



The IAEA-TERC-2022-01 world wide proficiency test on the determination of anthropogenic and natural radionuclides in water, soil and contaminated surface samples

Laboratory's Final Report
Laboratory Code: 126 (CuNo: 13949)
Total Pages (with cover): 9



Data Summary Report

for the World Wide Proficiency Test IAEA-TERC-2022-01

Individual Data Summary Report for Laboratory Nr. 126

Participant Information:

Mr. Christos Maramathas
teleDOS Laboratories
102 Apostolou Paulou Str.
Corinth
20131

Signature

Collaborators:

Ms. Sofia Con. Papadopoulou
(Radioanalytics S.M. P.C.)

Please send back to:

S. Tarjan
IAEA Reference Materials Group
Terrestrial Environment Laboratory
NA Environment Laboratories NAEL
International Atomic Energy Agency
A-2444 Seibersdorf - Austria

Email: s.tarjan@iaea.org

Tel: + 43 1 2600 28242

Fax: + 43 1 2600 28222

<http://nucleus.iaea.org/rpst/>

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Proficiency Test IAEA-TERC-2022-01 Data Summary Report

Created on 2022-10-14

Sample 01

Sample Code	Analyte	Measured by	Reported Value	Reported Uncertainty
1	gross_alpha	alpha/beta	32.7	2.5
1	gross_beta	alpha/beta	120	10
1	Co-60	gamma	18.8	1.1
1	Cs-134	gamma	16.6	1.2
1	Cs-137	gamma	25.4	1.8
1	Pb-210	gamma	30	2.3

Values and Uncertainties for Sample 01 (water) in Bq/kg.

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Proficiency Test IAEA-TERC-2022-01 Data Summary Report

Created on 2022-10-14

Sample 02

Sample Code	Analyte	Measured by	Reported Value	Reported Uncertainty
2	gross_alpha	alpha/beta	17.0	1.4
2	gross_beta	alpha/beta	20.2	2.8
2	Am-241	gamma	10.39	0.6
2	Cs-137	gamma	8.11	0.72
2	Pb-210	gamma	-	-

Values and Uncertainties for Sample 02 (water) in Bq/kg.

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Sample 03

Sample Code	Analyte	Measured by	Reported Value	Reported Uncertainty
3	gross_alpha	alpha/beta	12.9	1.1
3	gross_beta	alpha/beta	26.0	3.1
3	Am-241	gamma	< 2.0	
3	Cs-134	gamma	11.77	0.86
3	Cs-137	gamma	23.3	1.5

Values and Uncertainties for Sample 03 (water) in Bq/kg.

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Sample 05

Sample Code	Analyte	Measured by	Reported Value	Reported Uncertainty
5	gross_alpha	alpha/beta	0.098	0.014
5	gross_beta	alpha/beta	0.141	0.017

Values and Uncertainties for Sample 05 (surface).

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Sample 07

Sample Code	Analyte	Measured by	Reported Value	Reported Uncertainty
7	Ac-228	gamma	36.5	1.3
7	Am-241	gamma	80.9	3.7
7	Ba-133	gamma	66.6	2.6
7	Co-60	gamma	126.6	4.1
7	Cs-134	gamma	41.5	1.6
7	Cs-137	gamma	85.1	3.6
7	K-40	gamma	444	20
7	Pa-234m	gamma	< 52	
7	Pb-210	gamma	646	31
7	Pb-212	gamma	38.2	2.1
7	Ra-224	gamma	38	1.3
7	Ra-226	gamma	37.9	5
7	Ra-228	gamma	36.5	1.3
7	Th-228	gamma	37.9	1.3
7	Th-234	gamma	27.5	1.9
7	Tl-208	gamma	13.62	0.57
7	U-235	gamma	1.27	0.1
7	U-238	gamma	27.5	1.9

Values and Uncertainties for Sample 07 (gamma spectrum) in Bq/kg.

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IAEA-TERC-2022-01 Summary Tables

Labcode:126

Record	Labcode	Sample	Method	Isotope	Activity Value	Activity Uncertainty Coverage Factor k=1	Detection Limit	Unit
Rec. 0	126	1	alpha/beta	gross_alpha	32.7	2.5	2.9	[Bq/kg]
Rec. 1	126	1	alpha/beta	gross_beta	120	10	6.5	[Bq/kg]
Rec. 2	126	1	alpha/beta	Pb-210				[Bq/kg]
Rec. 3	126	1	alpha/beta	Po-210				[Bq/kg]
Rec. 4	126	1	alpha/beta	Sr-90				[Bq/kg]
Rec. 5	126	2	alpha/beta	Am-241				[Bq/kg]
Rec. 6	126	2	alpha/beta	gross_alpha	17.0	1.4	1.8	[Bq/kg]
Rec. 7	126	2	alpha/beta	gross_beta	20.2	2.8	7.4	[Bq/kg]
Rec. 8	126	2	alpha/beta	H-3				[Bq/kg]
Rec. 9	126	2	alpha/beta	Pb-210				[Bq/kg]
Rec. 10	126	2	alpha/beta	Po-210				[Bq/kg]
Rec. 11	126	2	alpha/beta	Sr-90				[Bq/kg]
Rec. 12	126	3	alpha/beta	Cm-244				[Bq/kg]
Rec. 13	126	3	alpha/beta	gross_alpha	12.9	1.1	2.1	[Bq/kg]
Rec. 14	126	3	alpha/beta	gross_beta	26.0	3.1	6.4	[Bq/kg]
Rec. 15	126	3	alpha/beta	Pu-239				[Bq/kg]
Rec. 16	126	5	alpha/beta	gross_alpha	0.098	0.014	0.00017	[counts/cm ² /second]
Rec. 17	126	5	alpha/beta	gross_beta	0.141	0.017	0.0013	[counts/cm ² /second]
Rec. 18	126	5	alpha/beta	Pu-239				[Bq/cm ²]
Rec. 19	126	1	gamma	Co-60	18.8	1.1	3.3	[Bq/kg]
Rec. 20	126	1	gamma	Cs-134	16.6	1.2	1.9	[Bq/kg]
Rec. 21	126	1	gamma	Cs-137	25.4	1.8	2.9	[Bq/kg]
Rec. 22	126	1	gamma	Pb-210	30	2.3	7.7	[Bq/kg]
Rec. 23	126	2	gamma	Am-241	10.39	0.6	0.79	[Bq/kg]

Rec. 24	126	2	gamma	Cs-137	8.11	0.72	2.2	[Bq/kg]
Rec. 25	126	2	gamma	Pb-210	-	-	7.7	[Bq/kg]
Rec. 26	126	3	gamma	Am-241	< 2.0		2.0	[Bq/kg]
Rec. 27	126	3	gamma	Cs-134	11.77	0.86	1.7	[Bq/kg]
Rec. 28	126	3	gamma	Cs-137	23.3	1.5	2.7	[Bq/kg]
Rec. 29	126	7	gamma	Ac-228	36.5	1.3	1.2	[Bq/kg]
Rec. 30	126	7	gamma	Am-241	80.9	3.7	0.36	[Bq/kg]
Rec. 31	126	7	gamma	Ba-133	66.6	2.6	0.27	[Bq/kg]
Rec. 32	126	7	gamma	Co-60	126.6	4.1	0.31	[Bq/kg]
Rec. 33	126	7	gamma	Cs-134	41.5	1.6	0.24	[Bq/kg]
Rec. 34	126	7	gamma	Cs-137	85.1	3.6	0.26	[Bq/kg]
Rec. 35	126	7	gamma	K-40	444	20	2.9	[Bq/kg]
Rec. 36	126	7	gamma	Pa-234m	< 52		52	[Bq/kg]
Rec. 37	126	7	gamma	Pb-210	646	31	6	[Bq/kg]
Rec. 38	126	7	gamma	Pb-212	38.2	2.1	0.3	[Bq/kg]
Rec. 39	126	7	gamma	Ra-224	38	1.3	0.3	[Bq/kg]
Rec. 40	126	7	gamma	Ra-226	37.9	5	5.3	[Bq/kg]
Rec. 41	126	7	gamma	Ra-228	36.5	1.3	1.2	[Bq/kg]
Rec. 42	126	7	gamma	Th-228	37.9	1.3	0.3	[Bq/kg]
Rec. 43	126	7	gamma	Th-234	27.5	1.9	2.3	[Bq/kg]
Rec. 44	126	7	gamma	Tl-208	13.62	0.57	0.37	[Bq/kg]
Rec. 45	126	7	gamma	U-235	1.27	0.1	0.11	[Bq/kg]
Rec. 46	126	7	gamma	U-238	27.5	1.9	2.3	[Bq/kg]

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