.255E+00	----- Line	Not Found	-----	Absent
	287.50	2.00	4.156E+00	----- Line	Not Found	-----	Absent
	402.40	72.00*	3.233E+00	2.926E-01	2.926E-01	52.40	OK
ANH-511	511.00	100.00*	2.681E+00	9.692E-02	9.692E-02	101.70	OK

Flag: "*" = Keyline

VAX/VMS Nuclide Identification Report Generated 17-AUG-2026 07:06:28.92

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**********************************************************************
*                          GEL Laboratories LLC                      *
*                            2040 Savage Road                        *
*                          Charleston, SC 29407                      *
**********************************************************************
*                                                                    *
*                        DETECTOR AND SAMPLE DATA                    *
*                                                                    *
* Configuration    : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G787535005.CNF;1    *
* Acquisition date : 17-AUG-2026 06:04:42 Sensitivity     : 3.000            *
* Detector ID      : GAM64                Energy tolerance: 1.500            *
* Elapsed live time:    0 01:00:00.00     Abundance limit : 75.000           *
* Elapsed real time:    0 01:00:00.89     Half life ratio : *****            *
* Sample date      : 14-JUL-2026 11:00:00 Analyst initials: GG               *
* Sample ID        : G787535005           Sample Quantity : 1.2870E+02 GRAM  *
* Batch Number     : 3033734              Wet Weight      :    0.00000       *
* Wet wt corr      :    1.00000           Dry Weight      :    0.00000       *
* Nuclide Library  : SOLID.NLB;19                                           *
**********************************************************************
*                                                                    *
*                        CALIBRATION INFORMATION                     *
*                                                                    *
* Eff. Cal. date   : 15-AUG-2025 04:21:48 Eff. Geometry   : CAN              *
* Eff. File        : DKA100:[CANBERRA.GAMMA]EFF_GAM64_CAN.CNF;1              *
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Combined Activity-MDA Report

NOTE: Not all "Identified Nuclides" are valid.
Please refer to Certificate of Analysis.

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Cnt uncert (1.96-sigma)	MDA (pCi/GRAM)
K-40	1.162E+01	1.554E+00	6.917E-01
CO-56	8.378E-02	6.851E-02	9.089E-02
AS-73	4.909E-01	4.776E-01	3.521E-01
NB-95M	7.763E-01	3.279E-01	2.500E-01
CD-109	3.196E+00	1.234E+00	9.365E-01
SN-126	3.038E-01	1.173E-01	8.886E-02
BA-137M	3.290E-02	5.546E-02	7.329E-02
CS-137	3.475E-02	5.859E-02	7.743E-02
LA-138	3.229E-01	9.765E-02	9.070E-02
CE-141	8.398E-02	1.980E-01	1.582E-01
TM-171	8.308E+00	8.082E+00	5.532E+00
TL-208	4.769E-01	1.154E-01	7.804E-02
BI-210	1.619E+00	8.876E-01	6.955E-01
PB-210	1.619E+00	8.876E-01	6.955E-01
BI-211	7.227E+00	7.865E-01	4.045E-01
BI-212	2.888E+00	1.423E+00	9.081E-01
PB-212	1.599E+00	1.586E-01	9.960E-02
BI-214	2.035E+00	2.416E-01	1.431E-01
PB-214	2.623E+00	2.854E-01	1.471E-01
RN-222	2.623E+00	2.854E-01	1.471E-01
RA-223	9.108E-03	6.818E-01	1.293E+00
RA-224	4.516E+00	1.790E+00	1.068E+00
RA-226	2.623E+00	2.854E-01	1.471E-01
AC-227	7.577E-01	6.990E-01	5.244E-01
TH-227	7.577E-01	6.990E-01	5.244E-01
AC-228	1.723E+00	3.838E-01	2.721E-01
RA-228	1.723E+00	3.838E-01	2.721E-01
TH-228	1.599E+00	1.586E-01	9.960E-02
TH-229	-1.638E-01	4.903E-01	9.386E-01
TH-230	2.623E+00	2.854E-01	1.471E-01
PA-231	2.077E+00	1.034E+00	7.670E-01
TH-231	9.108E-03	6.818E-01	1.293E+00
TH-232	1.723E+00	3.838E-01	2.721E-01
PA-234M	1.702E+00	1.523E+00	9.432E-01
TH-234	1.702E+00	1.523E+00	9.432E-01
U-234	2.623E+00	2.854E-01	1.471E-01
U-235	5.398E-01	4.020E-01	3.903E-01

U-238	1.702E+00	1.523E+00	9.432E-01	
AM-243	3.276E-01	7.332E-02	5.956E-02	
CM-247	2.926E-01	1.503E-01	6.340E-02	
ANH-511	9.692E-02	9.660E-02	6.266E-02	

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Cnt Uncert (1.96-sigma)	MDA (pCi/GRAM)	
BE-7	5.574E-02	4.339E-01	7.693E-01	NOT IDENT.
NA-22	3.925E-02	4.431E-02	1.001E-01	NOT IDENT.
NA-24	0.000E+00	9.096E+14	0.000E+00	SHORT HLIF
AL-26	1.218E-02	2.904E-02	7.406E-02	NOT IDENT.
SC-46	2.170E-03	4.055E-02	8.330E-02	FAIL ABUN
V-48	1.288E-01	1.419E-01	3.306E-01	NOT IDENT.
CR-51	-2.259E-01	5.600E-01	1.026E+00	NOT IDENT.
MN-52	4.987E+00	3.169E+00	7.777E+00	FAIL ABUN
MN-54	1.250E-02	3.548E-02	7.501E-02	NOT IDENT.
MN-56	0.000E+00	8.177E+40	0.000E+00	SHORT HLIF
CO-57	1.270E-02	2.535E-02	4.561E-02	NOT IDENT.
CO-58	-2.744E-02	4.954E-02	7.915E-02	NOT IDENT.
FE-59	3.573E-02	9.556E-02	2.099E-01	NOT IDENT.
CO-60	3.004E-02	4.691E-02	9.654E-02	NOT IDENT.
ZN-65	4.912E-02	9.656E-02	1.897E-01	NOT IDENT.
GE-68	-1.007E-01	1.264E+00	2.478E+00	NOT IDENT.
AS-74	1.100E-02	2.174E-01	3.997E-01	NOT IDENT.
SE-75	3.811E-04	4.981E-02	9.594E-02	NOT IDENT.
BR-77	0.000E+00	5.746E+03	0.000E+00	SHORT HLIF
SR-82	-2.337E-01	5.721E-01	1.079E+00	NOT IDENT.
RB-83	1.742E-02	8.647E-02	1.642E-01	NOT IDENT.
RB-84	-2.463E-02	9.145E-02	1.772E-01	NOT IDENT.
KR-85	-5.931E-01	9.366E+00	1.554E+01	NOT IDENT.
SR-85	-3.962E-03	6.040E-02	1.002E-01	NOT IDENT.
RB-86	-3.185E-01	1.476E+00	2.828E+00	NOT IDENT.
Y-88	-2.228E-02	4.914E-02	9.335E-02	NOT IDENT.
Y-91	-6.571E+00	2.853E+01	5.255E+01	NOT IDENT.
NB-94	1.341E-03	3.572E-02	7.129E-02	NOT IDENT.
NB-95	1.937E-02	6.238E-02	9.906E-02	NOT IDENT.
ZR-95	1.571E-01	2.153E-01	1.916E-01	FAIL ABUN
NB-97	0.000E+00	1.960E+41	0.000E+00	SHORT HLIF
ZR-97	0.000E+00	2.097E+14	0.000E+00	SHORT HLIF
MO-99	0.000E+00	1.178E+03	0.000E+00	SHORT HLIF
TC-99M	0.000E+00	1.486E+39	0.000E+00	SHORT HLIF
RH-101	-4.320E-02	3.469E-02	5.111E-02	NOT IDENT.
RH-102	2.014E-02	6.173E-02	1.183E-01	NOT IDENT.
RU-103	-1.539E-02	6.045E-02	1.082E-01	FAIL ABUN
RH-106	1.092E-01	2.850E-01	5.748E-01	NOT IDENT.
RU-106	1.092E-01	2.850E-01	5.748E-01	NOT IDENT.
AG-108M	1.325E-02	2.939E-02	5.546E-02	NOT IDENT.
AG-110	-6.219E-01	9.967E-01	1.447E+00	NOT IDENT.
AG-110M	1.133E-02	5.349E-02	1.100E-01	FAIL ABUN
SN-113	2.022E-02	4.951E-02	9.802E-02	NOT IDENT.
CD-115	0.000E+00	3.952E+03	0.000E+00	SHORT HLIF
SN-117M	1.184E-01	1.381E-01	2.874E-01	NOT IDENT.
SB-122	0.000E+00	2.515E+02	0.000E+00	SHORT HLIF
TE-123M	2.169E-02	3.115E-02	6.418E-02	NOT IDENT.
SB-124	9.123E-02	1.053E-01	2.742E-01	NOT IDENT.
SB-125	1.689E-02	1.010E-01	1.921E-01	FAIL ABUN
TE-125M	-2.375E+00	1.116E+01	1.880E+01	NOT IDENT.
I-126	3.941E-01	7.895E-01	1.500E+00	NOT IDENT.
SB-126	2.931E-01	4.637E-01	9.203E-01	NOT IDENT.
SB-127	-3.188E+01	3.111E+01	5.352E+01	NOT IDENT.
I-131	-4.400E-01	5.424E-01	8.322E-01	FAIL ABUN
I-132	0.000E+00	1.014E+41	0.000E+00	SHORT HLIF
TE-132	0.000E+00	3.767E+01	0.000E+00	SHORT HLIF
BA-133	1.734E-02	4.911E-02	8.936E-02	FAIL ABUN
I-133	0.000E+00	1.785E+10	0.000E+00	SHORT HLIF
CS-134	0.000E+00	6.574E-02	1.031E-01	FAIL ABUN
I-135	0.000E+00	1.732E+36	0.000E+00	SHORT HLIF
CS-136	-1.123E-01	2.858E-01	5.261E-01	FAIL ABUN
CE-139	6.954E-03	3.041E-02	6.114E-02	NOT IDENT.
BA-140	1.831E-01	7.669E-01	1.473E+00	NOT IDENT.
LA-140	-1.205E-01	3.360E-01	5.565E-01	FAIL ABUN
CE-143	0.000E+00	1.357E+06	0.000E+00	SHORT HLIF
CE-144	-8.407E-02	2.207E-01	3.576E-01	FAIL ABUN
PM-144	-2.503E-02	3.513E-02	6.396E-02	NOT IDENT.

PR-144	-1.892E+00	2.655E+00	4.834E+00	NOT IDENT.
PM-146	-3.740E-02	4.468E-02	7.392E-02	NOT IDENT.
ND-147	1.151E+00	1.946E+00	3.903E+00	FAIL ABUN
PM-147	-9.882E+02	7.755E+02	1.141E+03	NOT IDENT.
PM-149	0.000E+00	3.209E+04	0.000E+00	SHORT HLIF
EU-150	2.673E-03	2.828E-02	5.055E-02	FAIL ABUN
EU-152	2.346E-02	1.013E-01	1.963E-01	FAIL ABUN
GD-153	0.000E+00	1.791E-01	1.519E-01	FAIL ABUN
EU-154	1.101E-01	1.243E-01	2.809E-01	FAIL ABUN
EU-155	6.933E-03	9.341E-02	1.627E-01	FAIL ABUN
TB-160	-3.295E-02	1.363E-01	2.667E-01	FAIL ABUN
HO-166M	3.686E-02	5.894E-02	1.278E-01	FAIL ABUN
HF-172	3.668E-02	1.901E-01	3.300E-01	FAIL ABUN
LU-172	-9.245E-03	6.148E-02	1.189E-01	FAIL ABUN
LU-176	1.937E-02	2.584E-02	5.308E-02	FAIL ABUN
HF-181	0.000E+00	1.810E-01	1.128E-01	FAIL ABUN
TA-182	-1.083E-02	2.066E-01	3.968E-01	FAIL ABUN
RE-183	3.282E-02	7.016E-02	1.334E-01	NOT IDENT.
RE-184	5.536E-02	1.620E-01	3.464E-01	NOT IDENT.
W-188	-4.363E+00	9.410E+00	1.581E+01	FAIL ABUN
IR-192	1.032E-02	4.218E-02	8.232E-02	FAIL ABUN
HG-203	-1.468E-02	5.384E-02	1.003E-01	FAIL ABUN
TL-204	6.621E-01	2.567E+00	4.657E+00	FAIL ABUN
BI-207	-2.158E-02	5.460E-02	9.997E-02	FAIL ABUN
PB-211	0.000E+00	2.862E+00	1.621E+00	FAIL ABUN
BI-213	1.240E-02	1.130E-01	1.998E-01	NOT IDENT.
RN-219	9.527E-01	4.804E-01	1.057E+00	FAIL ABUN
AC-225	-4.755E-01	2.058E+00	3.938E+00	NOT IDENT.
PA-233	1.462E-03	6.337E-02	1.215E-01	FAIL ABUN
PA-234	3.403E-02	2.787E-01	5.728E-01	FAIL ABUN
NP-237	1.462E-03	6.337E-02	1.215E-01	FAIL ABUN
NP-238	0.000E+00	7.754E+03	0.000E+00	SHORT HLIF
NP-239	-8.261E-02	2.579E-01	4.269E-01	FAIL ABUN
PU-239	1.930E+02	3.766E+02	6.642E+02	NOT IDENT.
AM-241	-3.272E-03	4.839E-02	8.752E-02	NOT IDENT.
CM-243	4.645E-02	9.445E-02	1.710E-01	FAIL ABUN
BK-247	3.207E-02	8.224E-02	1.632E-01	FAIL ABUN
CF-249	1.986E-02	4.321E-02	8.501E-02	NOT IDENT.
CF-251	-4.364E-02	1.223E-01	2.352E-01	NOT IDENT.

VAX/VMS Nuclide Identification Report Generated 17-AUG-2026 07:06:27.31

Nuclide Line Activity Report

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
K-40	1460.82	231	10.66*	1.088E+00	1.162E+01	1.162E+01	13.65
CO-56	846.77	18	99.94*	1.746E+00	6.185E-02	8.378E-02	83.44
	1037.84	------	14.17	1.457E+00	------ Line Not Found		------
	1238.28	32	66.90	1.250E+00	2.240E-01	3.035E-01	62.25
	1771.35	------	15.47	9.381E-01	------ Line Not Found		------
AS-73	53.44	48	10.30*	7.456E+00	3.666E-01	4.909E-01	99.27
NB-95M	235.69	109	24.80*	4.754E+00	5.383E-01	7.763E-01	43.10
CD-109	88.03	148	3.70*	7.676E+00	3.038E+00	3.196E+00	39.40
SN-126	64.28	84	9.60	7.777E+00	6.559E-01	6.559E-01	91.32
	86.94	148	8.90	7.676E+00	1.263E+00	1.263E+00	39.40
	87.57	148	37.00*	7.676E+00	3.038E-01	3.038E-01	39.40
BA-137M	661.66	11	89.90*	2.160E+00	3.283E-02	3.290E-02	172.04
CS-137	661.66	11	85.10*	2.160E+00	3.468E-02	3.475E-02	172.04
LA-138	788.74	27	34.50	1.855E+00	2.433E-01	2.433E-01	65.40
	1435.80	40	65.50*	1.104E+00	3.229E-01	3.229E-01	30.86
CE-141	145.44	64	48.29*	6.353E+00	1.225E-01	2.520E-01	75.99
TM-171	51.35	30	0.27	7.217E+00	8.859E+00	9.160E+00	137.57
	52.39	48	0.47*	7.456E+00	8.035E+00	8.308E+00	99.27
	66.73	------	0.14	7.827E+00	------ Line Not Found		------
TL-208	277.37	------	6.60	4.262E+00	------ Line Not Found		------
	583.19	167	85.00*	2.403E+00	4.769E-01	4.769E-01	24.68
	860.56	41	12.50	1.718E+00	1.107E+00	1.107E+00	59.22
BI-210	46.54	81	4.25*	6.918E+00	1.614E+00	1.619E+00	55.95
PB-210	46.54	81	4.25*	6.918E+00	1.614E+00	1.619E+00	55.95
BI-211	72.87	31	1.23	7.844E+00	1.904E+00	1.904E+00	109.56
	351.06	574	12.92*	3.588E+00	7.227E+00	7.227E+00	11.11
BI-212	727.33	66	6.67*	1.990E+00	2.888E+00	2.888E+00	50.28
	1620.50	------	1.47	1.003E+00	------ Line Not Found		------
PB-212	74.82	296	10.28	7.834E+00	2.142E+00	2.142E+00	22.84
	77.11	488	17.10	7.817E+00	2.130E+00	2.130E+00	13.69
	238.63	564	43.60*	4.719E+00	1.599E+00	1.599E+00	10.12
	300.09	77	3.30	4.029E+00	3.367E+00	3.367E+00	50.81
BI-214	609.32	368	45.49*	2.317E+00	2.035E+00	2.035E+00	12.11
	1120.29	73	14.92	1.363E+00	2.107E+00	2.107E+00	34.53
	1764.49	59	15.30	9.407E-01	2.388E+00	2.389E+00	30.78
PB-214	74.82	296	5.80	7.834E+00	3.796E+00	3.796E+00	22.84
	77.11	488	9.70	7.817E+00	3.756E+00	3.756E+00	13.69
	87.09	148	3.41	7.676E+00	3.296E+00	3.296E+00	39.40
	242.00	149	7.25	4.685E+00	2.554E+00	2.554E+00	40.45
	295.22	325	18.42	4.076E+00	2.526E+00	2.526E+00	16.11
	351.93	574	35.60*	3.588E+00	2.623E+00	2.623E+00	11.11
RN-222	74.82	296	5.80	7.834E+00	3.796E+00	3.796E+00	22.84
	77.11	488	9.70	7.817E+00	3.756E+00	3.756E+00	13.69
	87.09	148	3.41	7.676E+00	3.296E+00	3.296E+00	39.40
	242.00	149	7.25	4.685E+00	2.554E+00	2.554E+00	40.45
	295.22	325	18.42	4.076E+00	2.526E+00	2.526E+00	16.11
	351.93	574	35.60*	3.588E+00	2.623E+00	2.623E+00	11.11

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
RA-223	81.07	104	15.00	7.775E+00	5.187E-01	5.187E-01	55.16
	83.79	208	24.70	7.731E+00	6.345E-01	6.345E-01	29.59
	94.56	------	8.67	7.533E+00	------ Line Not Found		------
	144.24	64	3.27	6.353E+00	1.809E+00	1.809E+00	75.99
	154.21	51	5.70	6.140E+00	8.466E-01	8.466E-01	104.55
	269.46	86	13.90	4.347E+00	8.300E-01	8.300E-01	34.74
	323.87	------	3.99*	3.816E+00	------ Line Not Found		------
	338.28	125	2.84	3.695E+00	6.954E+00	6.954E+00	28.44
RA-224	240.99	149	4.10*	4.685E+00	4.516E+00	4.516E+00	40.45
RA-226	74.82	296	5.80	7.834E+00	3.796E+00	3.796E+00	22.84
	77.11	488	9.70	7.817E+00	3.756E+00	3.756E+00	13.69
	87.09	148	3.41	7.676E+00	3.296E+00	3.296E+00	39.40
	242.00	149	7.25	4.685E+00	2.554E+00	2.554E+00	40.45
	295.22	325	18.42	4.076E+00	2.526E+00	2.526E+00	16.11
	351.93	574	35.60*	3.588E+00	2.623E+00	2.623E+00	11.11
AC-227	79.69	104	2.64	7.775E+00	2.947E+00	2.947E+00	55.16
	235.96	109	17.50	4.754E+00	7.629E-01	7.629E-01	43.10
	256.23	56	9.50*	4.499E+00	7.577E-01	7.577E-01	94.13
	299.98	77	3.00	4.029E+00	3.704E+00	3.704E+00	50.81
	304.50	------	1.56	3.990E+00	------ Line Not Found		------
	334.37	------	1.54	3.728E+00	------ Line Not Found		------
TH-227	79.69	104	2.64	7.775E+00	2.947E+00	2.947E+00	55.16
	235.96	109	17.50	4.754E+00	7.629E-01	7.629E-01	43.10
	256.23	56	9.50*	4.499E+00	7.577E-01	7.577E-01	94.13
	299.98	77	3.00	4.029E+00	3.704E+00	3.704E+00	50.81
	304.50	------	1.56	3.990E+00	------ Line Not Found		------
	334.37	------	1.54	3.728E+00	------ Line Not Found		------
AC-228	338.32	125	11.27	3.695E+00	1.752E+00	1.752E+00	28.44
	911.20	125	25.80*	1.634E+00	1.723E+00	1.723E+00	22.74
	968.97	60	15.80	1.548E+00	1.432E+00	1.432E+00	30.26
RA-228	338.32	125	11.27	3.695E+00	1.752E+00	1.752E+00	28.44
	911.20	125	25.80*	1.634E+00	1.723E+00	1.723E+00	22.74
	968.97	60	15.80	1.548E+00	1.432E+00	1.432E+00	30.26
TH-228	74.82	296	10.28	7.834E+00	2.142E+00	2.142E+00	22.84
	77.11	488	17.10	7.817E+00	2.130E+00	2.130E+00	13.69
	238.63	564	43.60*	4.719E+00	1.599E+00	1.599E+00	10.12
	300.09	77	3.30	4.029E+00	3.367E+00	3.367E+00	50.81
TH-229	85.43	208	14.70	7.731E+00	1.066E+00	1.066E+00	29.59
	88.47	148	24.00	7.676E+00	4.683E-01	4.683E-01	39.40
	193.51	------	4.41*	5.394E+00	------ Line Not Found		------
	210.85	19	2.80	5.110E+00	7.561E-01	7.562E-01	169.11
TH-230	74.82	296	5.80	7.834E+00	3.796E+00	3.796E+00	22.84
	77.11	488	9.70	7.817E+00	3.756E+00	3.756E+00	13.69
	87.09	148	3.41	7.676E+00	3.296E+00	3.296E+00	39.40
	242.00	149	7.25	4.685E+00	2.554E+00	2.554E+00	40.45
	295.22	325	18.42	4.076E+00	2.526E+00	2.526E+00	16.11
	351.93	574	35.60*	3.588E+00	2.623E+00	2.623E+00	11.11
PA-231	283.69	------	1.70	4.195E+00	------ Line Not Found		------
	301.36	77	5.35*	4.029E+00	2.077E+00	2.077E+00	50.81

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
TH-231	81.07	104	15.00	7.775E+00	5.187E-01	5.187E-01	55.16
	83.79	208	24.70	7.731E+00	6.345E-01	6.345E-01	29.59
	94.87	------	5.69	7.526E+00	------ Line Not Found		------
	144.24	64	3.27	6.353E+00	1.809E+00	1.809E+00	75.99
	154.21	51	5.70	6.140E+00	8.466E-01	8.466E-01	104.55
	269.46	86	13.90	4.347E+00	8.300E-01	8.300E-01	34.74
	323.87	------	3.99*	3.816E+00	------ Line Not Found		------
	338.28	125	2.84	3.695E+00	6.954E+00	6.954E+00	28.44
TH-232	338.32	125	11.27	3.695E+00	1.752E+00	1.752E+00	28.44
	911.20	125	25.80*	1.634E+00	1.723E+00	1.723E+00	22.74
	968.97	60	15.80	1.548E+00	1.432E+00	1.432E+00	30.26
PA-234M	63.29	84	3.70*	7.777E+00	1.702E+00	1.702E+00	91.32
	92.59	45	4.23	7.569E+00	8.142E-01	8.142E-01	135.50
TH-234	63.29	84	3.70*	7.777E+00	1.702E+00	1.702E+00	91.32
	92.59	45	4.23	7.569E+00	8.142E-01	8.142E-01	135.50
U-234	74.82	296	5.80	7.834E+00	3.796E+00	3.796E+00	22.84
	77.11	488	9.70	7.817E+00	3.756E+00	3.756E+00	13.69
	87.09	148	3.41	7.676E+00	3.296E+00	3.296E+00	39.40
	242.00	149	7.25	4.685E+00	2.554E+00	2.554E+00	40.45
	295.22	325	18.42	4.076E+00	2.526E+00	2.526E+00	16.11
	351.93	574	35.60*	3.588E+00	2.623E+00	2.623E+00	11.11
U-235	89.96	70	3.47	7.619E+00	1.540E+00	1.540E+00	76.11
	93.35	45	5.60	7.569E+00	6.150E-01	6.150E-01	135.50
	143.76	64	10.96*	6.353E+00	5.398E-01	5.398E-01	75.99
	163.33	------	5.08	5.954E+00	------ Line Not Found		------
	185.72	186	57.20	5.526E+00	3.432E-01	3.432E-01	40.56
	205.31	------	5.01	5.201E+00	------ Line Not Found		------
U-238	63.29	84	3.70*	7.777E+00	1.702E+00	1.702E+00	91.32
	92.59	45	4.23	7.569E+00	8.142E-01	8.142E-01	135.50
AM-243	43.53	------	5.90	6.583E+00	------ Line Not Found		------
	74.66	296	67.20*	7.834E+00	3.276E-01	3.276E-01	22.84
CM-247	278.00	------	3.40	4.255E+00	------ Line Not Found		------
	287.50	------	2.00	4.156E+00	------ Line Not Found		------
	402.40	117	72.00*	3.233E+00	2.926E-01	2.926E-01	52.40
ANH-511	511.00	45	100.00*	2.681E+00	9.692E-02	9.692E-02	101.70

Flag: "*" = Keyline

Sample ID : G787535005 Acquisition date : 17-AUG-2026 06:04:42

Total number of lines in spectrum 74
Number of unidentified lines 20
Number of lines tentatively identified by NID 54 72.97%

Nuclide Type :

Nuclide	Hlife	Decay	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
K-40	1.25E+09Y	1.00	1.162E+01	1.162E+01	0.159E+01	13.65	
CO-56	77.23D	1.35	6.185E-02	8.378E-02	6.991E-02	83.44	
AS-73	80.30D	1.34	3.666E-01	4.909E-01	4.873E-01	99.27	
NB-95M	64.03D	1.44	5.383E-01	7.763E-01	3.346E-01	43.10	
CD-109	461.40D	1.05	3.038E+00	3.196E+00	1.259E+00	39.40	
SN-126	2.30E+05Y	1.00	3.038E-01	3.038E-01	1.197E-01	39.40	
BA-137M	30.08Y	1.00	3.283E-02	3.290E-02	5.660E-02	172.04	
CS-137	30.08Y	1.00	3.468E-02	3.475E-02	5.979E-02	172.04	
LA-138	1.03E+11Y	1.00	3.229E-01	3.229E-01	0.996E-01	30.86	
CE-141	32.51D	2.06	1.225E-01	2.520E-01	1.915E-01	75.99	
TM-171	1.92Y	1.03	8.035E+00	8.308E+00	8.247E+00	99.27	
TL-208	1.41E+10Y	1.00	4.769E-01	4.769E-01	1.177E-01	24.68	
BI-210	22.20Y	1.00	1.614E+00	1.619E+00	0.906E+00	55.95	
PB-210	22.20Y	1.00	1.614E+00	1.619E+00	0.906E+00	55.95	
BI-211	7.04E+08Y	1.00	7.227E+00	7.227E+00	0.803E+00	11.11	
BI-212	1.41E+10Y	1.00	2.888E+00	2.888E+00	1.452E+00	50.28	
PB-212	1.41E+10Y	1.00	1.599E+00	1.599E+00	0.162E+00	10.12	
BI-214	1600.00Y	1.00	2.035E+00	2.035E+00	0.246E+00	12.11	
PB-214	1600.00Y	1.00	2.623E+00	2.623E+00	0.291E+00	11.11	
RN-222	1600.00Y	1.00	2.623E+00	2.623E+00	0.291E+00	11.11	
RA-223	7.04E+08Y	1.00	6.345E-01	6.345E-01	1.877E-01	29.59	K
RA-224	1.41E+10Y	1.00	4.516E+00	4.516E+00	1.827E+00	40.45	
RA-226	1600.00Y	1.00	2.623E+00	2.623E+00	0.291E+00	11.11	
AC-227	7.04E+08Y	1.00	7.577E-01	7.577E-01	7.132E-01	94.13	
TH-227	7.04E+08Y	1.00	7.577E-01	7.577E-01	7.132E-01	94.13	
AC-228	1.41E+10Y	1.00	1.723E+00	1.723E+00	0.392E+00	22.74	
RA-228	1.41E+10Y	1.00	1.723E+00	1.723E+00	0.392E+00	22.74	
TH-228	1.41E+10Y	1.00	1.599E+00	1.599E+00	0.162E+00	10.12	
TH-229	7340.00Y	1.00	4.683E-01	4.683E-01	1.845E-01	39.40	K
TH-230	7.54E+04Y	1.00	2.623E+00	2.623E+00	0.291E+00	11.11	
PA-231	7.04E+08Y	1.00	2.077E+00	2.077E+00	1.055E+00	50.81	
TH-231	7.04E+08Y	1.00	6.345E-01	6.345E-01	1.877E-01	29.59	K
TH-232	1.41E+10Y	1.00	1.723E+00	1.723E+00	0.392E+00	22.74	
PA-234M	4.47E+09Y	1.00	1.702E+00	1.702E+00	1.554E+00	91.32	
TH-234	4.47E+09Y	1.00	1.702E+00	1.702E+00	1.554E+00	91.32	
U-234	2.45E+05Y	1.00	2.623E+00	2.623E+00	0.291E+00	11.11	
U-235	7.04E+08Y	1.00	5.398E-01	5.398E-01	4.102E-01	75.99	
U-238	4.47E+09Y	1.00	1.702E+00	1.702E+00	1.554E+00	91.32	
AM-243	7370.00Y	1.00	3.276E-01	3.276E-01	0.748E-01	22.84	
CM-247	1.56E+07Y	1.00	2.926E-01	2.926E-01	1.533E-01	52.40	
ANH-511	1.00E+09Y	1.00	9.692E-02	9.692E-02	9.857E-02	101.70	
	Total Activity :		7.802E+01	7.897E+01			

Grand Total Activity : 7.802E+01 7.897E+01

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
0	98.22	94	224	2.65	197.66	194	9	2.31E-02	65.4	7.45E+00	T
0	112.70	30	129	0.75	226.61	225	6	7.44E-03	****	7.11E+00	T
0	141.29	40	119	1.53	283.75	282	6	1.01E-02	96.6	6.43E+00	T
2	209.44	66	141	1.34	419.98	415	11	1.70E-02	70.9	5.14E+00	
4	233.50	29	35	1.67	468.06	466	25	7.50E-03	70.3	4.79E+00	
3	271.12	78	116	1.60	543.27	537	11	2.03E-02	63.0	4.33E+00	T
0	327.56	16	94	0.60	656.08	654	7	4.23E-03	****	3.78E+00	T
0	369.83	83	99	7.26	740.58	730	21	2.20E-02	65.4	3.46E+00	
0	437.50	29	75	1.27	875.84	870	14	7.76E-03	****	3.04E+00	
3	460.16	35	30	1.92	921.15	917	15	9.36E-03	65.3	2.92E+00	
3	463.29	47	39	1.66	927.40	917	15	1.26E-02	60.7	2.90E+00	T
0	481.08	26	77	3.10	962.98	955	16	7.08E-03	****	2.82E+00	T
6	750.59	18	15	3.07	1501.79	1498	25	4.95E-03	79.3	1.94E+00	
6	756.32	20	24	3.08	1513.24	1498	25	5.45E-03	****	1.92E+00	T
0	762.94	15	19	0.87	1526.47	1523	10	4.28E-03	****	1.91E+00	T
0	768.68	34	46	1.34	1537.95	1533	12	9.51E-03	85.8	1.90E+00	
2	786.34	19	11	1.94	1573.27	1569	14	5.41E-03	78.9	1.86E+00	
0	794.95	37	11	2.57	1590.47	1584	11	1.02E-02	48.1	1.84E+00	T
0	807.13	24	33	0.94	1614.84	1606	15	6.67E-03	****	1.82E+00	
0	818.61	9	13	0.97	1637.79	1633	9	2.64E-03	****	1.80E+00	T
1	842.32	10	3	1.68	1685.19	1683	18	2.94E-03	68.0	1.75E+00	
0	935.21	17	19	3.34	1870.92	1863	13	4.95E-03	****	1.60E+00	T
2	964.96	27	1	2.31	1930.42	1921	23	7.63E-03	57.4	1.55E+00	T
0	1001.06	11	24	1.73	2002.60	1993	14	3.16E-03	****	1.50E+00	
0	1125.32	10	7	1.12	2251.08	2247	8	2.98E-03	****	1.36E+00	
0	1337.51	9	5	1.42	2675.43	2671	8	2.75E-03	****	1.17E+00	
0	1370.98	7	6	1.42	2742.37	2736	9	2.01E-03	****	1.15E+00	
0	1377.28	41	0	2.42	2754.98	2745	19	1.19E-02	30.5	1.14E+00	
1	1464.79	16	4	2.26	2930.00	2911	23	4.65E-03	57.3	1.09E+00	
0	1587.43	19	3	0.77	3175.29	3168	13	5.47E-03	58.8	1.02E+00	
0	1592.06	9	0	1.65	3184.56	3180	8	2.50E-03	66.7	1.02E+00	
0	1729.72	25	0	1.71	3459.93	3453	13	7.50E-03	38.5	9.55E-01	
0	1846.85	13	0	2.75	3694.22	3688	12	3.83E-03	63.3	9.11E-01	

Flags: "T" = Tentatively associated

VAX/VMS Nuclide Identification Report Generated 17-AUG-2026 07:06:38.62

GEL Laboratories LLC
2040 Savage Road
Charleston, SC 29407

DETECTOR AND SAMPLE DATA

Configuration	: DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G787535005.CNF;1		
Acquisition date	: 17-AUG-2026 06:04:42	Sensitivity	: 3.000
Detector ID	: GAM64	Energy tolerance	: 1.500
Elapsed live time	: 0 01:00:00.00	Abundance limit	: 75.000
Elapsed real time	: 0 01:00:00.89	Half life ratio	: *****
Sample date	: 14-JUL-2026 11:00:00	Nuclide Library	: SOLID
Sample ID	: G787535005	Analyst initials	: GG
Batch Number	: 3033734	Sample Quantity	: 1.2870E+02 GRAM
Wet wt corr	: 1.00000	Wet Weight	: 0.00000
		Dry Weight	: 0.00000

CALIBRATION INFORMATION

Eff. Cal. date	: 15-AUG-2025 04:21:48	Eff. Geometry	: CAN
Eff. File	: DKA100:[CANBERRA.GAMMA]EFF_GAM64_CAN.CNF;1		

Combined Critical Level Report

NOTE: Not all "Identified Nuclides" are valid.
Please refer to Certificate of Analysis.

---- Identified Nuclides ----

Nuclide	Lc (pCi/GRAM)
K-40	2.779E-01
CO-56	3.926E-02
AS-73	1.616E-01
NB-95M	1.151E-01
CD-109	4.379E-01
SN-126	4.155E-02
BA-137M	3.253E-02
CS-137	3.437E-02
LA-138	3.443E-02
CE-141	7.364E-02
TM-171	2.519E+00
TL-208	3.511E-02
BI-210	3.195E-01
PB-210	3.195E-01
BI-211	1.850E-01
BI-212	3.941E-01
PB-212	4.588E-02
BI-214	6.396E-02
PB-214	6.729E-02
RN-222	6.729E-02
RA-223	5.936E-01
RA-224	4.918E-01
RA-226	6.729E-02
AC-227	2.433E-01
TH-227	2.433E-01
AC-228	1.172E-01
RA-228	1.172E-01
TH-228	4.588E-02
TH-229	4.353E-01
TH-230	6.728E-02
PA-231	3.460E-01
TH-231	5.936E-01
TH-232	1.172E-01
PA-234M	4.431E-01
TH-234	4.431E-01
U-234	6.728E-02
U-235	1.835E-01

U-238	4.431E-01	
AM-243	2.822E-02	
CM-247	2.826E-02	
ANH-511	2.835E-02	

---- Non-Identified Nuclides ----

Nuclide	Lc (pCi/GRAM)	
BE-7	3.426E-01	NOT IDENT.
NA-22	4.342E-02	NOT IDENT.
NA-24	0.000E+00	SHORT HLIF
AL-26	2.850E-02	NOT IDENT.
SC-46	3.536E-02	FAIL ABUN
V-48	1.428E-01	NOT IDENT.
CR-51	4.639E-01	NOT IDENT.
MN-52	3.417E+00	FAIL ABUN
MN-54	3.265E-02	NOT IDENT.
MN-56	0.000E+00	SHORT HLIF
CO-57	2.130E-02	NOT IDENT.
CO-58	3.343E-02	NOT IDENT.
FE-59	8.783E-02	NOT IDENT.
CO-60	4.147E-02	NOT IDENT.
ZN-65	8.226E-02	NOT IDENT.
GE-68	1.049E+00	NOT IDENT.
AS-74	1.784E-01	NOT IDENT.
SE-75	4.419E-02	NOT IDENT.
BR-77	0.000E+00	SHORT HLIF
SR-82	4.686E-01	NOT IDENT.
RB-83	7.329E-02	NOT IDENT.
RB-84	7.462E-02	NOT IDENT.
KR-85	7.078E+00	NOT IDENT.
SR-85	4.563E-02	NOT IDENT.
RB-86	1.186E+00	NOT IDENT.
Y-88	3.588E-02	NOT IDENT.
Y-91	2.273E+01	NOT IDENT.
NB-94	3.175E-02	NOT IDENT.
NB-95	4.349E-02	NOT IDENT.
ZR-95	8.485E-02	FAIL ABUN
NB-97	0.000E+00	SHORT HLIF
ZR-97	0.000E+00	SHORT HLIF
MO-99	0.000E+00	SHORT HLIF
TC-99M	0.000E+00	SHORT HLIF
RH-101	2.375E-02	NOT IDENT.
RH-102	5.273E-02	NOT IDENT.
RU-103	4.828E-02	FAIL ABUN
RH-106	2.498E-01	NOT IDENT.
RU-106	2.498E-01	NOT IDENT.
AG-108M	2.483E-02	NOT IDENT.
AG-110	6.341E-01	NOT IDENT.
AG-110M	4.785E-02	FAIL ABUN
SN-113	4.443E-02	NOT IDENT.
CD-115	0.000E+00	SHORT HLIF
SN-117M	1.350E-01	NOT IDENT.
SB-122	0.000E+00	SHORT HLIF
TE-123M	3.015E-02	NOT IDENT.
SB-124	1.120E-01	NOT IDENT.
SB-125	8.714E-02	FAIL ABUN
TE-125M	8.769E+00	NOT IDENT.
I-126	6.807E-01	NOT IDENT.
SB-126	4.110E-01	NOT IDENT.
SB-127	2.220E+01	NOT IDENT.
I-131	3.638E-01	FAIL ABUN
I-132	0.000E+00	SHORT HLIF
TE-132	0.000E+00	SHORT HLIF
BA-133	4.102E-02	FAIL ABUN
I-133	0.000E+00	SHORT HLIF
CS-134	4.636E-02	FAIL ABUN
I-135	0.000E+00	SHORT HLIF
CS-136	2.223E-01	FAIL ABUN
CE-139	2.853E-02	NOT IDENT.
BA-140	6.565E-01	NOT IDENT.
LA-140	2.271E-01	FAIL ABUN
CE-143	0.000E+00	SHORT HLIF
CE-144	1.667E-01	FAIL ABUN
PM-144	2.785E-02	NOT IDENT.
PR-144	2.104E+00	NOT IDENT.

PM-146	3.273E-02	NOT IDENT.
ND-147	1.753E+00	FAIL ABUN
PM-147	5.280E+02	NOT IDENT.
PM-149	0.000E+00	SHORT HLIF
EU-150	2.303E-02	FAIL ABUN
EU-152	8.981E-02	FAIL ABUN
GD-153	7.178E-02	FAIL ABUN
EU-154	1.218E-01	FAIL ABUN
EU-155	7.598E-02	FAIL ABUN
TB-160	1.117E-01	FAIL ABUN
HO-166M	5.665E-02	FAIL ABUN
HF-172	1.540E-01	FAIL ABUN
LU-172	5.011E-02	FAIL ABUN
LU-176	2.437E-02	FAIL ABUN
HF-181	5.023E-02	FAIL ABUN
TA-182	1.700E-01	FAIL ABUN
RE-183	6.232E-02	NOT IDENT.
RE-184	1.487E-01	NOT IDENT.
W-188	7.224E+00	FAIL ABUN
IR-192	3.772E-02	FAIL ABUN
HG-203	4.630E-02	FAIL ABUN
TL-204	2.194E+00	FAIL ABUN
BI-207	4.252E-02	FAIL ABUN
PB-211	7.449E-01	FAIL ABUN
BI-213	8.966E-02	NOT IDENT.
RN-219	4.911E-01	FAIL ABUN
AC-225	1.821E+00	NOT IDENT.
PA-233	5.544E-02	FAIL ABUN
PA-234	2.446E-01	FAIL ABUN
NP-237	5.544E-02	FAIL ABUN
NP-238	0.000E+00	SHORT HLIF
NP-239	1.988E-01	FAIL ABUN
PU-239	3.129E+02	NOT IDENT.
AM-241	4.077E-02	NOT IDENT.
CM-243	8.018E-02	FAIL ABUN
BK-247	7.547E-02	FAIL ABUN
CF-249	3.886E-02	NOT IDENT.
CF-251	1.093E-01	NOT IDENT.

VAX/VMS Nuclide Identification Report Generated 17-AUG-2026 07:06:43.24

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**************************************************************************
*                          GEL Laboratories LLC                          *
*                            2040 Savage Road                            *
*                          Charleston, SC 29407                          *
**************************************************************************
*                                                                        *
*                        DETECTOR AND SAMPLE DATA                        *
*                                                                        *
* Configuration    : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G787535005.CNF;1    *
* Acquisition date : 17-AUG-2026 06:04:42 Sensitivity     : 3.000        *
* Detector ID      : GAM64                Energy tolerance: 1.500        *
* Elapsed live time:    0 01:00:00.00     Abundance limit : 75.000       *
* Elapsed real time:    0 01:00:00.89     Half life ratio : *****        *
* Sample date      : 14-JUL-2026 11:00:00 Nuclide Library : SOLID        *
* Sample ID        : G787535005           Analyst initials: GG           *
* Batch Number     : 3033734              Sample Quantity : 1.2870E+02 GRAM   *
*                                         Quantity Err(%) : 1.5540E-03 %      *
* Wet wt corr      :    1.00000           Wet Weight      :    0.00000        *
*                                         Dry Weight      :    0.00000        *
**************************************************************************
*                                                                        *
*                        CALIBRATION INFORMATION                         *
*                                                                        *
* Eff. Cal. date   : 15-AUG-2025 04:21:48 Eff. Geometry   : CAN          *
* Eff. File        : DKA100:[CANBERRA.GAMMA]EFF_GAM64_CAN.CNF;1          *
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Combined Activity-MDA Report

NOTE: Not all "Identified Nuclides" are valid.
Please refer to Certificate of Analysis.

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act Error (1.96-sigma)	TPU (1.96-sigma)
K-40	1.162E+01	1.922E+00	1.922E+00
CO-56	8.378E-02	6.922E-02	6.922E-02
AS-73	4.909E-01	4.886E-01	4.886E-01
NB-95M	7.763E-01	3.431E-01	3.431E-01
CD-109	3.196E+00	1.285E+00	1.285E+00
SN-126	3.038E-01	1.211E-01	1.211E-01
BA-137M	3.290E-02	5.557E-02	5.557E-02
CS-137	3.475E-02	5.870E-02	5.870E-02
LA-138	3.229E-01	1.021E-01	1.021E-01
CE-141	8.323E-02	2.005E-01	2.005E-01
TM-171	8.308E+00	8.124E+00	8.124E+00
TL-208	4.769E-01	1.245E-01	1.245E-01
BI-210	1.619E+00	9.012E-01	9.012E-01
PB-210	1.619E+00	9.012E-01	9.012E-01
BI-211	7.227E+00	1.001E+00	1.001E+00
BI-212	2.888E+00	1.459E+00	1.459E+00
PB-212	1.599E+00	2.422E-01	2.422E-01
BI-214	2.035E+00	3.157E-01	3.157E-01
PB-214	2.623E+00	3.607E-01	3.607E-01
RN-222	2.623E+00	3.607E-01	3.607E-01
RA-223	9.108E-03	6.818E-01	6.818E-01
RA-224	4.516E+00	1.862E+00	1.862E+00
RA-226	2.623E+00	3.607E-01	3.607E-01
AC-227	7.577E-01	7.094E-01	7.094E-01
TH-227	7.577E-01	7.094E-01	7.094E-01
AC-228	1.723E+00	4.400E-01	4.400E-01
RA-228	1.723E+00	4.400E-01	4.400E-01
TH-228	1.599E+00	2.422E-01	2.422E-01
TH-229	-1.638E-01	4.908E-01	4.908E-01
TH-230	2.623E+00	3.607E-01	3.607E-01
PA-231	2.077E+00	1.135E+00	1.135E+00
TH-231	9.108E-03	6.818E-01	6.818E-01
TH-232	1.723E+00	4.400E-01	4.400E-01
PA-234M	1.702E+00	1.573E+00	1.573E+00
TH-234	1.702E+00	1.573E+00	1.573E+00
U-234	2.623E+00	3.607E-01	3.607E-01
U-235	5.398E-01	4.074E-01	4.074E-01

U-238	1.702E+00	1.573E+00	1.573E+00	
AM-243	3.276E-01	7.938E-02	7.938E-02	
CM-247	2.926E-01	1.595E-01	1.595E-01	
ANH-511	9.692E-02	9.701E-02	9.701E-02	

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L Act error (1.96-sigma)	TPU (1.96-sigma)	
BE-7	5.574E-02	4.339E-01	4.346E-01	NOT IDENT.
NA-22	3.925E-02	4.445E-02	4.784E-02	NOT IDENT.
NA-24	4.707E+14	9.110E+14	9.354E+14	SHORT HLIF
AL-26	1.218E-02	2.905E-02	2.957E-02	NOT IDENT.
SC-46	2.170E-03	4.055E-02	4.056E-02	FAIL ABUN
V-48	1.288E-01	1.426E-01	1.540E-01	NOT IDENT.
CR-51	-2.259E-01	5.603E-01	5.695E-01	NOT IDENT.
MN-52	4.987E+00	3.203E+00	3.913E+00	FAIL ABUN
MN-54	1.250E-02	3.551E-02	3.595E-02	NOT IDENT.
MN-56	1.000E+41	8.262E+40	0.000E+00	SHORT HLIF
CO-57	1.270E-02	2.538E-02	2.601E-02	NOT IDENT.
CO-58	-2.744E-02	4.964E-02	5.116E-02	NOT IDENT.
FE-59	3.573E-02	9.565E-02	9.700E-02	NOT IDENT.
CO-60	3.004E-02	4.700E-02	4.891E-02	NOT IDENT.
ZN-65	4.912E-02	9.666E-02	9.917E-02	NOT IDENT.
GE-68	-1.007E-01	1.264E+00	1.265E+00	NOT IDENT.
AS-74	1.100E-02	2.174E-01	2.175E-01	NOT IDENT.
SE-75	3.811E-04	4.981E-02	4.981E-02	NOT IDENT.
BR-77	5.791E+04	5.718E+04	6.286E+04	SHORT HLIF
SR-82	-2.337E-01	5.728E-01	5.824E-01	NOT IDENT.
RB-83	1.742E-02	8.651E-02	8.687E-02	NOT IDENT.
RB-84	-2.463E-02	9.150E-02	9.217E-02	NOT IDENT.
KR-85	-5.931E-01	9.366E+00	9.370E+00	NOT IDENT.
SR-85	-3.962E-03	6.040E-02	6.043E-02	NOT IDENT.
RB-86	-3.185E-01	1.476E+00	1.483E+00	NOT IDENT.
Y-88	-2.228E-02	4.916E-02	5.018E-02	NOT IDENT.
Y-91	-6.571E+00	2.853E+01	2.868E+01	NOT IDENT.
NB-94	1.341E-03	3.572E-02	3.573E-02	NOT IDENT.
NB-95	1.937E-02	6.242E-02	6.303E-02	NOT IDENT.
ZR-95	1.571E-01	2.161E-01	2.274E-01	FAIL ABUN
NB-97	-1.000E+41	2.699E+41	0.000E+00	SHORT HLIF
ZR-97	-1.501E+14	2.102E+14	2.208E+14	SHORT HLIF
MO-99	-1.469E+03	1.190E+03	1.362E+03	SHORT HLIF
TC-99M	1.570E+39	1.503E+39	0.000E+00	SHORT HLIF
RH-101	-4.320E-02	3.576E-02	4.072E-02	NOT IDENT.
RH-102	2.014E-02	6.178E-02	6.245E-02	NOT IDENT.
RU-103	-1.539E-02	6.047E-02	6.087E-02	FAIL ABUN
RH-106	1.092E-01	2.852E-01	2.894E-01	NOT IDENT.
RU-106	1.092E-01	2.852E-01	2.894E-01	NOT IDENT.
AG-108M	1.325E-02	2.941E-02	3.001E-02	NOT IDENT.
AG-110	-6.219E-01	9.987E-01	1.037E+00	NOT IDENT.
AG-110M	1.133E-02	5.351E-02	5.376E-02	FAIL ABUN
SN-113	2.022E-02	4.954E-02	5.037E-02	NOT IDENT.
CD-115	-2.664E+03	3.962E+03	4.140E+03	SHORT HLIF
SN-117M	1.184E-01	1.390E-01	1.489E-01	NOT IDENT.
SB-122	6.593E+00	2.515E+02	2.515E+02	SHORT HLIF
TE-123M	2.169E-02	3.128E-02	3.277E-02	NOT IDENT.
SB-124	9.123E-02	1.056E-01	1.133E-01	NOT IDENT.
SB-125	1.689E-02	1.010E-01	1.013E-01	FAIL ABUN
TE-125M	-2.375E+00	1.116E+01	1.121E+01	NOT IDENT.
I-126	3.941E-01	7.907E-01	8.104E-01	NOT IDENT.
SB-126	2.931E-01	4.655E-01	4.839E-01	NOT IDENT.
SB-127	-3.188E+01	3.168E+01	3.479E+01	NOT IDENT.
I-131	-4.400E-01	5.437E-01	5.788E-01	FAIL ABUN
I-132	-1.000E+41	2.320E+41	0.000E+00	SHORT HLIF
TE-132	-3.617E+01	3.803E+01	4.138E+01	SHORT HLIF
BA-133	1.734E-02	4.913E-02	4.975E-02	FAIL ABUN
I-133	8.967E+09	1.797E+10	1.842E+10	SHORT HLIF
CS-134	1.396E-01	6.765E-02	9.239E-02	FAIL ABUN
I-135	1.080E+36	1.922E+36	0.000E+00	SHORT HLIF
CS-136	-1.123E-01	2.861E-01	2.906E-01	FAIL ABUN
CE-139	6.954E-03	3.045E-02	3.061E-02	NOT IDENT.
BA-140	1.831E-01	7.671E-01	7.715E-01	NOT IDENT.
LA-140	-1.205E-01	3.361E-01	3.405E-01	FAIL ABUN
CE-143	1.923E+05	1.357E+06	1.360E+06	SHORT HLIF
CE-144	-8.407E-02	2.210E-01	2.242E-01	FAIL ABUN
PM-144	-2.503E-02	3.523E-02	3.699E-02	NOT IDENT.

PR-144	-1.892E+00	2.662E+00	2.795E+00	NOT IDENT.
PM-146	-3.740E-02	4.486E-02	4.792E-02	NOT IDENT.
ND-147	1.151E+00	1.949E+00	2.017E+00	FAIL ABUN
PM-147	-9.882E+02	7.816E+02	8.996E+02	NOT IDENT.
PM-149	-1.326E+04	3.216E+04	3.271E+04	SHORT HLIF
EU-150	2.673E-03	2.828E-02	2.831E-02	FAIL ABUN
EU-152	2.346E-02	1.014E-01	1.019E-01	FAIL ABUN
GD-153	2.795E-01	1.813E-01	2.208E-01	FAIL ABUN
EU-154	1.101E-01	1.247E-01	1.342E-01	FAIL ABUN
EU-155	6.933E-03	9.341E-02	9.346E-02	FAIL ABUN
TB-160	-3.295E-02	1.363E-01	1.371E-01	FAIL ABUN
HO-166M	3.686E-02	5.908E-02	6.137E-02	FAIL ABUN
HF-172	3.668E-02	1.902E-01	1.909E-01	FAIL ABUN
LU-172	-9.245E-03	6.150E-02	6.164E-02	FAIL ABUN
LU-176	1.937E-02	2.590E-02	2.733E-02	FAIL ABUN
HF-181	1.169E-01	1.813E-01	1.888E-01	FAIL ABUN
TA-182	-1.083E-02	2.066E-01	2.066E-01	FAIL ABUN
RE-183	3.282E-02	7.027E-02	7.181E-02	NOT IDENT.
RE-184	5.536E-02	1.622E-01	1.641E-01	NOT IDENT.
W-188	-4.363E+00	9.428E+00	9.631E+00	FAIL ABUN
IR-192	1.032E-02	4.219E-02	4.245E-02	FAIL ABUN
HG-203	-1.468E-02	5.385E-02	5.426E-02	FAIL ABUN
TL-204	6.621E-01	2.568E+00	2.585E+00	FAIL ABUN
BI-207	-2.158E-02	5.465E-02	5.551E-02	FAIL ABUN
PB-211	5.574E+00	2.904E+00	3.841E+00	FAIL ABUN
BI-213	1.240E-02	1.131E-01	1.132E-01	NOT IDENT.
RN-219	9.527E-01	4.997E-01	6.589E-01	FAIL ABUN
AC-225	-4.755E-01	2.060E+00	2.071E+00	NOT IDENT.
PA-233	1.462E-03	6.337E-02	6.338E-02	FAIL ABUN
PA-234	3.403E-02	2.814E-01	2.818E-01	FAIL ABUN
NP-237	1.462E-03	6.337E-02	6.338E-02	FAIL ABUN
NP-238	1.778E+03	7.756E+03	7.798E+03	SHORT HLIF
NP-239	-8.261E-02	2.581E-01	2.607E-01	FAIL ABUN
PU-239	1.930E+02	3.771E+02	3.870E+02	NOT IDENT.
AM-241	-3.272E-03	4.840E-02	4.842E-02	NOT IDENT.
CM-243	4.645E-02	9.463E-02	9.692E-02	FAIL ABUN
BK-247	3.207E-02	8.253E-02	8.379E-02	FAIL ABUN
CF-249	1.986E-02	4.326E-02	4.418E-02	NOT IDENT.
CF-251	-4.364E-02	1.225E-01	1.241E-01	NOT IDENT.

GEL Laboratories LLC
2040 Savage Road
Charleston, SC 29407

GAMMA SPECTROSCOPY BACKGROUND REPORT

ENERGY	MDA COUNTS	ENERGY	MDA COUNTS	ENERGY	MDA COUNTS
43.53	46.4509	85.43	68.7426	133.02	67.6772
45.60	42.5706	86.55	68.9799	133.52	73.5164
46.54	42.7672	86.79	69.0301	136.00	68.1176
49.72	0.0000	86.94	69.0623	136.47	75.4403
51.35	40.3797	87.09	69.0944	140.51	0.0000
51.87	40.4745	87.57	69.1949	143.76	61.8746
52.39	34.9344	88.03	69.2921	144.24	60.4615
52.97	41.8037	88.34	69.3568	145.44	60.6104
53.44	41.8906	88.47	69.3844	152.43	71.9604
54.07	42.0064	89.96	95.5069	153.25	70.5746
57.36	0.0000	1093.63	95.7000	323.87	70.7065
57.53	51.8489	91.11	75.1125	156.02	70.4529
57.98	56.5628	92.59	98.8513	158.56	61.4421
59.27	78.9129	93.35	99.0693	159.00	64.5295
59.32	78.9290	94.56	99.4149	162.33	67.2286
59.54	63.8967	94.65	99.4404	162.66	56.5682
60.96	66.6003	94.67	99.4462	163.33	55.1085
61.17	66.6560	94.87	99.5030	165.86	60.7496
62.93	80.0732	97.43	60.6628	176.31	53.2806
63.29	80.1855	98.43	60.8326	176.60	55.6594
63.58	80.2758	98.44	60.8340	177.52	65.9570
64.28	80.4927	99.53	61.0179	181.07	0.0000
66.73	90.8008	100.11	65.1006	181.52	64.3049
67.24	74.2153	102.03	60.0993	184.41	57.2058
125.81	76.7334	103.18	54.9267	143.76	57.3322
67.75	75.5541	103.37	62.9970	193.51	61.3012
68.89	85.5053	105.31	64.6699	197.03	64.8938
69.67	77.2949	106.12	43.2051	198.01	53.6220
70.82	81.2514	106.47	68.9211	201.83	57.2157
70.83	81.2545	109.28	69.4238	203.43	63.9153
72.81	108.6928	111.00	68.3609	205.31	67.9374
72.87	108.7159	111.76	0.0000	210.85	67.1337
74.66	109.3922	114.06	66.1311	215.65	60.1062
74.82	109.4520	116.30	0.0000	218.12	55.2988
74.97	109.5076	116.74	69.3413	222.11	37.9241
77.11	110.3035	119.76	62.8624	227.09	40.7432
78.74	94.7031	121.12	84.0875	227.38	42.4583
79.69	94.9988	121.22	84.1077	228.16	0.0000
80.03	67.5733	121.78	61.7602	228.18	56.1085
80.12	67.5939	122.06	54.7783	116.74	56.1085
80.19	67.6096	122.92	57.7032	235.69	45.5331
80.57	67.6928	123.07	60.5390	235.96	45.5501
81.00	67.7867	265.00	80.3641	238.63	45.7175
81.07	67.8024	125.81	60.9241	238.98	0.0000
81.75	67.9507	127.23	90.9712	240.99	45.8647
82.47	68.1073	127.91	68.3346	242.00	45.9270
83.79	68.3915	129.30	74.2612	244.70	41.7458
84.00	68.4369	131.20	73.1429	252.40	42.1729

ENERGY	MDA COUNTS	ENERGY	MDA COUNTS	ENERGY	MDA COUNTS
252.80	45.7111	345.93	31.2773	564.24	0.0000
254.15	0.0000	351.06	38.3145	569.33	24.5517
256.23	55.6273	351.93	38.3478	946.00	24.5543
260.90	0.0000	355.39	0.0000	569.70	23.3887
264.66	45.5168	356.01	35.5397	583.19	27.1314
264.80	45.5246	364.49	27.8701	584.27	27.1511
265.00	43.7513	366.42	0.0000	595.83	22.5938
269.46	48.4843	372.51	21.0625	427.87	28.6245
270.03	48.5173	375.05	30.8314	602.52	0.0000
271.23	48.5898	377.52	25.1923	604.72	25.5091
273.65	45.7249	356.01	28.3811	607.14	23.9502
276.40	47.0853	388.16	30.5283	609.32	23.9832
277.37	46.2343	388.63	26.4689	610.33	14.3987
277.60	46.2468	391.69	25.5211	614.28	26.4620
278.00	58.9717	264.66	22.6392	618.01	24.1113
279.20	53.6056	401.81	22.6627	620.36	21.7310
279.54	59.0808	402.40	22.6741	621.93	10.8759
279.70	53.6380	404.85	22.7231	630.19	0.0000
280.46	37.3076	410.95	26.3051	631.29	18.2281
283.69	32.8832	413.71	35.3893	633.25	18.2492
284.31	38.3919	414.70	25.0012	634.78	24.3555
285.41	41.1877	423.72	26.2436	635.95	10.9671
285.90	0.0000	427.09	34.7402	636.99	10.9742
287.50	46.7946	427.87	29.4962	657.50	26.3255
290.67	46.6604	433.94	18.3516	657.76	19.7471
293.27	0.0000	439.40	23.3972	657.90	0.0000
351.93	28.3906	440.45	24.1269	661.66	21.0290
295.96	28.4150	453.88	32.2797	664.57	0.0000
879.38	16.7278	463.37	16.2611	666.33	24.8059
299.98	28.5450	468.07	17.4087	666.50	24.8083
300.09	28.5488	473.00	20.7511	667.71	0.0000
300.13	28.5497	475.06	35.0049	677.62	21.2199
301.36	28.5890	476.78	27.7485	685.70	17.5538
302.85	44.8228	477.60	20.4588	692.65	0.0000
256.23	44.9063	482.18	21.9965	695.00	19.3248
304.85	43.0520	487.02	24.2841	696.49	23.5452
306.78	30.0137	492.35	0.0000	696.51	23.5452
308.46	43.2247	497.08	26.6902	697.00	25.2332
311.90	35.8430	505.52	26.8550	697.30	19.3492
316.51	36.0228	507.63	0.0000	697.49	19.3510
319.41	28.5278	511.00	30.3317	702.65	21.9364
320.08	36.1608	514.00	36.0254	706.68	17.7572
321.04	30.4824	514.00	36.0254	711.68	13.5658
323.87	42.0396	520.40	18.0947	720.70	15.3347
325.23	52.3060	520.69	0.0000	721.93	0.0000
328.76	47.0590	522.65	0.0000	722.78	23.0273
333.37	48.2498	527.90	0.0000	722.91	23.0295
333.97	33.4744	528.26	29.5674	723.31	16.6356
334.37	32.2001	529.59	22.7649	724.19	14.0830
338.28	32.9759	529.87	0.0000	727.33	14.5340
338.32	32.9780	531.02	18.2295	733.00	18.0067
311.90	36.2909	537.26	19.4529	735.93	15.4585
340.48	36.2909	546.56	0.0000	333.97	12.0324
340.55	36.2931	552.55	19.6563	739.50	0.0000
344.28	35.1288	563.25	19.7963	744.23	18.1127

ENERGY	MDA COUNTS	ENERGY	MDA COUNTS	ENERGY	MDA COUNTS
747.24	12.9578	964.08	6.6784	1457.56	0.0000
748.06	14.2596	966.17	6.6841	1460.82	5.6413
752.31	9.0939	968.97	6.6918	1489.16	3.4116
753.82	9.1008	983.53	5.7698	1505.03	6.8530
756.73	9.1144	984.45	0.0000	1584.12	4.2000
756.80	9.1149	1274.44	5.7993	1596.21	9.8308
884.68	2.6136	1002.74	17.4426	1620.50	7.0659
765.81	13.0804	1004.73	4.3641	1621.92	5.3013
766.84	13.0872	507.63	0.0000	1678.03	0.0000
772.60	0.0000	1025.87	0.0000	1690.97	1.7981
776.52	19.2876	1028.54	0.0000	1750.46	0.0000
739.50	0.0000	1037.84	6.8764	1764.49	4.5758
778.90	16.6776	1038.76	0.0000	1063.66	2.9324
783.70	14.5174	631.29	8.8711	1771.35	5.2379
788.74	11.9075	1048.07	13.8075	1791.20	0.0000
792.07	5.3008	1049.04	17.7583	1808.65	1.8494
795.86	9.2935	1050.41	16.7800	1810.72	0.0000
810.06	13.3679	1063.66	14.8804	1836.06	6.5134
810.29	16.0430	1077.00	10.9669		
344.28	16.0444	1077.34	10.9687		
810.76	16.0466	1085.87	9.0022		
815.77	14.7447	1093.63	11.0340		
1048.07	16.1060	1099.45	6.0317		
832.01	14.4076	1112.07	13.1280		
834.85	11.7220	1112.84	13.1322		
836.80	0.0000	1115.54	9.1003		
846.75	0.0000	1120.29	19.7507		
846.77	13.5999	1120.55	19.7523		
856.80	13.6627	1221.41	19.7587		
860.56	8.2115	1129.67	9.7563		
871.09	16.5015	1131.51	0.0000		
873.19	11.9288	1147.95	0.0000		
875.33	0.0000	1173.23	13.4137		
879.38	11.0420	1177.95	14.4694		
880.51	10.1267	1189.05	14.5241		
881.60	11.9738	1204.77	13.5586		
883.24	11.0610	1221.41	12.5850		
884.68	12.9125	1231.02	17.8854		
889.28	10.1661	1235.36	12.6436		
894.76	15.7493	1238.28	14.7645		
898.04	12.0611	1260.41	0.0000		
900.72	15.7902	1271.87	13.8601		
903.28	9.2989	1274.44	6.4019		
911.20	13.0629	1274.54	6.4023		
912.08	13.0680	1291.59	8.5827		
923.98	0.0000	1298.22	0.0000		
926.50	9.3921	1312.11	2.1595		
929.11	15.5137	1332.49	4.8893		
935.54	12.2563	1362.66	0.0000		
937.49	16.9841	1365.19	13.1680		
944.13	9.4621	1368.63	0.0000		
946.00	10.4163	1384.29	5.2973		
949.00	10.4293	1408.01	13.3359		
667.71	0.0000	1434.09	3.3591		
962.31	6.6736	1435.80	3.3608		

VAX/VMS Nuclide Identification Report Generated 17-AUG-2026 09:32:16.13

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*****************************************************************************
*                            GEL Laboratories LLC                           *
*                              2040 Savage Road                             *
*                            Charleston, SC 29407                           *
*****************************************************************************
Configuration    : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G787535006.CNF;1
Background file  : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]BKG_GAM34.CNF;286
                                       Background date  : 16-AUG-2026 08:55:40
Sample date      : 14-JUL-2026 11:30:00 Acquisition date : 17-AUG-2026 07:31:51
Sample ID        : G787535006           Sample quantity  : 1.26920E+02 GRAM
Detector name    : GAM34                Detector geometry: CAN
Elapsed live time: 0 02:00:00.00        Elapsed real time: 0 02:00:00.98  0.0%
Energy tolerance : 1.50000 keV          Analyst Initials : GG
Abundance limit  : 75.00000             Sensitivity      : 3.00000
Batch ID         : 3033734              Detector SN#     :
Matrix Spike ID  :                      LCS ID           :
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BACKGROUND CORRECTED SAMPLE PEAK REPORT

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	63.47*	85	370	1.49	127.84	125	7	1.17E-02	40.0	
2	4	74.87	394	539	1.31	150.62	145	16	5.48E-02	11.7	5.94E-01
3	4	77.14*	672	440	1.12	155.16	145	16	9.33E-02	6.7	
4	5	84.19	142	514	1.49	169.24	161	32	1.98E-02	29.4	9.25E-01
5	5	87.31*	319	441	1.36	175.48	161	32	4.43E-02	12.8	
6	5	89.99	250	476	1.45	180.84	161	32	3.47E-02	17.8	
7	5	92.80*	310	402	1.31	186.45	161	32	4.30E-02	13.4	
8	0	105.98*	76	418	0.77	212.78	208	9	1.06E-02	50.3	
9	0	128.88	81	397	1.38	258.54	255	9	1.12E-02	46.0	
10	0	143.75*	33	351	0.90	288.26	285	7	4.64E-03	96.1	
11	0	186.45*	314	561	1.28	373.58	367	14	4.37E-02	17.2	
12	0	209.32	99	286	0.84	419.28	416	8	1.37E-02	31.3	
13	3	238.73*	1123	191	1.31	478.06	470	23	1.56E-01	3.7	2.55E+00
14	3	241.91	482	187	1.55	484.41	470	23	6.70E-02	7.3	
15	0	258.24	19	183	1.19	517.04	515	7	2.66E-03	119.3	
16	0	270.35	93	220	1.09	541.24	535	11	1.29E-02	32.6	
17	0	295.41*	674	287	1.43	591.33	586	13	9.36E-02	6.6	
18	0	301.10*	73	214	1.33	602.69	598	11	1.01E-02	41.6	
19	0	338.24*	261	184	1.71	676.91	670	14	3.62E-02	12.9	
20	0	351.94*	1206	182	1.35	704.29	699	12	1.67E-01	3.7	
21	0	409.45	93	136	3.51	819.23	813	13	1.29E-02	28.2	
22	0	464.15*	99	106	1.49	928.53	922	15	1.37E-02	25.0	
23	0	470.00	27	72	1.13	940.23	937	8	3.82E-03	56.2	
24	0	489.44	44	87	3.56	979.10	973	11	6.12E-03	44.2	
25	0	511.14*	136	104	1.82	1022.46	1015	15	1.89E-02	20.4	
26	0	583.18*	292	116	1.38	1166.44	1158	16	4.06E-02	10.3	
27	0	609.38*	765	97	1.32	1218.81	1213	14	1.06E-01	4.6	
28	0	648.90	17	52	4.08	1297.80	1290	13	2.33E-03	92.0	
29	0	665.84	35	38	2.24	1331.66	1327	9	4.87E-03	36.6	
30	0	676.69	27	37	2.37	1353.35	1346	10	3.74E-03	47.5	
31	0	683.93	18	40	1.22	1367.82	1362	10	2.43E-03	71.8	
32	0	727.53	54	60	2.17	1454.96	1450	10	7.50E-03	30.1	
33	0	768.21	58	58	1.07	1536.27	1531	11	8.05E-03	28.6	
34	0	786.66	29	43	0.98	1573.16	1566	11	4.04E-03	47.8	

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
35	0	806.63	29	30	1.94	1613.07	1609	10	4.03E-03	39.9	
36	0	860.96	27	32	1.35	1721.68	1717	9	3.68E-03	42.8	
37	0	895.96	16	18	1.16	1791.65	1788	8	2.27E-03	51.1	
38	0	911.38*	192	42	2.13	1822.48	1817	12	2.67E-02	10.1	
39	0	934.27	58	35	1.45	1868.23	1860	14	8.04E-03	25.3	
40	4	964.33	49	29	2.65	1928.32	1920	31	6.84E-03	28.8	1.42E+00
41	4	969.10*	141	18	2.22	1937.87	1920	31	1.96E-02	11.0	
42	0	1083.08	29	42	7.90	2165.73	2151	24	4.05E-03	61.6	
43	0	1120.20*	145	31	2.05	2239.93	2232	14	2.01E-02	11.8	
44	0	1155.57	30	14	1.66	2310.65	2305	11	4.21E-03	29.8	
45	3	1238.41	76	26	2.59	2476.28	2470	27	1.05E-02	18.6	1.88E+00
46	3	1246.77	20	9	1.95	2493.00	2470	27	2.84E-03	33.5	
47	0	1258.29	14	17	3.60	2516.04	2509	12	1.91E-03	67.1	
48	0	1296.86	18	7	1.47	2593.15	2589	10	2.51E-03	36.5	
49	0	1307.02	26	12	4.49	2613.46	2605	16	3.63E-03	35.5	
50	0	1353.73	6	12	1.53	2706.87	2702	9	8.83E-04	103.5	
51	0	1378.22	59	19	3.25	2755.83	2748	19	8.19E-03	22.0	
52	0	1408.31	32	5	1.67	2815.99	2811	10	4.49E-03	21.7	
53	0	1460.92*	238	19	2.49	2921.19	2914	15	3.30E-02	7.7	
54	0	1478.55	18	13	5.46	2956.45	2945	18	2.52E-03	52.7	
55	0	1496.97	7	13	0.58	2993.28	2988	9	9.86E-04	100.0	
56	0	1539.93	9	13	1.53	3079.19	3072	10	1.20E-03	89.3	
57	0	1593.66	11	32	2.66	3186.65	3178	13	1.57E-03	118.8	
58	0	1630.49	10	10	1.48	3260.30	3254	10	1.39E-03	67.1	
59	0	1723.92*	9	2	1.35	3447.15	3443	9	1.22E-03	49.4	
60	0	1729.93	35	3	3.45	3459.17	3452	13	4.81E-03	20.1	
61	0	1764.48*	124	10	2.68	3528.26	3521	13	1.72E-02	10.6	
62	0	1847.34	22	2	0.88	3693.99	3689	9	3.01E-03	24.9	
63	0	1977.05	6	9	3.33	3953.42	3943	12	8.61E-04	104.5	

Flag: "*" = Peak area was modified by background subtraction

VMS Nuclide Identification Report V3.1 Generated 17-AUG-2026 09:32:17

Configuration	: DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G787535006.CNF;1		
Analyses by	: PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.4		
Sample title	: GG		
Sample date	: 14-JUL-2026 11:30:00	Acquisition date	: 17-AUG-2026 07:31:51
Sample ID	: G787535006	Sample quantity	: 126.92 GRAM
Sample type	: SOLID	Sample geometry	:
Detector name	: GAMMA34	Detector geometry	: CAN
Elapsed live time	: 0 02:00:00.00	Elapsed real time	: 0 02:00:00.98 0.0%
Energy tolerance	: 1.50 keV	Half life ratio	: 10.00
Errors propagated	: No	Systematic Error	: 0.00 %
Efficiency type	: Empirical	Efficiencies at	: Peak Energy
Abundance limit	: 75.00		

Interference Report

No interference correction performed

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
K-40	1460.82	226	10.66*	6.530E-01	9.593E+00	9.593E+00	15.42
CD-109	88.03	360	3.70*	4.120E+00	6.991E+00	7.356E+00	25.58
SN-126	64.28	97	9.60	1.853E+00	1.617E+00	1.617E+00	79.90
	86.94	360	8.90	4.120E+00	2.906E+00	2.906E+00	25.58
	87.57	360	37.00*	4.120E+00	6.991E-01	6.991E-01	25.58
EU-155	86.55	360	30.70	4.120E+00	8.425E-01	8.540E-01	25.58
	105.31	85	21.10*	4.929E+00	2.414E-01	2.447E-01	100.58
TL-208	277.37	------	6.60	3.146E+00	------ Line Not Found		------
	583.19	295	85.00*	1.632E+00	6.280E-01	6.280E-01	20.52
	860.56	26	12.50	1.113E+00	5.541E-01	5.541E-01	85.68
BI-211	72.87	------	1.23	2.880E+00	------ Line Not Found		------
	351.06	1255	12.92*	2.563E+00	1.121E+01	1.121E+01	7.35
BI-212	727.33	54	6.67*	1.320E+00	1.805E+00	1.805E+00	60.18
	1620.50	------	1.47	5.988E-01	------ Line Not Found		------
PB-212	74.82	449	10.28	3.083E+00	4.195E+00	4.195E+00	23.33
	77.11	764	17.10	3.302E+00	4.003E+00	4.003E+00	13.39
	238.63	1197	43.60*	3.567E+00	2.276E+00	2.276E+00	7.48
	300.09	77	3.30	2.933E+00	2.341E+00	2.341E+00	83.11
BI-214	609.32	770	45.49*	1.566E+00	3.195E+00	3.195E+00	9.16
	1120.29	140	14.92	8.473E-01	3.278E+00	3.278E+00	23.67
	1764.49	116	15.30	5.640E-01	3.974E+00	3.974E+00	21.16
PB-214	74.82	449	5.80	3.083E+00	7.435E+00	7.435E+00	23.33
	77.11	764	9.70	3.302E+00	7.058E+00	7.058E+00	13.39
	87.09	360	3.41	4.120E+00	7.585E+00	7.585E+00	25.58
	242.00	514	7.25	3.529E+00	5.937E+00	5.938E+00	14.53
	295.22	709	18.42	2.981E+00	3.818E+00	3.818E+00	13.11
	351.93	1255	35.60*	2.563E+00	4.068E+00	4.068E+00	7.35
RN-222	74.82	449	5.80	3.083E+00	7.435E+00	7.435E+00	23.33
	77.11	764	9.70	3.302E+00	7.058E+00	7.058E+00	13.39
	87.09	360	3.41	4.120E+00	7.585E+00	7.585E+00	25.58
	242.00	514	7.25	3.529E+00	5.937E+00	5.938E+00	14.53
	295.22	709	18.42	2.981E+00	3.818E+00	3.818E+00	13.11
	351.93	1255	35.60*	2.563E+00	4.068E+00	4.068E+00	7.35
RA-224	240.99	514	4.10*	3.529E+00	1.050E+01	1.050E+01	14.53
RA-226	74.82	449	5.80	3.083E+00	7.435E+00	7.435E+00	23.33
	77.11	764	9.70	3.302E+00	7.058E+00	7.058E+00	13.39
	87.09	360	3.41	4.120E+00	7.585E+00	7.585E+00	25.58
	242.00	514	7.25	3.529E+00	5.937E+00	5.938E+00	14.53
	295.22	709	18.42	2.981E+00	3.818E+00	3.818E+00	13.11
	351.93	1255	35.60*	2.563E+00	4.068E+00	4.068E+00	7.35
AC-228	338.32	272	11.27	2.653E+00	2.691E+00	2.691E+00	25.78
	911.20	189	25.80*	1.050E+00	2.059E+00	2.059E+00	20.12
	968.97	138	15.80	9.852E-01	2.621E+00	2.621E+00	22.08
RA-228	338.32	272	11.27	2.653E+00	2.691E+00	2.691E+00	25.78
	911.20	189	25.80*	1.050E+00	2.059E+00	2.059E+00	20.12
	968.97	138	15.80	9.852E-01	2.621E+00	2.621E+00	22.08
TH-228	74.82	449	10.28	3.083E+00	4.195E+00	4.195E+00	23.33
	77.11	764	17.10	3.302E+00	4.003E+00	4.003E+00	13.39
	238.63	1197	43.60*	3.567E+00	2.276E+00	2.276E+00	7.48

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
	300.09	77	3.30	2.933E+00	2.341E+00	2.341E+00	83.11
TH-229	85.43	161	14.70	3.899E+00	8.314E-01	8.315E-01	58.71
	88.47	360	24.00	4.120E+00	1.078E+00	1.078E+00	25.58
	193.51	------	4.41*	4.199E+00	------ Line Not Found		------
	210.85	------	2.80	3.939E+00	------ Line Not Found		------
TH-230	74.82	449	5.80	3.083E+00	7.435E+00	7.435E+00	23.33
	77.11	764	9.70	3.302E+00	7.058E+00	7.058E+00	13.39
	87.09	360	3.41	4.120E+00	7.585E+00	7.585E+00	25.58
	242.00	514	7.25	3.529E+00	5.937E+00	5.937E+00	14.53
	295.22	709	18.42	2.981E+00	3.818E+00	3.818E+00	13.11
	351.93	1255	35.60*	2.563E+00	4.068E+00	4.068E+00	7.35
PA-231	283.69	------	1.70	3.086E+00	------ Line Not Found		------
	301.36	77	5.35*	2.933E+00	1.444E+00	1.444E+00	83.11
TH-232	338.32	272	11.27	2.653E+00	2.691E+00	2.691E+00	25.78
	911.20	189	25.80*	1.050E+00	2.059E+00	2.059E+00	20.12
	968.97	138	15.80	9.852E-01	2.621E+00	2.621E+00	22.08
PA-234M	63.29	97	3.70*	1.853E+00	4.195E+00	4.195E+00	79.90
	92.59	349	4.23	4.445E+00	5.485E+00	5.485E+00	26.70
TH-234	63.29	97	3.70*	1.853E+00	4.195E+00	4.195E+00	79.90
	92.59	349	4.23	4.445E+00	5.485E+00	5.485E+00	26.70
U-234	74.82	449	5.80	3.083E+00	7.435E+00	7.435E+00	23.33
	77.11	764	9.70	3.302E+00	7.058E+00	7.058E+00	13.39
	87.09	360	3.41	4.120E+00	7.585E+00	7.585E+00	25.58
	242.00	514	7.25	3.529E+00	5.937E+00	5.937E+00	14.53
	295.22	709	18.42	2.981E+00	3.818E+00	3.818E+00	13.11
	351.93	1255	35.60*	2.563E+00	4.068E+00	4.068E+00	7.35
U-235	89.96	282	3.47	4.289E+00	5.597E+00	5.597E+00	35.68
	93.35	349	5.60	4.445E+00	4.143E+00	4.143E+00	26.70
	143.76	37	10.96*	4.963E+00	1.996E-01	1.996E-01	192.13
	163.33	------	5.08	4.682E+00	------ Line Not Found		------
	185.72	340	57.20	4.310E+00	4.079E-01	4.079E-01	34.44
	205.31	------	5.01	4.020E+00	------ Line Not Found		------
U-238	63.29	97	3.70*	1.853E+00	4.195E+00	4.195E+00	79.90
	92.59	349	4.23	4.445E+00	5.485E+00	5.485E+00	26.70
AM-243	43.53	------	5.90	1.917E-01	------ Line Not Found		------
	74.66	449	67.20*	3.083E+00	6.417E-01	6.417E-01	23.33
ANH-511	511.00	139	100.00*	1.842E+00	2.227E-01	2.227E-01	40.74

Flag: "*" = Keyline

VAX/VMS Nuclide Identification Report Generated 17-AUG-2026 09:32:18.59

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*************************************************************************
*                          GEL Laboratories LLC                         *
*                            2040 Savage Road                           *
*                          Charleston, SC 29407                         *
*************************************************************************
*                                                                       *
*                        DETECTOR AND SAMPLE DATA                       *
*                                                                       *
* Configuration    : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G787535006.CNF;1    *
* Acquisition date : 17-AUG-2026 07:31:51 Sensitivity     : 3.000          *
* Detector ID      : GAM34                Energy tolerance: 1.500          *
* Elapsed live time:    0 02:00:00.00     Abundance limit : 75.000         *
* Elapsed real time:    0 02:00:00.98     Half life ratio : *****          *
* Sample date      : 14-JUL-2026 11:30:00 Analyst initials: GG             *
* Sample ID        : G787535006           Sample Quantity : 1.2692E+02 GRAM   *
* Batch Number     : 3033734              Wet Weight      :    0.00000     *
* Wet wt corr      :    1.00000           Dry Weight      :    0.00000     *
* Nuclide Library  : SOLID.NLB;19                                         *
*************************************************************************
*                                                                       *
*                        CALIBRATION INFORMATION                        *
*                                                                       *
* Eff. Cal. date   :  3-SEP-2025 09:10:23 Eff. Geometry   : CAN           *
* Eff. File        : DKA100:[CANBERRA.GAMMA]EFF_GAM34_CAN.CNF;7           *
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Combined Activity-MDA Report

NOTE: Not all "Identified Nuclides" are valid.
Please refer to Certificate of Analysis.

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Cnt uncert (1.96-sigma)	MDA (pCi/GRAM)
K-40	9.593E+00	1.450E+00	6.790E-01
CD-109	7.356E+00	1.844E+00	1.362E+00
SN-126	6.991E-01	1.752E-01	1.304E-01
EU-155	2.447E-01	2.412E-01	1.879E-01
TL-208	6.280E-01	1.263E-01	6.986E-02
BI-211	1.121E+01	8.078E-01	3.899E-01
BI-212	1.805E+00	1.065E+00	1.041E+00
PB-212	2.276E+00	1.669E-01	1.056E-01
BI-214	3.195E+00	2.868E-01	1.270E-01
PB-214	4.068E+00	2.932E-01	1.419E-01
RN-222	4.068E+00	2.932E-01	1.419E-01
RA-224	1.050E+01	1.495E+00	1.133E+00
RA-226	4.068E+00	2.932E-01	1.419E-01
AC-228	2.059E+00	4.060E-01	2.896E-01
RA-228	2.059E+00	4.060E-01	2.896E-01
TH-228	2.276E+00	1.669E-01	1.056E-01
TH-229	-2.417E-01	5.399E-01	9.666E-01
TH-230	4.068E+00	2.932E-01	1.418E-01
PA-231	1.444E+00	1.176E+00	8.540E-01
TH-232	2.059E+00	4.060E-01	2.896E-01
PA-234M	4.195E+00	3.285E+00	2.866E+00
TH-234	4.195E+00	3.285E+00	2.866E+00
U-234	4.068E+00	2.932E-01	1.418E-01
U-235	1.996E-01	3.759E-01	3.703E-01
U-238	4.195E+00	3.285E+00	2.866E+00
AM-243	6.417E-01	1.467E-01	1.043E-01
ANH-511	2.227E-01	8.891E-02	4.979E-02

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Cnt Uncert (1.96-sigma)	MDA (pCi/GRAM)	
BE-7	-1.246E-02	4.548E-01	8.100E-01	NOT IDENT.
NA-22	-2.379E-02	3.691E-02	6.444E-02	NOT IDENT.
NA-24	0.000E+00	8.968E+14	0.000E+00	SHORT HLIF

AL-26	1.812E-02	3.694E-02	8.321E-02	NOT IDENT.
SC-46	1.893E-02	4.230E-02	8.821E-02	FAIL ABUN
V-48	1.090E-01	1.561E-01	3.322E-01	NOT IDENT.
CR-51	-6.629E-01	6.231E-01	1.032E+00	NOT IDENT.
MN-52	-3.000E+00	2.503E+00	3.600E+00	FAIL ABUN
MN-54	-2.175E-02	3.686E-02	6.706E-02	NOT IDENT.
CO-56	-1.428E-02	5.124E-02	9.343E-02	FAIL ABUN
MN-56	0.000E+00	1.960E+41	0.000E+00	SHORT HLIF
CO-57	6.738E-03	2.569E-02	4.874E-02	NOT IDENT.
CO-58	1.020E-02	4.875E-02	8.937E-02	NOT IDENT.
FE-59	-6.960E-03	1.172E-01	2.265E-01	NOT IDENT.
CO-60	3.562E-05	4.180E-02	8.179E-02	NOT IDENT.
ZN-65	-2.179E-02	1.030E-01	1.717E-01	NOT IDENT.
GE-68	2.001E-01	1.117E+00	2.285E+00	NOT IDENT.
AS-73	1.422E+00	1.552E+00	3.136E+00	NOT IDENT.
AS-74	2.728E-03	2.118E-01	3.762E-01	NOT IDENT.
SE-75	-2.823E-02	5.074E-02	8.884E-02	NOT IDENT.
BR-77	0.000E+00	6.153E+03	0.000E+00	SHORT HLIF
SR-82	-3.853E-02	4.462E-01	8.841E-01	NOT IDENT.
RB-83	-9.442E-02	9.124E-02	1.434E-01	NOT IDENT.
RB-84	3.137E-02	1.028E-01	2.082E-01	NOT IDENT.
KR-85	3.681E+00	7.479E+00	1.312E+01	NOT IDENT.
SR-85	2.363E-02	4.826E-02	8.466E-02	NOT IDENT.
RB-86	1.918E-02	1.301E+00	2.608E+00	NOT IDENT.
Y-88	1.395E-02	3.949E-02	9.045E-02	NOT IDENT.
Y-91	-1.656E+01	2.467E+01	4.292E+01	NOT IDENT.
NB-94	8.772E-03	3.997E-02	7.167E-02	NOT IDENT.
NB-95	2.324E-02	5.387E-02	1.004E-01	NOT IDENT.
NB-95M	1.425E-01	1.542E-01	2.942E-01	NOT IDENT.
ZR-95	4.179E-02	7.934E-02	1.658E-01	NOT IDENT.
NB-97	0.000E+00	1.960E+41	0.000E+00	SHORT HLIF
ZR-97	0.000E+00	1.899E+14	0.000E+00	SHORT HLIF
MO-99	0.000E+00	1.506E+03	0.000E+00	SHORT HLIF
TC-99M	0.000E+00	1.130E+39	0.000E+00	SHORT HLIF
RH-101	-2.493E-03	3.237E-02	5.607E-02	NOT IDENT.
RH-102	-2.387E-02	5.878E-02	9.897E-02	FAIL ABUN
RU-103	-1.721E-02	5.841E-02	1.013E-01	FAIL ABUN
RH-106	1.319E-01	3.135E-01	5.949E-01	NOT IDENT.
RU-106	1.319E-01	3.135E-01	5.949E-01	NOT IDENT.
AG-108M	-2.366E-03	3.034E-02	5.420E-02	NOT IDENT.
AG-110	2.068E-01	7.961E-01	1.464E+00	NOT IDENT.
AG-110M	2.593E-02	5.091E-02	1.059E-01	FAIL ABUN
SN-113	1.478E-02	5.373E-02	9.882E-02	NOT IDENT.
CD-115	0.000E+00	4.201E+03	0.000E+00	SHORT HLIF
SN-117M	3.297E-02	1.433E-01	2.679E-01	NOT IDENT.
SB-122	0.000E+00	2.691E+02	0.000E+00	SHORT HLIF
TE-123M	5.656E-03	3.300E-02	6.141E-02	NOT IDENT.
SB-124	8.650E-02	1.171E-01	2.717E-01	NOT IDENT.
SB-125	1.614E-02	9.514E-02	1.740E-01	FAIL ABUN
TE-125M	6.995E+00	1.306E+01	2.349E+01	NOT IDENT.
I-126	0.000E+00	9.648E-01	1.311E+00	FAIL ABUN
SB-126	2.152E-01	3.746E-01	7.818E-01	FAIL ABUN
SB-127	3.538E+00	4.249E+01	7.055E+01	NOT IDENT.
I-131	-4.667E-02	6.060E-01	1.087E+00	NOT IDENT.
I-132	0.000E+00	1.960E+41	0.000E+00	SHORT HLIF
TE-132	0.000E+00	4.328E+01	0.000E+00	SHORT HLIF
BA-133	2.651E-02	4.566E-02	8.081E-02	NOT IDENT.
I-133	0.000E+00	2.063E+10	0.000E+00	SHORT HLIF
CS-134	1.098E-02	4.992E-02	9.758E-02	NOT IDENT.
I-135	0.000E+00	2.548E+36	0.000E+00	SHORT HLIF
CS-136	-9.350E-02	3.033E-01	5.637E-01	NOT IDENT.
BA-137M	7.832E-03	4.236E-02	7.075E-02	NOT IDENT.
CS-137	8.273E-03	4.475E-02	7.474E-02	NOT IDENT.
LA-138	-6.072E-04	5.377E-02	1.081E-01	NOT IDENT.
CE-139	1.545E-02	3.145E-02	5.961E-02	NOT IDENT.
BA-140	4.418E-01	8.026E-01	1.516E+00	NOT IDENT.
LA-140	-3.760E-02	2.757E-01	4.746E-01	NOT IDENT.
CE-141	-4.893E-02	9.955E-02	1.667E-01	NOT IDENT.
CE-143	0.000E+00	1.758E+06	0.000E+00	SHORT HLIF
CE-144	-6.032E-02	2.043E-01	3.758E-01	NOT IDENT.
PM-144	-2.447E-02	3.558E-02	5.682E-02	NOT IDENT.
PR-144	-1.835E+00	2.691E+00	4.302E+00	NOT IDENT.
PM-146	2.414E-02	4.836E-02	9.019E-02	NOT IDENT.
ND-147	-7.225E-01	2.105E+00	3.601E+00	FAIL ABUN
PM-147	2.444E+02	7.278E+02	1.386E+03	NOT IDENT.
PM-149	0.000E+00	3.220E+04	0.000E+00	SHORT HLIF
EU-150	-1.368E-02	3.114E-02	4.970E-02	FAIL ABUN
EU-152	1.878E-02	1.072E-01	1.955E-01	FAIL ABUN

GD-153	4.727E-03	8.750E-02	1.550E-01	NOT IDENT.
EU-154	-7.102E-02	1.027E-01	1.773E-01	NOT IDENT.
TB-160	-3.303E-02	1.493E-01	2.858E-01	FAIL ABUN
HO-166M	-1.355E-02	6.439E-02	1.226E-01	FAIL ABUN
TM-171	-1.439E+01	2.920E+01	5.562E+01	NOT IDENT.
HF-172	-1.469E-01	2.010E-01	3.348E-01	FAIL ABUN
LU-172	5.282E-02	6.960E-02	1.468E-01	FAIL ABUN
LU-176	-4.875E-03	2.766E-02	4.945E-02	FAIL ABUN
HF-181	2.679E-02	6.713E-02	1.244E-01	NOT IDENT.
TA-182	-5.182E-03	2.140E-01	4.087E-01	FAIL ABUN
RE-183	5.881E-02	3.338E-01	6.506E-01	NOT IDENT.
RE-184	-7.739E-02	1.646E-01	3.043E-01	FAIL ABUN
W-188	-1.221E+01	9.741E+00	1.445E+01	FAIL ABUN
IR-192	-4.528E-03	4.521E-02	8.103E-02	FAIL ABUN
HG-203	-1.795E-02	5.755E-02	1.019E-01	NOT IDENT.
TL-204	-1.961E-01	6.114E+00	1.087E+01	NOT IDENT.
BI-207	2.409E-02	5.348E-02	1.098E-01	FAIL ABUN
BI-210	-2.830E-01	7.101E+00	1.385E+01	NOT IDENT.
PB-210	-2.830E-01	7.101E+00	1.385E+01	NOT IDENT.
PB-211	-3.646E-01	8.710E-01	1.373E+00	NOT IDENT.
BI-213	2.344E-02	1.164E-01	2.120E-01	NOT IDENT.
RN-219	2.596E-01	4.391E-01	8.275E-01	FAIL ABUN
RA-223	1.790E-02	7.045E-01	1.272E+00	FAIL ABUN
AC-225	7.140E-02	2.304E+00	4.211E+00	NOT IDENT.
AC-227	-5.582E-02	2.948E-01	4.885E-01	FAIL ABUN
TH-227	-5.582E-02	2.948E-01	4.885E-01	FAIL ABUN
TH-231	1.790E-02	7.045E-01	1.272E+00	FAIL ABUN
PA-233	-2.180E-02	6.763E-02	1.195E-01	FAIL ABUN
PA-234	9.290E-03	2.742E-01	5.439E-01	NOT IDENT.
NP-237	-2.180E-02	6.763E-02	1.195E-01	FAIL ABUN
NP-238	0.000E+00	9.406E+03	0.000E+00	SHORT HLIF
NP-239	4.061E-02	2.616E-01	4.944E-01	FAIL ABUN
PU-239	0.000E+00	7.386E+02	7.056E+02	FAIL ABUN
AM-241	2.787E-02	1.981E-01	3.856E-01	NOT IDENT.
CM-243	-2.038E-02	1.103E-01	1.873E-01	NOT IDENT.
BK-247	7.792E-03	8.683E-02	1.476E-01	FAIL ABUN
CM-247	3.840E-02	4.119E-02	7.946E-02	NOT IDENT.
CF-249	3.295E-02	4.485E-02	8.512E-02	NOT IDENT.
CF-251	1.127E-01	1.340E-01	2.564E-01	NOT IDENT.

VAX/VMS Nuclide Identification Report Generated 17-AUG-2026 09:32:16.97

Nuclide Line Activity Report

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
K-40	1460.82	226	10.66*	6.530E-01	9.593E+00	9.593E+00	15.42
CD-109	88.03	360	3.70*	4.120E+00	6.991E+00	7.356E+00	25.58
SN-126	64.28	97	9.60	1.853E+00	1.617E+00	1.617E+00	79.90
	86.94	360	8.90	4.120E+00	2.906E+00	2.906E+00	25.58
	87.57	360	37.00*	4.120E+00	6.991E-01	6.991E-01	25.58
EU-155	86.55	360	30.70	4.120E+00	8.425E-01	8.540E-01	25.58
	105.31	85	21.10*	4.929E+00	2.414E-01	2.447E-01	100.58
TL-208	277.37	------	6.60	3.146E+00	------ Line Not Found		------
	583.19	295	85.00*	1.632E+00	6.280E-01	6.280E-01	20.52
	860.56	26	12.50	1.113E+00	5.541E-01	5.541E-01	85.68
BI-211	72.87	------	1.23	2.880E+00	------ Line Not Found		------
	351.06	1255	12.92*	2.563E+00	1.121E+01	1.121E+01	7.35
BI-212	727.33	54	6.67*	1.320E+00	1.805E+00	1.805E+00	60.18
	1620.50	------	1.47	5.988E-01	------ Line Not Found		------
PB-212	74.82	449	10.28	3.083E+00	4.195E+00	4.195E+00	23.33
	77.11	764	17.10	3.302E+00	4.003E+00	4.003E+00	13.39
	238.63	1197	43.60*	3.567E+00	2.276E+00	2.276E+00	7.48
	300.09	77	3.30	2.933E+00	2.341E+00	2.341E+00	83.11
BI-214	609.32	770	45.49*	1.566E+00	3.195E+00	3.195E+00	9.16
	1120.29	140	14.92	8.473E-01	3.278E+00	3.278E+00	23.67
	1764.49	116	15.30	5.640E-01	3.974E+00	3.974E+00	21.16
PB-214	74.82	449	5.80	3.083E+00	7.435E+00	7.435E+00	23.33
	77.11	764	9.70	3.302E+00	7.058E+00	7.058E+00	13.39
	87.09	360	3.41	4.120E+00	7.585E+00	7.585E+00	25.58
	242.00	514	7.25	3.529E+00	5.937E+00	5.938E+00	14.53
	295.22	709	18.42	2.981E+00	3.818E+00	3.818E+00	13.11
	351.93	1255	35.60*	2.563E+00	4.068E+00	4.068E+00	7.35
RN-222	74.82	449	5.80	3.083E+00	7.435E+00	7.435E+00	23.33
	77.11	764	9.70	3.302E+00	7.058E+00	7.058E+00	13.39
	87.09	360	3.41	4.120E+00	7.585E+00	7.585E+00	25.58
	242.00	514	7.25	3.529E+00	5.937E+00	5.938E+00	14.53
	295.22	709	18.42	2.981E+00	3.818E+00	3.818E+00	13.11
	351.93	1255	35.60*	2.563E+00	4.068E+00	4.068E+00	7.35
RA-224	240.99	514	4.10*	3.529E+00	1.050E+01	1.050E+01	14.53
RA-226	74.82	449	5.80	3.083E+00	7.435E+00	7.435E+00	23.33
	77.11	764	9.70	3.302E+00	7.058E+00	7.058E+00	13.39
	87.09	360	3.41	4.120E+00	7.585E+00	7.585E+00	25.58
	242.00	514	7.25	3.529E+00	5.937E+00	5.938E+00	14.53
	295.22	709	18.42	2.981E+00	3.818E+00	3.818E+00	13.11
	351.93	1255	35.60*	2.563E+00	4.068E+00	4.068E+00	7.35
AC-228	338.32	272	11.27	2.653E+00	2.691E+00	2.691E+00	25.78
	911.20	189	25.80*	1.050E+00	2.059E+00	2.059E+00	20.12
	968.97	138	15.80	9.852E-01	2.621E+00	2.621E+00	22.08
RA-228	338.32	272	11.27	2.653E+00	2.691E+00	2.691E+00	25.78
	911.20	189	25.80*	1.050E+00	2.059E+00	2.059E+00	20.12
	968.97	138	15.80	9.852E-01	2.621E+00	2.621E+00	22.08
TH-228	74.82	449	10.28	3.083E+00	4.195E+00	4.195E+00	23.33

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
	77.11	764	17.10	3.302E+00	4.003E+00	4.003E+00	13.39
	238.63	1197	43.60*	3.567E+00	2.276E+00	2.276E+00	7.48
	300.09	77	3.30	2.933E+00	2.341E+00	2.341E+00	83.11
TH-229	85.43	161	14.70	3.899E+00	8.314E-01	8.315E-01	58.71
	88.47	360	24.00	4.120E+00	1.078E+00	1.078E+00	25.58
	193.51	------	4.41*	4.199E+00	------ Line Not Found		------
	210.85	------	2.80	3.939E+00	------ Line Not Found		------
TH-230	74.82	449	5.80	3.083E+00	7.435E+00	7.435E+00	23.33
	77.11	764	9.70	3.302E+00	7.058E+00	7.058E+00	13.39
	87.09	360	3.41	4.120E+00	7.585E+00	7.585E+00	25.58
	242.00	514	7.25	3.529E+00	5.937E+00	5.937E+00	14.53
	295.22	709	18.42	2.981E+00	3.818E+00	3.818E+00	13.11
	351.93	1255	35.60*	2.563E+00	4.068E+00	4.068E+00	7.35
PA-231	283.69	------	1.70	3.086E+00	------ Line Not Found		------
	301.36	77	5.35*	2.933E+00	1.444E+00	1.444E+00	83.11
TH-232	338.32	272	11.27	2.653E+00	2.691E+00	2.691E+00	25.78
	911.20	189	25.80*	1.050E+00	2.059E+00	2.059E+00	20.12
	968.97	138	15.80	9.852E-01	2.621E+00	2.621E+00	22.08
PA-234M	63.29	97	3.70*	1.853E+00	4.195E+00	4.195E+00	79.90
	92.59	349	4.23	4.445E+00	5.485E+00	5.485E+00	26.70
TH-234	63.29	97	3.70*	1.853E+00	4.195E+00	4.195E+00	79.90
	92.59	349	4.23	4.445E+00	5.485E+00	5.485E+00	26.70
U-234	74.82	449	5.80	3.083E+00	7.435E+00	7.435E+00	23.33
	77.11	764	9.70	3.302E+00	7.058E+00	7.058E+00	13.39
	87.09	360	3.41	4.120E+00	7.585E+00	7.585E+00	25.58
	242.00	514	7.25	3.529E+00	5.937E+00	5.937E+00	14.53
	295.22	709	18.42	2.981E+00	3.818E+00	3.818E+00	13.11
	351.93	1255	35.60*	2.563E+00	4.068E+00	4.068E+00	7.35
U-235	89.96	282	3.47	4.289E+00	5.597E+00	5.597E+00	35.68
	93.35	349	5.60	4.445E+00	4.143E+00	4.143E+00	26.70
	143.76	37	10.96*	4.963E+00	1.996E-01	1.996E-01	192.13
	163.33	------	5.08	4.682E+00	------ Line Not Found		------
	185.72	340	57.20	4.310E+00	4.079E-01	4.079E-01	34.44
	205.31	------	5.01	4.020E+00	------ Line Not Found		------
U-238	63.29	97	3.70*	1.853E+00	4.195E+00	4.195E+00	79.90
	92.59	349	4.23	4.445E+00	5.485E+00	5.485E+00	26.70
AM-243	43.53	------	5.90	1.917E-01	------ Line Not Found		------
	74.66	449	67.20*	3.083E+00	6.417E-01	6.417E-01	23.33
ANH-511	511.00	139	100.00*	1.842E+00	2.227E-01	2.227E-01	40.74

Flag: "*" = Keyline

Sample ID : G787535006 Acquisition date : 17-AUG-2026 07:31:51

Total number of lines in spectrum	63	
Number of unidentified lines	24	
Number of lines tentatively identified by NID	39	61.90%

Nuclide Type :

Nuclide	Hlife	Decay	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
K-40	1.25E+09Y	1.00	9.593E+00	9.593E+00	1.479E+00	15.42	
CD-109	461.40D	1.05	6.991E+00	7.356E+00	1.881E+00	25.58	
SN-126	2.30E+05Y	1.00	6.991E-01	6.991E-01	1.788E-01	25.58	
EU-155	4.75Y	1.01	2.414E-01	2.447E-01	2.461E-01	100.58	
TL-208	1.41E+10Y	1.00	6.280E-01	6.280E-01	1.289E-01	20.52	
BI-211	7.04E+08Y	1.00	1.121E+01	1.121E+01	0.082E+01	7.35	
BI-212	1.41E+10Y	1.00	1.805E+00	1.805E+00	1.086E+00	60.18	
PB-212	1.41E+10Y	1.00	2.276E+00	2.276E+00	0.170E+00	7.48	
BI-214	1600.00Y	1.00	3.195E+00	3.195E+00	0.293E+00	9.16	
PB-214	1600.00Y	1.00	4.068E+00	4.068E+00	0.299E+00	7.35	
RN-222	1600.00Y	1.00	4.068E+00	4.068E+00	0.299E+00	7.35	
RA-224	1.41E+10Y	1.00	1.050E+01	1.050E+01	0.153E+01	14.53	
RA-226	1600.00Y	1.00	4.068E+00	4.068E+00	0.299E+00	7.35	
AC-228	1.41E+10Y	1.00	2.059E+00	2.059E+00	0.414E+00	20.12	
RA-228	1.41E+10Y	1.00	2.059E+00	2.059E+00	0.414E+00	20.12	
TH-228	1.41E+10Y	1.00	2.276E+00	2.276E+00	0.170E+00	7.48	
TH-229	7340.00Y	1.00	1.078E+00	1.078E+00	0.276E+00	25.58	K
TH-230	7.54E+04Y	1.00	4.068E+00	4.068E+00	0.299E+00	7.35	
PA-231	7.04E+08Y	1.00	1.444E+00	1.444E+00	1.200E+00	83.11	
TH-232	1.41E+10Y	1.00	2.059E+00	2.059E+00	0.414E+00	20.12	
PA-234M	4.47E+09Y	1.00	4.195E+00	4.195E+00	3.352E+00	79.90	
TH-234	4.47E+09Y	1.00	4.195E+00	4.195E+00	3.352E+00	79.90	
U-234	2.45E+05Y	1.00	4.068E+00	4.068E+00	0.299E+00	7.35	
U-235	7.04E+08Y	1.00	1.996E-01	1.996E-01	3.836E-01	192.13	
U-238	4.47E+09Y	1.00	4.195E+00	4.195E+00	3.352E+00	79.90	
AM-243	7370.00Y	1.00	6.417E-01	6.417E-01	1.497E-01	23.33	
ANH-511	1.00E+09Y	1.00	2.227E-01	2.227E-01	0.907E-01	40.74	
			---	---			
	Total Activity :		9.210E+01	9.247E+01			

Grand Total Activity : 9.210E+01 9.247E+01

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

Sample ID : G787535006 Acquisition date : 17-AUG-2026 07:31:51

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
0	128.88	89	439	1.38	258.54	255	9	1.12E-02	91.9	5.09E+00	T
0	209.32	106	307	0.84	419.28	416	8	1.37E-02	62.7	3.96E+00	
0	258.24	20	194	1.19	517.04	515	7	2.66E-03	****	3.34E+00	
0	270.35	98	233	1.09	541.24	535	11	1.29E-02	65.2	3.22E+00	T
0	409.45	95	141	3.51	819.23	813	13	1.29E-02	56.5	2.25E+00	T
0	464.15	101	108	1.49	928.53	922	15	1.37E-02	50.1	2.01E+00	T
0	470.00	28	73	1.13	940.23	937	8	3.82E-03	****	1.99E+00	
0	489.44	45	89	3.56	979.10	973	11	6.12E-03	88.5	1.92E+00	
0	648.90	17	52	4.08	1297.80	1290	13	2.33E-03	****	1.48E+00	
0	665.84	35	38	2.24	1331.66	1327	9	4.87E-03	73.1	1.44E+00	T
0	676.69	27	37	2.37	1353.35	1346	10	3.74E-03	95.0	1.42E+00	T
0	683.93	17	40	1.22	1367.82	1362	10	2.43E-03	****	1.40E+00	
0	768.21	57	58	1.07	1536.27	1531	11	8.05E-03	57.2	1.25E+00	T
0	786.66	29	42	0.98	1573.16	1566	11	4.04E-03	95.5	1.22E+00	
0	806.63	29	30	1.94	1613.07	1609	10	4.03E-03	79.8	1.19E+00	
0	895.96	16	17	1.16	1791.65	1788	8	2.27E-03	****	1.07E+00	T
0	934.27	57	34	1.45	1868.23	1860	14	8.04E-03	50.7	1.02E+00	T
4	964.33	48	29	2.65	1928.32	1920	31	6.84E-03	57.5	9.90E-01	T
0	1083.08	28	41	7.90	2165.73	2151	24	4.05E-03	****	8.77E-01	
0	1155.57	29	13	1.66	2310.65	2305	11	4.21E-03	59.6	8.21E-01	
3	1238.41	73	25	2.59	2476.28	2470	27	1.05E-02	37.2	7.65E-01	T
3	1246.77	20	8	1.95	2493.00	2470	27	2.84E-03	67.0	7.60E-01	
0	1258.29	13	17	3.60	2516.04	2509	12	1.91E-03	****	7.53E-01	
0	1296.86	17	7	1.47	2593.15	2589	10	2.51E-03	73.1	7.30E-01	T
0	1307.02	25	11	4.49	2613.46	2605	16	3.63E-03	71.0	7.25E-01	
0	1353.73	6	11	1.53	2706.87	2702	9	8.83E-04	****	7.01E-01	
0	1378.22	56	18	3.25	2755.83	2748	19	8.19E-03	44.0	6.89E-01	
0	1408.31	31	4	1.67	2815.99	2811	10	4.49E-03	43.5	6.75E-01	T
0	1478.55	17	12	5.46	2956.45	2945	18	2.52E-03	****	6.46E-01	
0	1496.97	7	12	0.58	2993.28	2988	9	9.86E-04	****	6.39E-01	
0	1539.93	8	13	1.53	3079.19	3072	10	1.20E-03	****	6.24E-01	
0	1593.66	11	30	2.66	3186.65	3178	13	1.57E-03	****	6.07E-01	
0	1630.49	9	9	1.48	3260.30	3254	10	1.39E-03	****	5.96E-01	
0	1723.92	8	2	1.35	3447.15	3443	9	1.22E-03	98.8	5.73E-01	
0	1729.93	33	3	3.45	3459.17	3452	13	4.81E-03	40.3	5.71E-01	
0	1847.34	20	2	0.88	3693.99	3689	9	3.01E-03	49.8	5.49E-01	
0	1977.05	6	8	3.33	3953.42	3943	12	8.61E-04	****	5.32E-01	

Flags: "T" = Tentatively associated

VAX/VMS Nuclide Identification Report Generated 17-AUG-2026 09:32:29.35

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*********************************************************************************
*                            GEL Laboratories LLC                                 *
*                              2040 Savage Road                                   *
*                            Charleston, SC 29407                                 *
*********************************************************************************
*                                                                                *
*                          DETECTOR AND SAMPLE DATA                              *
*                                                                                *
* Configuration    : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G787535006.CNF;1      *
* Acquisition date : 17-AUG-2026 07:31:51 Sensitivity     : 3.000               *
* Detector ID      : GAM34                Energy tolerance: 1.500               *
* Elapsed live time:    0 02:00:00.00     Abundance limit : 75.000              *
* Elapsed real time:    0 02:00:00.98     Half life ratio : *****               *
* Sample date      : 14-JUL-2026 11:30:00 Nuclide Library : SOLID               *
* Sample ID        : G787535006           Analyst initials: GG                  *
* Batch Number     : 3033734              Sample Quantity : 1.2692E+02 GRAM     *
* Wet wt corr      :    1.00000           Wet Weight      :    0.00000          *
*                                         Dry Weight      :    0.00000          *
*********************************************************************************
*                                                                                *
*                          CALIBRATION INFORMATION                               *
*                                                                                *
* Eff. Cal. date   :  3-SEP-2025 09:10:23 Eff. Geometry   : CAN                  *
* Eff. File        : DKA100:[CANBERRA.GAMMA]EFF_GAM34_CAN.CNF;7                  *
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Combined Critical Level Report

NOTE: Not all "Identified Nuclides" are valid.
Please refer to Certificate of Analysis.

---- Identified Nuclides ----

Nuclide	Lc (pCi/GRAM)
K-40	2.821E-01
CD-109	6.531E-01
SN-126	6.251E-02
EU-155	8.995E-02
TL-208	3.202E-02
BI-211	1.827E-01
BI-212	4.746E-01
PB-212	5.021E-02
BI-214	5.785E-02
PB-214	6.648E-02
RN-222	6.648E-02
RA-224	5.387E-01
RA-226	6.648E-02
AC-228	1.300E-01
RA-228	1.300E-01
TH-228	5.021E-02
TH-229	4.613E-01
TH-230	6.648E-02
PA-231	4.011E-01
TH-232	1.300E-01
PA-234M	1.372E+00
TH-234	1.372E+00
U-234	6.648E-02
U-235	1.776E-01
U-238	1.372E+00
AM-243	5.016E-02
ANH-511	2.270E-02

---- Non-Identified Nuclides ----

Nuclide	Lc (pCi/GRAM)	
BE-7	3.742E-01	NOT IDENT.
NA-22	2.669E-02	NOT IDENT.
NA-24	0.000E+00	SHORT HLIF
AL-26	3.442E-02	NOT IDENT.

SC-46	3.917E-02	FAIL ABUN
V-48	1.481E-01	NOT IDENT.
CR-51	4.816E-01	NOT IDENT.
MN-52	1.398E+00	FAIL ABUN
MN-54	2.976E-02	NOT IDENT.
CO-56	4.190E-02	FAIL ABUN
MN-56	0.000E+00	SHORT HLIF
CO-57	2.335E-02	NOT IDENT.
CO-58	3.993E-02	NOT IDENT.
FE-59	9.936E-02	NOT IDENT.
CO-60	3.521E-02	NOT IDENT.
ZN-65	7.559E-02	NOT IDENT.
GE-68	9.887E-01	NOT IDENT.
AS-73	1.503E+00	NOT IDENT.
AS-74	1.721E-01	NOT IDENT.
SE-75	4.185E-02	NOT IDENT.
BR-77	0.000E+00	SHORT HLIF
SR-82	3.875E-01	NOT IDENT.
RB-83	6.517E-02	NOT IDENT.
RB-84	9.314E-02	NOT IDENT.
KR-85	6.051E+00	NOT IDENT.
SR-85	3.903E-02	NOT IDENT.
RB-86	1.119E+00	NOT IDENT.
Y-88	3.614E-02	NOT IDENT.
Y-91	1.854E+01	NOT IDENT.
NB-94	3.288E-02	NOT IDENT.
NB-95	4.555E-02	NOT IDENT.
NB-95M	1.405E-01	NOT IDENT.
ZR-95	7.447E-02	NOT IDENT.
NB-97	0.000E+00	SHORT HLIF
ZR-97	0.000E+00	SHORT HLIF
MO-99	0.000E+00	SHORT HLIF
TC-99M	0.000E+00	SHORT HLIF
RH-101	2.683E-02	NOT IDENT.
RH-102	4.465E-02	FAIL ABUN
RU-103	4.635E-02	FAIL ABUN
RH-106	2.693E-01	NOT IDENT.
RU-106	2.693E-01	NOT IDENT.
AG-108M	2.500E-02	NOT IDENT.
AG-110	6.645E-01	NOT IDENT.
AG-110M	4.735E-02	FAIL ABUN
SN-113	4.613E-02	NOT IDENT.
CD-115	0.000E+00	SHORT HLIF
SN-117M	1.284E-01	NOT IDENT.
SB-122	0.000E+00	SHORT HLIF
TE-123M	2.946E-02	NOT IDENT.
SB-124	1.145E-01	NOT IDENT.
SB-125	8.056E-02	FAIL ABUN
TE-125M	1.129E+01	NOT IDENT.
I-126	6.033E-01	FAIL ABUN
SB-126	3.533E-01	FAIL ABUN
SB-127	3.179E+01	NOT IDENT.
I-131	5.064E-01	NOT IDENT.
I-132	0.000E+00	SHORT HLIF
TE-132	0.000E+00	SHORT HLIF
BA-133	3.781E-02	NOT IDENT.
I-133	0.000E+00	SHORT HLIF
CS-134	4.477E-02	NOT IDENT.
I-135	0.000E+00	SHORT HLIF
CS-136	2.490E-01	NOT IDENT.
BA-137M	3.227E-02	NOT IDENT.
CS-137	3.409E-02	NOT IDENT.
LA-138	4.485E-02	NOT IDENT.
CE-139	2.850E-02	NOT IDENT.
BA-140	6.989E-01	NOT IDENT.
LA-140	1.937E-01	NOT IDENT.
CE-141	7.984E-02	NOT IDENT.
CE-143	0.000E+00	SHORT HLIF
CE-144	1.800E-01	NOT IDENT.
PM-144	2.527E-02	NOT IDENT.
PR-144	1.914E+00	NOT IDENT.
PM-146	4.202E-02	NOT IDENT.
ND-147	1.653E+00	FAIL ABUN
PM-147	6.640E+02	NOT IDENT.
PM-149	0.000E+00	SHORT HLIF
EU-150	2.327E-02	FAIL ABUN
EU-152	9.189E-02	FAIL ABUN
GD-153	7.415E-02	NOT IDENT.

EU-154	7.313E-02	NOT IDENT.
TB-160	1.259E-01	FAIL ABUN
HO-166M	5.579E-02	FAIL ABUN
TM-171	2.656E+01	NOT IDENT.
HF-172	1.600E-01	FAIL ABUN
LU-172	6.582E-02	FAIL ABUN
LU-176	2.322E-02	FAIL ABUN
HF-181	5.769E-02	NOT IDENT.
TA-182	1.809E-01	FAIL ABUN
RE-183	3.119E-01	NOT IDENT.
RE-184	1.328E-01	FAIL ABUN
W-188	6.756E+00	FAIL ABUN
IR-192	3.812E-02	FAIL ABUN
HG-203	4.829E-02	NOT IDENT.
TL-204	5.236E+00	NOT IDENT.
BI-207	4.888E-02	FAIL ABUN
BI-210	6.629E+00	NOT IDENT.
PB-210	6.629E+00	NOT IDENT.
PB-211	6.394E-01	NOT IDENT.
BI-213	9.858E-02	NOT IDENT.
RN-219	3.869E-01	FAIL ABUN
RA-223	5.988E-01	FAIL ABUN
AC-225	2.008E+00	NOT IDENT.
AC-227	2.315E-01	FAIL ABUN
TH-227	2.315E-01	FAIL ABUN
TH-231	5.988E-01	FAIL ABUN
PA-233	5.603E-02	FAIL ABUN
PA-234	2.388E-01	NOT IDENT.
NP-237	5.603E-02	FAIL ABUN
NP-238	0.000E+00	SHORT HLIF
NP-239	2.370E-01	FAIL ABUN
PU-239	3.401E+02	FAIL ABUN
AM-241	1.847E-01	NOT IDENT.
CM-243	8.962E-02	NOT IDENT.
BK-247	6.963E-02	FAIL ABUN
CM-247	3.726E-02	NOT IDENT.
CF-249	3.995E-02	NOT IDENT.
CF-251	1.229E-01	NOT IDENT.

VAX/VMS Nuclide Identification Report Generated 17-AUG-2026 09:32:33.89

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*********************************************************************************
*                            GEL Laboratories LLC                                 *
*                              2040 Savage Road                                   *
*                            Charleston, SC 29407                                 *
*********************************************************************************
*                                                                                *
*                           DETECTOR AND SAMPLE DATA                             *
*                                                                                *
* Configuration    : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G787535006.CNF;1       *
* Acquisition date : 17-AUG-2026 07:31:51 Sensitivity     : 3.000                *
* Detector ID      : GAM34                Energy tolerance: 1.500                *
* Elapsed live time:    0 02:00:00.00     Abundance limit : 75.000               *
* Elapsed real time:    0 02:00:00.98     Half life ratio : *****                *
* Sample date      : 14-JUL-2026 11:30:00 Nuclide Library : SOLID                *
* Sample ID        : G787535006           Analyst initials: GG                   *
* Batch Number     : 3033734              Sample Quantity : 1.2692E+02 GRAM      *
*                                         Quantity Err(%) : 1.5758E-03 %         *
* Wet wt corr      :    1.00000           Wet Weight      :    0.00000           *
*                                         Dry Weight      :    0.00000           *
*********************************************************************************
*                                                                                *
*                           CALIBRATION INFORMATION                              *
*                                                                                *
* Eff. Cal. date   :  3-SEP-2025 09:10:23 Eff. Geometry   : CAN                  *
* Eff. File        : DKA100:[CANBERRA.GAMMA]EFF_GAM34_CAN.CNF;7                  *
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Combined Activity-MDA Report

NOTE: Not all "Identified Nuclides" are valid.
Please refer to Certificate of Analysis.

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act Error (1.96-sigma)	TPU (1.96-sigma)
K-40	9.593E+00	1.788E+00	1.788E+00
CD-109	7.356E+00	2.025E+00	2.025E+00
SN-126	6.991E-01	1.889E-01	1.889E-01
EU-155	2.447E-01	2.425E-01	2.425E-01
TL-208	6.280E-01	1.372E-01	1.372E-01
BI-211	1.121E+01	1.309E+00	1.309E+00
BI-212	1.805E+00	1.078E+00	1.078E+00
PB-212	2.276E+00	2.689E-01	2.689E-01
BI-214	3.195E+00	3.939E-01	3.939E-01
PB-214	4.068E+00	4.703E-01	4.703E-01
RN-222	4.068E+00	4.703E-01	4.703E-01
RA-224	1.050E+01	1.790E+00	1.790E+00
RA-226	4.068E+00	4.703E-01	4.703E-01
AC-228	2.059E+00	4.727E-01	4.727E-01
RA-228	2.059E+00	4.727E-01	4.727E-01
TH-228	2.276E+00	2.689E-01	2.689E-01
TH-229	-2.417E-01	5.402E-01	5.402E-01
TH-230	4.068E+00	4.703E-01	4.703E-01
PA-231	1.444E+00	1.222E+00	1.222E+00
TH-232	2.059E+00	4.727E-01	4.727E-01
PA-234M	4.195E+00	3.421E+00	3.421E+00
TH-234	4.195E+00	3.421E+00	3.421E+00
U-234	4.068E+00	4.703E-01	4.703E-01
U-235	1.996E-01	3.763E-01	3.763E-01
U-238	4.195E+00	3.421E+00	3.421E+00
AM-243	6.417E-01	1.578E-01	1.578E-01
ANH-511	2.227E-01	9.095E-02	9.095E-02

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L Act error (1.96-sigma)	TPU (1.96-sigma)	
BE-7	-1.246E-02	4.548E-01	4.549E-01	NOT IDENT.
NA-22	-2.379E-02	3.699E-02	3.851E-02	NOT IDENT.
NA-24	-2.781E+14	8.974E+14	9.062E+14	SHORT HLIF

AL-26	1.812E-02	3.696E-02	3.786E-02	NOT IDENT.
SC-46	1.893E-02	4.236E-02	4.321E-02	FAIL ABUN
V-48	1.090E-01	1.565E-01	1.640E-01	NOT IDENT.
CR-51	-6.629E-01	6.263E-01	6.939E-01	NOT IDENT.
MN-52	-3.000E+00	2.523E+00	2.863E+00	FAIL ABUN
MN-54	-2.175E-02	3.693E-02	3.821E-02	NOT IDENT.
CO-56	-1.428E-02	5.126E-02	5.166E-02	FAIL ABUN
MN-56	-1.000E+41	3.590E+41	0.000E+00	SHORT HLIF
CO-57	6.738E-03	2.569E-02	2.587E-02	NOT IDENT.
CO-58	1.020E-02	4.876E-02	4.897E-02	NOT IDENT.
FE-59	-6.960E-03	1.172E-01	1.172E-01	NOT IDENT.
CO-60	3.562E-05	4.180E-02	4.180E-02	NOT IDENT.
ZN-65	-2.179E-02	1.030E-01	1.035E-01	NOT IDENT.
GE-68	2.001E-01	1.117E+00	1.121E+00	NOT IDENT.
AS-73	1.422E+00	1.580E+00	1.705E+00	NOT IDENT.
AS-74	2.728E-03	2.118E-01	2.118E-01	NOT IDENT.
SE-75	-2.823E-02	5.081E-02	5.238E-02	NOT IDENT.
BR-77	8.391E+04	8.262E+04	9.087E+04	SHORT HLIF
SR-82	-3.853E-02	4.462E-01	4.465E-01	NOT IDENT.
RB-83	-9.442E-02	9.243E-02	1.018E-01	NOT IDENT.
RB-84	3.137E-02	1.029E-01	1.038E-01	NOT IDENT.
KR-85	3.681E+00	7.485E+00	7.667E+00	NOT IDENT.
SR-85	2.363E-02	4.830E-02	4.946E-02	NOT IDENT.
RB-86	1.918E-02	1.301E+00	1.301E+00	NOT IDENT.
Y-88	1.395E-02	3.951E-02	4.001E-02	NOT IDENT.
Y-91	-1.656E+01	2.472E+01	2.582E+01	NOT IDENT.
NB-94	8.772E-03	3.998E-02	4.017E-02	NOT IDENT.
NB-95	2.324E-02	5.391E-02	5.492E-02	NOT IDENT.
NB-95M	1.425E-01	1.550E-01	1.678E-01	NOT IDENT.
ZR-95	4.179E-02	7.944E-02	8.164E-02	NOT IDENT.
NB-97	1.000E+41	3.955E+41	0.000E+00	SHORT HLIF
ZR-97	6.418E+13	1.899E+14	1.921E+14	SHORT HLIF
MO-99	2.387E+02	1.506E+03	1.510E+03	SHORT HLIF
TC-99M	4.734E+38	1.131E+39	0.000E+00	SHORT HLIF
RH-101	-2.493E-03	3.237E-02	3.239E-02	NOT IDENT.
RH-102	-2.387E-02	5.883E-02	5.981E-02	FAIL ABUN
RU-103	-1.721E-02	5.843E-02	5.894E-02	FAIL ABUN
RH-106	1.319E-01	3.138E-01	3.194E-01	NOT IDENT.
RU-106	1.319E-01	3.138E-01	3.194E-01	NOT IDENT.
AG-108M	-2.366E-03	3.034E-02	3.036E-02	NOT IDENT.
AG-110	2.068E-01	7.963E-01	8.017E-01	NOT IDENT.
AG-110M	2.593E-02	5.100E-02	5.232E-02	FAIL ABUN
SN-113	1.478E-02	5.375E-02	5.416E-02	NOT IDENT.
CD-115	-3.109E+03	4.212E+03	4.439E+03	SHORT HLIF
SN-117M	3.297E-02	1.433E-01	1.441E-01	NOT IDENT.
SB-122	-2.006E+02	2.696E+02	2.844E+02	SHORT HLIF
TE-123M	5.656E-03	3.300E-02	3.310E-02	NOT IDENT.
SB-124	8.650E-02	1.174E-01	1.237E-01	NOT IDENT.
SB-125	1.614E-02	9.515E-02	9.543E-02	FAIL ABUN
TE-125M	6.995E+00	1.307E+01	1.345E+01	NOT IDENT.
I-126	1.347E+00	9.729E-01	1.147E+00	FAIL ABUN
SB-126	2.152E-01	3.756E-01	3.879E-01	FAIL ABUN
SB-127	3.538E+00	4.249E+01	4.252E+01	NOT IDENT.
I-131	-4.667E-02	6.060E-01	6.064E-01	NOT IDENT.
I-132	-1.000E+41	6.013E+41	0.000E+00	SHORT HLIF
TE-132	2.818E+01	4.341E+01	4.523E+01	SHORT HLIF
BA-133	2.651E-02	4.572E-02	4.725E-02	NOT IDENT.
I-133	5.014E+09	2.067E+10	2.079E+10	SHORT HLIF
CS-134	1.098E-02	4.993E-02	5.018E-02	NOT IDENT.
I-135	-6.437E+35	2.597E+36	0.000E+00	SHORT HLIF
CS-136	-9.350E-02	3.036E-01	3.065E-01	NOT IDENT.
BA-137M	7.832E-03	4.237E-02	4.252E-02	NOT IDENT.
CS-137	8.273E-03	4.476E-02	4.491E-02	NOT IDENT.
LA-138	-6.072E-04	5.377E-02	5.377E-02	NOT IDENT.
CE-139	1.545E-02	3.161E-02	3.237E-02	NOT IDENT.
BA-140	4.418E-01	8.035E-01	8.278E-01	NOT IDENT.
LA-140	-3.760E-02	2.757E-01	2.762E-01	NOT IDENT.
CE-141	-4.893E-02	9.963E-02	1.020E-01	NOT IDENT.
CE-143	1.471E+06	1.764E+06	1.885E+06	SHORT HLIF
CE-144	-6.032E-02	2.044E-01	2.062E-01	NOT IDENT.
PM-144	-2.447E-02	3.565E-02	3.731E-02	NOT IDENT.
PR-144	-1.835E+00	2.696E+00	2.820E+00	NOT IDENT.
PM-146	2.414E-02	4.843E-02	4.964E-02	NOT IDENT.
ND-147	-7.225E-01	2.106E+00	2.131E+00	FAIL ABUN
PM-147	2.444E+02	7.282E+02	7.365E+02	NOT IDENT.
PM-149	8.186E+03	3.222E+04	3.243E+04	SHORT HLIF
EU-150	-1.368E-02	3.116E-02	3.177E-02	FAIL ABUN
EU-152	1.878E-02	1.073E-01	1.076E-01	FAIL ABUN

GD-153	4.727E-03	8.750E-02	8.752E-02	NOT IDENT.
EU-154	-7.102E-02	1.029E-01	1.078E-01	NOT IDENT.
TB-160	-3.303E-02	1.493E-01	1.501E-01	FAIL ABUN
HO-166M	-1.355E-02	6.440E-02	6.469E-02	FAIL ABUN
TM-171	-1.439E+01	2.924E+01	2.995E+01	NOT IDENT.
HF-172	-1.469E-01	2.028E-01	2.133E-01	FAIL ABUN
LU-172	5.282E-02	6.996E-02	7.391E-02	FAIL ABUN
LU-176	-4.875E-03	2.766E-02	2.775E-02	FAIL ABUN
HF-181	2.679E-02	6.717E-02	6.825E-02	NOT IDENT.
TA-182	-5.182E-03	2.140E-01	2.140E-01	FAIL ABUN
RE-183	5.881E-02	3.338E-01	3.349E-01	NOT IDENT.
RE-184	-7.739E-02	1.649E-01	1.685E-01	FAIL ABUN
W-188	-1.221E+01	9.892E+00	1.132E+01	FAIL ABUN
IR-192	-4.528E-03	4.521E-02	4.526E-02	FAIL ABUN
HG-203	-1.795E-02	5.758E-02	5.815E-02	NOT IDENT.
TL-204	-1.961E-01	6.114E+00	6.114E+00	NOT IDENT.
BI-207	2.409E-02	5.354E-02	5.463E-02	FAIL ABUN
BI-210	-2.830E-01	7.102E+00	7.103E+00	NOT IDENT.
PB-210	-2.830E-01	7.102E+00	7.103E+00	NOT IDENT.
PB-211	-3.646E-01	8.716E-01	8.870E-01	NOT IDENT.
BI-213	2.344E-02	1.164E-01	1.169E-01	NOT IDENT.
RN-219	2.596E-01	4.407E-01	4.560E-01	FAIL ABUN
RA-223	1.790E-02	7.045E-01	7.045E-01	FAIL ABUN
AC-225	7.140E-02	2.304E+00	2.305E+00	NOT IDENT.
AC-227	-5.582E-02	2.949E-01	2.960E-01	FAIL ABUN
TH-227	-5.582E-02	2.949E-01	2.960E-01	FAIL ABUN
TH-231	1.790E-02	7.045E-01	7.045E-01	FAIL ABUN
PA-233	-2.180E-02	6.767E-02	6.838E-02	FAIL ABUN
PA-234	9.290E-03	2.744E-01	2.745E-01	NOT IDENT.
NP-237	-2.180E-02	6.767E-02	6.838E-02	FAIL ABUN
NP-238	2.215E+03	9.409E+03	9.462E+03	SHORT HLIF
NP-239	4.061E-02	2.617E-01	2.623E-01	FAIL ABUN
PU-239	8.199E+02	7.423E+02	8.292E+02	FAIL ABUN
AM-241	2.787E-02	1.981E-01	1.985E-01	NOT IDENT.
CM-243	-2.038E-02	1.103E-01	1.107E-01	NOT IDENT.
BK-247	7.792E-03	8.685E-02	8.692E-02	FAIL ABUN
CM-247	3.840E-02	4.179E-02	4.523E-02	NOT IDENT.
CF-249	3.295E-02	4.499E-02	4.738E-02	NOT IDENT.
CF-251	1.127E-01	1.347E-01	1.440E-01	NOT IDENT.

GEL Laboratories LLC
2040 Savage Road
Charleston, SC 29407

GAMMA SPECTROSCOPY BACKGROUND REPORT

ENERGY	MDA COUNTS	ENERGY	MDA COUNTS	ENERGY	MDA COUNTS
43.53	172.7573	85.43	177.5972	133.02	172.5120
45.60	174.3600	86.55	177.9029	133.52	181.2429
46.54	165.3686	86.79	177.9676	136.00	169.2250
49.72	0.0000	86.94	178.0081	136.47	170.2103
51.35	186.8116	87.09	178.0485	140.51	0.0000
51.87	186.2269	87.57	178.1795	143.76	184.2493
52.39	166.6805	88.03	178.3024	144.24	184.3458
52.97	153.4363	88.34	178.3865	145.44	188.2080
53.44	143.2933	88.47	178.4205	152.43	205.1250
54.07	169.6374	89.96	178.8200	153.25	193.4416
57.36	0.0000	1093.63	178.9995	323.87	175.3711
57.53	184.3892	91.11	179.1241	156.02	176.6173
57.98	172.5675	92.59	179.5155	158.56	166.0723
59.27	174.6028	93.35	179.7144	159.00	178.0800
59.32	174.6202	94.56	180.0298	162.33	177.7687
59.54	166.6807	94.65	180.0525	162.66	163.0854
60.96	155.3487	94.67	180.0573	163.33	157.6641
61.17	158.6261	94.87	180.1091	165.86	141.4274
62.93	166.9474	97.43	159.1677	176.31	169.0329
63.29	167.0595	98.43	160.5312	176.60	153.1995
63.58	167.1495	98.44	160.5327	177.52	148.6598
64.28	167.3651	99.53	171.0403	181.07	0.0000
66.73	212.2376	100.11	153.2054	181.52	178.9449
67.24	198.3412	102.03	157.9032	184.41	146.8070
125.81	201.7516	103.18	182.2198	143.76	146.9855
67.75	201.7762	103.37	165.0718	193.51	160.3716
68.89	214.4139	105.31	165.5054	197.03	176.1108
69.67	219.6051	106.12	165.6855	198.01	176.2660
70.82	227.9517	106.47	165.7632	201.83	156.7855
70.83	227.9559	109.28	179.0926	203.43	150.3018
72.81	205.7493	111.00	176.3116	205.31	140.9595
72.87	205.7704	111.76	0.0000	210.85	155.4424
74.66	206.3919	114.06	176.1366	215.65	122.8607
74.82	206.4474	116.30	0.0000	218.12	139.5923
74.97	206.4990	116.74	174.1129	222.11	137.1359
77.11	207.2334	119.76	169.5023	227.09	125.9766
78.74	207.7841	121.12	162.7487	227.38	126.0061
79.69	197.5876	121.22	162.7684	228.16	0.0000
80.03	197.6930	121.78	154.9574	228.18	116.3126
80.12	197.7238	122.06	162.9364	116.74	116.3126
80.19	197.7456	122.92	177.2153	235.69	121.9282
80.57	197.8655	123.07	169.3110	235.96	121.9547
81.00	176.3712	265.00	177.3778	238.63	122.2101
81.07	176.3906	125.81	184.0281	238.98	0.0000
81.75	176.5815	127.23	166.6156	240.99	122.4352
82.47	176.7820	127.91	157.8814	242.00	122.5317
83.79	177.1476	129.30	158.1401	244.70	122.7872
84.00	177.2058	131.20	176.8951	252.40	102.5929

ENERGY	MDA COUNTS	ENERGY	MDA COUNTS	ENERGY	MDA COUNTS
252.80	112.5862	345.93	76.3682	564.24	0.0000
254.15	0.0000	351.06	74.4754	569.33	40.3252
256.23	115.8726	351.93	74.5139	946.00	37.9551
260.90	0.0000	355.39	0.0000	569.70	39.1452
264.66	103.5281	356.01	56.9108	583.19	40.5597
264.80	103.5375	364.49	63.2709	584.27	40.5763
265.00	91.1536	366.42	0.0000	595.83	38.3711
269.46	84.7255	372.51	52.7907	427.87	42.0496
270.03	84.7588	375.05	63.6580	602.52	0.0000
271.23	84.8331	377.52	72.3898	604.72	38.5098
273.65	111.9568	356.01	59.6376	607.14	40.1530
276.40	119.6097	388.16	60.8689	609.32	34.9650
277.37	115.6317	388.63	57.6226	610.33	34.9791
277.60	101.4496	391.69	59.8994	614.28	38.6582
278.00	99.4475	264.66	73.3283	618.01	38.7148
279.20	120.8594	401.81	55.8513	620.36	27.8516
279.54	115.8091	402.40	54.7729	621.93	24.2346
279.70	115.8230	404.85	71.6657	630.19	0.0000
280.46	112.8360	410.95	55.0262	631.29	35.2694
283.69	80.4875	413.71	58.7809	633.25	32.8618
284.31	91.7331	414.70	59.5470	634.78	18.2675
285.41	93.8446	423.72	60.9384	635.95	28.0228
285.90	0.0000	427.09	55.4962	636.99	35.3473
287.50	77.6351	427.87	48.8555	657.50	28.2545
290.67	105.1042	433.94	49.0099	657.76	27.0287
293.27	0.0000	439.40	60.3166	657.90	0.0000
351.93	88.9968	440.45	54.7601	661.66	32.8109
295.96	89.0417	453.88	51.7556	664.57	0.0000
879.38	102.9205	463.37	40.6945	666.33	19.7207
299.98	70.0524	468.07	33.9899	666.50	19.7227
300.09	79.6745	473.00	49.9713	667.71	0.0000
300.13	79.6745	475.06	52.2947	677.62	14.8528
301.36	79.7406	476.78	51.2004	685.70	26.4844
302.85	79.8208	477.60	50.0814	692.65	0.0000
256.23	77.1527	482.18	46.7694	695.00	23.6677
304.85	77.1686	487.02	59.4537	696.49	32.4048
306.78	83.8205	492.35	0.0000	696.51	32.4048
308.46	82.8784	497.08	44.8010	697.00	27.4248
311.90	84.1023	505.52	36.9033	697.30	18.7006
316.51	86.4372	507.63	0.0000	697.49	18.7015
319.41	62.6001	511.00	35.8395	702.65	37.4725
320.08	91.8538	514.00	37.0469	706.68	32.5238
321.04	76.2437	514.00	37.0469	711.68	37.5952
323.87	86.8425	520.40	53.4093	720.70	21.7904
325.23	86.9185	520.69	0.0000	721.93	0.0000
328.76	88.1605	522.65	0.0000	722.78	30.1948
333.37	79.9939	527.90	0.0000	722.91	30.1948
333.97	84.2358	528.26	37.2852	723.31	27.6826
334.37	77.2341	529.59	37.3066	724.19	26.4333
338.28	83.4023	529.87	0.0000	727.33	36.1220
338.32	83.4047	531.02	48.9957	733.00	29.4600
311.90	77.5250	537.26	36.2638	735.93	25.2783
340.48	77.5250	546.56	0.0000	333.97	30.3501
340.55	77.5295	552.55	35.3284	739.50	0.0000
344.28	77.3509	563.25	31.9406	744.23	30.4204

ENERGY	MDA COUNTS	ENERGY	MDA COUNTS	ENERGY	MDA COUNTS
747.24	28.7608	964.08	16.2883	1457.56	0.0000
748.06	32.9983	966.17	16.2979	1460.82	8.1504
752.31	27.1159	968.97	16.3103	1489.16	13.3206
753.82	27.1302	983.53	14.5573	1505.03	16.4466
756.73	19.5186	984.45	0.0000	1584.12	12.5273
756.80	19.5195	1274.44	16.4348	1596.21	7.8473
884.68	26.7973	1002.74	26.5255	1620.50	8.4089
765.81	25.5371	1004.73	18.3032	1621.92	5.2572
766.84	24.6953	507.63	0.0000	1678.03	0.0000
772.60	0.0000	1025.87	0.0000	1690.97	4.2594
776.52	17.9409	1028.54	0.0000	1750.46	0.0000
739.50	0.0000	1037.84	20.3153	1764.49	4.3158
778.90	22.2295	1038.76	0.0000	1063.66	3.2400
783.70	32.1136	631.29	14.8086	1771.35	5.4012
788.74	14.1535	1048.07	23.1486	1791.20	0.0000
792.07	31.7728	1049.04	30.5642	1808.65	4.3490
795.86	37.8304	1050.41	16.6772	1810.72	0.0000
810.06	19.4348	1063.66	16.7358	1836.06	3.2771
810.29	19.4366	1077.00	12.1283		
344.28	19.4376	1077.34	12.1293		
810.76	20.7354	1085.87	12.1568		
815.77	24.2300	1093.63	15.9292		
1048.07	25.9839	1099.45	17.8295		
832.01	27.8359	1112.07	21.6523		
834.85	28.7313	1112.84	16.9482		
836.80	0.0000	1115.54	21.2000		
846.75	0.0000	1120.29	16.0371		
846.77	26.2170	1120.55	16.0385		
856.80	17.0942	1221.41	16.0413		
860.56	23.6964	1129.67	18.9111		
871.09	25.5343	1131.51	0.0000		
873.19	15.8591	1147.95	0.0000		
875.33	0.0000	1173.23	14.3359		
879.38	21.1855	1177.95	14.3530		
880.51	17.6603	1189.05	14.3909		
881.60	20.3159	1204.77	21.1872		
883.24	28.2799	1221.41	20.3027		
884.68	17.6831	1231.02	24.2249		
889.28	15.9368	1235.36	23.2793		
894.76	23.9447	1238.28	16.5006		
898.04	13.3154	1260.41	0.0000		
900.72	11.7267	1271.87	10.7601		
903.28	21.3379	1274.44	13.7026		
911.20	25.8435	1274.54	13.7026		
912.08	25.8505	1291.59	17.6865		
923.98	0.0000	1298.22	0.0000		
926.50	20.5892	1312.11	14.8059		
929.11	17.4695	1332.49	12.8900		
935.54	14.3607	1362.66	0.0000		
937.49	20.2057	1365.19	9.9862		
944.13	17.0951	1368.63	0.0000		
946.00	17.1043	1384.29	18.0483		
949.00	18.9210	1408.01	9.0696		
667.71	0.0000	1434.09	14.1846		
962.31	16.2795	1435.80	8.1087		

VAX/VMS Nuclide Identification Report Generated 17-AUG-2026 09:33:01.31

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*****************************************************************************
*                            GEL Laboratories LLC                           *
*                              2040 Savage Road                             *
*                            Charleston, SC 29407                           *
*****************************************************************************
Configuration    : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G787535007.CNF;1
Background file  : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]BKG_GAM52.CNF;176
                                       Background date  : 16-AUG-2026 08:56:06
Sample date      : 14-JUL-2026 12:00:00 Acquisition date : 17-AUG-2026 07:32:14
Sample ID        : G787535007           Sample quantity  : 1.16250E+02 GRAM
Detector name    : GAM52                Detector geometry: CAN
Elapsed live time: 0 02:00:00.00        Elapsed real time: 0 02:00:01.03  0.0%
Energy tolerance : 1.50000 keV          Analyst Initials : GG
Abundance limit  : 75.00000             Sensitivity      : 3.00000
Batch ID         : 3033734              Detector SN#     :
Matrix Spike ID  :                      LCS ID           :
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BACKGROUND CORRECTED SAMPLE PEAK REPORT

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	53.47	33	193	0.92	107.02	104	6	4.56E-03	69.0	
2	0	63.51*	33	299	0.95	127.12	124	7	4.65E-03	90.4	
3	3	74.82*	355	281	0.94	149.76	144	15	4.93E-02	9.4	1.45E+00
4	3	77.10*	535	239	0.86	154.33	144	15	7.43E-02	6.2	
5	5	84.05*	81	289	1.22	168.26	165	14	1.12E-02	37.7	1.51E+00
6	5	87.14*	189	263	0.96	174.44	165	14	2.62E-02	15.4	
7	6	89.90	117	170	0.81	179.97	178	14	1.63E-02	19.0	8.04E-01
8	6	92.83*	221	283	1.38	185.84	178	14	3.07E-02	15.4	
9	0	185.84*	131	275	1.15	372.08	367	11	1.82E-02	26.8	
10	0	192.01	23	175	1.53	384.45	378	9	3.22E-03	105.5	
11	8	209.24	113	137	1.25	418.94	415	12	1.57E-02	19.1	4.59E+00
12	8	211.12	27	168	1.44	422.72	415	12	3.78E-03	93.8	
13	0	213.54	24	122	1.19	427.55	426	7	3.34E-03	78.2	
14	6	238.63*	895	109	1.04	477.81	471	21	1.24E-01	3.9	1.82E+00
15	6	241.57	199	130	1.56	483.69	471	21	2.77E-02	15.0	
16	6	270.34	88	99	1.31	541.29	537	11	1.22E-02	22.3	2.71E+00
17	6	272.01	19	80	1.54	544.65	537	11	2.70E-03	89.8	
18	0	295.08*	299	144	1.13	590.84	585	12	4.16E-02	10.1	
19	0	300.36	36	47	0.79	601.41	599	5	4.99E-03	33.4	
20	0	327.88	32	110	0.92	656.52	654	8	4.40E-03	60.1	
21	0	338.42	130	121	1.15	677.64	673	9	1.81E-02	17.6	
22	0	351.80*	544	128	1.39	704.43	696	16	7.55E-02	6.4	
23	0	408.47	37	121	4.35	817.91	812	13	5.08E-03	64.0	
24	0	438.37	32	105	3.61	877.78	871	14	4.44E-03	70.2	
25	0	463.08	66	90	1.58	927.27	922	11	9.15E-03	30.9	
26	0	510.84*	83	108	1.98	1022.92	1014	20	1.15E-02	36.5	
27	0	583.51*	232	102	1.58	1168.44	1160	15	3.23E-02	11.7	
28	0	595.15	10	80	4.77	1191.76	1181	14	1.36E-03	196.3	
29	0	609.41*	390	50	1.54	1220.32	1215	14	5.41E-02	6.6	
30	0	635.50	9	38	0.98	1272.57	1267	9	1.28E-03	124.9	
31	0	661.61*	107	63	1.20	1324.85	1319	12	1.49E-02	17.9	
32	6	665.74	34	19	1.87	1333.13	1330	13	4.73E-03	23.6	1.13E+00
33	6	669.14	15	19	1.38	1339.95	1330	13	2.03E-03	57.5	
34	0	727.56	75	60	1.50	1456.94	1448	14	1.04E-02	24.6	

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
35	1	768.35	25	30	2.08	1538.62	1535	17	3.52E-03	40.0	4.98E+00
36	1	772.67	31	30	2.09	1547.29	1535	17	4.28E-03	35.4	
37	0	795.18	41	34	2.30	1592.36	1586	14	5.67E-03	34.4	
38	0	870.08	14	55	4.90	1742.38	1730	17	1.99E-03	121.7	
39	0	911.12*	198	18	1.85	1824.56	1818	15	2.75E-02	8.8	
40	0	934.43	25	46	1.53	1871.24	1864	13	3.40E-03	60.2	
41	1	964.41	36	35	2.31	1931.28	1925	24	4.96E-03	37.6	1.15E+00
42	1	968.96	112	38	2.31	1940.41	1925	24	1.56E-02	15.4	
43	0	1060.77	6	24	1.32	2124.28	2117	9	7.89E-04	162.9	
44	0	1065.32*	11	38	1.24	2133.39	2125	15	1.46E-03	132.8	
45	0	1120.27	112	25	2.44	2243.46	2237	14	1.56E-02	13.3	
46	0	1237.32	70	50	5.17	2477.88	2469	17	9.70E-03	26.3	
47	0	1378.43	38	25	2.92	2760.52	2749	22	5.22E-03	38.9	
48	0	1390.12	9	8	2.38	2783.94	2778	9	1.27E-03	66.9	
49	0	1407.90	11	21	0.63	2819.55	2809	14	1.58E-03	90.0	
50	0	1460.67*	775	21	2.69	2925.25	2913	21	1.08E-01	3.9	
51	0	1484.61	15	0	0.66	2973.20	2966	13	2.08E-03	25.8	
52	0	1552.35	9	2	0.79	3108.89	3103	10	1.19E-03	48.3	
53	0	1556.70	9	5	1.05	3117.61	3112	10	1.25E-03	57.2	
54	0	1588.53	20	8	3.31	3181.35	3175	12	2.77E-03	37.1	
55	0	1620.77	20	3	1.36	3245.94	3239	13	2.76E-03	29.2	
56	0	1629.65	15	0	2.61	3263.73	3257	13	2.08E-03	25.8	
57	0	1764.69*	45	13	1.82	3534.23	3524	17	6.26E-03	25.1	
58	1	1845.95	20	2	2.83	3697.00	3691	15	2.83E-03	24.8	1.08E+00
59	1	1847.80*	7	3	3.12	3700.72	3691	15	9.86E-04	93.0	

Flag: "*" = Peak area was modified by background subtraction

VMS Nuclide Identification Report V3.1 Generated 17-AUG-2026 09:33:02

Configuration	: DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G787535007.CNF;1		
Analyses by	: PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.4		
Sample title	: GG		
Sample date	: 14-JUL-2026 12:00:00	Acquisition date	: 17-AUG-2026 07:32:14
Sample ID	: G787535007	Sample quantity	: 116.25 GRAM
Sample type	: SOLID	Sample geometry	:
Detector name	: GAMMA52	Detector geometry	: CAN
Elapsed live time	: 0 02:00:00.00	Elapsed real time	: 0 02:00:01.03 0.0%
Energy tolerance	: 1.50 keV	Half life ratio	: 10.00
Errors propagated	: No	Systematic Error	: 0.00 %
Efficiency type	: Empirical	Efficiencies at	: Peak Energy
Abundance limit	: 75.00		

Interference Report

No interference correction performed

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
K-40	1460.82	731	10.66*	1.120E+00	1.979E+01	1.979E+01	7.82
AS-73	53.44	36	10.30*	3.020E+00	3.721E-01	4.984E-01	138.00
AS-74	595.83	10	59.00*	2.656E+00	1.991E-02	7.458E-02	392.60
	634.78	9	15.40	2.498E+00	7.604E-02	2.848E-01	249.84
CD-109	88.03	202	3.70*	7.373E+00	2.391E+00	2.516E+00	30.70
SN-126	64.28	36	9.60	4.806E+00	2.540E-01	2.540E-01	180.85
	86.94	202	8.90	7.373E+00	9.942E-01	9.942E-01	30.70
	87.57	202	37.00*	7.373E+00	2.391E-01	2.391E-01	30.70
BA-137M	661.66	105	89.90*	2.404E+00	1.570E-01	1.573E-01	35.81
CS-137	661.66	105	85.10*	2.404E+00	1.658E-01	1.662E-01	35.81
TL-208	277.37	------	6.60	5.032E+00	------ Line Not Found		------
	583.19	229	85.00*	2.705E+00	3.213E-01	3.213E-01	23.45
	860.56	------	12.50	1.856E+00	------ Line Not Found		------
BI-211	72.87	------	1.23	6.128E+00	------ Line Not Found		------
	351.06	548	12.92*	4.181E+00	3.273E+00	3.273E+00	12.79
BI-212	727.33	73	6.67*	2.193E+00	1.618E+00	1.618E+00	49.28
	1620.50	19	1.47	1.036E+00	3.956E+00	3.956E+00	58.31
PB-212	74.82	382	10.28	6.351E+00	1.891E+00	1.891E+00	18.89
	77.11	575	17.10	6.589E+00	1.648E+00	1.648E+00	12.36
	238.63	917	43.60*	5.621E+00	1.208E+00	1.208E+00	7.78
	300.09	36	3.30	4.735E+00	7.528E-01	7.528E-01	66.81
BI-214	609.32	383	45.49*	2.598E+00	1.046E+00	1.046E+00	13.11
	1120.29	107	14.92	1.426E+00	1.629E+00	1.629E+00	26.59
	1764.49	42	15.30	9.842E-01	9.038E-01	9.039E-01	50.19
PB-214	74.82	382	5.80	6.351E+00	3.352E+00	3.352E+00	18.89
	77.11	575	9.70	6.589E+00	2.904E+00	2.905E+00	12.36
	87.09	202	3.41	7.373E+00	2.595E+00	2.595E+00	30.70
	242.00	204	7.25	5.572E+00	1.631E+00	1.631E+00	30.00
	295.22	304	18.42	4.800E+00	1.109E+00	1.109E+00	20.12
	351.93	548	35.60*	4.181E+00	1.188E+00	1.188E+00	12.79
RN-222	74.82	382	5.80	6.351E+00	3.352E+00	3.352E+00	18.89
	77.11	575	9.70	6.589E+00	2.904E+00	2.905E+00	12.36
	87.09	202	3.41	7.373E+00	2.595E+00	2.595E+00	30.70
	242.00	204	7.25	5.572E+00	1.631E+00	1.631E+00	30.00
	295.22	304	18.42	4.800E+00	1.109E+00	1.109E+00	20.12
	351.93	548	35.60*	4.181E+00	1.188E+00	1.188E+00	12.79
RA-224	240.99	204	4.10*	5.572E+00	2.884E+00	2.884E+00	30.00
RA-226	74.82	382	5.80	6.351E+00	3.352E+00	3.352E+00	18.89
	77.11	575	9.70	6.589E+00	2.904E+00	2.905E+00	12.36
	87.09	202	3.41	7.373E+00	2.595E+00	2.595E+00	30.70
	242.00	204	7.25	5.572E+00	1.631E+00	1.631E+00	30.00
	295.22	304	18.42	4.800E+00	1.109E+00	1.109E+00	20.12
	351.93	548	35.60*	4.181E+00	1.188E+00	1.188E+00	12.79
AC-228	338.32	131	11.27	4.312E+00	8.736E-01	8.736E-01	35.15
	911.20	191	25.80*	1.753E+00	1.364E+00	1.364E+00	17.54
	968.97	108	15.80	1.647E+00	1.337E+00	1.337E+00	30.82
RA-228	338.32	131	11.27	4.312E+00	8.736E-01	8.736E-01	35.15
	911.20	191	25.80*	1.753E+00	1.364E+00	1.364E+00	17.54
	968.97	108	15.80	1.647E+00	1.337E+00	1.337E+00	30.82

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
TH-228	74.82	382	10.28	6.351E+00	1.891E+00	1.891E+00	18.89
	77.11	575	17.10	6.589E+00	1.648E+00	1.648E+00	12.36
	238.63	917	43.60*	5.621E+00	1.208E+00	1.208E+00	7.78
	300.09	36	3.30	4.735E+00	7.528E-01	7.528E-01	66.81
TH-229	85.43	86	14.70	7.175E+00	2.644E-01	2.644E-01	75.32
	88.47	202	24.00	7.373E+00	3.687E-01	3.687E-01	30.70
	193.51	24	4.41*	6.512E+00	2.695E-01	2.695E-01	211.06
	210.85	28	2.80	6.121E+00	5.288E-01	5.288E-01	187.52
TH-230	74.82	382	5.80	6.351E+00	3.352E+00	3.352E+00	18.89
	77.11	575	9.70	6.589E+00	2.904E+00	2.904E+00	12.36
	87.09	202	3.41	7.373E+00	2.595E+00	2.595E+00	30.70
	242.00	204	7.25	5.572E+00	1.631E+00	1.631E+00	30.00
	295.22	304	18.42	4.800E+00	1.109E+00	1.109E+00	20.12
	351.93	548	35.60*	4.181E+00	1.188E+00	1.188E+00	12.79
PA-231	283.69	------	1.70	4.947E+00	------ Line Not Found		------
	301.36	36	5.35*	4.735E+00	4.644E-01	4.644E-01	66.81
TH-232	338.32	131	11.27	4.312E+00	8.736E-01	8.736E-01	35.15
	911.20	191	25.80*	1.753E+00	1.364E+00	1.364E+00	17.54
	968.97	108	15.80	1.647E+00	1.337E+00	1.337E+00	30.82
PA-234M	63.29	36	3.70*	4.806E+00	6.590E-01	6.590E-01	180.85
	92.59	236	4.23	7.652E+00	2.350E+00	2.350E+00	30.70
TH-234	63.29	36	3.70*	4.806E+00	6.590E-01	6.590E-01	180.85
	92.59	236	4.23	7.652E+00	2.350E+00	2.350E+00	30.70
U-234	74.82	382	5.80	6.351E+00	3.352E+00	3.352E+00	18.89
	77.11	575	9.70	6.589E+00	2.904E+00	2.904E+00	12.36
	87.09	202	3.41	7.373E+00	2.595E+00	2.595E+00	30.70
	242.00	204	7.25	5.572E+00	1.631E+00	1.631E+00	30.00
	295.22	304	18.42	4.800E+00	1.109E+00	1.109E+00	20.12
	351.93	548	35.60*	4.181E+00	1.188E+00	1.188E+00	12.79
U-235	89.96	125	3.47	7.522E+00	1.548E+00	1.548E+00	38.10
	93.35	236	5.60	7.652E+00	1.775E+00	1.775E+00	30.70
	143.76	------	10.96*	7.580E+00	------ Line Not Found		------
	163.33	------	5.08	7.149E+00	------ Line Not Found		------
	185.72	136	57.20	6.645E+00	1.155E-01	1.155E-01	53.68
	205.31	------	5.01	6.236E+00	------ Line Not Found		------
U-238	63.29	36	3.70*	4.806E+00	6.590E-01	6.590E-01	180.85
	92.59	236	4.23	7.652E+00	2.350E+00	2.350E+00	30.70
AM-243	43.53	------	5.90	1.280E+00	------ Line Not Found		------
	74.66	382	67.20*	6.351E+00	2.893E-01	2.893E-01	18.89
ANH-511	511.00	82	100.00*	3.052E+00	8.651E-02	8.651E-02	72.99

Flag: "*" = Keyline

VAX/VMS Nuclide Identification Report Generated 17-AUG-2026 09:33:03.63

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**********************************************************************
*                          GEL Laboratories LLC                      *
*                            2040 Savage Road                        *
*                          Charleston, SC 29407                      *
**********************************************************************
*                                                                    *
*                        DETECTOR AND SAMPLE DATA                    *
*                                                                    *
* Configuration    : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G787535007.CNF;1    *
* Acquisition date : 17-AUG-2026 07:32:14 Sensitivity     : 3.000            *
* Detector ID      : GAM52                Energy tolerance: 1.500            *
* Elapsed live time:    0 02:00:00.00     Abundance limit : 75.000           *
* Elapsed real time:    0 02:00:01.03     Half life ratio : *****            *
* Sample date      : 14-JUL-2026 12:00:00 Analyst initials: GG               *
* Sample ID        : G787535007           Sample Quantity : 1.1625E+02 GRAM  *
* Batch Number     : 3033734              Wet Weight      :    0.00000       *
* Wet wt corr      :    1.00000           Dry Weight      :    0.00000       *
* Nuclide Library  : SOLID.NLB;19                                           *
**********************************************************************
*                                                                    *
*                        CALIBRATION INFORMATION                     *
*                                                                    *
* Eff. Cal. date   :  3-AUG-2026 11:49:46 Eff. Geometry   : CAN              *
* Eff. File        : DKA100:[CANBERRA.GAMMA]EFF_GAM52_CAN.CNF;8              *
**********************************************************************
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Combined Activity-MDA Report

NOTE: Not all "Identified Nuclides" are valid.
Please refer to Certificate of Analysis.

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Cnt uncert (1.96-sigma)	MDA (pCi/GRAM)
K-40	1.979E+01	1.517E+00	4.602E-01
AS-73	4.984E-01	6.741E-01	5.934E-01
AS-74	7.458E-02	2.869E-01	2.477E-01
CD-109	2.516E+00	7.571E-01	6.731E-01
SN-126	2.391E-01	7.196E-02	6.414E-02
BA-137M	1.573E-01	5.521E-02	4.826E-02
CS-137	1.662E-01	5.833E-02	5.098E-02
TL-208	3.213E-01	7.384E-02	4.370E-02
BI-211	3.273E+00	4.102E-01	2.053E-01
BI-212	1.618E+00	7.815E-01	5.651E-01
PB-212	1.208E+00	9.205E-02	5.507E-02
BI-214	1.046E+00	1.344E-01	8.118E-02
PB-214	1.188E+00	1.489E-01	7.469E-02
RN-222	1.188E+00	1.489E-01	7.469E-02
RA-224	2.884E+00	8.479E-01	5.908E-01
RA-226	1.188E+00	1.489E-01	7.469E-02
AC-228	1.364E+00	2.346E-01	1.661E-01
RA-228	1.364E+00	2.346E-01	1.661E-01
TH-228	1.208E+00	9.205E-02	5.507E-02
TH-229	2.695E-01	5.574E-01	4.684E-01
TH-230	1.188E+00	1.489E-01	7.468E-02
PA-231	4.644E-01	3.040E-01	4.777E-01
TH-232	1.364E+00	2.346E-01	1.661E-01
PA-234M	6.590E-01	1.168E+00	8.934E-01
TH-234	6.590E-01	1.168E+00	8.934E-01
U-234	1.188E+00	1.489E-01	7.468E-02
U-235	9.030E-02	1.054E-01	1.836E-01
U-238	6.590E-01	1.168E+00	8.934E-01
AM-243	2.893E-01	5.354E-02	4.017E-02
ANH-511	8.651E-02	6.188E-02	2.988E-02

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Cnt Uncert (1.96-sigma)	MDA (pCi/GRAM)

BE-7	2.992E-02	2.703E-01	4.870E-01	NOT IDENT.
NA-22	3.768E-02	3.249E-02	7.136E-02	NOT IDENT.
NA-24	0.000E+00	5.286E+14	0.000E+00	SHORT HLIF
AL-26	-4.048E-03	1.780E-02	3.564E-02	NOT IDENT.
SC-46	-8.294E-03	3.145E-02	5.703E-02	FAIL ABUN
V-48	-5.925E-02	1.030E-01	1.760E-01	NOT IDENT.
CR-51	8.762E-02	3.187E-01	6.061E-01	NOT IDENT.
MN-52	-1.349E+00	1.955E+00	3.395E+00	FAIL ABUN
MN-54	1.064E-02	2.863E-02	5.538E-02	NOT IDENT.
CO-56	8.301E-03	2.844E-02	5.634E-02	FAIL ABUN
MN-56	0.000E+00	1.960E+41	0.000E+00	SHORT HLIF
CO-57	-1.134E-02	1.406E-02	2.214E-02	NOT IDENT.
CO-58	-2.764E-03	2.740E-02	5.190E-02	NOT IDENT.
FE-59	2.010E-02	8.819E-02	1.670E-01	NOT IDENT.
CO-60	-1.975E-02	2.407E-02	4.117E-02	NOT IDENT.
ZN-65	-2.672E-02	7.871E-02	1.191E-01	NOT IDENT.
GE-68	-1.402E-02	1.166E+00	2.103E+00	NOT IDENT.
SE-75	1.116E-02	2.551E-02	4.976E-02	NOT IDENT.
BR-77	0.000E+00	3.373E+03	0.000E+00	SHORT HLIF
SR-82	4.126E-02	4.445E-01	7.600E-01	NOT IDENT.
RB-83	1.235E-02	5.683E-02	1.027E-01	NOT IDENT.
RB-84	-5.385E-03	7.452E-02	1.380E-01	NOT IDENT.
KR-85	1.905E+00	4.125E+00	7.742E+00	NOT IDENT.
SR-85	1.224E-02	2.662E-02	4.994E-02	NOT IDENT.
RB-86	4.445E-03	1.381E+00	2.498E+00	NOT IDENT.
Y-88	1.621E-02	2.659E-02	6.287E-02	NOT IDENT.
Y-91	1.163E+01	2.184E+01	4.153E+01	NOT IDENT.
NB-94	2.091E-02	2.256E-02	4.655E-02	FAIL ABUN
NB-95	2.121E-02	3.616E-02	6.662E-02	NOT IDENT.
NB-95M	-2.412E-02	8.516E-02	1.460E-01	NOT IDENT.
ZR-95	2.722E-02	5.236E-02	1.068E-01	NOT IDENT.
NB-97	0.000E+00	1.927E+41	0.000E+00	SHORT HLIF
ZR-97	0.000E+00	9.540E+13	0.000E+00	SHORT HLIF
MO-99	0.000E+00	8.709E+02	0.000E+00	SHORT HLIF
TC-99M	0.000E+00	5.495E+38	0.000E+00	SHORT HLIF
RH-101	-2.331E-03	1.717E-02	2.863E-02	NOT IDENT.
RH-102	4.607E-03	3.329E-02	5.992E-02	NOT IDENT.
RU-103	-1.045E-02	3.476E-02	5.969E-02	FAIL ABUN
RH-106	3.254E-02	1.954E-01	3.849E-01	NOT IDENT.
RU-106	3.254E-02	1.954E-01	3.849E-01	NOT IDENT.
AG-108M	9.134E-03	1.953E-02	3.448E-02	NOT IDENT.
AG-110	1.678E-01	5.344E-01	9.635E-01	NOT IDENT.
AG-110M	-1.657E-02	3.923E-02	6.924E-02	NOT IDENT.
SN-113	-8.427E-03	2.664E-02	4.712E-02	NOT IDENT.
CD-115	0.000E+00	2.467E+03	0.000E+00	SHORT HLIF
SN-117M	-2.911E-02	8.344E-02	1.325E-01	NOT IDENT.
SB-122	0.000E+00	1.517E+02	0.000E+00	SHORT HLIF
TE-123M	7.406E-03	1.690E-02	2.908E-02	NOT IDENT.
SB-124	-6.031E-02	7.435E-02	1.204E-01	NOT IDENT.
SB-125	4.643E-02	5.675E-02	1.108E-01	FAIL ABUN
TE-125M	-5.959E+00	6.003E+00	9.422E+00	NOT IDENT.
I-126	8.415E-01	3.897E-01	8.950E-01	FAIL ABUN
SB-126	1.142E-01	2.878E-01	5.219E-01	FAIL ABUN
SB-127	-4.181E+00	2.416E+01	4.542E+01	NOT IDENT.
I-131	1.340E-01	3.258E-01	6.228E-01	FAIL ABUN
I-132	0.000E+00	1.127E+41	0.000E+00	SHORT HLIF
TE-132	0.000E+00	2.103E+01	0.000E+00	SHORT HLIF
BA-133	5.572E-03	2.312E-02	4.084E-02	NOT IDENT.
I-133	0.000E+00	1.134E+10	0.000E+00	SHORT HLIF
CS-134	0.000E+00	5.189E-02	6.190E-02	FAIL ABUN
I-135	0.000E+00	1.742E+36	0.000E+00	SHORT HLIF
CS-136	9.606E-02	2.072E-01	4.067E-01	NOT IDENT.
LA-138	-3.902E-03	4.399E-02	8.508E-02	NOT IDENT.
CE-139	-9.311E-03	1.826E-02	2.837E-02	NOT IDENT.
BA-140	-3.477E-01	4.542E-01	7.200E-01	NOT IDENT.
LA-140	2.523E-02	1.650E-01	3.407E-01	FAIL ABUN
CE-141	-1.237E-03	4.847E-02	8.057E-02	NOT IDENT.
CE-143	0.000E+00	8.510E+05	0.000E+00	SHORT HLIF
CE-144	1.467E-02	9.859E-02	1.694E-01	NOT IDENT.
PM-144	5.388E-03	2.375E-02	4.610E-02	NOT IDENT.
PR-144	3.843E-01	1.792E+00	3.475E+00	NOT IDENT.
PM-146	1.131E-02	2.960E-02	5.460E-02	NOT IDENT.
ND-147	4.386E-03	1.111E+00	1.981E+00	FAIL ABUN
PM-147	-6.912E+01	3.948E+02	6.609E+02	NOT IDENT.
PM-149	0.000E+00	1.788E+04	0.000E+00	SHORT HLIF
EU-150	-1.867E-02	1.632E-02	2.404E-02	FAIL ABUN
EU-152	2.657E-02	5.425E-02	1.044E-01	FAIL ABUN
GD-153	-3.156E-02	4.277E-02	6.788E-02	NOT IDENT.

EU-154	1.087E-01	9.165E-02	2.015E-01	NOT IDENT.
EU-155	-6.797E-03	5.836E-02	9.934E-02	FAIL ABUN
TB-160	-3.752E-02	1.133E-01	2.032E-01	FAIL ABUN
HO-166M	-4.073E-02	3.745E-02	6.220E-02	FAIL ABUN
TM-171	8.433E+00	1.140E+01	9.977E+00	FAIL ABUN
HF-172	7.146E-02	1.030E-01	1.844E-01	FAIL ABUN
LU-172	5.106E-02	5.459E-02	1.100E-01	FAIL ABUN
LU-176	-1.035E-02	1.512E-02	2.639E-02	FAIL ABUN
HF-181	-7.854E-03	3.466E-02	6.055E-02	NOT IDENT.
TA-182	-2.919E-02	1.629E-01	3.059E-01	FAIL ABUN
RE-183	1.496E-02	8.353E-02	1.562E-01	NOT IDENT.
RE-184	-2.961E-02	1.321E-01	2.390E-01	NOT IDENT.
W-188	1.061E+00	4.996E+00	8.844E+00	FAIL ABUN
IR-192	-2.795E-03	2.355E-02	4.313E-02	FAIL ABUN
HG-203	-1.015E-02	2.890E-02	5.239E-02	NOT IDENT.
TL-204	7.942E-01	2.057E+00	3.781E+00	NOT IDENT.
BI-207	1.031E-02	4.623E-02	7.908E-02	FAIL ABUN
BI-210	-3.665E-01	1.150E+00	2.053E+00	NOT IDENT.
PB-210	-3.665E-01	1.150E+00	2.053E+00	NOT IDENT.
PB-211	2.574E-01	4.447E-01	7.999E-01	NOT IDENT.
BI-213	-2.592E-03	6.611E-02	1.182E-01	NOT IDENT.
RN-219	-4.271E-03	2.369E-01	4.294E-01	FAIL ABUN
RA-223	2.092E-01	3.652E-01	7.061E-01	FAIL ABUN
AC-225	-1.703E-01	1.163E+00	2.190E+00	NOT IDENT.
AC-227	4.535E-02	1.338E-01	2.585E-01	FAIL ABUN
TH-227	4.535E-02	1.338E-01	2.585E-01	FAIL ABUN
TH-231	2.092E-01	3.652E-01	7.061E-01	FAIL ABUN
PA-233	7.525E-03	2.986E-02	5.768E-02	FAIL ABUN
PA-234	-9.366E-02	1.947E-01	3.402E-01	NOT IDENT.
NP-237	7.525E-03	2.986E-02	5.768E-02	FAIL ABUN
NP-238	0.000E+00	5.602E+03	0.000E+00	SHORT HLIF
NP-239	5.617E-02	1.376E-01	2.430E-01	NOT IDENT.
PU-239	1.561E+02	1.924E+02	3.439E+02	NOT IDENT.
AM-241	3.993E-02	5.783E-02	1.108E-01	NOT IDENT.
CM-243	-4.794E-02	5.430E-02	8.695E-02	NOT IDENT.
BK-247	4.029E-03	4.289E-02	8.122E-02	FAIL ABUN
CM-247	-4.169E-03	2.246E-02	3.991E-02	NOT IDENT.
CF-249	-3.142E-03	2.306E-02	4.144E-02	NOT IDENT.
CF-251	-1.419E-03	6.384E-02	1.237E-01	NOT IDENT.

VAX/VMS Nuclide Identification Report Generated 17-AUG-2026 09:33:02.13

Nuclide Line Activity Report

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
K-40	1460.82	731	10.66*	1.120E+00	1.979E+01	1.979E+01	7.82
AS-73	53.44	36	10.30*	3.020E+00	3.721E-01	4.984E-01	138.00
AS-74	595.83	10	59.00*	2.656E+00	1.991E-02	7.458E-02	392.60
	634.78	9	15.40	2.498E+00	7.604E-02	2.848E-01	249.84
CD-109	88.03	202	3.70*	7.373E+00	2.391E+00	2.516E+00	30.70
SN-126	64.28	36	9.60	4.806E+00	2.540E-01	2.540E-01	180.85
	86.94	202	8.90	7.373E+00	9.942E-01	9.942E-01	30.70
	87.57	202	37.00*	7.373E+00	2.391E-01	2.391E-01	30.70
BA-137M	661.66	105	89.90*	2.404E+00	1.570E-01	1.573E-01	35.81
CS-137	661.66	105	85.10*	2.404E+00	1.658E-01	1.662E-01	35.81
TL-208	277.37	------	6.60	5.032E+00	------ Line Not Found		------
	583.19	229	85.00*	2.705E+00	3.213E-01	3.213E-01	23.45
	860.56	------	12.50	1.856E+00	------ Line Not Found		------
BI-211	72.87	------	1.23	6.128E+00	------ Line Not Found		------
	351.06	548	12.92*	4.181E+00	3.273E+00	3.273E+00	12.79
BI-212	727.33	73	6.67*	2.193E+00	1.618E+00	1.618E+00	49.28
	1620.50	19	1.47	1.036E+00	3.956E+00	3.956E+00	58.31
PB-212	74.82	382	10.28	6.351E+00	1.891E+00	1.891E+00	18.89
	77.11	575	17.10	6.589E+00	1.648E+00	1.648E+00	12.36
	238.63	917	43.60*	5.621E+00	1.208E+00	1.208E+00	7.78
	300.09	36	3.30	4.735E+00	7.528E-01	7.528E-01	66.81
BI-214	609.32	383	45.49*	2.598E+00	1.046E+00	1.046E+00	13.11
	1120.29	107	14.92	1.426E+00	1.629E+00	1.629E+00	26.59
	1764.49	42	15.30	9.842E-01	9.038E-01	9.039E-01	50.19
PB-214	74.82	382	5.80	6.351E+00	3.352E+00	3.352E+00	18.89
	77.11	575	9.70	6.589E+00	2.904E+00	2.905E+00	12.36
	87.09	202	3.41	7.373E+00	2.595E+00	2.595E+00	30.70
	242.00	204	7.25	5.572E+00	1.631E+00	1.631E+00	30.00
	295.22	304	18.42	4.800E+00	1.109E+00	1.109E+00	20.12
	351.93	548	35.60*	4.181E+00	1.188E+00	1.188E+00	12.79
RN-222	74.82	382	5.80	6.351E+00	3.352E+00	3.352E+00	18.89
	77.11	575	9.70	6.589E+00	2.904E+00	2.905E+00	12.36
	87.09	202	3.41	7.373E+00	2.595E+00	2.595E+00	30.70
	242.00	204	7.25	5.572E+00	1.631E+00	1.631E+00	30.00
	295.22	304	18.42	4.800E+00	1.109E+00	1.109E+00	20.12
	351.93	548	35.60*	4.181E+00	1.188E+00	1.188E+00	12.79
RA-224	240.99	204	4.10*	5.572E+00	2.884E+00	2.884E+00	30.00
RA-226	74.82	382	5.80	6.351E+00	3.352E+00	3.352E+00	18.89
	77.11	575	9.70	6.589E+00	2.904E+00	2.905E+00	12.36
	87.09	202	3.41	7.373E+00	2.595E+00	2.595E+00	30.70
	242.00	204	7.25	5.572E+00	1.631E+00	1.631E+00	30.00
	295.22	304	18.42	4.800E+00	1.109E+00	1.109E+00	20.12
	351.93	548	35.60*	4.181E+00	1.188E+00	1.188E+00	12.79
AC-228	338.32	131	11.27	4.312E+00	8.736E-01	8.736E-01	35.15
	911.20	191	25.80*	1.753E+00	1.364E+00	1.364E+00	17.54
	968.97	108	15.80	1.647E+00	1.337E+00	1.337E+00	30.82
RA-228	338.32	131	11.27	4.312E+00	8.736E-01	8.736E-01	35.15

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
	911.20	191	25.80*	1.753E+00	1.364E+00	1.364E+00	17.54
	968.97	108	15.80	1.647E+00	1.337E+00	1.337E+00	30.82
TH-228	74.82	382	10.28	6.351E+00	1.891E+00	1.891E+00	18.89
	77.11	575	17.10	6.589E+00	1.648E+00	1.648E+00	12.36
	238.63	917	43.60*	5.621E+00	1.208E+00	1.208E+00	7.78
	300.09	36	3.30	4.735E+00	7.528E-01	7.528E-01	66.81
TH-229	85.43	86	14.70	7.175E+00	2.644E-01	2.644E-01	75.32
	88.47	202	24.00	7.373E+00	3.687E-01	3.687E-01	30.70
	193.51	24	4.41*	6.512E+00	2.695E-01	2.695E-01	211.06
	210.85	28	2.80	6.121E+00	5.288E-01	5.288E-01	187.52
TH-230	74.82	382	5.80	6.351E+00	3.352E+00	3.352E+00	18.89
	77.11	575	9.70	6.589E+00	2.904E+00	2.904E+00	12.36
	87.09	202	3.41	7.373E+00	2.595E+00	2.595E+00	30.70
	242.00	204	7.25	5.572E+00	1.631E+00	1.631E+00	30.00
	295.22	304	18.42	4.800E+00	1.109E+00	1.109E+00	20.12
	351.93	548	35.60*	4.181E+00	1.188E+00	1.188E+00	12.79
PA-231	283.69	------	1.70	4.947E+00	------ Line Not Found		------
	301.36	36	5.35*	4.735E+00	4.644E-01	4.644E-01	66.81
TH-232	338.32	131	11.27	4.312E+00	8.736E-01	8.736E-01	35.15
	911.20	191	25.80*	1.753E+00	1.364E+00	1.364E+00	17.54
	968.97	108	15.80	1.647E+00	1.337E+00	1.337E+00	30.82
PA-234M	63.29	36	3.70*	4.806E+00	6.590E-01	6.590E-01	180.85
	92.59	236	4.23	7.652E+00	2.350E+00	2.350E+00	30.70
TH-234	63.29	36	3.70*	4.806E+00	6.590E-01	6.590E-01	180.85
	92.59	236	4.23	7.652E+00	2.350E+00	2.350E+00	30.70
U-234	74.82	382	5.80	6.351E+00	3.352E+00	3.352E+00	18.89
	77.11	575	9.70	6.589E+00	2.904E+00	2.904E+00	12.36
	87.09	202	3.41	7.373E+00	2.595E+00	2.595E+00	30.70
	242.00	204	7.25	5.572E+00	1.631E+00	1.631E+00	30.00
	295.22	304	18.42	4.800E+00	1.109E+00	1.109E+00	20.12
	351.93	548	35.60*	4.181E+00	1.188E+00	1.188E+00	12.79
U-235	89.96	125	3.47	7.522E+00	1.548E+00	1.548E+00	38.10
	93.35	236	5.60	7.652E+00	1.775E+00	1.775E+00	30.70
	143.76	------	10.96*	7.580E+00	------ Line Not Found		------
	163.33	------	5.08	7.149E+00	------ Line Not Found		------
	185.72	136	57.20	6.645E+00	1.155E-01	1.155E-01	53.68
	205.31	------	5.01	6.236E+00	------ Line Not Found		------
U-238	63.29	36	3.70*	4.806E+00	6.590E-01	6.590E-01	180.85
	92.59	236	4.23	7.652E+00	2.350E+00	2.350E+00	30.70
AM-243	43.53	------	5.90	1.280E+00	------ Line Not Found		------
	74.66	382	67.20*	6.351E+00	2.893E-01	2.893E-01	18.89
ANH-511	511.00	82	100.00*	3.052E+00	8.651E-02	8.651E-02	72.99

Flag: "*" = Keyline

Sample ID : G787535007 Acquisition date : 17-AUG-2026 07:32:14

Total number of lines in spectrum	59	
Number of unidentified lines	15	
Number of lines tentatively identified by NID	44	74.58%

Nuclide Type :

Nuclide	Hlife	Decay	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
K-40	1.25E+09Y	1.00	1.979E+01	1.979E+01	0.155E+01	7.82	
AS-73	80.30D	1.34	3.721E-01	4.984E-01	6.878E-01	138.00	
AS-74	17.77D	3.75	1.991E-02	7.458E-02	29.28E-02	392.60	
CD-109	461.40D	1.05	2.391E+00	2.516E+00	0.773E+00	30.70	
SN-126	2.30E+05Y	1.00	2.391E-01	2.391E-01	0.734E-01	30.70	
BA-137M	30.08Y	1.00	1.570E-01	1.573E-01	0.563E-01	35.81	
CS-137	30.08Y	1.00	1.658E-01	1.662E-01	0.595E-01	35.81	
TL-208	1.41E+10Y	1.00	3.213E-01	3.213E-01	0.753E-01	23.45	
BI-211	7.04E+08Y	1.00	3.273E+00	3.273E+00	0.419E+00	12.79	
BI-212	1.41E+10Y	1.00	1.618E+00	1.618E+00	0.797E+00	49.28	
PB-212	1.41E+10Y	1.00	1.208E+00	1.208E+00	0.094E+00	7.78	
BI-214	1600.00Y	1.00	1.046E+00	1.046E+00	0.137E+00	13.11	
PB-214	1600.00Y	1.00	1.188E+00	1.188E+00	0.152E+00	12.79	
RN-222	1600.00Y	1.00	1.188E+00	1.188E+00	0.152E+00	12.79	
RA-224	1.41E+10Y	1.00	2.884E+00	2.884E+00	0.865E+00	30.00	
RA-226	1600.00Y	1.00	1.188E+00	1.188E+00	0.152E+00	12.79	
AC-228	1.41E+10Y	1.00	1.364E+00	1.364E+00	0.239E+00	17.54	
RA-228	1.41E+10Y	1.00	1.364E+00	1.364E+00	0.239E+00	17.54	
TH-228	1.41E+10Y	1.00	1.208E+00	1.208E+00	0.094E+00	7.78	
TH-229	7340.00Y	1.00	2.695E-01	2.695E-01	5.687E-01	211.06	
TH-230	7.54E+04Y	1.00	1.188E+00	1.188E+00	0.152E+00	12.79	
PA-231	7.04E+08Y	1.00	4.644E-01	4.644E-01	3.102E-01	66.81	
TH-232	1.41E+10Y	1.00	1.364E+00	1.364E+00	0.239E+00	17.54	
PA-234M	4.47E+09Y	1.00	6.590E-01	6.590E-01	11.92E-01	180.85	
TH-234	4.47E+09Y	1.00	6.590E-01	6.590E-01	11.92E-01	180.85	
U-234	2.45E+05Y	1.00	1.188E+00	1.188E+00	0.152E+00	12.79	
U-235	7.04E+08Y	1.00	1.155E-01	1.155E-01	0.620E-01	53.68	K
U-238	4.47E+09Y	1.00	6.590E-01	6.590E-01	11.92E-01	180.85	
AM-243	7370.00Y	1.00	2.893E-01	2.893E-01	0.546E-01	18.89	
ANH-511	1.00E+09Y	1.00	8.651E-02	8.651E-02	6.314E-02	72.99	
Total Activity :			4.793E+01	4.823E+01			

Grand Total Activity : 4.793E+01 4.823E+01

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
8	209.24	116	141	1.25	418.94	415	12	1.57E-02	38.2	6.16E+00	
0	213.54	25	126	1.19	427.55	426	7	3.34E-03	****	6.07E+00	
6	270.34	89	101	1.31	541.29	537	11	1.22E-02	44.6	5.13E+00	T
6	272.01	20	82	1.54	544.65	537	11	2.70E-03	****	5.11E+00	T
0	327.88	32	111	0.92	656.52	654	8	4.40E-03	****	4.42E+00	T
0	408.47	37	121	4.35	817.91	812	13	5.08E-03	****	3.70E+00	
0	438.37	32	105	3.61	877.78	871	14	4.44E-03	****	3.49E+00	T
0	463.08	66	90	1.58	927.27	922	11	9.15E-03	61.7	3.33E+00	T
6	665.74	33	18	1.87	1333.13	1330	13	4.73E-03	47.3	2.39E+00	T
6	669.14	14	19	1.38	1339.95	1330	13	2.03E-03	****	2.38E+00	T
1	768.35	25	30	2.08	1538.62	1535	17	3.52E-03	80.0	2.08E+00	
1	772.67	30	29	2.09	1547.29	1535	17	4.28E-03	70.8	2.07E+00	T
0	795.18	40	33	2.30	1592.36	1586	14	5.67E-03	68.8	2.01E+00	T
0	870.08	14	53	4.90	1742.38	1730	17	1.99E-03	****	1.84E+00	T
0	934.43	24	44	1.53	1871.24	1864	13	3.40E-03	****	1.71E+00	T
1	964.41	34	34	2.31	1931.28	1925	24	4.96E-03	75.1	1.66E+00	T
0	1060.77	5	23	1.32	2124.28	2117	9	7.89E-04	****	1.50E+00	
0	1065.32	10	37	1.24	2133.39	2125	15	1.46E-03	****	1.50E+00	
0	1237.32	66	48	5.17	2477.88	2469	17	9.70E-03	52.5	1.30E+00	T
0	1378.43	36	24	2.92	2760.52	2749	22	5.22E-03	77.9	1.18E+00	
0	1390.12	9	7	2.38	2783.94	2778	9	1.27E-03	****	1.17E+00	
0	1407.90	11	19	0.63	2819.55	2809	14	1.58E-03	****	1.15E+00	T
0	1484.61	14	0	0.66	2973.20	2966	13	2.08E-03	51.6	1.11E+00	
0	1552.35	8	2	0.79	3108.89	3103	10	1.19E-03	96.7	1.07E+00	
0	1556.70	8	5	1.05	3117.61	3112	10	1.25E-03	****	1.07E+00	
0	1588.53	19	8	3.31	3181.35	3175	12	2.77E-03	74.3	1.05E+00	
0	1629.65	14	0	2.61	3263.73	3257	13	2.08E-03	51.6	1.03E+00	
1	1845.95	19	1	2.83	3697.00	3691	15	2.83E-03	49.7	9.63E-01	
1	1847.80	7	3	3.12	3700.72	3691	15	9.86E-04	****	9.62E-01	

Flags: "T" = Tentatively associated

VAX/VMS Nuclide Identification Report Generated 17-AUG-2026 09:33:13.80

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*************************************************************************
*                          GEL Laboratories LLC                         *
*                            2040 Savage Road                           *
*                          Charleston, SC 29407                         *
*************************************************************************
*                                                                       *
*                        DETECTOR AND SAMPLE DATA                       *
*                                                                       *
* Configuration    : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G787535007.CNF;1    *
* Acquisition date : 17-AUG-2026 07:32:14 Sensitivity     : 3.000          *
* Detector ID      : GAM52                Energy tolerance: 1.500          *
* Elapsed live time:    0 02:00:00.00     Abundance limit : 75.000         *
* Elapsed real time:    0 02:00:01.03     Half life ratio : *****          *
* Sample date      : 14-JUL-2026 12:00:00 Nuclide Library : SOLID          *
* Sample ID        : G787535007           Analyst initials: GG             *
* Batch Number     : 3033734              Sample Quantity : 1.1625E+02 GRAM   *
* Wet wt corr      :    1.00000           Wet Weight      :    0.00000     *
*                                         Dry Weight      :    0.00000     *
*************************************************************************
*                                                                       *
*                        CALIBRATION INFORMATION                        *
*                                                                       *
* Eff. Cal. date   :  3-AUG-2026 11:49:46 Eff. Geometry   : CAN           *
* Eff. File        : DKA100:[CANBERRA.GAMMA]EFF_GAM52_CAN.CNF;8           *
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Combined Critical Level Report

NOTE: Not all "Identified Nuclides" are valid.
Please refer to Certificate of Analysis.

---- Identified Nuclides ----

Nuclide	Lc (pCi/GRAM)
K-40	1.937E-01
AS-73	2.774E-01
AS-74	1.134E-01
CD-109	3.196E-01
SN-126	3.045E-02
BA-137M	2.211E-02
CS-137	2.335E-02
TL-208	1.995E-02
BI-211	9.452E-02
BI-212	2.527E-01
PB-212	2.574E-02
BI-214	3.689E-02
PB-214	3.439E-02
RN-222	3.439E-02
RA-224	2.762E-01
RA-226	3.439E-02
AC-228	7.339E-02
RA-228	7.339E-02
TH-228	2.574E-02
TH-229	2.188E-01
TH-230	3.439E-02
PA-231	2.215E-01
TH-232	7.339E-02
PA-234M	4.215E-01
TH-234	4.215E-01
U-234	3.439E-02
U-235	8.646E-02
U-238	4.215E-01
AM-243	1.904E-02
ANH-511	1.351E-02

---- Non-Identified Nuclides ----

Nuclide	Lc (pCi/GRAM)	
BE-7	2.234E-01	NOT IDENT.

NA-22	3.214E-02	NOT IDENT.
NA-24	0.000E+00	SHORT HLIF
AL-26	1.334E-02	NOT IDENT.
SC-46	2.530E-02	FAIL ABUN
V-48	7.631E-02	NOT IDENT.
CR-51	2.801E-01	NOT IDENT.
MN-52	1.443E+00	FAIL ABUN
MN-54	2.523E-02	NOT IDENT.
CO-56	2.503E-02	FAIL ABUN
MN-56	0.000E+00	SHORT HLIF
CO-57	1.036E-02	NOT IDENT.
CO-58	2.285E-02	NOT IDENT.
FE-59	7.452E-02	NOT IDENT.
CO-60	1.694E-02	NOT IDENT.
ZN-65	5.292E-02	NOT IDENT.
GE-68	9.520E-01	NOT IDENT.
SE-75	2.314E-02	NOT IDENT.
BR-77	0.000E+00	SHORT HLIF
SR-82	3.445E-01	NOT IDENT.
RB-83	4.708E-02	NOT IDENT.
RB-84	6.188E-02	NOT IDENT.
KR-85	3.537E+00	NOT IDENT.
SR-85	2.281E-02	NOT IDENT.
RB-86	1.129E+00	NOT IDENT.
Y-88	2.579E-02	NOT IDENT.
Y-91	1.889E+01	NOT IDENT.
NB-94	2.135E-02	FAIL ABUN
NB-95	3.029E-02	NOT IDENT.
NB-95M	6.850E-02	NOT IDENT.
ZR-95	4.789E-02	NOT IDENT.
NB-97	0.000E+00	SHORT HLIF
ZR-97	0.000E+00	SHORT HLIF
MO-99	0.000E+00	SHORT HLIF
TC-99M	0.000E+00	SHORT HLIF
RH-101	1.347E-02	NOT IDENT.
RH-102	2.680E-02	NOT IDENT.
RU-103	2.704E-02	FAIL ABUN
RH-106	1.740E-01	NOT IDENT.
RU-106	1.740E-01	NOT IDENT.
AG-108M	1.586E-02	NOT IDENT.
AG-110	4.376E-01	NOT IDENT.
AG-110M	3.097E-02	NOT IDENT.
SN-113	2.139E-02	NOT IDENT.
CD-115	0.000E+00	SHORT HLIF
SN-117M	6.230E-02	NOT IDENT.
SB-122	0.000E+00	SHORT HLIF
TE-123M	1.366E-02	NOT IDENT.
SB-124	4.681E-02	NOT IDENT.
SB-125	5.118E-02	FAIL ABUN
TE-125M	4.401E+00	NOT IDENT.
I-126	4.134E-01	FAIL ABUN
SB-126	2.364E-01	FAIL ABUN
SB-127	2.044E+01	NOT IDENT.
I-131	2.868E-01	FAIL ABUN
I-132	0.000E+00	SHORT HLIF
TE-132	0.000E+00	SHORT HLIF
BA-133	1.870E-02	NOT IDENT.
I-133	0.000E+00	SHORT HLIF
CS-134	2.833E-02	FAIL ABUN
I-135	0.000E+00	SHORT HLIF
CS-136	1.821E-01	NOT IDENT.
LA-138	3.670E-02	NOT IDENT.
CE-139	1.326E-02	NOT IDENT.
BA-140	3.212E-01	NOT IDENT.
LA-140	1.430E-01	FAIL ABUN
CE-141	3.779E-02	NOT IDENT.
CE-143	0.000E+00	SHORT HLIF
CE-144	7.912E-02	NOT IDENT.
PM-144	2.101E-02	NOT IDENT.
PR-144	1.583E+00	NOT IDENT.
PM-146	2.529E-02	NOT IDENT.
ND-147	8.942E-01	FAIL ABUN
PM-147	3.104E+02	NOT IDENT.
PM-149	0.000E+00	SHORT HLIF
EU-150	1.097E-02	FAIL ABUN
EU-152	4.828E-02	FAIL ABUN
GD-153	3.178E-02	NOT IDENT.
EU-154	9.086E-02	NOT IDENT.

EU-155	4.699E-02	FAIL ABUN
TB-160	9.056E-02	FAIL ABUN
HO-166M	2.749E-02	FAIL ABUN
TM-171	4.639E+00	FAIL ABUN
HF-172	8.707E-02	FAIL ABUN
LU-172	5.013E-02	FAIL ABUN
LU-176	1.219E-02	FAIL ABUN
HF-181	2.732E-02	NOT IDENT.
TA-182	1.379E-01	FAIL ABUN
RE-183	7.336E-02	NOT IDENT.
RE-184	1.070E-01	NOT IDENT.
W-188	4.107E+00	FAIL ABUN
IR-192	1.996E-02	FAIL ABUN
HG-203	2.441E-02	NOT IDENT.
TL-204	1.793E+00	NOT IDENT.
BI-207	3.565E-02	FAIL ABUN
BI-210	9.667E-01	NOT IDENT.
PB-210	9.667E-01	NOT IDENT.
PB-211	3.688E-01	NOT IDENT.
BI-213	5.421E-02	NOT IDENT.
RN-219	1.970E-01	FAIL ABUN
RA-223	3.284E-01	FAIL ABUN
AC-225	1.028E+00	NOT IDENT.
AC-227	1.206E-01	FAIL ABUN
TH-227	1.206E-01	FAIL ABUN
TH-231	3.284E-01	FAIL ABUN
PA-233	2.635E-02	FAIL ABUN
PA-234	1.485E-01	NOT IDENT.
NP-237	2.635E-02	FAIL ABUN
NP-238	0.000E+00	SHORT HLIF
NP-239	1.145E-01	NOT IDENT.
PU-239	1.630E+02	NOT IDENT.
AM-241	5.240E-02	NOT IDENT.
CM-243	4.079E-02	NOT IDENT.
BK-247	3.779E-02	FAIL ABUN
CM-247	1.833E-02	NOT IDENT.
CF-249	1.900E-02	NOT IDENT.
CF-251	5.809E-02	NOT IDENT.

VAX/VMS Nuclide Identification Report Generated 17-AUG-2026 09:33:18.37

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**********************************************************************
*                          GEL Laboratories LLC                      *
*                            2040 Savage Road                        *
*                          Charleston, SC 29407                      *
**********************************************************************
*                                                                    *
*                        DETECTOR AND SAMPLE DATA                    *
*                                                                    *
* Configuration    : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G787535007.CNF;1    *
* Acquisition date : 17-AUG-2026 07:32:14 Sensitivity     : 3.000            *
* Detector ID      : GAM52                Energy tolerance: 1.500            *
* Elapsed live time:    0 02:00:00.00     Abundance limit : 75.000           *
* Elapsed real time:    0 02:00:01.03     Half life ratio : *****            *
* Sample date      : 14-JUL-2026 12:00:00 Nuclide Library : SOLID            *
* Sample ID        : G787535007           Analyst initials: GG               *
* Batch Number     : 3033734              Sample Quantity : 1.1625E+02 GRAM  *
*                                         Quantity Err(%) : 1.7204E-03 %     *
* Wet wt corr      :    1.00000           Wet Weight      :    0.00000       *
*                                         Dry Weight      :    0.00000       *
**********************************************************************
*                                                                    *
*                        CALIBRATION INFORMATION                     *
*                                                                    *
* Eff. Cal. date   :  3-AUG-2026 11:49:46 Eff. Geometry   : CAN              *
* Eff. File        : DKA100:[CANBERRA.GAMMA]EFF_GAM52_CAN.CNF;8              *
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Combined Activity-MDA Report

NOTE: Not all "Identified Nuclides" are valid.
Please refer to Certificate of Analysis.

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act Error (1.96-sigma)	TPU (1.96-sigma)
K-40	1.979E+01	2.736E+00	2.736E+00
AS-73	4.984E-01	6.823E-01	6.823E-01
AS-74	7.458E-02	2.870E-01	2.870E-01
CD-109	2.516E+00	7.977E-01	7.977E-01
SN-126	2.391E-01	7.475E-02	7.475E-02
BA-137M	1.573E-01	5.673E-02	5.673E-02
CS-137	1.662E-01	5.993E-02	5.993E-02
TL-208	3.213E-01	7.885E-02	7.885E-02
BI-211	3.273E+00	5.129E-01	5.129E-01
BI-212	1.618E+00	7.967E-01	7.967E-01
PB-212	1.208E+00	1.554E-01	1.554E-01
BI-214	1.046E+00	1.614E-01	1.614E-01
PB-214	1.188E+00	1.852E-01	1.852E-01
RN-222	1.188E+00	1.852E-01	1.852E-01
RA-224	2.884E+00	8.996E-01	8.996E-01
RA-226	1.188E+00	1.852E-01	1.852E-01
AC-228	1.364E+00	2.860E-01	2.860E-01
RA-228	1.364E+00	2.860E-01	2.860E-01
TH-228	1.208E+00	1.554E-01	1.554E-01
TH-229	2.695E-01	5.580E-01	5.580E-01
TH-230	1.188E+00	1.852E-01	1.852E-01
PA-231	4.644E-01	3.226E-01	3.226E-01
TH-232	1.364E+00	2.860E-01	2.860E-01
PA-234M	6.590E-01	1.178E+00	1.178E+00
TH-234	6.590E-01	1.178E+00	1.178E+00
U-234	1.188E+00	1.852E-01	1.852E-01
U-235	9.030E-02	1.057E-01	1.057E-01
U-238	6.590E-01	1.178E+00	1.178E+00
AM-243	2.893E-01	5.843E-02	5.843E-02
ANH-511	8.651E-02	6.233E-02	6.233E-02

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L Act error (1.96-sigma)	TPU (1.96-sigma)

BE-7	2.992E-02	2.703E-01	2.706E-01	NOT IDENT.
NA-22	3.768E-02	3.273E-02	3.687E-02	NOT IDENT.
NA-24	1.121E+14	5.288E+14	5.312E+14	SHORT HLIF
AL-26	-4.048E-03	1.781E-02	1.790E-02	NOT IDENT.
SC-46	-8.294E-03	3.146E-02	3.168E-02	FAIL ABUN
V-48	-5.925E-02	1.032E-01	1.066E-01	NOT IDENT.
CR-51	8.762E-02	3.188E-01	3.213E-01	NOT IDENT.
MN-52	-1.349E+00	1.961E+00	2.053E+00	FAIL ABUN
MN-54	1.064E-02	2.866E-02	2.906E-02	NOT IDENT.
CO-56	8.301E-03	2.845E-02	2.870E-02	FAIL ABUN
MN-56	1.000E+41	3.356E+41	0.000E+00	SHORT HLIF
CO-57	-1.134E-02	1.408E-02	1.498E-02	NOT IDENT.
CO-58	-2.764E-03	2.740E-02	2.743E-02	NOT IDENT.
FE-59	2.010E-02	8.822E-02	8.868E-02	NOT IDENT.
CO-60	-1.975E-02	2.418E-02	2.577E-02	NOT IDENT.
ZN-65	-2.672E-02	7.875E-02	7.967E-02	NOT IDENT.
GE-68	-1.402E-02	1.166E+00	1.166E+00	NOT IDENT.
SE-75	1.116E-02	2.554E-02	2.603E-02	NOT IDENT.
BR-77	4.427E+04	4.362E+04	4.797E+04	SHORT HLIF
SR-82	4.126E-02	4.445E-01	4.449E-01	NOT IDENT.
RB-83	1.235E-02	5.686E-02	5.714E-02	NOT IDENT.
RB-84	-5.385E-03	7.453E-02	7.456E-02	NOT IDENT.
KR-85	1.905E+00	4.129E+00	4.217E+00	NOT IDENT.
SR-85	1.224E-02	2.664E-02	2.720E-02	NOT IDENT.
RB-86	4.445E-03	1.381E+00	1.381E+00	NOT IDENT.
Y-88	1.621E-02	2.662E-02	2.761E-02	NOT IDENT.
Y-91	1.163E+01	2.187E+01	2.249E+01	NOT IDENT.
NB-94	2.091E-02	2.264E-02	2.452E-02	FAIL ABUN
NB-95	2.121E-02	3.622E-02	3.746E-02	NOT IDENT.
NB-95M	-2.412E-02	8.521E-02	8.590E-02	NOT IDENT.
ZR-95	2.722E-02	5.242E-02	5.384E-02	NOT IDENT.
NB-97	1.000E+41	1.929E+41	0.000E+00	SHORT HLIF
ZR-97	2.040E+13	9.541E+13	9.585E+13	SHORT HLIF
MO-99	5.315E+01	8.709E+02	8.712E+02	SHORT HLIF
TC-99M	1.508E+38	5.498E+38	0.000E+00	SHORT HLIF
RH-101	-2.331E-03	1.718E-02	1.721E-02	NOT IDENT.
RH-102	4.607E-03	3.330E-02	3.336E-02	NOT IDENT.
RU-103	-1.045E-02	3.477E-02	3.509E-02	FAIL ABUN
RH-106	3.254E-02	1.954E-01	1.959E-01	NOT IDENT.
RU-106	3.254E-02	1.954E-01	1.959E-01	NOT IDENT.
AG-108M	9.134E-03	1.955E-02	1.997E-02	NOT IDENT.
AG-110	1.678E-01	5.346E-01	5.399E-01	NOT IDENT.
AG-110M	-1.657E-02	3.928E-02	3.998E-02	NOT IDENT.
SN-113	-8.427E-03	2.665E-02	2.692E-02	NOT IDENT.
CD-115	-1.224E+03	2.470E+03	2.531E+03	SHORT HLIF
SN-117M	-2.911E-02	8.348E-02	8.451E-02	NOT IDENT.
SB-122	2.045E+01	1.517E+02	1.520E+02	SHORT HLIF
TE-123M	7.406E-03	1.692E-02	1.724E-02	NOT IDENT.
SB-124	-6.031E-02	7.456E-02	7.937E-02	NOT IDENT.
SB-125	4.643E-02	5.688E-02	6.061E-02	FAIL ABUN
TE-125M	-5.959E+00	6.020E+00	6.592E+00	NOT IDENT.
I-126	8.415E-01	3.977E-01	5.496E-01	FAIL ABUN
SB-126	1.142E-01	2.882E-01	2.927E-01	FAIL ABUN
SB-127	-4.181E+00	2.417E+01	2.424E+01	NOT IDENT.
I-131	1.340E-01	3.260E-01	3.316E-01	FAIL ABUN
I-132	1.000E+41	2.373E+41	0.000E+00	SHORT HLIF
TE-132	-2.176E+00	2.104E+01	2.106E+01	SHORT HLIF
BA-133	5.572E-03	2.313E-02	2.327E-02	NOT IDENT.
I-133	4.079E+09	1.137E+10	1.152E+10	SHORT HLIF
CS-134	7.694E-02	5.247E-02	6.290E-02	FAIL ABUN
I-135	-4.035E+35	1.770E+36	0.000E+00	SHORT HLIF
CS-136	9.606E-02	2.075E-01	2.120E-01	NOT IDENT.
LA-138	-3.902E-03	4.399E-02	4.403E-02	NOT IDENT.
CE-139	-9.311E-03	1.837E-02	1.884E-02	NOT IDENT.
BA-140	-3.477E-01	4.552E-01	4.814E-01	NOT IDENT.
LA-140	2.523E-02	1.650E-01	1.654E-01	FAIL ABUN
CE-141	-1.237E-03	4.847E-02	4.848E-02	NOT IDENT.
CE-143	1.227E+05	8.511E+05	8.529E+05	SHORT HLIF
CE-144	1.467E-02	9.860E-02	9.882E-02	NOT IDENT.
PM-144	5.388E-03	2.376E-02	2.388E-02	NOT IDENT.
PR-144	3.843E-01	1.793E+00	1.801E+00	NOT IDENT.
PM-146	1.131E-02	2.963E-02	3.006E-02	NOT IDENT.
ND-147	4.386E-03	1.111E+00	1.111E+00	FAIL ABUN
PM-147	-6.912E+01	3.948E+02	3.960E+02	NOT IDENT.
PM-149	-1.142E+04	1.798E+04	1.870E+04	SHORT HLIF
EU-150	-1.867E-02	1.641E-02	1.845E-02	FAIL ABUN
EU-152	2.657E-02	5.432E-02	5.562E-02	FAIL ABUN
GD-153	-3.156E-02	4.284E-02	4.514E-02	NOT IDENT.

EU-154	1.087E-01	9.236E-02	1.046E-01	NOT IDENT.
EU-155	-6.797E-03	5.836E-02	5.845E-02	FAIL ABUN
TB-160	-3.752E-02	1.134E-01	1.147E-01	FAIL ABUN
HO-166M	-4.073E-02	3.765E-02	4.189E-02	FAIL ABUN
TM-171	8.433E+00	1.144E+01	1.205E+01	FAIL ABUN
HF-172	7.146E-02	1.038E-01	1.086E-01	FAIL ABUN
LU-172	5.106E-02	5.503E-02	5.965E-02	FAIL ABUN
LU-176	-1.035E-02	1.516E-02	1.586E-02	FAIL ABUN
HF-181	-7.854E-03	3.467E-02	3.485E-02	NOT IDENT.
TA-182	-2.919E-02	1.629E-01	1.635E-01	FAIL ABUN
RE-183	1.496E-02	8.355E-02	8.382E-02	NOT IDENT.
RE-184	-2.961E-02	1.321E-01	1.328E-01	NOT IDENT.
W-188	1.061E+00	4.999E+00	5.022E+00	FAIL ABUN
IR-192	-2.795E-03	2.355E-02	2.358E-02	FAIL ABUN
HG-203	-1.015E-02	2.892E-02	2.928E-02	NOT IDENT.
TL-204	7.942E-01	2.058E+00	2.089E+00	NOT IDENT.
BI-207	1.031E-02	4.624E-02	4.647E-02	FAIL ABUN
BI-210	-3.665E-01	1.150E+00	1.162E+00	NOT IDENT.
PB-210	-3.665E-01	1.150E+00	1.162E+00	NOT IDENT.
PB-211	2.574E-01	4.453E-01	4.602E-01	NOT IDENT.
BI-213	-2.592E-03	6.611E-02	6.612E-02	NOT IDENT.
RN-219	-4.271E-03	2.369E-01	2.369E-01	FAIL ABUN
RA-223	2.092E-01	3.659E-01	3.779E-01	FAIL ABUN
AC-225	-1.703E-01	1.163E+00	1.165E+00	NOT IDENT.
AC-227	4.535E-02	1.340E-01	1.356E-01	FAIL ABUN
TH-227	4.535E-02	1.340E-01	1.356E-01	FAIL ABUN
TH-231	2.092E-01	3.659E-01	3.779E-01	FAIL ABUN
PA-233	7.525E-03	2.987E-02	3.006E-02	FAIL ABUN
PA-234	-9.366E-02	2.225E-01	2.264E-01	NOT IDENT.
NP-237	7.525E-03	2.987E-02	3.006E-02	FAIL ABUN
NP-238	-1.652E+03	5.605E+03	5.655E+03	SHORT HLIF
NP-239	5.617E-02	1.377E-01	1.400E-01	NOT IDENT.
PU-239	1.561E+02	1.928E+02	2.052E+02	NOT IDENT.
AM-241	3.993E-02	5.795E-02	6.069E-02	NOT IDENT.
CM-243	-4.794E-02	5.454E-02	5.867E-02	NOT IDENT.
BK-247	4.029E-03	4.290E-02	4.294E-02	FAIL ABUN
CM-247	-4.169E-03	2.247E-02	2.255E-02	NOT IDENT.
CF-249	-3.142E-03	2.306E-02	2.310E-02	NOT IDENT.
CF-251	-1.419E-03	6.384E-02	6.384E-02	NOT IDENT.

GEL Laboratories LLC
2040 Savage Road
Charleston, SC 29407

GAMMA SPECTROSCOPY BACKGROUND REPORT

ENERGY	MDA COUNTS	ENERGY	MDA COUNTS	ENERGY	MDA COUNTS
43.53	63.4695	85.43	116.1103	133.02	70.1987
45.60	75.3859	86.55	116.6799	133.52	63.5435
46.54	72.2579	86.79	116.7998	136.00	87.1582
49.72	0.0000	86.94	116.8760	136.47	81.8225
51.35	66.2504	87.09	116.9523	140.51	0.0000
51.87	70.2834	87.57	117.1935	143.76	58.4703
52.39	68.6234	88.03	117.4254	144.24	82.2467
52.97	68.8892	88.34	117.5811	145.44	76.9241
53.44	69.1035	88.47	117.6465	152.43	82.6546
54.07	69.3896	89.96	87.0518	153.25	97.1129
57.36	0.0000	1093.63	87.2990	323.87	81.6070
57.53	68.9607	91.11	87.4695	156.02	109.3219
57.98	76.0665	92.59	88.0051	158.56	92.6582
59.27	82.6397	93.35	88.2786	159.00	68.1219
59.32	82.6650	94.56	88.7112	162.33	74.5389
59.54	82.7746	94.65	88.7432	162.66	83.3761
60.96	86.4928	94.67	88.7501	163.33	95.2347
61.17	86.5997	94.87	88.8210	165.86	82.5593
62.93	92.5739	97.43	82.5471	176.31	74.8029
63.29	92.7642	98.43	91.2763	176.60	72.5845
63.58	92.9176	98.44	91.2798	177.52	81.0729
64.28	93.2856	99.53	83.2220	181.07	0.0000
66.73	82.0896	100.11	83.4073	181.52	86.6532
67.24	97.9458	102.03	73.0573	184.41	88.2387
125.81	109.6671	103.18	106.3897	143.76	88.4933
67.75	103.4397	103.37	101.5704	193.51	66.9714
68.89	98.8150	105.31	105.9962	197.03	75.1102
69.67	106.6113	106.12	87.7663	198.01	65.7569
70.82	100.8781	106.47	87.8779	201.83	68.6703
70.83	100.8846	109.28	93.7660	203.43	65.6891
72.81	109.4193	111.00	62.8891	205.31	68.6185
72.87	109.4520	111.76	0.0000	210.85	69.3750
74.66	110.4341	114.06	87.7072	215.65	78.7764
74.82	110.5213	116.30	0.0000	218.12	80.7974
74.97	110.6038	116.74	78.2410	222.11	66.4539
77.11	111.7602	119.76	84.2056	227.09	77.1281
78.74	99.3796	121.12	84.5776	227.38	64.5869
79.69	107.5872	121.22	84.6043	228.16	0.0000
80.03	91.0914	121.78	91.2769	228.18	68.0409
80.12	91.1327	122.06	92.6642	116.74	68.0409
80.19	94.4966	122.92	66.7445	235.69	84.0058
80.57	111.3693	123.07	62.8484	235.96	68.1445
81.00	84.8077	265.00	81.3367	238.63	68.4656
81.07	84.8355	125.81	76.6003	238.98	0.0000
81.75	92.9381	127.23	88.8765	240.99	68.7463
82.47	96.6148	127.91	89.0636	242.00	68.8672
83.79	115.2698	129.30	86.7725	244.70	54.1965
84.00	115.3772	131.20	75.1885	252.40	59.5757

ENERGY	MDA COUNTS	ENERGY	MDA COUNTS	ENERGY	MDA COUNTS
252.80	56.9851	345.93	42.7266	564.24	0.0000
254.15	0.0000	351.06	45.3488	569.33	36.0907
256.23	57.3079	351.93	45.3969	946.00	36.0942
260.90	0.0000	355.39	0.0000	569.70	36.0995
264.66	50.0493	356.01	35.1459	583.19	36.8958
264.80	50.0596	364.49	37.8943	584.27	36.9263
265.00	58.1247	366.42	0.0000	595.83	39.3649
269.46	47.7272	372.51	49.6230	427.87	30.5845
270.03	47.7692	375.05	38.3629	602.52	0.0000
271.23	47.8598	377.52	32.2336	604.72	26.8422
273.65	55.5927	356.01	43.9854	607.14	35.8545
276.40	60.0743	388.16	43.1458	609.32	33.3458
277.37	59.2514	388.63	38.9568	610.33	33.3712
277.60	60.1851	391.69	38.0336	614.28	24.4562
278.00	61.1338	264.66	55.4785	618.01	26.6734
279.20	70.3852	401.81	41.6601	620.36	25.8569
279.54	61.2769	402.40	45.9618	621.93	27.6107
279.70	61.2913	404.85	35.7239	630.19	0.0000
280.46	62.2766	410.95	44.5852	631.29	22.1496
283.69	53.3767	413.71	34.6182	633.25	26.0938
284.31	69.0857	414.70	38.9861	634.78	29.6047
285.41	50.7451	423.72	29.5148	635.95	33.9869
285.90	0.0000	427.09	36.1975	636.99	37.9368
287.50	60.1559	427.87	34.0311	657.50	27.8624
290.67	52.0693	433.94	35.3447	657.76	27.8676
293.27	0.0000	439.40	42.2015	657.90	0.0000
351.93	60.8363	440.45	42.2455	661.66	39.9152
295.96	60.8998	453.88	45.0549	664.57	0.0000
879.38	63.9492	463.37	44.3285	666.33	21.3555
299.98	56.5393	468.07	36.5332	666.50	21.3574
300.09	56.5466	473.00	32.1135	667.71	0.0000
300.13	56.5503	475.06	43.6650	677.62	28.6875
301.36	54.1314	476.78	25.3200	685.70	29.7424
302.85	45.4146	477.60	39.1600	692.65	0.0000
256.23	53.1050	482.18	32.3853	695.00	38.0813
304.85	52.1835	487.02	33.6888	696.49	31.7657
306.78	62.7874	492.35	0.0000	696.51	31.7657
308.46	41.0027	497.08	36.3366	697.00	32.6836
311.90	33.5313	505.52	37.7881	697.30	36.3216
316.51	53.9868	507.63	0.0000	697.49	36.3265
319.41	50.3258	511.00	29.6619	702.65	26.4240
320.08	44.5597	514.00	29.7379	706.68	34.7127
321.04	42.6760	514.00	29.7394	711.68	34.8225
323.87	47.7050	520.40	37.0774	720.70	24.8829
325.23	52.0166	520.69	0.0000	721.93	0.0000
328.76	61.7292	522.65	0.0000	722.78	31.8356
333.37	52.2398	527.90	0.0000	722.91	31.8384
333.97	60.5004	528.26	38.5273	723.31	24.9236
334.37	59.2163	529.59	26.5171	724.19	22.1660
338.28	47.6089	529.87	0.0000	727.33	24.0597
338.32	47.6118	531.02	28.9614	733.00	26.9303
311.90	45.0898	537.26	35.1756	735.93	26.9786
340.48	45.0898	546.56	0.0000	333.97	24.2100
340.55	45.0926	552.55	24.5618	739.50	0.0000
344.28	41.9731	563.25	28.4875	744.23	26.1794

ENERGY	MDA COUNTS	ENERGY	MDA COUNTS	ENERGY	MDA COUNTS
747.24	30.9106	964.08	29.4298	1457.56	0.0000
748.06	33.7368	966.17	29.4583	1460.82	9.5392
752.31	30.0651	968.97	29.4971	1489.16	1.5399
753.82	26.3309	983.53	21.2134	1505.03	7.7378
756.73	18.8403	984.45	0.0000	1584.12	12.6773
756.80	18.8411	1274.44	26.6724	1596.21	7.9517
884.68	38.3148	1002.74	28.8907	1620.50	6.0055
765.81	24.1501	1004.73	17.1361	1621.92	6.4086
766.84	31.2719	507.63	0.0000	1678.03	0.0000
772.60	0.0000	1025.87	0.0000	1690.97	10.2094
776.52	30.0196	1028.54	0.0000	1750.46	0.0000
739.50	0.0000	1037.84	19.5659	1764.49	4.1655
778.90	22.9043	1038.76	0.0000	1063.66	8.3438
783.70	25.8387	631.29	18.5495	1771.35	2.7821
788.74	27.8330	1048.07	18.5619	1791.20	0.0000
792.07	31.7311	1049.04	18.5688	1808.65	4.2139
795.86	18.3088	1050.41	30.6022	1810.72	0.0000
810.06	16.5130	1063.66	21.4344	1836.06	3.1826
810.29	16.5151	1077.00	29.8499		
344.28	16.5165	1077.34	30.9600		
810.76	19.4344	1085.87	18.8649		
815.77	24.3612	1093.63	21.1523		
1048.07	26.3496	1099.45	20.0874		
832.01	23.5957	1112.07	26.9238		
834.85	29.5398	1112.84	24.6891		
836.80	0.0000	1115.54	26.9629		
846.75	0.0000	1120.29	16.8848		
846.77	17.8381	1120.55	16.8860		
856.80	37.8593	1221.41	16.8909		
860.56	21.9615	1129.67	25.9892		
871.09	28.6078	1131.51	0.0000		
873.19	27.1318	1147.95	0.0000		
875.33	0.0000	1173.23	25.2943		
879.38	27.2186	1177.95	19.5815		
880.51	27.2340	1189.05	25.4500		
881.60	26.2402	1204.77	25.6040		
883.24	18.1816	1221.41	30.7425		
884.68	30.3247	1231.02	31.0299		
889.28	24.3174	1235.36	30.9027		
894.76	21.3367	1238.28	30.9369		
898.04	22.3903	1260.41	0.0000		
900.72	26.4972	1271.87	29.5316		
903.28	27.5515	1274.44	13.4354		
911.20	19.4646	1274.54	13.4363		
912.08	19.4731	1291.59	17.1237		
923.98	0.0000	1298.22	0.0000		
926.50	24.7734	1312.11	17.2477		
929.11	29.4567	1332.49	14.6279		
935.54	23.3276	1362.66	0.0000		
937.49	28.0206	1365.19	16.6421		
944.13	21.8630	1368.63	0.0000		
946.00	21.8827	1384.29	11.1658		
949.00	18.7837	1408.01	16.5054		
667.71	0.0000	1434.09	17.9702		
962.31	25.2041	1435.80	14.1953		

VAX/VMS Nuclide Identification Report Generated 17-AUG-2026 09:33:46.51

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*****************************************************************************
*                            GEL Laboratories LLC                           *
*                              2040 Savage Road                             *
*                            Charleston, SC 29407                           *
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Configuration    : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G787535008.CNF;1
Background file  : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]BKG_GAM64.CNF;62
                                       Background date  : 16-AUG-2026 08:56:27
Sample date      : 14-JUL-2026 09:30:00 Acquisition date : 17-AUG-2026 07:32:36
Sample ID        : G787535008           Sample quantity  : 1.04680E+02 GRAM
Detector name    : GAM64                Detector geometry: CAN
Elapsed live time: 0 02:00:00.00        Elapsed real time: 0 02:00:01.09  0.0%
Energy tolerance : 1.50000 keV          Analyst Initials : GG
Abundance limit  : 75.00000             Sensitivity      : 3.00000
Batch ID         : 3033734              Detector SN#     :
Matrix Spike ID  :                      LCS ID           :
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BACKGROUND CORRECTED SAMPLE PEAK REPORT

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	46.52*	99	169	0.88	94.35	91	8	1.38E-02	26.6	
2	0	63.05*	85	268	0.70	127.38	123	8	1.19E-02	36.7	
3	4	73.05*	11	163	1.19	147.37	145	14	1.58E-03	181.5	3.24E+00
4	4	74.99*	225	189	0.96	151.25	145	14	3.12E-02	12.6	
5	4	77.21	351	148	0.85	155.68	145	14	4.87E-02	7.4	
6	0	84.34*	71	197	1.59	169.94	167	7	9.82E-03	37.2	
7	3	90.15	67	103	0.92	181.54	180	17	9.30E-03	24.4	1.06E+00
8	3	92.91*	109	178	1.16	187.05	180	17	1.52E-02	25.6	
9	0	186.02*	50	277	1.08	373.15	367	12	6.99E-03	71.1	
10	5	238.76*	309	101	0.92	478.58	474	17	4.30E-02	8.0	9.53E-01
11	5	242.27*	88	131	1.86	485.60	474	17	1.23E-02	31.6	
12	0	269.44	15	97	0.81	539.89	538	7	2.07E-03	111.6	
13	0	276.82	19	59	1.30	554.66	554	6	2.67E-03	66.4	
14	0	295.42*	167	98	1.14	591.83	588	10	2.31E-02	14.1	
15	0	337.81	65	98	0.99	676.57	672	10	9.02E-03	31.1	
16	0	351.98*	269	144	1.25	704.89	699	12	3.73E-02	11.1	
17	0	367.94	33	59	2.40	736.80	731	9	4.51E-03	45.9	
18	0	375.33	60	70	4.09	751.56	746	13	8.36E-03	31.1	
19	0	474.23	24	45	2.20	949.28	944	8	3.35E-03	53.3	
20	0	511.02*	61	106	2.62	1022.83	1014	17	8.48E-03	48.2	
21	5	572.20	13	15	1.35	1145.14	1143	11	1.74E-03	51.7	3.02E+00
22	5	574.90	15	26	1.40	1150.53	1143	11	2.10E-03	64.7	
23	0	583.46*	86	47	1.50	1167.65	1162	11	1.20E-02	19.4	
24	0	609.53*	202	51	1.26	1219.77	1213	14	2.81E-02	11.1	
25	1	661.62*	336	21	1.82	1323.91	1300	36	4.67E-02	6.0	3.74E+00
26	1	665.52	22	6	1.82	1331.69	1300	36	3.09E-03	40.8	
27	0	727.12*	26	41	1.17	1454.85	1450	12	3.63E-03	56.6	
28	0	786.24	19	19	1.25	1573.07	1569	8	2.58E-03	47.5	
29	0	807.06	13	22	1.45	1614.69	1610	11	1.77E-03	79.8	
30	0	860.88*	50	14	1.06	1722.30	1713	19	6.92E-03	25.0	
31	0	908.60	15	31	3.07	1817.72	1803	16	2.13E-03	86.2	
32	0	911.25*	84	11	2.37	1823.01	1818	11	1.17E-02	14.3	
33	0	935.08	30	17	6.18	1870.66	1861	17	4.20E-03	36.1	
34	0	969.18*	29	22	1.60	1938.86	1934	13	4.08E-03	42.7	

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
35	0	985.89	8	13	0.53	1972.26	1965	9	1.15E-03	86.3	
36	4	1086.27	17	12	2.00	2173.00	2164	17	2.31E-03	53.4	1.37E+00
37	4	1088.94	14	4	1.31	2178.34	2164	17	1.88E-03	37.7	
38	0	1120.24*	49	21	1.55	2240.92	2234	16	6.78E-03	27.7	
39	0	1144.01	15	2	1.40	2288.46	2284	8	2.08E-03	30.7	
40	0	1156.07*	8	10	0.52	2312.57	2304	13	1.06E-03	98.1	
41	0	1168.22	12	20	1.22	2336.86	2329	12	1.61E-03	84.0	
42	0	1239.31	22	30	2.00	2479.05	2472	15	3.06E-03	58.3	
43	0	1295.45	21	10	2.43	2591.31	2580	20	2.92E-03	42.9	
44	0	1308.33	14	19	4.29	2617.07	2608	14	1.91E-03	75.0	
45	0	1460.61*	151	4	2.34	2921.64	2914	15	2.09E-02	9.7	
46	0	1592.99	15	2	1.65	3186.41	3182	9	2.08E-03	31.4	
47	0	1637.61	12	0	1.16	3275.67	3271	9	1.67E-03	28.9	
48	0	1661.97	28	0	0.57	3324.39	3318	15	3.89E-03	18.9	
49	0	1730.54	13	7	0.74	3461.55	3457	9	1.79E-03	49.2	
50	0	1764.62*	26	4	2.77	3529.74	3521	15	3.66E-03	32.9	
51	0	1847.39*	6	3	1.00	3695.32	3690	11	8.02E-04	93.0	
52	0	1872.44	7	0	1.37	3745.43	3740	10	9.72E-04	37.8	

Flag: "*" = Peak area was modified by background subtraction

VMS Nuclide Identification Report V3.1 Generated 17-AUG-2026 09:33:48

Configuration	: DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G787535008.CNF;1		
Analyses by	: PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.4		
Sample title	: GG		
Sample date	: 14-JUL-2026 09:30:00	Acquisition date	: 17-AUG-2026 07:32:36
Sample ID	: G787535008	Sample quantity	: 104.68 GRAM
Sample type	: SOLID	Sample geometry	:
Detector name	: GAMMA64	Detector geometry	: CAN
Elapsed live time	: 0 02:00:00.00	Elapsed real time	: 0 02:00:01.09 0.0%
Energy tolerance	: 1.50 keV	Half life ratio	: 10.00
Errors propagated	: No	Systematic Error	: 0.00 %
Efficiency type	: Empirical	Efficiencies at	: Peak Energy
Abundance limit	: 75.00		

Interference Report

No interference correction performed

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
K-40	1460.82	141	10.66*	1.088E+00	4.363E+00	4.363E+00	19.37
BA-137M	661.66	322	89.90*	2.160E+00	5.938E-01	5.951E-01	11.96
CS-137	661.66	322	85.10*	2.160E+00	6.273E-01	6.286E-01	11.96
TL-208	277.37	19	6.60	4.268E+00	2.394E-01	2.394E-01	132.80
	583.19	83	85.00*	2.403E+00	1.456E-01	1.456E-01	38.86
	860.56	47	12.50	1.718E+00	7.903E-01	7.903E-01	50.02
BI-210	46.54	101	4.25*	6.910E+00	1.235E+00	1.238E+00	53.17
PB-210	46.54	101	4.25*	6.910E+00	1.235E+00	1.238E+00	53.17
BI-211	72.87	11	1.23	7.843E+00	4.274E-01	4.274E-01	362.91
	351.06	261	12.92*	3.589E+00	2.018E+00	2.018E+00	22.24
BI-212	727.33	25	6.67*	1.991E+00	6.736E-01	6.736E-01	113.30
	1620.50	------	1.47	1.003E+00	------ Line Not Found		------
PB-212	74.82	227	10.28	7.834E+00	1.009E+00	1.009E+00	25.14
	77.11	353	17.10	7.817E+00	9.469E-01	9.469E-01	14.87
	238.63	303	43.60*	4.719E+00	5.284E-01	5.284E-01	16.09
	300.09	------	3.30	4.032E+00	------ Line Not Found		------
BI-214	609.32	194	45.49*	2.316E+00	6.589E-01	6.589E-01	22.14
	1120.29	46	14.92	1.363E+00	8.116E-01	8.116E-01	55.34
	1764.49	25	15.30	9.407E-01	6.123E-01	6.123E-01	65.77
PB-214	74.82	227	5.80	7.834E+00	1.788E+00	1.788E+00	25.14
	77.11	353	9.70	7.817E+00	1.669E+00	1.669E+00	14.87
	87.09	------	3.41	7.680E+00	------ Line Not Found		------
	242.00	87	7.25	4.674E+00	9.156E-01	9.157E-01	63.14
	295.22	162	18.42	4.077E+00	7.754E-01	7.754E-01	28.28
	351.93	261	35.60*	3.589E+00	7.323E-01	7.323E-01	22.24
RN-222	74.82	227	5.80	7.834E+00	1.788E+00	1.788E+00	25.14
	77.11	353	9.70	7.817E+00	1.669E+00	1.669E+00	14.87
	87.09	------	3.41	7.680E+00	------ Line Not Found		------
	242.00	87	7.25	4.674E+00	9.156E-01	9.157E-01	63.14
	295.22	162	18.42	4.077E+00	7.754E-01	7.754E-01	28.28
	351.93	261	35.60*	3.589E+00	7.323E-01	7.323E-01	22.24
RA-224	240.99	87	4.10*	4.674E+00	1.619E+00	1.619E+00	63.14
RA-226	74.82	227	5.80	7.834E+00	1.788E+00	1.788E+00	25.14
	77.11	353	9.70	7.817E+00	1.669E+00	1.669E+00	14.87
	87.09	------	3.41	7.680E+00	------ Line Not Found		------
	242.00	87	7.25	4.674E+00	9.156E-01	9.157E-01	63.14
	295.22	162	18.42	4.077E+00	7.754E-01	7.754E-01	28.28
	351.93	261	35.60*	3.589E+00	7.323E-01	7.323E-01	22.24
AC-228	338.32	63	11.27	3.700E+00	5.425E-01	5.425E-01	62.13
	911.20	80	25.80*	1.634E+00	6.803E-01	6.803E-01	28.70
	968.97	28	15.80	1.548E+00	4.079E-01	4.079E-01	85.41
RA-228	338.32	63	11.27	3.700E+00	5.425E-01	5.425E-01	62.13
	911.20	80	25.80*	1.634E+00	6.803E-01	6.803E-01	28.70
	968.97	28	15.80	1.548E+00	4.079E-01	4.079E-01	85.41
TH-228	74.82	227	10.28	7.834E+00	1.009E+00	1.009E+00	25.14
	77.11	353	17.10	7.817E+00	9.469E-01	9.469E-01	14.87
	238.63	303	43.60*	4.719E+00	5.284E-01	5.284E-01	16.09
	300.09	------	3.30	4.032E+00	------ Line Not Found		------
TH-230	74.82	227	5.80	7.834E+00	1.788E+00	1.788E+00	25.14

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
	77.11	353	9.70	7.817E+00	1.669E+00	1.669E+00	14.87
	87.09	------	3.41	7.680E+00	------ Line Not Found		------
	242.00	87	7.25	4.674E+00	9.156E-01	9.156E-01	63.14
	295.22	162	18.42	4.077E+00	7.754E-01	7.754E-01	28.28
	351.93	261	35.60*	3.589E+00	7.323E-01	7.323E-01	22.24
TH-232	338.32	63	11.27	3.700E+00	5.425E-01	5.425E-01	62.13
	911.20	80	25.80*	1.634E+00	6.803E-01	6.803E-01	28.70
	968.97	28	15.80	1.548E+00	4.079E-01	4.079E-01	85.41
PA-234M	63.29	86	3.70*	7.777E+00	1.078E+00	1.078E+00	73.40
	92.59	110	4.23	7.568E+00	1.229E+00	1.229E+00	51.28
TH-234	63.29	86	3.70*	7.777E+00	1.078E+00	1.078E+00	73.40
	92.59	110	4.23	7.568E+00	1.229E+00	1.229E+00	51.28
U-234	74.82	227	5.80	7.834E+00	1.788E+00	1.788E+00	25.14
	77.11	353	9.70	7.817E+00	1.669E+00	1.669E+00	14.87
	87.09	------	3.41	7.680E+00	------ Line Not Found		------
	242.00	87	7.25	4.674E+00	9.156E-01	9.156E-01	63.14
	295.22	162	18.42	4.077E+00	7.754E-01	7.754E-01	28.28
	351.93	261	35.60*	3.589E+00	7.323E-01	7.323E-01	22.24
U-235	89.96	67	3.47	7.623E+00	9.108E-01	9.108E-01	48.70
	93.35	110	5.60	7.568E+00	9.286E-01	9.286E-01	51.28
	143.76	------	10.96*	6.372E+00	------ Line Not Found		------
	163.33	------	5.08	5.954E+00	------ Line Not Found		------
	185.72	50	57.20	5.524E+00	5.633E-02	5.633E-02	142.11
	205.31	------	5.01	5.201E+00	------ Line Not Found		------
U-238	63.29	86	3.70*	7.777E+00	1.078E+00	1.078E+00	73.40
	92.59	110	4.23	7.568E+00	1.229E+00	1.229E+00	51.28
AM-243	43.53	------	5.90	6.583E+00	------ Line Not Found		------
	74.66	227	67.20*	7.834E+00	1.543E-01	1.543E-01	25.14
ANH-511	511.00	59	100.00*	2.681E+00	7.855E-02	7.855E-02	96.35

Flag: "*" = Keyline

VAX/VMS Nuclide Identification Report Generated 17-AUG-2026 09:33:49.30

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**********************************************************************
*                          GEL Laboratories LLC                      *
*                            2040 Savage Road                        *
*                          Charleston, SC 29407                      *
**********************************************************************
*                                                                    *
*                       DETECTOR AND SAMPLE DATA                     *
*                                                                    *
* Configuration    : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G787535008.CNF;1    *
* Acquisition date : 17-AUG-2026 07:32:36 Sensitivity     : 3.000            *
* Detector ID      : GAM64                Energy tolerance: 1.500            *
* Elapsed live time:    0 02:00:00.00     Abundance limit : 75.000           *
* Elapsed real time:    0 02:00:01.09     Half life ratio : *****            *
* Sample date      : 14-JUL-2026 09:30:00 Analyst initials: GG               *
* Sample ID        : G787535008           Sample Quantity : 1.0468E+02 GRAM  *
* Batch Number     : 3033734              Wet Weight      :    0.00000       *
* Wet wt corr      :    1.00000           Dry Weight      :    0.00000       *
* Nuclide Library  : SOLID.NLB;19                                           *
**********************************************************************
*                                                                    *
*                       CALIBRATION INFORMATION                      *
*                                                                    *
* Eff. Cal. date   : 15-AUG-2025 04:21:48 Eff. Geometry   : CAN              *
* Eff. File        : DKA100:[CANBERRA.GAMMA]EFF_GAM64_CAN.CNF;1              *
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Combined Activity-MDA Report

NOTE: Not all "Identified Nuclides" are valid.
Please refer to Certificate of Analysis.

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Cnt uncert (1.96-sigma)	MDA (pCi/GRAM)
K-40	4.363E+00	8.283E-01	4.221E-01
BA-137M	5.951E-01	6.976E-02	4.069E-02
CS-137	6.286E-01	7.369E-02	4.298E-02
TL-208	1.456E-01	5.544E-02	4.713E-02
BI-210	1.238E+00	6.453E-01	4.503E-01
PB-210	1.238E+00	6.453E-01	4.503E-01
BI-211	2.018E+00	4.397E-01	2.647E-01
BI-212	6.736E-01	7.479E-01	6.739E-01
PB-212	5.284E-01	8.330E-02	6.548E-02
BI-214	6.589E-01	1.430E-01	8.449E-02
PB-214	7.323E-01	1.596E-01	9.629E-02
RN-222	7.323E-01	1.596E-01	9.629E-02
RA-224	1.619E+00	1.002E+00	7.019E-01
RA-226	7.323E-01	1.596E-01	9.629E-02
AC-228	6.803E-01	1.913E-01	1.461E-01
RA-228	6.803E-01	1.913E-01	1.461E-01
TH-228	5.284E-01	8.330E-02	6.548E-02
TH-230	7.323E-01	1.596E-01	9.629E-02
TH-232	6.803E-01	1.913E-01	1.461E-01
PA-234M	1.078E+00	7.751E-01	5.528E-01
TH-234	1.078E+00	7.751E-01	5.528E-01
U-234	7.323E-01	1.596E-01	9.629E-02
U-235	6.239E-02	1.420E-01	2.259E-01
U-238	1.078E+00	7.751E-01	5.528E-01
AM-243	1.543E-01	3.802E-02	2.992E-02
ANH-511	7.855E-02	7.417E-02	3.842E-02

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Cnt Uncert (1.96-sigma)	MDA (pCi/GRAM)	
BE-7	-7.537E-02	2.818E-01	4.943E-01	NOT IDENT.
NA-22	-4.212E-03	2.540E-02	4.804E-02	NOT IDENT.
NA-24	0.000E+00	6.043E+14	0.000E+00	SHORT HLIF
AL-26	1.229E-02	1.976E-02	5.060E-02	NOT IDENT.

SC-46	1.413E-02	3.047E-02	6.338E-02	FAIL ABUN
V-48	7.177E-03	9.706E-02	1.935E-01	NOT IDENT.
CR-51	-1.243E-01	3.805E-01	6.831E-01	NOT IDENT.
MN-52	-3.967E-01	1.512E+00	2.826E+00	FAIL ABUN
MN-54	6.038E-04	2.261E-02	4.481E-02	NOT IDENT.
CO-56	3.471E-03	3.275E-02	6.442E-02	FAIL ABUN
MN-56	0.000E+00	1.960E+41	0.000E+00	SHORT HLIF
CO-57	-7.429E-03	1.634E-02	2.564E-02	NOT IDENT.
CO-58	1.982E-03	3.076E-02	5.572E-02	NOT IDENT.
FE-59	-5.161E-02	8.011E-02	1.372E-01	NOT IDENT.
CO-60	3.628E-04	3.203E-02	5.576E-02	NOT IDENT.
ZN-65	2.354E-02	5.814E-02	1.113E-01	NOT IDENT.
GE-68	5.240E-01	8.272E-01	1.777E+00	NOT IDENT.
AS-73	4.027E-02	1.361E-01	2.467E-01	NOT IDENT.
AS-74	3.930E-02	1.319E-01	2.473E-01	NOT IDENT.
SE-75	1.084E-02	3.203E-02	6.152E-02	NOT IDENT.
BR-77	0.000E+00	3.147E+03	0.000E+00	SHORT HLIF
SR-82	-1.685E-01	3.489E-01	6.413E-01	NOT IDENT.
RB-83	1.344E-02	6.250E-02	1.088E-01	NOT IDENT.
RB-84	-8.863E-03	7.051E-02	1.348E-01	NOT IDENT.
KR-85	1.835E+00	5.365E+00	9.321E+00	NOT IDENT.
SR-85	1.180E-02	3.465E-02	6.019E-02	NOT IDENT.
RB-86	1.041E+00	9.976E-01	2.262E+00	NOT IDENT.
Y-88	-1.547E-02	2.670E-02	4.878E-02	NOT IDENT.
Y-91	-7.518E+00	1.953E+01	3.165E+01	NOT IDENT.
NB-94	3.061E-03	2.350E-02	4.628E-02	NOT IDENT.
NB-95	-5.736E-03	4.080E-02	7.669E-02	NOT IDENT.
NB-95M	6.113E-04	1.036E-01	1.801E-01	NOT IDENT.
ZR-95	-1.263E-02	5.853E-02	1.114E-01	NOT IDENT.
NB-97	0.000E+00	1.960E+41	0.000E+00	SHORT HLIF
ZR-97	0.000E+00	1.409E+14	0.000E+00	SHORT HLIF
MO-99	0.000E+00	1.028E+03	0.000E+00	SHORT HLIF
TC-99M	0.000E+00	9.930E+38	0.000E+00	SHORT HLIF
RH-101	-3.937E-03	1.975E-02	3.174E-02	NOT IDENT.
RH-102	-1.623E-02	4.053E-02	6.777E-02	FAIL ABUN
RU-103	2.448E-03	4.115E-02	7.466E-02	FAIL ABUN
RH-106	-1.248E-02	2.463E-01	4.344E-01	NOT IDENT.
RU-106	-1.248E-02	2.463E-01	4.344E-01	NOT IDENT.
AG-108M	1.596E-02	2.144E-02	4.201E-02	NOT IDENT.
CD-109	-1.476E-01	4.430E-01	7.107E-01	NOT IDENT.
AG-110	-2.015E-02	4.878E-01	8.743E-01	NOT IDENT.
AG-110M	1.691E-02	3.573E-02	7.402E-02	NOT IDENT.
SN-113	2.959E-03	3.538E-02	6.510E-02	NOT IDENT.
CD-115	0.000E+00	2.829E+03	0.000E+00	SHORT HLIF
SN-117M	1.886E-02	8.158E-02	1.593E-01	NOT IDENT.
SB-122	0.000E+00	1.715E+02	0.000E+00	SHORT HLIF
TE-123M	6.331E-04	1.803E-02	3.478E-02	NOT IDENT.
SB-124	5.829E-03	6.768E-02	1.493E-01	NOT IDENT.
SB-125	4.323E-02	6.188E-02	1.220E-01	NOT IDENT.
TE-125M	1.942E+00	6.857E+00	1.171E+01	NOT IDENT.
I-126	6.668E-01	5.328E-01	7.748E-01	FAIL ABUN
SB-126	5.573E-02	2.992E-01	5.916E-01	FAIL ABUN
SN-126	0.000E+00	4.056E-02	7.550E-02	FAIL ABUN
SB-127	1.154E+01	2.201E+01	4.706E+01	FAIL ABUN
I-131	-1.607E-01	4.049E-01	6.549E-01	NOT IDENT.
I-132	0.000E+00	1.960E+41	0.000E+00	SHORT HLIF
TE-132	0.000E+00	2.751E+01	0.000E+00	SHORT HLIF
BA-133	-1.750E-02	2.878E-02	4.517E-02	FAIL ABUN
I-133	0.000E+00	1.575E+10	0.000E+00	SHORT HLIF
CS-134	2.537E-02	3.393E-02	6.965E-02	NOT IDENT.
I-135	0.000E+00	1.559E+36	0.000E+00	SHORT HLIF
CS-136	-9.090E-02	1.800E-01	3.200E-01	NOT IDENT.
LA-138	2.225E-02	3.313E-02	7.749E-02	NOT IDENT.
CE-139	2.236E-03	1.863E-02	3.607E-02	NOT IDENT.
BA-140	6.080E-01	5.074E-01	1.060E+00	NOT IDENT.
LA-140	-7.044E-02	1.715E-01	2.804E-01	NOT IDENT.
CE-141	-5.007E-02	6.581E-02	9.094E-02	NOT IDENT.
CE-143	0.000E+00	1.112E+06	0.000E+00	SHORT HLIF
CE-144	-1.778E-02	1.312E-01	2.114E-01	NOT IDENT.
PM-144	-4.102E-03	2.383E-02	4.563E-02	NOT IDENT.
PR-144	-3.100E-01	1.801E+00	3.448E+00	NOT IDENT.
PM-146	-6.013E-03	3.306E-02	5.828E-02	NOT IDENT.
ND-147	2.226E-01	1.430E+00	2.606E+00	FAIL ABUN
PM-147	-1.438E+01	4.395E+02	7.243E+02	NOT IDENT.
PM-149	0.000E+00	2.378E+04	0.000E+00	SHORT HLIF
EU-150	3.898E-03	2.061E-02	3.577E-02	FAIL ABUN
EU-152	-3.912E-02	6.893E-02	1.195E-01	FAIL ABUN
GD-153	-1.295E-02	4.410E-02	7.192E-02	NOT IDENT.

EU-154	-2.983E-02	7.555E-02	1.349E-01	NOT IDENT.
EU-155	2.862E-02	5.134E-02	9.152E-02	NOT IDENT.
TB-160	-1.399E-02	1.087E-01	2.078E-01	FAIL ABUN
HO-166M	1.953E-02	3.657E-02	7.718E-02	NOT IDENT.
TM-171	-1.296E+00	2.318E+00	3.877E+00	NOT IDENT.
HF-172	1.325E-02	1.148E-01	1.914E-01	FAIL ABUN
LU-172	-1.607E-02	4.571E-02	8.265E-02	FAIL ABUN
LU-176	-4.833E-03	1.790E-02	3.232E-02	NOT IDENT.
HF-181	-2.861E-02	3.903E-02	6.383E-02	NOT IDENT.
TA-182	5.431E-02	1.282E-01	2.633E-01	FAIL ABUN
RE-183	4.137E-02	4.535E-02	8.520E-02	NOT IDENT.
RE-184	1.877E-02	1.161E-01	2.143E-01	NOT IDENT.
W-188	-2.006E+00	6.031E+00	1.084E+01	FAIL ABUN
IR-192	-3.294E-03	2.831E-02	5.174E-02	FAIL ABUN
HG-203	-3.227E-02	3.528E-02	5.480E-02	FAIL ABUN
TL-204	-3.217E-01	1.560E+00	2.620E+00	NOT IDENT.
BI-207	-1.477E-02	3.327E-02	5.972E-02	FAIL ABUN
PB-211	2.593E-01	5.294E-01	1.006E+00	NOT IDENT.
BI-213	6.282E-02	6.940E-02	1.400E-01	NOT IDENT.
RN-219	-2.780E-03	2.844E-01	5.178E-01	NOT IDENT.
RA-223	-1.270E-01	3.996E-01	7.181E-01	FAIL ABUN
AC-225	-3.298E-01	1.344E+00	2.490E+00	NOT IDENT.
AC-227	3.555E-02	1.551E-01	2.968E-01	NOT IDENT.
TH-227	3.555E-02	1.551E-01	2.968E-01	NOT IDENT.
TH-229	1.351E-02	3.162E-01	6.023E-01	FAIL ABUN
PA-231	1.576E-02	3.519E-01	6.330E-01	NOT IDENT.
TH-231	-1.270E-01	3.996E-01	7.181E-01	FAIL ABUN
PA-233	1.459E-02	4.053E-02	7.801E-02	NOT IDENT.
PA-234	-6.862E-02	1.884E-01	3.477E-01	NOT IDENT.
NP-237	1.459E-02	4.053E-02	7.801E-02	NOT IDENT.
NP-238	0.000E+00	8.242E+03	0.000E+00	SHORT HLIF
NP-239	-1.593E-01	1.727E-01	2.584E-01	FAIL ABUN
PU-239	1.512E+02	2.101E+02	3.690E+02	FAIL ABUN
AM-241	6.329E-04	3.404E-02	5.900E-02	NOT IDENT.
CM-243	-3.109E-02	5.198E-02	8.159E-02	FAIL ABUN
BK-247	2.860E-02	5.239E-02	1.021E-01	FAIL ABUN
CM-247	1.196E-04	2.687E-02	4.886E-02	FAIL ABUN
CF-249	1.365E-02	3.074E-02	5.803E-02	NOT IDENT.
CF-251	-3.021E-02	7.243E-02	1.347E-01	NOT IDENT.

VAX/VMS Nuclide Identification Report Generated 17-AUG-2026 09:33:47.64

Nuclide Line Activity Report

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
K-40	1460.82	141	10.66*	1.088E+00	4.363E+00	4.363E+00	19.37
BA-137M	661.66	322	89.90*	2.160E+00	5.938E-01	5.951E-01	11.96
CS-137	661.66	322	85.10*	2.160E+00	6.273E-01	6.286E-01	11.96
TL-208	277.37	19	6.60	4.268E+00	2.394E-01	2.394E-01	132.80
	583.19	83	85.00*	2.403E+00	1.456E-01	1.456E-01	38.86
	860.56	47	12.50	1.718E+00	7.903E-01	7.903E-01	50.02
BI-210	46.54	101	4.25*	6.910E+00	1.235E+00	1.238E+00	53.17
PB-210	46.54	101	4.25*	6.910E+00	1.235E+00	1.238E+00	53.17
BI-211	72.87	11	1.23	7.843E+00	4.274E-01	4.274E-01	362.91
	351.06	261	12.92*	3.589E+00	2.018E+00	2.018E+00	22.24
BI-212	727.33	25	6.67*	1.991E+00	6.736E-01	6.736E-01	113.30
	1620.50	------	1.47	1.003E+00	------ Line Not Found		------
PB-212	74.82	227	10.28	7.834E+00	1.009E+00	1.009E+00	25.14
	77.11	353	17.10	7.817E+00	9.469E-01	9.469E-01	14.87
	238.63	303	43.60*	4.719E+00	5.284E-01	5.284E-01	16.09
	300.09	------	3.30	4.032E+00	------ Line Not Found		------
BI-214	609.32	194	45.49*	2.316E+00	6.589E-01	6.589E-01	22.14
	1120.29	46	14.92	1.363E+00	8.116E-01	8.116E-01	55.34
	1764.49	25	15.30	9.407E-01	6.123E-01	6.123E-01	65.77
PB-214	74.82	227	5.80	7.834E+00	1.788E+00	1.788E+00	25.14
	77.11	353	9.70	7.817E+00	1.669E+00	1.669E+00	14.87
	87.09	------	3.41	7.680E+00	------ Line Not Found		------
	242.00	87	7.25	4.674E+00	9.156E-01	9.157E-01	63.14
	295.22	162	18.42	4.077E+00	7.754E-01	7.754E-01	28.28
	351.93	261	35.60*	3.589E+00	7.323E-01	7.323E-01	22.24
RN-222	74.82	227	5.80	7.834E+00	1.788E+00	1.788E+00	25.14
	77.11	353	9.70	7.817E+00	1.669E+00	1.669E+00	14.87
	87.09	------	3.41	7.680E+00	------ Line Not Found		------
	242.00	87	7.25	4.674E+00	9.156E-01	9.157E-01	63.14
	295.22	162	18.42	4.077E+00	7.754E-01	7.754E-01	28.28
	351.93	261	35.60*	3.589E+00	7.323E-01	7.323E-01	22.24
RA-224	240.99	87	4.10*	4.674E+00	1.619E+00	1.619E+00	63.14
RA-226	74.82	227	5.80	7.834E+00	1.788E+00	1.788E+00	25.14
	77.11	353	9.70	7.817E+00	1.669E+00	1.669E+00	14.87
	87.09	------	3.41	7.680E+00	------ Line Not Found		------
	242.00	87	7.25	4.674E+00	9.156E-01	9.157E-01	63.14
	295.22	162	18.42	4.077E+00	7.754E-01	7.754E-01	28.28
	351.93	261	35.60*	3.589E+00	7.323E-01	7.323E-01	22.24
AC-228	338.32	63	11.27	3.700E+00	5.425E-01	5.425E-01	62.13
	911.20	80	25.80*	1.634E+00	6.803E-01	6.803E-01	28.70
	968.97	28	15.80	1.548E+00	4.079E-01	4.079E-01	85.41
RA-228	338.32	63	11.27	3.700E+00	5.425E-01	5.425E-01	62.13
	911.20	80	25.80*	1.634E+00	6.803E-01	6.803E-01	28.70
	968.97	28	15.80	1.548E+00	4.079E-01	4.079E-01	85.41
TH-228	74.82	227	10.28	7.834E+00	1.009E+00	1.009E+00	25.14
	77.11	353	17.10	7.817E+00	9.469E-01	9.469E-01	14.87
	238.63	303	43.60*	4.719E+00	5.284E-01	5.284E-01	16.09

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
	300.09	------	3.30	4.032E+00	------ Line Not Found		------
TH-230	74.82	227	5.80	7.834E+00	1.788E+00	1.788E+00	25.14
	77.11	353	9.70	7.817E+00	1.669E+00	1.669E+00	14.87
	87.09	------	3.41	7.680E+00	------ Line Not Found		------
	242.00	87	7.25	4.674E+00	9.156E-01	9.156E-01	63.14
	295.22	162	18.42	4.077E+00	7.754E-01	7.754E-01	28.28
	351.93	261	35.60*	3.589E+00	7.323E-01	7.323E-01	22.24
TH-232	338.32	63	11.27	3.700E+00	5.425E-01	5.425E-01	62.13
	911.20	80	25.80*	1.634E+00	6.803E-01	6.803E-01	28.70
	968.97	28	15.80	1.548E+00	4.079E-01	4.079E-01	85.41
PA-234M	63.29	86	3.70*	7.777E+00	1.078E+00	1.078E+00	73.40
	92.59	110	4.23	7.568E+00	1.229E+00	1.229E+00	51.28
TH-234	63.29	86	3.70*	7.777E+00	1.078E+00	1.078E+00	73.40
	92.59	110	4.23	7.568E+00	1.229E+00	1.229E+00	51.28
U-234	74.82	227	5.80	7.834E+00	1.788E+00	1.788E+00	25.14
	77.11	353	9.70	7.817E+00	1.669E+00	1.669E+00	14.87
	87.09	------	3.41	7.680E+00	------ Line Not Found		------
	242.00	87	7.25	4.674E+00	9.156E-01	9.156E-01	63.14
	295.22	162	18.42	4.077E+00	7.754E-01	7.754E-01	28.28
	351.93	261	35.60*	3.589E+00	7.323E-01	7.323E-01	22.24
U-235	89.96	67	3.47	7.623E+00	9.108E-01	9.108E-01	48.70
	93.35	110	5.60	7.568E+00	9.286E-01	9.286E-01	51.28
	143.76	------	10.96*	6.372E+00	------ Line Not Found		------
	163.33	------	5.08	5.954E+00	------ Line Not Found		------
	185.72	50	57.20	5.524E+00	5.633E-02	5.633E-02	142.11
	205.31	------	5.01	5.201E+00	------ Line Not Found		------
U-238	63.29	86	3.70*	7.777E+00	1.078E+00	1.078E+00	73.40
	92.59	110	4.23	7.568E+00	1.229E+00	1.229E+00	51.28
AM-243	43.53	------	5.90	6.583E+00	------ Line Not Found		------
	74.66	227	67.20*	7.834E+00	1.543E-01	1.543E-01	25.14
ANH-511	511.00	59	100.00*	2.681E+00	7.855E-02	7.855E-02	96.35

Flag: "*" = Keyline

Sample ID : G787535008 Acquisition date : 17-AUG-2026 07:32:36

Total number of lines in spectrum	52	
Number of unidentified lines	18	
Number of lines tentatively identified by NID	34	65.38%

Nuclide Type :

Nuclide	Hlife	Decay	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
K-40	1.25E+09Y	1.00	4.363E+00	4.363E+00	0.845E+00	19.37	
BA-137M	30.08Y	1.00	5.938E-01	5.951E-01	0.712E-01	11.96	
CS-137	30.08Y	1.00	6.273E-01	6.286E-01	0.752E-01	11.96	
TL-208	1.41E+10Y	1.00	1.456E-01	1.456E-01	0.566E-01	38.86	
BI-210	22.20Y	1.00	1.235E+00	1.238E+00	0.658E+00	53.17	
PB-210	22.20Y	1.00	1.235E+00	1.238E+00	0.658E+00	53.17	
BI-211	7.04E+08Y	1.00	2.018E+00	2.018E+00	0.449E+00	22.24	
BI-212	1.41E+10Y	1.00	6.736E-01	6.736E-01	7.631E-01	113.30	
PB-212	1.41E+10Y	1.00	5.284E-01	5.284E-01	0.850E-01	16.09	
BI-214	1600.00Y	1.00	6.589E-01	6.589E-01	1.459E-01	22.14	
PB-214	1600.00Y	1.00	7.323E-01	7.323E-01	1.628E-01	22.24	
RN-222	1600.00Y	1.00	7.323E-01	7.323E-01	1.628E-01	22.24	
RA-224	1.41E+10Y	1.00	1.619E+00	1.619E+00	1.022E+00	63.14	
RA-226	1600.00Y	1.00	7.323E-01	7.323E-01	1.628E-01	22.24	
AC-228	1.41E+10Y	1.00	6.803E-01	6.803E-01	1.952E-01	28.70	
RA-228	1.41E+10Y	1.00	6.803E-01	6.803E-01	1.952E-01	28.70	
TH-228	1.41E+10Y	1.00	5.284E-01	5.284E-01	0.850E-01	16.09	
TH-230	7.54E+04Y	1.00	7.323E-01	7.323E-01	1.628E-01	22.24	
TH-232	1.41E+10Y	1.00	6.803E-01	6.803E-01	1.952E-01	28.70	
PA-234M	4.47E+09Y	1.00	1.078E+00	1.078E+00	0.791E+00	73.40	
TH-234	4.47E+09Y	1.00	1.078E+00	1.078E+00	0.791E+00	73.40	
U-234	2.45E+05Y	1.00	7.323E-01	7.323E-01	1.628E-01	22.24	
U-235	7.04E+08Y	1.00	5.633E-02	5.633E-02	8.006E-02	142.11	K
U-238	4.47E+09Y	1.00	1.078E+00	1.078E+00	0.791E+00	73.40	
AM-243	7370.00Y	1.00	1.543E-01	1.543E-01	0.388E-01	25.14	
ANH-511	1.00E+09Y	1.00	7.855E-02	7.855E-02	7.568E-02	96.35	
	Total Activity :		2.345E+01	2.346E+01			

Grand Total Activity : 2.345E+01 2.346E+01

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
0	84.34	71	198	1.59	169.94	167	7	9.82E-03	74.3	7.73E+00	T
0	269.44	15	95	0.81	539.89	538	7	2.07E-03	****	4.35E+00	T
0	367.94	32	57	2.40	736.80	731	9	4.51E-03	91.8	3.47E+00	
0	375.33	58	68	4.09	751.56	746	13	8.36E-03	62.3	3.42E+00	T
0	474.23	23	43	2.20	949.28	944	8	3.35E-03	****	2.85E+00	T
5	572.20	12	14	1.35	1145.14	1143	11	1.74E-03	****	2.44E+00	
5	574.90	15	25	1.40	1150.53	1143	11	2.10E-03	****	2.43E+00	
1	665.52	21	5	1.82	1331.69	1300	36	3.09E-03	81.5	2.15E+00	T
0	786.24	18	18	1.25	1573.07	1569	8	2.58E-03	95.1	1.86E+00	
0	807.06	12	21	1.45	1614.69	1610	11	1.77E-03	****	1.82E+00	
0	908.60	15	29	3.07	1817.72	1803	16	2.13E-03	****	1.64E+00	
0	935.08	29	16	6.18	1870.66	1861	17	4.20E-03	72.3	1.60E+00	T
0	985.89	8	12	0.53	1972.26	1965	9	1.15E-03	****	1.52E+00	T
4	1086.27	16	11	2.00	2173.00	2164	17	2.31E-03	****	1.40E+00	T
4	1088.94	13	4	1.31	2178.34	2164	17	1.88E-03	75.3	1.40E+00	
0	1144.01	14	2	1.40	2288.46	2284	8	2.08E-03	61.3	1.34E+00	
0	1156.07	7	9	0.52	2312.57	2304	13	1.06E-03	****	1.33E+00	
0	1168.22	11	19	1.22	2336.86	2329	12	1.61E-03	****	1.31E+00	
0	1239.31	21	28	2.00	2479.05	2472	15	3.06E-03	****	1.25E+00	T
0	1295.45	20	9	2.43	2591.31	2580	20	2.92E-03	85.7	1.20E+00	
0	1308.33	13	18	4.29	2617.07	2608	14	1.91E-03	****	1.19E+00	
0	1592.99	14	2	1.65	3186.41	3182	9	2.08E-03	62.9	1.02E+00	
0	1637.61	11	0	1.16	3275.67	3271	9	1.67E-03	57.7	9.95E-01	
0	1661.97	26	0	0.57	3324.39	3318	15	3.89E-03	37.8	9.83E-01	
0	1730.54	12	7	0.74	3461.55	3457	9	1.79E-03	98.4	9.54E-01	
0	1847.39	5	3	1.00	3695.32	3690	11	8.02E-04	****	9.11E-01	
0	1872.44	7	0	1.37	3745.43	3740	10	9.72E-04	75.6	9.02E-01	

Flags: "T" = Tentatively associated

VAX/VMS Nuclide Identification Report Generated 17-AUG-2026 09:33:59.70

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*************************************************************************
*                          GEL Laboratories LLC                         *
*                            2040 Savage Road                           *
*                          Charleston, SC 29407                         *
*************************************************************************
*                                                                       *
*                        DETECTOR AND SAMPLE DATA                       *
*                                                                       *
* Configuration    : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G787535008.CNF;1    *
* Acquisition date : 17-AUG-2026 07:32:36 Sensitivity     : 3.000       *
* Detector ID      : GAM64                Energy tolerance: 1.500       *
* Elapsed live time:    0 02:00:00.00     Abundance limit : 75.000      *
* Elapsed real time:    0 02:00:01.09     Half life ratio : *****       *
* Sample date      : 14-JUL-2026 09:30:00 Nuclide Library : SOLID       *
* Sample ID        : G787535008           Analyst initials: GG          *
* Batch Number     : 3033734              Sample Quantity : 1.0468E+02 GRAM   *
* Wet wt corr      :    1.00000           Wet Weight      :    0.00000  *
*                                         Dry Weight      :    0.00000  *
*************************************************************************
*                                                                       *
*                        CALIBRATION INFORMATION                        *
*                                                                       *
* Eff. Cal. date   : 15-AUG-2025 04:21:48 Eff. Geometry   : CAN         *
* Eff. File        : DKA100:[CANBERRA.GAMMA]EFF_GAM64_CAN.CNF;1         *
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Combined Critical Level Report

NOTE: Not all "Identified Nuclides" are valid.
Please refer to Certificate of Analysis.

---- Identified Nuclides ----

Nuclide	Lc (pCi/GRAM)
K-40	1.696E-01
BA-137M	1.786E-02
CS-137	1.886E-02
TL-208	2.121E-02
BI-210	2.086E-01
PB-210	2.086E-01
BI-211	1.220E-01
BI-212	3.007E-01
PB-212	3.039E-02
BI-214	3.767E-02
PB-214	4.437E-02
RN-222	4.437E-02
RA-224	3.258E-01
RA-226	4.437E-02
AC-228	6.163E-02
RA-228	6.163E-02
TH-228	3.039E-02
TH-230	4.437E-02
TH-232	6.163E-02
PA-234M	2.596E-01
TH-234	2.596E-01
U-234	4.437E-02
U-235	1.060E-01
U-238	2.596E-01
AM-243	1.404E-02
ANH-511	1.741E-02

---- Non-Identified Nuclides ----

Nuclide	Lc (pCi/GRAM)	
BE-7	2.217E-01	NOT IDENT.
NA-22	1.997E-02	NOT IDENT.
NA-24	0.000E+00	SHORT HLIF
AL-26	2.008E-02	NOT IDENT.
SC-46	2.787E-02	FAIL ABUN

V-48	8.299E-02	NOT IDENT.
CR-51	3.119E-01	NOT IDENT.
MN-52	1.119E+00	FAIL ABUN
MN-54	1.946E-02	NOT IDENT.
CO-56	2.846E-02	FAIL ABUN
MN-56	0.000E+00	SHORT HLIF
CO-57	1.192E-02	NOT IDENT.
CO-58	2.413E-02	NOT IDENT.
FE-59	5.814E-02	NOT IDENT.
CO-60	2.373E-02	NOT IDENT.
ZN-65	4.798E-02	NOT IDENT.
GE-68	7.731E-01	NOT IDENT.
AS-73	1.148E-01	NOT IDENT.
AS-74	1.107E-01	NOT IDENT.
SE-75	2.850E-02	NOT IDENT.
BR-77	0.000E+00	SHORT HLIF
SR-82	2.776E-01	NOT IDENT.
RB-83	4.906E-02	NOT IDENT.
RB-84	5.888E-02	NOT IDENT.
KR-85	4.242E+00	NOT IDENT.
SR-85	2.739E-02	NOT IDENT.
RB-86	9.915E-01	NOT IDENT.
Y-88	1.778E-02	NOT IDENT.
Y-91	1.366E+01	NOT IDENT.
NB-94	2.079E-02	NOT IDENT.
NB-95	3.469E-02	NOT IDENT.
NB-95M	8.413E-02	NOT IDENT.
ZR-95	4.905E-02	NOT IDENT.
NB-97	0.000E+00	SHORT HLIF
ZR-97	0.000E+00	SHORT HLIF
MO-99	0.000E+00	SHORT HLIF
TC-99M	0.000E+00	SHORT HLIF
RH-101	1.480E-02	NOT IDENT.
RH-102	2.999E-02	FAIL ABUN
RU-103	3.381E-02	FAIL ABUN
RH-106	1.945E-01	NOT IDENT.
RU-106	1.945E-01	NOT IDENT.
AG-108M	1.926E-02	NOT IDENT.
CD-109	3.374E-01	NOT IDENT.
AG-110	3.829E-01	NOT IDENT.
AG-110M	3.267E-02	NOT IDENT.
SN-113	2.979E-02	NOT IDENT.
CD-115	0.000E+00	SHORT HLIF
SN-117M	7.443E-02	NOT IDENT.
SB-122	0.000E+00	SHORT HLIF
TE-123M	1.623E-02	NOT IDENT.
SB-124	5.927E-02	NOT IDENT.
SB-125	5.566E-02	NOT IDENT.
TE-125M	5.482E+00	NOT IDENT.
I-126	3.453E-01	FAIL ABUN
SB-126	2.658E-01	FAIL ABUN
SN-126	3.605E-02	FAIL ABUN
SB-127	2.070E+01	FAIL ABUN
I-131	2.957E-01	NOT IDENT.
I-132	0.000E+00	SHORT HLIF
TE-132	0.000E+00	SHORT HLIF
BA-133	2.038E-02	FAIL ABUN
I-133	0.000E+00	SHORT HLIF
CS-134	3.167E-02	NOT IDENT.
I-135	0.000E+00	SHORT HLIF
CS-136	1.351E-01	NOT IDENT.
LA-138	3.209E-02	NOT IDENT.
CE-139	1.682E-02	NOT IDENT.
BA-140	4.813E-01	NOT IDENT.
LA-140	1.087E-01	NOT IDENT.
CE-141	4.221E-02	NOT IDENT.
CE-143	0.000E+00	SHORT HLIF
CE-144	9.854E-02	NOT IDENT.
PM-144	2.031E-02	NOT IDENT.
PR-144	1.535E+00	NOT IDENT.
PM-146	2.660E-02	NOT IDENT.
ND-147	1.182E+00	FAIL ABUN
PM-147	3.369E+02	NOT IDENT.
PM-149	0.000E+00	SHORT HLIF
EU-150	1.653E-02	FAIL ABUN
EU-152	5.475E-02	FAIL ABUN
GD-153	3.349E-02	NOT IDENT.
EU-154	5.607E-02	NOT IDENT.

EU-155	4.256E-02	NOT IDENT.
TB-160	9.077E-02	FAIL ABUN
HO-166M	3.420E-02	NOT IDENT.
TM-171	1.793E+00	NOT IDENT.
HF-172	8.919E-02	FAIL ABUN
LU-172	3.564E-02	FAIL ABUN
LU-176	1.486E-02	NOT IDENT.
HF-181	2.820E-02	NOT IDENT.
TA-182	1.143E-01	FAIL ABUN
RE-183	4.001E-02	NOT IDENT.
RE-184	9.221E-02	NOT IDENT.
W-188	5.012E+00	FAIL ABUN
IR-192	2.380E-02	FAIL ABUN
HG-203	2.509E-02	FAIL ABUN
TL-204	1.231E+00	NOT IDENT.
BI-207	2.532E-02	FAIL ABUN
PB-211	4.634E-01	NOT IDENT.
BI-213	6.385E-02	NOT IDENT.
RN-219	2.364E-01	NOT IDENT.
RA-223	3.273E-01	FAIL ABUN
AC-225	1.156E+00	NOT IDENT.
AC-227	1.371E-01	NOT IDENT.
TH-227	1.371E-01	NOT IDENT.
TH-229	2.808E-01	FAIL ABUN
PA-231	2.941E-01	NOT IDENT.
TH-231	3.273E-01	FAIL ABUN
PA-233	3.581E-02	NOT IDENT.
PA-234	1.485E-01	NOT IDENT.
NP-237	3.581E-02	NOT IDENT.
NP-238	0.000E+00	SHORT HLIF
NP-239	1.205E-01	FAIL ABUN
PU-239	1.730E+02	FAIL ABUN
AM-241	2.774E-02	NOT IDENT.
CM-243	3.762E-02	FAIL ABUN
BK-247	4.738E-02	FAIL ABUN
CM-247	2.237E-02	FAIL ABUN
CF-249	2.682E-02	NOT IDENT.
CF-251	6.244E-02	NOT IDENT.

VAX/VMS Nuclide Identification Report Generated 17-AUG-2026 09:34:04.57

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*****************************************************************************
*                            GEL Laboratories LLC                           *
*                              2040 Savage Road                             *
*                            Charleston, SC 29407                           *
*****************************************************************************
*                                                                           *
*                          DETECTOR AND SAMPLE DATA                         *
*                                                                           *
* Configuration    : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G787535008.CNF;1   *
* Acquisition date : 17-AUG-2026 07:32:36 Sensitivity     : 3.000           *
* Detector ID      : GAM64                Energy tolerance: 1.500           *
* Elapsed live time:    0 02:00:00.00     Abundance limit : 75.000          *
* Elapsed real time:    0 02:00:01.09     Half life ratio : *****           *
* Sample date      : 14-JUL-2026 09:30:00 Nuclide Library : SOLID           *
* Sample ID        : G787535008           Analyst initials: GG              *
* Batch Number     : 3033734              Sample Quantity : 1.0468E+02 GRAM *
*                                         Quantity Err(%) : 1.9106E-03 %    *
* Wet wt corr      :    1.00000           Wet Weight      :    0.00000      *
*                                         Dry Weight      :    0.00000      *
*****************************************************************************
*                                                                           *
*                          CALIBRATION INFORMATION                          *
*                                                                           *
* Eff. Cal. date   : 15-AUG-2025 04:21:48 Eff. Geometry   : CAN             *
* Eff. File        : DKA100:[CANBERRA.GAMMA]EFF_GAM64_CAN.CNF;1             *
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Combined Activity-MDA Report

NOTE: Not all "Identified Nuclides" are valid.
Please refer to Certificate of Analysis.

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act Error (1.96-sigma)	TPU (1.96-sigma)
K-40	4.363E+00	9.308E-01	9.308E-01
BA-137M	5.951E-01	9.273E-02	9.273E-02
CS-137	6.286E-01	9.794E-02	9.794E-02
TL-208	1.456E-01	5.725E-02	5.725E-02
BI-210	1.238E+00	6.562E-01	6.562E-01
PB-210	1.238E+00	6.562E-01	6.562E-01
BI-211	2.018E+00	4.724E-01	4.724E-01
BI-212	6.736E-01	7.517E-01	7.517E-01
PB-212	5.284E-01	1.030E-01	1.030E-01
BI-214	6.589E-01	1.574E-01	1.574E-01
PB-214	7.323E-01	1.710E-01	1.710E-01
RN-222	7.323E-01	1.710E-01	1.710E-01
RA-224	1.619E+00	1.018E+00	1.018E+00
RA-226	7.323E-01	1.710E-01	1.710E-01
AC-228	6.803E-01	2.093E-01	2.093E-01
RA-228	6.803E-01	2.093E-01	2.093E-01
TH-228	5.284E-01	1.030E-01	1.030E-01
TH-230	7.323E-01	1.710E-01	1.710E-01
TH-232	6.803E-01	2.093E-01	2.093E-01
PA-234M	1.078E+00	8.137E-01	8.137E-01
TH-234	1.078E+00	8.137E-01	8.137E-01
U-234	7.323E-01	1.710E-01	1.710E-01
U-235	6.239E-02	1.422E-01	1.422E-01
U-238	1.078E+00	8.137E-01	8.137E-01
AM-243	1.543E-01	4.063E-02	4.063E-02
ANH-511	7.855E-02	7.452E-02	7.452E-02

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L Act error (1.96-sigma)	TPU (1.96-sigma)	
BE-7	-7.537E-02	2.819E-01	2.839E-01	NOT IDENT.
NA-22	-4.212E-03	2.540E-02	2.547E-02	NOT IDENT.
NA-24	-1.339E+14	6.045E+14	6.075E+14	SHORT HLIF
AL-26	1.229E-02	1.978E-02	2.054E-02	NOT IDENT.

SC-46	1.413E-02	3.052E-02	3.118E-02	FAIL ABUN
V-48	7.177E-03	9.706E-02	9.712E-02	NOT IDENT.
CR-51	-1.243E-01	3.806E-01	3.847E-01	NOT IDENT.
MN-52	-3.967E-01	1.512E+00	1.523E+00	FAIL ABUN
MN-54	6.038E-04	2.261E-02	2.261E-02	NOT IDENT.
CO-56	3.471E-03	3.275E-02	3.279E-02	FAIL ABUN
MN-56	1.000E+41	1.008E+42	0.000E+00	SHORT HLIF
CO-57	-7.429E-03	1.636E-02	1.670E-02	NOT IDENT.
CO-58	1.982E-03	3.076E-02	3.077E-02	NOT IDENT.
FE-59	-5.161E-02	8.032E-02	8.363E-02	NOT IDENT.
CO-60	3.628E-04	3.203E-02	3.203E-02	NOT IDENT.
ZN-65	2.354E-02	5.818E-02	5.914E-02	NOT IDENT.
GE-68	5.240E-01	8.288E-01	8.618E-01	NOT IDENT.
AS-73	4.027E-02	1.363E-01	1.375E-01	NOT IDENT.
AS-74	3.930E-02	1.320E-01	1.332E-01	NOT IDENT.
SE-75	1.084E-02	3.205E-02	3.242E-02	NOT IDENT.
BR-77	1.996E+04	1.995E+04	2.188E+04	SHORT HLIF
SR-82	-1.685E-01	3.494E-01	3.575E-01	NOT IDENT.
RB-83	1.344E-02	6.253E-02	6.283E-02	NOT IDENT.
RB-84	-8.863E-03	7.052E-02	7.063E-02	NOT IDENT.
KR-85	1.835E+00	5.368E+00	5.432E+00	NOT IDENT.
SR-85	1.180E-02	3.467E-02	3.508E-02	NOT IDENT.
RB-86	1.041E+00	1.003E+00	1.107E+00	NOT IDENT.
Y-88	-1.547E-02	2.673E-02	2.762E-02	NOT IDENT.
Y-91	-7.518E+00	1.954E+01	1.983E+01	NOT IDENT.
NB-94	3.061E-03	2.350E-02	2.354E-02	NOT IDENT.
NB-95	-5.736E-03	4.080E-02	4.088E-02	NOT IDENT.
NB-95M	6.113E-04	1.036E-01	1.036E-01	NOT IDENT.
ZR-95	-1.263E-02	5.854E-02	5.882E-02	NOT IDENT.
NB-97	-1.000E+41	3.016E+42	0.000E+00	SHORT HLIF
ZR-97	7.468E+13	1.411E+14	1.450E+14	SHORT HLIF
MO-99	-9.651E+02	1.034E+03	1.122E+03	SHORT HLIF
TC-99M	-6.510E+38	9.974E+38	0.000E+00	SHORT HLIF
RH-101	-3.937E-03	1.976E-02	1.984E-02	NOT IDENT.
RH-102	-1.623E-02	4.058E-02	4.124E-02	FAIL ABUN
RU-103	2.448E-03	4.115E-02	4.117E-02	FAIL ABUN
RH-106	-1.248E-02	2.463E-01	2.464E-01	NOT IDENT.
RU-106	-1.248E-02	2.463E-01	2.464E-01	NOT IDENT.
AG-108M	1.596E-02	2.148E-02	2.265E-02	NOT IDENT.
CD-109	-1.476E-01	4.433E-01	4.482E-01	NOT IDENT.
AG-110	-2.015E-02	4.878E-01	4.879E-01	NOT IDENT.
AG-110M	1.691E-02	3.580E-02	3.660E-02	NOT IDENT.
SN-113	2.959E-03	3.538E-02	3.541E-02	NOT IDENT.
CD-115	-5.766E+02	2.830E+03	2.842E+03	SHORT HLIF
SN-117M	1.886E-02	8.162E-02	8.207E-02	NOT IDENT.
SB-122	8.585E+01	1.717E+02	1.760E+02	SHORT HLIF
TE-123M	6.331E-04	1.803E-02	1.803E-02	NOT IDENT.
SB-124	5.829E-03	6.768E-02	6.773E-02	NOT IDENT.
SB-125	4.323E-02	6.199E-02	6.498E-02	NOT IDENT.
TE-125M	1.942E+00	6.860E+00	6.915E+00	NOT IDENT.
I-126	6.668E-01	5.380E-01	6.162E-01	FAIL ABUN
SB-126	5.573E-02	2.993E-01	3.003E-01	FAIL ABUN
SN-126	7.593E-02	4.126E-02	5.361E-02	FAIL ABUN
SB-127	1.154E+01	2.212E+01	2.272E+01	FAIL ABUN
I-131	-1.607E-01	4.051E-01	4.115E-01	NOT IDENT.
I-132	-1.000E+41	2.988E+41	0.000E+00	SHORT HLIF
TE-132	7.784E+00	2.754E+01	2.776E+01	SHORT HLIF
BA-133	-1.750E-02	2.882E-02	2.988E-02	FAIL ABUN
I-133	-7.025E+09	1.583E+10	1.614E+10	SHORT HLIF
CS-134	2.537E-02	3.405E-02	3.592E-02	NOT IDENT.
I-135	-2.209E+35	1.569E+36	0.000E+00	SHORT HLIF
CS-136	-9.090E-02	1.804E-01	1.850E-01	NOT IDENT.
LA-138	2.225E-02	3.319E-02	3.467E-02	NOT IDENT.
CE-139	2.236E-03	1.864E-02	1.867E-02	NOT IDENT.
BA-140	6.080E-01	5.107E-01	5.796E-01	NOT IDENT.
LA-140	-7.044E-02	1.716E-01	1.745E-01	NOT IDENT.
CE-141	-5.007E-02	6.609E-02	6.983E-02	NOT IDENT.
CE-143	-1.227E+06	1.117E+06	1.246E+06	SHORT HLIF
CE-144	-1.778E-02	1.312E-01	1.314E-01	NOT IDENT.
PM-144	-4.102E-03	2.383E-02	2.390E-02	NOT IDENT.
PR-144	-3.100E-01	1.801E+00	1.807E+00	NOT IDENT.
PM-146	-6.013E-03	3.306E-02	3.318E-02	NOT IDENT.
ND-147	2.226E-01	1.430E+00	1.433E+00	FAIL ABUN
PM-147	-1.438E+01	4.395E+02	4.395E+02	NOT IDENT.
PM-149	-7.854E+03	2.381E+04	2.407E+04	SHORT HLIF
EU-150	3.898E-03	2.061E-02	2.069E-02	FAIL ABUN
EU-152	-3.912E-02	6.902E-02	7.124E-02	FAIL ABUN
GD-153	-1.295E-02	4.412E-02	4.451E-02	NOT IDENT.

EU-154	-2.983E-02	7.560E-02	7.679E-02	NOT IDENT.
EU-155	2.862E-02	5.144E-02	5.303E-02	NOT IDENT.
TB-160	-1.399E-02	1.087E-01	1.089E-01	FAIL ABUN
HO-166M	1.953E-02	3.664E-02	3.768E-02	NOT IDENT.
TM-171	-1.296E+00	2.322E+00	2.394E+00	NOT IDENT.
HF-172	1.325E-02	1.148E-01	1.150E-01	FAIL ABUN
LU-172	-1.607E-02	4.577E-02	4.634E-02	FAIL ABUN
LU-176	-4.833E-03	1.791E-02	1.804E-02	NOT IDENT.
HF-181	-2.861E-02	3.912E-02	4.119E-02	NOT IDENT.
TA-182	5.431E-02	1.283E-01	1.306E-01	FAIL ABUN
RE-183	4.137E-02	4.560E-02	4.927E-02	NOT IDENT.
RE-184	1.877E-02	1.161E-01	1.164E-01	NOT IDENT.
W-188	-2.006E+00	6.037E+00	6.104E+00	FAIL ABUN
IR-192	-3.294E-03	2.832E-02	2.835E-02	FAIL ABUN
HG-203	-3.227E-02	3.538E-02	3.826E-02	FAIL ABUN
TL-204	-3.217E-01	1.560E+00	1.567E+00	NOT IDENT.
BI-207	-1.477E-02	3.331E-02	3.397E-02	FAIL ABUN
PB-211	2.593E-01	5.299E-01	5.427E-01	NOT IDENT.
BI-213	6.282E-02	6.961E-02	7.515E-02	NOT IDENT.
RN-219	-2.780E-03	2.844E-01	2.844E-01	NOT IDENT.
RA-223	-1.270E-01	3.998E-01	4.039E-01	FAIL ABUN
AC-225	-3.298E-01	1.345E+00	1.353E+00	NOT IDENT.
AC-227	3.555E-02	1.552E-01	1.560E-01	NOT IDENT.
TH-227	3.555E-02	1.552E-01	1.560E-01	NOT IDENT.
TH-229	1.351E-02	3.162E-01	3.163E-01	FAIL ABUN
PA-231	1.576E-02	3.520E-01	3.520E-01	NOT IDENT.
TH-231	-1.270E-01	3.998E-01	4.039E-01	FAIL ABUN
PA-233	1.459E-02	4.055E-02	4.108E-02	NOT IDENT.
PA-234	-6.862E-02	2.043E-01	2.066E-01	NOT IDENT.
NP-237	1.459E-02	4.055E-02	4.108E-02	NOT IDENT.
NP-238	4.875E+03	8.261E+03	8.548E+03	SHORT HLIF
NP-239	-1.593E-01	1.738E-01	1.880E-01	FAIL ABUN
PU-239	1.512E+02	2.107E+02	2.214E+02	FAIL ABUN
AM-241	6.329E-04	3.404E-02	3.404E-02	NOT IDENT.
CM-243	-3.109E-02	5.212E-02	5.397E-02	FAIL ABUN
BK-247	2.860E-02	5.276E-02	5.431E-02	FAIL ABUN
CM-247	1.196E-04	2.687E-02	2.687E-02	FAIL ABUN
CF-249	1.365E-02	3.078E-02	3.139E-02	NOT IDENT.
CF-251	-3.021E-02	7.261E-02	7.388E-02	NOT IDENT.

GEL Laboratories LLC
2040 Savage Road
Charleston, SC 29407

GAMMA SPECTROSCOPY BACKGROUND REPORT

ENERGY	MDA COUNTS	ENERGY	MDA COUNTS	ENERGY	MDA COUNTS
43.53	61.5745	85.43	71.2886	133.02	69.1172
45.60	52.3945	86.55	102.1924	133.52	66.3089
46.54	52.6366	86.79	93.3185	136.00	66.6683
49.72	0.0000	86.94	93.3619	136.47	49.3264
51.35	48.2313	87.09	79.3306	140.51	0.0000
51.87	50.5931	87.57	76.8832	143.76	60.4014
52.39	63.1072	88.03	116.7701	144.24	57.5121
52.97	55.3616	88.34	124.5854	145.44	70.9585
53.44	54.3446	88.47	124.6350	152.43	61.4662
54.07	53.3594	89.96	67.1130	153.25	74.3286
57.36	0.0000	1093.63	67.2487	323.87	61.6802
57.53	61.0665	91.11	67.3423	156.02	67.1819
57.98	57.7171	92.59	67.6351	158.56	62.9592
59.27	82.3944	93.35	67.7842	159.00	64.5295
59.32	82.4112	94.56	68.0207	162.33	74.8683
59.54	82.4848	94.65	68.0381	162.66	71.8569
60.96	77.1161	94.67	68.0421	163.33	66.5895
61.17	77.1806	94.87	68.0810	165.86	61.5186
62.93	78.8957	97.43	68.5753	176.31	54.8477
63.29	79.0063	98.43	64.8000	176.60	53.3076
63.58	79.0953	98.44	64.8015	177.52	62.0310
64.28	75.7578	99.53	59.6915	181.07	0.0000
66.73	72.8796	100.11	62.4434	181.52	78.0092
67.24	81.3975	102.03	46.7439	184.41	69.1237
125.81	82.7282	103.18	60.2854	143.76	69.2764
67.75	76.7534	103.37	60.3163	193.51	62.9144
68.89	84.3010	105.31	47.1552	197.03	72.1944
69.67	68.8408	106.12	68.8581	198.01	58.4967
70.82	84.8895	106.47	56.7586	201.83	62.9373
70.83	84.8927	109.28	63.9788	203.43	57.3599
72.81	76.9399	111.00	64.2592	205.31	69.0331
72.87	76.9562	111.76	0.0000	210.85	62.9897
74.66	77.4349	114.06	96.4412	215.65	58.4366
74.82	77.4772	116.30	0.0000	218.12	61.1638
74.97	77.5166	116.74	88.7568	222.11	60.6786
77.11	78.0800	119.76	54.4807	227.09	52.6266
78.74	78.5039	121.12	60.2627	227.38	52.6483
79.69	76.2491	121.22	60.2772	228.16	0.0000
80.03	75.0815	121.78	42.1092	228.18	58.6588
80.12	75.1044	122.06	70.2286	116.74	58.6588
80.19	75.1218	122.92	52.0736	235.69	67.5838
80.57	86.4964	123.07	57.7232	235.96	67.6090
81.00	66.5314	265.00	63.4454	238.63	56.0686
81.07	66.5468	125.81	59.5073	238.98	0.0000
81.75	70.4674	127.23	68.2284	240.99	56.2492
82.47	63.0623	127.91	65.4873	242.00	56.3255
83.79	70.9246	129.30	58.5521	244.70	55.6611
84.00	70.9716	131.20	70.2745	252.40	48.3231

ENERGY	MDA COUNTS	ENERGY	MDA COUNTS	ENERGY	MDA COUNTS
252.80	54.5016	345.93	46.9160	564.24	0.0000
254.15	0.0000	351.06	46.1738	569.33	29.6179
256.23	45.0316	351.93	46.2140	946.00	29.6210
260.90	0.0000	355.39	0.0000	569.70	28.0664
264.66	46.4093	356.01	39.4885	583.19	27.1314
264.80	46.4172	364.49	35.8330	584.27	27.1511
265.00	45.5370	366.42	0.0000	595.83	20.2155
269.46	50.2800	372.51	33.4325	427.87	26.2391
270.03	50.3142	375.05	33.1772	602.52	0.0000
271.23	64.7864	377.52	33.2538	604.72	19.1318
273.65	59.5627	356.01	45.6125	607.14	22.7527
276.40	42.2561	388.16	41.7220	609.32	22.7840
277.37	50.7671	388.63	33.5952	610.33	22.7979
277.60	50.7808	391.69	37.7712	614.28	19.2451
278.00	50.8064	264.66	29.8425	618.01	18.0835
279.20	58.1484	401.81	37.0844	620.36	12.0728
279.54	49.6885	402.40	39.1643	621.93	25.3771
279.70	49.6985	404.85	37.1832	630.19	0.0000
280.46	47.3170	410.95	38.4193	631.29	25.5194
283.69	53.8919	413.71	35.3893	633.25	27.9821
284.31	54.8456	414.70	33.3350	634.78	13.3955
285.41	44.8489	423.72	31.4923	635.95	23.1528
285.90	0.0000	427.09	31.5820	636.99	20.7291
287.50	52.2999	427.87	25.2825	657.50	17.2761
290.67	57.0976	433.94	28.5862	657.76	17.2787
293.27	0.0000	439.40	32.9687	657.90	0.0000
351.93	44.4375	440.45	22.3529	661.66	17.3180
295.96	44.4756	453.88	39.8116	664.57	0.0000
879.38	58.2375	463.37	34.6904	666.33	11.5761
299.98	48.4025	468.07	41.3456	666.50	11.5772
300.09	48.4088	473.00	31.6727	667.71	0.0000
300.13	48.4104	475.06	26.2537	677.62	26.2128
301.36	51.2738	476.78	17.5254	685.70	12.5385
302.85	45.7566	477.60	29.5922	692.65	0.0000
256.23	49.5840	482.18	29.6952	695.00	22.6857
304.85	49.6034	487.02	25.3879	696.49	24.3862
306.78	48.7722	492.35	0.0000	696.51	24.3862
308.46	39.4660	497.08	30.0265	697.00	22.7098
311.90	35.8430	505.52	25.3630	697.30	23.5555
316.51	46.4504	507.63	0.0000	697.49	23.5578
319.41	40.8899	511.00	31.4551	702.65	24.4676
320.08	42.8220	514.00	28.5201	706.68	19.4484
321.04	38.1030	514.00	28.5201	711.68	14.4136
323.87	41.0841	520.40	20.3566	720.70	23.8540
325.23	46.8841	520.69	0.0000	721.93	0.0000
328.76	46.0986	522.65	0.0000	722.78	15.3516
333.37	45.0332	527.90	0.0000	722.91	15.3530
333.97	46.3491	528.26	25.0186	723.31	24.3136
334.37	50.2322	529.59	30.7326	724.19	23.0449
338.28	47.5241	529.87	0.0000	727.33	23.0834
338.32	47.5271	531.02	29.6229	733.00	23.6660
311.90	49.2519	537.26	16.0200	735.93	14.5997
340.48	49.2519	546.56	0.0000	333.97	21.4864
340.55	49.2550	552.55	26.5938	739.50	0.0000
344.28	50.7416	563.25	18.6318	744.23	28.4628

ENERGY	MDA COUNTS	ENERGY	MDA COUNTS	ENERGY	MDA COUNTS
747.24	19.8686	964.08	10.0176	1457.56	0.0000
748.06	22.4696	966.17	14.3231	1460.82	5.6413
752.31	23.3844	968.97	17.2075	1489.16	11.3721
753.82	14.7346	983.53	11.5396	1505.03	14.8482
756.73	20.8330	984.45	0.0000	1584.12	6.1250
756.80	21.7021	1274.44	12.5652	1596.21	7.0220
884.68	27.0077	1002.74	12.5975	1620.50	7.0659
765.81	32.2651	1004.73	12.6075	1621.92	6.1848
766.84	34.0266	507.63	0.0000	1678.03	0.0000
772.60	0.0000	1025.87	0.0000	1690.97	4.4952
776.52	19.2876	1028.54	0.0000	1750.46	0.0000
739.50	0.0000	1037.84	10.8057	1764.49	5.4910
778.90	14.9220	1038.76	0.0000	1063.66	8.7973
783.70	17.1569	631.29	13.7995	1771.35	8.2496
788.74	18.5228	1048.07	14.7937	1791.20	0.0000
792.07	23.8535	1049.04	10.8523	1808.65	1.8494
795.86	23.0124	1050.41	5.9224	1810.72	0.0000
810.06	13.3679	1063.66	14.8804	1836.06	5.5829
810.29	13.3691	1077.00	6.9789		
344.28	13.3704	1077.34	8.9744		
810.76	13.3722	1085.87	12.0029		
815.77	16.0851	1093.63	17.0526		
1048.07	14.3164	1099.45	17.0899		
832.01	21.6113	1112.07	17.1674		
834.85	14.4271	1112.84	12.1221		
836.80	0.0000	1115.54	9.1003		
846.75	0.0000	1120.29	12.1543		
846.77	18.1331	1120.55	12.1553		
856.80	6.8314	1221.41	12.1592		
860.56	6.3868	1129.67	16.2604		
871.09	13.7512	1131.51	0.0000		
873.19	14.6816	1147.95	0.0000		
875.33	0.0000	1173.23	11.3500		
879.38	17.4832	1177.95	9.3018		
880.51	15.6504	1189.05	13.4867		
881.60	17.5002	1204.77	12.5156		
883.24	15.6698	1221.41	10.4875		
884.68	13.8348	1231.02	10.5208		
889.28	12.9387	1235.36	20.5458		
894.76	19.4551	1238.28	13.7099		
898.04	17.6277	1260.41	0.0000		
900.72	34.8312	1271.87	5.3308		
903.28	11.1587	1274.44	11.7367		
911.20	9.7972	1274.54	9.6035		
912.08	9.8010	1291.59	6.4370		
923.98	0.0000	1298.22	0.0000		
926.50	12.2097	1312.11	6.4785		
929.11	14.1034	1332.49	7.6055		
935.54	7.5423	1362.66	0.0000		
937.49	7.0767	1365.19	7.6813		
944.13	7.5697	1368.63	0.0000		
946.00	15.1510	1384.29	8.8288		
949.00	12.3256	1408.01	10.0020		
667.71	0.0000	1434.09	6.7183		
962.31	21.9275	1435.80	3.3608		

VAX/VMS Nuclide Identification Report Generated 17-AUG-2026 10:17:28.26

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*************************************************************************
*                          GEL Laboratories LLC                         *
*                            2040 Savage Road                           *
*                          Charleston, SC 29407                         *
*************************************************************************
Configuration    : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G1206539882.CNF;1
Background file  : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]BKG_GAM02.CNF;767
                                    Background date  : 16-AUG-2026 08:54:24
Sample date      : 28-JUL-2026 00:00:00 Acquisition date : 17-AUG-2026 08:14:45
Sample ID        : G1206539882          Sample quantity  : 1.49310E+02 GRAM
Detector name    : GAM02                Detector geometry: CAN
Elapsed live time: 0 02:00:00.00        Elapsed real time: 0 02:00:01.03  0.0%
Energy tolerance : 1.50000 keV          Analyst Initials : GG
Abundance limit  : 75.00000             Sensitivity      : 3.00000
Batch ID         : 3033734              Detector SN#     :
Matrix Spike ID  :                      LCS ID           :
*************************************************************************
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BACKGROUND CORRECTED SAMPLE PEAK REPORT

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	63.36*	39	147	1.09	127.40	123	10	5.37E-03	68.9	
2	1	76.75	30	78	1.02	154.19	148	10	4.18E-03	54.8	3.02E+00
3	0	84.40*	27	122	1.06	169.50	165	9	3.74E-03	83.9	
4	1	96.05*	15	51	1.07	192.81	180	16	2.02E-03	101.1	1.51E+00
5	0	185.61*	20	128	0.96	372.04	367	11	2.72E-03	134.8	
6	0	263.09	19	42	0.94	527.08	524	6	2.58E-03	59.8	
7	0	285.19	16	49	1.43	571.30	568	8	2.18E-03	82.7	
8	0	350.93*	28	32	3.10	702.84	698	10	3.85E-03	48.2	
9	0	382.93	3	24	1.04	766.87	763	6	4.50E-04	253.5	
10	0	385.29	21	13	1.58	771.59	769	6	2.98E-03	33.6	
11	0	449.32	10	30	1.37	899.69	895	7	1.46E-03	86.8	
12	0	468.79	17	26	1.14	938.65	933	9	2.37E-03	59.8	
13	0	510.77*	11	75	2.42	1022.64	1014	22	1.47E-03	253.1	
14	0	609.46*	11	35	0.96	1220.06	1214	12	1.54E-03	126.7	
15	0	661.34*	7	23	2.00	1323.85	1318	9	1.03E-03	135.7	
16	0	677.57	17	12	0.67	1356.31	1351	10	2.31E-03	46.7	
17	0	687.24	13	16	0.55	1375.65	1368	11	1.87E-03	64.0	
18	0	693.12	26	11	4.31	1387.41	1380	12	3.56E-03	33.3	
19	0	715.95	12	8	0.95	1433.08	1429	8	1.67E-03	50.0	
20	0	721.78	4	10	1.21	1444.75	1439	8	5.06E-04	160.1	
21	0	742.01*	7	12	3.08	1485.20	1479	10	9.12E-04	118.7	
22	0	803.71*	14	19	5.09	1608.63	1599	15	1.97E-03	75.4	
23	0	823.01	14	11	0.61	1647.23	1639	12	1.91E-03	56.9	
24	0	910.56*	2	11	1.41	1822.33	1816	11	3.25E-04	346.2	
25	0	921.25	9	6	0.57	1843.71	1836	11	1.18E-03	63.5	
26	0	1037.41	10	9	0.56	2076.00	2072	9	1.39E-03	62.6	
27	2	1458.47	15	3	2.31	2917.87	2910	15	2.13E-03	42.3	7.16E-01
28	0	1578.68	11	0	3.33	3158.18	3154	10	1.53E-03	30.2	
29	0	1764.06*	2	4	2.11	3528.71	3521	13	3.00E-04	291.2	

Flag: "*" = Peak area was modified by background subtraction

VMS Nuclide Identification Report V3.1 Generated 17-AUG-2026 10:17:29

Configuration	: DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G1206539882.CNF;1		
Analyses by	: PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.4		
Sample title	: GG		
Sample date	: 28-JUL-2026 00:00:00	Acquisition date	: 17-AUG-2026 08:14:45
Sample ID	: G1206539882	Sample quantity	: 149.31 GRAM
Sample type	: SOLID	Sample geometry	:
Detector name	: GAMMA2	Detector geometry	: CAN
Elapsed live time	: 0 02:00:00.00	Elapsed real time	: 0 02:00:01.03 0.0%
Energy tolerance	: 1.50 keV	Half life ratio	: 10.00
Errors propagated	: No	Systematic Error	: 0.00 %
Efficiency type	: Empirical	Efficiencies at	: Peak Energy
Abundance limit	: 75.00		

Interference Report

No interference correction performed

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
BA-137M	661.66	8	89.90*	2.189E+00	9.882E-03	9.895E-03	271.34
CS-137	661.66	8	85.10*	2.189E+00	1.044E-02	1.045E-02	271.34
PM-149	285.90	18	3.10*	4.192E+00	3.447E-01	2.052E+02	165.36
BI-211	72.87	------	1.23	3.716E+00	------ Line Not Found		------
	351.06	31	12.92*	3.604E+00	1.665E-01	1.665E-01	96.40
BI-214	609.32	12	45.49*	2.347E+00	2.753E-02	2.753E-02	253.45
	1120.29	------	14.92	1.337E+00	------ Line Not Found		------
	1764.49	2	15.30	9.294E-01	3.607E-02	3.607E-02	582.50
ANH-511	511.00	11	100.00*	2.711E+00	1.055E-02	1.055E-02	506.12

Flag: "*" = Keyline

VAX/VMS Nuclide Identification Report Generated 17-AUG-2026 10:17:30.35

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*****************************************************************************
*                            GEL Laboratories LLC                           *
*                              2040 Savage Road                             *
*                            Charleston, SC 29407                           *
*****************************************************************************
*                                                                           *
*                          DETECTOR AND SAMPLE DATA                         *
*                                                                           *
* Configuration    : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G1206539882.CNF;1  *
* Acquisition date : 17-AUG-2026 08:14:45 Sensitivity     : 3.000           *
* Detector ID      : GAM02                Energy tolerance: 1.500           *
* Elapsed live time:    0 02:00:00.00     Abundance limit : 75.000          *
* Elapsed real time:    0 02:00:01.03     Half life ratio : *****           *
* Sample date      : 28-JUL-2026 00:00:00 Analyst initials: GG              *
* Sample ID        : G1206539882          Sample Quantity : 1.4931E+02 GRAM *
* Batch Number     : 3033734              Wet Weight      :    0.00000      *
* Wet wt corr      :    1.00000           Dry Weight      :    0.00000      *
* Nuclide Library  : SOLID.NLB;19                                           *
*****************************************************************************
*                                                                           *
*                          CALIBRATION INFORMATION                          *
*                                                                           *
* Eff. Cal. date   :  4-SEP-2025 07:49:18 Eff. Geometry   : CAN             *
* Eff. File        : DKA100:[CANBERRA.GAMMA]EFF_GAM02_CAN.CNF;22            *
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Combined Activity-MDA Report

NOTE: Not all "Identified Nuclides" are valid.
Please refer to Certificate of Analysis.

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Cnt uncert (1.96-sigma)	MDA (pCi/GRAM)
BA-137M	9.895E-03	2.631E-02	2.546E-02
CS-137	1.045E-02	2.780E-02	2.690E-02
PM-149	2.052E+02	3.325E+02	3.314E+02
BI-211	1.665E-01	1.573E-01	1.322E-01
BI-214	2.753E-02	6.837E-02	5.056E-02
ANH-511	1.055E-02	5.234E-02	2.018E-02

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Cnt Uncert (1.96-sigma)	MDA (pCi/GRAM)	
BE-7	4.040E-02	1.284E-01	2.609E-01	NOT IDENT.
NA-22	1.009E-02	1.382E-02	3.397E-02	NOT IDENT.
NA-24	0.000E+00	7.806E+07	0.000E+00	SHORT HLIF
AL-26	-6.990E-03	1.440E-02	2.551E-02	NOT IDENT.
K-40	-4.449E-01	2.329E-01	4.456E-01	NOT IDENT.
SC-46	7.858E-04	1.513E-02	3.186E-02	NOT IDENT.
V-48	2.338E-02	2.821E-02	6.956E-02	NOT IDENT.
CR-51	1.898E-02	1.570E-01	3.126E-01	NOT IDENT.
MN-52	-9.747E-02	1.969E-01	3.562E-01	NOT IDENT.
MN-54	-1.296E-02	1.413E-02	2.475E-02	NOT IDENT.
CO-56	5.598E-03	1.431E-02	3.204E-02	FAIL ABUN
MN-56	0.000E+00	1.960E+41	0.000E+00	SHORT HLIF
CO-57	-1.550E-03	8.170E-03	1.671E-02	NOT IDENT.
CO-58	-1.249E-02	1.532E-02	2.753E-02	NOT IDENT.
FE-59	8.797E-03	2.095E-02	5.393E-02	NOT IDENT.
CO-60	-2.264E-03	1.593E-02	3.188E-02	NOT IDENT.
ZN-65	5.735E-03	2.527E-02	5.694E-02	NOT IDENT.
GE-68	1.855E-01	4.642E-01	1.035E+00	NOT IDENT.
AS-73	6.329E-02	4.158E-01	7.998E-01	NOT IDENT.
AS-74	2.982E-02	4.428E-02	9.379E-02	NOT IDENT.
SE-75	-6.244E-03	1.794E-02	3.148E-02	NOT IDENT.
BR-77	-3.954E+00	1.788E+01	3.290E+01	NOT IDENT.
SR-82	-9.076E-02	1.604E-01	3.026E-01	NOT IDENT.
RB-83	9.450E-03	3.119E-02	6.205E-02	NOT IDENT.

RB-84	-2.458E-03	3.545E-02	6.298E-02	NOT IDENT.
KR-85	3.008E+00	2.893E+00	6.232E+00	NOT IDENT.
SR-85	1.683E-02	1.620E-02	3.490E-02	NOT IDENT.
RB-86	4.973E-02	3.483E-01	7.438E-01	NOT IDENT.
Y-88	-1.844E-02	2.307E-02	3.552E-02	NOT IDENT.
Y-91	-5.637E+00	9.335E+00	1.592E+01	NOT IDENT.
NB-94	3.559E-03	1.046E-02	2.194E-02	NOT IDENT.
NB-95	-1.492E-02	2.377E-02	3.509E-02	NOT IDENT.
NB-95M	4.322E-03	3.742E-02	7.632E-02	NOT IDENT.
ZR-95	-9.958E-03	2.686E-02	5.305E-02	NOT IDENT.
NB-97	0.000E+00	1.453E+41	0.000E+00	SHORT HLIF
ZR-97	0.000E+00	1.160E+08	0.000E+00	SHORT HLIF
MO-99	-1.020E+01	2.302E+01	3.523E+01	NOT IDENT.
TC-99M	0.000E+00	2.505E+22	0.000E+00	SHORT HLIF
RH-101	5.483E-03	9.876E-03	2.135E-02	NOT IDENT.
RH-102	-5.545E-03	2.078E-02	3.776E-02	NOT IDENT.
RU-103	8.707E-04	1.872E-02	3.592E-02	FAIL ABUN
RH-106	-1.161E-01	1.538E-01	2.359E-01	NOT IDENT.
RU-106	-1.161E-01	1.538E-01	2.359E-01	NOT IDENT.
AG-108M	2.122E-04	1.049E-02	2.060E-02	FAIL ABUN
CD-109	-3.062E-02	2.918E-01	4.954E-01	NOT IDENT.
AG-110	-2.746E-01	3.494E-01	4.929E-01	NOT IDENT.
AG-110M	-1.002E-02	1.763E-02	3.314E-02	FAIL ABUN
SN-113	-1.283E-02	1.949E-02	3.437E-02	NOT IDENT.
CD-115	-3.249E+00	2.003E+01	3.801E+01	NOT IDENT.
SN-117M	1.180E-02	2.157E-02	4.636E-02	NOT IDENT.
SB-122	2.767E+00	2.883E+00	6.362E+00	FAIL ABUN
TE-123M	-4.500E-04	9.287E-03	1.889E-02	NOT IDENT.
SB-124	-2.414E-02	3.351E-02	5.187E-02	FAIL ABUN
SB-125	1.591E-02	3.041E-02	6.476E-02	NOT IDENT.
TE-125M	1.581E+00	3.458E+00	6.495E+00	NOT IDENT.
I-126	-2.689E-03	1.157E-01	2.179E-01	NOT IDENT.
SB-126	2.736E-02	8.582E-02	1.448E-01	FAIL ABUN
SN-126	4.293E-03	2.949E-02	5.157E-02	FAIL ABUN
SB-127	1.909E-01	1.290E+00	2.375E+00	NOT IDENT.
I-131	3.018E-02	6.518E-02	1.359E-01	FAIL ABUN
I-132	0.000E+00	1.960E+41	0.000E+00	SHORT HLIF
TE-132	2.081E-01	7.879E-01	1.609E+00	NOT IDENT.
BA-133	-7.974E-03	1.533E-02	2.795E-02	FAIL ABUN
I-133	0.000E+00	1.443E+05	0.000E+00	SHORT HLIF
CS-134	2.477E-03	1.257E-02	2.779E-02	NOT IDENT.
I-135	0.000E+00	1.299E+21	0.000E+00	SHORT HLIF
CS-136	1.573E-03	5.414E-02	1.121E-01	NOT IDENT.
LA-138	-6.812E-03	2.745E-02	5.258E-02	NOT IDENT.
CE-139	-2.089E-03	9.043E-03	1.814E-02	NOT IDENT.
BA-140	-2.977E-02	1.501E-01	2.766E-01	NOT IDENT.
LA-140	-2.124E-02	5.769E-02	1.063E-01	NOT IDENT.
CE-141	-3.673E-02	2.246E-02	3.945E-02	NOT IDENT.
CE-143	0.000E+00	7.421E+02	0.000E+00	SHORT HLIF
CE-144	-4.220E-02	6.009E-02	1.169E-01	NOT IDENT.
PM-144	1.369E-02	1.491E-02	3.073E-02	NOT IDENT.
PR-144	1.027E+00	1.119E+00	2.306E+00	NOT IDENT.
PM-146	3.132E-03	1.673E-02	3.310E-02	NOT IDENT.
ND-147	1.080E-01	2.966E-01	6.062E-01	NOT IDENT.
PM-147	-5.493E+01	2.456E+02	4.999E+02	NOT IDENT.
EU-150	4.421E-04	1.140E-02	2.213E-02	NOT IDENT.
EU-152	2.265E-02	4.065E-02	8.331E-02	NOT IDENT.
GD-153	2.866E-02	5.681E-02	4.836E-02	FAIL ABUN
EU-154	3.096E-02	3.976E-02	9.803E-02	NOT IDENT.
EU-155	4.496E-04	4.008E-02	7.037E-02	NOT IDENT.
TB-160	-8.503E-03	6.848E-02	1.216E-01	NOT IDENT.
HO-166M	1.213E-02	2.655E-02	5.061E-02	FAIL ABUN
TM-171	6.702E-01	9.200E+00	1.743E+01	NOT IDENT.
HF-172	-4.848E-02	5.708E-02	1.100E-01	FAIL ABUN
LU-172	3.123E-02	2.198E-02	5.760E-02	NOT IDENT.
LU-176	2.645E-03	1.091E-02	2.178E-02	NOT IDENT.
HF-181	-1.084E-03	2.071E-02	3.917E-02	NOT IDENT.
TA-182	7.378E-03	5.953E-02	1.281E-01	NOT IDENT.
RE-183	2.315E-02	9.095E-02	1.750E-01	NOT IDENT.
RE-184	1.062E-02	5.693E-02	1.199E-01	NOT IDENT.
W-188	-1.927E+00	2.668E+00	4.823E+00	FAIL ABUN
IR-192	7.341E-03	1.381E-02	2.870E-02	FAIL ABUN
HG-203	-5.066E-03	1.397E-02	2.658E-02	NOT IDENT.
TL-204	-5.495E-01	1.849E+00	3.227E+00	NOT IDENT.
BI-207	4.224E-03	1.902E-02	4.111E-02	NOT IDENT.
TL-208	-5.990E-03	1.988E-02	3.639E-02	NOT IDENT.
BI-210	2.494E+00	2.427E+00	5.066E+00	NOT IDENT.
PB-210	2.494E+00	2.427E+00	5.066E+00	NOT IDENT.

PB-211	-8.209E-02	2.750E-01	5.111E-01	NOT IDENT.
BI-212	3.876E-02	1.704E-01	3.446E-01	NOT IDENT.
PB-212	1.411E-03	2.484E-02	4.681E-02	FAIL ABUN
BI-213	-1.049E-02	3.871E-02	7.216E-02	NOT IDENT.
PB-214	6.043E-02	5.709E-02	6.332E-02	FAIL ABUN
RN-219	-2.379E-02	1.412E-01	2.701E-01	NOT IDENT.
RN-222	6.043E-02	5.709E-02	6.332E-02	FAIL ABUN
RA-223	-8.222E-02	2.511E-01	4.714E-01	FAIL ABUN
RA-224	-1.088E-01	2.107E-01	3.967E-01	NOT IDENT.
AC-225	5.412E-03	2.856E-01	5.735E-01	NOT IDENT.
RA-226	6.043E-02	5.709E-02	6.332E-02	FAIL ABUN
AC-227	1.020E-02	8.307E-02	1.685E-01	NOT IDENT.
TH-227	1.020E-02	8.307E-02	1.685E-01	NOT IDENT.
AC-228	1.413E-02	9.588E-02	1.421E-01	FAIL ABUN
RA-228	1.413E-02	9.588E-02	1.421E-01	FAIL ABUN
TH-228	1.411E-03	2.484E-02	4.681E-02	FAIL ABUN
TH-229	1.287E-02	1.794E-01	3.627E-01	FAIL ABUN
TH-230	6.043E-02	5.709E-02	6.331E-02	FAIL ABUN
PA-231	-1.467E-01	1.775E-01	3.151E-01	NOT IDENT.
TH-231	-8.222E-02	2.511E-01	4.714E-01	FAIL ABUN
TH-232	1.413E-02	9.588E-02	1.421E-01	FAIL ABUN
PA-233	1.719E-02	2.554E-02	5.345E-02	NOT IDENT.
PA-234	2.835E-02	1.196E-01	2.555E-01	FAIL ABUN
PA-234M	1.399E+00	1.890E+00	1.727E+00	FAIL ABUN
TH-234	1.399E+00	1.890E+00	1.727E+00	FAIL ABUN
U-234	6.043E-02	5.709E-02	6.331E-02	FAIL ABUN
U-235	-2.444E-02	7.783E-02	1.500E-01	FAIL ABUN
NP-237	1.719E-02	2.554E-02	5.345E-02	FAIL ABUN
NP-238	4.722E+00	4.139E+01	8.817E+01	NOT IDENT.
U-238	1.399E+00	1.890E+00	1.727E+00	FAIL ABUN
NP-239	-1.008E-02	8.029E-02	1.662E-01	NOT IDENT.
PU-239	-1.947E+01	1.138E+02	2.309E+02	NOT IDENT.
AM-241	-1.438E-03	6.398E-02	1.184E-01	NOT IDENT.
AM-243	-2.221E-02	2.628E-02	4.844E-02	NOT IDENT.
CM-243	-2.823E-02	4.049E-02	6.448E-02	NOT IDENT.
BK-247	-1.007E-02	3.144E-02	5.536E-02	FAIL ABUN
CM-247	1.735E-06	1.259E-02	2.477E-02	NOT IDENT.
CF-249	-8.235E-03	1.490E-02	2.429E-02	NOT IDENT.
CF-251	1.784E-02	4.319E-02	9.044E-02	FAIL ABUN

VAX/VMS Nuclide Identification Report Generated 17-AUG-2026 10:17:29.04

Nuclide Line Activity Report

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
BA-137M	661.66	8	89.90*	2.189E+00	9.882E-03	9.895E-03	271.34
CS-137	661.66	8	85.10*	2.189E+00	1.044E-02	1.045E-02	271.34
PM-149	285.90	18	3.10*	4.192E+00	3.447E-01	2.052E+02	165.36
BI-211	72.87	------	1.23	3.716E+00	------ Line Not Found		------
	351.06	31	12.92*	3.604E+00	1.665E-01	1.665E-01	96.40
BI-214	609.32	12	45.49*	2.347E+00	2.753E-02	2.753E-02	253.45
	1120.29	------	14.92	1.337E+00	------ Line Not Found		------
	1764.49	2	15.30	9.294E-01	3.607E-02	3.607E-02	582.50
ANH-511	511.00	11	100.00*	2.711E+00	1.055E-02	1.055E-02	506.12

Flag: "*" = Keyline

Sample ID : G1206539882 Acquisition date : 17-AUG-2026 08:14:45

Total number of lines in spectrum	29	
Number of unidentified lines	10	
Number of lines tentatively identified by NID	19	65.52%

Nuclide Type :

Nuclide	Hlife	Decay	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
BA-137M	30.08Y	1.00	9.882E-03	9.895E-03	26.85E-03	271.34	
CS-137	30.08Y	1.00	1.044E-02	1.045E-02	2.836E-02	271.34	
PM-149	53.08H	595.	3.447E-01	2.052E+02	3.393E+02	165.36	
BI-211	7.04E+08Y	1.00	1.665E-01	1.665E-01	1.605E-01	96.40	
BI-214	1600.00Y	1.00	2.753E-02	2.753E-02	6.977E-02	253.45	
ANH-511	1.00E+09Y	1.00	1.055E-02	1.055E-02	5.340E-02	506.12	
			---------	---------			
	Total Activity :		5.697E-01	2.054E+02			
	Grand Total Activity :		5.697E-01	2.054E+02			

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

Sample ID : G1206539882 Acquisition date : 17-AUG-2026 08:14:45

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
0	63.36	50	189	1.09	127.40	123	10	5.37E-03	****	2.42E+00	T
1	76.75	38	99	1.02	154.19	148	10	4.18E-03	****	4.19E+00	T
0	84.40	34	153	1.06	169.50	165	9	3.74E-03	****	4.98E+00	T
1	96.05	18	63	1.07	192.81	180	16	2.02E-03	****	5.81E+00	T
0	185.61	23	150	0.96	372.04	367	11	2.72E-03	****	5.61E+00	T
0	263.09	21	48	0.94	527.08	524	6	2.58E-03	****	4.44E+00	
0	382.93	4	26	1.04	766.87	763	6	4.50E-04	****	3.38E+00	T
0	385.29	24	14	1.58	771.59	769	6	2.98E-03	67.3	3.36E+00	
0	449.32	11	32	1.37	899.69	895	7	1.46E-03	****	3.00E+00	
0	468.79	18	28	1.14	938.65	933	9	2.37E-03	****	2.90E+00	T
0	677.57	17	13	0.67	1356.31	1351	10	2.31E-03	93.4	2.14E+00	T
0	687.24	14	16	0.55	1375.65	1368	11	1.87E-03	****	2.12E+00	
0	693.12	27	12	4.31	1387.41	1380	12	3.56E-03	66.6	2.10E+00	T
0	715.95	12	8	0.95	1433.08	1429	8	1.67E-03	****	2.04E+00	
0	721.78	4	11	1.21	1444.75	1439	8	5.06E-04	****	2.03E+00	T
0	742.01	7	12	3.08	1485.20	1479	10	9.12E-04	****	1.98E+00	
0	803.71	15	19	5.09	1608.63	1599	15	1.97E-03	****	1.84E+00	
0	823.01	14	12	0.61	1647.23	1639	12	1.91E-03	****	1.80E+00	
0	910.56	2	11	1.41	1822.33	1816	11	3.25E-04	****	1.63E+00	T
0	921.25	9	6	0.57	1843.71	1836	11	1.18E-03	****	1.61E+00	
0	1037.41	10	9	0.56	2076.00	2072	9	1.39E-03	****	1.44E+00	T
2	1458.47	15	3	2.31	2917.87	2910	15	2.13E-03	84.6	1.05E+00	T
0	1578.68	11	0	3.33	3158.18	3154	10	1.53E-03	60.3	9.94E-01	

Flags: "T" = Tentatively associated

VAX/VMS Nuclide Identification Report Generated 17-AUG-2026 10:17:39.57

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*********************************************************************************
*                            GEL Laboratories LLC                                 *
*                              2040 Savage Road                                   *
*                            Charleston, SC 29407                                 *
*********************************************************************************
*                                                                                 *
*                          DETECTOR AND SAMPLE DATA                               *
*                                                                                 *
* Configuration    : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G1206539882.CNF;1      *
* Acquisition date : 17-AUG-2026 08:14:45 Sensitivity     : 3.000                 *
* Detector ID      : GAM02                Energy tolerance: 1.500                 *
* Elapsed live time:    0 02:00:00.00     Abundance limit : 75.000                *
* Elapsed real time:    0 02:00:01.03     Half life ratio : *****                 *
* Sample date      : 28-JUL-2026 00:00:00 Nuclide Library : SOLID                 *
* Sample ID        : G1206539882          Analyst initials: GG                    *
* Batch Number     : 3033734              Sample Quantity : 1.4931E+02 GRAM       *
* Wet wt corr      :    1.00000           Wet Weight      :    0.00000            *
*                                         Dry Weight      :    0.00000            *
*********************************************************************************
*                                                                                 *
*                          CALIBRATION INFORMATION                                *
*                                                                                 *
* Eff. Cal. date   :  4-SEP-2025 07:49:18 Eff. Geometry   : CAN                   *
* Eff. File        : DKA100:[CANBERRA.GAMMA]EFF_GAM02_CAN.CNF;22                  *
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Combined Critical Level Report

NOTE: Not all "Identified Nuclides" are valid.
Please refer to Certificate of Analysis.

---- Identified Nuclides ----

Nuclide	Lc (pCi/GRAM)
BA-137M	1.096E-02
CS-137	1.158E-02
PM-149	1.494E+02
BI-211	5.848E-02
BI-214	2.201E-02
ANH-511	8.797E-03

---- Non-Identified Nuclides ----

Nuclide	Lc (pCi/GRAM)	
BE-7	1.151E-01	NOT IDENT.
NA-22	1.404E-02	NOT IDENT.
NA-24	0.000E+00	SHORT HLIF
AL-26	9.037E-03	NOT IDENT.
K-40	1.924E-01	NOT IDENT.
SC-46	1.348E-02	NOT IDENT.
V-48	2.926E-02	NOT IDENT.
CR-51	1.409E-01	NOT IDENT.
MN-52	1.380E-01	NOT IDENT.
MN-54	1.033E-02	NOT IDENT.
CO-56	1.364E-02	FAIL ABUN
MN-56	0.000E+00	SHORT HLIF
CO-57	7.666E-03	NOT IDENT.
CO-58	1.143E-02	NOT IDENT.
FE-59	2.081E-02	NOT IDENT.
CO-60	1.290E-02	NOT IDENT.
ZN-65	2.310E-02	NOT IDENT.
GE-68	4.364E-01	NOT IDENT.
AS-73	3.617E-01	NOT IDENT.
AS-74	4.141E-02	NOT IDENT.
SE-75	1.420E-02	NOT IDENT.
BR-77	1.521E+01	NOT IDENT.
SR-82	1.301E-01	NOT IDENT.
RB-83	2.759E-02	NOT IDENT.
RB-84	2.690E-02	NOT IDENT.

KR-85	2.816E+00	NOT IDENT.
SR-85	1.577E-02	NOT IDENT.
RB-86	3.106E-01	NOT IDENT.
Y-88	1.347E-02	NOT IDENT.
Y-91	6.610E+00	NOT IDENT.
NB-94	9.290E-03	NOT IDENT.
NB-95	1.529E-02	NOT IDENT.
NB-95M	3.442E-02	NOT IDENT.
ZR-95	2.242E-02	NOT IDENT.
NB-97	0.000E+00	SHORT HLIF
ZR-97	0.000E+00	SHORT HLIF
MO-99	1.514E+01	NOT IDENT.
TC-99M	0.000E+00	SHORT HLIF
RH-101	9.840E-03	NOT IDENT.
RH-102	1.612E-02	NOT IDENT.
RU-103	1.597E-02	FAIL ABUN
RH-106	1.021E-01	NOT IDENT.
RU-106	1.021E-01	NOT IDENT.
AG-108M	9.034E-03	FAIL ABUN
CD-109	2.285E-01	NOT IDENT.
AG-110	2.092E-01	NOT IDENT.
AG-110M	1.357E-02	FAIL ABUN
SN-113	1.534E-02	NOT IDENT.
CD-115	1.626E+01	NOT IDENT.
SN-117M	2.125E-02	NOT IDENT.
SB-122	2.824E+00	FAIL ABUN
TE-123M	8.654E-03	NOT IDENT.
SB-124	1.640E-02	FAIL ABUN
SB-125	2.853E-02	NOT IDENT.
TE-125M	2.975E+00	NOT IDENT.
I-126	9.442E-02	NOT IDENT.
SB-126	6.242E-02	FAIL ABUN
SN-126	2.391E-02	FAIL ABUN
SB-127	1.013E+00	NOT IDENT.
I-131	6.076E-02	FAIL ABUN
I-132	0.000E+00	SHORT HLIF
TE-132	7.364E-01	NOT IDENT.
BA-133	1.237E-02	FAIL ABUN
I-133	0.000E+00	SHORT HLIF
CS-134	1.166E-02	NOT IDENT.
I-135	0.000E+00	SHORT HLIF
CS-136	4.719E-02	NOT IDENT.
LA-138	2.140E-02	NOT IDENT.
CE-139	8.237E-03	NOT IDENT.
BA-140	1.216E-01	NOT IDENT.
LA-140	4.218E-02	NOT IDENT.
CE-141	1.789E-02	NOT IDENT.
CE-143	0.000E+00	SHORT HLIF
CE-144	5.313E-02	NOT IDENT.
PM-144	1.363E-02	NOT IDENT.
PR-144	1.023E+00	NOT IDENT.
PM-146	1.472E-02	NOT IDENT.
ND-147	2.663E-01	NOT IDENT.
PM-147	2.300E+02	NOT IDENT.
EU-150	1.008E-02	NOT IDENT.
EU-152	3.801E-02	NOT IDENT.
GD-153	2.192E-02	FAIL ABUN
EU-154	4.070E-02	NOT IDENT.
EU-155	3.239E-02	NOT IDENT.
TB-160	5.251E-02	NOT IDENT.
HO-166M	2.217E-02	FAIL ABUN
TM-171	7.912E+00	NOT IDENT.
HF-172	4.994E-02	FAIL ABUN
LU-172	2.472E-02	NOT IDENT.
LU-176	9.938E-03	NOT IDENT.
HF-181	1.744E-02	NOT IDENT.
TA-182	5.238E-02	NOT IDENT.
RE-183	7.971E-02	NOT IDENT.
RE-184	5.174E-02	NOT IDENT.
W-188	2.150E+00	FAIL ABUN
IR-192	1.302E-02	FAIL ABUN
HG-203	1.191E-02	NOT IDENT.
TL-204	1.477E+00	NOT IDENT.
BI-207	1.726E-02	NOT IDENT.
TL-208	1.651E-02	NOT IDENT.
BI-210	2.344E+00	NOT IDENT.
PB-210	2.344E+00	NOT IDENT.
PB-211	2.268E-01	NOT IDENT.

BI-212	1.464E-01	NOT IDENT.
PB-212	2.169E-02	FAIL ABUN
BI-213	3.162E-02	NOT IDENT.
PB-214	2.890E-02	FAIL ABUN
RN-219	1.187E-01	NOT IDENT.
RN-222	2.890E-02	FAIL ABUN
RA-223	2.125E-01	FAIL ABUN
RA-224	1.800E-01	NOT IDENT.
AC-225	2.613E-01	NOT IDENT.
RA-226	2.890E-02	FAIL ABUN
AC-227	7.597E-02	NOT IDENT.
TH-227	7.597E-02	NOT IDENT.
AC-228	6.284E-02	FAIL ABUN
RA-228	6.284E-02	FAIL ABUN
TH-228	2.169E-02	FAIL ABUN
TH-229	1.665E-01	FAIL ABUN
TH-230	2.890E-02	FAIL ABUN
PA-231	1.411E-01	NOT IDENT.
TH-231	2.125E-01	FAIL ABUN
TH-232	6.284E-02	FAIL ABUN
PA-233	2.438E-02	NOT IDENT.
PA-234	1.095E-01	FAIL ABUN
PA-234M	8.225E-01	FAIL ABUN
TH-234	8.225E-01	FAIL ABUN
U-234	2.890E-02	FAIL ABUN
U-235	6.979E-02	FAIL ABUN
NP-237	2.438E-02	FAIL ABUN
NP-238	3.699E+01	NOT IDENT.
U-238	8.225E-01	FAIL ABUN
NP-239	7.597E-02	NOT IDENT.
PU-239	1.066E+02	NOT IDENT.
AM-241	5.377E-02	NOT IDENT.
AM-243	2.284E-02	NOT IDENT.
CM-243	2.941E-02	NOT IDENT.
BK-247	2.500E-02	FAIL ABUN
CM-247	1.088E-02	NOT IDENT.
CF-249	1.055E-02	NOT IDENT.
CF-251	4.162E-02	FAIL ABUN

VAX/VMS Nuclide Identification Report Generated 17-AUG-2026 10:17:43.27

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*****************************************************************************
*                            GEL Laboratories LLC                           *
*                              2040 Savage Road                             *
*                            Charleston, SC 29407                           *
*****************************************************************************
*                                                                           *
*                          DETECTOR AND SAMPLE DATA                         *
*                                                                           *
* Configuration    : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G1206539882.CNF;1  *
* Acquisition date : 17-AUG-2026 08:14:45 Sensitivity     : 3.000           *
* Detector ID      : GAM02                Energy tolerance: 1.500           *
* Elapsed live time:    0 02:00:00.00     Abundance limit : 75.000          *
* Elapsed real time:    0 02:00:01.03     Half life ratio : *****           *
* Sample date      : 28-JUL-2026 00:00:00 Nuclide Library : SOLID           *
* Sample ID        : G1206539882          Analyst initials: GG              *
* Batch Number     : 3033734              Sample Quantity : 1.4931E+02 GRAM *
*                                         Quantity Err(%) : 1.3395E-03 %    *
* Wet wt corr      :    1.00000           Wet Weight      :    0.00000      *
*                                         Dry Weight      :    0.00000      *
*****************************************************************************
*                                                                           *
*                          CALIBRATION INFORMATION                          *
*                                                                           *
* Eff. Cal. date   :  4-SEP-2025 07:49:18 Eff. Geometry   : CAN             *
* Eff. File        : DKA100:[CANBERRA.GAMMA]EFF_GAM02_CAN.CNF;22            *
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Combined Activity-MDA Report

NOTE: Not all "Identified Nuclides" are valid.
Please refer to Certificate of Analysis.

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act Error (1.96-sigma)	TPU (1.96-sigma)
BA-137M	9.895E-03	2.632E-02	2.632E-02
CS-137	1.045E-02	2.781E-02	2.781E-02
PM-149	2.052E+02	3.340E+02	3.340E+02
BI-211	1.665E-01	1.580E-01	1.580E-01
BI-214	2.753E-02	6.841E-02	6.841E-02
ANH-511	1.055E-02	5.234E-02	5.234E-02

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L Act error (1.96-sigma)	TPU (1.96-sigma)	
BE-7	4.040E-02	1.285E-01	1.297E-01	NOT IDENT.
NA-22	1.009E-02	1.385E-02	1.458E-02	NOT IDENT.
NA-24	1.368E+07	7.808E+07	7.832E+07	SHORT HLIF
AL-26	-6.990E-03	1.441E-02	1.475E-02	NOT IDENT.
K-40	-4.449E-01	2.383E-01	3.115E-01	NOT IDENT.
SC-46	7.858E-04	1.513E-02	1.514E-02	NOT IDENT.
V-48	2.338E-02	2.834E-02	3.023E-02	NOT IDENT.
CR-51	1.898E-02	1.570E-01	1.572E-01	NOT IDENT.
MN-52	-9.747E-02	1.972E-01	2.020E-01	NOT IDENT.
MN-54	-1.296E-02	1.420E-02	1.535E-02	NOT IDENT.
CO-56	5.598E-03	1.433E-02	1.455E-02	FAIL ABUN
MN-56	1.000E+41	2.588E+41	0.000E+00	SHORT HLIF
CO-57	-1.550E-03	8.171E-03	8.201E-03	NOT IDENT.
CO-58	-1.249E-02	1.538E-02	1.638E-02	NOT IDENT.
FE-59	8.797E-03	2.098E-02	2.135E-02	NOT IDENT.
CO-60	-2.264E-03	1.594E-02	1.597E-02	NOT IDENT.
ZN-65	5.735E-03	2.527E-02	2.540E-02	NOT IDENT.
GE-68	1.855E-01	4.646E-01	4.721E-01	NOT IDENT.
AS-73	6.329E-02	4.160E-01	4.170E-01	NOT IDENT.
AS-74	2.982E-02	4.440E-02	4.639E-02	NOT IDENT.
SE-75	-6.244E-03	1.795E-02	1.817E-02	NOT IDENT.
BR-77	-3.954E+00	1.803E+01	1.812E+01	NOT IDENT.
SR-82	-9.076E-02	1.607E-01	1.658E-01	NOT IDENT.
RB-83	9.450E-03	3.123E-02	3.152E-02	NOT IDENT.

RB-84	-2.458E-03	3.545E-02	3.547E-02	NOT IDENT.
KR-85	3.008E+00	2.904E+00	3.205E+00	NOT IDENT.
SR-85	1.683E-02	1.627E-02	1.795E-02	NOT IDENT.
RB-86	4.973E-02	3.483E-01	3.491E-01	NOT IDENT.
Y-88	-1.844E-02	2.312E-02	2.457E-02	NOT IDENT.
Y-91	-5.637E+00	9.349E+00	9.688E+00	NOT IDENT.
NB-94	3.559E-03	1.047E-02	1.059E-02	NOT IDENT.
NB-95	-1.492E-02	2.381E-02	2.474E-02	NOT IDENT.
NB-95M	4.322E-03	3.742E-02	3.747E-02	NOT IDENT.
ZR-95	-9.958E-03	2.688E-02	2.725E-02	NOT IDENT.
NB-97	-1.000E+41	1.455E+41	0.000E+00	SHORT HLIF
ZR-97	9.274E+07	1.163E+08	1.236E+08	SHORT HLIF
MO-99	-1.020E+01	2.305E+01	2.350E+01	NOT IDENT.
TC-99M	2.665E+21	2.505E+22	0.000E+00	SHORT HLIF
RH-101	5.483E-03	9.930E-03	1.023E-02	NOT IDENT.
RH-102	-5.545E-03	2.079E-02	2.094E-02	NOT IDENT.
RU-103	8.707E-04	1.872E-02	1.873E-02	FAIL ABUN
RH-106	-1.161E-01	1.542E-01	1.628E-01	NOT IDENT.
RU-106	-1.161E-01	1.542E-01	1.628E-01	NOT IDENT.
AG-108M	2.122E-04	1.049E-02	1.049E-02	FAIL ABUN
CD-109	-3.062E-02	2.918E-01	2.921E-01	NOT IDENT.
AG-110	-2.746E-01	3.501E-01	3.714E-01	NOT IDENT.
AG-110M	-1.002E-02	1.767E-02	1.824E-02	FAIL ABUN
SN-113	-1.283E-02	1.952E-02	2.036E-02	NOT IDENT.
CD-115	-3.249E+00	2.003E+01	2.009E+01	NOT IDENT.
SN-117M	1.180E-02	2.158E-02	2.223E-02	NOT IDENT.
SB-122	2.767E+00	2.893E+00	3.150E+00	FAIL ABUN
TE-123M	-4.500E-04	9.287E-03	9.289E-03	NOT IDENT.
SB-124	-2.414E-02	3.359E-02	3.530E-02	FAIL ABUN
SB-125	1.591E-02	3.043E-02	3.127E-02	NOT IDENT.
TE-125M	1.581E+00	3.460E+00	3.533E+00	NOT IDENT.
I-126	-2.689E-03	1.157E-01	1.157E-01	NOT IDENT.
SB-126	2.736E-02	8.589E-02	8.677E-02	FAIL ABUN
SN-126	4.293E-03	2.949E-02	2.955E-02	FAIL ABUN
SB-127	1.909E-01	1.290E+00	1.293E+00	NOT IDENT.
I-131	3.018E-02	6.523E-02	6.664E-02	FAIL ABUN
I-132	-1.000E+41	2.966E+41	0.000E+00	SHORT HLIF
TE-132	2.081E-01	7.883E-01	7.938E-01	NOT IDENT.
BA-133	-7.974E-03	1.534E-02	1.576E-02	FAIL ABUN
I-133	-3.130E+04	1.444E+05	1.451E+05	SHORT HLIF
CS-134	2.477E-03	1.258E-02	1.263E-02	NOT IDENT.
I-135	-3.189E+20	1.308E+21	0.000E+00	SHORT HLIF
CS-136	1.573E-03	5.414E-02	5.415E-02	NOT IDENT.
LA-138	-6.812E-03	2.746E-02	2.763E-02	NOT IDENT.
CE-139	-2.089E-03	9.053E-03	9.102E-03	NOT IDENT.
BA-140	-2.977E-02	1.501E-01	1.507E-01	NOT IDENT.
LA-140	-2.124E-02	5.773E-02	5.851E-02	NOT IDENT.
CE-141	-3.673E-02	2.262E-02	2.803E-02	NOT IDENT.
CE-143	-2.784E+02	7.426E+02	7.531E+02	SHORT HLIF
CE-144	-4.220E-02	6.019E-02	6.313E-02	NOT IDENT.
PM-144	1.369E-02	1.496E-02	1.618E-02	NOT IDENT.
PR-144	1.027E+00	1.122E+00	1.214E+00	NOT IDENT.
PM-146	3.132E-03	1.673E-02	1.679E-02	NOT IDENT.
ND-147	1.080E-01	2.968E-01	3.008E-01	NOT IDENT.
PM-147	-5.493E+01	2.456E+02	2.468E+02	NOT IDENT.
EU-150	4.421E-04	1.140E-02	1.141E-02	NOT IDENT.
EU-152	2.265E-02	4.071E-02	4.197E-02	NOT IDENT.
GD-153	2.866E-02	5.685E-02	5.830E-02	FAIL ABUN
EU-154	3.096E-02	3.989E-02	4.226E-02	NOT IDENT.
EU-155	4.496E-04	4.008E-02	4.008E-02	NOT IDENT.
TB-160	-8.503E-03	6.849E-02	6.859E-02	NOT IDENT.
HO-166M	1.213E-02	2.657E-02	2.713E-02	FAIL ABUN
TM-171	6.702E-01	9.200E+00	9.205E+00	NOT IDENT.
HF-172	-4.848E-02	5.770E-02	6.170E-02	FAIL ABUN
LU-172	3.123E-02	2.240E-02	2.646E-02	NOT IDENT.
LU-176	2.645E-03	1.091E-02	1.098E-02	NOT IDENT.
HF-181	-1.084E-03	2.071E-02	2.072E-02	NOT IDENT.
TA-182	7.378E-03	5.954E-02	5.963E-02	NOT IDENT.
RE-183	2.315E-02	9.100E-02	9.160E-02	NOT IDENT.
RE-184	1.062E-02	5.695E-02	5.715E-02	NOT IDENT.
W-188	-1.927E+00	2.681E+00	2.818E+00	FAIL ABUN
IR-192	7.341E-03	1.383E-02	1.422E-02	FAIL ABUN
HG-203	-5.066E-03	1.398E-02	1.416E-02	NOT IDENT.
TL-204	-5.495E-01	1.850E+00	1.867E+00	NOT IDENT.
BI-207	4.224E-03	1.903E-02	1.912E-02	NOT IDENT.
TL-208	-5.990E-03	1.988E-02	2.006E-02	NOT IDENT.
BI-210	2.494E+00	2.440E+00	2.687E+00	NOT IDENT.
PB-210	2.494E+00	2.440E+00	2.687E+00	NOT IDENT.

PB-211	-8.209E-02	2.751E-01	2.776E-01	NOT IDENT.
BI-212	3.876E-02	1.705E-01	1.713E-01	NOT IDENT.
PB-212	1.411E-03	2.484E-02	2.485E-02	FAIL ABUN
BI-213	-1.049E-02	3.872E-02	3.900E-02	NOT IDENT.
PB-214	6.043E-02	5.733E-02	6.348E-02	FAIL ABUN
RN-219	-2.379E-02	1.413E-01	1.417E-01	NOT IDENT.
RN-222	6.043E-02	5.733E-02	6.348E-02	FAIL ABUN
RA-223	-8.222E-02	2.513E-01	2.540E-01	FAIL ABUN
RA-224	-1.088E-01	2.109E-01	2.165E-01	NOT IDENT.
AC-225	5.412E-03	2.856E-01	2.856E-01	NOT IDENT.
RA-226	6.043E-02	5.733E-02	6.348E-02	FAIL ABUN
AC-227	1.020E-02	8.308E-02	8.321E-02	NOT IDENT.
TH-227	1.020E-02	8.308E-02	8.321E-02	NOT IDENT.
AC-228	1.413E-02	9.589E-02	9.611E-02	FAIL ABUN
RA-228	1.413E-02	9.589E-02	9.611E-02	FAIL ABUN
TH-228	1.411E-03	2.484E-02	2.485E-02	FAIL ABUN
TH-229	1.287E-02	1.794E-01	1.795E-01	FAIL ABUN
TH-230	6.043E-02	5.733E-02	6.347E-02	FAIL ABUN
PA-231	-1.467E-01	1.806E-01	1.923E-01	NOT IDENT.
TH-231	-8.222E-02	2.513E-01	2.540E-01	FAIL ABUN
TH-232	1.413E-02	9.589E-02	9.611E-02	FAIL ABUN
PA-233	1.719E-02	2.559E-02	2.674E-02	NOT IDENT.
PA-234	2.835E-02	1.240E-01	1.247E-01	FAIL ABUN
PA-234M	1.399E+00	1.918E+00	2.019E+00	FAIL ABUN
TH-234	1.399E+00	1.918E+00	2.019E+00	FAIL ABUN
U-234	6.043E-02	5.733E-02	6.347E-02	FAIL ABUN
U-235	-2.444E-02	7.785E-02	7.863E-02	FAIL ABUN
NP-237	1.719E-02	2.559E-02	2.674E-02	FAIL ABUN
NP-238	4.722E+00	4.140E+01	4.145E+01	NOT IDENT.
U-238	1.399E+00	1.918E+00	2.019E+00	FAIL ABUN
NP-239	-1.008E-02	8.030E-02	8.043E-02	NOT IDENT.
PU-239	-1.947E+01	1.138E+02	1.141E+02	NOT IDENT.
AM-241	-1.438E-03	6.398E-02	6.399E-02	NOT IDENT.
AM-243	-2.221E-02	2.635E-02	2.818E-02	NOT IDENT.
CM-243	-2.823E-02	4.061E-02	4.255E-02	NOT IDENT.
BK-247	-1.007E-02	3.152E-02	3.184E-02	FAIL ABUN
CM-247	1.735E-06	1.259E-02	1.259E-02	NOT IDENT.
CF-249	-8.235E-03	1.492E-02	1.538E-02	NOT IDENT.
CF-251	1.784E-02	4.325E-02	4.399E-02	FAIL ABUN

GEL Laboratories LLC
2040 Savage Road
Charleston, SC 29407

GAMMA SPECTROSCOPY BACKGROUND REPORT

ENERGY	MDA COUNTS	ENERGY	MDA COUNTS	ENERGY	MDA COUNTS
43.53	46.9585	85.43	37.0965	133.02	42.2097
45.60	52.4139	86.55	41.4813	133.52	44.5913
46.54	32.0629	86.79	44.3657	136.00	47.1291
49.72	29.8122	86.94	44.3809	136.47	39.3044
51.35	36.4843	87.09	44.3960	140.51	37.9775
51.87	28.7137	87.57	41.5760	143.76	33.4008
52.39	31.3755	88.03	40.1833	144.24	35.8134
52.97	43.2201	88.34	57.4438	145.44	60.5984
53.44	27.5439	88.47	57.4603	152.43	43.5174
54.07	26.2836	89.96	43.2362	153.25	36.3091
57.36	0.0000	90.64	36.0836	154.21	38.7847
57.53	49.1355	91.11	36.1202	156.02	41.3192
57.98	30.5843	92.59	36.2354	158.56	31.7149
59.27	33.3693	93.35	36.2942	159.00	40.6860
59.32	33.3740	94.56	36.3873	162.33	39.2468
59.54	33.3952	94.65	36.3941	162.66	38.4471
60.96	32.1903	94.67	36.3956	163.33	38.4837
61.17	40.2619	94.87	36.4109	165.86	36.1569
62.93	44.5079	97.43	40.9981	176.31	38.3478
63.29	44.5525	98.43	23.4756	176.60	43.3664
63.58	44.5882	98.44	23.4761	177.52	37.5753
64.28	44.6742	99.53	47.0566	181.07	38.0328
66.73	32.7070	100.11	45.6396	181.52	44.7705
67.24	43.6685	102.03	32.5146	184.41	37.0760
67.68	43.7197	103.18	50.3650	185.72	37.1391
67.75	57.3924	103.37	50.3842	193.51	40.9197
68.89	34.2651	105.31	44.6260	197.03	40.2436
69.67	35.7083	106.12	58.1055	198.01	34.2914
70.82	45.4566	106.47	40.2545	201.83	37.0365
70.83	45.4581	109.28	31.4782	203.43	46.6015
72.81	51.2256	111.00	41.3557	205.31	40.6524
72.87	51.2335	111.76	48.1919	210.85	39.1800
74.66	51.4633	114.06	47.6417	215.65	28.0181
74.82	51.4836	116.30	37.2072	218.12	35.1227
74.97	51.5028	116.74	40.2769	222.11	41.4578
77.11	51.7738	119.76	38.2038	227.09	37.2550
78.74	35.1196	121.12	46.7213	227.38	31.9433
79.69	40.8313	121.22	48.2618	228.16	34.6356
80.03	45.0908	121.78	44.4753	228.18	34.6362
80.12	43.6917	122.06	44.4970	235.69	26.8634
80.19	43.6988	122.92	44.5642	235.96	29.5588
80.57	35.2726	123.07	44.5762	238.63	27.8473
81.00	40.9574	123.68	36.1604	238.98	30.5536
81.07	40.9640	125.81	46.3326	240.99	40.5258
81.75	38.1995	127.23	37.1563	242.00	25.2430
82.47	42.5153	127.91	41.8495	244.70	36.1646
83.79	36.9584	129.30	51.2694	252.40	33.7215
84.00	36.9763	131.20	41.3027	252.80	29.1768

ENERGY	MDA COUNTS	ENERGY	MDA COUNTS	ENERGY	MDA COUNTS
254.15	0.0000	351.93	19.9402	569.50	12.6402
256.23	26.5344	355.39	0.0000	569.70	11.4923
260.90	29.4180	356.01	27.0058	583.19	20.8367
264.66	34.4497	364.49	18.1241	584.27	12.7409
264.80	34.4543	366.42	24.2014	595.83	11.6534
265.00	34.4611	372.51	18.2362	600.60	21.0289
269.46	35.2307	375.05	25.3769	602.52	0.0000
270.03	37.1057	377.52	21.3563	604.72	17.1714
271.23	28.7910	383.85	6.1307	607.14	14.0669
273.65	29.7891	388.16	21.8678	609.32	15.2558
276.40	24.2679	388.63	21.8757	610.33	15.2637
277.37	17.7510	391.69	32.8877	614.28	21.9616
277.60	17.7551	400.66	20.6891	618.01	23.5754
278.00	15.8918	401.81	19.6709	620.36	11.8018
279.20	29.9482	402.40	17.6075	621.93	18.8975
279.54	28.0856	404.85	24.9016	630.19	0.0000
279.70	28.0902	410.95	23.9672	631.29	14.2405
280.46	27.1733	413.71	17.7497	633.25	4.7515
283.69	32.5825	414.70	24.0304	634.78	22.5869
284.31	28.2129	423.72	24.1813	635.95	16.6523
285.41	28.2422	427.09	21.0760	636.99	9.5205
285.90	28.2550	427.87	12.6522	657.50	20.8362
287.50	25.1530	433.94	16.9395	657.76	20.8383
290.67	33.1105	439.40	18.0646	657.90	0.0000
293.27	0.0000	440.45	20.2037	661.66	12.8477
295.22	25.6495	453.88	19.3107	664.57	0.0000
295.96	38.9755	463.37	19.4299	666.33	14.4866
298.58	30.4922	468.07	21.6534	666.50	14.4873
299.98	27.6689	473.00	18.4630	667.71	0.0000
300.09	27.6716	475.06	18.4869	677.62	9.7095
300.13	27.6725	476.78	14.1525	685.70	9.7461
301.36	37.2552	477.60	15.2488	692.65	13.0371
302.85	33.4790	482.18	22.9386	695.00	17.9457
304.50	33.5292	487.02	13.1470	696.49	9.7954
304.85	34.4971	492.35	12.0910	696.51	9.7954
306.78	32.6366	497.08	20.9448	697.00	13.0632
308.46	28.8400	505.52	19.2048	697.30	13.0651
311.90	26.0343	507.63	0.0000	697.49	14.6997
316.51	24.2027	511.00	15.5622	702.65	7.3671
319.41	21.3521	514.00	15.5902	706.68	8.6111
320.08	26.2197	514.00	15.5902	711.68	11.5072
321.04	25.2692	520.40	17.8838	720.70	11.1418
323.87	33.1243	520.69	14.5330	721.93	0.0000
325.23	34.1380	522.65	0.0000	722.78	18.1740
328.76	35.2178	527.90	13.4714	722.91	18.1749
333.37	33.3899	528.26	13.4744	723.31	14.8726
333.97	34.3890	529.59	13.4846	724.19	3.3063
334.37	24.5720	529.87	0.0000	727.33	8.6915
338.28	22.6792	531.02	13.4956	733.00	13.6923
338.32	22.6799	537.26	20.3159	735.93	18.6951
340.48	23.7078	546.56	0.0000	737.46	11.6405
340.55	23.7092	552.55	19.3533	739.50	18.3092
344.28	27.7445	563.25	18.3232	744.23	10.0073
345.93	25.7977	564.24	10.3123	747.24	9.1855
351.06	19.9261	569.33	8.0429	748.06	13.3652

ENERGY	MDA COUNTS	ENERGY	MDA COUNTS	ENERGY	MDA COUNTS
752.31	10.8794	966.17	15.4612	1460.82	3.1538
753.82	12.5610	968.97	9.1036	1489.16	5.2930
756.73	13.4154	983.53	3.6600	1505.03	7.4386
756.80	13.4160	984.45	8.2375	1584.12	7.7953
763.94	10.9338	996.26	12.8664	1596.21	7.5999
765.81	12.6263	1002.74	8.2896	1620.50	6.5503
766.84	13.4740	1004.73	8.2950	1621.92	2.1841
772.60	0.0000	1021.30	0.0000	1678.03	0.0000
776.52	18.6028	1025.87	6.4981	1690.97	4.4355
777.92	12.6910	1028.54	2.7874	1750.46	0.0000
778.90	9.3108	1037.84	9.3197	1764.49	2.2529
783.70	11.8740	1038.76	0.0000	1770.23	2.2557
788.74	16.9979	1046.59	14.0198	1771.35	5.6405
792.07	11.0640	1048.07	9.3514	1791.20	0.0000
795.86	7.6718	1049.04	9.3538	1808.65	4.5475
801.95	10.2549	1050.41	5.6152	1810.72	0.0000
810.06	12.8607	1063.66	7.5189	1836.06	9.1458
810.29	12.8619	1077.00	7.5514		
810.45	15.4358	1077.34	6.6081		
810.76	15.4373	1085.87	8.5195		
815.77	12.0313	1093.63	1.8979		
818.51	18.0674	1099.45	1.9014		
832.01	7.7853	1112.07	12.4086		
834.85	17.3201	1112.84	5.7280		
836.80	0.0000	1115.54	4.7774		
846.75	0.0000	1120.29	7.6556		
846.77	7.8307	1120.55	7.6563		
856.80	9.6084	1121.30	9.5719		
860.56	10.4971	1129.67	8.6375		
871.09	11.4178	1131.51	0.0000		
873.19	7.9113	1147.95	0.0000		
875.33	0.0000	1173.23	7.7793		
879.38	14.0977	1177.95	4.8690		
880.51	13.2220	1189.05	8.7935		
881.60	11.4639	1204.77	8.8337		
883.24	7.0592	1221.41	5.9175		
884.68	11.4771	1231.02	3.9561		
889.28	9.7284	1235.36	6.9316		
894.76	10.6348	1238.28	8.9194		
898.04	7.9860	1260.41	0.0000		
900.72	10.6582	1271.87	7.0034		
903.28	11.5575	1274.44	3.0037		
911.20	7.1331	1274.54	3.0037		
912.08	10.7036	1291.59	4.0238		
923.98	8.0625	1298.22	0.0000		
926.50	8.9669	1312.11	7.0809		
929.11	10.7705	1332.49	7.1202		
935.54	8.9962	1362.66	0.0000		
937.49	1.8005	1365.19	1.0260		
944.13	12.6334	1368.63	0.0000		
946.00	9.9329	1384.29	6.1865		
949.00	9.9437	1408.01	8.2995		
954.55	0.0000	1434.09	7.3099		
962.31	6.3577	1435.80	8.3581		
964.08	7.2705	1457.56	0.0000		

VAX/VMS Nuclide Identification Report Generated 17-AUG-2026 10:18:09.89

```
*************************************************************************
*                            GEL Laboratories LLC                       *
*                              2040 Savage Road                         *
*                            Charleston, SC 29407                       *
*************************************************************************
Configuration    : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G1206539883.CNF;1
Background file  : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]BKG_GAM24.CNF;862
                                       Background date  : 16-AUG-2026 08:55:14
Sample date      : 21-JUL-2026 10:00:00 Acquisition date : 17-AUG-2026 08:15:25
Sample ID        : G1206539883          Sample quantity  : 1.10200E+01 GRAM
Detector name    : GAM24                Detector geometry: CAN
Elapsed live time: 0 02:00:00.00        Elapsed real time: 0 02:00:00.42  0.0%
Energy tolerance : 1.50000 keV          Analyst Initials : GG
Abundance limit  : 75.00000             Sensitivity      : 3.00000
Batch ID         : 3033734              Detector SN#     :
Matrix Spike ID  :                      LCS ID           :
*************************************************************************
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BACKGROUND CORRECTED SAMPLE PEAK REPORT

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	46.60*	41	111	1.10	93.58	90	9	5.69E-03	52.1	
2	0	63.54*	8	124	1.00	127.44	122	10	1.12E-03	285.9	
3	0	85.16*	4	77	1.42	170.65	167	7	5.50E-04	422.8	
4	0	186.46*	11	76	1.12	373.07	368	11	1.50E-03	188.2	
5	0	201.36	21	139	6.74	402.84	388	16	2.89E-03	128.8	
6	0	232.68	26	51	1.51	465.44	461	8	3.54E-03	52.7	
7	1	235.46	23	25	1.25	471.00	469	17	3.20E-03	35.0	2.91E+00
8	1	238.59*	26	56	1.28	477.25	469	17	3.63E-03	61.3	
9	1	241.59*	17	47	1.38	483.25	469	17	2.41E-03	66.9	
10	0	511.01*	13	64	2.91	1021.69	1014	17	1.81E-03	186.4	
11	0	530.10	20	32	5.36	1059.84	1050	15	2.81E-03	66.1	
12	0	609.29*	24	41	1.27	1218.12	1212	13	3.39E-03	64.9	
13	0	754.16	11	12	1.57	1507.66	1503	7	1.56E-03	59.3	
14	0	771.68	16	13	1.22	1542.70	1536	10	2.15E-03	49.7	
15	0	905.72	12	5	1.86	1810.61	1805	9	1.60E-03	44.4	
16	0	911.51*	3	12	2.18	1822.18	1817	10	4.07E-04	287.0	
17	0	1001.11*	3	10	1.31	2001.28	1994	12	4.25E-04	260.9	
18	0	1041.90	6	9	1.50	2082.83	2077	9	8.33E-04	99.0	
19	0	1081.17	14	6	4.26	2161.32	2154	13	1.94E-03	46.0	
20	0	1240.55*	7	2	1.97	2479.93	2476	8	9.45E-04	74.5	
21	0	1300.18	8	5	0.59	2599.14	2593	11	1.16E-03	63.3	
22	0	1460.97*	8	0	2.77	2920.58	2914	13	1.13E-03	71.3	
23	0	1763.85*	6	0	1.79	3526.15	3519	13	8.86E-04	81.1	

Flag: "*" = Peak area was modified by background subtraction

VMS Nuclide Identification Report V3.1 Generated 17-AUG-2026 10:18:11

Configuration	: DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G1206539883.CNF;1		
Analyses by	: PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.4		
Sample title	: GG		
Sample date	: 21-JUL-2026 10:00:00	Acquisition date	: 17-AUG-2026 08:15:25
Sample ID	: G1206539883	Sample quantity	: 11.020 GRAM
Sample type	: SOLID	Sample geometry	:
Detector name	: GAMMA24	Detector geometry	: CAN
Elapsed live time	: 0 02:00:00.00	Elapsed real time	: 0 02:00:00.42 0.0%
Energy tolerance	: 1.50 keV	Half life ratio	: 10.00
Errors propagated	: No	Systematic Error	: 0.00 %
Efficiency type	: Empirical	Efficiencies at	: Peak Energy
Abundance limit	: 75.00		

Interference Report

No interference correction performed

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
K-40	1460.82	7	10.66*	1.366E+00	1.682E+00	1.682E+00	142.63
NB-95M	235.69	14	24.80*	6.002E+00	3.256E-01	4.360E-01	69.93
BI-210	46.54	16	4.25*	2.547E+00	4.945E+00	4.957E+00	104.28
PB-210	46.54	16	4.25*	2.547E+00	4.945E+00	4.957E+00	104.28
BI-214	609.32	18	45.49*	2.919E+00	4.719E-01	4.719E-01	129.70
	1120.29	------	14.92	1.706E+00	------ Line Not Found		------
	1764.49	6	15.30	1.197E+00	1.076E+00	1.076E+00	162.22
RA-224	240.99	11	4.10*	5.902E+00	1.518E+00	1.518E+00	133.85
ANH-511	511.00	9	100.00*	3.379E+00	9.550E-02	9.550E-02	372.89

Flag: "*" = Keyline

VAX/VMS Nuclide Identification Report Generated 17-AUG-2026 10:18:12.00

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*********************************************************************************
*                            GEL Laboratories LLC                                 *
*                              2040 Savage Road                                   *
*                            Charleston, SC 29407                                 *
*********************************************************************************
*                                                                                *
*                          DETECTOR AND SAMPLE DATA                              *
*                                                                                *
* Configuration    : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G1206539883.CNF;1      *
* Acquisition date : 17-AUG-2026 08:15:25 Sensitivity     : 3.000                *
* Detector ID      : GAM24                Energy tolerance: 1.500                *
* Elapsed live time:    0 02:00:00.00     Abundance limit : 75.000               *
* Elapsed real time:    0 02:00:00.42     Half life ratio : *****                *
* Sample date      : 21-JUL-2026 10:00:00 Analyst initials: GG                   *
* Sample ID        : G1206539883          Sample Quantity : 1.1020E+01 GRAM      *
* Batch Number     : 3033734              Wet Weight      :    0.00000           *
* Wet wt corr      :    1.00000           Dry Weight      :    0.00000           *
* Nuclide Library  : SOLID.NLB;19                                                *
*********************************************************************************
*                                                                                *
*                          CALIBRATION INFORMATION                               *
*                                                                                *
* Eff. Cal. date   : 23-JUN-2025 06:26:41 Eff. Geometry   : CAN                  *
* Eff. File        : DKA100:[CANBERRA.GAMMA]EFF_GAM24_CAN.CNF;17                 *
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Combined Activity-MDA Report

NOTE: Not all "Identified Nuclides" are valid.
Please refer to Certificate of Analysis.

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Cnt uncert (1.96-sigma)	MDA (pCi/GRAM)
K-40	1.682E+00	2.351E+00	2.139E+00
NB-95M	4.360E-01	2.988E-01	7.931E-01
BI-210	4.957E+00	5.066E+00	7.851E+00
PB-210	4.957E+00	5.066E+00	7.851E+00
BI-214	4.719E-01	5.998E-01	5.345E-01
RA-224	1.518E+00	1.991E+00	3.648E+00
ANH-511	9.550E-02	3.490E-01	2.096E-01

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Cnt Uncert (1.96-sigma)	MDA (pCi/GRAM)	
BE-7	3.360E-01	1.528E+00	2.691E+00	NOT IDENT.
NA-22	3.097E-02	1.379E-01	2.952E-01	NOT IDENT.
NA-24	0.000E+00	1.363E+12	0.000E+00	SHORT HLIF
AL-26	-3.136E-02	1.111E-01	2.201E-01	NOT IDENT.
SC-46	5.558E-02	1.616E-01	3.328E-01	NOT IDENT.
V-48	-1.110E-01	4.247E-01	7.885E-01	NOT IDENT.
CR-51	6.699E-02	1.874E+00	3.171E+00	NOT IDENT.
MN-52	-1.347E+00	5.368E+00	9.776E+00	NOT IDENT.
MN-54	3.510E-02	1.666E-01	3.215E-01	NOT IDENT.
CO-56	-2.644E-02	2.027E-01	3.723E-01	NOT IDENT.
MN-56	0.000E+00	1.960E+41	0.000E+00	SHORT HLIF
CO-57	3.859E-03	8.735E-02	1.443E-01	NOT IDENT.
CO-58	-4.836E-02	1.596E-01	2.924E-01	NOT IDENT.
FE-59	-2.521E-01	4.167E-01	7.034E-01	NOT IDENT.
CO-60	4.064E-02	1.458E-01	3.135E-01	NOT IDENT.
ZN-65	-1.097E-01	3.576E-01	6.442E-01	NOT IDENT.
GE-68	-5.125E-01	3.927E+00	6.978E+00	NOT IDENT.
AS-73	-9.091E-01	2.079E+00	2.666E+00	NOT IDENT.
AS-74	8.316E-02	6.512E-01	1.128E+00	NOT IDENT.
SE-75	-1.037E-01	1.873E-01	2.921E-01	NOT IDENT.
BR-77	0.000E+00	1.254E+03	0.000E+00	SHORT HLIF
SR-82	-6.520E-01	1.570E+00	2.827E+00	NOT IDENT.
RB-83	1.500E-02	3.287E-01	5.635E-01	FAIL ABUN

RB-84	-1.310E-02	4.196E-01	7.690E-01	NOT IDENT.
KR-85	2.408E+01	3.242E+01	5.949E+01	NOT IDENT.
SR-85	1.438E-01	1.945E-01	3.568E-01	NOT IDENT.
RB-86	-3.406E-01	3.768E+00	6.783E+00	NOT IDENT.
Y-88	1.346E-01	1.725E-01	4.460E-01	NOT IDENT.
Y-91	1.242E+01	7.338E+01	1.525E+02	NOT IDENT.
NB-94	-3.540E-02	1.375E-01	2.486E-01	NOT IDENT.
NB-95	1.542E-01	2.109E-01	4.049E-01	NOT IDENT.
ZR-95	5.816E-03	3.097E-01	5.448E-01	NOT IDENT.
NB-97	0.000E+00	1.960E+41	0.000E+00	SHORT HLIF
ZR-97	0.000E+00	9.008E+11	0.000E+00	SHORT HLIF
MO-99	-3.611E+02	9.366E+02	1.676E+03	NOT IDENT.
TC-99M	0.000E+00	2.292E+31	0.000E+00	SHORT HLIF
RH-101	5.627E-02	1.050E-01	1.808E-01	NOT IDENT.
RH-102	-7.739E-02	2.596E-01	4.153E-01	NOT IDENT.
RU-103	1.268E-01	2.063E-01	3.837E-01	FAIL ABUN
RH-106	-9.071E-01	1.474E+00	2.210E+00	NOT IDENT.
RU-106	-9.071E-01	1.474E+00	2.210E+00	NOT IDENT.
AG-108M	1.303E-01	1.190E-01	2.329E-01	NOT IDENT.
CD-109	-5.947E-01	2.561E+00	3.536E+00	NOT IDENT.
AG-110	-3.149E-01	3.308E+00	5.533E+00	NOT IDENT.
AG-110M	-6.613E-02	1.983E-01	3.594E-01	NOT IDENT.
SN-113	-9.988E-02	1.872E-01	2.914E-01	NOT IDENT.
CD-115	0.000E+00	2.321E+03	0.000E+00	SHORT HLIF
SN-117M	-1.919E-01	3.390E-01	5.303E-01	NOT IDENT.
SB-122	-4.483E+01	1.809E+02	2.930E+02	NOT IDENT.
TE-123M	-4.456E-02	1.038E-01	1.646E-01	NOT IDENT.
SB-124	-1.095E-01	7.638E-01	1.042E+00	NOT IDENT.
SB-125	3.840E-01	3.386E-01	6.770E-01	NOT IDENT.
TE-125M	6.314E+00	3.526E+01	5.887E+01	NOT IDENT.
I-126	1.543E-01	1.938E+00	3.313E+00	FAIL ABUN
SB-126	-2.692E-01	1.024E+00	1.877E+00	NOT IDENT.
SN-126	-1.930E-02	2.335E-01	3.259E-01	FAIL ABUN
SB-127	-4.136E+00	4.839E+01	8.130E+01	NOT IDENT.
I-131	-4.767E-01	1.269E+00	2.029E+00	NOT IDENT.
I-132	0.000E+00	1.344E+41	0.000E+00	SHORT HLIF
TE-132	-2.453E-01	3.180E+01	5.315E+01	NOT IDENT.
BA-133	-9.314E-02	1.662E-01	2.579E-01	NOT IDENT.
I-133	0.000E+00	5.349E+08	0.000E+00	SHORT HLIF
CS-134	-1.233E-01	1.861E-01	3.137E-01	NOT IDENT.
I-135	0.000E+00	2.159E+29	0.000E+00	SHORT HLIF
CS-136	1.901E-01	9.030E-01	1.766E+00	NOT IDENT.
BA-137M	1.657E-02	1.603E-01	2.767E-01	NOT IDENT.
CS-137	1.751E-02	1.693E-01	2.923E-01	NOT IDENT.
LA-138	1.170E-01	2.531E-01	5.535E-01	NOT IDENT.
CE-139	-8.669E-02	1.124E-01	1.719E-01	NOT IDENT.
BA-140	2.877E-01	2.140E+00	3.728E+00	NOT IDENT.
LA-140	-4.002E-01	8.427E-01	1.510E+00	NOT IDENT.
CE-141	-4.017E-01	3.347E-01	4.226E-01	NOT IDENT.
CE-143	0.000E+00	1.831E+05	0.000E+00	SHORT HLIF
CE-144	-1.067E-01	6.397E-01	1.044E+00	NOT IDENT.
PM-144	-6.119E-02	1.510E-01	2.662E-01	NOT IDENT.
PR-144	-4.733E+00	1.135E+01	1.998E+01	NOT IDENT.
PM-146	1.932E-02	1.838E-01	3.144E-01	NOT IDENT.
ND-147	6.458E+00	8.365E+00	9.278E+00	FAIL ABUN
PM-147	1.488E+02	2.471E+03	4.092E+03	NOT IDENT.
PM-149	0.000E+00	1.291E+04	0.000E+00	SHORT HLIF
EU-150	-7.513E-02	1.150E-01	1.760E-01	NOT IDENT.
EU-152	2.507E-01	3.741E-01	6.832E-01	NOT IDENT.
GD-153	-1.090E-01	2.201E-01	3.487E-01	NOT IDENT.
EU-154	1.129E-01	3.966E-01	8.556E-01	NOT IDENT.
EU-155	1.470E-01	2.935E-01	5.100E-01	FAIL ABUN
TB-160	-6.018E-01	6.579E-01	1.019E+00	FAIL ABUN
HO-166M	2.613E-02	2.459E-01	4.703E-01	NOT IDENT.
TM-171	3.481E+01	3.633E+01	5.601E+01	NOT IDENT.
HF-172	-3.098E-01	6.212E-01	9.788E-01	FAIL ABUN
LU-172	-3.208E-01	2.680E-01	3.786E-01	FAIL ABUN
LU-176	-7.439E-03	1.095E-01	1.810E-01	FAIL ABUN
HF-181	1.024E-01	2.205E-01	4.015E-01	NOT IDENT.
TA-182	3.296E-01	7.251E-01	1.530E+00	NOT IDENT.
RE-183	-2.205E-02	4.801E-01	6.572E-01	NOT IDENT.
RE-184	-7.002E-02	4.958E-01	8.689E-01	NOT IDENT.
W-188	-4.485E+00	3.198E+01	5.244E+01	FAIL ABUN
IR-192	1.564E-02	1.649E-01	2.773E-01	NOT IDENT.
HG-203	8.824E-03	1.632E-01	2.758E-01	NOT IDENT.
TL-204	-9.005E+00	1.438E+01	1.793E+01	NOT IDENT.
BI-207	8.243E-02	1.780E-01	3.858E-01	NOT IDENT.
TL-208	-1.250E-01	2.075E-01	3.127E-01	NOT IDENT.

BI-211	-4.316E-01	1.067E+00	1.537E+00	NOT IDENT.
PB-211	8.917E-01	2.496E+00	4.520E+00	NOT IDENT.
BI-212	-1.717E-01	2.290E+00	3.829E+00	NOT IDENT.
PB-212	2.123E-01	2.550E-01	4.985E-01	FAIL ABUN
BI-213	4.632E-03	4.244E-01	7.205E-01	NOT IDENT.
PB-214	-3.360E-01	4.108E-01	5.659E-01	FAIL ABUN
RN-219	1.114E-01	1.494E+00	2.576E+00	NOT IDENT.
RN-222	-3.360E-01	4.108E-01	5.659E-01	FAIL ABUN
RA-223	-2.449E+00	2.642E+00	3.888E+00	FAIL ABUN
AC-225	7.122E-01	5.152E+00	8.622E+00	NOT IDENT.
RA-226	-3.360E-01	4.108E-01	5.659E-01	FAIL ABUN
AC-227	-3.460E-01	1.032E+00	1.648E+00	FAIL ABUN
TH-227	-3.460E-01	1.032E+00	1.648E+00	FAIL ABUN
AC-228	1.532E-01	8.619E-01	1.522E+00	FAIL ABUN
RA-228	1.532E-01	8.619E-01	1.522E+00	FAIL ABUN
TH-228	2.123E-01	2.550E-01	4.985E-01	FAIL ABUN
TH-229	-2.692E-01	2.147E+00	3.237E+00	FAIL ABUN
TH-230	-3.360E-01	4.108E-01	5.658E-01	FAIL ABUN
PA-231	-2.629E+00	1.819E+00	2.458E+00	NOT IDENT.
TH-231	-2.449E+00	2.642E+00	3.888E+00	FAIL ABUN
TH-232	1.532E-01	8.619E-01	1.522E+00	FAIL ABUN
PA-233	1.346E-01	2.525E-01	4.500E-01	NOT IDENT.
PA-234	-1.450E-01	1.083E+00	2.063E+00	NOT IDENT.
PA-234M	5.803E-01	3.252E+00	5.956E+00	FAIL ABUN
TH-234	5.803E-01	3.252E+00	5.956E+00	FAIL ABUN
U-234	-3.360E-01	4.108E-01	5.658E-01	FAIL ABUN
U-235	-4.388E-01	8.589E-01	1.184E+00	FAIL ABUN
NP-237	1.346E-01	2.525E-01	4.500E-01	NOT IDENT.
NP-238	0.000E+00	3.880E+03	0.000E+00	SHORT HLIF
U-238	5.803E-01	3.252E+00	5.956E+00	FAIL ABUN
NP-239	1.722E-01	8.398E-01	1.411E+00	NOT IDENT.
PU-239	2.543E+02	1.139E+03	1.908E+03	NOT IDENT.
AM-241	7.827E-02	3.290E-01	4.698E-01	NOT IDENT.
AM-243	-8.885E-02	1.719E-01	2.255E-01	NOT IDENT.
CM-243	-2.882E-01	2.888E-01	4.319E-01	NOT IDENT.
BK-247	-1.140E-01	3.271E-01	5.220E-01	FAIL ABUN
CM-247	8.840E-02	1.286E-01	2.442E-01	NOT IDENT.
CF-249	8.690E-02	1.719E-01	3.061E-01	NOT IDENT.
CF-251	-2.047E-01	4.112E-01	6.501E-01	NOT IDENT.

VAX/VMS Nuclide Identification Report Generated 17-AUG-2026 10:18:10.64

Nuclide Line Activity Report

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
K-40	1460.82	7	10.66*	1.366E+00	1.682E+00	1.682E+00	142.63
NB-95M	235.69	14	24.80*	6.002E+00	3.256E-01	4.360E-01	69.93
BI-210	46.54	16	4.25*	2.547E+00	4.945E+00	4.957E+00	104.28
PB-210	46.54	16	4.25*	2.547E+00	4.945E+00	4.957E+00	104.28
BI-214	609.32	18	45.49*	2.919E+00	4.719E-01	4.719E-01	129.70
	1120.29	------	14.92	1.706E+00	------ Line Not Found		------
	1764.49	6	15.30	1.197E+00	1.076E+00	1.076E+00	162.22
RA-224	240.99	11	4.10*	5.902E+00	1.518E+00	1.518E+00	133.85
ANH-511	511.00	9	100.00*	3.379E+00	9.550E-02	9.550E-02	372.89

Flag: "*" = Keyline

Sample ID : G1206539883 Acquisition date : 17-AUG-2026 08:15:25

Total number of lines in spectrum	23	
Number of unidentified lines	7	
Number of lines tentatively identified by NID	16	69.57%

Nuclide Type :

Nuclide	Hlife	Decay	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
K-40	1.25E+09Y	1.00	1.682E+00	1.682E+00	2.399E+00	142.63	
NB-95M	64.03D	1.34	3.256E-01	4.360E-01	3.049E-01	69.93	
BI-210	22.20Y	1.00	4.945E+00	4.957E+00	5.169E+00	104.28	
PB-210	22.20Y	1.00	4.945E+00	4.957E+00	5.169E+00	104.28	
BI-214	1600.00Y	1.00	4.719E-01	4.719E-01	6.120E-01	129.70	
RA-224	1.41E+10Y	1.00	1.518E+00	1.518E+00	2.031E+00	133.85	
ANH-511	1.00E+09Y	1.00	9.550E-02	9.550E-02	35.61E-02	372.89	
	Total Activity :		1.398E+01	1.412E+01			
	Grand Total Activity :		1.398E+01	1.412E+01			

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

Sample ID : G1206539883 Acquisition date : 17-AUG-2026 08:15:25

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
0	63.54	3	53	1.00	127.44	122	10	1.12E-03	****	5.47E+00	T
0	85.16	2	36	1.42	170.65	167	7	5.50E-04	****	7.55E+00	T
0	186.46	6	44	1.12	373.07	368	11	1.50E-03	****	6.91E+00	T
0	201.36	12	83	6.74	402.84	388	16	2.89E-03	****	6.61E+00	T
0	232.68	16	32	1.51	465.44	461	8	3.54E-03	****	6.05E+00	
1	238.59	16	34	1.28	477.25	469	17	3.63E-03	****	5.95E+00	T
0	530.10	15	23	5.36	1059.84	1050	15	2.81E-03	****	3.28E+00	T
0	754.16	9	9	1.57	1507.66	1503	7	1.56E-03	****	2.43E+00	T
0	771.68	12	10	1.22	1542.70	1536	10	2.15E-03	99.3	2.38E+00	T
0	905.72	9	4	1.86	1810.61	1805	9	1.60E-03	88.9	2.06E+00	
0	911.51	2	10	2.18	1822.18	1817	10	4.07E-04	****	2.05E+00	T
0	1001.11	3	8	1.31	2001.28	1994	12	4.25E-04	****	1.89E+00	
0	1041.90	5	7	1.50	2082.83	2077	9	8.33E-04	****	1.82E+00	
0	1081.17	12	5	4.26	2161.32	2154	13	1.94E-03	91.9	1.76E+00	
0	1240.55	6	2	1.97	2479.93	2476	8	9.45E-04	****	1.56E+00	
0	1300.18	7	4	0.59	2599.14	2593	11	1.16E-03	****	1.50E+00	

Flags: "T" = Tentatively associated

VAX/VMS Nuclide Identification Report Generated 17-AUG-2026 10:18:21.39

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*********************************************************************************
*                            GEL Laboratories LLC                                 *
*                              2040 Savage Road                                   *
*                            Charleston, SC 29407                                 *
*********************************************************************************
*                                                                                *
*                          DETECTOR AND SAMPLE DATA                              *
*                                                                                *
* Configuration    : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G1206539883.CNF;1      *
* Acquisition date : 17-AUG-2026 08:15:25 Sensitivity     : 3.000                *
* Detector ID      : GAM24                Energy tolerance: 1.500                *
* Elapsed live time:    0 02:00:00.00     Abundance limit : 75.000               *
* Elapsed real time:    0 02:00:00.42     Half life ratio : *****                *
* Sample date      : 21-JUL-2026 10:00:00 Nuclide Library : SOLID                *
* Sample ID        : G1206539883          Analyst initials: GG                   *
* Batch Number     : 3033734              Sample Quantity : 1.1020E+01 GRAM      *
* Wet wt corr      :    1.00000           Wet Weight      :    0.00000           *
*                                         Dry Weight      :    0.00000           *
*********************************************************************************
*                                                                                *
*                          CALIBRATION INFORMATION                               *
*                                                                                *
* Eff. Cal. date   : 23-JUN-2025 06:26:41 Eff. Geometry   : CAN                  *
* Eff. File        : DKA100:[CANBERRA.GAMMA]EFF_GAM24_CAN.CNF;17                 *
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Combined Critical Level Report

NOTE: Not all "Identified Nuclides" are valid.
Please refer to Certificate of Analysis.

---- Identified Nuclides ----

Nuclide	Lc (pCi/GRAM)
K-40	7.645E-01
NB-95M	3.600E-01
BI-210	3.580E+00
PB-210	3.580E+00
BI-214	2.352E-01
RA-224	1.656E+00
ANH-511	9.230E-02

---- Non-Identified Nuclides ----

Nuclide	Lc (pCi/GRAM)	
BE-7	1.185E+00	NOT IDENT.
NA-22	1.181E-01	NOT IDENT.
NA-24	0.000E+00	SHORT HLIF
AL-26	7.197E-02	NOT IDENT.
SC-46	1.406E-01	NOT IDENT.
V-48	3.209E-01	NOT IDENT.
CR-51	1.417E+00	NOT IDENT.
MN-52	3.982E+00	NOT IDENT.
MN-54	1.401E-01	NOT IDENT.
CO-56	1.610E-01	NOT IDENT.
MN-56	0.000E+00	SHORT HLIF
CO-57	6.611E-02	NOT IDENT.
CO-58	1.214E-01	NOT IDENT.
FE-59	2.837E-01	NOT IDENT.
CO-60	1.264E-01	NOT IDENT.
ZN-65	2.675E-01	NOT IDENT.
GE-68	2.664E+00	NOT IDENT.
AS-73	1.213E+00	NOT IDENT.
AS-74	4.944E-01	NOT IDENT.
SE-75	1.314E-01	NOT IDENT.
BR-77	0.000E+00	SHORT HLIF
SR-82	1.161E+00	NOT IDENT.
RB-83	2.467E-01	FAIL ABUN
RB-84	3.319E-01	NOT IDENT.

KR-85	2.684E+01	NOT IDENT.
SR-85	1.609E-01	NOT IDENT.
RB-86	2.609E+00	NOT IDENT.
Y-88	1.770E-01	NOT IDENT.
Y-91	6.173E+01	NOT IDENT.
NB-94	1.077E-01	NOT IDENT.
NB-95	1.784E-01	NOT IDENT.
ZR-95	2.286E-01	NOT IDENT.
NB-97	0.000E+00	SHORT HLIF
ZR-97	0.000E+00	SHORT HLIF
MO-99	7.088E+02	NOT IDENT.
TC-99M	0.000E+00	SHORT HLIF
RH-101	8.311E-02	NOT IDENT.
RH-102	1.804E-01	NOT IDENT.
RU-103	1.703E-01	FAIL ABUN
RH-106	9.477E-01	NOT IDENT.
RU-106	9.477E-01	NOT IDENT.
AG-108M	1.044E-01	NOT IDENT.
CD-109	1.627E+00	NOT IDENT.
AG-110	2.392E+00	NOT IDENT.
AG-110M	1.492E-01	NOT IDENT.
SN-113	1.276E-01	NOT IDENT.
CD-115	0.000E+00	SHORT HLIF
SN-117M	2.408E-01	NOT IDENT.
SB-122	1.279E+02	NOT IDENT.
TE-123M	7.490E-02	NOT IDENT.
SB-124	4.171E-01	NOT IDENT.
SB-125	3.018E-01	NOT IDENT.
TE-125M	2.698E+01	NOT IDENT.
I-126	1.453E+00	FAIL ABUN
SB-126	7.947E-01	NOT IDENT.
SN-126	1.494E-01	FAIL ABUN
SB-127	3.498E+01	NOT IDENT.
I-131	8.957E-01	NOT IDENT.
I-132	0.000E+00	SHORT HLIF
TE-132	2.398E+01	NOT IDENT.
BA-133	1.140E-01	NOT IDENT.
I-133	0.000E+00	SHORT HLIF
CS-134	1.345E-01	NOT IDENT.
I-135	0.000E+00	SHORT HLIF
CS-136	7.580E-01	NOT IDENT.
BA-137M	1.208E-01	NOT IDENT.
CS-137	1.276E-01	NOT IDENT.
LA-138	2.279E-01	NOT IDENT.
CE-139	7.816E-02	NOT IDENT.
BA-140	1.632E+00	NOT IDENT.
LA-140	5.970E-01	NOT IDENT.
CE-141	1.925E-01	NOT IDENT.
CE-143	0.000E+00	SHORT HLIF
CE-144	4.741E-01	NOT IDENT.
PM-144	1.157E-01	NOT IDENT.
PR-144	8.677E+00	NOT IDENT.
PM-146	1.397E-01	NOT IDENT.
ND-147	4.098E+00	FAIL ABUN
PM-147	1.873E+03	NOT IDENT.
PM-149	0.000E+00	SHORT HLIF
EU-150	7.883E-02	NOT IDENT.
EU-152	3.076E-01	NOT IDENT.
GD-153	1.563E-01	NOT IDENT.
EU-154	3.448E-01	NOT IDENT.
EU-155	2.321E-01	FAIL ABUN
TB-160	4.213E-01	FAIL ABUN
HO-166M	2.041E-01	NOT IDENT.
TM-171	2.575E+01	NOT IDENT.
HF-172	4.450E-01	FAIL ABUN
LU-172	1.483E-01	FAIL ABUN
LU-176	8.169E-02	FAIL ABUN
HF-181	1.778E-01	NOT IDENT.
TA-182	6.439E-01	NOT IDENT.
RE-183	2.975E-01	NOT IDENT.
RE-184	3.409E-01	NOT IDENT.
W-188	2.365E+01	FAIL ABUN
IR-192	1.255E-01	NOT IDENT.
HG-203	1.239E-01	NOT IDENT.
TL-204	8.201E+00	NOT IDENT.
BI-207	1.601E-01	NOT IDENT.
TL-208	1.399E-01	NOT IDENT.
BI-211	6.980E-01	NOT IDENT.

PB-211	1.988E+00	NOT IDENT.
BI-212	1.658E+00	NOT IDENT.
PB-212	2.336E-01	FAIL ABUN
BI-213	3.178E-01	NOT IDENT.
PB-214	2.572E-01	FAIL ABUN
RN-219	1.133E+00	NOT IDENT.
RN-222	2.572E-01	FAIL ABUN
RA-223	1.729E+00	FAIL ABUN
AC-225	3.946E+00	NOT IDENT.
RA-226	2.572E-01	FAIL ABUN
AC-227	7.482E-01	FAIL ABUN
TH-227	7.482E-01	FAIL ABUN
AC-228	6.790E-01	FAIL ABUN
RA-228	6.790E-01	FAIL ABUN
TH-228	2.336E-01	FAIL ABUN
TH-229	1.484E+00	FAIL ABUN
TH-230	2.572E-01	FAIL ABUN
PA-231	1.077E+00	NOT IDENT.
TH-231	1.729E+00	FAIL ABUN
TH-232	6.790E-01	FAIL ABUN
PA-233	2.033E-01	NOT IDENT.
PA-234	8.486E-01	NOT IDENT.
PA-234M	2.790E+00	FAIL ABUN
TH-234	2.790E+00	FAIL ABUN
U-234	2.572E-01	FAIL ABUN
U-235	5.457E-01	FAIL ABUN
NP-237	2.033E-01	NOT IDENT.
NP-238	0.000E+00	SHORT HLIF
U-238	2.790E+00	FAIL ABUN
NP-239	6.451E-01	NOT IDENT.
PU-239	8.764E+02	NOT IDENT.
AM-241	2.133E-01	NOT IDENT.
AM-243	1.044E-01	NOT IDENT.
CM-243	1.929E-01	NOT IDENT.
BK-247	2.364E-01	FAIL ABUN
CM-247	1.079E-01	NOT IDENT.
CF-249	1.380E-01	NOT IDENT.
CF-251	2.924E-01	NOT IDENT.

VAX/VMS Nuclide Identification Report Generated 17-AUG-2026 10:18:25.25

```
*****************************************************************************
*                            GEL Laboratories LLC                           *
*                              2040 Savage Road                             *
*                            Charleston, SC 29407                           *
*****************************************************************************
*                                                                           *
*                          DETECTOR AND SAMPLE DATA                         *
*                                                                           *
* Configuration    : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G1206539883.CNF;1  *
* Acquisition date : 17-AUG-2026 08:15:25 Sensitivity     : 3.000           *
* Detector ID      : GAM24                Energy tolerance: 1.500           *
* Elapsed live time:    0 02:00:00.00     Abundance limit : 75.000          *
* Elapsed real time:    0 02:00:00.42     Half life ratio : *****           *
* Sample date      : 21-JUL-2026 10:00:00 Nuclide Library : SOLID           *
* Sample ID        : G1206539883          Analyst initials: GG              *
* Batch Number     : 3033734              Sample Quantity : 1.1020E+01 GRAM *
*                                         Quantity Err(%) : 3.0853E-03 %    *
* Wet wt corr      :    1.00000           Wet Weight      :    0.00000      *
*                                         Dry Weight      :    0.00000      *
*****************************************************************************
*                                                                           *
*                          CALIBRATION INFORMATION                          *
*                                                                           *
* Eff. Cal. date   : 23-JUN-2025 06:26:41 Eff. Geometry   : CAN             *
* Eff. File        : DKA100:[CANBERRA.GAMMA]EFF_GAM24_CAN.CNF;17            *
*****************************************************************************
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Combined Activity-MDA Report

NOTE: Not all "Identified Nuclides" are valid.
Please refer to Certificate of Analysis.

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act Error (1.96-sigma)	TPU (1.96-sigma)
K-40	1.682E+00	2.357E+00	2.357E+00
NB-95M	4.360E-01	3.023E-01	3.023E-01
BI-210	4.957E+00	5.086E+00	5.086E+00
PB-210	4.957E+00	5.086E+00	5.086E+00
BI-214	4.719E-01	6.014E-01	6.014E-01
RA-224	1.518E+00	1.995E+00	1.995E+00
ANH-511	9.550E-02	3.491E-01	3.491E-01

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L Act error (1.96-sigma)	TPU (1.96-sigma)	
BE-7	3.360E-01	1.529E+00	1.536E+00	NOT IDENT.
NA-22	3.097E-02	1.380E-01	1.387E-01	NOT IDENT.
NA-24	-3.611E+11	1.363E+12	1.373E+12	SHORT HLIF
AL-26	-3.136E-02	1.112E-01	1.121E-01	NOT IDENT.
SC-46	5.558E-02	1.617E-01	1.637E-01	NOT IDENT.
V-48	-1.110E-01	4.248E-01	4.278E-01	NOT IDENT.
CR-51	6.699E-02	1.874E+00	1.874E+00	NOT IDENT.
MN-52	-1.347E+00	5.369E+00	5.403E+00	NOT IDENT.
MN-54	3.510E-02	1.667E-01	1.674E-01	NOT IDENT.
CO-56	-2.644E-02	2.027E-01	2.031E-01	NOT IDENT.
MN-56	-1.000E+41	8.167E+41	0.000E+00	SHORT HLIF
CO-57	3.859E-03	8.735E-02	8.737E-02	NOT IDENT.
CO-58	-4.836E-02	1.597E-01	1.612E-01	NOT IDENT.
FE-59	-2.521E-01	4.177E-01	4.329E-01	NOT IDENT.
CO-60	4.064E-02	1.459E-01	1.470E-01	NOT IDENT.
ZN-65	-1.097E-01	3.577E-01	3.611E-01	NOT IDENT.
GE-68	-5.125E-01	3.928E+00	3.935E+00	NOT IDENT.
AS-73	-9.091E-01	2.087E+00	2.127E+00	NOT IDENT.
AS-74	8.316E-02	6.513E-01	6.523E-01	NOT IDENT.
SE-75	-1.037E-01	1.875E-01	1.932E-01	NOT IDENT.
BR-77	1.044E+03	1.497E+03	1.569E+03	SHORT HLIF
SR-82	-6.520E-01	1.572E+00	1.599E+00	NOT IDENT.
RB-83	1.500E-02	3.287E-01	3.288E-01	FAIL ABUN

RB-84	-1.310E-02	4.196E-01	4.197E-01	NOT IDENT.
KR-85	2.408E+01	3.249E+01	3.425E+01	NOT IDENT.
SR-85	1.438E-01	1.949E-01	2.054E-01	NOT IDENT.
RB-86	-3.406E-01	3.768E+00	3.771E+00	NOT IDENT.
Y-88	1.346E-01	1.728E-01	1.832E-01	NOT IDENT.
Y-91	1.242E+01	7.339E+01	7.360E+01	NOT IDENT.
NB-94	-3.540E-02	1.376E-01	1.385E-01	NOT IDENT.
NB-95	1.542E-01	2.114E-01	2.226E-01	NOT IDENT.
ZR-95	5.816E-03	3.097E-01	3.097E-01	NOT IDENT.
NB-97	-1.000E+41	2.658E+41	0.000E+00	SHORT HLIF
ZR-97	-1.490E+11	9.009E+11	9.034E+11	SHORT HLIF
MO-99	-3.611E+02	9.374E+02	9.514E+02	NOT IDENT.
TC-99M	-1.558E+30	2.292E+31	0.000E+00	SHORT HLIF
RH-101	5.627E-02	1.055E-01	1.085E-01	NOT IDENT.
RH-102	-7.739E-02	2.598E-01	2.621E-01	NOT IDENT.
RU-103	1.268E-01	2.067E-01	2.144E-01	FAIL ABUN
RH-106	-9.071E-01	1.477E+00	1.533E+00	NOT IDENT.
RU-106	-9.071E-01	1.477E+00	1.533E+00	NOT IDENT.
AG-108M	1.303E-01	1.195E-01	1.331E-01	NOT IDENT.
CD-109	-5.947E-01	2.562E+00	2.576E+00	NOT IDENT.
AG-110	-3.149E-01	3.308E+00	3.311E+00	NOT IDENT.
AG-110M	-6.613E-02	1.984E-01	2.007E-01	NOT IDENT.
SN-113	-9.988E-02	1.874E-01	1.927E-01	NOT IDENT.
CD-115	-1.171E+03	2.324E+03	2.384E+03	SHORT HLIF
SN-117M	-1.919E-01	3.394E-01	3.502E-01	NOT IDENT.
SB-122	-4.483E+01	1.809E+02	1.820E+02	NOT IDENT.
TE-123M	-4.456E-02	1.039E-01	1.058E-01	NOT IDENT.
SB-124	-1.095E-01	7.638E-01	7.654E-01	NOT IDENT.
SB-125	3.840E-01	3.401E-01	3.817E-01	NOT IDENT.
TE-125M	6.314E+00	3.526E+01	3.538E+01	NOT IDENT.
I-126	1.543E-01	1.938E+00	1.939E+00	FAIL ABUN
SB-126	-2.692E-01	1.025E+00	1.032E+00	NOT IDENT.
SN-126	-1.930E-02	2.335E-01	2.337E-01	FAIL ABUN
SB-127	-4.136E+00	4.839E+01	4.843E+01	NOT IDENT.
I-131	-4.767E-01	1.270E+00	1.288E+00	NOT IDENT.
I-132	1.000E+41	2.139E+41	0.000E+00	SHORT HLIF
TE-132	-2.453E-01	3.180E+01	3.180E+01	NOT IDENT.
BA-133	-9.314E-02	1.664E-01	1.716E-01	NOT IDENT.
I-133	4.129E+08	5.408E+08	5.719E+08	SHORT HLIF
CS-134	-1.233E-01	1.865E-01	1.946E-01	NOT IDENT.
I-135	-1.897E+29	2.458E+29	0.000E+00	SHORT HLIF
CS-136	1.901E-01	9.034E-01	9.074E-01	NOT IDENT.
BA-137M	1.657E-02	1.603E-01	1.605E-01	NOT IDENT.
CS-137	1.751E-02	1.693E-01	1.695E-01	NOT IDENT.
LA-138	1.170E-01	2.533E-01	2.587E-01	NOT IDENT.
CE-139	-8.669E-02	1.139E-01	1.205E-01	NOT IDENT.
BA-140	2.877E-01	2.140E+00	2.144E+00	NOT IDENT.
LA-140	-4.002E-01	8.434E-01	8.625E-01	NOT IDENT.
CE-141	-4.017E-01	3.363E-01	3.819E-01	NOT IDENT.
CE-143	-9.468E+04	1.833E+05	1.882E+05	SHORT HLIF
CE-144	-1.067E-01	6.397E-01	6.415E-01	NOT IDENT.
PM-144	-6.119E-02	1.511E-01	1.536E-01	NOT IDENT.
PR-144	-4.733E+00	1.136E+01	1.156E+01	NOT IDENT.
PM-146	1.932E-02	1.838E-01	1.841E-01	NOT IDENT.
ND-147	6.458E+00	8.386E+00	8.877E+00	FAIL ABUN
PM-147	1.488E+02	2.471E+03	2.472E+03	NOT IDENT.
PM-149	4.935E+02	1.291E+04	1.291E+04	SHORT HLIF
EU-150	-7.513E-02	1.152E-01	1.200E-01	NOT IDENT.
EU-152	2.507E-01	3.747E-01	3.914E-01	NOT IDENT.
GD-153	-1.090E-01	2.203E-01	2.257E-01	NOT IDENT.
EU-154	1.129E-01	3.967E-01	4.000E-01	NOT IDENT.
EU-155	1.470E-01	2.938E-01	3.012E-01	FAIL ABUN
TB-160	-6.018E-01	6.617E-01	7.152E-01	FAIL ABUN
HO-166M	2.613E-02	2.459E-01	2.462E-01	NOT IDENT.
TM-171	3.481E+01	3.646E+01	3.970E+01	NOT IDENT.
HF-172	-3.098E-01	6.235E-01	6.390E-01	FAIL ABUN
LU-172	-3.208E-01	2.714E-01	3.075E-01	FAIL ABUN
LU-176	-7.439E-03	1.095E-01	1.095E-01	FAIL ABUN
HF-181	1.024E-01	2.207E-01	2.255E-01	NOT IDENT.
TA-182	3.296E-01	7.257E-01	7.407E-01	NOT IDENT.
RE-183	-2.205E-02	4.801E-01	4.802E-01	NOT IDENT.
RE-184	-7.002E-02	4.958E-01	4.969E-01	NOT IDENT.
W-188	-4.485E+00	3.198E+01	3.205E+01	FAIL ABUN
IR-192	1.564E-02	1.649E-01	1.650E-01	NOT IDENT.
HG-203	8.824E-03	1.632E-01	1.632E-01	NOT IDENT.
TL-204	-9.005E+00	1.441E+01	1.497E+01	NOT IDENT.
BI-207	8.243E-02	1.781E-01	1.820E-01	NOT IDENT.
TL-208	-1.250E-01	2.079E-01	2.154E-01	NOT IDENT.

BI-211	-4.316E-01	1.068E+00	1.085E+00	NOT IDENT.
PB-211	8.917E-01	2.497E+00	2.530E+00	NOT IDENT.
BI-212	-1.717E-01	2.290E+00	2.291E+00	NOT IDENT.
PB-212	2.123E-01	2.556E-01	2.730E-01	FAIL ABUN
BI-213	4.632E-03	4.244E-01	4.244E-01	NOT IDENT.
PB-214	-3.360E-01	4.117E-01	4.387E-01	FAIL ABUN
RN-219	1.114E-01	1.494E+00	1.494E+00	NOT IDENT.
RN-222	-3.360E-01	4.117E-01	4.387E-01	FAIL ABUN
RA-223	-2.449E+00	2.651E+00	2.872E+00	FAIL ABUN
AC-225	7.122E-01	5.153E+00	5.163E+00	NOT IDENT.
RA-226	-3.360E-01	4.117E-01	4.387E-01	FAIL ABUN
AC-227	-3.460E-01	1.033E+00	1.045E+00	FAIL ABUN
TH-227	-3.460E-01	1.033E+00	1.045E+00	FAIL ABUN
AC-228	1.532E-01	8.621E-01	8.648E-01	FAIL ABUN
RA-228	1.532E-01	8.621E-01	8.648E-01	FAIL ABUN
TH-228	2.123E-01	2.556E-01	2.730E-01	FAIL ABUN
TH-229	-2.692E-01	2.147E+00	2.150E+00	FAIL ABUN
TH-230	-3.360E-01	4.117E-01	4.387E-01	FAIL ABUN
PA-231	-2.629E+00	1.911E+00	2.249E+00	NOT IDENT.
TH-231	-2.449E+00	2.651E+00	2.872E+00	FAIL ABUN
TH-232	1.532E-01	8.621E-01	8.648E-01	FAIL ABUN
PA-233	1.346E-01	2.527E-01	2.599E-01	NOT IDENT.
PA-234	-1.450E-01	1.096E+00	1.098E+00	NOT IDENT.
PA-234M	5.803E-01	3.254E+00	3.265E+00	FAIL ABUN
TH-234	5.803E-01	3.254E+00	3.265E+00	FAIL ABUN
U-234	-3.360E-01	4.117E-01	4.387E-01	FAIL ABUN
U-235	-4.388E-01	8.597E-01	8.822E-01	FAIL ABUN
NP-237	1.346E-01	2.527E-01	2.599E-01	NOT IDENT.
NP-238	-2.965E+03	3.893E+03	4.116E+03	SHORT HLIF
U-238	5.803E-01	3.254E+00	3.265E+00	FAIL ABUN
NP-239	1.722E-01	8.400E-01	8.436E-01	NOT IDENT.
PU-239	2.543E+02	1.139E+03	1.145E+03	NOT IDENT.
AM-241	7.827E-02	3.290E-01	3.309E-01	NOT IDENT.
AM-243	-8.885E-02	1.721E-01	1.767E-01	NOT IDENT.
CM-243	-2.882E-01	2.905E-01	3.182E-01	NOT IDENT.
BK-247	-1.140E-01	3.280E-01	3.320E-01	FAIL ABUN
CM-247	8.840E-02	1.296E-01	1.356E-01	NOT IDENT.
CF-249	8.690E-02	1.722E-01	1.766E-01	NOT IDENT.
CF-251	-2.047E-01	4.122E-01	4.224E-01	NOT IDENT.

GEL Laboratories LLC
2040 Savage Road
Charleston, SC 29407

GAMMA SPECTROSCOPY BACKGROUND REPORT

ENERGY	MDA COUNTS	ENERGY	MDA COUNTS	ENERGY	MDA COUNTS
43.53	41.1738	85.43	36.5900	133.02	30.6418
45.60	35.9158	86.55	46.8601	133.52	35.6376
46.54	36.0194	86.79	46.8830	136.00	32.4421
49.72	27.9707	86.94	39.7605	136.47	32.4647
51.35	49.1798	87.09	39.7728	140.51	40.1938
51.87	32.3659	87.57	34.7069	143.76	41.2226
52.39	26.7764	88.03	41.8913	144.24	35.3580
52.97	36.7012	88.34	36.8053	145.44	43.8512
53.44	42.4031	88.47	34.5139	152.43	41.7251
54.07	35.3977	89.96	52.3084	153.25	43.4764
57.36	0.0000	1093.63	71.6352	323.87	31.5829
57.53	31.4432	91.11	93.2887	156.02	38.5057
57.98	31.4805	92.59	47.9385	158.56	42.0712
59.27	45.9448	93.35	49.5576	159.00	41.2368
59.32	40.2068	94.56	78.3892	162.33	43.1435
59.54	28.7357	94.65	78.4023	162.66	43.1625
60.96	40.3771	94.67	78.4054	163.33	35.4239
61.17	40.3989	94.87	72.9993	165.86	46.8092
62.93	42.0280	97.43	31.9940	176.31	26.3498
63.29	42.0658	98.43	25.0173	176.60	28.9953
63.58	42.0960	98.44	25.0178	177.52	34.3059
64.28	42.1691	99.53	36.0358	181.07	30.9206
66.73	36.5704	100.11	39.9951	181.52	33.5892
67.24	27.8274	102.03	21.2480	184.41	30.7491
125.81	49.8488	103.18	40.2185	143.76	30.2050
67.75	49.8571	103.37	37.8655	193.51	43.0327
68.89	38.2292	105.31	26.9142	197.03	40.5059
69.67	36.8263	106.12	40.4293	198.01	40.5512
70.82	51.6946	106.47	36.4881	201.83	31.3743
70.83	51.6962	109.28	37.4642	203.43	32.6393
72.81	37.0937	111.00	47.9677	205.31	36.3416
72.87	50.4542	111.76	48.8304	210.85	41.1321
74.66	43.2084	114.06	46.6095	215.65	28.4821
74.82	43.2239	116.30	37.9107	218.12	36.8475
74.97	35.7834	116.74	34.7095	222.11	26.8269
77.11	37.4508	119.76	37.3150	227.09	37.1936
78.74	46.6036	121.12	38.2097	227.38	37.2046
79.69	32.3878	121.22	38.2158	228.16	28.8567
80.03	29.3961	121.78	35.8087	228.18	28.8572
80.12	29.4020	122.06	39.0817	116.74	28.8572
80.19	29.4065	122.92	35.8739	235.69	32.5159
80.57	35.4669	123.07	35.0671	235.96	32.5249
81.00	39.2761	265.00	32.6520	238.63	32.6111
81.07	39.2817	125.81	41.7713	238.98	0.0000
81.75	43.3727	127.23	34.4759	240.99	32.6873
82.47	33.3367	127.91	42.7294	242.00	32.7195
83.79	44.5707	129.30	38.7039	244.70	33.1212
84.00	36.4827	131.20	42.1200	252.40	22.8801

ENERGY	MDA COUNTS	ENERGY	MDA COUNTS	ENERGY	MDA COUNTS
252.80	34.3334	345.93	26.8149	564.24	18.8730
254.15	0.0000	351.06	25.8820	569.33	14.1914
256.23	38.2718	351.93	35.2223	946.00	14.1929
260.90	0.0000	355.39	0.0000	569.70	17.7429
264.66	35.6789	356.01	27.0156	583.19	15.4819
264.80	36.6490	364.49	24.0465	584.27	19.0654
265.00	36.6548	366.42	13.6102	595.83	15.5795
269.46	16.4651	372.51	23.1333	427.87	25.2259
270.03	25.1946	375.05	20.0147	602.52	0.0000
271.23	32.0131	377.52	16.8833	604.72	24.0723
273.65	17.4996	356.01	18.0179	607.14	27.3137
276.40	28.2628	388.16	21.2610	609.32	18.0945
277.37	25.3605	388.63	23.3945	610.33	18.1036
277.60	25.3660	391.69	23.4435	614.28	9.6733
278.00	29.2786	264.66	15.0092	618.01	16.9591
279.20	25.4017	401.81	17.1665	620.36	8.4890
279.54	35.1826	402.40	11.8067	621.93	19.4180
279.70	35.1870	404.85	13.9762	630.19	0.0000
280.46	25.4295	410.95	18.3504	631.29	18.2849
283.69	28.4442	413.71	15.1395	633.25	14.6411
284.31	23.5525	414.70	12.9851	634.78	13.4311
285.41	25.5398	423.72	19.5914	635.95	10.9951
285.90	0.0000	427.09	28.3597	636.99	13.4445
287.50	23.6177	427.87	9.8218	657.50	14.8059
290.67	30.5894	433.94	12.0507	657.76	11.1061
293.27	0.0000	439.40	20.8862	657.90	0.0000
351.93	19.8114	440.45	18.7001	661.66	14.8337
295.96	38.6572	453.88	19.9644	664.57	0.0000
879.38	23.8411	463.37	13.3857	666.33	16.1040
299.98	24.8634	468.07	11.1862	666.50	16.1056
300.09	24.8657	473.00	12.3408	667.71	0.0000
300.13	24.8665	475.06	17.9722	677.62	13.6956
301.36	37.8365	476.78	13.4927	685.70	13.7446
302.85	18.9414	477.60	15.7491	692.65	10.8619
256.23	28.9504	482.18	14.6631	695.00	14.2185
304.85	36.9469	487.02	20.3599	696.49	19.2490
306.78	30.0046	492.35	0.0000	696.51	19.2490
308.46	26.0397	497.08	13.6512	697.00	18.4166
311.90	22.0953	505.52	18.2886	697.30	18.4193
316.51	29.2345	507.63	0.0000	697.49	18.4202
319.41	19.1983	511.00	18.3442	702.65	16.7830
320.08	23.2520	514.00	18.3750	706.68	12.6093
321.04	27.3164	514.00	18.3750	711.68	13.4785
323.87	35.4903	520.40	16.1345	720.70	12.6849
325.23	24.3618	520.69	0.0000	721.93	0.0000
328.76	32.5723	522.65	0.0000	722.78	10.1567
333.37	26.5602	527.90	0.0000	722.91	11.8501
333.97	34.7481	528.26	19.6760	723.31	15.2380
334.37	33.7362	529.59	19.6905	724.19	15.2439
338.28	30.7617	529.87	0.0000	727.33	10.1763
338.32	25.6355	531.02	19.7050	733.00	13.6003
311.90	34.9214	537.26	15.1193	735.93	11.0634
340.48	34.9214	546.56	0.0000	333.97	11.9224
340.55	34.9235	552.55	15.2415	739.50	13.6367
344.28	18.5411	563.25	14.1475	744.23	16.2253

ENERGY	MDA COUNTS	ENERGY	MDA COUNTS	ENERGY	MDA COUNTS
747.24	13.6803	964.08	8.3361	1457.56	0.0000
748.06	8.5531	966.17	12.9763	1460.82	2.1274
752.31	11.5670	968.97	5.5664	1489.16	6.4248
753.82	9.0021	983.53	8.3899	1505.03	5.3735
756.73	9.0128	984.45	0.0000	1584.12	5.4700
756.80	10.3003	1274.44	9.8288	1596.21	5.4846
884.68	18.0776	1002.74	1.4070	1620.50	1.1027
765.81	10.3379	1004.73	9.8557	1621.92	4.4121
766.84	15.5134	507.63	0.0000	1678.03	0.0000
772.60	0.0000	1025.87	0.0000	1690.97	3.3579
776.52	10.3823	1028.54	0.0000	1750.46	0.0000
739.50	7.7911	1037.84	9.9600	1764.49	2.2725
778.90	8.6601	1038.76	0.0000	1063.66	2.2751
783.70	13.0151	631.29	7.6094	1771.35	3.4136
788.74	13.0408	1048.07	10.4674	1791.20	0.0000
792.07	12.1873	1049.04	7.6152	1808.65	2.2925
795.86	19.1802	1050.41	8.5708	1810.72	0.0000
810.06	11.3962	1063.66	4.7811	1836.06	1.1524
810.29	11.3972	1077.00	4.3206		
344.28	10.5210	1077.34	4.3209		
810.76	10.5225	1085.87	4.3323		
815.77	8.7854	1093.63	14.4739		
1048.07	9.6738	1099.45	10.6330		
832.01	14.1432	1112.07	7.7624		
834.85	13.2733	1112.84	10.6759		
836.80	0.0000	1115.54	10.6840		
846.75	0.0000	1120.29	8.7539		
846.77	15.1102	1120.55	8.7546		
856.80	11.5977	1221.41	7.7832		
860.56	8.0402	1129.67	12.6794		
871.09	16.1426	1131.51	0.0000		
873.19	7.1797	1147.95	0.0000		
875.33	0.0000	1173.23	7.9010		
879.38	11.6934	1177.95	7.9115		
880.51	8.9986	1189.05	10.9123		
881.60	9.0019	1204.77	4.9821		
883.24	9.0072	1221.41	6.0059		
884.68	10.8145	1231.02	11.0394		
889.28	7.2214	1235.36	7.2346		
894.76	8.1398	1238.28	4.5253		
898.04	6.3383	1260.41	0.0000		
900.72	8.1570	1271.87	3.0439		
903.28	5.4429	1274.44	4.0615		
911.20	9.0967	1274.54	4.0615		
912.08	9.0995	1291.59	6.1196		
923.98	0.0000	1298.22	0.0000		
926.50	10.0596	1312.11	7.1777		
929.11	12.8145	1332.49	4.1230		
935.54	8.2562	1362.66	0.0000		
937.49	9.1797	1365.19	4.1572		
944.13	7.3604	1368.63	0.0000		
946.00	8.2855	1384.29	3.1328		
949.00	5.5293	1408.01	6.3022		
667.71	0.0000	1434.09	8.4557		
962.31	9.2570	1435.80	4.2295		

VAX/VMS Nuclide Identification Report Generated 17-AUG-2026 08:47:09.69

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*************************************************************************
*                          GEL Laboratories LLC                         *
*                            2040 Savage Road                           *
*                          Charleston, SC 29407                         *
*************************************************************************
Configuration    : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G1206539884.CNF;1
Background file  : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]BKG_GAM29.CNF;885
                                       Background date  : 16-AUG-2026 08:55:24
Sample date      : 28-JUL-2026 00:00:00 Acquisition date : 17-AUG-2026 08:16:41
Sample ID        : G1206539884          Sample quantity  : 1.15000E+02 GRAM
Detector name    : GAM29                Detector geometry: CAN
Elapsed live time: 0 00:30:00.00        Elapsed real time: 0 00:30:04.30  0.2%
Energy tolerance : 1.50000 keV          Analyst Initials : GG
Abundance limit  : 75.00000             Sensitivity      : 3.00000
Batch ID         : 3033734              Detector SN#     :
Matrix Spike ID  :                      LCS ID           :
*************************************************************************
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BACKGROUND CORRECTED SAMPLE PEAK REPORT

Pk	It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	Fit
1	0	46.39*	11609	12721	1.11	93.25	87	12	6.45E+00	2.2	
2	0	59.49	39410	8370	1.12	119.44	113	13	2.19E+01	0.7	
3	0	78.92	82	968	1.44	158.25	157	6	4.53E-02	61.3	
4	0	83.32	42	911	1.03	167.05	164	6	2.34E-02	114.0	
5	0	262.70	20	756	0.49	525.56	523	8	1.10E-02	240.6	
6	0	290.51	46	490	0.64	581.15	579	6	2.54E-02	77.7	
7	0	457.64	40	825	1.21	915.19	913	8	2.21E-02	126.8	
8	0	600.26	95	293	4.12	1200.24	1195	12	5.29E-02	37.4	
9	0	606.50*	49	210	0.69	1212.72	1209	8	2.72E-02	53.4	
10	0	661.72	23551	509	1.54	1323.09	1314	18	1.31E+01	0.7	
11	0	678.16	43	158	3.77	1355.96	1351	11	2.37E-02	59.2	
12	0	704.46	32	140	0.77	1408.53	1405	9	1.78E-02	69.0	
13	0	772.76	44	184	3.25	1545.06	1540	12	2.46E-02	63.0	
14	0	865.93	31	230	0.62	1731.31	1725	11	1.74E-02	95.4	
15	0	904.91	26	221	2.40	1809.24	1807	9	1.42E-02	106.8	
16	0	987.96*	39	148	2.53	1975.25	1970	9	2.17E-02	58.9	
17	0	1091.20	81	404	10.41	2181.63	2171	26	4.48E-02	69.1	
18	0	1173.33	5243	205	1.84	2345.83	2336	20	2.91E+00	1.5	
19	0	1332.58	4650	55	2.10	2664.20	2656	17	2.58E+00	1.5	
20	0	1349.37	18	6	4.46	2697.78	2692	12	1.00E-02	36.0	
21	0	1377.28	11	20	3.81	2753.56	2741	16	6.13E-03	95.5	
22	0	1440.27	9	4	0.68	2879.51	2876	8	4.98E-03	55.8	
23	0	1456.36	4	5	1.41	2911.68	2906	8	2.31E-03	110.0	
24	0	1502.40	22	0	3.11	3003.73	2998	13	1.22E-02	21.3	
25	0	1578.44	9	2	1.28	3155.77	3150	9	4.77E-03	46.7	
26	0	1611.89	9	7	2.94	3222.65	3215	13	4.72E-03	70.7	
27	3	1699.06	11	1	2.32	3396.94	3394	14	6.19E-03	30.1	6.47E-01
28	3	1702.09*	16	3	2.13	3403.00	3394	14	8.65E-03	28.2	
29	0	1797.94	10	2	2.13	3594.65	3590	9	5.53E-03	41.5	

Flag: "*" = Peak area was modified by background subtraction

VMS Nuclide Identification Report V3.1 Generated 17-AUG-2026 08:47:10

Configuration	: DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G1206539884.CNF;1		
Analyses by	: PEAK V16.9,PEAKEFF V2.2,ENBACK V1.6,NID V3.4		
Sample title	: GG		
Sample date	: 28-JUL-2026 00:00:00	Acquisition date	: 17-AUG-2026 08:16:41
Sample ID	: G1206539884	Sample quantity	: 115.00 GRAM
Sample type	: SOLID	Sample geometry	:
Detector name	: GAMMA29	Detector geometry	: CAN
Elapsed live time	: 0 00:30:00.00	Elapsed real time	: 0 00:30:04.30 0.2%
Energy tolerance	: 1.50 keV	Half life ratio	: 10.00
Errors propagated	: No	Systematic Error	: 0.00 %
Efficiency type	: Empirical	Efficiencies at	: Peak Energy
Abundance limit	: 75.00		

Interference Report

No interference correction performed

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
CO-60	1173.23	4994	99.85	1.588E+00	4.111E+01	4.141E+01	3.07
	1332.49	4404	99.98*	1.421E+00	4.047E+01	4.077E+01	3.02
BA-137M	661.66	23001	89.90*	2.661E+00	1.256E+02	1.257E+02	1.38
CS-137	661.66	23001	85.10*	2.661E+00	1.326E+02	1.328E+02	1.38
BI-210	46.54	12641	4.25*	1.002E+00	3.875E+03	3.881E+03	4.31
PB-210	46.54	12641	4.25*	1.002E+00	3.875E+03	3.881E+03	4.31
AM-241	59.54	42499	35.90*	3.020E+00	5.118E+02	5.118E+02	1.41

Flag: "*" = Keyline

VAX/VMS Nuclide Identification Report Generated 17-AUG-2026 08:47:11.73

```
**********************************************************************
*                          GEL Laboratories LLC                      *
*                            2040 Savage Road                        *
*                          Charleston, SC 29407                      *
**********************************************************************
*                                                                    *
*                        DETECTOR AND SAMPLE DATA                    *
*                                                                    *
* Configuration    : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G1206539884.CNF;1  *
* Acquisition date : 17-AUG-2026 08:16:41 Sensitivity     : 3.000    *
* Detector ID      : GAM29                Energy tolerance: 1.500    *
* Elapsed live time:    0 00:30:00.00     Abundance limit : 75.000   *
* Elapsed real time:    0 00:30:04.30     Half life ratio : *****    *
* Sample date      : 28-JUL-2026 00:00:00 Analyst initials: GG       *
* Sample ID        : G1206539884          Sample Quantity : 1.1500E+02 GRAM  *
* Batch Number     : 3033734              Wet Weight      :    0.00000  *
* Wet wt corr      :    1.00000           Dry Weight      :    0.00000  *
* Nuclide Library  : SOLID.NLB;19                                    *
**********************************************************************
*                                                                    *
*                        CALIBRATION INFORMATION                     *
*                                                                    *
* Eff. Cal. date   : 30-JUL-2026 09:33:07 Eff. Geometry   : CAN      *
* Eff. File        : DKA100:[CANBERRA.GAMMA]EFF_GAM29_CAN.CNF;24     *
**********************************************************************
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Combined Activity-MDA Report

NOTE: Not all "Identified Nuclides" are valid.
Please refer to Certificate of Analysis.

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Cnt uncert (1.96-sigma)	MDA (pCi/GRAM)
CO-60	4.077E+01	1.208E+00	2.201E-01
BA-137M	1.257E+02	1.698E+00	3.049E-01
CS-137	1.328E+02	1.794E+00	3.221E-01
BI-210	3.881E+03	1.641E+02	8.306E+01
PB-210	3.881E+03	1.641E+02	8.306E+01
AM-241	5.118E+02	7.056E+00	2.586E+00

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L. Cnt Uncert (1.96-sigma)	MDA (pCi/GRAM)	
BE-7	2.401E+00	2.658E+00	4.644E+00	NOT IDENT.
NA-22	-2.839E-02	9.849E-02	1.819E-01	NOT IDENT.
NA-24	0.000E+00	5.495E+08	0.000E+00	SHORT HLIF
AL-26	1.495E-02	7.164E-02	1.554E-01	NOT IDENT.
K-40	-1.790E-01	7.628E-01	1.550E+00	NOT IDENT.
SC-46	5.037E-02	2.302E-01	4.245E-01	NOT IDENT.
V-48	1.135E-01	5.634E-01	9.314E-01	NOT IDENT.
CR-51	-8.424E-01	2.380E+00	4.096E+00	NOT IDENT.
MN-52	-2.049E-01	8.423E-01	1.635E+00	NOT IDENT.
MN-54	2.361E-03	1.682E-01	3.112E-01	NOT IDENT.
CO-56	-1.072E-01	2.063E-01	3.679E-01	NOT IDENT.
MN-56	0.000E+00	1.960E+41	0.000E+00	SHORT HLIF
CO-57	3.606E-02	1.183E-01	2.186E-01	NOT IDENT.
CO-58	6.185E-02	1.909E-01	3.596E-01	NOT IDENT.
FE-59	-1.342E-01	6.023E-01	9.561E-01	NOT IDENT.
ZN-65	-1.621E-01	4.771E-01	8.402E-01	NOT IDENT.
GE-68	3.748E+00	7.192E+00	1.335E+01	NOT IDENT.
AS-73	-1.134E+01	1.072E+01	1.976E+01	NOT IDENT.
AS-74	3.817E-02	6.449E-01	1.010E+00	NOT IDENT.
SE-75	3.872E-02	2.693E-01	4.424E-01	NOT IDENT.
BR-77	-5.590E+00	2.086E+02	3.701E+02	NOT IDENT.
SR-82	-8.722E-01	1.850E+00	2.981E+00	NOT IDENT.
RB-83	3.796E-01	4.594E-01	8.095E-01	NOT IDENT.
RB-84	-2.816E-01	4.168E-01	7.339E-01	NOT IDENT.

KR-85	-1.904E+01	4.285E+01	7.108E+01	NOT IDENT.
SR-85	-1.071E-01	2.399E-01	3.979E-01	NOT IDENT.
RB-86	4.575E+00	5.339E+00	1.011E+01	NOT IDENT.
Y-88	-6.074E-02	8.653E-02	1.404E-01	NOT IDENT.
Y-91	-5.619E+01	6.682E+01	1.130E+02	NOT IDENT.
NB-94	5.877E-02	1.376E-01	2.257E-01	NOT IDENT.
NB-95	1.791E-02	1.828E-01	3.421E-01	NOT IDENT.
NB-95M	-1.826E-01	6.438E-01	1.130E+00	NOT IDENT.
ZR-95	-1.762E-01	3.228E-01	5.813E-01	NOT IDENT.
NB-97	0.000E+00	1.960E+41	0.000E+00	SHORT HLIF
ZR-97	0.000E+00	1.710E+09	0.000E+00	SHORT HLIF
MO-99	8.994E+00	2.124E+02	3.590E+02	NOT IDENT.
TC-99M	0.000E+00	2.892E+23	0.000E+00	SHORT HLIF
RH-101	-4.463E-02	1.402E-01	2.540E-01	NOT IDENT.
RH-102	-1.157E-01	2.880E-01	4.736E-01	NOT IDENT.
RU-103	1.486E-01	2.982E-01	5.161E-01	NOT IDENT.
RH-106	7.286E-01	1.735E+00	3.001E+00	NOT IDENT.
RU-106	7.286E-01	1.735E+00	3.001E+00	NOT IDENT.
AG-108M	8.951E-02	2.291E-01	3.949E-01	NOT IDENT.
CD-109	8.152E-01	3.306E+00	6.166E+00	NOT IDENT.
AG-110	2.121E+00	4.798E+00	7.613E+00	NOT IDENT.
AG-110M	2.430E-01	2.786E-01	5.313E-01	FAIL ABUN
SN-113	6.919E-02	3.000E-01	5.200E-01	NOT IDENT.
CD-115	1.678E+02	3.485E+02	6.055E+02	NOT IDENT.
SN-117M	1.829E-01	3.302E-01	6.072E-01	NOT IDENT.
SB-122	-2.132E+00	3.916E+01	6.631E+01	NOT IDENT.
TE-123M	3.818E-02	1.365E-01	2.490E-01	NOT IDENT.
SB-124	-3.507E-02	1.014E-01	2.069E-01	NOT IDENT.
SB-125	8.227E-02	6.660E-01	1.141E+00	FAIL ABUN
TE-125M	-2.823E+01	4.806E+01	8.696E+01	NOT IDENT.
I-126	7.022E-01	1.343E+00	2.203E+00	NOT IDENT.
SB-126	4.755E-01	8.889E-01	1.559E+00	NOT IDENT.
SN-126	1.277E-01	3.229E-01	6.045E-01	NOT IDENT.
SB-127	-9.826E+00	1.398E+01	2.234E+01	NOT IDENT.
I-131	-5.966E-01	1.129E+00	1.913E+00	FAIL ABUN
I-132	0.000E+00	1.960E+41	0.000E+00	SHORT HLIF
TE-132	5.752E+00	1.190E+01	2.142E+01	NOT IDENT.
BA-133	-1.163E-01	2.637E-01	4.485E-01	NOT IDENT.
I-133	0.000E+00	2.224E+06	0.000E+00	SHORT HLIF
CS-134	-4.314E-02	1.782E-01	3.256E-01	NOT IDENT.
I-135	0.000E+00	7.051E+21	0.000E+00	SHORT HLIF
CS-136	-1.014E+00	7.396E-01	1.223E+00	NOT IDENT.
LA-138	1.434E-03	1.142E-01	2.113E-01	NOT IDENT.
CE-139	1.097E-01	1.393E-01	2.577E-01	NOT IDENT.
BA-140	1.170E-01	2.049E+00	3.488E+00	NOT IDENT.
LA-140	6.826E-02	2.333E-01	5.067E-01	NOT IDENT.
CE-141	-2.264E-01	3.108E-01	5.524E-01	NOT IDENT.
CE-143	0.000E+00	1.033E+04	0.000E+00	SHORT HLIF
CE-144	-4.943E-03	9.240E-01	1.685E+00	FAIL ABUN
PM-144	-1.300E-02	1.366E-01	2.306E-01	NOT IDENT.
PR-144	-9.917E-01	1.025E+01	1.730E+01	NOT IDENT.
PM-146	1.069E-02	3.385E-01	5.744E-01	NOT IDENT.
ND-147	-9.432E-01	4.423E+00	7.433E+00	NOT IDENT.
PM-147	-1.973E+02	3.450E+03	6.309E+03	NOT IDENT.
PM-149	-2.610E+03	2.631E+03	4.451E+03	NOT IDENT.
EU-150	-5.272E-02	1.588E-01	2.725E-01	NOT IDENT.
EU-152	-1.203E-01	5.891E-01	1.014E+00	NOT IDENT.
GD-153	-1.552E-02	3.972E-01	7.326E-01	NOT IDENT.
EU-154	-7.006E-02	2.801E-01	5.202E-01	NOT IDENT.
EU-155	-3.795E-01	4.803E-01	8.657E-01	NOT IDENT.
TB-160	-1.219E-02	7.414E-01	1.356E+00	FAIL ABUN
HO-166M	-9.542E-02	2.538E-01	4.166E-01	NOT IDENT.
TM-171	-1.267E+02	2.564E+02	3.965E+02	NOT IDENT.
HF-172	-3.116E-01	8.519E-01	1.542E+00	NOT IDENT.
LU-172	1.645E-01	3.440E-01	6.388E-01	FAIL ABUN
LU-176	5.815E-02	1.515E-01	2.683E-01	NOT IDENT.
HF-181	-4.243E-01	3.476E-01	5.598E-01	NOT IDENT.
TA-182	1.908E-01	5.325E-01	1.036E+00	NOT IDENT.
RE-183	0.000E+00	2.864E+00	6.293E+00	FAIL ABUN
RE-184	4.856E-01	8.706E-01	1.481E+00	NOT IDENT.
W-188	3.720E+01	5.662E+01	7.498E+01	FAIL ABUN
IR-192	1.236E-01	2.040E-01	3.642E-01	NOT IDENT.
HG-203	1.828E-01	2.222E-01	4.015E-01	NOT IDENT.
TL-204	3.691E+00	2.072E+01	3.892E+01	FAIL ABUN
BI-207	2.214E-01	2.737E-01	5.240E-01	NOT IDENT.
TL-208	-3.211E-02	1.850E-01	3.113E-01	NOT IDENT.
BI-211	5.416E-01	1.191E+00	2.103E+00	NOT IDENT.
PB-211	3.646E-01	4.791E+00	8.231E+00	NOT IDENT.

BI-212	-9.304E-01	2.162E+00	3.521E+00	NOT IDENT.
PB-212	-1.096E-01	2.914E-01	5.112E-01	NOT IDENT.
BI-213	2.899E-01	7.878E-01	1.357E+00	NOT IDENT.
BI-214	-8.245E-02	3.900E-01	5.996E-01	NOT IDENT.
PB-214	2.447E-01	4.370E-01	7.741E-01	NOT IDENT.
RN-219	2.299E+00	2.669E+00	4.724E+00	NOT IDENT.
RN-222	2.447E-01	4.370E-01	7.741E-01	NOT IDENT.
RA-223	7.943E-01	3.753E+00	6.581E+00	FAIL ABUN
RA-224	-4.156E-01	3.157E+00	5.560E+00	NOT IDENT.
AC-225	-1.427E+00	4.473E+00	7.873E+00	NOT IDENT.
RA-226	2.447E-01	4.370E-01	7.741E-01	NOT IDENT.
AC-227	3.594E-01	1.345E+00	2.396E+00	FAIL ABUN
TH-227	3.594E-01	1.345E+00	2.396E+00	FAIL ABUN
AC-228	8.423E-03	7.640E-01	1.396E+00	NOT IDENT.
RA-228	8.423E-03	7.640E-01	1.396E+00	NOT IDENT.
TH-228	-1.096E-01	2.914E-01	5.112E-01	NOT IDENT.
TH-229	4.723E-01	2.696E+00	4.846E+00	NOT IDENT.
TH-230	2.447E-01	4.370E-01	7.741E-01	NOT IDENT.
PA-231	1.241E+00	2.689E+00	4.775E+00	NOT IDENT.
TH-231	7.943E-01	3.753E+00	6.581E+00	FAIL ABUN
TH-232	8.423E-03	7.640E-01	1.396E+00	NOT IDENT.
PA-233	-6.987E-02	3.650E-01	6.329E-01	NOT IDENT.
PA-234	4.886E-01	1.906E+00	3.485E+00	NOT IDENT.
PA-234M	9.789E-01	6.119E+00	1.083E+01	NOT IDENT.
TH-234	9.789E-01	6.119E+00	1.083E+01	NOT IDENT.
U-234	2.447E-01	4.370E-01	7.741E-01	NOT IDENT.
U-235	2.802E-01	8.791E-01	1.616E+00	NOT IDENT.
NP-237	-6.987E-02	3.650E-01	6.329E-01	NOT IDENT.
NP-238	-4.220E+02	7.098E+02	1.104E+03	NOT IDENT.
U-238	9.789E-01	6.119E+00	1.083E+01	NOT IDENT.
NP-239	3.670E-01	1.238E+00	2.289E+00	NOT IDENT.
PU-239	1.540E+03	1.543E+03	2.896E+03	NOT IDENT.
AM-243	6.221E-02	2.203E-01	4.139E-01	NOT IDENT.
CM-243	4.801E-01	4.994E-01	9.428E-01	NOT IDENT.
BK-247	1.204E-01	4.665E-01	7.701E-01	FAIL ABUN
CM-247	2.818E-01	2.508E-01	4.472E-01	NOT IDENT.
CF-249	-1.391E-01	2.661E-01	4.485E-01	NOT IDENT.
CF-251	2.023E-01	6.097E-01	1.108E+00	NOT IDENT.
ANH-511	8.996E-02	1.973E-01	3.511E-01	NOT IDENT.

VAX/VMS Nuclide Identification Report Generated 17-AUG-2026 08:47:10.43

Nuclide Line Activity Report

Nuclide Type:

Nuclide	Energy	Area	%Abn	%Eff	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	2-Sigma %Error
CO-60	1173.23	4994	99.85	1.588E+00	4.111E+01	4.141E+01	3.07
	1332.49	4404	99.98*	1.421E+00	4.047E+01	4.077E+01	3.02
BA-137M	661.66	23001	89.90*	2.661E+00	1.256E+02	1.257E+02	1.38
CS-137	661.66	23001	85.10*	2.661E+00	1.326E+02	1.328E+02	1.38
BI-210	46.54	12641	4.25*	1.002E+00	3.875E+03	3.881E+03	4.31
PB-210	46.54	12641	4.25*	1.002E+00	3.875E+03	3.881E+03	4.31
AM-241	59.54	42499	35.90*	3.020E+00	5.118E+02	5.118E+02	1.41

Flag: "*" = Keyline

Sample ID : G1206539884 Acquisition date : 17-AUG-2026 08:16:41

Total number of lines in spectrum	29	
Number of unidentified lines	16	
Number of lines tentatively identified by NID	13	44.83%

Nuclide Type :

Nuclide	Hlife	Decay	Uncorrected pCi/GRAM	Decay Corr pCi/GRAM	Decay Corr 2-Sigma Error	2-Sigma %Error	Flags
CO-60	5.27Y	1.01	4.047E+01	4.077E+01	0.123E+01	3.02	
BA-137M	30.08Y	1.00	1.256E+02	1.257E+02	0.017E+02	1.38	
CS-137	30.08Y	1.00	1.326E+02	1.328E+02	0.018E+02	1.38	
BI-210	22.20Y	1.00	3.875E+03	3.881E+03	0.167E+03	4.31	
PB-210	22.20Y	1.00	3.875E+03	3.881E+03	0.167E+03	4.31	
AM-241	432.60Y	1.00	5.118E+02	5.118E+02	0.072E+02	1.41	
			---------	---------			
	Total Activity :		8.560E+03	8.574E+03			
	Grand Total Activity :		8.560E+03	8.574E+03			

Flags: "K" = Keyline not found "M" = Manually accepted
"E" = Manually edited "A" = Nuclide specific abn. limit

Sample ID : G1206539884 Acquisition date : 17-AUG-2026 08:16:41

It	Energy	Area	Bkgnd	FWHM	Channel	Left	Pw	Cts/Sec	%Err	%Eff	Flags
0	78.92	87	1033	1.44	158.25	157	6	4.53E-02	****	5.80E+00	T
0	83.32	45	969	1.03	167.05	164	6	2.34E-02	****	6.24E+00	T
0	262.70	20	768	0.49	525.56	523	8	1.10E-02	****	5.30E+00	
0	290.51	46	496	0.64	581.15	579	6	2.54E-02	****	4.95E+00	T
0	457.64	39	819	1.21	915.19	913	8	2.21E-02	****	3.57E+00	
0	600.26	93	287	4.12	1200.24	1195	12	5.29E-02	74.8	2.89E+00	T
0	606.50	48	206	0.69	1212.72	1209	8	2.72E-02	****	2.86E+00	T
0	678.16	42	154	3.77	1355.96	1351	11	2.37E-02	****	2.61E+00	T
0	704.46	31	136	0.77	1408.53	1405	9	1.78E-02	****	2.52E+00	
0	772.76	43	178	3.25	1545.06	1540	12	2.46E-02	****	2.33E+00	T
0	865.93	30	222	0.62	1731.31	1725	11	1.74E-02	****	2.10E+00	
0	904.91	25	212	2.40	1809.24	1807	9	1.42E-02	****	2.02E+00	
0	987.96	37	142	2.53	1975.25	1970	9	2.17E-02	****	1.86E+00	
0	1091.20	77	386	10.41	2181.63	2171	26	4.48E-02	****	1.70E+00	
0	1349.37	17	6	4.46	2697.78	2692	12	1.00E-02	72.0	1.41E+00	
0	1377.28	10	19	3.81	2753.56	2741	16	6.13E-03	****	1.38E+00	
0	1440.27	8	4	0.68	2879.51	2876	8	4.98E-03	****	1.33E+00	
0	1456.36	4	5	1.41	2911.68	2906	8	2.31E-03	****	1.32E+00	T
0	1502.40	21	0	3.11	3003.73	2998	13	1.22E-02	42.6	1.29E+00	
0	1578.44	8	2	1.28	3155.77	3150	9	4.77E-03	93.3	1.25E+00	
0	1611.89	8	6	2.94	3222.65	3215	13	4.72E-03	****	1.23E+00	
3	1699.06	10	1	2.32	3396.94	3394	14	6.19E-03	60.2	1.19E+00	
3	1702.09	15	3	2.13	3403.00	3394	14	8.65E-03	56.3	1.19E+00	
0	1797.94	9	2	2.13	3594.65	3590	9	5.53E-03	83.0	1.16E+00	

Flags: "T" = Tentatively associated

VAX/VMS Nuclide Identification Report Generated 17-AUG-2026 08:47:20.93

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*****************************************************************************
*                            GEL Laboratories LLC                           *
*                              2040 Savage Road                             *
*                            Charleston, SC 29407                           *
*****************************************************************************
*                                                                           *
*                          DETECTOR AND SAMPLE DATA                         *
*                                                                           *
* Configuration    : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G1206539884.CNF;1  *
* Acquisition date : 17-AUG-2026 08:16:41 Sensitivity     : 3.000           *
* Detector ID      : GAM29                Energy tolerance: 1.500           *
* Elapsed live time:    0 00:30:00.00     Abundance limit : 75.000          *
* Elapsed real time:    0 00:30:04.30     Half life ratio : *****           *
* Sample date      : 28-JUL-2026 00:00:00 Nuclide Library : SOLID           *
* Sample ID        : G1206539884          Analyst initials: GG              *
* Batch Number     : 3033734              Sample Quantity : 1.1500E+02 GRAM *
* Wet wt corr      :    1.00000           Wet Weight      :    0.00000      *
*                                         Dry Weight      :    0.00000      *
*****************************************************************************
*                                                                           *
*                          CALIBRATION INFORMATION                          *
*                                                                           *
* Eff. Cal. date   : 30-JUL-2026 09:33:07 Eff. Geometry   : CAN             *
* Eff. File        : DKA100:[CANBERRA.GAMMA]EFF_GAM29_CAN.CNF;24            *
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Combined Critical Level Report

NOTE: Not all "Identified Nuclides" are valid.
Please refer to Certificate of Analysis.

---- Identified Nuclides ----

Nuclide	Lc (pCi/GRAM)
CO-60	9.761E-02
BA-137M	1.451E-01
CS-137	1.533E-01
BI-210	4.114E+01
PB-210	4.114E+01
AM-241	1.277E+00

---- Non-Identified Nuclides ----

Nuclide	Lc (pCi/GRAM)	
BE-7	2.259E+00	NOT IDENT.
NA-22	7.886E-02	NOT IDENT.
NA-24	0.000E+00	SHORT HLIF
AL-26	6.244E-02	NOT IDENT.
K-40	6.501E-01	NOT IDENT.
SC-46	2.021E-01	NOT IDENT.
V-48	4.430E-01	NOT IDENT.
CR-51	1.984E+00	NOT IDENT.
MN-52	6.535E-01	NOT IDENT.
MN-54	1.471E-01	NOT IDENT.
CO-56	1.741E-01	NOT IDENT.
MN-56	0.000E+00	SHORT HLIF
CO-57	1.064E-01	NOT IDENT.
CO-58	1.701E-01	NOT IDENT.
FE-59	4.528E-01	NOT IDENT.
ZN-65	3.981E-01	NOT IDENT.
GE-68	6.343E+00	NOT IDENT.
AS-73	9.779E+00	NOT IDENT.
AS-74	4.822E-01	NOT IDENT.
SE-75	2.148E-01	NOT IDENT.
BR-77	1.799E+02	NOT IDENT.
SR-82	1.403E+00	NOT IDENT.
RB-83	3.906E-01	NOT IDENT.
RB-84	3.480E-01	NOT IDENT.
KR-85	3.430E+01	NOT IDENT.

SR-85	1.920E-01	NOT IDENT.
RB-86	4.802E+00	NOT IDENT.
Y-88	5.256E-02	NOT IDENT.
Y-91	5.094E+01	NOT IDENT.
NB-94	1.059E-01	NOT IDENT.
NB-95	1.617E-01	NOT IDENT.
NB-95M	5.493E-01	NOT IDENT.
ZR-95	2.736E-01	NOT IDENT.
NB-97	0.000E+00	SHORT HLIF
ZR-97	0.000E+00	SHORT HLIF
MO-99	1.693E+02	NOT IDENT.
TC-99M	0.000E+00	SHORT HLIF
RH-101	1.235E-01	NOT IDENT.
RH-102	2.253E-01	NOT IDENT.
RU-103	2.498E-01	NOT IDENT.
RH-106	1.435E+00	NOT IDENT.
RU-106	1.435E+00	NOT IDENT.
AG-108M	1.923E-01	NOT IDENT.
CD-109	3.008E+00	NOT IDENT.
AG-110	3.653E+00	NOT IDENT.
AG-110M	2.533E-01	FAIL ABUN
SN-113	2.524E-01	NOT IDENT.
CD-115	2.915E+02	NOT IDENT.
SN-117M	2.955E-01	NOT IDENT.
SB-122	3.169E+01	NOT IDENT.
TE-123M	1.212E-01	NOT IDENT.
SB-124	6.433E-02	NOT IDENT.
SB-125	5.545E-01	FAIL ABUN
TE-125M	4.237E+01	NOT IDENT.
I-126	1.041E+00	NOT IDENT.
SB-126	7.380E-01	NOT IDENT.
SN-126	2.950E-01	NOT IDENT.
SB-127	1.045E+01	NOT IDENT.
I-131	9.268E-01	FAIL ABUN
I-132	0.000E+00	SHORT HLIF
TE-132	1.043E+01	NOT IDENT.
BA-133	2.177E-01	NOT IDENT.
I-133	0.000E+00	SHORT HLIF
CS-134	1.536E-01	NOT IDENT.
I-135	0.000E+00	SHORT HLIF
CS-136	5.750E-01	NOT IDENT.
LA-138	8.560E-02	NOT IDENT.
CE-139	1.254E-01	NOT IDENT.
BA-140	1.675E+00	NOT IDENT.
LA-140	2.084E-01	NOT IDENT.
CE-141	2.685E-01	NOT IDENT.
CE-143	0.000E+00	SHORT HLIF
CE-144	8.200E-01	FAIL ABUN
PM-144	1.081E-01	NOT IDENT.
PR-144	8.110E+00	NOT IDENT.
PM-146	2.797E-01	NOT IDENT.
ND-147	3.564E+00	NOT IDENT.
PM-147	3.072E+03	NOT IDENT.
PM-149	2.159E+03	NOT IDENT.
EU-150	1.322E-01	NOT IDENT.
EU-152	4.917E-01	NOT IDENT.
GD-153	3.573E-01	NOT IDENT.
EU-154	2.259E-01	NOT IDENT.
EU-155	4.214E-01	NOT IDENT.
TB-160	6.436E-01	FAIL ABUN
HO-166M	1.953E-01	NOT IDENT.
TM-171	1.962E+02	NOT IDENT.
HF-172	7.499E-01	NOT IDENT.
LU-172	3.027E-01	FAIL ABUN
LU-176	1.302E-01	NOT IDENT.
HF-181	2.711E-01	NOT IDENT.
TA-182	4.701E-01	NOT IDENT.
RE-183	3.125E+00	FAIL ABUN
RE-184	7.067E-01	NOT IDENT.
W-188	3.641E+01	FAIL ABUN
IR-192	1.766E-01	NOT IDENT.
HG-203	1.950E-01	NOT IDENT.
TL-204	1.899E+01	FAIL ABUN
BI-207	2.485E-01	NOT IDENT.
TL-208	1.487E-01	NOT IDENT.
BI-211	1.020E+00	NOT IDENT.
PB-211	3.997E+00	NOT IDENT.
BI-212	1.653E+00	NOT IDENT.

PB-212	2.485E-01	NOT IDENT.
BI-213	6.602E-01	NOT IDENT.
BI-214	2.863E-01	NOT IDENT.
PB-214	3.757E-01	NOT IDENT.
RN-219	2.294E+00	NOT IDENT.
RN-222	3.757E-01	NOT IDENT.
RA-223	3.195E+00	FAIL ABUN
RA-224	2.704E+00	NOT IDENT.
AC-225	3.831E+00	NOT IDENT.
RA-226	3.757E-01	NOT IDENT.
AC-227	1.164E+00	FAIL ABUN
TH-227	1.164E+00	FAIL ABUN
AC-228	6.643E-01	NOT IDENT.
RA-228	6.643E-01	NOT IDENT.
TH-228	2.485E-01	NOT IDENT.
TH-229	2.361E+00	NOT IDENT.
TH-230	3.757E-01	NOT IDENT.
PA-231	2.320E+00	NOT IDENT.
TH-231	3.195E+00	FAIL ABUN
TH-232	6.643E-01	NOT IDENT.
PA-233	3.067E-01	NOT IDENT.
PA-234	1.667E+00	NOT IDENT.
PA-234M	5.285E+00	NOT IDENT.
TH-234	5.285E+00	NOT IDENT.
U-234	3.757E-01	NOT IDENT.
U-235	7.862E-01	NOT IDENT.
NP-237	3.067E-01	NOT IDENT.
NP-238	5.232E+02	NOT IDENT.
U-238	5.285E+00	NOT IDENT.
NP-239	1.115E+00	NOT IDENT.
PU-239	1.411E+03	NOT IDENT.
AM-243	2.020E-01	NOT IDENT.
CM-243	4.599E-01	NOT IDENT.
BK-247	3.739E-01	FAIL ABUN
CM-247	2.174E-01	NOT IDENT.
CF-249	2.177E-01	NOT IDENT.
CF-251	5.391E-01	NOT IDENT.
ANH-511	1.702E-01	NOT IDENT.

VAX/VMS Nuclide Identification Report Generated 17-AUG-2026 08:47:24.71

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*****************************************************************************
*                            GEL Laboratories LLC                           *
*                              2040 Savage Road                             *
*                            Charleston, SC 29407                           *
*****************************************************************************
*                                                                           *
*                          DETECTOR AND SAMPLE DATA                         *
*                                                                           *
* Configuration    : DKA100:[CANBERRA.GAMMA.ARCHIVE.GAMMA]G1206539884.CNF;1  *
* Acquisition date : 17-AUG-2026 08:16:41 Sensitivity     : 3.000           *
* Detector ID      : GAM29                Energy tolerance: 1.500           *
* Elapsed live time:    0 00:30:00.00     Abundance limit : 75.000          *
* Elapsed real time:    0 00:30:04.30     Half life ratio : *****           *
* Sample date      : 28-JUL-2026 00:00:00 Nuclide Library : SOLID           *
* Sample ID        : G1206539884          Analyst initials: GG              *
* Batch Number     : 3033734              Sample Quantity : 1.1500E+02 GRAM *
*                                         Quantity Err(%) : 1.7391E-03 %    *
* Wet wt corr      :    1.00000           Wet Weight      :    0.00000      *
*                                         Dry Weight      :    0.00000      *
*****************************************************************************
*                                                                           *
*                          CALIBRATION INFORMATION                          *
*                                                                           *
* Eff. Cal. date   : 30-JUL-2026 09:33:07 Eff. Geometry   : CAN             *
* Eff. File        : DKA100:[CANBERRA.GAMMA]EFF_GAM29_CAN.CNF;24            *
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Combined Activity-MDA Report

NOTE: Not all "Identified Nuclides" are valid.
Please refer to Certificate of Analysis.

---- Identified Nuclides ----

Nuclide	Activity (pCi/GRAM)	Act Error (1.96-sigma)	TPU (1.96-sigma)
CO-60	4.077E+01	4.170E+00	4.170E+00
BA-137M	1.257E+02	1.056E+01	1.056E+01
CS-137	1.328E+02	1.115E+01	1.115E+01
BI-210	3.881E+03	4.091E+02	4.091E+02
PB-210	3.881E+03	4.091E+02	4.091E+02
AM-241	5.118E+02	4.306E+01	4.306E+01

---- Non-Identified Nuclides ----

Nuclide	Key-Line Activity (pCi/GRAM)	K.L Act error (1.96-sigma)	TPU (1.96-sigma)	
BE-7	2.401E+00	2.665E+00	2.877E+00	NOT IDENT.
NA-22	-2.839E-02	9.852E-02	9.935E-02	NOT IDENT.
NA-24	2.048E+08	5.499E+08	5.576E+08	SHORT HLIF
AL-26	1.495E-02	7.165E-02	7.197E-02	NOT IDENT.
K-40	-1.790E-01	7.630E-01	7.672E-01	NOT IDENT.
SC-46	5.037E-02	2.302E-01	2.313E-01	NOT IDENT.
V-48	1.135E-01	5.635E-01	5.658E-01	NOT IDENT.
CR-51	-8.424E-01	2.381E+00	2.411E+00	NOT IDENT.
MN-52	-2.049E-01	8.425E-01	8.476E-01	NOT IDENT.
MN-54	2.361E-03	1.682E-01	1.682E-01	NOT IDENT.
CO-56	-1.072E-01	2.066E-01	2.122E-01	NOT IDENT.
MN-56	-1.000E+41	1.976E+41	0.000E+00	SHORT HLIF
CO-57	3.606E-02	1.184E-01	1.195E-01	NOT IDENT.
CO-58	6.185E-02	1.910E-01	1.931E-01	NOT IDENT.
FE-59	-1.342E-01	6.025E-01	6.055E-01	NOT IDENT.
ZN-65	-1.621E-01	4.773E-01	4.828E-01	NOT IDENT.
GE-68	3.748E+00	7.201E+00	7.396E+00	NOT IDENT.
AS-73	-1.134E+01	1.098E+01	1.211E+01	NOT IDENT.
AS-74	3.817E-02	6.449E-01	6.452E-01	NOT IDENT.
SE-75	3.872E-02	2.694E-01	2.699E-01	NOT IDENT.
BR-77	-5.590E+00	2.086E+02	2.086E+02	NOT IDENT.
SR-82	-8.722E-01	1.851E+00	1.893E+00	NOT IDENT.
RB-83	3.796E-01	4.632E-01	4.938E-01	NOT IDENT.
RB-84	-2.816E-01	4.179E-01	4.367E-01	NOT IDENT.

KR-85	-1.904E+01	4.288E+01	4.373E+01	NOT IDENT.
SR-85	-1.071E-01	2.401E-01	2.449E-01	NOT IDENT.
RB-86	4.575E+00	5.355E+00	5.739E+00	NOT IDENT.
Y-88	-6.074E-02	8.665E-02	9.087E-02	NOT IDENT.
Y-91	-5.619E+01	6.699E+01	7.162E+01	NOT IDENT.
NB-94	5.877E-02	1.377E-01	1.403E-01	NOT IDENT.
NB-95	1.791E-02	1.829E-01	1.830E-01	NOT IDENT.
NB-95M	-1.826E-01	6.441E-01	6.493E-01	NOT IDENT.
ZR-95	-1.762E-01	3.233E-01	3.329E-01	NOT IDENT.
NB-97	1.000E+41	3.103E+41	0.000E+00	SHORT HLIF
ZR-97	-1.960E+08	1.710E+09	1.712E+09	SHORT HLIF
MO-99	8.994E+00	2.124E+02	2.125E+02	NOT IDENT.
TC-99M	-4.799E+22	2.893E+23	0.000E+00	SHORT HLIF
RH-101	-4.463E-02	1.404E-01	1.419E-01	NOT IDENT.
RH-102	-1.157E-01	2.883E-01	2.930E-01	NOT IDENT.
RU-103	1.486E-01	2.985E-01	3.059E-01	NOT IDENT.
RH-106	7.286E-01	1.736E+00	1.767E+00	NOT IDENT.
RU-106	7.286E-01	1.736E+00	1.767E+00	NOT IDENT.
AG-108M	8.951E-02	2.292E-01	2.327E-01	NOT IDENT.
CD-109	8.152E-01	3.307E+00	3.327E+00	NOT IDENT.
AG-110	2.121E+00	4.801E+00	4.896E+00	NOT IDENT.
AG-110M	2.430E-01	2.798E-01	3.005E-01	FAIL ABUN
SN-113	6.919E-02	3.001E-01	3.017E-01	NOT IDENT.
CD-115	1.678E+02	3.489E+02	3.570E+02	NOT IDENT.
SN-117M	1.829E-01	3.305E-01	3.406E-01	NOT IDENT.
SB-122	-2.132E+00	3.916E+01	3.918E+01	NOT IDENT.
TE-123M	3.818E-02	1.365E-01	1.376E-01	NOT IDENT.
SB-124	-3.507E-02	1.014E-01	1.026E-01	NOT IDENT.
SB-125	8.227E-02	6.660E-01	6.671E-01	FAIL ABUN
TE-125M	-2.823E+01	4.811E+01	4.976E+01	NOT IDENT.
I-126	7.022E-01	1.345E+00	1.381E+00	NOT IDENT.
SB-126	4.755E-01	8.909E-01	9.163E-01	NOT IDENT.
SN-126	1.277E-01	3.231E-01	3.281E-01	NOT IDENT.
SB-127	-9.826E+00	1.404E+01	1.472E+01	NOT IDENT.
I-131	-5.966E-01	1.131E+00	1.162E+00	FAIL ABUN
I-132	1.000E+41	1.053E+43	0.000E+00	SHORT HLIF
TE-132	5.752E+00	1.192E+01	1.220E+01	NOT IDENT.
BA-133	-1.163E-01	2.638E-01	2.690E-01	NOT IDENT.
I-133	8.175E+05	2.227E+06	2.258E+06	SHORT HLIF
CS-134	-4.314E-02	1.783E-01	1.794E-01	NOT IDENT.
I-135	-3.913E+20	7.053E+21	0.000E+00	SHORT HLIF
CS-136	-1.014E+00	7.496E-01	8.780E-01	NOT IDENT.
LA-138	1.434E-03	1.142E-01	1.142E-01	NOT IDENT.
CE-139	1.097E-01	1.412E-01	1.496E-01	NOT IDENT.
BA-140	1.170E-01	2.049E+00	2.050E+00	NOT IDENT.
LA-140	6.826E-02	2.334E-01	2.354E-01	NOT IDENT.
CE-141	-2.264E-01	3.112E-01	3.275E-01	NOT IDENT.
CE-143	-2.407E+03	1.033E+04	1.039E+04	SHORT HLIF
CE-144	-4.943E-03	9.240E-01	9.240E-01	FAIL ABUN
PM-144	-1.300E-02	1.366E-01	1.368E-01	NOT IDENT.
PR-144	-9.917E-01	1.025E+01	1.026E+01	NOT IDENT.
PM-146	1.069E-02	3.385E-01	3.385E-01	NOT IDENT.
ND-147	-9.432E-01	4.424E+00	4.444E+00	NOT IDENT.
PM-147	-1.973E+02	3.450E+03	3.452E+03	NOT IDENT.
PM-149	-2.610E+03	2.661E+03	2.909E+03	NOT IDENT.
EU-150	-5.272E-02	1.589E-01	1.606E-01	NOT IDENT.
EU-152	-1.203E-01	5.892E-01	5.917E-01	NOT IDENT.
GD-153	-1.552E-02	3.972E-01	3.972E-01	NOT IDENT.
EU-154	-7.006E-02	2.802E-01	2.819E-01	NOT IDENT.
EU-155	-3.795E-01	4.814E-01	5.109E-01	NOT IDENT.
TB-160	-1.219E-02	7.414E-01	7.414E-01	FAIL ABUN
HO-166M	-9.542E-02	2.540E-01	2.576E-01	NOT IDENT.
TM-171	-1.267E+02	2.567E+02	2.630E+02	NOT IDENT.
HF-172	-3.116E-01	8.536E-01	8.651E-01	NOT IDENT.
LU-172	1.645E-01	3.446E-01	3.525E-01	FAIL ABUN
LU-176	5.815E-02	1.515E-01	1.538E-01	NOT IDENT.
HF-181	-4.243E-01	3.495E-01	3.984E-01	NOT IDENT.
TA-182	1.908E-01	5.327E-01	5.397E-01	NOT IDENT.
RE-183	6.841E+01	8.074E+00	3.188E+01	FAIL ABUN
RE-184	4.856E-01	8.727E-01	8.997E-01	NOT IDENT.
W-188	3.720E+01	5.683E+01	5.925E+01	FAIL ABUN
IR-192	1.236E-01	2.043E-01	2.117E-01	NOT IDENT.
HG-203	1.828E-01	2.227E-01	2.375E-01	NOT IDENT.
TL-204	3.691E+00	2.072E+01	2.079E+01	FAIL ABUN
BI-207	2.214E-01	2.745E-01	2.921E-01	NOT IDENT.
TL-208	-3.211E-02	1.850E-01	1.855E-01	NOT IDENT.
BI-211	5.416E-01	1.192E+00	1.217E+00	NOT IDENT.
PB-211	3.646E-01	4.791E+00	4.794E+00	NOT IDENT.

BI-212	-9.304E-01	2.163E+00	2.204E+00	NOT IDENT.
PB-212	-1.096E-01	2.916E-01	2.957E-01	NOT IDENT.
BI-213	2.899E-01	7.882E-01	7.989E-01	NOT IDENT.
BI-214	-8.245E-02	3.901E-01	3.918E-01	NOT IDENT.
PB-214	2.447E-01	4.375E-01	4.511E-01	NOT IDENT.
RN-219	2.299E+00	2.689E+00	2.882E+00	NOT IDENT.
RN-222	2.447E-01	4.375E-01	4.511E-01	NOT IDENT.
RA-223	7.943E-01	3.754E+00	3.771E+00	FAIL ABUN
RA-224	-4.156E-01	3.157E+00	3.163E+00	NOT IDENT.
AC-225	-1.427E+00	4.476E+00	4.522E+00	NOT IDENT.
RA-226	2.447E-01	4.375E-01	4.511E-01	NOT IDENT.
AC-227	3.594E-01	1.346E+00	1.356E+00	FAIL ABUN
TH-227	3.594E-01	1.346E+00	1.356E+00	FAIL ABUN
AC-228	8.423E-03	7.640E-01	7.640E-01	NOT IDENT.
RA-228	8.423E-03	7.640E-01	7.640E-01	NOT IDENT.
TH-228	-1.096E-01	2.916E-01	2.957E-01	NOT IDENT.
TH-229	4.723E-01	2.697E+00	2.705E+00	NOT IDENT.
TH-230	2.447E-01	4.374E-01	4.511E-01	NOT IDENT.
PA-231	1.241E+00	2.704E+00	2.761E+00	NOT IDENT.
TH-231	7.943E-01	3.754E+00	3.771E+00	FAIL ABUN
TH-232	8.423E-03	7.640E-01	7.640E-01	NOT IDENT.
PA-233	-6.987E-02	3.650E-01	3.664E-01	NOT IDENT.
PA-234	4.886E-01	1.987E+00	1.999E+00	NOT IDENT.
PA-234M	9.789E-01	6.123E+00	6.138E+00	NOT IDENT.
TH-234	9.789E-01	6.123E+00	6.138E+00	NOT IDENT.
U-234	2.447E-01	4.374E-01	4.511E-01	NOT IDENT.
U-235	2.802E-01	8.794E-01	8.884E-01	NOT IDENT.
NP-237	-6.987E-02	3.650E-01	3.664E-01	NOT IDENT.
NP-238	-4.220E+02	7.110E+02	7.361E+02	NOT IDENT.
U-238	9.789E-01	6.123E+00	6.138E+00	NOT IDENT.
NP-239	3.670E-01	1.239E+00	1.250E+00	NOT IDENT.
PU-239	1.540E+03	1.547E+03	1.695E+03	NOT IDENT.
AM-243	6.221E-02	2.204E-01	2.222E-01	NOT IDENT.
CM-243	4.801E-01	5.019E-01	5.465E-01	NOT IDENT.
BK-247	1.204E-01	4.672E-01	4.703E-01	FAIL ABUN
CM-247	2.818E-01	2.560E-01	2.858E-01	NOT IDENT.
CF-249	-1.391E-01	2.665E-01	2.738E-01	NOT IDENT.
CF-251	2.023E-01	6.103E-01	6.171E-01	NOT IDENT.
ANH-511	8.996E-02	1.975E-01	2.016E-01	NOT IDENT.

GEL Laboratories LLC
2040 Savage Road
Charleston, SC 29407

GAMMA SPECTROSCOPY BACKGROUND REPORT

ENERGY	MDA COUNTS	ENERGY	MDA COUNTS	ENERGY	MDA COUNTS
43.53	3458.9500	85.43	516.6249	133.02	454.4565
45.60	3241.3071	86.55	517.8586	133.52	440.1815
46.54	3248.8735	86.79	513.2617	136.00	471.6126
49.72	2889.8201	86.94	506.9863	136.47	436.6478
51.35	2884.4424	87.09	507.1118	140.51	417.2228
51.87	2898.3916	87.57	511.5239	143.76	398.9133
52.39	2957.2952	88.03	514.3180	144.24	376.5779
52.97	3011.4644	88.34	512.9765	145.44	437.0780
53.44	3135.5684	88.47	518.7094	152.43	463.4320
54.07	3164.0903	89.96	514.3416	153.25	417.3934
57.36	0.0000	90.64	519.7419	154.21	434.5299
57.53	1973.7637	91.11	515.3020	156.02	445.9846
57.98	1975.6816	92.59	504.4006	158.56	402.2703
59.27	1981.1372	93.35	492.8750	159.00	415.7041
59.32	1981.3458	94.56	509.2247	162.33	362.3185
59.54	1982.2700	94.65	509.2965	162.66	378.4009
60.96	1988.1926	94.67	509.3157	163.33	389.3231
61.17	1989.0571	94.87	505.4175	165.86	374.3943
62.93	501.6937	97.43	507.4376	176.31	432.5301
63.29	504.1071	98.43	494.3538	176.60	444.3482
63.58	501.3336	98.44	494.3631	177.52	396.1584
64.28	540.9806	99.53	490.2832	181.07	401.2233
66.73	505.0198	100.11	489.0824	181.52	404.1184
67.24	515.5724	102.03	500.3441	184.41	438.8539
67.68	545.4186	103.18	469.1608	185.72	490.2814
67.75	545.4886	103.37	462.7165	193.51	460.2186
68.89	514.1295	105.31	489.5995	197.03	450.7826
69.67	513.3502	106.12	457.1709	198.01	448.4453
70.82	511.3615	106.47	454.9306	201.83	427.0330
70.83	511.3715	109.28	501.5464	203.43	449.8448
72.81	528.9063	111.00	446.2682	205.31	457.1173
72.87	543.0324	111.76	471.7098	210.85	437.1539
74.66	518.9603	114.06	435.6744	215.65	457.7600
74.82	548.9098	116.30	455.4514	218.12	445.6762
74.97	533.3771	116.74	450.6990	222.11	442.5687
77.11	515.4991	119.76	458.4425	227.09	433.1841
78.74	553.8560	121.12	448.3271	227.38	427.6321
79.69	536.8567	121.22	448.3879	228.16	416.5867
80.03	537.1725	121.78	447.0379	228.18	416.5935
80.12	537.2657	122.06	430.3281	235.69	424.0525
80.19	537.3278	122.92	451.0962	235.96	427.9518
80.57	461.0993	123.07	451.1859	238.63	406.9974
81.00	551.8319	123.68	432.0997	238.98	397.5868
81.07	551.9009	125.81	429.9203	240.99	415.4524
81.75	552.5541	127.23	426.4675	242.00	392.8632
82.47	521.4487	127.91	438.7469	244.70	353.5105
83.79	504.5667	129.30	413.9780	252.40	376.9556
84.00	504.7455	131.20	436.3336	252.80	374.1877

ENERGY	MDA COUNTS	ENERGY	MDA COUNTS	ENERGY	MDA COUNTS
254.15	0.0000	351.93	323.0830	569.50	161.5756
256.23	360.7177	355.39	0.0000	569.70	168.5678
260.90	370.1498	356.01	377.9077	583.19	153.2038
264.66	363.4668	364.49	348.6166	584.27	160.2960
264.80	354.4135	366.42	330.2242	595.83	147.3875
265.00	354.4690	372.51	352.4473	600.60	128.4462
269.46	379.1549	375.05	351.9504	602.52	0.0000
270.03	379.3325	377.52	364.0455	604.72	115.6871
271.23	367.9333	383.85	370.7309	607.14	146.5310
273.65	359.7984	388.16	385.4503	609.32	152.9755
276.40	356.6302	388.63	382.3837	610.33	148.3055
277.37	376.5481	391.69	346.9984	614.28	162.3865
277.60	376.6182	400.66	380.8269	618.01	149.5789
278.00	359.0295	401.81	331.9845	620.36	142.6025
279.20	334.7394	402.40	341.7090	621.93	143.8869
279.54	334.8224	404.85	367.8516	630.19	0.0000
279.70	346.6826	410.95	378.8006	631.29	142.0606
280.46	370.5381	413.71	404.1243	633.25	129.0344
283.69	344.7610	414.70	390.3734	634.78	154.2189
284.31	351.8390	423.72	405.3268	635.95	135.1531
285.41	368.9476	427.09	422.3373	636.99	150.7709
285.90	393.8096	427.87	392.1814	657.50	167.3158
287.50	317.0117	433.94	422.8452	657.76	176.9865
290.67	341.5854	439.40	448.0888	657.90	0.0000
293.27	0.0000	440.45	401.4443	661.66	129.3221
295.22	384.5629	453.88	447.2057	664.57	0.0000
295.96	380.7876	463.37	453.8585	666.33	83.9541
298.58	385.5052	468.07	481.5427	666.50	83.9583
299.98	351.9033	473.00	426.1641	667.71	0.0000
300.09	351.9248	475.06	435.5090	677.62	71.7622
300.13	351.9355	476.78	401.4208	685.70	87.8511
301.36	355.2492	477.60	367.1008	692.65	61.1725
302.85	357.6319	482.18	372.4169	695.00	84.4938
304.50	354.0342	487.02	297.3261	696.49	77.1888
304.85	345.1023	492.35	297.0009	696.51	77.1888
306.78	337.5381	497.08	278.6064	697.00	74.7533
308.46	332.9091	505.52	259.4589	697.30	71.0840
311.90	337.7399	507.63	0.0000	697.49	71.0911
316.51	305.4469	511.00	266.9404	702.65	65.5013
319.41	339.4983	514.00	271.8604	706.68	96.7633
320.08	334.5822	514.00	271.8604	711.68	85.0329
321.04	336.8329	520.40	213.6113	720.70	90.2653
323.87	351.7230	520.69	223.8735	721.93	0.0000
325.23	338.8129	522.65	0.0000	722.78	100.2365
328.76	337.5861	527.90	201.8366	722.91	100.2415
333.37	351.9260	528.26	204.1500	723.31	97.7808
333.97	361.2734	529.59	190.5863	724.19	87.9093
334.37	347.0384	529.87	0.0000	727.33	90.4926
338.28	342.8066	531.02	189.5768	733.00	86.9531
338.32	342.8168	537.26	192.4248	735.93	84.5601
340.48	328.9160	546.56	0.0000	737.46	104.5181
340.55	328.9258	552.55	159.1835	739.50	90.8980
344.28	359.6187	563.25	173.8678	744.23	84.8215
345.93	352.7814	564.24	156.5552	747.24	88.6590
351.06	319.7973	569.33	161.5587	748.06	83.6887

ENERGY	MDA COUNTS	ENERGY	MDA COUNTS	ENERGY	MDA COUNTS
752.31	94.2448	966.17	128.8242	1460.82	8.1029
753.82	86.7852	968.97	108.3367	1489.16	9.1714
756.73	100.2393	983.53	120.0446	1505.03	0.0000
756.80	100.2441	984.45	128.1723	1584.12	10.3906
763.94	97.9904	996.26	115.5260	1596.21	5.2079
765.81	95.5427	1002.74	108.5107	1620.50	8.3730
766.84	93.8984	1004.73	121.2412	1621.92	4.1875
772.60	0.0000	1021.30	0.0000	1678.03	0.0000
776.52	98.4283	1025.87	114.6899	1690.97	2.1219
777.92	101.0010	1028.54	122.0700	1750.46	0.0000
778.90	101.0352	1037.84	106.8596	1764.49	3.2268
783.70	106.2664	1038.76	0.0000	1770.23	9.6907
788.74	100.5418	1046.59	85.1516	1771.35	7.5389
792.07	83.7407	1048.07	120.9141	1791.20	0.0000
795.86	98.2526	1049.04	96.2073	1808.65	4.3372
801.95	112.0356	1050.41	92.5751	1810.72	0.0000
1093.63	112.3525	1063.66	85.5527	1836.06	7.6272
810.29	102.1436	1077.00	96.9507		
810.45	102.1484	1077.34	105.2700		
810.76	94.5009	1085.87	97.1814		
815.77	108.3035	1093.63	95.5315		
818.51	112.6748	1099.45	114.2615		
832.01	107.1879	1112.07	115.5840		
834.85	98.7065	1112.84	110.0104		
836.80	0.0000	1115.54	118.4941		
846.75	0.0000	1120.29	99.0213		
846.77	118.9138	1120.55	87.8190		
856.80	114.1196	1121.30	79.4246		
860.56	102.5761	1129.67	73.0425		
871.09	105.9657	1131.51	0.0000		
873.19	105.1709	1147.95	0.0000		
875.33	0.0000	1173.23	59.6675		
879.38	117.5702	1177.95	38.4038		
880.51	124.5839	1189.05	51.3501		
881.60	131.6027	1204.77	42.0055		
883.24	118.5905	1221.41	26.8424		
884.68	112.5391	1231.02	22.1016		
889.28	125.8066	1235.36	23.0879		
894.76	140.0325	1238.28	16.3650		
898.04	126.1582	1260.41	0.0000		
900.72	134.1552	1271.87	13.5876		
903.28	125.0499	1274.44	17.4800		
911.20	124.9202	1274.54	17.4800		
912.08	137.2744	1291.59	21.4521		
923.98	153.6802	1298.22	0.0000		
926.50	148.4971	1312.11	16.6569		
929.11	163.6515	1332.49	20.6736		
935.54	130.2938	1362.66	0.0000		
937.49	157.8649	1365.19	9.9178		
944.13	153.7402	1368.63	0.0000		
946.00	153.8318	1384.29	7.9688		
949.00	140.6159	1408.01	11.0143		
954.55	0.0000	1434.09	7.0496		
962.31	140.2881	1435.80	6.0444		
964.08	137.6826	1457.56	0.0000		

Continuing Calibration Data

Review of Gamma Spectrometer QA results (Daily calibration & background checks)
17-AUG-2026 08:54:25

Run Date	Detector	Parameter	Flag	Status	Comments
17-AUG-26	GAM01	All Parameters Passed			
17-AUG-26	GAM02	Cal Check PSFWHM-59	Investigate		
17-AUG-26	GAM02	Cal Check NLACTVTY-1332	Investigate		
17-AUG-26	GAM05	All Parameters Passed			
17-AUG-26	GAM06	Cal Check PSFWHM-662	Investigate		
17-AUG-26	GAM07	Cal Check NLACTVTY-1332	Investigate		
17-AUG-26	GAM10	Cal Check NLACTVTY-1332	Investigate		
17-AUG-26	GAM13	All Parameters Passed			
17-AUG-26	GAM16	All Parameters Passed			
17-AUG-26	GAM19	All Parameters Passed			
17-AUG-26	GAM20	All Parameters Passed			
17-AUG-26	GAM23	Cal Check NLACTVTY-662	Investigate		
17-AUG-26	GAM24	Cal Check NLACTVTY-662	Investigate		
17-AUG-26	GAM27	All Parameters Passed			
14-AUG-26	GAM28	Cal Check may not have run since 17-AUG-2026			Locked Out
09-AUG-26	GAM28	Bkg Check may not have run since 17-AUG-2026			Locked Out
17-AUG-26	GAM29	Cal Check PSFWHM-1332	Investigate		
17-AUG-26	GAM32	Cal Check PSFWHM-662	Investigate		
17-AUG-26	GAM33	All Parameters Passed			
17-AUG-26	GAM34	All Parameters Passed			
17-AUG-26	GAM40	All Parameters Passed			
17-AUG-26	GAM41	All Parameters Passed			
15-JUL-26	GAM46	Cal Check may not have run since 17-AUG-2026			Locked Out
13-JUL-26	GAM46	Bkg Check may not have run since 17-AUG-2026			Locked Out
17-AUG-26	GAM47	All Parameters Passed			
	GAM49	Cal Check may not have run since 17-AUG-2026			Locked Out
14-JUN-26	GAM49	Bkg Check may not have run since 17-AUG-2026			Locked Out
16-MAY-26	GAM50	Cal Check may not have run since 17-AUG-2026			Locked Out

17-AUG-26	GAM52	All Parameters Passed			
17-AUG-26	GAM53	All Parameters Passed			
15-DEC-25	GAM59	Cal Check may not have run since 17-AUG-2026			Locked Out
02-AUG-26	GAM59	Bkg Check may not have run since 17-AUG-2026			Locked Out
17-AUG-26	GAM61	Cal Check PSFWHM-59	Investigate		
17-AUG-26	GAM61	Cal Check PSFWHM-662	Investigate		
	GAM62	Cal Check may not have run since 17-AUG-2026			Locked Out
	GAM62	Bkg Check may not have run since 17-AUG-2026			Locked Out
17-AUG-26	GAM63	All Parameters Passed			
17-AUG-26	GAM64	Cal Check NLACTVTY-1332	Investigate		
14-AUG-26	GAM70	Cal Check may not have run since 17-AUG-2026			NOT RUN
17-AUG-26	XRAY1	All Parameters Passed			
17-AUG-26	XRAY3	Cal Check PSFWHM-34	Investigate		
17-AUG-26	XRAY3	Cal Check NLACTVTY-40	Investigate		
17-AUG-26	XRAY6	All Parameters Passed			
17-AUG-26	XRAY7	All Parameters Passed			
17-AUG-26	XRAY8	All Parameters Passed			

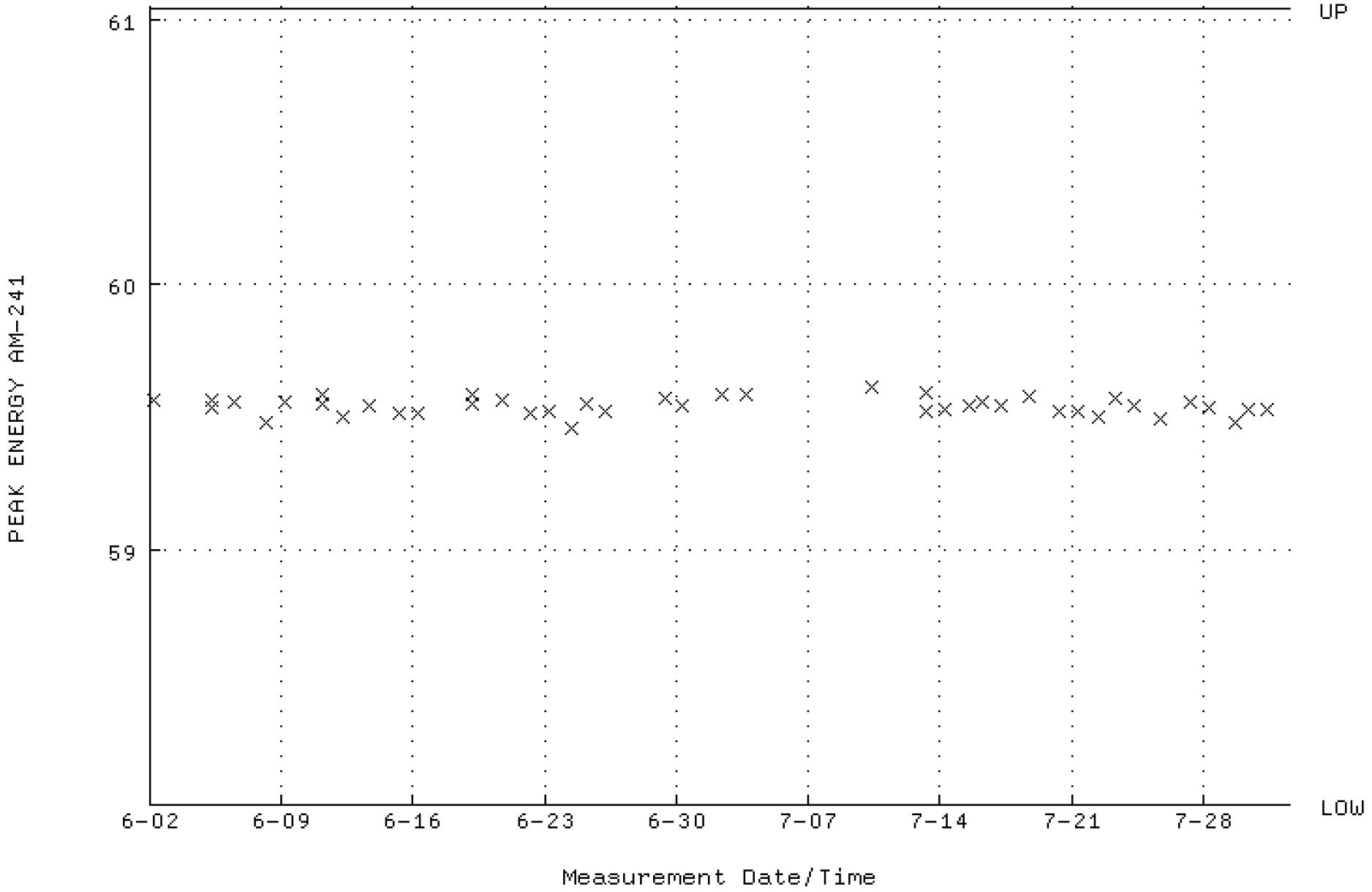
APPROVAL DATE: 17-AUG-2026 APPROVAL TIME: 09:02:50

APPROVED BY: Gianna Geberth PROCEDURE # GL-RAD-I-001

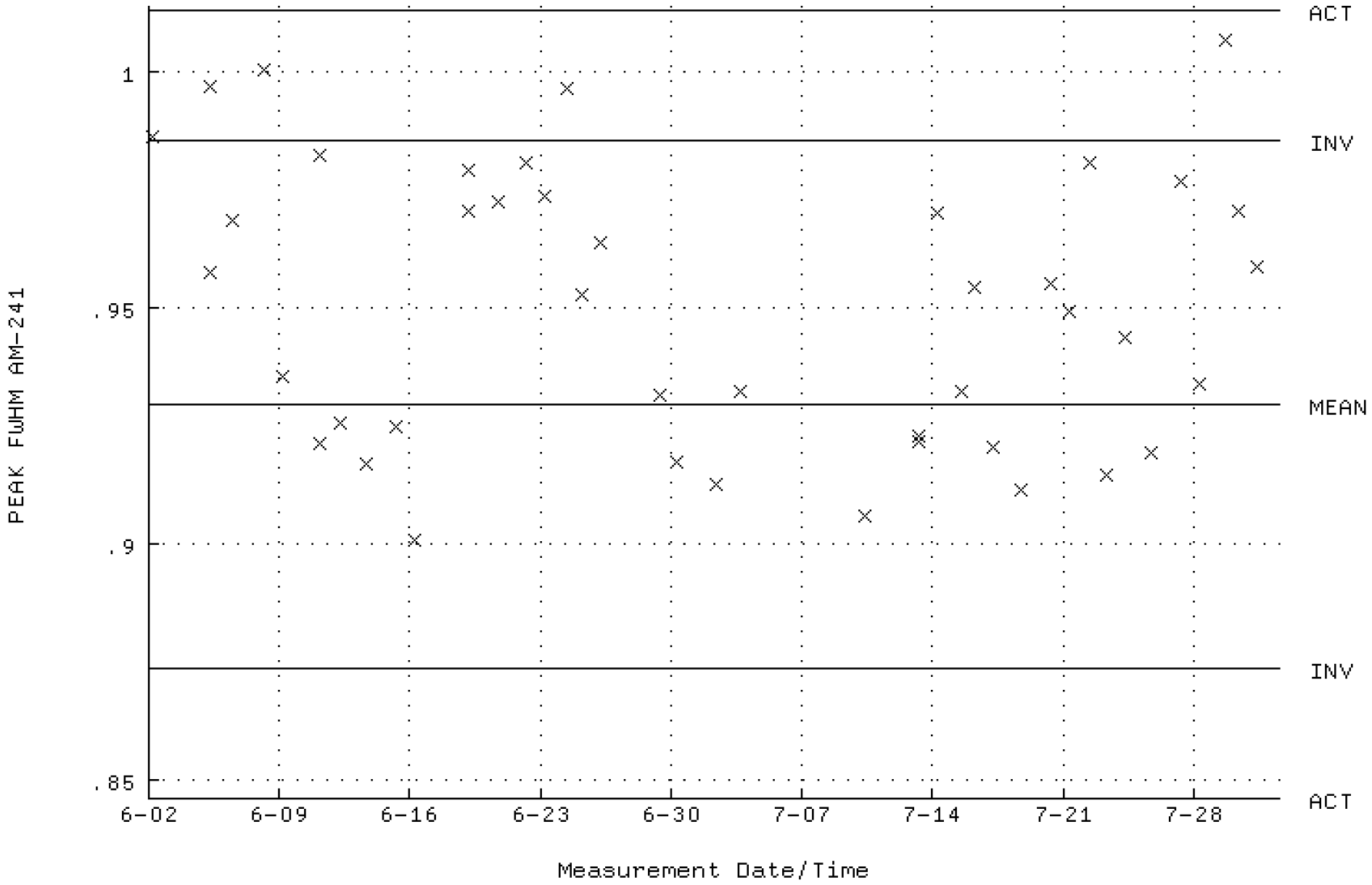
The Investigate flag does not indicate a lockout and is approved for use. Action flags that have not been approved are locked out of service.

Background and Efficiency Data

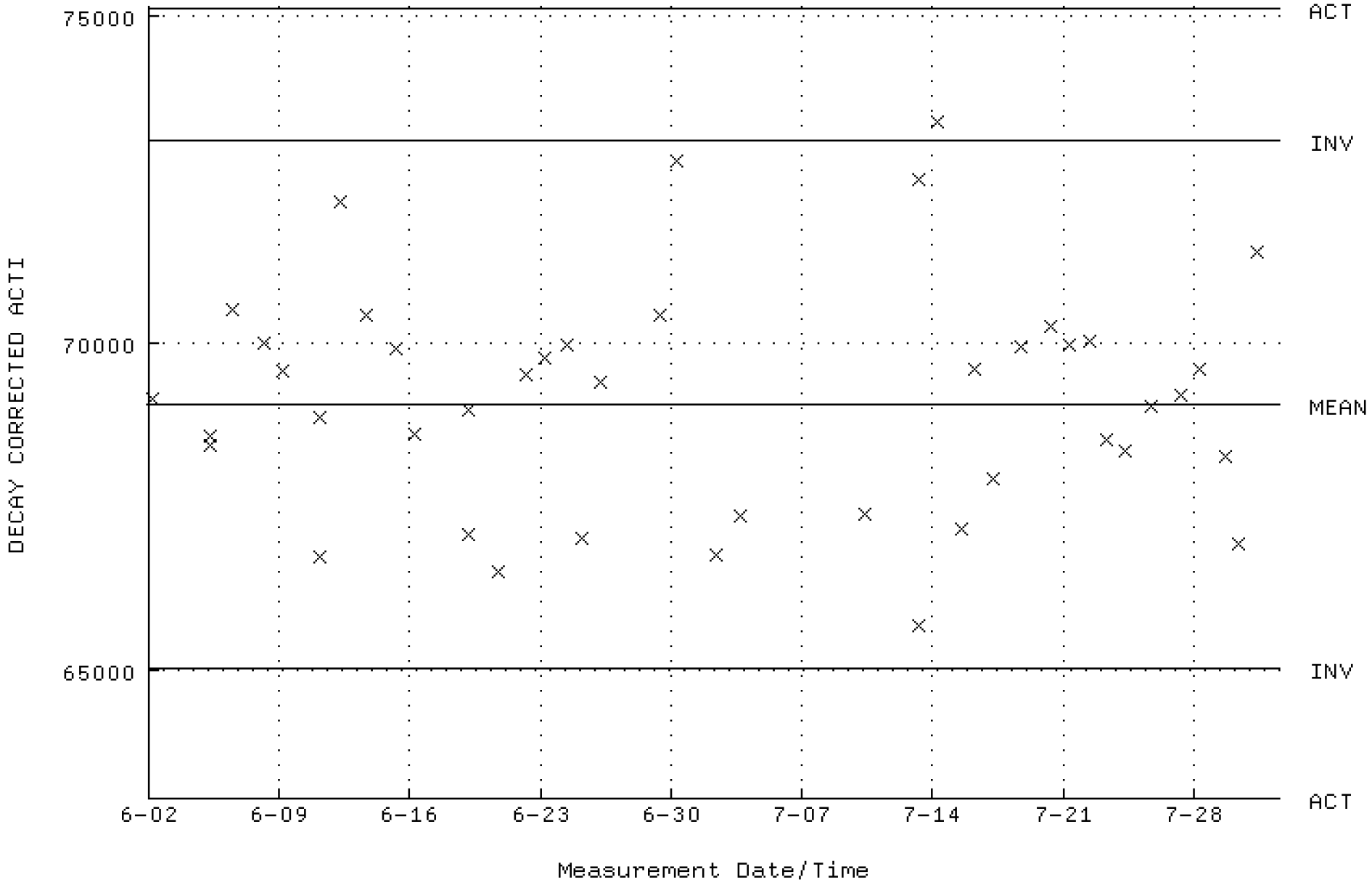
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]QCC_GAM02_JAR.QAF;1
Parameter Name : PSENERGY-59 (PEAK ENERGY AM-241)
Start/End Dates : 2-JUN-2026 05:26:57 through 1-AUG-2026 12:00:00
Lower/Upper Lmts: 58.0400 through 61.0400



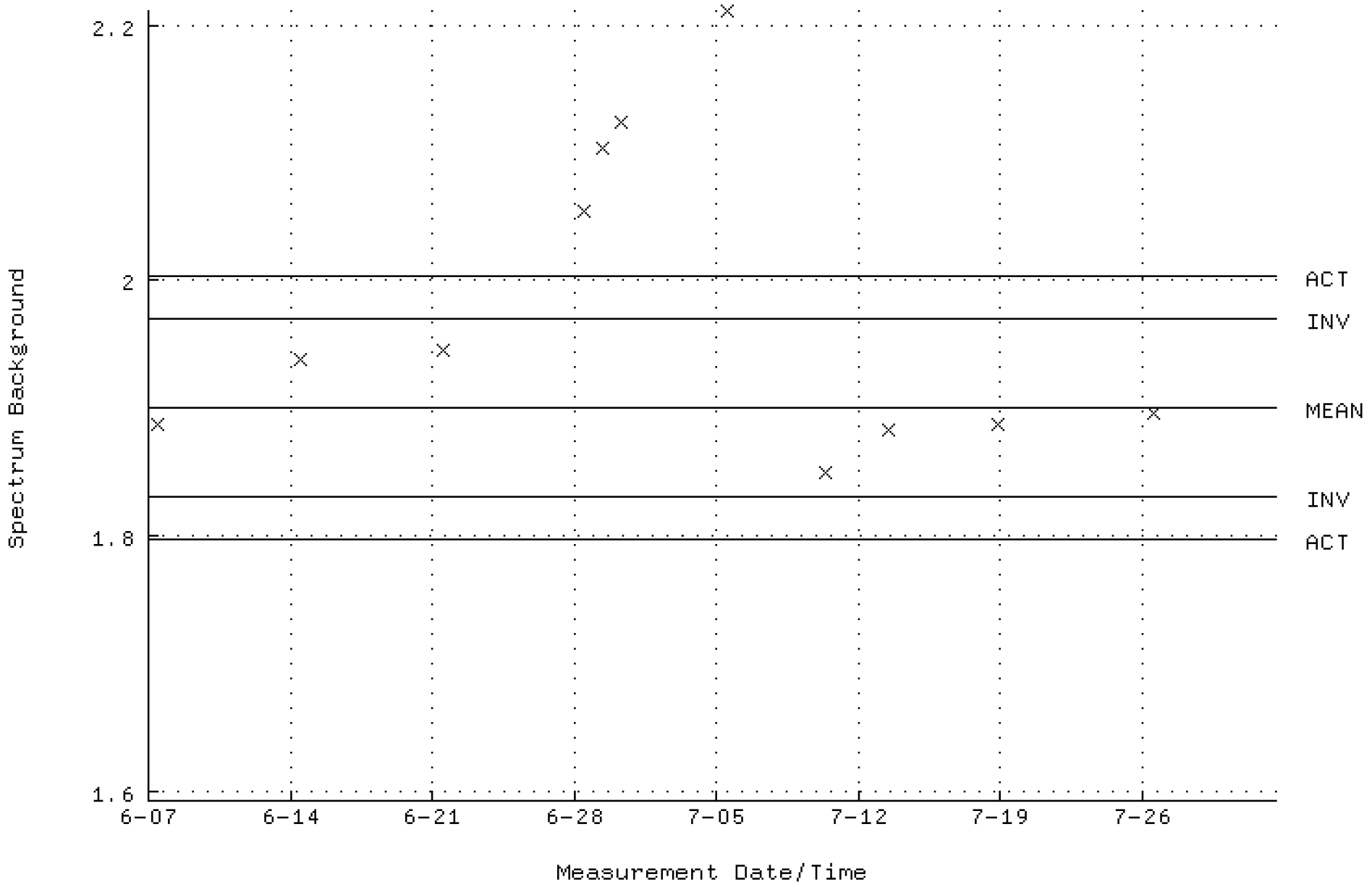
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]QCC_GAM02_JAR.QAF;1
Parameter Name : PSFWHM-59 (PEAK FWHM AM-241)
Start/End Dates : 2-JUN-2026 05:26:57 through 1-AUG-2026 12:00:00
Mean +- Std Dev : 0.929704 +- 2.792757E-02 (3.00 %)



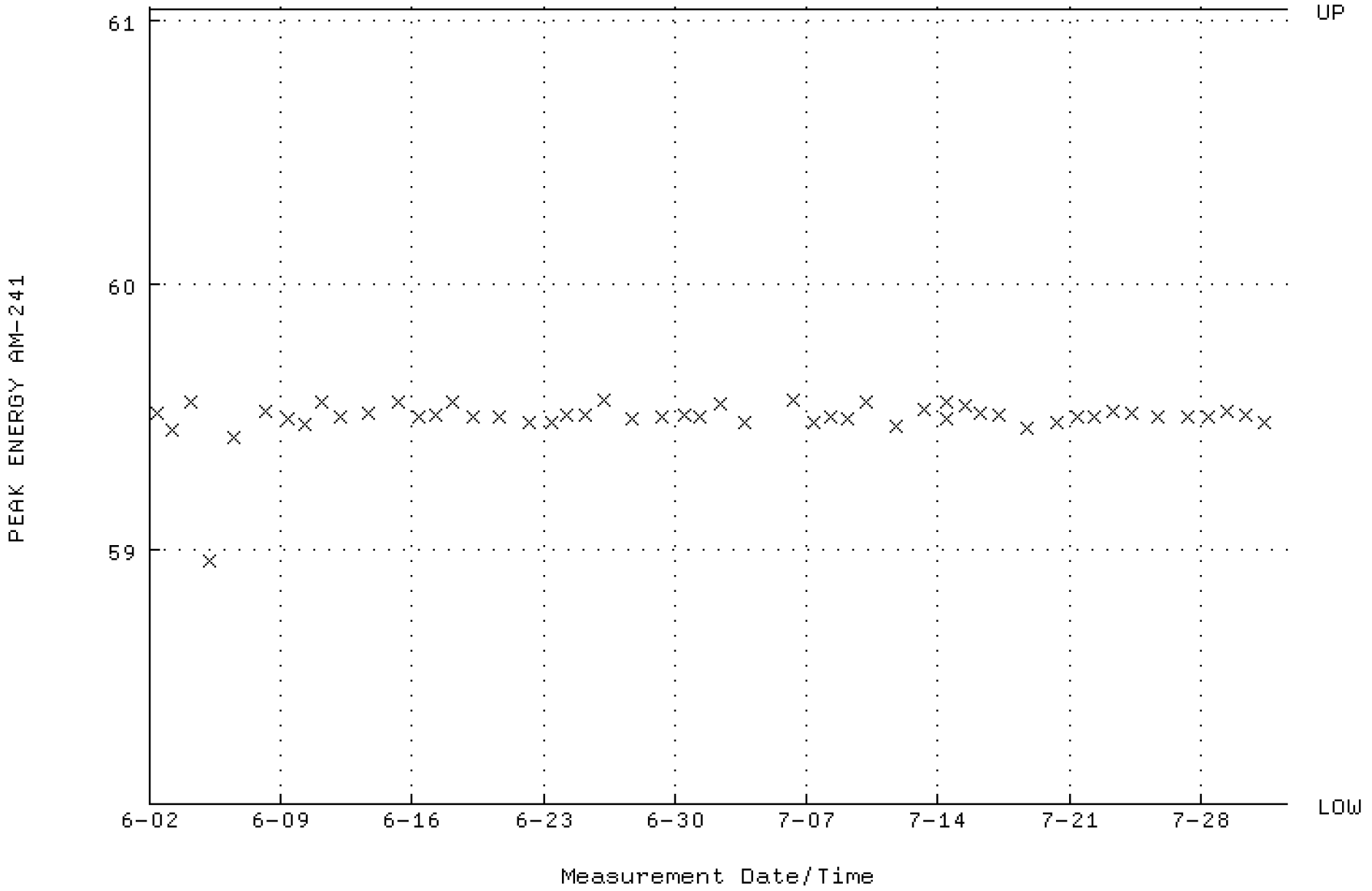
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]QCC_GAM02_JAR.QAF;1
Parameter Name : NLACTVTY-59 (DECAY CORRECTED ACTIVITY AM-241)
Start/End Dates : 2-JUN-2026 05:26:57 through 1-AUG-2026 12:00:00
Mean +- Std Dev : 69064.8 +- 2012.85 (2.91 %)



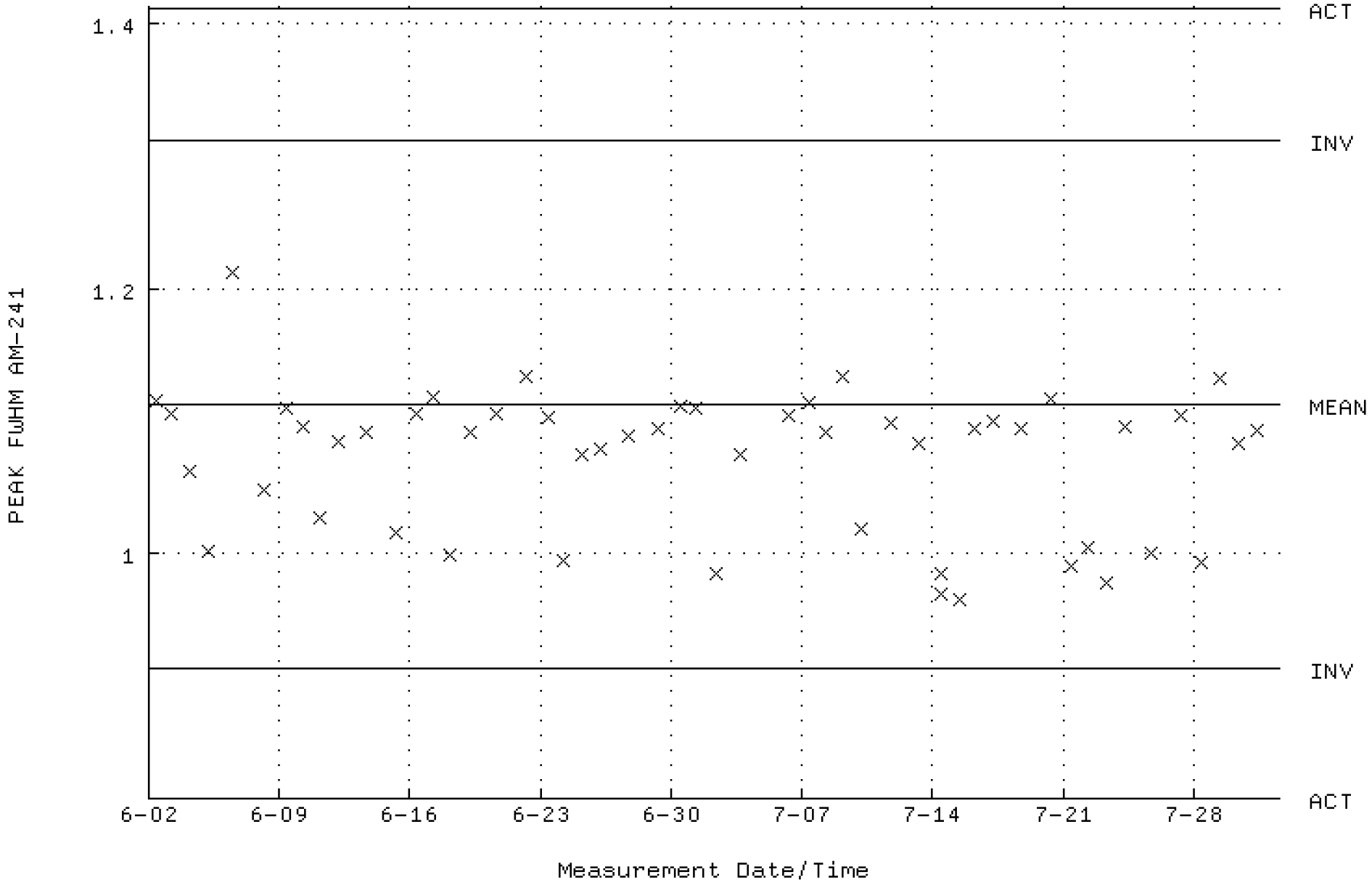
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]LBC_GAM02.QAF;1
Parameter Name : BACKRATE (Spectrum Background Rate)
Start/End Dates : 7-JUN-2026 11:35:03 through 1-AUG-2026 12:00:00
Mean +- Std Dev : 1.90110 +- 3.452238E-02 (1.82 %)



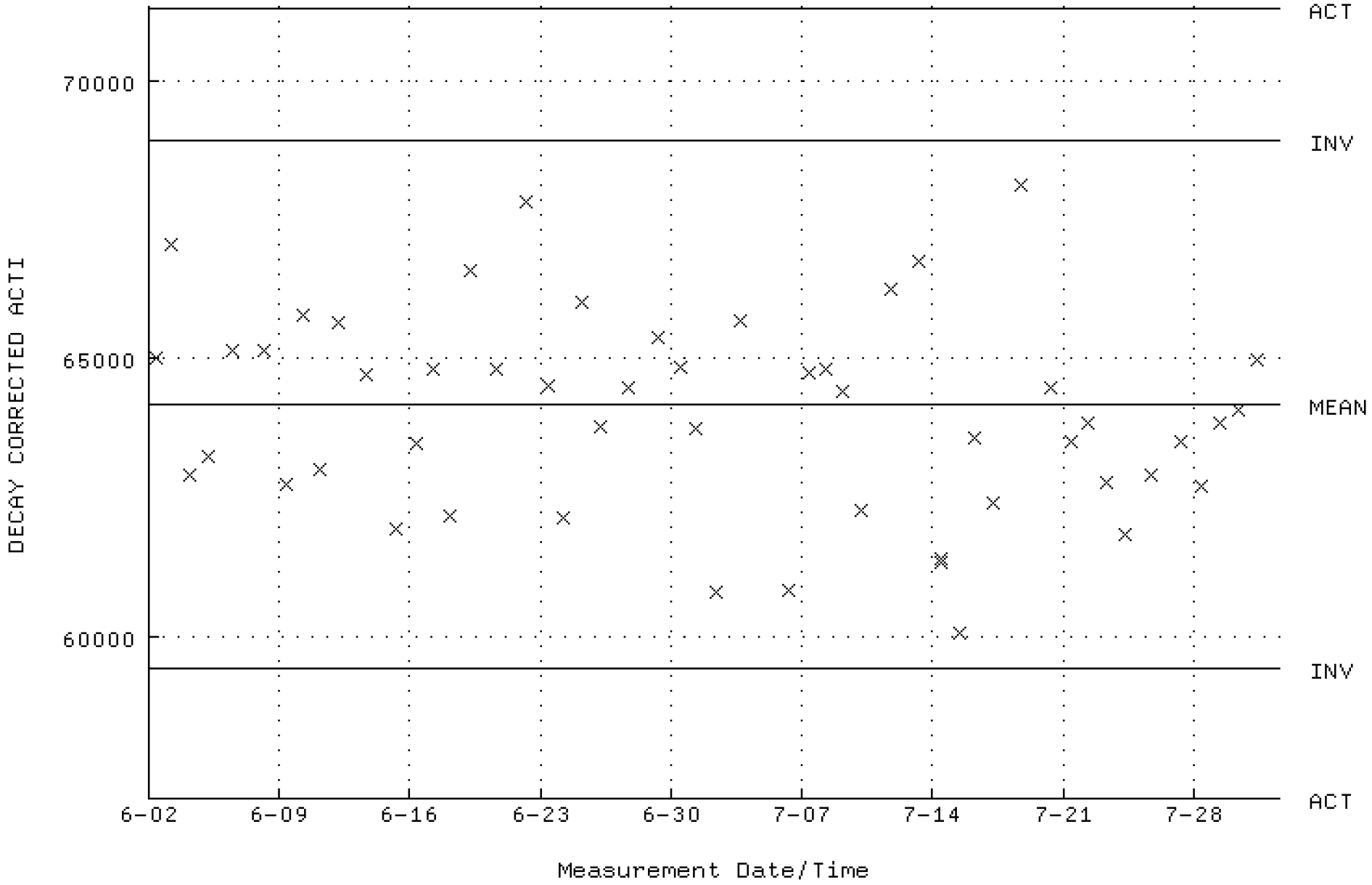
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]QCC_GAM16_CAN.QAF;1
Parameter Name : PSENERGY-59 (PEAK ENERGY AM-241)
Start/End Dates : 2-JUN-2026 10:28:08 through 1-AUG-2026 12:00:00
Lower/Upper Lmts: 58.0400 through 61.0400



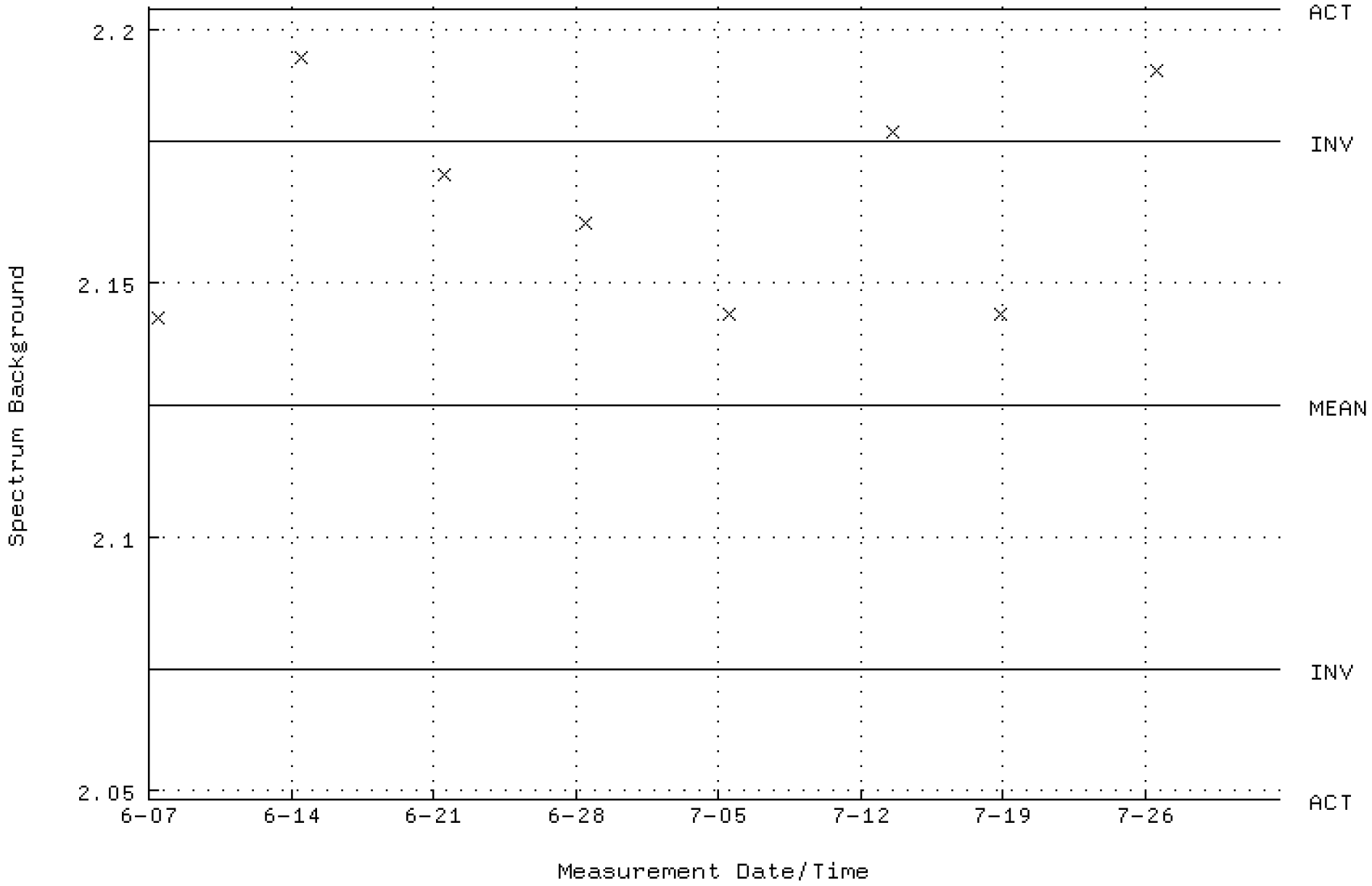
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]QCC_GAM16_CAN.QAF;1
Parameter Name : PSFWHM-59 (PEAK FWHM AM-241)
Start/End Dates : 2-JUN-2026 10:28:08 through 1-AUG-2026 12:00:00
Mean +- Std Dev : 1.11328 +- 9.918885E-02 (8.91 %)



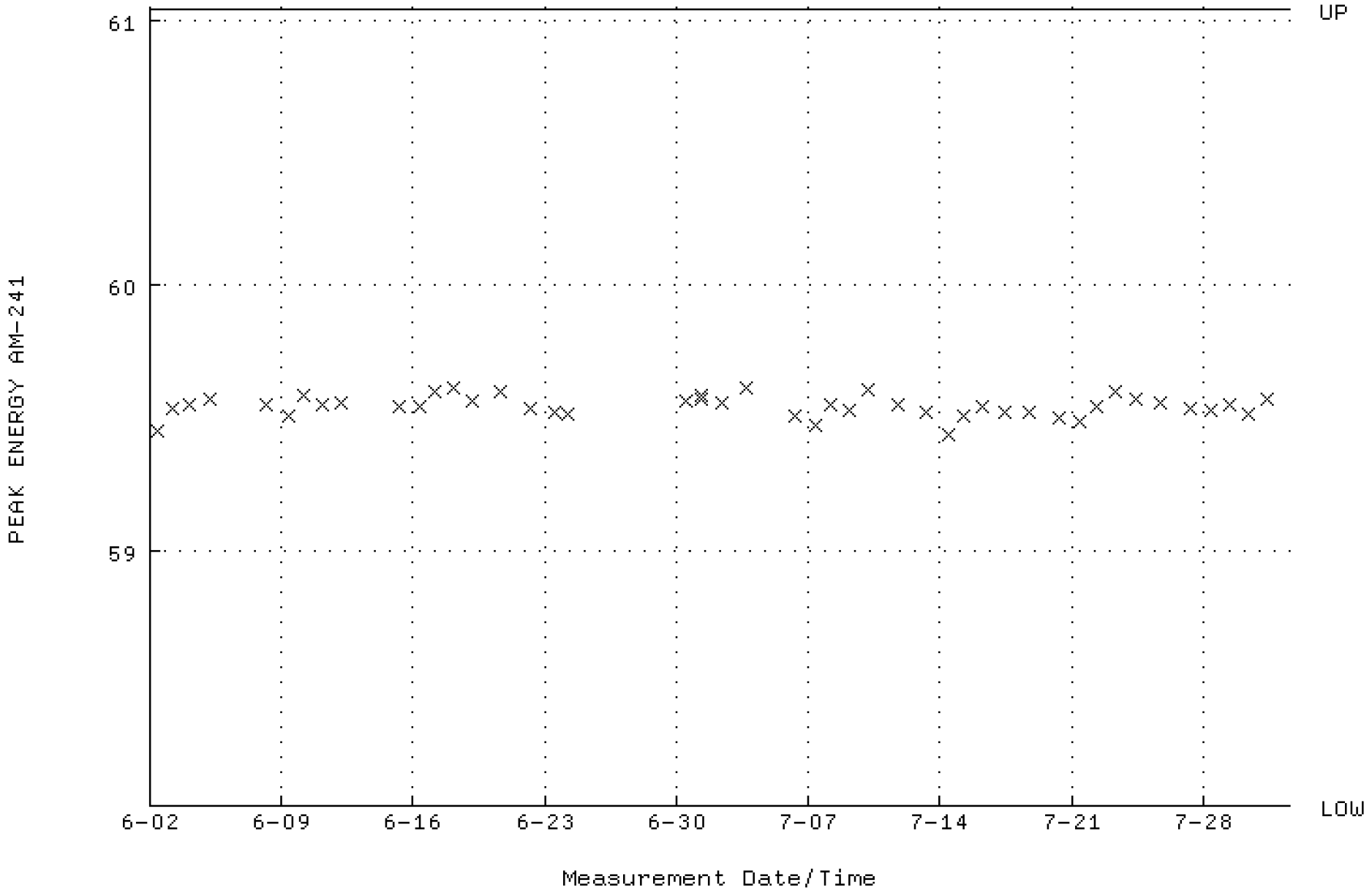
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]QCC_GAM16_CAN.QAF;1
Parameter Name : NLACTVTY-59 (DECAY CORRECTED ACTIVITY AM-241)
Start/End Dates : 2-JUN-2026 10:28:08 through 1-AUG-2026 12:00:00
Mean +- Std Dev : 64188.1 +- 2366.03 (3.69 %)



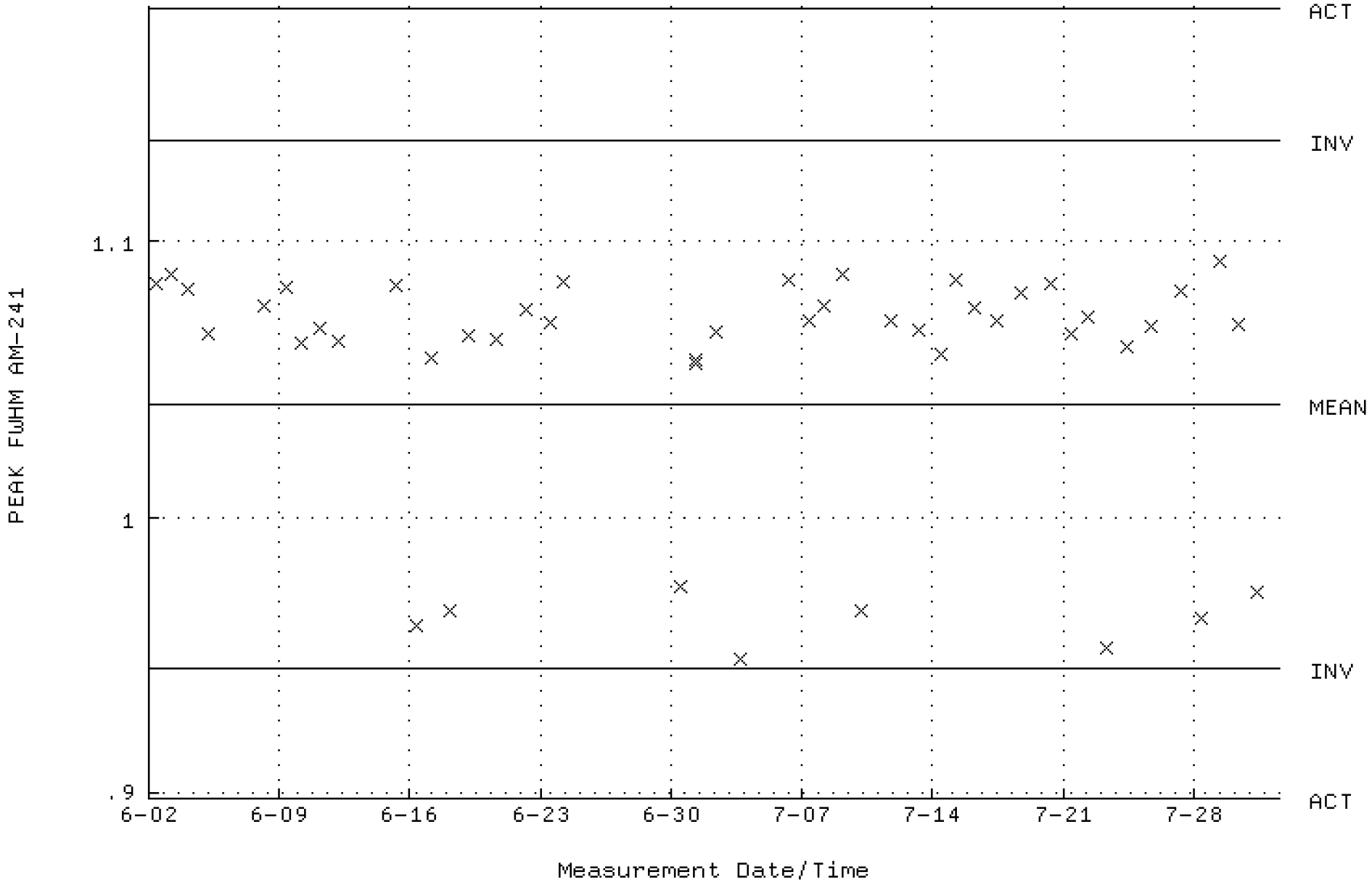
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]LBC_GAM16.QAF;1
Parameter Name : BACKRATE (Spectrum Background Rate)
Start/End Dates : 7-JUN-2026 11:35:34 through 1-AUG-2026 12:00:00
Mean +- Std Dev : 2.12609 +- 2.593318E-02 (1.22 %)



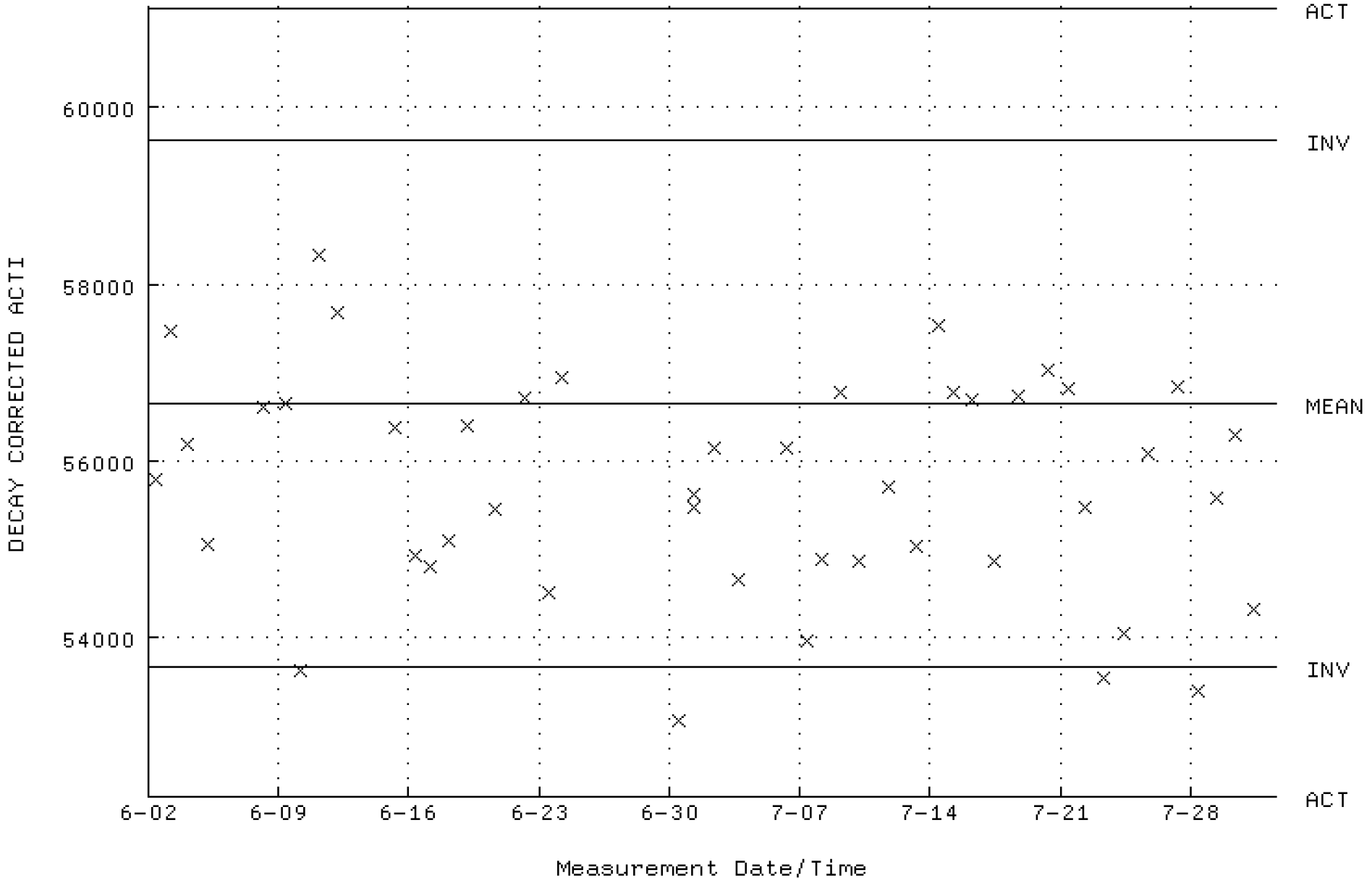
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]QCC_GAM24_CAN.QAF;1
Parameter Name : PSENERGY-59 (PEAK ENERGY AM-241)
Start/End Dates : 2-JUN-2026 09:30:28 through 1-AUG-2026 12:00:00
Lower/Upper Lmts: 58.0400 through 61.0400



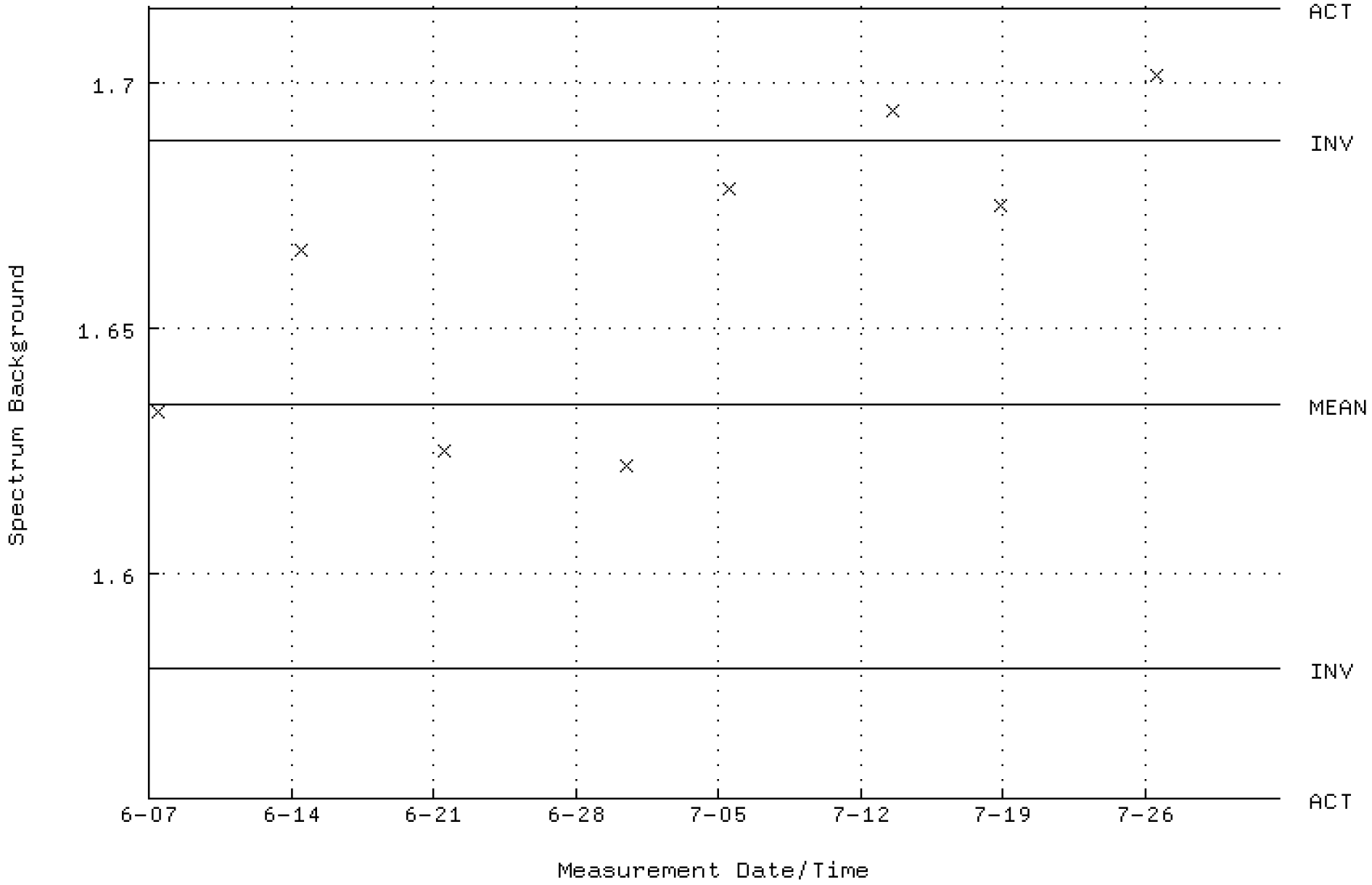
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]QCC_GAM24_CAN.QAF;1
Parameter Name : PSFWHM-59 (PEAK FWHM AM-241)
Start/End Dates : 2-JUN-2026 09:30:28 through 1-AUG-2026 12:00:00
Mean +- Std Dev : 1.04122 +- 4.769203E-02 (4.58 %)



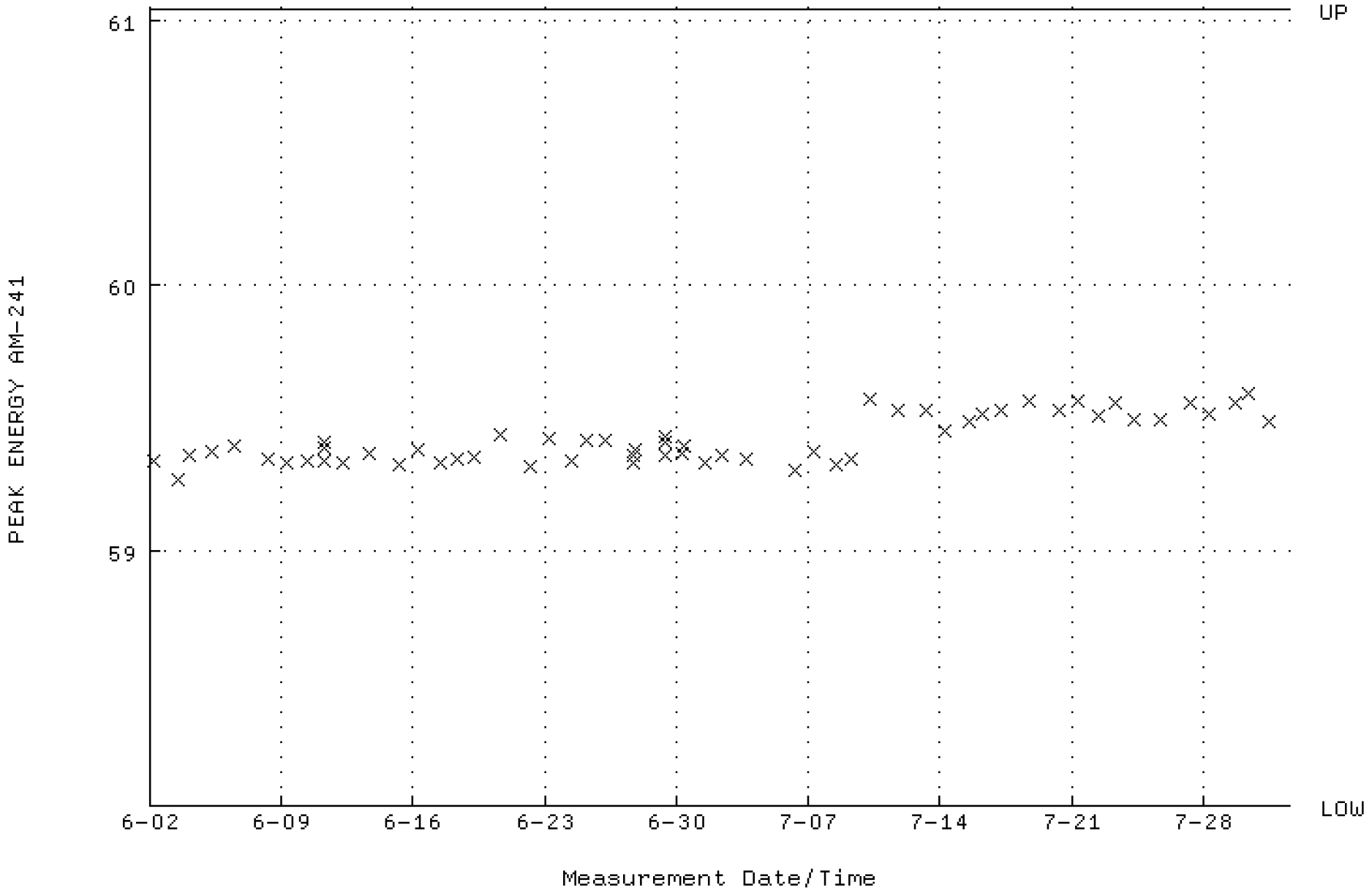
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]QCC_GAM24_CAN.QAF;1
Parameter Name : NLACTVTY-59 (DECAY CORRECTED ACTIVITY AM-241)
Start/End Dates : 2-JUN-2026 09:30:28 through 1-AUG-2026 12:00:00
Mean +- Std Dev : 56660.2 +- 1487.36 (2.63 %)



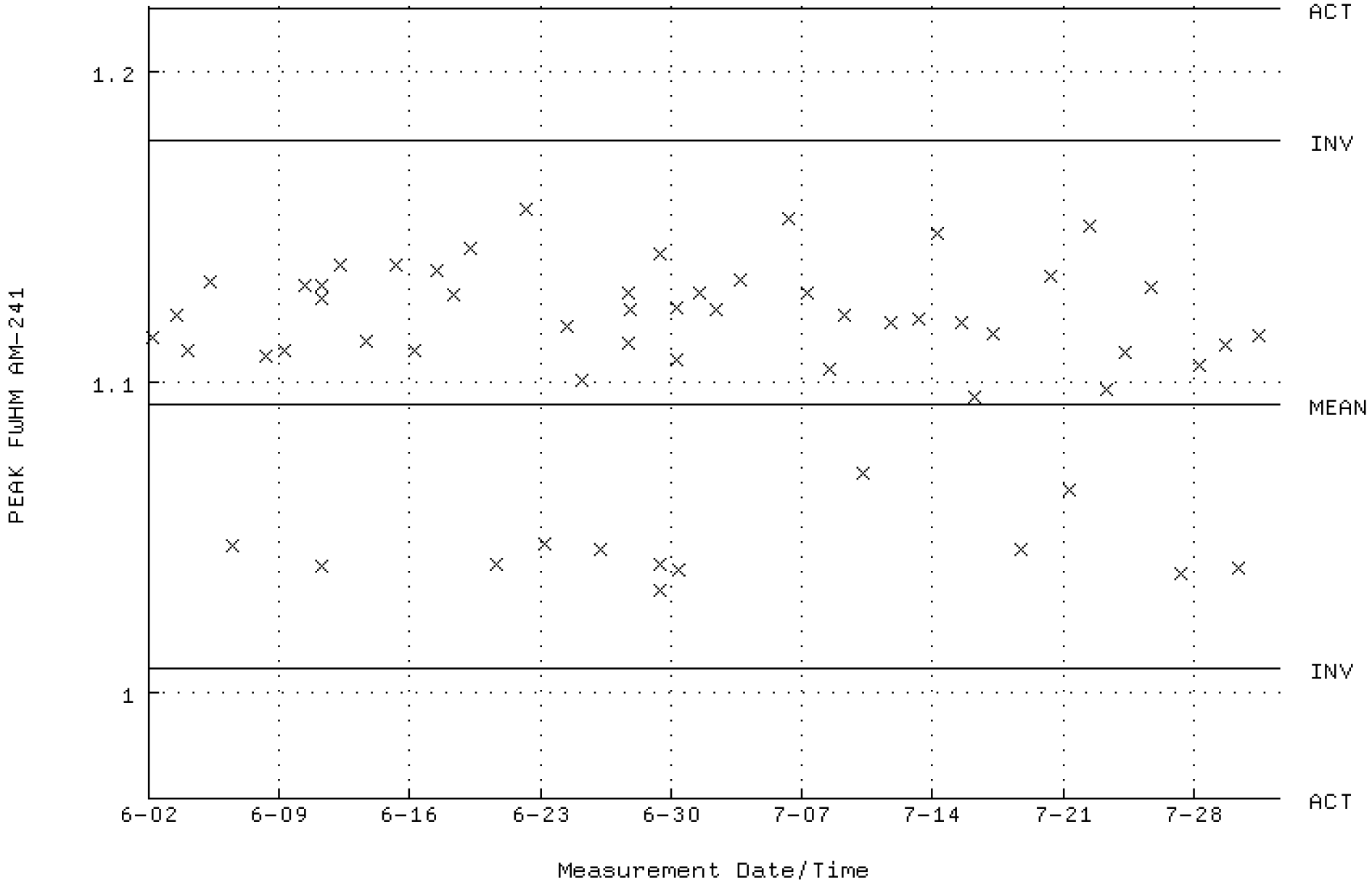
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]LBC_GAM24.QAF;1
Parameter Name : BACKRATE (Spectrum Background Rate)
Start/End Dates : 7-JUN-2026 11:36:00 through 1-AUG-2026 12:00:00
Mean +- Std Dev : 1.63470 +- 2.685763E-02 (1.64 %)



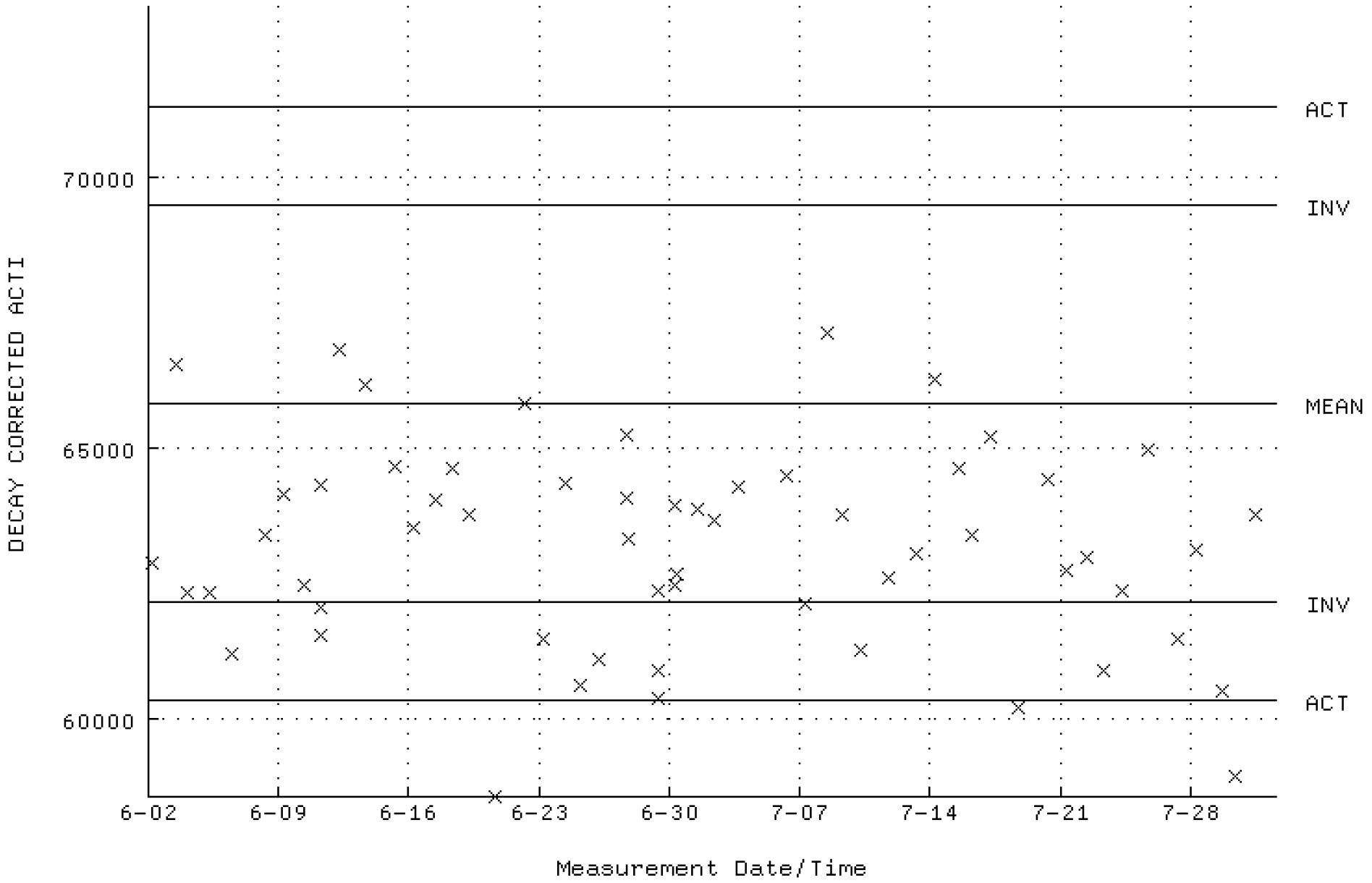
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]QCC_GAM29_JAR.QAF;1
Parameter Name : PSENERGY-59 (PEAK ENERGY AM-241)
Start/End Dates : 2-JUN-2026 05:19:16 through 1-AUG-2026 12:00:00
Lower/Upper Lmts: 58.0400 through 61.0400



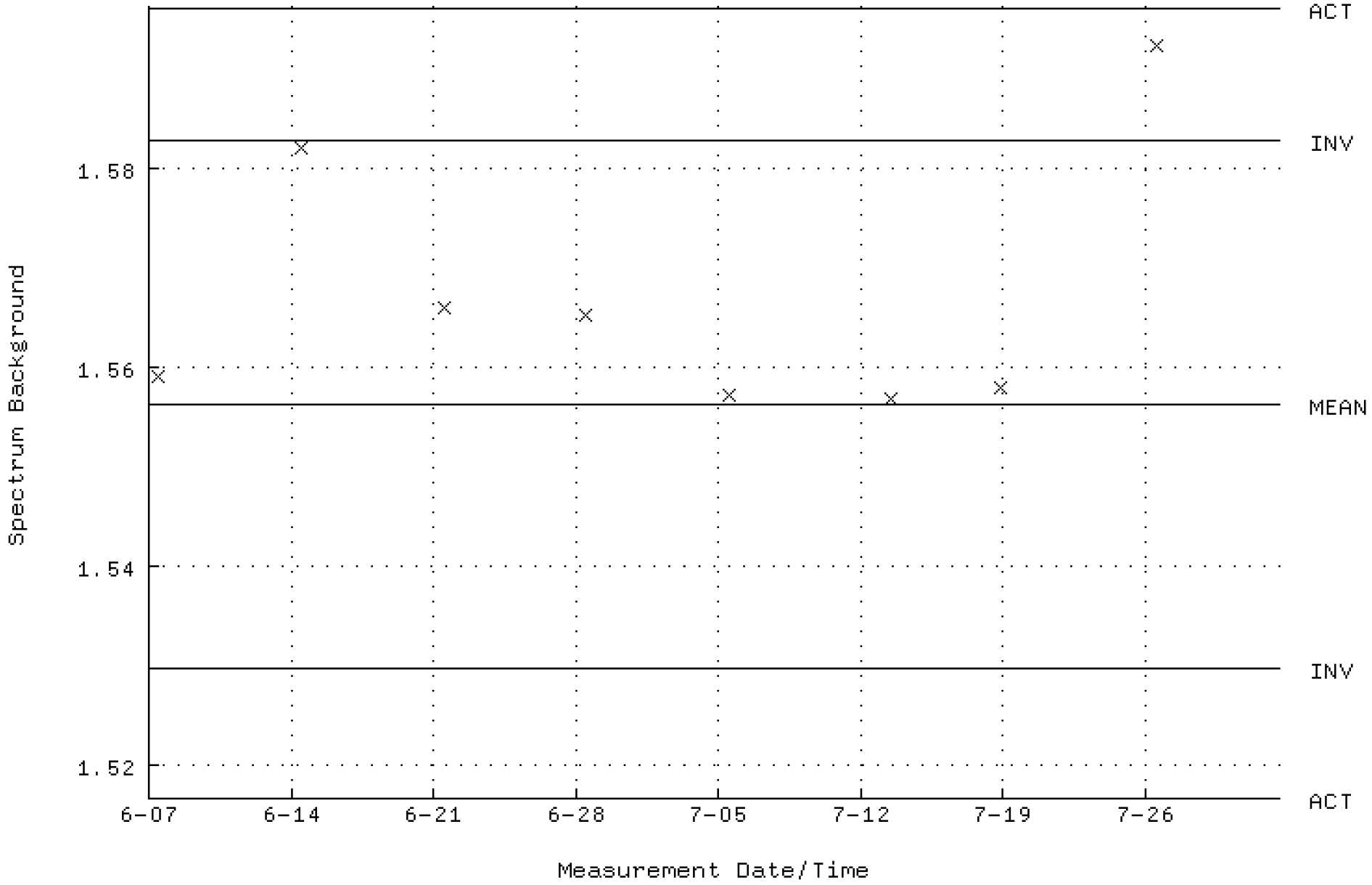
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]QCC_GAM29_JAR.QAF;1
Parameter Name : PSFWHM-59 (PEAK FWHM AM-241)
Start/End Dates : 2-JUN-2026 05:19:16 through 1-AUG-2026 12:00:00
Mean +- Std Dev : 1.09313 +- 4.241885E-02 (3.88 %)



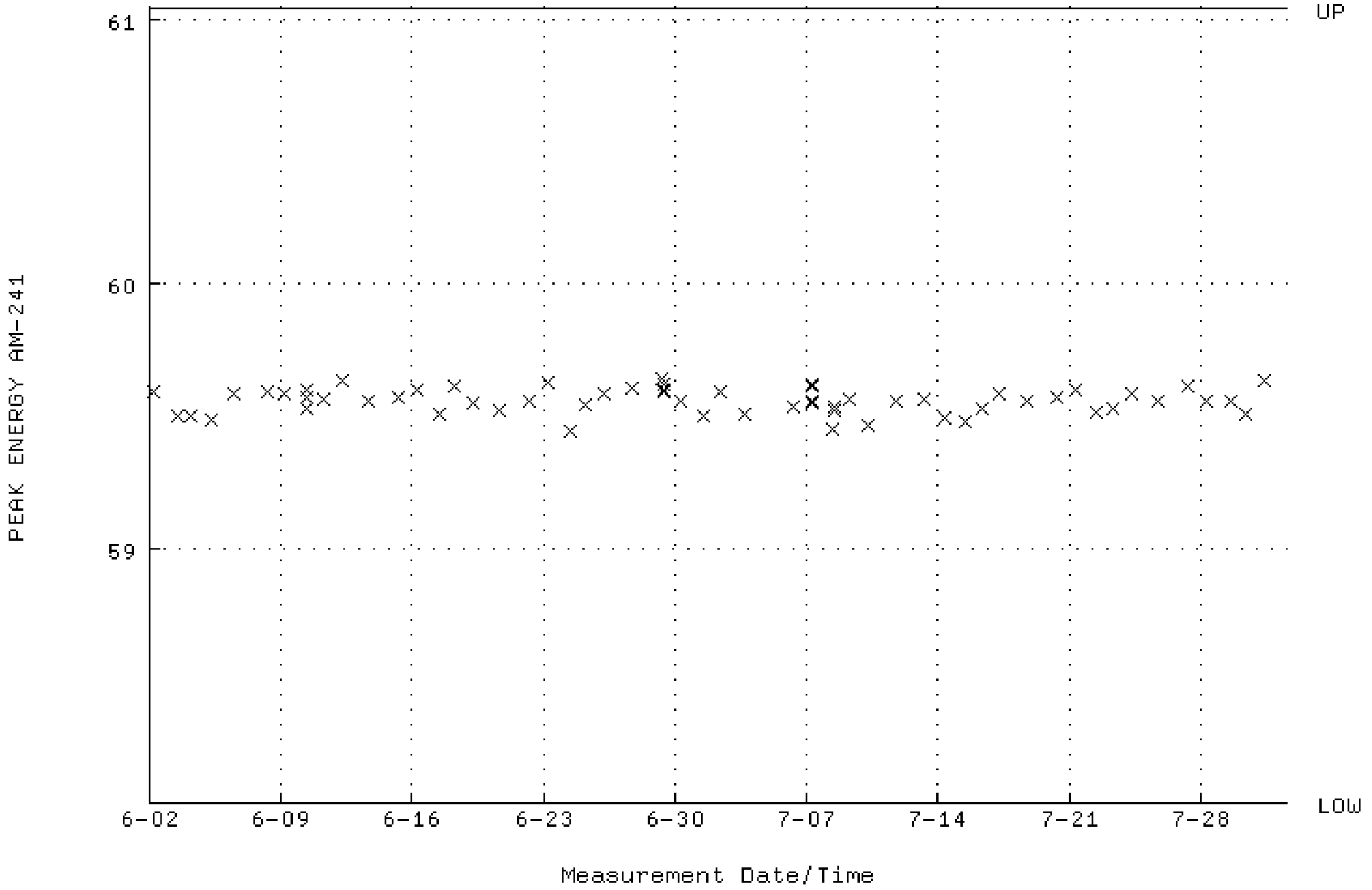
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]QCC_GAM29_JAR.QAF;1
Parameter Name : NLACTVTY-59 (DECAY CORRECTED ACTIVITY AM-241)
Start/End Dates : 2-JUN-2026 05:19:16 through 1-AUG-2026 12:00:00
Mean +- Std Dev : 65836.8 +- 1827.07 (2.78 %)



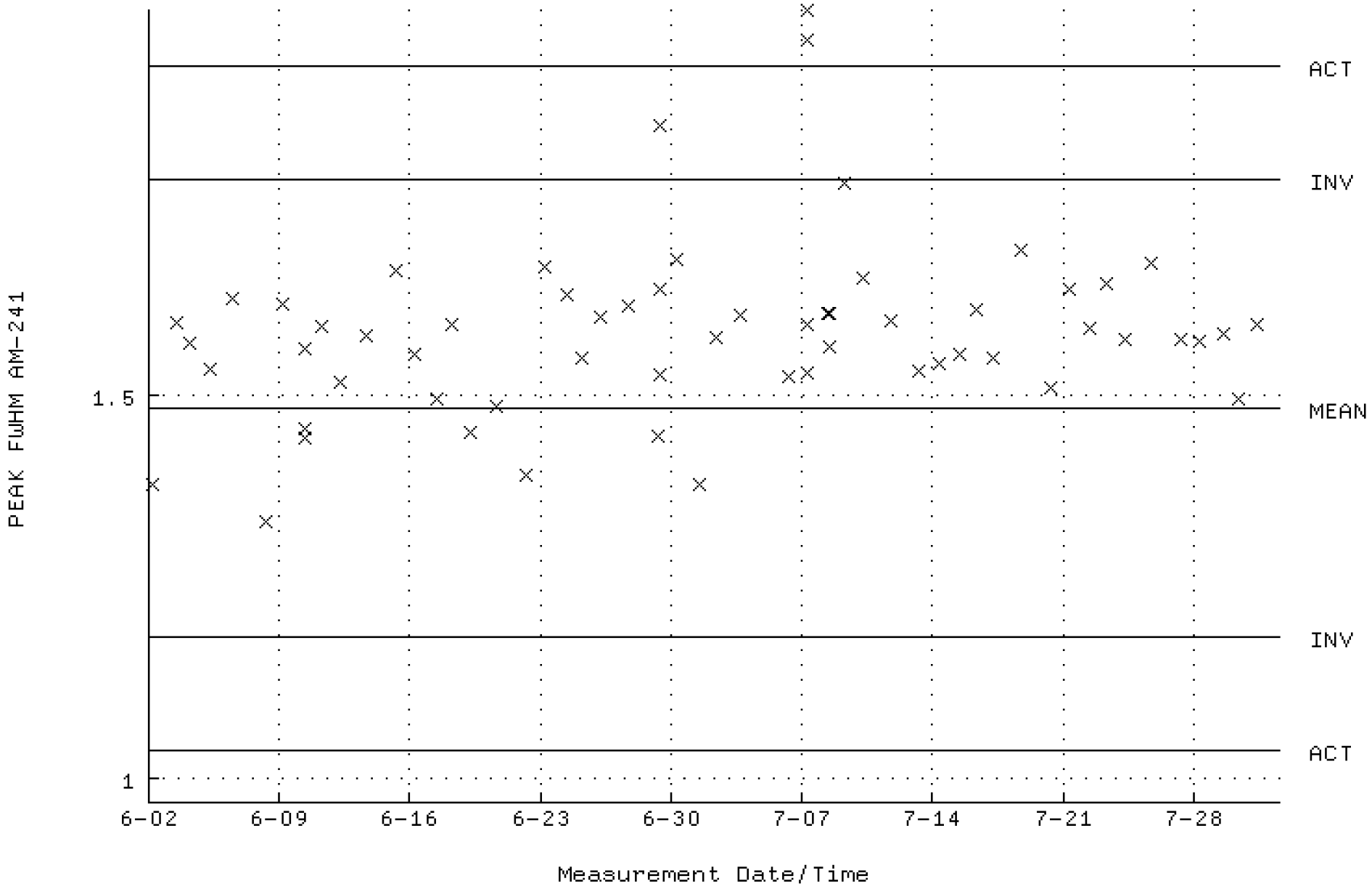
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]LBC_GAM29.QAF;1
Parameter Name : BACKRATE (Spectrum Background Rate)
Start/End Dates : 7-JUN-2026 11:36:15 through 1-AUG-2026 12:00:00
Mean +- Std Dev : 1.55639 +- 1.323348E-02 (0.85 %)



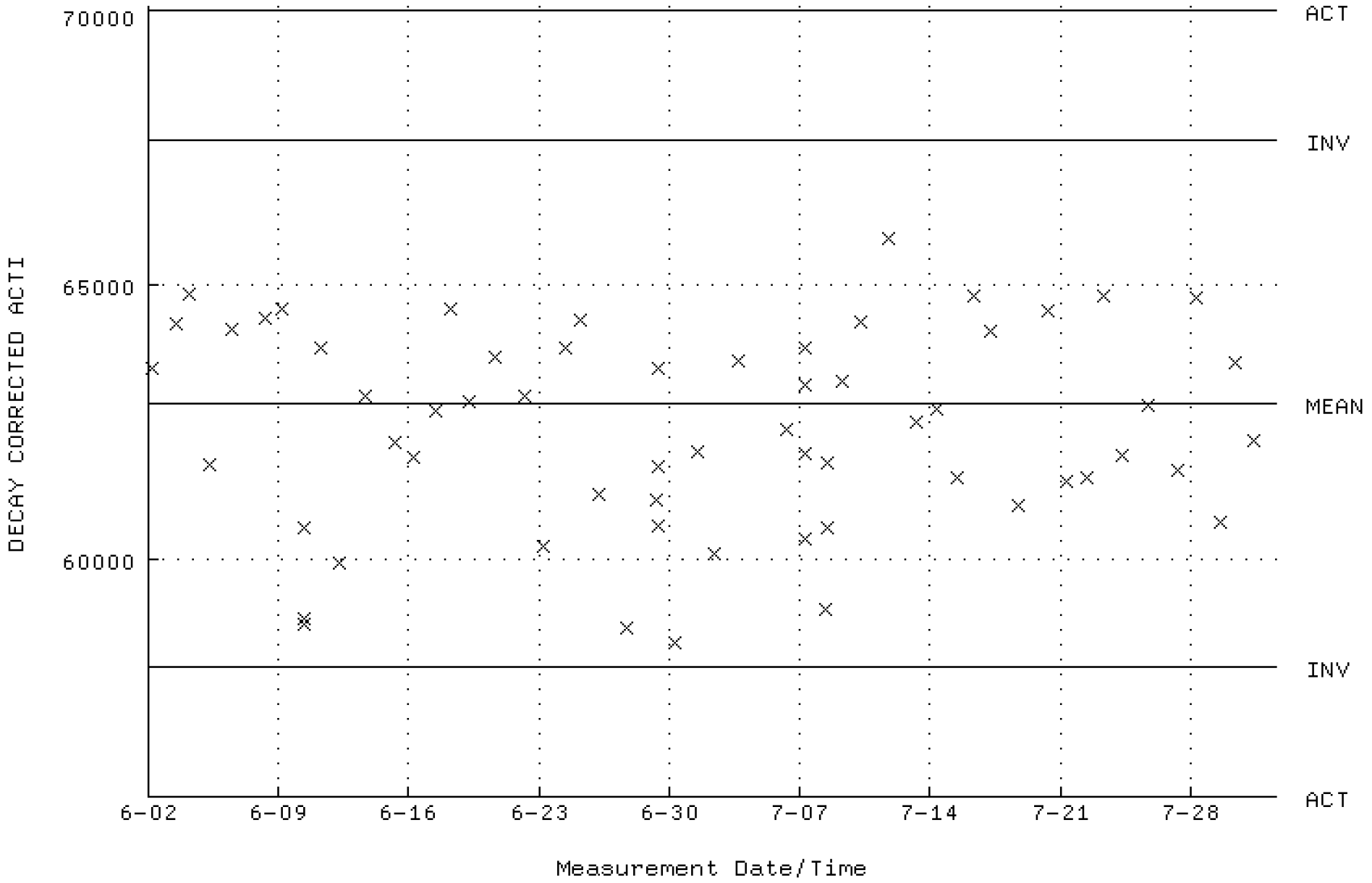
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]QCC_GAM33_CAN.QAF;1
Parameter Name : PSENERGY-59 (PEAK ENERGY AM-241)
Start/End Dates : 2-JUN-2026 05:19:20 through 1-AUG-2026 12:00:00
Lower/Upper Lmts: 58.0400 through 61.0400



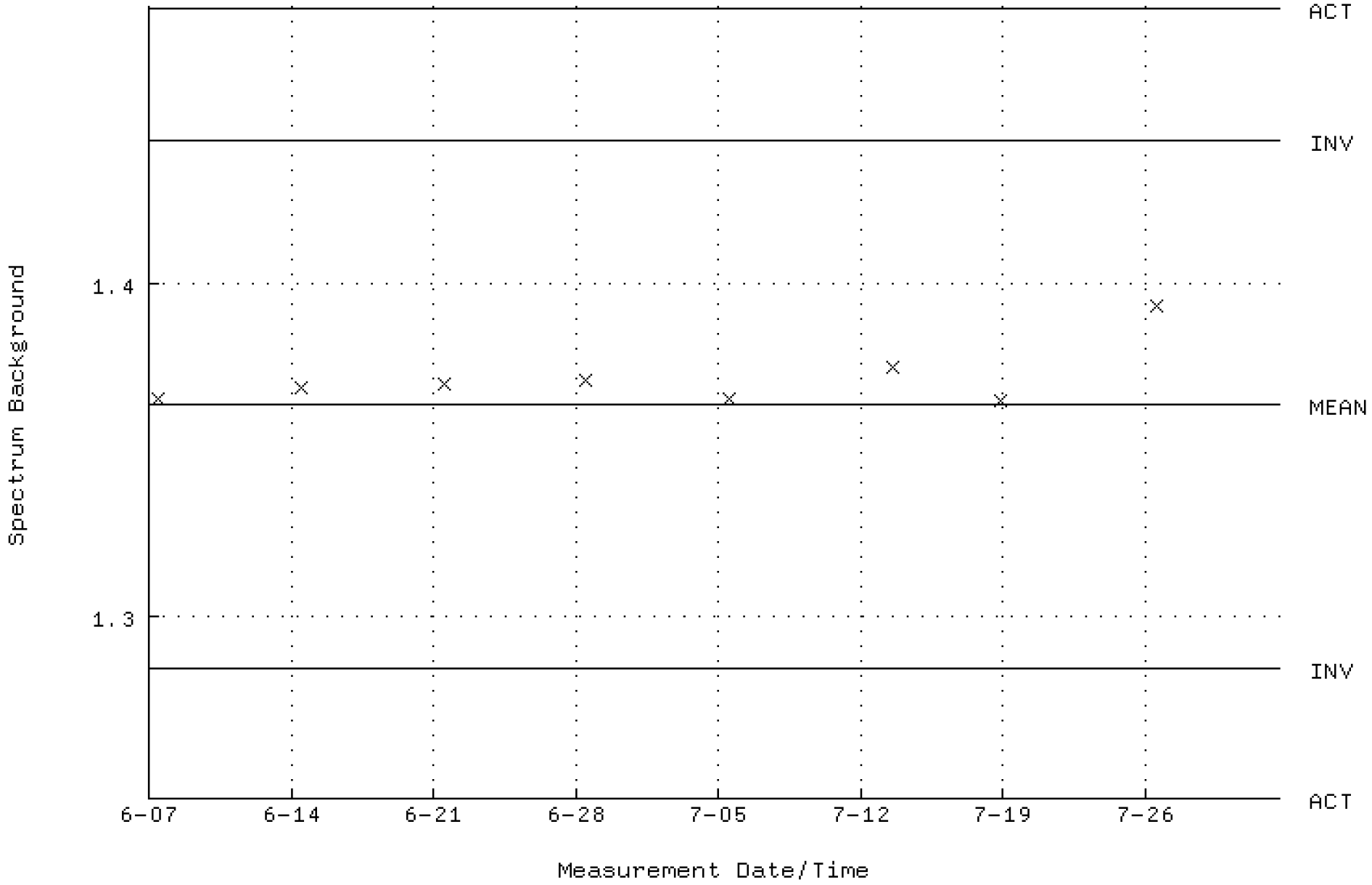
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]QCC_GAM33_CAN.QAF;1
Parameter Name : PSFWHM-59 (PEAK FWHM AM-241)
Start/End Dates : 2-JUN-2026 05:19:20 through 1-AUG-2026 12:00:00
Mean +- Std Dev : 1.48413 +- 0.148914 (10.03 %)



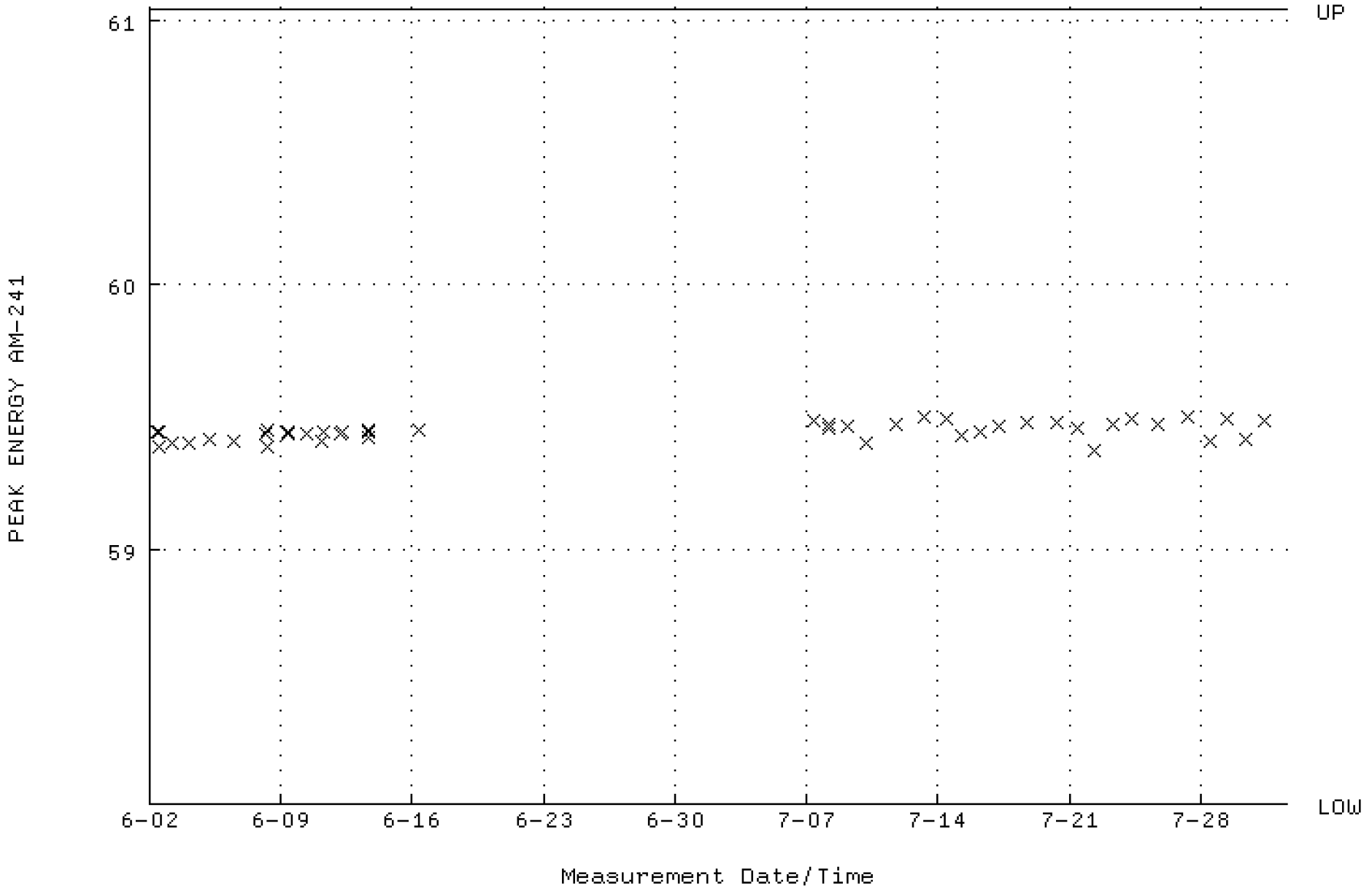
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]QCC_GAM33_CAN.QAF;1
Parameter Name : NLACTVTY-59 (DECAY CORRECTED ACTIVITY AM-241)
Start/End Dates : 2-JUN-2026 05:19:20 through 1-AUG-2026 12:00:00
Mean +- Std Dev : 62863.3 +- 2388.11 (3.80 %)



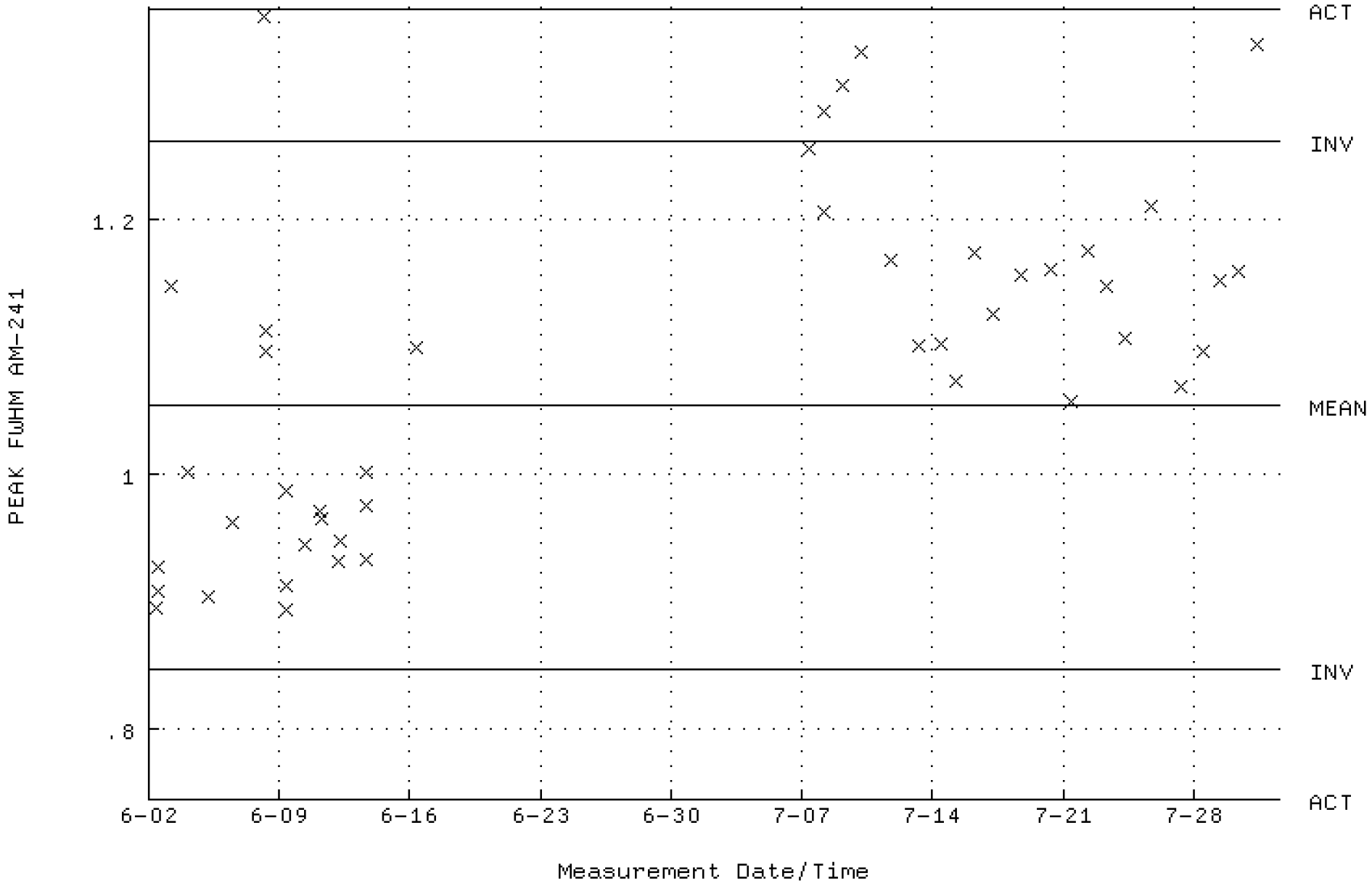
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]LBC_GAM33.QAF;1
Parameter Name : BACKRATE (Spectrum Background Rate)
Start/End Dates : 7-JUN-2026 11:36:24 through 1-AUG-2026 12:00:00
Mean +- Std Dev : 1.36407 +- 3.947293E-02 (2.89 %)



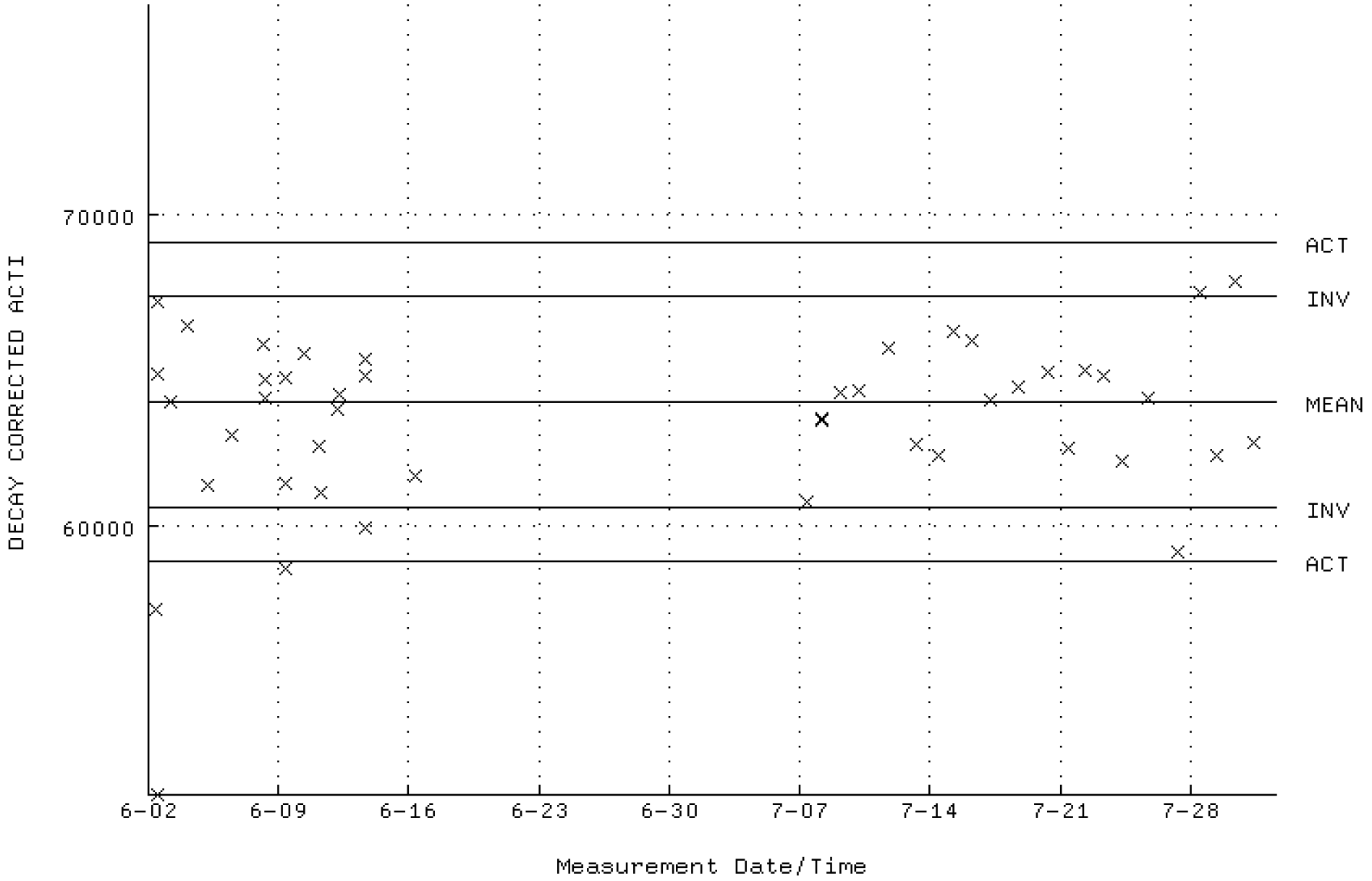
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]QCC_GAM34_CAN.QAF;1
Parameter Name : PSENERGY-59 (PEAK ENERGY AM-241)
Start/End Dates : 2-JUN-2026 10:28:19 through 1-AUG-2026 12:00:00
Lower/Upper Lmts: 58.0400 through 61.0400



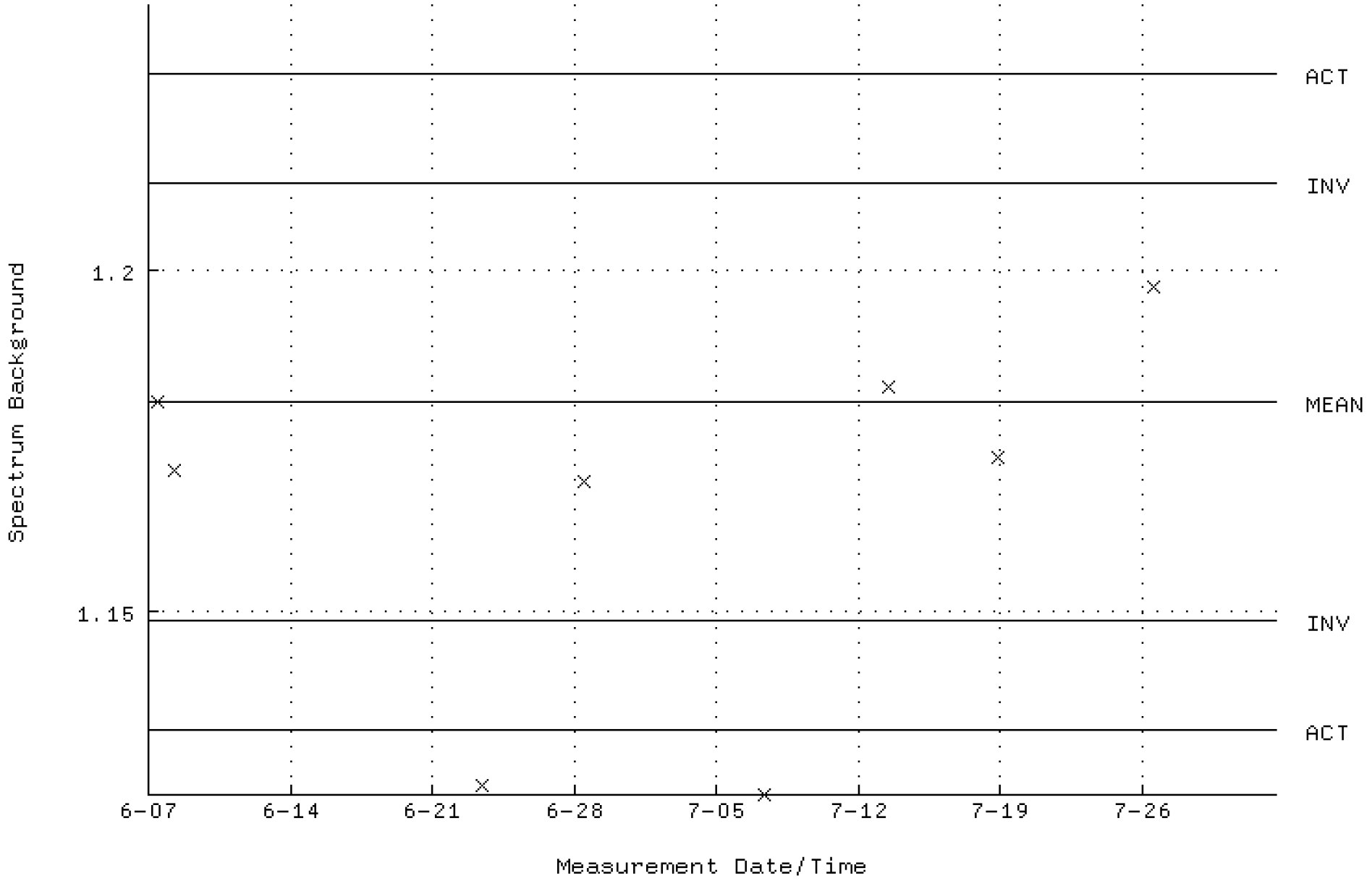
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]QCC_GAM34_CAN.QAF;1
Parameter Name : PSFWHM-59 (PEAK FWHM AM-241)
Start/End Dates : 2-JUN-2026 10:28:19 through 1-AUG-2026 12:00:00
Mean +- Std Dev : 1.05488 +- 0.103428 (9.80 %)



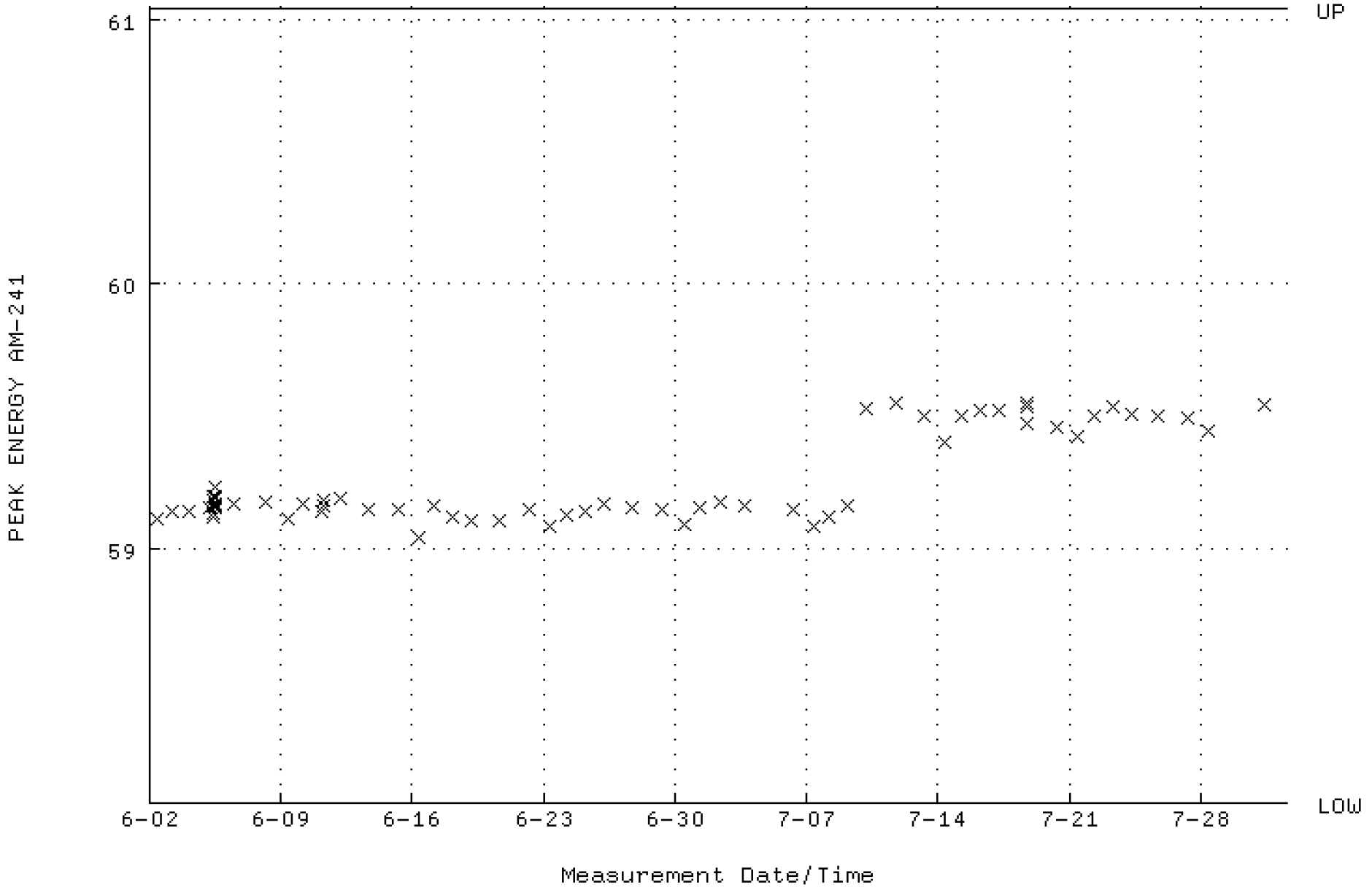
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]QCC_GAM34_CAN.QAF;1
Parameter Name : NLACTVTY-59 (DECAY CORRECTED ACTIVITY AM-241)
Start/End Dates : 2-JUN-2026 10:28:19 through 1-AUG-2026 12:00:00
Mean +- Std Dev : 64028.6 +- 1699.19 (2.65 %)



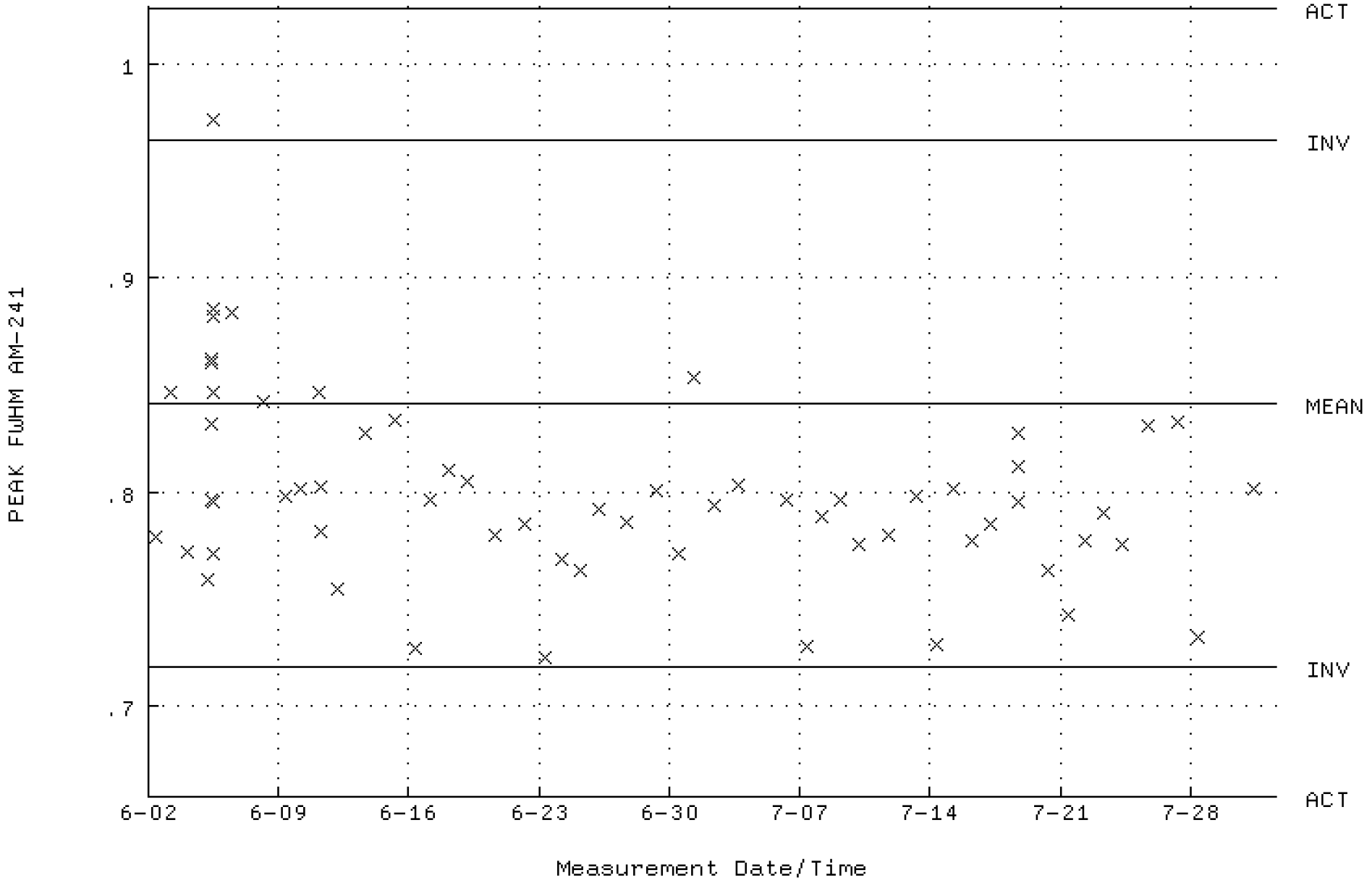
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]LBC_GAM34.QAF;1
Parameter Name : BACKRATE (Spectrum Background Rate)
Start/End Dates : 7-JUN-2026 11:36:30 through 1-AUG-2026 12:00:00
Mean +- Std Dev : 1.18090 +- 1.595964E-02 (1.35 %)



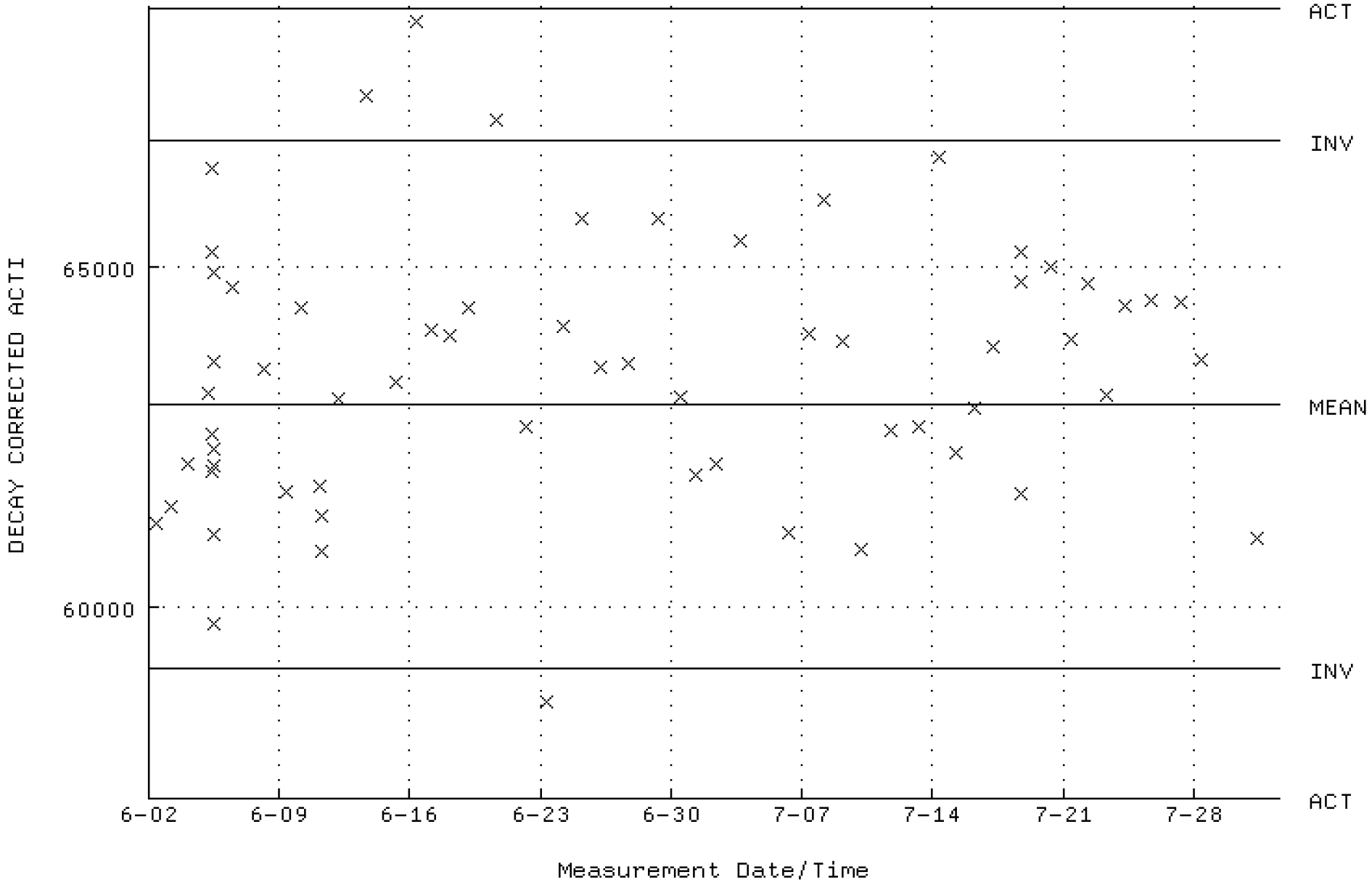
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]QCC_GAM52_400JAR.QAF;1
Parameter Name : PSENERGY-59 (PEAK ENERGY AM-241)
Start/End Dates : 2-JUN-2026 09:30:32 through 1-AUG-2026 12:00:00
Lower/Upper Lmts: 58.0400 through 61.0400



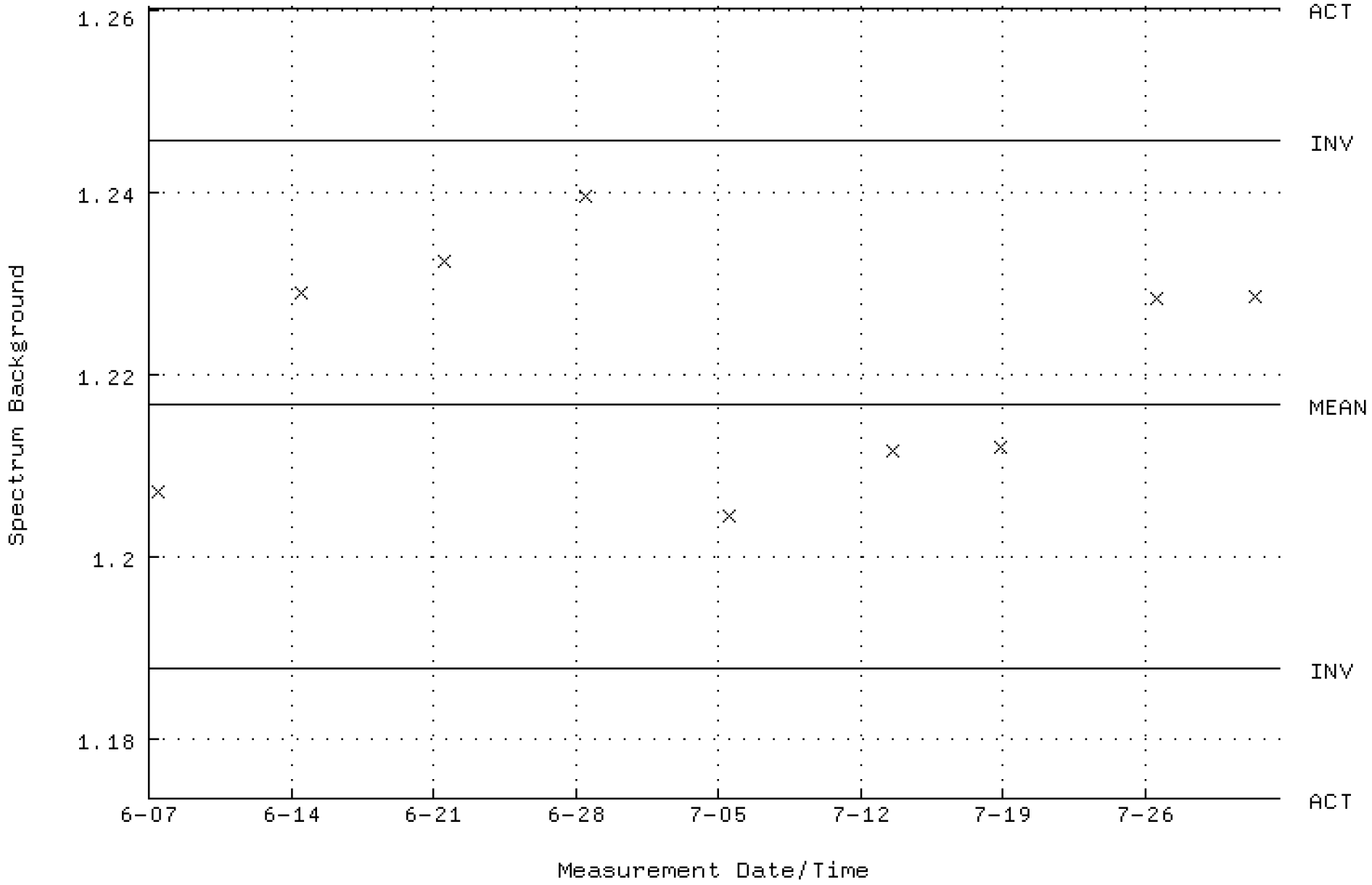
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]QCC_GAM52_400JAR.QAF;1
Parameter Name : PSFWHM-59 (PEAK FWHM AM-241)
Start/End Dates : 2-JUN-2026 09:30:32 through 1-AUG-2026 12:00:00
Mean +- Std Dev : 0.841869 +- 6.132270E-02 (7.28 %)



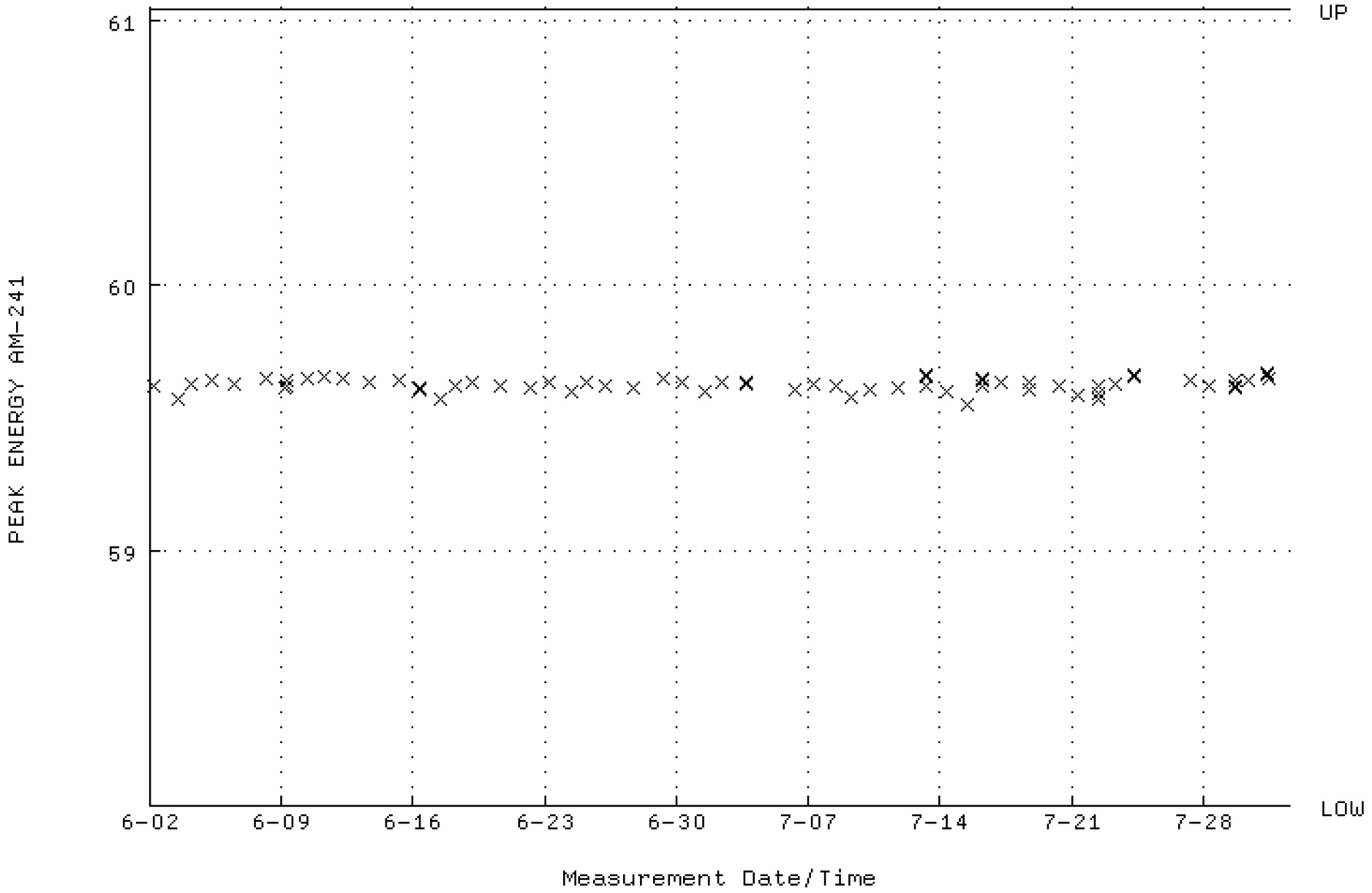
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]QCC_GAM52_400JAR.QAF;1
Parameter Name : NLACTVTY-59 (DECAY CORRECTED ACTIVITY AM-241)
Start/End Dates : 2-JUN-2026 09:30:32 through 1-AUG-2026 12:00:00
Mean +- Std Dev : 62990.9 +- 1940.99 (3.08 %)



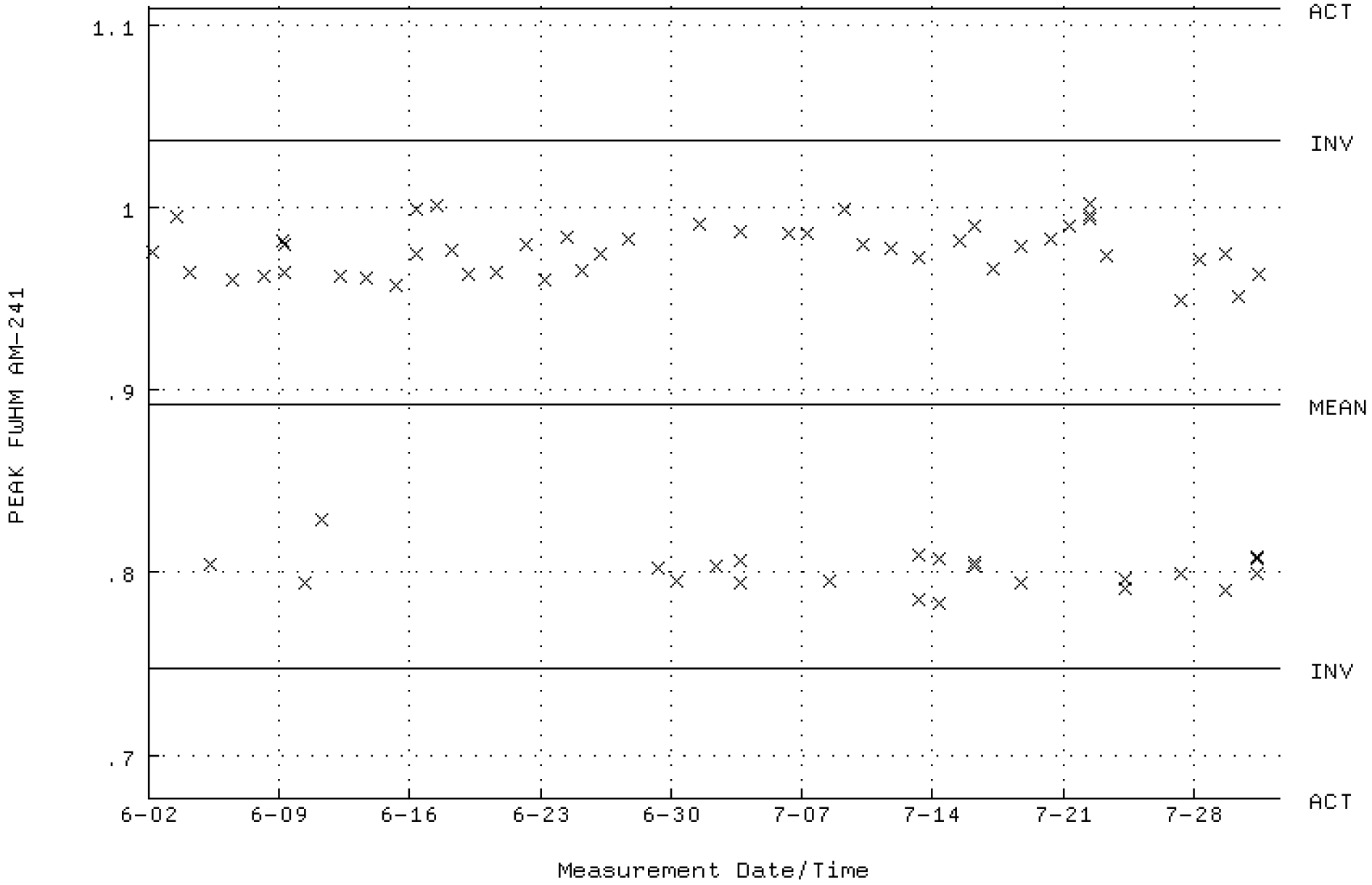
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]LBC_GAM52.QAF;1
Parameter Name : BACKRATE (Spectrum Background Rate)
Start/End Dates : 7-JUN-2026 11:36:56 through 1-AUG-2026 12:00:00
Mean +- Std Dev : 1.21684 +- 1.447294E-02 (1.19 %)



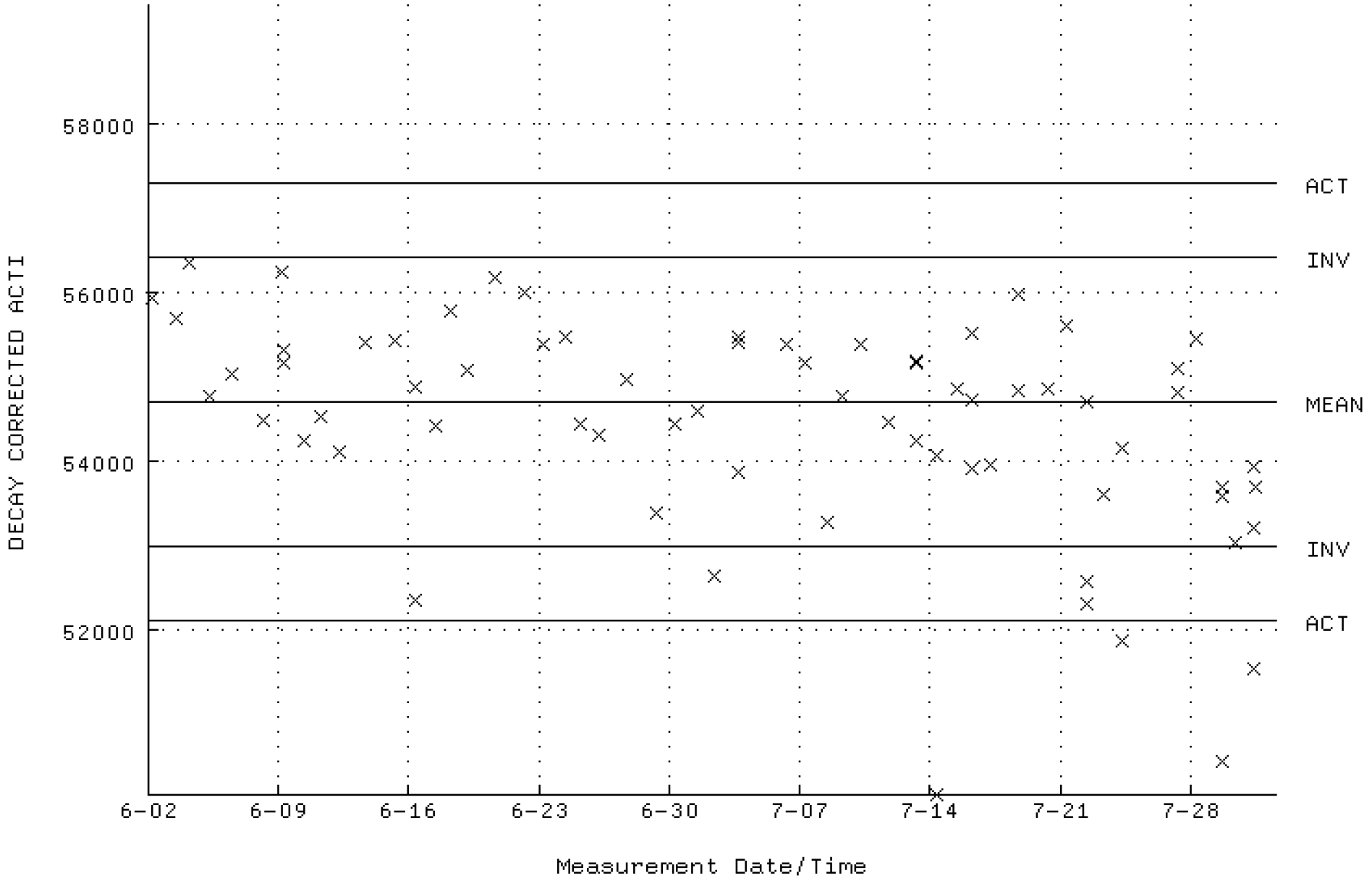
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]QCC_GAM64_CAN.QAF;1
Parameter Name : PSENERGY-59 (PEAK ENERGY AM-241)
Start/End Dates : 2-JUN-2026 05:27:02 through 1-AUG-2026 12:00:00
Lower/Upper Lmts: 58.0400 through 61.0400



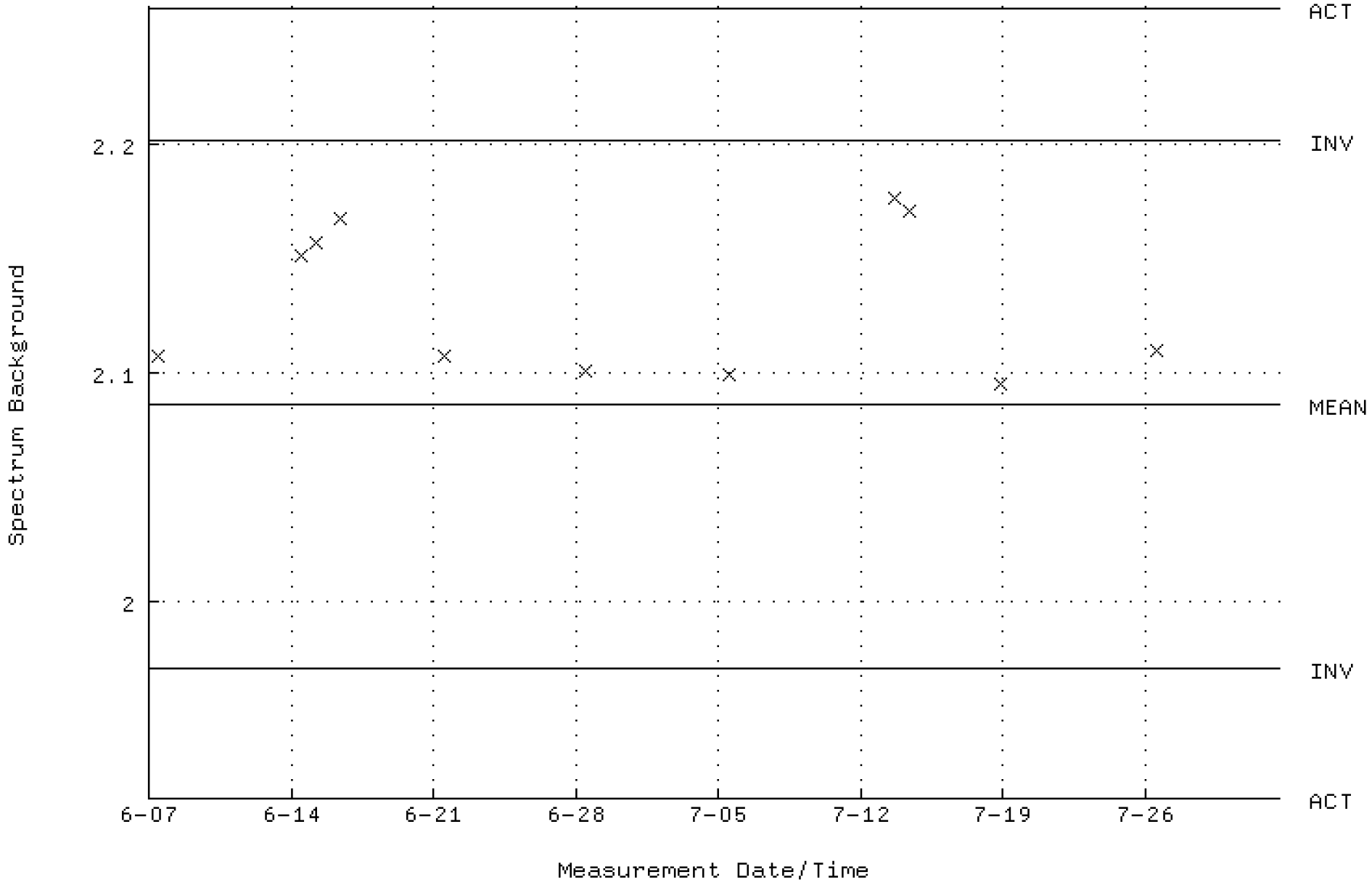
QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]QCC_GAM64_CAN.QAF;1
Parameter Name : PSFWHM-59 (PEAK FWHM AM-241)
Start/End Dates : 2-JUN-2026 05:27:02 through 1-AUG-2026 12:00:00
Mean +- Std Dev : 0.892474 +- 7.212067E-02 (8.08 %)



QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]QCC_GAM64_CAN.QAF;1
Parameter Name : NLACTVTY-59 (DECAY CORRECTED ACTIVITY AM-241)
Start/End Dates : 2-JUN-2026 05:27:02 through 1-AUG-2026 12:00:00
Mean +- Std Dev : 54721.5 +- 860.691 (1.57 %)



QA filename : DKA100:[CANBERRA.GAMMA.SCUSR.QA]LBC_GAM64.QAF;1
Parameter Name : BACKRATE (Spectrum Background Rate)
Start/End Dates : 7-JUN-2026 11:37:23 through 1-AUG-2026 12:00:00
Mean +- Std Dev : 2.08674 +- 5.763171E-02 (2.76 %)



RAD Standards Traceability

Eckert & Ziegler
Analytics

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

CERTIFICATE OF CALIBRATION

1556

Standard Radionuclide Source

84680-278
100 mL Solid in Aluminum Can

Customer: GEL Labs
P.O. No.: 489884RD, Item 3
Reference Date: 01-Apr-2011 12:00 PM EST **Grams of Master Source:** 0.0066498

This standard radionuclide source was prepared using aliquots measured gravimetrically from master radionuclide solutions. Calibration and purity were checked using a germanium gamma spectrometer system. At the time of calibration no interfering gamma-ray emitting impurities were detected. The gamma ray emission rates for the most intense gamma-ray lines are given. Eckert & Ziegler Analytics (EZA) maintains traceability to the National Institute of Standards and Technology through a Measurements Assurance Program as described in USNRC Regulatory Guide 4.15, Revision 1, February, 1979, and compliance with ANSI N42.22-1995, "Traceability of Radioactive Sources to NIST." EZA is accredited by the Health Physics Society (HPS) for the production of NIST-traceable sources, and this source was produced in accordance with the HPS accreditation requirements. Customers may report any concerns with the accreditation program to the HPS Secretariat, 1313 Dolley Madison Blvd., Ste. 402, McLean, VA 22101. Density of solid matrix 1.15 g/cc.

Nuclide	Gamma-Ray Energy (keV)	Half-Life, Days	Master Source* γps/gram	This Source γps	Uncertainty, % Type u_A	u_B	U	Calibration Method
Pb-210	46.5	8.120E+03	———	1.129E+03	0.1	2.1	4.1	4π LS
Am-241	59.5	1.580E+05	———	7.538E+02	0.1	1.7	3.5	4π LS
Cd-109	88.0	4.626E+02	1.659E+05	1.103E+03	0.6	2.3	4.8	HPGe
Co-57	122.1	2.718E+02	8.949E+04	5.951E+02	0.6	2.0	4.2	HPGe
Ce-139	165.9	1.376E+02	1.247E+05	8.292E+02	0.6	1.9	4.0	HPGe
Hg-203	279.2	4.661E+01	2.899E+05	1.928E+03	0.6	1.9	4.0	HPGe
Sn-113	391.7	1.151E+02	1.739E+05	1.156E+03	0.6	1.9	4.0	HPGe
Cs-137	661.7	1.098E+04	1.107E+05	7.361E+02	0.8	1.9	4.1	HPGe
Y-88	898.0	1.066E+02	4.246E+05	2.824E+03	0.6	1.9	4.0	HPGe
Zn-65	1115.6	2.441E+02	———	1.445E+03	0.1	1.7	3.5	IC
Co-60	1173.2	1.925E+03	2.118E+05	1.408E+03	0.7	1.9	4.0	HPGe
Co-60	1332.5	1.925E+03	2.118E+05	1.408E+03	0.7	1.9	4.0	HPGe
Y-88	1836.1	1.066E+02	4.495E+05	2.989E+03	0.7	1.9	4.0	HPGe

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

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

(Certificate continued on reverse side)

ACCREDITED SOURCE CALIBRATION LABORATORY HEALTH PHYSICS SOCIETY FOUNDED 1968

RC-S-060-101

Corporate Office
24937 Avenue Tibbitts Valencia, California 91355

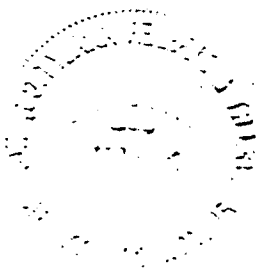
Laboratory
1380 Seaboard Industrial Blvd. Atlanta, Georgia, 30318

This standard will expire one year after the reference date.

Source Prepared by: M Williford
M. Williford, Radiochemist

QA Approved:
J. D. McCorvey, QA Manager Alternate

Date: 6/27/11



Standard Logbook

Serial ID:	1556	**Open/Reference Date:**	01-APR-11	**Aliquot :**	1 mL
Name:	Mixed Gamma LCS CAN	**Received:**	01-APR-11	**Density :**	Hand Calculated
Type:	Source Material	**Expires:**	01-APR-37	**Lot Number :**	84680-278
Employee:	Maggie Stamps	**Verified:**	14-JUL-11		
Supplier:	Eckert & Zeigler Analytics				
Description:	84680-278				
Comments:	None				

Analyte	Concentration	Analyte	Concentration
Americium-241	125983.3 dpm/mL	Cesium-137	51898.9 dpm/mL
Cobalt-60	84496.9 dpm/mL		

Verification for Mixed Gamma Standard 1556 CAN

Michael Hilton
7/14/2011

Isotope	Result
Pb-210	pCi/L
Mixed Gamma N1	722900
Mixed Gamma N2	752300
Mixed Gamma N3	692100

Isotopic Abundance: 0.0425
Certificate Value (dps): 1129

Mean Value (Counting) =	722433.33	pCi/L	100.622	**Pass**
Stdev =	30102.713	pCi/L		**Rule 3 (Pass/Fail)**
Certificate Value =	717965.0	pCi/L		
Lower Limit =	662227.9072	pCi/L		
Upper Limit =	782638.7594	pCi/L		
Rule 1 Pass/Fail	**Pass**			
Two sigma =	60205.42611			
10 % of Mean =	72243.33333			
Rule 2 (Pass/Fail)	**Pass**			

Verification Rules

Rule 1 = The certificate value (NOT including any uncertainty) shall lie within the 95% confidence interval determined from the mean and two sigma standard deviation of the three measurements
Rule 2 = The two sigma value used for the 95% confidence interval shall not exceed 10% of the mean value of the three verification measurements.
Rule 3 = The determined mean value shall be within 5% of the certificate value.

mgH 7/20/11

H.Stamper 7/20/11

Verification for Mixed Gamma Standard 1556 CAN

Michael Hilton	**Isotope**	**Result**			
7/14/2011	**Am-241**	**pCi/L**			
	Mixed Gamma N1	58390		Isotopic Abundance:	0.359
	Mixed Gamma N2	60740		Certificate Value (dps):	753.8
	Mixed Gamma N3	57770			
Mean Value (Counting) =	58966.67	pCi/L	**103.9074**	**Pass**	
Stdev =	1566.727	pCi/L		**Rule 3 (Pass/Fail)**	
Certificate Value =	56749.2	pCi/L			
Lower Limit =	55833.21277	pCi/L			
Upper Limit =	62100.12057	pCi/L			
Rule 1 Pass/Fail	**Pass**				
Two sigma =	3133.453898				
10 % of Mean =	5896.666667				
Rule 2 (Pass/Fail)	**Pass**				

Verification Rules

Rule 1 = The certificate value (NOT including any uncertainty) shall lie within the 95% confidence interval determined from the mean and two sigma standard deviation of the three measurements
Rule 2 = The two sigma value used for the 95% confidence interval shall not exceed 10% of the mean value of the three verification measurements.
Rule 3 = The determined mean value shall be within 5% of the certificate value.

mgH 7/20/11

M. Stamps 7/20/11

Verification for Mixed Gamma Standard 1556 CAN

Michael Hilton
7/14/2011

Isotope	Result
Cd-109	pCi/L
Mixed Gamma N1	818400
Mixed Gamma N2	798000
Mixed Gamma N3	764700

Isotopic Abundance: 0.037
Certificate Value (dps): 1103

Mean Value (Counting) =	793700.00	pCi/L	**98.51091**	**Pass**
Stdev =	27107.010	pCi/L		**Rule 3 (Pass/Fail)**
Certificate Value =	805697.6	pCi/L		
Lower Limit =	739485.9797	pCi/L		
Upper Limit =	847914.0203	pCi/L		
Rule 1 Pass/Fail	**Pass**			
Two sigma =	54214.02033			
10 % of Mean =	79370			
Rule 2 (Pass/Fail)	**Pass**			

mgh 7/20/11

MStamps 7/20/11

Verification Rules

Rule 1 = The certificate value (NOT including any uncertainty) shall lie within the 95% confidence interval determined from the mean and two sigma standard deviation of the three measurements
Rule 2 = The two sigma value used for the 95% confidence interval shall not exceed 10% of the mean value of the three verification measurements.
Rule 3 = The determined mean value shall be within 5% of the certificate value.

Verification for Mixed Gamma Standard 1556 CAN

Michael Hilton	**Isotope**	**Result**			
7/14/2011	**Co-57**	**pCi/L**			
	Mixed Gamma N1	19090		Isotopic Abundance:	0.856
	Mixed Gamma N2	18820		Certificate Value (dps):	595.1
	Mixed Gamma N3	18830			
Mean Value (Counting) =	18913.33	pCi/L	**100.6592**	**Pass**	
Stdev =	153.080	pCi/L		**Rule 3 (Pass/Fail)**	
Certificate Value =	18789.5	pCi/L			
Lower Limit =	18607.17433	pCi/L			
Upper Limit =	19219.49233	pCi/L			
Rule 1 Pass/Fail	**Pass**				
Two sigma =	306.1590001				
10 % of Mean =	1891.333333				
Rule 2 (Pass/Fail)	**Pass**				

mgh 7/20/11

MStamper 7/20/11

Verification Rules

Rule 1 = The certificate value (NOT including any uncertainty) shall lie within the 95% confidence interval determined from the mean and two sigma standard deviation of the three measurements
Rule 2 = The two sigma value used for the 95% confidence interval shall not exceed 10% of the mean value of the three verification measurements.
Rule 3 = The determined mean value shall be within 5% of the certificate value.

Verification for Mixed Gamma Standard 1556 CAN

Michael Hilton	**Isotope**	**Result**			
7/14/2011	**Ce-139**	**pCi/L**			
	Mixed Gamma N1	28740		Isotopic Abundance:	0.8
	Mixed Gamma N2	29410		Certificate Value (dps):	829.2
	Mixed Gamma N3	27560			
Mean Value (Counting) =	28570.00	pCi/L	**101.9865**	**Pass**	
Stdev =	936.643	pCi/L		**Rule 3 (Pass/Fail)**	
Certificate Value =	28013.5	pCi/L			
Lower Limit =	26696.71412	pCi/L			
Upper Limit =	30443.28588	pCi/L			
Rule 1 Pass/Fail	**Pass**				
Two sigma =	1873.285883				
10 % of Mean =	2857				
Rule 2 (Pass/Fail)	**Pass**				

mgH 7/20/11

Verification Rules

Rule 1 = The certificate value (NOT including any uncertainty) shall lie within the 95% confidence interval determined from the mean and two sigma standard deviation of the three measurements
Rule 2 = The two sigma value used for the 95% confidence interval shall not exceed 10% of the mean value of the three verification measurements.
Rule 3 = The determined mean value shall be within 5% of the certificate value.

pl Stamp 7/20/11

Verification for Mixed Gamma Standard 1556 CAN

Michael Hilton	**Isotope**	**Result**			
7/14/2011	**Hg-203**	**pCi/L**			
	Mixed Gamma N1	66300		Isotopic Abundance:	0.8156
	Mixed Gamma N2	68180		Certificate Value (dps):	1928
	Mixed Gamma N3	64480			
Mean Value (Counting) =	66320.00	pCi/L	**103.8046**	**Pass**	
Stdev =	1850.081	pCi/L		**Rule 3 (Pass/Fail)**	
Certificate Value =	63889.3	pCi/L			
Lower Limit =	62619.83784	pCi/L			
Upper Limit =	70020.16216	pCi/L			
Rule 1 Pass/Fail	**Pass**				
Two sigma =	3700.162159				
10 % of Mean =	6632				
Rule 2 (Pass/Fail)	**Pass**				

mgH 7/20/11

MStamper 7/20/11

Verification Rules

Rule 1 = The certificate value (NOT including any uncertainty) shall lie within the 95% confidence interval determined from the mean and two sigma standard deviation of the three measurements
Rule 2 = The two sigma value used for the 95% confidence interval shall not exceed 10% of the mean value of the three verification measurements.
Rule 3 = The determined mean value shall be within 5% of the certificate value.

Verification for Mixed Gamma Standard 1556 CAN

Michael Hilton 7/14/2011	Isotope	Result			
	Sn-113	**pCi/L**			
	Mixed Gamma N1	49560		Isotopic Abundance:	0.6497
	Mixed Gamma N2	49620		Certificate Value (dps):	1156
	Mixed Gamma N3	48300			
Mean Value (Counting) =	49160.00	pCi/L	**102.2277**	**Pass**	
Stdev =	745.386	pCi/L		**Rule 3 (Pass/Fail)**	
Certificate Value =	48088.7	pCi/L			
Lower Limit =	47669.22839	pCi/L			
Upper Limit =	50650.77161	pCi/L			
Rule 1 Pass/Fail	**Pass**				
Two sigma =	1490.771612				
10 % of Mean =	4916				
Rule 2 (Pass/Fail)	**Pass**				

Verification Rules

Rule 1 = The certificate value (NOT including any uncertainty) shall lie within the 95% confidence interval determined from the mean and two sigma standard deviation of the three measurements
Rule 2 = The two sigma value used for the 95% confidence interval shall not exceed 10% of the mean value of the three verification measurements.
Rule 3 = The determined mean value shall be within 5% of the certificate value.

mgH 7/20/11

Hoffampl 7/20/11

Verification for Mixed Gamma Standard 1556 CAN

Michael Hilton	**Isotope**	**Result**			
7/14/2011	**Cs-137**	**pCi/L**			
	Mixed Gamma N1	23710		Isotopic Abundance:	0.851
	Mixed Gamma N2	23950		Certificate Value (dps):	736.1
	Mixed Gamma N3	24040			
Mean Value (Counting) =	23900.00	pCi/L	**102.2333**	**Pass**	
Stdev =	170.587	pCi/L		**Rule 3 (Pass/Fail)**	
Certificate Value =	23377.9	pCi/L			
Lower Limit =	23558.82556	pCi/L			
Upper Limit =	24241.17444	pCi/L			
Rule 1 Pass/Fail	**Fail**	***exception taken due to full recovery of standard**			
Two sigma =	341.1744422				
10 % of Mean =	2390				
Rule 2 (Pass/Fail)	**Pass**				

7/20/11

Verification Rules

Rule 1 = The certificate value (NOT including any uncertainty) shall lie within the 95% confidence interval determined from the mean and two sigma standard deviation of the three measurements
Rule 2 = The two sigma value used for the 95% confidence interval shall not exceed 10% of the mean value of the three verification measurements.
Rule 3 = The determined mean value shall be within 5% of the certificate value.

MStamps
7/20/11

Verification for Mixed Gamma Standard 1556 CAN

Michael Hilton
7/14/2011

Isotope	Result
Y-88 (898)	pCi/L
Mixed Gamma N1	82690
Mixed Gamma N2	81320
Mixed Gamma N3	80940

Isotopic Abundance: 0.937
Certificate Value (dps): 2824

Mean Value (Counting) =	81650.00	pCi/L	**100.2381**	**Pass**
Stdev =	920.489	pCi/L		**Rule 3 (Pass/Fail)**
Certificate Value =	81456.1	pCi/L		
Lower Limit =	79809.022	pCi/L		
Upper Limit =	83490.978	pCi/L		
Rule 1 Pass/Fail	**Pass**			
Two sigma =	1840.978001			
10 % of Mean =	8165			
Rule 2 (Pass/Fail)	**Pass**			

mqN 7/20/11

Mstamp 7/20/11

Verification Rules

Rule 1 = The certificate value (NOT including any uncertainty) shall lie within the 95% confidence interval determined from the mean and two sigma standard deviation of the three measurements
Rule 2 = The two sigma value used for the 95% confidence interval shall not exceed 10% of the mean value of the three verification measurements.
Rule 3 = The determined mean value shall be within 5% of the certificate value.

Verification for Mixed Gamma Standard 1556 CAN

Michael Hilton	**Isotope**	**Result**			
7/14/2011	**Co-60 (1173)**	**pCi/L**			
	Mixed Gamma N1	38910		Isotopic Abundance:	0.9985
	Mixed Gamma N2	39750		Certificate Value (dps):	1408
	Mixed Gamma N3	38840			
Mean Value (Counting) =	39166.67	pCi/L	**102.7694**	**Pass**	
Stdev =	506.392	pCi/L		**Rule 3 (Pass/Fail)**	
Certificate Value =	38111.2	pCi/L			
Lower Limit =	38153.88173	pCi/L			
Upper Limit =	40179.45161	pCi/L			
Rule 1 Pass/Fail	**Fail**	***exception taken due to full recovery of standard**			
Two sigma =	1012.784939				
10 % of Mean =	3916.666667				
Rule 2 (Pass/Fail)	**Pass**				

msgd 7/20/11

MStamper 7/20/11

Verification Rules

Rule 1 = The certificate value (NOT including any uncertainty) shall lie within the 95% confidence interval determined from the mean and two sigma standard deviation of the three measurements
Rule 2 = The two sigma value used for the 95% confidence interval shall not exceed 10% of the mean value of the three verification measurements.
Rule 3 = The determined mean value shall be within 5% of the certificate value.

Verification for Mixed Gamma Standard 1556 CAN

Michael Hilton	**Isotope**	**Result**			
7/14/2011	**Co-60 (1332.50)**	**pCi/L**			
	Mixed Gamma N1	38940		Isotopic Abundance:	0.9998
	Mixed Gamma N2	40200		Certificate Value (dps):	1408
	Mixed Gamma N3	39150			
Mean Value (Counting) =	39430.00	pCi/L	**103.595**	**Pass**	
Stdev =	675.056	pCi/L		**Rule 3 (Pass/Fail)**	
Certificate Value =	38061.7	pCi/L			
Lower Limit =	38079.88889	pCi/L			
Upper Limit =	40780.11111	pCi/L			
Rule 1 Pass/Fail	**Fail**	***exception taken due to full recovery of standard**			
Two sigma =	1350.111107				
10 % of Mean =	3943				
Rule 2 (Pass/Fail)	**Pass**				

mgw 7/20/11

MStamps 7/20/11

Verification Rules

Rule 1 = The certificate value (NOT including any uncertainty) shall lie within the 95% confidence interval determined from the mean and two sigma standard deviation of the three measurements
Rule 2 = The two sigma value used for the 95% confidence interval shall not exceed 10% of the mean value of the three verification measurements.
Rule 3 = The determined mean value shall be within 5% of the certificate value.

Verification for Mixed Gamma Standard 1556 CAN

Michael Hilton
7/14/2011

Isotope	Result
Y-88 (1836.1)	pCi/L
Mixed Gamma N1	82870
Mixed Gamma N2	83080
Mixed Gamma N3	84640

Isotopic Abundance: 0.992
Certificate Value (dps): 2989

Mean Value (Counting) =	83530.00	pCi/L	**102.5723**	**Pass**
Stdev =	967.006	pCi/L		**Rule 3 (Pass/Fail)**
Certificate Value =	81435.3	pCi/L		
Lower Limit =	81595.98862	pCi/L		
Upper Limit =	85464.01138	pCi/L		
Rule 1 Pass/Fail	**Fail**	***exception taken due to full recovery of standard**		
Two sigma =	1934.011375			
10 % of Mean =	8353			
Rule 2 (Pass/Fail)	**Pass**			

mgH 7/20/11

MStamper 7/20/11

Verification Rules

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Rule 2 = The two sigma value used for the 95% confidence interval shall not exceed 10% of the mean value of the three verification measurements.
Rule 3 = The determined mean value shall be within 5% of the certificate value.

Standard Logbook

Serial ID:	1556	**Open/Reference Date:**	01-APR-11	**Aliquot :**	1 mL
Name:	Mixed Gamma LCS CAN	**Received:**	01-APR-11	**Density :**	Hand Calculated
Type:	Source Material	**Expires:**	01-APR-37	**Lot Number :**	84680-278
Employee:	Maggie Stamps	**Verified:**	14-JUL-11		
Supplier:	Eckert & Ziegler				

Description: 84680-278

Comments: None

Analyte	Concentration	Analyte	Concentration
Americium-241	125983.3 dpm/mL	Cesium-137	51898.9 dpm/mL
Cobalt-60	84496.9 dpm/mL		

Runlogs

Instrument Run Log

Instrument Type: GAMMA SPECTROMETER **Batch ID: 3033734**

Sample ID	Sample Type	Analyst	Instrument	Run Date	Status	Geometry	Calibration Date
787521001	SAMPLE	GG	GAM16	AUG-17-26 06:02:27	DONE	CAN	20-MAR-26 00:00
787535001	SAMPLE	GG	GAM29	AUG-17-26 06:02:52	DONE	CAN	30-JUL-26 00:00
787535002	SAMPLE	GG	GAM33	AUG-17-26 06:03:12	DONE	CAN	05-DEC-25 00:00
787535003	SAMPLE	GG	GAM34	AUG-17-26 06:03:31	DONE	CAN	03-SEP-25 00:00
787535004	SAMPLE	GG	GAM52	AUG-17-26 06:03:53	DONE	CAN	03-AUG-26 00:00
787535005	SAMPLE	GG	GAM64	AUG-17-26 06:04:42	DONE	CAN	15-AUG-25 00:00
787535006	SAMPLE	GG	GAM34	AUG-17-26 07:31:51	DONE	CAN	03-SEP-25 00:00
787535007	SAMPLE	GG	GAM52	AUG-17-26 07:32:14	DONE	CAN	03-AUG-26 00:00
787535008	SAMPLE	GG	GAM64	AUG-17-26 07:32:36	DONE	CAN	15-AUG-25 00:00
1206539882	MB	GG	GAM02	AUG-17-26 08:14:45	DONE	CAN	04-SEP-25 00:00
1206539883	DUP	GG	GAM24	AUG-17-26 08:15:25	DONE	CAN	23-JUN-25 00:00
1206539884	LCS	GG	GAM29	AUG-17-26 08:16:41	DONE	CAN	30-JUL-26 00:00
787944001	SAMPLE	GG	GAM64	AUG-17-26 09:35:23	DONE	CAN	15-AUG-25 00:00

Attachment 3: DMM-5 Management of Soils

DMM-5 / Management of Soils Contaminated with Technologically Enhanced Naturally Occurring Radioactive Materials (TENORM)	
New York State Department of Environmental Conservation **DEC Program Policy**	
Issuing Authority: David Vitale 	**Title:** Acting Deputy Commissioner, Office of Remediation and Materials Management
Date Issued: 10/27/2023	**Latest Date Revised: NEW POLICY**

I. Summary:

This policy explains the process and requirements for obtaining a variance under 6 NYCRR 380-3.5 for the management of processed and concentrated naturally occurring radioactive material, also commonly referred to as technologically enhanced naturally occurring radioactive material (TENORM). Additionally, this policy identifies the process and criteria to be used to evaluate TENORM and provides guidelines to Department of Environmental Conservation ("Department") program staff, and property owners, project sponsors, and the public who may be seeking variances, on how to appropriately handle TENORM encountered during construction or earthwork projects, such as clearing, grading, excavation, filling, demolition, or stockpiling. This policy also applies to any project site where the intrusive work conducted has or will likely disturb identified or suspected TENORM. This policy does not apply to activities that disturb naturally occurring radioactive materials.

Part 380 applies to any person who disposes of or releases TENORM. This policy is applicable where a variance application has been submitted pursuant to 6 NYCRR 380-3.5 for on-site management of TENORM fill that was generated, disposed of, or released prior to the implementation of 6 NYCRR Part 380, which was March 24, 1994, and which has been excavated for a project. Once TENORM has been excavated, it is considered radioactive material and may be subject to DEC's regulatory authority as noted in 6 NYCRR 380-1.2(e) and as defined in 6 NYCRR 380-2.1(a)(20). Placing the TENORM back into the area in which it was excavated constitutes deposition or injection into the environment and thus disposal. This policy provides guidance on the variance application that may be submitted pursuant to 6 NYCRR 380-3.5 to allow on-site management of excavated TENORM.

Implementation

This policy is to be implemented at any site, location, or work area where anthropogenic (i.e., "man- made" or "man-modified") material or fill (frequently observed to be "slag") has been noted or discovered and is suspected or known to have a potential or definitive TENORM characteristic, (see definition below).

Definitions

As Low As Reasonably Achievable (ALARA) – Means every reasonable effort is made to maintain exposures to radiation as far below the dose limits (or for purposes of this Policy concentration values) in Part 380 as is practical consistent, with the purpose for which the action is undertaken, taking into account the state of technology, the economics of improvements in relation to the state of technology, the economics of improvements in relation to benefits to the public health and safety, and other societal and socioeconomic considerations, and in relation to utilization of radioactive materials in the public interest.

Area of Contamination (AOC) – Means a discrete area of generally dispersed contamination.

Excavation – Means any man-made cut, cavity, trench, or depression in the earth surface formed by the removal of soil and rock, or any activity that causes or contributes to the creation of any such cut, cavity, trench, or depression.

Disposal – Means the act of discarding regulated radioactive material. Depositing or injecting radioactive material in the environment is disposal unless the radioactive material is being used in the environment, as authorized by a permit issued under 6 NYCRR 380-3.1.

TENORM Fill – Means slag or other material containing TENORM used as fill, without regard to its radiological content, placed on its present site before March 24, 1994, when 6 NYCRR Part 380 became effective. Such historically placed fill is not a regulated waste if it remains as it was placed at that time.

Licensed Decontamination & Decommissioning (D&D) Contractor – Means a person or company who possesses a radioactive materials license that authorizes them to perform decontamination and decommissioning of radiologically contaminated sites. D&D Contractors must possess a license issued by the New York State Department of Health (DOH). Companies licensed by the US Nuclear Regulatory Commission (NRC), or another state may work under reciprocity with the DOH.

Naturally-Occurring Radioactive Material (NORM) –Means any of the primordial radionuclides (those present since the formation of the earth – Uranium, Thorium, Potassium) or radioactive elements as they occur in nature, and their radioactive decay products, such as radium and radon, that are not concentrated as a result of human activity. (*Note*: NORM produced through interaction of cosmic rays with certain gasses in the upper atmosphere (cosmogenic NORM) such as tritium or carbon-14 are not addressed in this policy.)

Person – Means:

(i) any individual; public, private, or government corporation; joint stock company; industry; partnership; co-partnership; firm; association; trust; estate; public or private institution; agency, department, or bureau of the State, or group, political subdivision of the State, any other State or political subdivision thereof; Federal government agencies other than the U.S. Nuclear Regulatory Commission or Department of Energy; any foreign government or nation or any political subdivision of any such government or nation; and

(ii) any legal subsidiary, successor, representative, agent, or agency of the foregoing, or any other legal entity whatsoever.

Slag – Means a waste product from the pyrometallurgical processing of various ore, both ferrous (e.g., steel and blast furnace Fe) and non-ferrous (e.g., P, Ag, Cu, Ni, Pb, Sn, Zn).

Technologically-enhanced naturally occurring radioactive material (TENORM) – Means naturally occurring radioactive material whose radionuclide concentrations are increased by or as a result of past or present human practices, such as manufacturing or water processing.

TENORM (Background-comparable) – Means TENORM fill that has been disturbed by excavation or other methods and is below 5 pCi/g of radium-226.

TENORM Waste – Means TENORM fill that has been disturbed by excavation or other methods and exceeds 15 pCi/g of radium-226.

TENORM Disposal Plan – Means a TENORM disposal plan must cover management and disposal of TENORM waste (>15 pCi/g of Ra-226) generated for disposal to ensure handling in a manner adequate to protect human health and the environment until such time as it is shipped for disposal.

TENORM Management Plan – Means a plan to appropriately manage in an AOC and/or dispose of TENORM fill containing a concentration of radium-226 between 5 pCi/g and 15pCi/g that must be submitted with an application for a variance to be approved by the Department. (*Note*: for TENORM (Background-comparable), the procedure(s) utilized in determining compliance with the <5 pCi/g criteria will constitute a “Management Plan” for purposes of meeting the management requirements in Section
IV.B. of this policy.)

II. Policy

The Department will allow excavated TENORM to be returned to the excavation area on a project site if the concentration of radium-226 meets certain thresholds (discussed throughout) and the TENORM is handled in accordance with this policy and pursuant to a variance issued under 6 NYCRR 380-3.5. The Department’s position is that handling excavated TENORM in accordance with this policy and a Department-approved TENORM Management Plan will have no significant adverse impact on public health and safety, and the environment. (*Note*: A variance application to allow excavated TENORM below 15 pCi/g of Ra-226 to be returned to the area of excavation on a project site does not need to include the demonstrations required under 6 NYCRR 380-3.5(b)(4) and (5).) This policy utilizes the EPA Uranium Mill Tailings Radiation Control Act standards of 5 and 15 pCi/g of Ra-226, but conservatively applies them only to the excavated TENORM.

Purpose and Background

The purpose of this policy is to address intrusive work on sites containing TENORM fill. A number of industrial processes generated byproducts that contained processed and concentrated NORM, also known as TENORM. Slag and other TENORM-containing byproducts from ore refining were used as backfill beneath roadways and other construction projects. This was done due to their low cost and beneficial physical properties, but without consideration of their inherent radioactivity.

This policy applies to sites containing TENORM that was placed on its present site before March 24, 1994, when 6 NYCRR Part 380 was updated to address the radiological content of TENORM. Since that time, this type of waste is not allowed to be used as fill or disposed of at any site unless the site has regulatory approval to accept it. As of the effective date of this policy, there are no sites approved for the disposal of newly generated TENORM waste in New York. Therefore, such waste must be disposed of in an authorized disposal facility.

When the presence of TENORM at sites first came to light, the New York State Department of Health commissioned a group of outside experts to assess the potential public health risks of the sites. These experts determined that the sites did not pose significant public health or environmental concerns if the TENORM is left in place. If TENORM is disturbed, it must be appropriately handled and the potential impacts to public health and the environment must be taken into consideration.

III. Responsibility

Responsibility for the interpretation and implementation of this policy resides with the Department's assigned Environmental Radiation Specialist (ERS) in coordination with any Department project manager (or other involved Department staff), to ensure that an adequate radiological screening is performed. Additional consultation may occur as determined to be necessary with the Department's Radioactive Materials Management Section (RMMS) staff, in the Bureau of Hazardous Waste and Radiation Management in the Division of Materials Management.

Responsibility for updating of this policy resides with the RMMS in consultation with regional management and staff (e.g., ERS) responsible for implementation of this policy.

IV. Procedure

The first step is to verify whether anything exhibiting elevated radioactivity is present in the materials being handled. This includes a preliminary screening radiation survey to determine if TENORM is present. Prior to conducting the survey, a survey plan must be developed and submitted for Department approval.

Second, if the survey results demonstrate that TENORM is present, then a proper TENORM management plan must be developed and submitted for Department approval. The third step is the TENORM must be managed in accordance with the approved TENORM management plan and if necessary, a variance. Further details of each step are provided below.

A. Radiological Screening

6 NYCRR 380-1.5(c)(1) requires that a variance application include a description of the waste containing radioactive material to be disposed of, including the physical and chemical properties relevant to the risk evaluation. Radiological screening, as described below, may be used to satisfy this requirement.

At sites known or reasonably suspected of being contaminated with TENORM where any development activity or other ground-disturbing activity or excavation is planned, a licensed D&D contractor must be utilized to perform an initial radiological screening survey (the "survey") to identify the presence and concentration of radium-226, as described in Attachment A. If appropriate, the survey may be submitted with the necessary proposed TENORM Management Plan (see Section VI.C. of this policy). For sites where TENORM was not initially known or suspected, but during work the presence of slag fill or other indicators raise a concern for the possible presence of TENORM, a health physics technician or appropriately trained person (as approved by the Department) may perform a preliminary radiological screening survey. Project sponsors must submit a draft of the survey plan to the Department in advance to ensure that the survey will meet the Department's data needs. The Department will review and approve the survey plan prior to implementation.

After the survey plan is approved and an initial survey is conducted, the project sponsor, site owner, or other appropriate person must submit the initial survey results to the assigned ERS (and DEC project manager for sites in a DEC remedial program) for review. The initial radiological screening survey results will assist the ERS in determining the necessity, and scope, of a TENORM Management Plan. Additionally, the initial radiological screening survey results provide the description of the waste containing radioactive material, which includes the physical and chemical properties relevant to risk evaluation, that is a requirement for a variance application under 6 NYCRR 380-3.5(c)(1).

If any radiological screening survey conducted indicates the presence of radium-226 or other NORM isotopes, in potentially elevated concentrations, the site will be deemed to contain potential TENORM. If any material is determined to be TENORM, it must be handled in accordance with the management requirements in Section IV.B of this policy.

B. Management Requirements

This policy utilizes the EPA Uranium Mill Tailings Radiation Control Act standards of 5 and 15 pCi/g of Ra- 226, but conservatively applies them only to the management of the excavated TENORM. This standard is widely used as a remedial goal at sites across the country, and in New York, which contain Ra-226 contamination. The original purpose of these values was to minimize the radiation dose received via radon emanation from Ra-226 and, as such, represents a comparable risk and exposure scenario. The following are the management requirements for the different types of TENORM that could be discovered on a particular site:

> **TENORM (Background-comparable)** (below 5 pCi/g of radium-226) – the Department may either grant a variance to allow the excavated TENORM (Background-comparable) to be returned to the excavation/AOC, or the assigned ERS determines, and approves, that the proposed use and handling in the AOC is acceptable. The Department will also require that appropriate and approved institutional control(s) be put in place (e.g., deed restriction, environmental easement) for each AOC.

TENORM fill (between 5 pCi/g and 15 pCi/g of radium-226) – the Department may grant a variance to allow excavated TENORM fill to be returned to the excavation/AOC if the following conditions are met:

1) the site where the TENORM fill is found contains undisturbed TENORM fill;

2) all excavated TENORM fill is handled in conformance with the submitted and approved TENORM Management plan;

3) an appropriate and approved institutional control(s) is put in place (e.g., deed restriction, environmental easement) for each AOC; and

4) the TENORM fill does not exceed 15 pCi/g of radium-226.

TENORM Waste (above 15 pCi/g of radium-226) – TENORM waste is considered a regulated waste per 6 NYCRR Part 380 and must be disposed of in accordance with appropriate regulatory requirements at an authorized disposal facility.

C. Management Plan Requirements for TENORM fill

Once TENORM fill has been identified on a property where it is being or will be disturbed, a TENORM Management Plan must be submitted to the Department for approval. As discussed previously, the radiological screening survey plan can be incorporated into the TENORM Management Plan. The TENORM Management Plan describes the proposed manner and conditions of waste disposal and the procedures to ensure that doses are maintained ALARA, which are both requirements for a variance application under 6 NYCRR 380-3.5(c)(1), (4). The TENORM Management Plan must demonstrate the following:

1) the site is conducive to the implementation of long-term site controls;

2) a well-defined and documented consolidation location within the AOC (if proposed) will be established;

3) a minimum of two feet of acceptable soil cover material or the equivalent of paving with asphalt or concrete will be placed over the consolidation area;

4) whether substantial TENORM will remain on the site at the completion of any site work;

5) the size of the consolidation area will be based on the known extent of area containing undisturbed TENORM remaining on-site; and will be determined and approved on a case-by- case basis by the Department; and

6) that it is implemented in a manner consistent with the ALARA

concept. For more details on the TENORM Management Plan, see

Attachment B of this policy.

D. Variance Application Requirements

For TENORM to remain onsite per a proposed management plan, an application for a variance must be submitted and approved. The application must comply with the requirements of 6 NYCRR 380-3.5.

However, as previously indicated, the application does not need to include the demonstrations required under 6 NYCRR 380-3.5(b)(4) and (5).

To meet the requirements of 6 NYCRR 380-3.5, the application for a variance for TENORM fill must include the following:

1) an explanation as to why the applicant believes the property contains TENORM;

2) the initial radiological survey results showing the concentration of radium-226 and other NORM isotopes found in the TENORM;

3) a TENORM Management Plan;

4) institutional controls as previously discussed, as determined by the Department to be necessary; and

5) any additional information deemed necessary by the Department.

The application for a variance will be reviewed by the assigned ERS, with recommendations made to appropriate Department management and programmatic areas for determination of approval or rejection (preference is for determination to be made in a regionalized program office, whenever possible).

Any denial of a variance application may result in the applicant or responsible person being required to take further action, including, but not limited to, additional characterization, site definition, and potentially removal and disposal off site of the material in question. Additionally, when a variance application is denied, the Department will issue a notice of denial and the applicant may request a hearing in accordance with the procedures in 6 NYCRR Part 621 as a variance from Part 380 qualifies as a permit.

Additional Requirements and Recommendations

This policy does not address the transportation of TENORM or other radioactive materials.

Regardless of the concentration of radium-226 and other NORM isotopes determined to exist at a site, any new structures built at said location are recommended to utilize radon resistant construction.

V. Related References

49 CFR Part 173 Subpart I Class 7 Radioactive

Materials 10 NYCRR Part 16 Ionizing Radiation

6 NYCRR Part 380 Prevention and Control of Environmental Pollution by Radioactive

Materials 6 NYCRR Part 381 Transporters of Low-Level Radioactive Material

17 NYCRR Part 154 Special Hauling Permits

Attachment A Radiological

Screening Survey Criteria

If a radiological screening survey is needed to verify the presence of TENORM, the following process must be followed:

1) Establish an appropriate background(s) representative for the area(s) to be surveyed, as approved by the Department. It is intended for the background area to be distinct from the area of contamination (AOC), yet representative of background conditions in the vicinity of the AOC. Natural radiological background is preferred, however, in some instances, such as urban areas, background representative of non-natural conditions not impacted by TENORM may be acceptable.

2) At a minimum, survey the portion of the site to be disturbed.

3) If survey readings exceed 1.5 x background, collect a minimum of three representative composite samples of the TENORM (to be analyzed by a DOH Environmental Laboratory Approval Program (ELAP) certified laboratory) including from the area of highest survey readings. Perform fixed one-minute meter readings at each sampling location prior to collection of a sample.

   a) In consultation with the assigned ERS, develop a correlation between meter readings and soil concentrations to guide future survey efforts. Where feasible, the use of a meter reading-to-concentration correlation (backed-up by limited sample analyses) can reduce costs and time delays during site characterization and waste monitoring rather than relying solely on analytical results.

   b) As long as survey results indicate radium-226 levels below 5 pCi/g, no separation of soil and TENORM is required.

4) If no readings in excess of 1.5 times background are noted, no further monitoring during excavation activities is necessary, except as noted below.

   a) In most cases, no other radiological monitoring will be required.

   b) However, certain factors may necessitate limited additional monitoring of excavated materials. Those factors can include:

      i) Whether there are known areas of TENORM in the region or on nearby properties;

      ii) Whether there is evidence that slag is present on-site and if so whether it contains TENORM; or

      ii) If major changes in types of TENORM encountered occur during excavation.

   c) If Department staff or a site consultant see possible TENORM at or from a depth greater than was evaluated by the original survey, it is strongly recommended that a plan to perform limited radiological screening of excavated materials be developed. The goal is to ensure that contaminated materials are

not inadvertently redistributed on the site or moved off site. If such a circumstance arises, ERS staff will work with the consultant to establish an appropriate limited screening plan.

Attachment B

TENORM Management Plan

The TENORM Management Plan must include the following:

1) TENORM Sorting Process:

a) Unless an alternate plan is approved by the Department as part of previously discussed process regarding granting a Part 380 variance, material removed from the excavation area must be sorted as part of the excavation process and placed into stockpiles using average soil concentrations, based upon waste management needs. Stockpiles should be managed to minimize erosion and the generation of dust.

b) These stockpiles may include:

i) A pile for TENORM (Background-comparable) clearly below 5 pCi/g of radium- 226

ii) A pile for TENORM Waste clearly exceeding 15 pCi/g of radium- 226 for off-site disposal.

iii) An optional intermediate pile for TENORM fill that cannot readily be identified during excavation as fitting into one of the above categories based on meter readings alone. (below 5 pCi/g or above 15pCi/g for Ra-226.)

1) If an intermediate concentration pile is proposed by the TENORM Management Plan, the TENORM Management Plan must describe how the fate of this TENORM fill will be resolved, or

2) If an intermediate concentration pile is not proposed by the TENORM Management Plan, all TENORM fill exceeding 5 pCi/g of radium-226 must be placed in the pile for off-site disposal.

c) If a correlation between meter readings and soil concentrations to guide future survey efforts has not already been completed and approved by the assigned Department ERS, it must be included as part of this TENORM Management Plan.

2) Survey Process for Soil/TENORM Sorting

a) In larger excavations, the preferred method is to excavate in six-inch (6”) lifts and perform walkover surveys using the established meter reading-to-concentration correlation to separate out contaminated material. If site characteristics or other restrictions do not allow for this, surveying bucket by bucket, visual screening, or another process may be submitted for consideration as part of the TENORM Management Plan.

b) In tight areas such as trenches where normal surveying is impractical or dangerous, bucket loads of excavated material should be surveyed as they are removed from the excavation. Due to the change in geometry from a flat plane to a bucket of soil, a separate meter reading-to-concentration ratio would be required

for this survey option. Alternatives to surveying buckets of excavated material during excavation may be submitted to the Department for consideration as part of the TENORM Management Plan.

3) TENORM Management

The following contains information on the management requirements for the different types of TENORM:

a) TENORM Waste (i.e., material with survey levels exceeding 15 pCi/g of radium-226) must be disposed of off-site at facilities permitted to accept such wastes. Representative sampling must be performed following the waste acceptance criteria of the selected disposal site.

b) TENORM (Background-comparable) (i.e., material with survey levels below 5 pCi/g of radium-226) are generally not restricted for radiological purposes and may be reused on-site, dependent upon development of a variance and/or approval by the assigned ERS, and a commitment to utilize radon-resistant construction for any structures built on the property in the future, along with an appropriate land use control.

c) TENORM fill less than 15 pCi/g of radium-226 may be able to be placed back into the excavation area consistent with the criteria in this policy. Reuse of TENORM fill concentrations between 5 pCi/g and 15 pCi/g:

i) TENORM fill must be placed a minimum of two feet below grade.

ii) Appropriate land use controls, as previously discussed, must record the presence of TENORM fill and the known, or suspected, extent of its existence at the site.

4) Undisturbed TENORM

a) TENORM that does not have to be disturbed for site development or for remediation of other contaminants is not required to be remediated as long as the undisturbed TENORM poses no significant risk to public health or the environment in its present state.

b) Radon-resistant construction is strongly encouraged to be utilized for any future buildings.

Attachment 4: MJwRCP-66 Soil Sampling Procedure

THE MJW COMPANIES Radiological Consulting Professionals and Expert Technical Services		MJWRCP-66 Rev. 2
PROCEDURE FOR SOIL SAMPLING FOR RADIOACTIVE MATERIAL		**FIELD PROCEDURE**
Effective Date: 10/14/2023	Approved By: D. A. Dooley	

1.0 PURPOSE

This procedure describes the general and specific procedures, methods and considerations to be used and observed when collecting soil samples for field screening and/or laboratory analysis.

2.0 SCOPE

The procedures described in this document are to be used by qualified field personnel when collecting and handling soil samples in the field. If MJW field personnel determine if any of the procedural steps may be inappropriate, they will contact their field supervisor immediately to discuss and resolve the issue. Any and all such issues will be recorded in the field logbook.

3.0 SAFETY PRECAUTIONS

Proper safety precautions must be observed when collecting soil samples. Field personnel must refer to the RECON Project Health & Safety Plan Rev 1 for guidelines on safety precautions to be followed for this type of field work.

4.0 PROCEDURAL PRECAUTIONS

Special care must be taken not to contaminate collected samples. This includes but it not limited to storing samples in a secure location to preclude conditions which could alter the properties of the sample. Samples shall be custody sealed during long-term storage or shipment. Collected samples are in the custody of the sampler or sample custodian until the samples are relinquished to another party. If samples are transported by the sampler, they will remain under his/her custody or be secured until they are relinquished.

5.0 FIELD OPERATIONS

5.1 General

These sampling methods are used primarily to collect surface and shallow subsurface soil samples. Surface soils are generally classified as soils between the ground surface and 6 to 12 inches below ground surface (BGS). The most common interval is 0 to 6

inches BGS, however, the data quality objectives of the investigation may dictate another interval, i.e., 0-3 inches BGS, for risk assessment purposes. The shallow subsurface interval may be considered to extend from approximately 12 inches BGS to a site-specific depth at which sample collection using manual collection methods becomes impractical.

5.2 Soil Collection Using Spoons

Stainless steel spoons may be used for surface soil sampling to depths of approximately 6 inches BGS where conditions are generally soft and non-indurated and there is no problematic vegetative layer to penetrate. If the soil being sampled is cohesive and crumbles when removed from the ground surface, consider using a hand auger to collect the sample.

When compositing a sample, make sure each composite location consists of equal volumes, i.e., same number of equal spoonfuls. If a thick matted root zone is present at or near the surface, it should be removed before the sample is collected.

When spoons are utilized on a push driver rig the following procedure will be followed:

MJW will survey samples as they are brought up, the drilling contractor will transport the closed split spoon to a designated space for radiological surveying. When conducting a survey of samples, ensure Soil Boring Survey Log is properly filled out before work commences. Allow the drilling contractor to open the split spoon for radiological surveying. The split spoon will be analyzed by passing a GM and a 2x2 NaI detector across the surface at a slow rate to identify any elevated sections. If elevated sections are detected they will be segregated and sampled according to section 5.5 for radiological analysis.

5.3 Soil Collection Using Hand Augers

Hand augers may be used to advance boreholes and collect soil samples in the surface and shallow subsurface intervals. Typically, 4-inch stainless steel auger buckets with cutting heads are used. The bucket is advanced by simultaneously pushing and turning using an attached handle. Auger buckets may be used with a handle alone or with a handle and extensions. The bucket is advanced to the appropriate depth and the contents are transferred to the homogenization container for processing.

The practical depth of investigation using a hand auger depends on the soil properties and depth of investigation. For example, sandy soil may flow out or collapse at depth. Conversely, tight clays and cemented sands may offer too much resistance to sampling and powered equipment may need to be used.

Because of the tendency for the auger bucket to scrap material from the sides of the auger hole while being extracted, the top several inches of soil in the auger bucket should be discarded prior to placing the bucket contents in the homogenization

container for processing. The hand auger assembly must be decontaminated between each borehole that is advanced per Section 5.6.

5.4 Standing Water Grab Sample

Using a 500 mL polypropylene sample container, gently submerge the open container to collect water. Take care to avoid disturbing the water and collecting particulate matter. Once the container is full, close the container and rinse the exterior of the container off with DI water. Dry the container with a paper towel and place label. Then place the labeled sample container in a plastic bag.

5.5 Sample Collection, Identification and Documentation

A nominal 500-gram (1.1 lb) sample will be collected and placed into a double-lined plastic bag or sealable laboratory containers. When necessary, additional borings will be placed adjacent to the original location to obtain adequate sample volume for laboratory testing. When multiple borings and core samples are required to obtain adequate sample volume, a composite sample from similar materials and at approximately equal depths of the cores used, will be collected for analysis.

All samples will be labeled to include:

- Location ID
- Depth
- Date/time
- Sampler
- Sample number
- Radiation readings (Gross CPM)
- Analyses required

Sample bags or containers will be transported in totes, coolers, or similar to the radiological storage area pending completion of GEL laboratories Chain-of-Custody (COC) forms (Attachment 1), and shipment for analysis. COC forms will be completed as required and will reflect laboratory analysis for gamma spectroscopy using method 901.1 (HASL 300) and/or alpha spectroscopy for U and Th isotopic. All samples will be submitted via contract carrier.

Sample IDs will consist of an alpha-numeric code including the location, boring ID, sample matrix, sample type, sample depth, and an identifier for composite sample.

- Location: This will be site coordinate and map location
- Sample ID: A sample designation starting with SU1 or BRA (survey unit designation) followed by dash and a two-digit number separated by dash for sample ID, followed by depth designation (A =0-6, B=6-12, C=0-12, D=12-18, as appropriate)
- Sample Matrix: So (soil), Con (concrete) or other.
- If the sample is a composite sample, the sample ID will have the letter C at the end.

Example #1: SU1-2-1ASoC. A soil sample (So) collected at soil sampling location (2-1), from 0.0 to 6 inches bgs (A), composite (C).

Samples will be analyzed by a ELAP certified laboratory. Sample custody will be documented, and analysis requirements communicated using laboratory provided Chain of Custody Forms

5.6 Step for Sampling Equipment Decontamination

Decontamination efforts will follow a four-step approach for hand tools and equipment used to collect samples. The four-step approach for sampling equipment decontamination is as follows:

- A detergent and water wash to remove all visible particulate matter and residual oils and grease.

- Tap water rinse.
- Distilled and deionized water rinse (for samples requiring chemical analyses)
- Scan equipment between each use using on-site surface radiation equipment.

Attachment 1. GEL Laboratories Chain of Custody Form

Page: _____ of _____
Project #:
GEL Quote #: _____
COC Number (1): _____
PO Number:

GEL Chain of Custody and Analytical Request
See www.gel.com for GEL's Sample Acceptance SOP
GEL Work Order Number:

GEL Laboratories, LLC
2040 Savage Road
Charleston, SC 29407
Phone: (843) 556-8171
Fax: (843) 766-1178

Client Name: | Phone #:
Project/Site Name: | Fax #:
Address:
Collected by: | Send Results To:

Sample Analysis Requested (5) (Fill in the number of containers for each test)

Sample ID * For composites - indicate start and stop date/time	*Date Collected (mm-dd-yy)	*Time Collected (Military) (hhmm)	QC Code (2)	Field Filtered (3)	Sample Matrix (4)	Should this sample be considered: Radioactive	Should this sample be considered: TSCA Regulated	Number of	<-- Preservative Type (6)	Comments
										Note: extra sample is required for sample specific QC

TAT Requested: Normal: _____ Rush: _____ Specify: _____ (Subject to Surcharge) | Fax Results: Yes / No | Circle Deliverable: C of A / QC Summary / Level 1 / Level 2 / Level 3 / Level 4

Remarks: *Are there any known hazards applicable to these samples? If so, please list the hazards*

Sample Collection Time Zone
Eastern Pacific
Central Other _____
Mountain

Chain of Custody Signatures

Relinquished By (Signed)	Date	Time	Received by (signed)	Date	Time
1			1		
2			2		
3			3		

Sample Shipping and Delivery Details

GEL PM:
Method of Shipment: | Date Shipped:
Airbill #:
Airbill #:

1.) Chain of Custody Number = Client Determined
2.) QC Codes: **N** = Normal Sample, **TB** = Trip Blank, **FD** = Field Duplicate, **EB** = Equipment Blank, **MS** = Matrix Spike Sample, **MSD** = Matrix Spike Duplicate Sample, **G** = Grab, **C** = Composite
3.) Field Filtered: For liquid matrices, indicate with a - **Y** - for yes the sample was field filtered or - **N** - for sample was not field filtered.
4.) Matrix Codes: **DW**=Drinking Water, **GW**=Groundwater, **SW**=Surface Water, **WW**=Waste Water, **W**=Water, **ML**=Misc Liquid, **SO**=Soil, **SD**=Sediment, **SL**=Sludge, **SS**=Solid Waste, **O**=Oil, **F**=Filter, **P**=Wipe, **U**=Urine, **F**=Fecal, **N**=
5.) Sample Analysis Requested: Analytical method requested (i.e. **8260B**, **6010B/7470A**) and number of containers provided for each (i.e. *8260B* - **3**, *6010B/7470A* - **1**).
6.) Preservative Type: **HA** = Hydrochloric Acid, **NI** = Nitric Acid, **SH** = Sodium Hydroxide, **SA** = Sulfuric Acid, **AA** = Ascorbic Acid, **HX** = Hexane, **ST** = Sodium Thiosulfate, If no preservative is added = leave field blank

For Lab Receiving Use Only
Custody Seal Intact?
YES NO
Cooler Temp:
_____ C

WHITE = LABORATORY **YELLOW = FILE** **PINK = CLIENT**

Surface and Shallow Subsurface Soil Sampling Check List

Conduct Tailgate Safety Review…… _____

(date) (date) (date) (date)

Review sampling parameters ……..…… _____ _____ _____ _____

(date) (date) (date) (date)

Determine required tools based upon sampling desire (hand augurs or spoons etc.) ……. _____ _____ _____ _____

(date) (date) (date) (date)

Verify all required tools, supplies, and equipment available …… _____

(date) (date) (date) (date)

Prepare radiological instruments for use and perform operability checks…….. _____ _____ _____ _____

(date) (date) (date) (date)

Collect Digital image(s) including location sign…….. _____ _____ _____ _____

(date) (date) (date) (date)

Document relevant terrain, location, and other relevant physical features…… _____

(date) (date) (date) (date)

Collect and ID samples in accordance with procedure and sampling parameters ……. _____ _____ _____ _____

(date) (date) (date) (date)

Document relevant sample features such as clay, sandy, different colors etc. …… _____ _____ _____ _____

(date) (date) (date) (date)

Verify all required samples have been collected and documentation is complete _____ _____ _____ _____

(date) (date) (date) (date)

Pack samples and equipment for transport back to vehicle(s)…… _____ _____ _____ _____

(date) (date) (date) (date)

Transport samples and equipment to Storage facility……_____ _____ _____ _____

(date) (date) (date) (date)

Decontaminate the tools ..... _____ _____ _____ _____

(date) (date) (date) (date)

Fill out appropriate paperwork for sample chain of custody ……_____ _____ _____ _____

(date) (date) (date) (date)

Attachment 5: Site Map with Gamma Walkover Data

3125 Highland Ave Site Gamma Walkover Data



3125 Highland Avenue Site with GPS-located Gamma Walkover Data.

Imagery ©2026 Airbus, CNES/Airbus, Landsat/Copernicus, Maxar Technologies. Retreived from Google Maps, August 2026.

Map created by the MJW Companies, May 2026.

Gamma Walkover Data — Border

<1.5x ABKG

>1.5x ABKG

Google Maps

0 50 100 150 200 250 300 m

THE MJW COMPANIES

Radiological Consulting Professionals and Expert Technical Services