
***** GAMMA SPECTRUM ANALYSIS *****

Filename: REGE

Report Generated On : 8/19/2019 12:59:57 PM

Sample Title : TRIGA MkF Trench
Sample Description : Trench Pipe Inner Scale
Sample Identification : Trench Pipe Inne
Sample Type : Soil
Sample Geometry : Marinelli

Peak Locate Threshold : 3.00
Peak Locate Range (in channels) : 1 - 65535
Peak Area Range (in channels) : 1 - 65535
Identification Energy Tolerance : 1.000 keV

Sample Size : 1.270E+002 Grams

Sample Taken On : 8/19/2019 12:09:12 PM
Acquisition Started : 8/19/2019 12:09:12 PM

Live Time : 1800.0 seconds
Real Time : 1874.0 seconds

Dead Time : 3.95 %

Energy Calibration Used Done On : 7/16/2019
Efficiency Calibration Used Done On : 7/16/2019
Efficiency ID : Marinelli 041219

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

Detector Name: REGE
 Sample Title: TRIGA MkF Trench
 Peak Analysis Performed on: 8/19/2019 12:59:58 PM
 Peak Analysis From Channel: 1
 Peak Analysis To Channel: 4096

Peak No.	ROI start	ROI end	Peak centroid	Energy (keV)	FWHM (keV)	Net Peak Area	Net Area Uncert.	Continuum Counts
1	69-	78	73.40	36.42	1.17	-6.38E+003	339.81	4.66E+004
2	366-	375	372.25	185.79	1.28	1.12E+003	288.27	3.59E+004
3	475-	483	477.70	238.50	1.02	8.03E+002	244.06	2.75E+004
4	588-	596	590.72	294.99	1.31	3.36E+002	222.04	2.29E+004
5	793-	802	796.06	397.63	0.68	3.56E+002	251.75	2.79E+004
M 6	1149-	1174	1152.96	576.02	1.73	1.43E+002	54.33	5.35E+003
m 7	1149-	1174	1167.69	583.38	1.73	5.95E+002	59.33	6.58E+003
8	1216-	1226	1219.50	609.27	2.03	5.33E+002	105.25	4.41E+003
9	1317-	1331	1324.40	661.70	1.83	9.55E+005	982.80	3.72E+003
10	1450-	1462	1455.75	727.36	1.83	1.36E+002	28.73	2.62E+002
11	1563-	1574	1571.05	784.99	0.77	3.63E+001	23.41	2.04E+002
12	1816-	1831	1823.69	911.26	2.03	4.15E+002	32.63	2.14E+002
M 13	1923-	1943	1930.08	964.44	1.89	7.76E+001	11.87	1.46E+002
m 14	1923-	1943	1939.07	968.93	1.89	2.20E+002	16.40	1.39E+002
15	2236-	2249	2241.88	1120.29	1.97	1.58E+002	24.73	1.65E+002
16	2641-	2654	2647.91	1323.23	1.99	2.50E+002	22.38	9.10E+001
17	2914-	2931	2922.93	1460.69	2.34	1.87E+003	44.79	4.27E+001
18	3017-	3025	3021.22	1509.82	1.41	1.66E+001	7.89	2.14E+001
19	3173-	3182	3177.15	1587.76	1.60	2.32E+001	11.76	4.88E+001
20	3456-	3464	3460.60	1729.44	1.34	1.31E+001	7.16	1.79E+001
21	3526-	3536	3530.41	1764.33	2.21	1.50E+002	13.72	1.64E+001

M = First peak in a multiplet region
 m = Other peak in a multiplet region
 F = Fitted singlet

Errors quoted at 1.000 sigma

 ***** N U C L I D E I D E N T I F I C A T I O N R E P O R T *****

Sample Title: TRIGA MkF Trench
 Nuclide Library Used: C:\GENIE2K\CAMFILES\STDLIB.NLB

IDENTIFIED NUCLIDES

Nuclide Name	Id Confidence	Energy (keV)	Yield (%)	Activity (uCi/Gram)	Activity Uncertainty
K-40	0.998	1460.81*	10.67	2.58312E-004	9.60572E-006
CS-137	1.000	661.65*	85.12	8.66966E-003	2.08036E-004
BI-212	0.649	39.86	1.10		
		727.17*	11.80	9.64883E-006	2.04801E-006
		785.42*	2.00	1.61752E-005	1.04366E-005
		1620.56	2.75		
		609.31*	46.30	8.30179E-006	1.65144E-006
BI-214	0.606	768.36	5.04		
		806.17	1.23		
		934.06	3.21		
		1120.29*	15.10	1.25467E-005	1.98377E-006
		1155.19	1.69		
		1238.11	5.94		
		1280.96	1.47		
		1377.67	4.11		
		1385.31	0.78		
		1401.50	1.39		
		1407.98	2.48		
		1509.19*	2.19	1.14525E-005	5.46476E-006
		1661.28	1.15		
		1729.60*	3.05	7.19421E-006	3.94178E-006
		1764.49*	15.80	1.61087E-005	1.56776E-006
1847.44	2.12				
2118.54	1.21				
RA-226	0.973	186.21*	3.28	1.03080E-004	2.67085E-005
U-235	0.442	89.96	1.50		
		93.35	2.50		
		105.00	1.00		
		109.14	1.50		
		143.76	10.50		
		163.35	4.70		
		185.71*	54.00	6.26117E-006	1.62542E-006
202.12	1.00				
		205.31	4.70		

* = Energy line found in the spectrum.
 @ = Energy line not used for Weighted Mean Activity
 Energy Tolerance : 1.000 keV
 Nuclide confidence index threshold = 0.30
 Errors quoted at 1.000 sigma

 ***** INTERFERENCE CORRECTED REPORT *****

Nuclide Name	Nuclide Id Confidence	Wt mean Activity (uCi/Gram)	Wt mean Activity Uncertainty
K-40	0.998	2.583118E-004	9.605723E-006
CS-137	1.000	8.669657E-003	2.080365E-004
BI-212	0.649	9.890540E-006	2.009849E-006
BI-214	0.606	1.212048E-005	9.458034E-007
? RA-226	0.973	1.030802E-004	2.670850E-005
? U-235	0.442	6.261168E-006	1.625424E-006

? = Nuclide is part of an undetermined solution

X = Nuclide rejected by the interference analysis

@ = Nuclide contains energy lines not used in Weighted Mean Activity

Errors quoted at 1.000 sigma

***** UNIDENTIFIED PEAKS *****

Peak Locate Performed on: 8/19/2019 12:59:58 PM
 Peak Locate From Channel: 1
 Peak Locate To Channel: 4096

Peak No.	Energy (keV)	Peak Size in Counts per Second	Peak CPS % Uncertainty	Peak Type	Tol. Nuclide
1	36.42	-3.5446E+000	-5.33		
3	238.50	4.4600E-001	30.40	Tol.	PB-212
4	294.99	1.8655E-001	66.13	Tol.	PB-214
5	397.63	1.9805E-001	70.62		
M 6	576.02	7.9389E-002	38.02	Tol.	KR-89
m 7	583.38	3.3061E-001	9.97		
12	911.26	2.3056E-001	7.86	Tol.	AC-228
M 13	964.44	4.3122E-002	15.29	Tol.	EU-152
					AC-228
m 14	968.93	1.2228E-001	7.45	Tol.	SB-124
					AC-228
16	1323.23	1.3889E-001	8.95	Sum	
19	1587.76	1.2897E-002	50.66	Tol.	AC-228

M = First peak in a multiplet region

m = Other peak in a multiplet region

F = Fitted singlet

Errors quoted at 1.000 sigma