Individual Evaluation Report

for the World-Wide Open Proficiency Test IAEA-TEL-2021-03 Part II

Individual Evaluation Report
for
Laboratory Nr. 216

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https://nucleus.iaea.org/sites/ReferenceMaterials/

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Evaluation Tables for Labcode 216. (Values and uncertainties expressed in Bq/kg)

Evaluation Result Table for Sample 1

Sample Code	Analyte	Target Value	Target Unc.	MARB	Rep. Value	Rep. Unc	Rel. Bias	Robust SD	Z-Score	Accuracy	P	Precision	Final Score
1	Am-241	60.9	2.7	20 %	61.45	2.98	0.90 %	3.98	0.14	A	6.57	A	A
1	Co-60	74.2	3.3	20 %	73.56	3.07	-0.86 %	3.31	0.19	A	6.10	A	A
1	Cs-134	113.2	5.1	20 %	110.7	5.04	-2.21 %	6.12	0.41	A	6.41	A	A
1	Cs-137	69.2	3.1	20 %	68.16	4.16	-1.50 %	3.23	0.32	A	7.57	A	A

Evaluation Result Table for Sample 2

Sample Code	Analyte	Target Value	Target Unc.	MARB	Rep. Value	Rep. Unc	Rel. Bias	Robust SD	Z-Score	Accuracy	P	Precision	Final Score
2	Am-241	108.3	4.9	20 %	110.1	5.27	1.66 %	8.05	0.22	A	6.59	A	A
2	Ba-133	147.3	6.6	20 %	145.6	8.79	-1.15 %	7.17	0.24	A	7.52	A	A
2	Cs-137	147.4	6.6	20 %	140.7	8.50	-4.55 %	5.9	1.14	A	7.52	A	A
2	Sr-90	146.8	8.4	30 %	139.4	1.83	-5.04 %	10.78	0.69	A	5.87	A	A

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Values and uncertainties for Sample 4 (Japanese bamboo) in Bq/kg , for Sample 5 (water) in Bq/kg, for Sample 7 (Simulated Swipes) in Bq/sample

Evaluation Result Table for Sample 4

Sample Code	Analyte	Target Value	Target Unc.	MARB	Rep. Value	Rep. Unc	Rel. Bias	Robust SD	Z-Score	Accuracy	P	Precision	Final Score
4	Cs-134	86.6	4	25 %	79.83	3.97	-7.82 %	10	0.68	A	6.79	A	A
4	Cs-137	2063	93	20 %	1849	111	-10.37 %	180.39	1.19	A	7.51	A	A

Evaluation Result Table for Sample 5

Sample Code	Analyte	Target Value	Target Unc.	MARB	Rep. Value	Rep. Unc	Rel. Bias	Robust SD	Z-Score	Accuracy	P	Precision	Final Score
5	Cs-134	19.05	0.86	30 %	18.04	0.88	-5.30 %	1.18	0.86	A	6.65	A	A
5	Cs-137	26.02	1.17	25 %	25.62	1.61	-1.54 %	1.29	0.31	A	7.73	A	A

Evaluation Result Table for Sample 7

Sample Code	Analyte	Target Value	Target Unc.	MARB	Rep. Value	Rep. Unc	Rel. Bias	Robust SD	Z-Score	Accuracy	P	Precision	Final Score
7	Cs-137	11.2	0.6	20 %	11.11	0.67	-0.80 %	0.79	0.11	A	8.07	A	A

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Intercomparison Parameter Evaluation: (Values for Sample 1,2,4,5 in Bq/kg, sample 7 in Bq/sample)

Sample Code	Analyte	Robust Mean	Robust SD	Rep. Value	Rep. Unc	Z-Score	Z-Score Evaluation
1	gross_beta	159	45	145.8	4.64	0.29	A
2	gross_beta	457	112	425.7	12.3	0.28	A
2	H-3	1653.6	98.2	1682	73.2	0.29	A
5	gross_beta	33	9	28.7	1.77	0.48	A
5	Pu-239	5.93	2.27	7.46	0.45	0.67	A
7	gross_beta	10.18	2.69	10.19	0.41	0.00	A

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The analytes listed in the table below have been identified but are not present in the samples (false positive):

Sample Code	Analyte	Reported Value