

IAEA-TERC-2023-01 World Wide Open Proficiency Test Exercise, Pie-charts, S-Shapes and Reported Results with Scores

Terrestrial Environmental Radiochemistry Laboratory, International Atomic Energy Agency

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Abstract

The IAEA Terrestrial Environmental Radiochemistry Laboratory (TERC) provided a Proficiency Test (PT) on determination of anthropogenic and natural radionuclides in water, soil and simulated contaminated surface samples. This year's PT was designed to monitor and demonstrate the performance and analytical capability of the participating laboratories and to identify gaps and problem areas where further development is needed. The sample set was formulated to support these goals.

1 Description of Samples

- Sample 1: Spiked Water, anthropogenic and natural radionuclides, gross alpha and beta (GAB)
- Sample 2: Spiked Water, anthropogenic and natural radionuclides and GAB (environmental levels)
- Sample 3: Spiked Water, quality control sample, no data reporting and evaluation
- Sample 4: Japanese Soil, anthropogenic and natural radionuclides
- Sample 5: Simulated contaminated surface sample, gamma and beta emitting radionuclides
- Sample 6: Simulated contaminated surface sample, gamma emitting radionuclide (Cs-134)
- Sample 7: Simulated contaminated surface sample, beta emitting radionuclide (Sr-90)

1.1 Sample 1, 2 and 3, Spiked Water

Matrix origin:

Drinking water sourced from Seibersdorf, Austria.

Sample preparation:

The raw water was gravimetrically spiked with known amounts of a prepared standard solution, containing a mixture of certified radionuclides and acidified to $< \text{pH } 2$ (0.05 M HNO_3) for stability. The stability of the samples has been tested and guaranteed during the PT reporting period only. Sample 01 and Sample 02 were spiked with several radionuclides. This included H-3 and U isotopes for Sample 01 and Sr-90, Ra-226 and progeny for Sample 02. The identification of gamma emitting radionuclides is one of the tasks of this proficiency test, therefore they are not specified in advance.

The activity concentration and uncertainty were assigned by formulation, and control measurements by gamma-ray spectrometry, alpha spectrometry and liquid scintillation counting have been performed prior to shipment.

1.2 Sample 4, Japanese Soil

The soil was collected on 25 September 2020 in Japan by the University of Tsukuba. It was milled and sieved, and the grain size fraction used for this exercise was 90-250 μm . The bottled samples were sterilised (25 kGy gamma dose) and the related certificate is available on the PT website. It contains caesium and naturally occurring radionuclides typically found in soils.

Approximately 100 g has been provided for gamma-ray spectrometry measurement.

The determination of target values and associated uncertainties of the anthropogenic and natural radionuclides has been carried-out by measurements in one laboratory and confirmed by measurements in another laboratory. The samples were characterized for gamma emitting radionuclides only.

1.3 Samples 5, 6 and 7, Simulated contaminated surface samples

Three circles for surface contamination monitoring have been included in this proficiency test (Figure 1). They were prepared using our in-house printing technique. One blank sample of the same size, outlined with black ink (not-spiked) was also added for correction (Sample 08).

The blue ink was spiked with a gamma-emitting radionuclide, Cs-134. The exercise asked for its identification and activity to be reported (Sample 06).

The magenta ink was spiked with Sr-90 and the activity should be reported (Sample 07), with correction for Y-90 activity.

The mixed ink sample (blue and magenta) has been printed at a lower activity compared to the single ink circles for both radionuclides (Sample 05). Both Cs-134 and Sr-90 activity should be reported for this sample.

The reference date 2023-01-01 should be used for decay correction.

2 Evaluation of results

Results reported by participants were evaluated using the following stepwise approach.

The evaluation follows the methodology applied for the annual IAEA proficiency testing schemes in the areas of radionuclide measurements and trace element analysis.

2.1 Relative bias (Samples 1, 2, 4, 5, 6 and 7)

The relative bias is the relative difference between the reported and the target value (the best estimate of the true value)

$$Bias_{relative} = \frac{Value_{reported} - Value_{target}}{Value_{target}} * 100\%$$

The relative bias is compared to the Maximum Acceptable Relative Bias (MARB) which has been determined for each property value, considering the analytical methods, the analyte level in the sample and the complexity of the analysis.

When $|Bias_{relative}| \leq MARB$, the result will be rated "Accepted (A)" for trueness.

2.2 Evaluation approach for radionuclide activity concentration values (Samples 1, 2 and 4) and activity values per sample (Samples 5, 6 and 7)

Based on fit-for-purpose and good laboratory practice principles, the expanded relative uncertainty should cover the relative bias (as defined in 2.1):

The P value corresponds to the relative combined uncertainty of the relative bias

$$P = \sqrt{\left(\frac{u_{target}}{A_{target}}\right)^2 + \left(\frac{u_{reported}}{A_{reported}}\right)^2} * 100\%$$

The relative bias is then compared to the expanded uncertainty of the relative bias:

$$|Bias_{relative}| \leq k * P$$

where k is the coverage factor: $k = 2.58$ for a level of confidence of 99%.

When the above criterion is fulfilled, the reported result is not significantly different from the target values considering the uncertainties associated with both values. The reported uncertainty of measurement is large enough to cover the bias of the method.

In addition, the P value is compared to the MARB.

$$P \leq MARB$$

When this criterion is fulfilled, the measurement uncertainty is not overestimated and fit-for-purpose in relation to the MARB criterion of this PT exercise. When both criteria related to the measurement uncertainty are fulfilled, the reported result is rated "accepted (A)" for precision (measurement uncertainty). The result is rated "Not Accepted (N)" for precision if either of the two conditions are not fulfilled.

The final score is assigned according to the detailed evaluation described above. The possible scores are listed below:

- "Accepted (A)" when both, trueness and precision were rated "Accepted"
- "Not Accepted (N)" when the trueness rating is "Not Accepted"
- "Warning (W)" when the trueness rating is "Accepted" but the precision rating is "Not Accepted"

2.3 Evaluation parameters calculated for intercomparison analyte values

2.3.1 Z-Score

The z score provides information on the trueness of the reported value in relation to the standard deviation for proficiency assessment σ_{PT} , which is assigned based on fitness for purpose.

$$z = \frac{Value_{reported} - Value_{target}}{\sigma_{PT}}$$

The following criteria apply for performance ratings based on obtained z scores

- $|z| \leq 2$... accepted (A)
- $2 < |z| < 3$... questionable (Q)
- $|z| \geq 3$... not accepted (N)

3 Data Evaluation

A total of 316 laboratories successfully reported data in the IAEA-TERC-2023-01 proficiency test exercise.

For each of the analytes evaluated, the target value, target uncertainty and the MARB are listed. A pie chart showing the distribution of accepted, warning, not acceptable and not reported results, the s-shape graph, and a detailed table listing all evaluation results for the analyte (sorted by the laboratory code) are provided. The data points are coloured in blue, yellow and red, corresponding to a result of "Accepted", "Warning", and "Not Accepted", respectively.

3.1 Evaluation of activity concentrations of radionuclides

Reported Results for H-3 determination in Sample 1

TABLE 1. Target values

Parameter	Value
Activity Concentration [Bq/kg]	29.0
Uncertainty [Bq/kg]	1.5
Maximum Acceptable Relative Bias, [%]	30

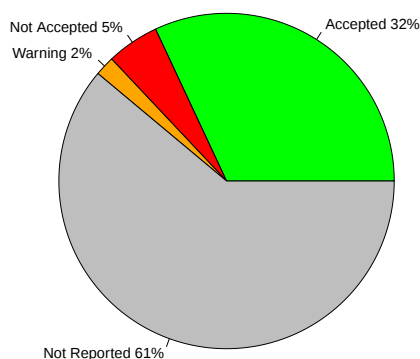


FIGURE 1. Percentage of Accepted vs. Warnings vs. Not Accepted vs. Not Reported results

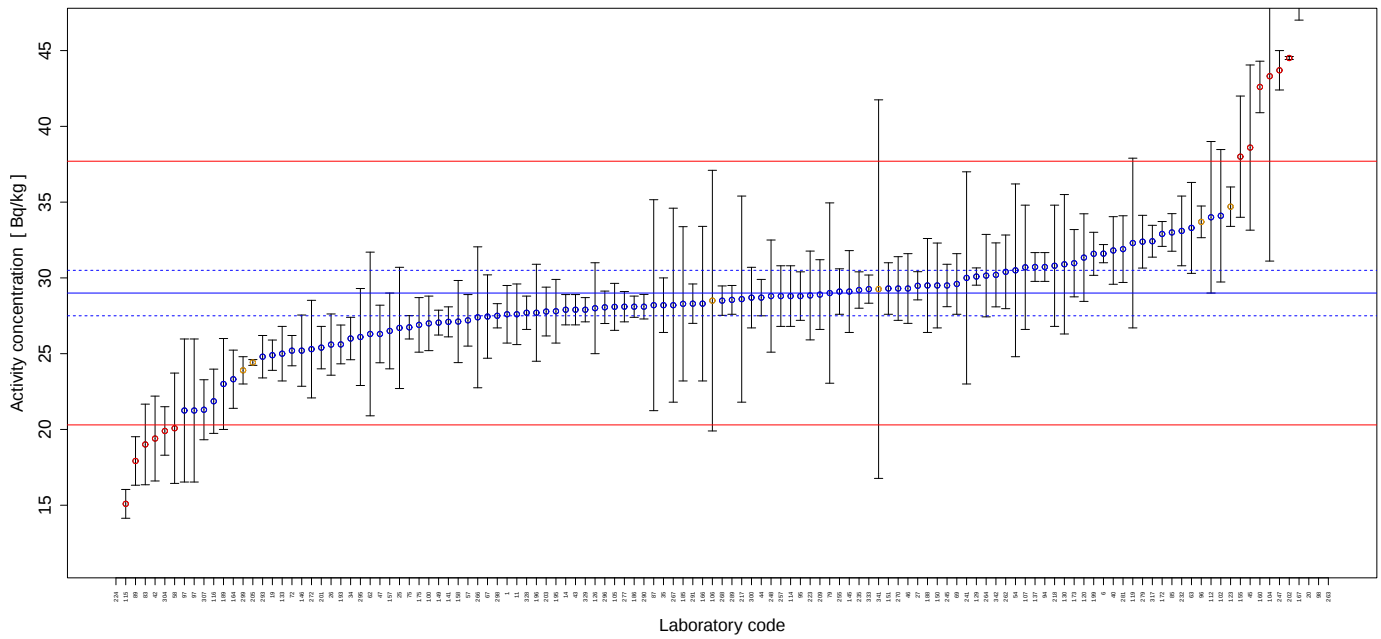


FIGURE 2. Reported results and evaluation parameters for H-3. Blue points represent accepted scores, whereas yellow and red represent warning and not accepted scores respectively.

TABLE 2. Evaluation Results for H-3 in Sample 1, Rep. Value and Rep. Unc. in Bq/kg by beta

Labcode	Reported value [Bq/kg]	Reported uncertainty ($k = 1$) [Bq/kg]	Relative bias [%]	P-Test [%]	Trueness evaluation	Precision evaluation	Final Score
1	27.6	1.9	-4.83	8.61	A	A	A
6	31.6	0.6	8.97	5.51	A	A	A
11	27.6	2.0	-4.83	8.90	A	A	A
14	27.9	1.0	-3.79	6.29	A	A	A
19	24.9	1.0	-14.14	6.55	A	A	A
20	52.8	3.696	82.07	8.70	N	N	N
25	26.7	4.0	-7.93	15.85	A	A	A
26	25.6	2.02	-11.72	9.43	A	A	A
27	29.48	0.93	1.66	6.06	A	A	A
34	26	1.4	-10.34	7.47	A	A	A
35	28.2	1.8	-2.76	8.22	A	A	A
40	31.81	2.23	9.69	8.71	A	A	A
42	19.4	2.8	-33.10	15.33	N	A	N
43	27.9	1.00	-3.79	6.29	A	A	A
44	28.7	1.2	-1.03	6.65	A	A	A
45	38.6	5.45	33.10	15.04	N	A	N
46	29.3	2.3	1.03	9.40	A	A	A
47	26.3	1.9	-9.31	8.89	A	A	A
54	30.5	5.7	5.17	19.39	A	A	A
57	27.2	1.7	-6.21	8.11	A	A	A
58	20.08	3.64	-30.76	18.85	N	A	N
62	26.3	5.4	-9.31	21.17	A	A	A
63	33.3	3.0	14.83	10.39	A	A	A
67	27.45	2.75	-5.34	11.27	A	A	A
69	29.6	2	2.07	8.51	A	A	A
72	25.2	1.0	-13.10	6.52	A	A	A
75	26.74	0.77	-7.79	5.92	A	A	A
79	29	5.95	0.00	21.16	A	A	A
83	19.01	2.66	-34.45	14.92	N	A	N
85	33.00	1.24	13.79	6.39	A	A	A
87	28.20	6.96	-2.76	25.22	A	A	A
89	17.92	1.6	-38.21	10.32	N	N	N
94	30.72	0.95	5.93	6.03	A	A	A
95	28.8	1.6	-0.69	7.59	A	A	A

TABLE 2. Evaluation Results for H-3 in Sample 1, Rep. Value and Rep. Unc. in Bq/kg by beta

Labcode	Reported value [Bq/kg]	Reported uncertainty ($k = 1$) [Bq/kg]	Relative bias [%]	P-Test [%]	Trueness evaluation	Precision evaluation	Final Score
96	33.698	1.046	16.20	6.03	A	N	W
97	21.25	4.72	-26.72	22.81	A	A	A
98	54.8	3.84	88.97	8.71	N	N	N
100	27.0	1.8	-6.90	8.44	A	A	A
102	34.10	4.37	17.59	13.82	A	A	A
104	43.31	12.2	49.34	28.64	N	A	N
105	28.09	1.55	-3.14	7.56	A	A	A
106	28.5	8.6	-1.72	30.62	A	N	W
107	30.7	4.1	5.86	14.32	A	A	A
112	34	5	17.24	15.59	A	A	A
114	28.8	2.0	-0.69	8.66	A	A	A
115	15.09	0.95	-47.97	8.15	N	N	N
116	21.86	2.12	-24.62	10.99	A	A	A
119	32.3	5.6	11.38	18.09	A	A	A
120	31.34	2.89	8.07	10.57	A	A	A
123	34.7	1.3	19.66	6.39	A	N	W
126	28	3	-3.45	11.90	A	A	A
129	30.09	0.57	3.76	5.51	A	A	A
130	30.9	4.6	6.55	15.76	A	A	A
133	25.0	1.8	-13.79	8.87	A	A	A
137	30.72	0.95	5.93	6.03	A	A	A
141	27.1	0.99	-6.55	6.33	A	A	A
145	29.1	2.7	0.34	10.62	A	A	A
146	25.2	2.35	-13.10	10.66	A	A	A
149	27.05	0.82	-6.72	6.00	A	A	A
150	29.5	2.8	1.72	10.81	A	A	A
151	29.3	1.7	1.03	7.77	A	A	A
155	38	4	31.03	11.73	N	N	N
157	26.5	2.5	-8.62	10.76	A	A	A
158	27.12	2.71	-6.48	11.25	A	A	A
160	42.6	1.7	46.90	6.53	N	N	N
164	23.3141	1.9203	-19.61	9.73	A	A	A
166	28.3	5.1	-2.41	18.75	A	A	A
167	50.10	3.09	72.76	8.05	N	N	N
172	32.9	0.82	13.45	5.74	A	A	A
173	30.97	2.22	6.79	8.84	A	A	A
175	26.9	1.8	-7.24	8.46	A	A	A
185	28.29	5.09	-2.45	18.72	A	A	A
186	28.1	0.7	-3.10	5.74	A	A	A
188	29.5	3.1	1.72	11.71	A	A	A
189	23	3	-20.69	14.03	A	A	A
193	25.61	1.28	-11.69	7.19	A	A	A
195	27.8	2.1	-4.14	9.16	A	A	A
196	27.7	3.2	-4.48	12.66	A	A	A
199	31.59	1.42	8.93	6.85	A	A	A
201	25.4	1.4	-12.41	7.56	A	A	A
202	44.51	0.10	53.48	5.18	N	N	N
203	27.78	1.61	-4.21	7.77	A	A	A
205	24.42	0.19	-15.79	5.23	A	N	W
209	28.9	2.3	-0.34	9.49	A	A	A
217	28.6	6.8	-1.38	24.33	A	A	A
218	30.8	4.0	6.21	13.98	A	A	A
223	28.84	2.93	-0.55	11.40	A	A	A
224	5.497	2.4	-81.04	43.97	N	N	N
232	33.1	2.3	14.14	8.66	A	A	A
235	29.2	1.2	0.69	6.61	A	A	A
241	30	7	3.45	23.90	A	A	A
245	29.5	1.4	1.72	7.02	A	A	A
247	43.7	1.3	50.69	5.97	N	N	N
248	28.8	3.7	-0.69	13.85	A	A	A

TABLE 2. Evaluation Results for H-3 in Sample 1, Rep. Value and Rep. Unc. in Bq/kg by beta

Labcode	Reported value [Bq/kg]	Reported uncertainty ($k = 1$) [Bq/kg]	Relative bias [%]	P-Test [%]	Trueness evaluation	Precision evaluation	Final Score
255	29.1	1.5	0.34	7.30	A	A	A
257	28.8	2.0	-0.69	8.66	A	A	A
262	30.4	2.43	4.83	9.52	A	A	A
263	73	8	151.72	12.12	N	N	N
264	30.15	2.72	3.97	10.40	A	A	A
266	27.4	4.65	-5.52	17.74	A	A	A
267	28.2	6.4	-2.76	23.28	A	A	A
268	28.5	0.97	-1.72	6.19	A	A	A
270	29.3	2.1	1.03	8.84	A	A	A
272	25.3	3.22	-12.76	13.74	A	A	A
277	28.10	1.00	-3.10	6.28	A	A	A
279	32.39	1.74	11.69	7.46	A	A	A
281	31.9	2.2	10.00	8.62	A	A	A
289	28.55	0.95	-1.55	6.15	A	A	A
290	28.1	0.81	-3.10	5.92	A	A	A
291	28.3	1.3	-2.41	6.92	A	A	A
293	24.8	1.4	-14.48	7.66	A	A	A
295	26.1	3.2	-10.00	13.31	A	A	A
296	28.06	1.07	-3.24	6.43	A	A	A
298	27.5	0.8	-5.17	5.93	A	A	A
299	23.9	0.9	-17.59	6.40	A	N	W
300	28.7	2	-1.03	8.68	A	A	A
304	19.9	1.6	-31.38	9.56	N	N	N
307	21.30	1.98	-26.55	10.64	A	A	A
317	32.42	1.05	11.79	6.10	A	A	A
328	27.7	1.1	-4.48	6.52	A	A	A
329	27.9	0.8	-3.79	5.91	A	A	A
333	29.26	0.93	0.90	6.07	A	A	A
341	29.26	12.49	0.90	43.00	A	N	W
342	30.20	2.11	4.14	8.69	A	A	A

Reported Results for Co-60 determination in Sample 1

TABLE 3. Target values

Parameter	Value
Activity Concentration [Bq/kg]	14.7
Uncertainty [Bq/kg]	0.7
Maximum Acceptable Relative Bias, [%]	20

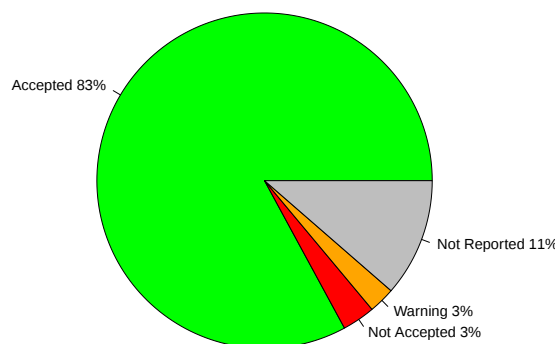


FIGURE 3. Percentage of Accepted vs. Warnings vs. Not Accepted vs. Not Reported results

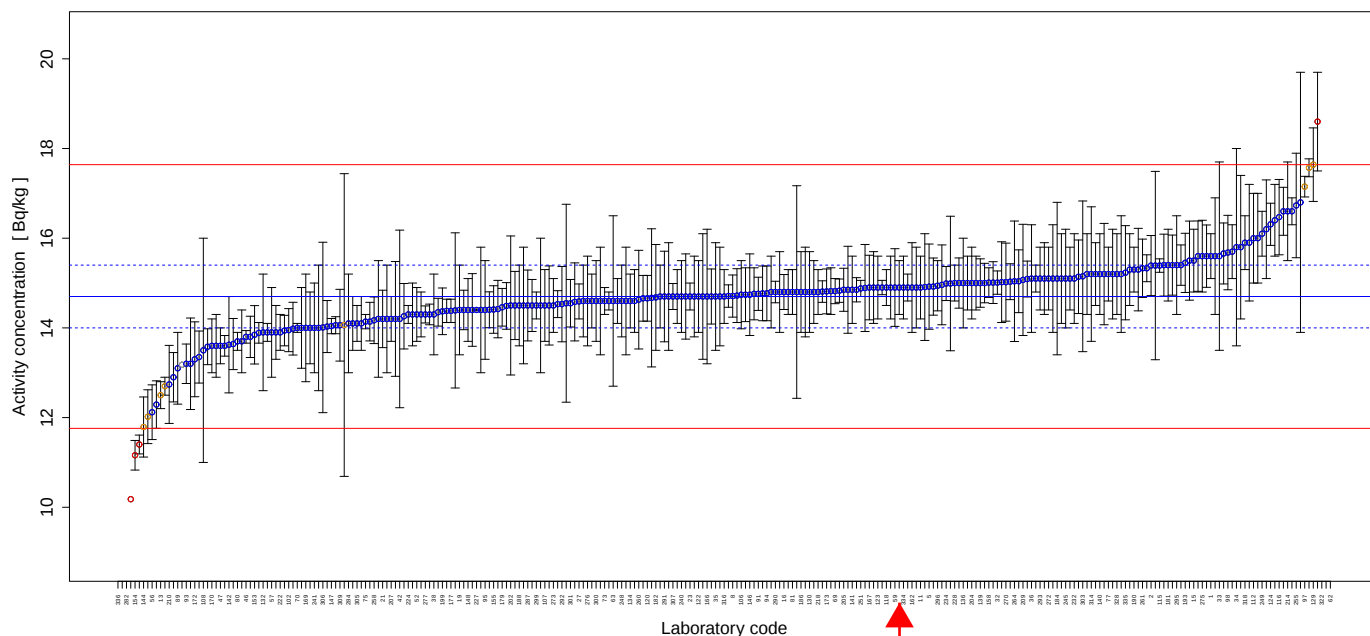


FIGURE 4. Reported results and evaluation parameters for Co-60. Blue points represent accepted scores, whereas yellow and red represent warning and not accepted scores respectively.

TABLE 4. Evaluation Results for Co-60 in Sample 1, Rep. Value and Rep. Unc. in Bq/kg by gamma

Labcode	Reported value [Bq/kg]	Reported uncertainty ($k = 1$) [Bq/kg]	Relative bias [%]	P-Test [%]	Trueness evaluation	Precision evaluation	Final Score
1	15.6	0.5	6.12	5.74	A	A	A
2	15.39	0.67	4.69	6.45	A	A	A
3	14.4	0.44	-2.04	5.66	A	A	A
5	14.92	0.95	1.50	7.95	A	A	A
6	14.3	0.5	-2.72	5.91	A	A	A
7	13.64	0.57	-7.21	6.34	A	A	A
8	14.71	0.47	0.07	5.73	A	A	A
10	14.6	0.6	-0.68	6.29	A	A	A
11	14.9	0.7	1.36	6.69	A	A	A
12	13.9	0.6	-5.44	6.43	A	A	A
13	12.5	0.3	-14.97	5.33	A	N	W
14	14.85	0.97	1.02	8.08	A	A	A
15	15.5	0.7	5.44	6.56	A	A	A
16	14.80	0.39	0.68	5.44	A	A	A
17	14.6	0.8	-0.68	7.26	A	A	A
18	14.40	0.81	-2.04	7.37	A	A	A
19	14.4	1.0	-2.04	8.42	A	A	A
20	13.2	1.02	-10.20	9.08	A	A	A
21	14.2	0.64	-3.40	6.56	A	A	A
22	14.82	0.52	0.82	5.91	A	A	A
23	14.7	0.3	0.00	5.18	A	A	A
24	15.6	0.695	6.12	6.52	A	A	A
25	14.99	1.5	1.97	11.08	A	A	A
26	14.5	0.58	-1.36	6.22	A	A	A
27	14.59	0.39	-0.75	5.46	A	A	A
28	15.8	1.6	7.48	11.19	A	A	A
29	15.2	0.7	3.40	6.62	A	A	A
30	14.7	0.7	0.00	6.73	A	A	A
31	14.8	0.9	0.68	7.72	A	A	A
32	15.01	0.26	2.11	5.07	A	A	A
33	15.6	2.1	6.12	14.28	A	A	A
34	15.8	2.2	7.48	14.72	A	A	A
35	14.7	1.2	0.00	9.45	A	A	A
36	15.1	1.2	2.72	9.26	A	A	A
37	14.89	0.97	1.29	8.07	A	A	A
38	14.3	0.9	-2.72	7.89	A	A	A
39	14.1	0.6	-4.08	6.39	A	A	A
40	14.7	0.614	0.00	6.33	A	A	A
42	14.2	1.98	-3.40	14.73	A	A	A
43	14.5	1.3	-1.36	10.15	A	A	A
44	14.7	0.6	0.00	6.27	A	A	A
45	15.3	0.92	4.08	7.67	A	A	A
46	13.8	0.14	-6.12	4.87	A	A	A
47	13.6	0.4	-7.48	5.60	A	A	A
48	15.1	0.7	2.72	6.65	A	A	A
49	14.71	0.25	0.07	5.06	A	A	A
50	14.81	0.24	0.75	5.03	A	A	A
51	16.0	1.0	8.84	7.86	A	A	A
52	14.3	0.6	-2.72	6.35	A	A	A
54	13.9	0.2	-5.44	4.97	A	A	A
55	15.3	0.8	4.08	7.07	A	A	A
56	12.12	0.61	-17.55	6.93	A	A	A
57	13.9	1.0	-5.44	8.63	A	A	A
58	14.80	2.37	0.68	16.71	A	A	A
59	14.9	0.866	1.36	7.51	A	A	A
60	14.42	0.64	-1.90	6.51	A	A	A
62	34.7	1.6	136.05	6.63	N	N	N
63	14.6	1.9	-0.68	13.86	A	A	A
64	14.2	1.28	-3.40	10.19	A	A	A
66	15.33	0.3	4.29	5.15	A	A	A

TABLE 4. Evaluation Results for Co-60 in Sample 1, Rep. Value and Rep. Unc. in Bq/kg by gamma

Labcode	Reported value [Bq/kg]	Reported uncertainty ($k = 1$) [Bq/kg]	Relative bias [%]	P-Test [%]	Trueness evaluation	Precision evaluation	Final Score
67	14.53	0.3	-1.16	5.19	A	A	A
68	15.00	0.56	2.04	6.05	A	A	A
69	14.82	0.28	0.82	5.12	A	A	A
70	14.0	0.1	-4.76	4.82	A	A	A
71	14.6	0.2	-0.68	4.96	A	A	A
72	14.30	0.23	-2.72	5.03	A	A	A
73	14.6	0.3	-0.68	5.19	A	A	A
74	14.76	0.58	0.41	6.17	A	A	A
75	14.14	0.16	-3.81	4.89	A	A	A
76	31.99	5.47	117.62	17.75	N	N	N
77	15.2	0.6	3.40	6.19	A	A	A
79	14.8	0.5	0.68	5.84	A	A	A
80	13.7	0.2	-6.80	4.98	A	A	A
81	14.8	0.5	0.68	5.84	A	A	A
82	15.04	0.7	2.31	6.66	A	A	A
83	15.66	0.68	6.53	6.44	A	A	A
84	15.4	0.69	4.76	6.54	A	A	A
85	14.96	0.89	1.77	7.62	A	A	A
86	15.0	0.6	2.04	6.22	A	A	A
87	15.09	0.40	2.65	5.45	A	A	A
89	13.1	0.8	-10.88	7.74	A	A	A
90	14.49	0.52	-1.43	5.96	A	A	A
91	14.76	0.37	0.41	5.38	A	A	A
92	2.43	0.061	-83.47	5.38	N	N	N
93	13.20	0.44	-10.20	5.81	A	A	A
94	14.77	0.61	0.48	6.30	A	A	A
95	14.4	1.1	-2.04	9.00	A	A	A
96	15.39	2.10	4.69	14.45	A	A	A
97	17.15	0.23	16.67	4.95	A	N	W
98	15.68	0.83	6.67	7.12	A	A	A
99	15.03	0.40	2.24	5.46	A	A	A
101	10.18		-30.75		N		N
102	13.95	0.48	-5.10	5.87	A	A	A
104	14.03	0.58	-4.56	6.31	A	A	A
105	14.58	0.87	-0.82	7.63	A	A	A
106	14.74	0.76	0.27	7.02	A	A	A
107	14.5	0.8	-1.36	7.29	A	A	A
108	13.5	2.5	-8.16	19.12	A	A	A
110	12.29	0.53	-16.39	6.42	A	A	A
112	16	1	8.84	7.86	A	A	A
114	14.7	1.1	0.00	8.87	A	A	A
115	15.39	0.15	4.69	4.86	A	A	A
116	16.47	0.84	12.04	6.98	A	A	A
118	14.9	0.4	1.36	5.47	A	A	A
119	14.6	0.5	-0.68	5.87	A	A	A
120	14.66	0.51	-0.27	5.90	A	A	A
122	14.7	0.8	0.00	7.23	A	A	A
123	14.9	0.7	1.36	6.69	A	A	A
124	16.31	0.47	10.95	5.57	A	A	A
125	14.91	1.19	1.43	9.29	A	A	A
126	12.7	0.2	-13.61	5.02	A	N	W
129	17.64	0.82	20.00	6.65	A	N	W
130	14.8	0.9	0.68	7.72	A	A	A
131	14.66	0.51	-0.27	5.90	A	A	A
132	13.9	1.3	-5.44	10.50	A	A	A
133	15.9	1.3	8.16	9.46	A	A	A
134	14.6	0.6	-0.68	6.29	A	A	A
135	14.6	1.2	-0.68	9.50	A	A	A
136	15	1	2.04	8.19	A	A	A
137	14.77	0.61	0.48	6.30	A	A	A

TABLE 4. Evaluation Results for Co-60 in Sample 1, Rep. Value and Rep. Unc. in Bq/kg by gamma

Labcode	Reported value [Bq/kg]	Reported uncertainty ($k = 1$) [Bq/kg]	Relative bias [%]	P-Test [%]	Trueness evaluation	Precision evaluation	Final Score
139	15.0	0.54	2.04	5.97	A	A	A
140	15.2	0.9	3.40	7.60	A	A	A
141	14.85	0.75	1.02	6.94	A	A	A
142	13.625	1.074	-7.31	9.21	A	A	A
144	11.79	0.67	-19.80	7.41	A	N	W
145	14.0	0.9	-4.76	8.00	A	A	A
146	14.74	0.91	0.27	7.80	A	A	A
147	14.04	0.17	-4.49	4.91	A	A	A
148	14.4	0.7	-2.04	6.80	A	A	A
149	16.6	0.535	12.93	5.75	A	A	A
150	15.0	0.6	2.04	6.22	A	A	A
151	14.9	0.9	1.36	7.69	A	A	A
152	15.4	0.67	4.76	6.45	A	A	A
153	13.846	0.651	-5.81	6.69	A	A	A
154	11.16	0.33	-24.08	5.61	N	N	N
155	14.41	0.53	-1.97	6.02	A	A	A
156	14.8	1	0.68	8.27	A	A	A
157	15.1	0.3	2.72	5.16	A	A	A
158	15.01	0.33	2.11	5.24	A	A	A
159	13.58	0.40	-7.62	5.60	A	A	A
160	14.8	0.8	0.68	7.20	A	A	A
161	15.6	1.3	6.12	9.60	A	A	A
162	14.9	1.0	1.36	8.23	A	A	A
163	14.5	0.76	-1.36	7.08	A	A	A
165	14.83	0.26	0.88	5.07	A	A	A
166	14.7	1.5	0.00	11.26	A	A	A
167	14.90	0.72	1.36	6.78	A	A	A
168	15.1	0.8	2.72	7.12	A	A	A
169	14.0	1.2	-4.76	9.81	A	A	A
170	13.6	0.6	-7.48	6.49	A	A	A
171	15.4	0.45	4.76	5.59	A	A	A
172	13.3	0.835	-9.52	7.88	A	A	A
173	14.814	0.5	0.78	5.84	A	A	A
174	15.7	0.6	6.80	6.11	A	A	A
176	14.2	1.3	-3.40	10.32	A	A	A
177	14.38	0.26	-2.18	5.09	A	A	A
178	14.14	0.43	-3.81	5.65	A	A	A
179	14.46	0.42	-1.63	5.58	A	A	A
180	14.35	0.31	-2.38	5.23	A	A	A
181	15.4	0.8	4.76	7.05	A	A	A
182	14.68	1.18	-0.14	9.34	A	A	A
183	14.6	0.7	-0.68	6.76	A	A	A
184	15.1	1.7	2.72	12.22	A	A	A
185	14.67	1.54	-0.20	11.53	A	A	A
186	14.8	0.9	0.68	7.72	A	A	A
188	14.5	0.9	-1.36	7.82	A	A	A
189	14.6	1.2	-0.68	9.50	A	A	A
190	15.3	0.5	4.08	5.78	A	A	A
192	16.2	1.1	10.20	8.29	A	A	A
193	15.45	0.66	5.10	6.40	A	A	A
195	15.2	1.3	3.40	9.79	A	A	A
197	14.9213	0.6372	1.51	6.40	A	A	A
198	16.4	0.8	11.56	6.82	A	A	A
199	14.37	0.52	-2.24	5.98	A	A	A
200	14.74	0.60	0.27	6.26	A	A	A
201	14.70	0.95	0.00	8.03	A	A	A
202	14.50	1.55	-1.36	11.70	A	A	A
204	15.0	0.8	2.04	7.15	A	A	A
205	14.85	0.48	1.02	5.76	A	A	A
206	14.404	0.400	-2.01	5.51	A	A	A

TABLE 4. Evaluation Results for Co-60 in Sample 1, Rep. Value and Rep. Unc. in Bq/kg by gamma

Labcode	Reported value [Bq/kg]	Reported uncertainty ($k = 1$) [Bq/kg]	Relative bias [%]	P-Test [%]	Trueness evaluation	Precision evaluation	Final Score
207	14.20	0.50	-3.40	5.92	A	A	A
209	15.07	1.24	2.52	9.51	A	A	A
210	12.74	0.87	-13.33	8.33	A	A	A
213	15.2	0.9	3.40	7.60	A	A	A
214	16.6	1.1	12.93	8.16	A	A	A
217	14.10	0.60	-4.08	6.39	A	A	A
218	14.8	0.5	0.68	5.84	A	A	A
221	12.02	0.60	-18.23	6.90	A	N	W
222	13.90	0.40	-5.44	5.56	A	A	A
223	13.80	0.46	-6.12	5.81	A	A	A
224	14.3	0.2	-2.72	4.96	A	A	A
225	15.1	1.2	2.72	9.26	A	A	A
226	17.57	0.2	19.52	4.90	A	N	W
227	14.4	0.02	-2.04	4.76	A	A	A
228	15.0	0.4	2.04	5.46	A	A	A
232	15.1	1.0	2.72	8.16	A	A	A
233	15.02	0.9	2.18	7.65	A	A	A
234	14.99	0.38	1.97	5.39	A	A	A
235	14.9	0.8	1.36	7.18	A	A	A
236	12.9	0.55	-12.24	6.39	A	A	A
237	14.90	0.16	1.36	4.88	A	A	A
239	15.00	0.44	2.04	5.59	A	A	A
240	14.7	0.8	0.00	7.23	A	A	A
241	14.0	1.0	-4.76	8.58	A	A	A
243	14	1.4	-4.76	11.08	A	A	A
244	15.2	1.13	3.40	8.83	A	A	A
245	15.1	1.1	2.72	8.70	A	A	A
246	15.14	0.82	2.99	7.21	A	A	A
247	14.26	0.73	-2.99	6.99	A	A	A
248	14.6	0.8	-0.68	7.26	A	A	A
249	16.1	0.5	9.52	5.69	A	A	A
251	14.88	0.18	1.22	4.91	A	A	A
252	14.4	1.4	-2.04	10.83	A	A	A
254	11.4	0.21	-22.45	5.11	N	N	N
255	16.730	1.1653	13.81	8.44	A	A	A
256	15.6	0.784	6.12	6.92	A	A	A
257	14.9	0.6	1.36	6.24	A	A	A
258	14.17	0.52	-3.61	6.01	A	A	A
259	14.5	1.5	-1.36	11.39	A	A	A
260	14.63	1.10	-0.48	8.90	A	A	A
261	15.33	0.65	4.29	6.38	A	A	A
262	15.5	0.882	5.44	7.42	A	A	A
263	16.6	0.3	12.93	5.09	A	A	A
264	15.04	1.343	2.31	10.12	A	A	A
268	15.2	1.0	3.40	8.12	A	A	A
269	14.06	0.19	-4.35	4.95	A	A	A
270	15.02	0.87	2.18	7.50	A	A	A
271	14.7	0.9	0.00	7.76	A	A	A
272	15.1	0.7	2.72	6.65	A	A	A
273	14.5	0.6	-1.36	6.31	A	A	A
274	14.5	0.882	-1.36	7.73	A	A	A
275	15.6	0.8	6.12	7.00	A	A	A
276	14.6	1.0	-0.68	8.34	A	A	A
277	14.30	0.19	-2.72	4.94	A	A	A
279	15.01	0.466	2.11	5.68	A	A	A
281	14.39	1.73	-2.11	12.93	A	A	A
282	7.5	0.17	-48.98	5.27	N	N	N
283	14.55	2.207	-1.02	15.90	A	A	A
284	14.1	1.1	-4.08	9.14	A	A	A
285	13.983	0.58804	-4.88	6.35	A	A	A

TABLE 4. Evaluation Results for Co-60 in Sample 1, Rep. Value and Rep. Unc. in Bq/kg by gamma

Labcode	Reported value [Bq/kg]	Reported uncertainty ($k = 1$) [Bq/kg]	Relative bias [%]	P-Test [%]	Trueness evaluation	Precision evaluation	Final Score
286	13.7	0.7	-6.80	6.98	A	A	A
287	14.5	0.79	-1.36	7.24	A	A	A
288	13.6	0.23	-7.48	5.05	A	A	A
290	14.8	0.24	0.68	5.03	A	A	A
291	14.7	1.01	0.00	8.36	A	A	A
292	14.53	0.84	-1.16	7.49	A	A	A
293	15.1	0.7	2.72	6.65	A	A	A
294	13.6	0.7	-7.48	7.01	A	A	A
295	15.4	1.1	4.76	8.58	A	A	A
296	14.94	0.56	1.63	6.06	A	A	A
298	14.0	0.8	-4.76	7.44	A	A	A
299	14.5	0.3	-1.36	5.19	A	A	A
300	14.6	0.9	-0.68	7.79	A	A	A
301	14.55	0.53	-1.02	6.00	A	A	A
302	14.8	0.7	0.68	6.71	A	A	A
303	15.15	1.68	3.06	12.07	A	A	A
304	14.7	1.2	0.00	9.45	A	A	A
305	14.1	0.4	-4.08	5.54	A	A	A
306	14.01	1.90	-4.69	14.37	A	A	A
307	14.70	0.29	0.00	5.15	A	A	A
308	13.89	0.23	-5.51	5.04	A	A	A
309	14.06	0.80	-4.35	7.42	A	A	A
311	18.6	1.1	26.53	7.59	N	N	N
314	15.2	1.5	3.40	10.96	A	A	A
315	14.2	1.2	-3.40	9.70	A	A	A
316	14.7	0.6	0.00	6.27	A	A	A
317	13.35	0.58	-9.18	6.45	A	A	A
318	15.9	0.6	8.16	6.08	A	A	A
319	14.064	3.375	-4.33	24.47	A	N	W
322	28.84	3.06	96.19	11.63	N	N	N
327	14.9	0.3	1.36	5.17	A	A	A
328	15.2	0.9	3.40	7.60	A	A	A
329	15.1	1.0	2.72	8.16	A	A	A
330	14.7	1.4	0.00	10.65	A	A	A
331	13.94	0.34	-5.17	5.35	A	A	A
333	14.3	0.7	-2.72	6.83	A	A	A
334	14.9	0.7	1.36	6.69	A	A	A
335	15.23	1.05	3.61	8.38	A	A	A
336	1.88	0.12	-87.21	7.96	N	N	N
337	14.9	0.7	1.36	6.69	A	A	A
338	14.38	0.26	-2.18	5.09	A	A	A
341	14.72	0.60	0.14	6.27	A	A	A
342	14.85	0.27	1.02	5.10	A	A	A
343	13.1779		-10.35		A		
344	16.8	2.9	14.29	17.91	A	A	A

Reported Results for U-234 determination in Sample 1

TABLE 5. Target values

Parameter	Value
Activity Concentration [Bq/kg]	5.44
Uncertainty [Bq/kg]	0.27
Maximum Acceptable Relative Bias, [%]	30

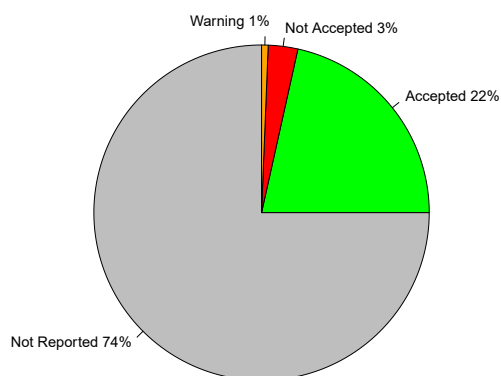


FIGURE 5. Percentage of Accepted vs. Warnings vs. Not Accepted vs. Not Reported results

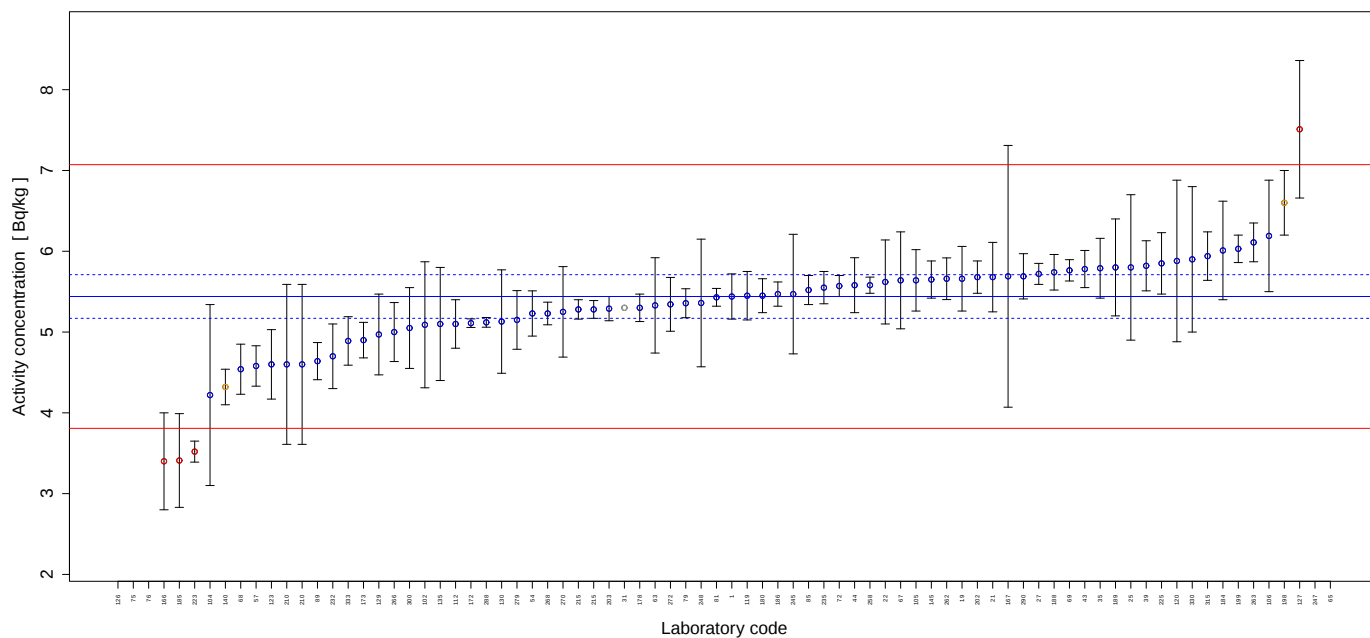


FIGURE 6. Reported results and evaluation parameters for U-234. Blue points represent accepted scores, whereas yellow and red represent warning and not accepted scores respectively.

TABLE 6. Evaluation Results for U-234 in Sample 1, Rep. Value and Rep. Unc. in Bq/kg by alpha

Labcode	Reported value [Bq/kg]	Reported uncertainty ($k = 1$) [Bq/kg]	Relative bias [%]	P-Test [%]	Trueness evaluation	Precision evaluation	Final Score
1	5.44	0.28	0.00	7.15	A	A	A
19	5.66	0.40	4.04	8.64	A	A	A
21	5.68	0.43	4.41	9.05	A	A	A
22	5.62	0.52	3.31	10.50	A	A	A
25	5.8	0.9	6.62	16.29	A	A	A
27	5.72	0.13	5.15	5.46	A	A	A
31	5.3		-2.57		A		
35	5.79	0.37	6.43	8.09	A	A	A
39	5.82	0.31	6.99	7.28	A	A	A
43	5.78	0.23	6.25	6.36	A	A	A
44	5.58	0.34	2.57	7.86	A	A	A
54	5.23	0.28	-3.86	7.30	A	A	A
57	4.58	0.25	-15.81	7.38	A	A	A
63	5.33	0.59	-2.02	12.13	A	A	A
65	76.62	19.16	1308.46	25.49	N	N	N
67	5.64	0.6	3.68	11.74	A	A	A
68	4.54	0.31	-16.54	8.44	A	A	A
69	5.764	0.132	5.96	5.47	A	A	A
72	5.57	0.13	2.39	5.48	A	A	A
75	0.162	0.051	-97.02	31.87	N	N	N
76	0.378	0.016	-93.05	6.52	N	N	N
79	5.357	0.179	-1.53	5.98	A	A	A
81	5.43	0.11	-0.18	5.36	A	A	A
85	5.52	0.18	1.47	5.94	A	A	A
89	4.64	0.23	-14.71	7.01	A	A	A
102	5.09	0.78	-6.43	16.11	A	A	A
104	4.22	1.12	-22.43	27.00	A	A	A
105	5.64	0.38	3.68	8.37	A	A	A
106	6.19	0.69	13.79	12.20	A	A	A
112	5.1	0.3	-6.25	7.70	A	A	A
119	5.45	0.3	0.18	7.41	A	A	A
120	5.88	1.00	8.09	17.72	A	A	A
123	4.60	0.43	-15.44	10.58	A	A	A
126	0.000311	0.000003	-99.99	5.06	N	N	N
127	7.51	0.851	38.05	12.37	N	N	N
129	4.97	0.50	-8.64	11.22	A	A	A
130	5.13	0.64	-5.70	13.43	A	A	A
135	5.1	0.7	-6.25	14.60	A	A	A
140	4.32	0.22	-20.59	7.11	A	N	W
145	5.65	0.23	3.86	6.42	A	A	A
166	3.4	0.6	-37.50	18.33	N	A	N
167	5.69	1.62	4.60	28.90	A	A	A
172	5.11	0.053	-6.07	5.07	A	A	A
173	4.9	0.22	-9.93	6.69	A	A	A
178	5.30	0.17	-2.57	5.91	A	A	A
180	5.45	0.21	0.18	6.28	A	A	A
184	6.01	0.61	10.48	11.30	A	A	A
185	3.41	0.58	-37.32	17.72	N	A	N
186	5.47	0.15	0.55	5.67	A	A	A
188	5.74	0.22	5.51	6.27	A	A	A
189	5.8	0.6	6.62	11.47	A	A	A
198	6.6	0.4	21.32	7.83	A	N	W
199	6.03	0.17	10.85	5.71	A	A	A
202	5.68	0.20	4.41	6.09	A	A	A
203	5.29	0.15	-2.76	5.72	A	A	A
210	4.60	0.99	-15.44	22.09	A	A	A
215	5.28	0.12	-2.94	5.46	A	A	A
223	3.52	0.13	-35.29	6.19	N	N	N
225	5.85	0.38	7.54	8.17	A	A	A
232	4.7	0.4	-13.60	9.85	A	A	A

TABLE 6. Evaluation Results for U-234 in Sample 1, Rep. Value and Rep. Unc. in Bq/kg by alpha

Labcode	Reported value [Bq/kg]	Reported uncertainty ($k = 1$) [Bq/kg]	Relative bias [%]	P-Test [%]	Trueness evaluation	Precision evaluation	Final Score
235	5.55	0.20	2.02	6.13	A	A	A
245	5.47	0.74	0.55	14.41	A	A	A
247	9.95	0.2	82.90	5.35	N	N	N
248	5.36	0.79	-1.47	15.55	A	A	A
258	5.58	0.10	2.57	5.28	A	A	A
262	5.66	0.258	4.04	6.74	A	A	A
263	6.11	0.24	12.32	6.33	A	A	A
266	5.00	0.365	-8.09	8.83	A	A	A
268	5.23	0.14	-3.86	5.64	A	A	A
270	5.25	0.56	-3.49	11.76	A	A	A
272	5.343	0.333	-1.78	7.97	A	A	A
279	5.15	0.363	-5.33	8.62	A	A	A
288	5.12	0.06	-5.88	5.10	A	A	A
290	5.69	0.28	4.60	6.99	A	A	A
300	5.05	0.5	-7.17	11.08	A	A	A
315	5.94	0.30	9.19	7.08	A	A	A
330	5.9	0.9	8.46	16.04	A	A	A
333	4.89	0.30	-10.11	7.89	A	A	A

Reported Results for U-235 determination in Sample 1

TABLE 7. Target values

Parameter	Value
Activity Concentration [Bq/kg]	0.26
Uncertainty [Bq/kg]	0.01
Maximum Acceptable Relative Bias, [%]	30

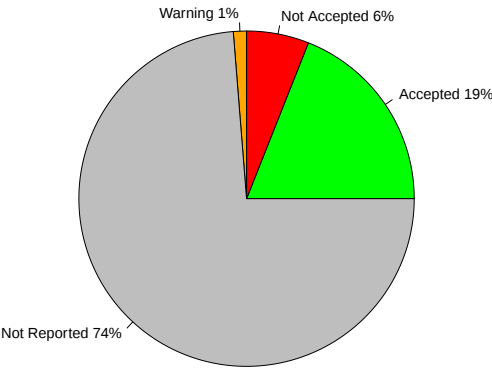


FIGURE 7. Percentage of Accepted vs. Warnings vs. Not Accepted vs. Not Reported results

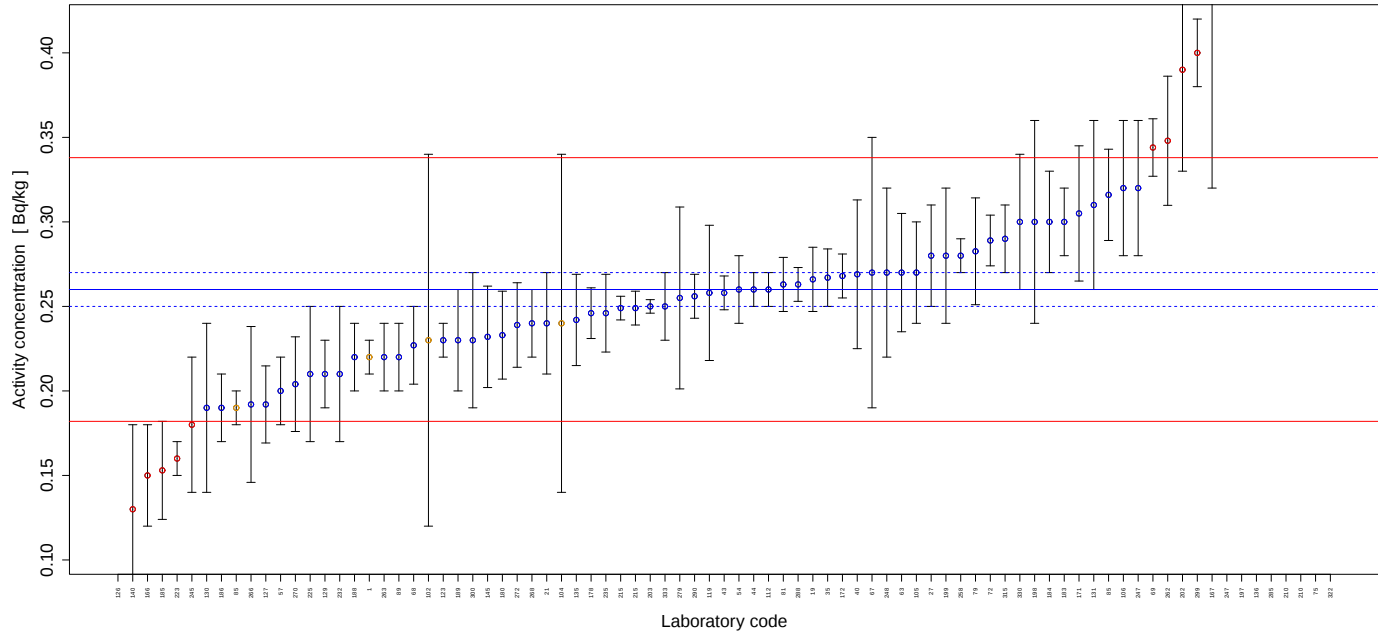


FIGURE 8. Reported results and evaluation parameters for U-235. Blue points represent accepted scores, whereas yellow and red represent warning and not accepted scores respectively.

TABLE 8. Evaluation Results for U-235 in Sample 1, Rep. Value and Rep. Unc. in Bq/kg by alpha

Labcode	Reported value [Bq/kg]	Reported uncertainty ($k = 1$) [Bq/kg]	Relative bias [%]	P-Test [%]	Trueness evaluation	Precision evaluation	Final Score
1	0.22	0.01	-15.38	5.95	A	N	W
19	0.266	0.019	2.31	8.11	A	A	A
21	0.24	0.03	-7.69	13.08	A	A	A
27	0.28	0.03	7.69	11.38	A	A	A
35	0.267	0.017	2.69	7.44	A	A	A
43	0.258	0.010	-0.77	5.46	A	A	A
44	0.26	0.01	0.00	5.44	A	A	A
54	0.26	0.02	0.00	8.60	A	A	A
57	0.20	0.02	-23.08	10.71	A	A	A
63	0.270	0.035	3.85	13.52	A	A	A
67	0.27	0.08	3.85	29.88	A	A	A
68	0.227	0.023	-12.69	10.84	A	A	A
69	0.344	0.017	32.31	6.26	N	N	N
72	0.289	0.015	11.15	6.46	A	A	A
75	6.108	0.472	2249.23	8.63	N	N	N
79	0.2826	0.0316	8.69	11.82	A	A	A
81	0.263	0.016	1.15	7.20	A	A	A
85	0.19	0.01	-26.92	6.52	A	N	W
89	0.22	0.02	-15.38	9.87	A	A	A
102	0.23	0.11	-11.54	47.98	A	N	W
105	0.27	0.03	3.85	11.76	A	A	A
106	0.32	0.04	23.08	13.08	A	A	A
112	0.26	0.01	0.00	5.44	A	A	A
119	0.258	0.04	-0.77	15.97	A	A	A
123	0.23	0.01	-11.54	5.80	A	A	A
126	0.0389	0.0003	-85.04	3.92	N	N	N
127	0.192	0.0228	-26.15	12.48	A	A	A
129	0.21	0.02	-19.23	10.27	A	A	A
130	0.19	0.05	-26.92	26.60	A	A	A
135	0.242	0.027	-6.92	11.80	A	A	A
140	0.13	0.05	-50.00	38.65	N	N	N
145	0.232	0.030	-10.77	13.49	A	A	A
166	0.15	0.03	-42.31	20.37	N	A	N
167	0.50	0.18	92.31	36.20	N	N	N
172	0.268	0.0130	3.08	6.19	A	A	A
178	0.246	0.015	-5.38	7.21	A	A	A
180	0.233	0.026	-10.38	11.80	A	A	A
184	0.30	0.03	15.38	10.71	A	A	A
185	0.153	0.029	-41.15	19.34	N	A	N
186	0.19	0.02	-26.92	11.21	A	A	A
188	0.22	0.02	-15.38	9.87	A	A	A
189	0.23	0.03	-11.54	13.60	A	A	A
198	0.3	0.06	15.38	20.37	A	A	A
199	0.28	0.04	7.69	14.79	A	A	A
202	0.39	0.06	50.00	15.86	N	N	N
203	0.250	0.004	-3.85	4.17	A	A	A
210	5.45	1.09	1996.15	20.37	N	N	N
215	0.249	0.007	-4.23	4.76	A	A	A
223	0.16	0.01	-38.46	7.34	N	N	N
225	0.21	0.04	-19.23	19.43	A	A	A
232	0.21	0.04	-19.23	19.43	A	A	A
235	0.246	0.023	-5.38	10.11	A	A	A
245	0.18	0.04	-30.77	22.55	N	A	N
247	0.57	0.05	119.23	9.58	N	N	N
248	0.27	0.05	3.85	18.91	A	A	A
258	0.28	0.01	7.69	5.25	A	A	A
262	0.348	0.0382	33.85	11.63	N	N	N
263	0.22	0.02	-15.38	9.87	A	A	A
266	0.192	0.0461	-26.15	24.32	A	A	A
268	0.240	0.020	-7.69	9.18	A	A	A

TABLE 8. Evaluation Results for U-235 in Sample 1, Rep. Value and Rep. Unc. in Bq/kg by alpha

Labcode	Reported value [Bq/kg]	Reported uncertainty ($k = 1$) [Bq/kg]	Relative bias [%]	P-Test [%]	Trueness evaluation	Precision evaluation	Final Score
270	0.204	0.028	-21.54	14.25	A	A	A
272	0.239	0.025	-8.08	11.14	A	A	A
279	0.255	0.0538	-1.92	21.45	A	A	A
288	0.263	0.01	1.15	5.41	A	A	A
290	0.256	0.013	-1.54	6.37	A	A	A
300	0.23	0.04	-11.54	17.81	A	A	A
315	0.29	0.02	11.54	7.90	A	A	A
330	0.30	0.04	15.38	13.88	A	A	A
333	0.25	0.02	-3.85	8.88	A	A	A

Reported Results for U-238 determination in Sample 1

TABLE 9. Target values

Parameter	Value
Activity Concentration [Bq/kg]	5.60
Uncertainty [Bq/kg]	0.28
Maximum Acceptable Relative Bias, [%]	30

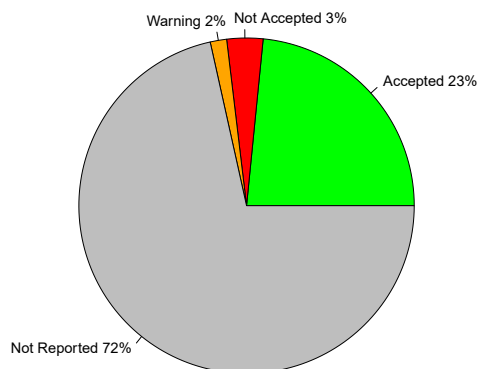


FIGURE 9. Percentage of Accepted vs. Warnings vs. Not Accepted vs. Not Reported results

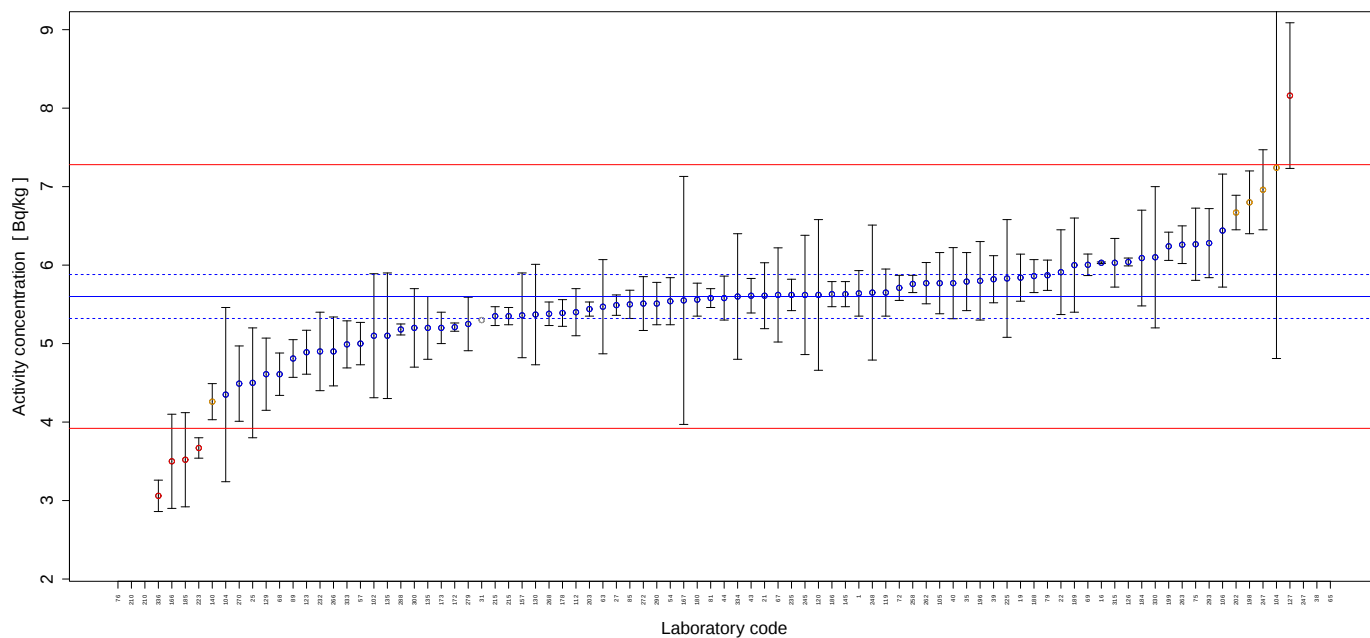


FIGURE 10. Reported results and evaluation parameters for U-238. Blue points represent accepted scores, whereas yellow and red represent warning and not accepted scores respectively.

TABLE 10. Evaluation Results for U-238 in Sample 1, Rep. Value and Rep. Unc. in Bq/kg by alpha

Labcode	Reported value [Bq/kg]	Reported uncertainty ($k = 1$) [Bq/kg]	Relative bias [%]	P-Test [%]	Trueness evaluation	Precision evaluation	Final Score
1	5.64	0.29	0.71	7.17	A	A	A
16	6.03	0.01	7.68	5.00	A	A	A
19	5.84	0.30	4.29	7.17	A	A	A
21	5.61	0.42	0.18	9.00	A	A	A
22	5.91	0.54	5.54	10.42	A	A	A
25	4.5	0.7	-19.64	16.34	A	A	A
27	5.49	0.13	-1.96	5.53	A	A	A
31	5.3		-5.36		A		
35	5.79	0.37	3.39	8.11	A	A	A
39	5.82	0.30	3.93	7.18	A	A	A
43	5.61	0.22	0.18	6.35	A	A	A
44	5.58	0.28	-0.36	7.08	A	A	A
54	5.54	0.30	-1.07	7.37	A	A	A
57	5.00	0.27	-10.71	7.36	A	A	A
63	5.47	0.60	-2.32	12.05	A	A	A
65	86.2	24.14	1439.29	28.45	N	N	N
67	5.62	0.6	0.36	11.79	A	A	A
68	4.61	0.27	-17.68	7.70	A	A	A
69	6.004	0.137	7.21	5.50	A	A	A
72	5.71	0.16	1.96	5.73	A	A	A
75	6.266	0.460	11.89	8.88	A	A	A
76	0.399	0.017	-92.88	6.57	N	N	N
79	5.871	0.193	4.84	5.98	A	A	A
81	5.58	0.12	-0.36	5.44	A	A	A
85	5.50	0.18	-1.79	5.98	A	A	A
89	4.81	0.24	-14.11	7.06	A	A	A
102	5.10	0.79	-8.93	16.28	A	A	A
104	4.35	1.11	-22.32	26.00	A	A	A
105	5.77	0.39	3.04	8.41	A	A	A
106	6.44	0.72	15.00	12.25	A	A	A
112	5.4	0.3	-3.57	7.47	A	A	A
119	5.65	0.3	0.89	7.29	A	A	A
120	5.62	0.96	0.36	17.80	A	A	A
123	4.89	0.28	-12.68	7.60	A	A	A
126	6.04	0.05	7.86	5.07	A	A	A
127	8.16	0.928	45.71	12.42	N	N	N
129	4.61	0.46	-17.68	11.16	A	A	A
130	5.37	0.64	-4.11	12.92	A	A	A
135	5.2	0.4	-7.14	9.17	A	A	A
140	4.26	0.23	-23.93	7.36	A	N	W
145	5.63	0.16	0.54	5.75	A	A	A
157	5.36	0.54	-4.29	11.25	A	A	A
166	3.5	0.6	-37.50	17.86	N	A	N
167	5.55	1.58	-0.89	28.90	A	A	A
172	5.21	0.0526	-6.96	5.10	A	A	A
173	5.2	0.2	-7.14	6.31	A	A	A
178	5.39	0.17	-3.75	5.91	A	A	A
180	5.56	0.21	-0.71	6.27	A	A	A
184	6.09	0.61	8.75	11.20	A	A	A
185	3.52	0.60	-37.14	17.76	N	A	N
186	5.63	0.16	0.54	5.75	A	A	A
188	5.86	0.21	4.64	6.15	A	A	A
189	6.0	0.6	7.14	11.18	A	A	A
196	5.8	0.5	3.57	9.97	A	A	A
198	6.8	0.4	21.43	7.72	A	N	W
199	6.24	0.18	11.43	5.77	A	A	A
202	6.67	0.22	19.11	5.99	A	N	W
203	5.44	0.09	-2.86	5.27	A	A	A
210	0.44	0.17	-92.14	38.96	N	N	N
215	5.35	0.12	-4.46	5.48	A	A	A

TABLE 10. Evaluation Results for U-238 in Sample 1, Rep. Value and Rep. Unc. in Bq/kg by alpha

Labcode	Reported value [Bq/kg]	Reported uncertainty ($k = 1$) [Bq/kg]	Relative bias [%]	P-Test [%]	Trueness evaluation	Precision evaluation	Final Score
223	3.67	0.13	-34.46	6.13	N	N	N
225	5.83	0.75	4.11	13.80	A	A	A
232	4.9	0.5	-12.50	11.36	A	A	A
235	5.62	0.20	0.36	6.14	A	A	A
245	5.62	0.76	0.36	14.42	A	A	A
247	10.0	0.10	78.57	5.10	N	N	N
248	5.65	0.86	0.89	16.02	A	A	A
258	5.76	0.11	2.86	5.35	A	A	A
262	5.77	0.263	3.04	6.77	A	A	A
263	6.26	0.24	11.79	6.30	A	A	A
266	4.90	0.439	-12.50	10.26	A	A	A
268	5.38	0.15	-3.93	5.72	A	A	A
270	4.49	0.48	-19.82	11.80	A	A	A
272	5.51	0.343	-1.61	7.98	A	A	A
279	5.25	0.341	-6.25	8.20	A	A	A
288	5.18	0.07	-7.50	5.18	A	A	A
290	5.51	0.27	-1.61	7.00	A	A	A
300	5.2	0.5	-7.14	10.84	A	A	A
315	6.03	0.31	7.68	7.17	A	A	A
330	6.1	0.9	8.93	15.58	A	A	A
333	4.99	0.3	-10.89	7.82	A	A	A

TABLE 11. Evaluation Results for U-238 in Sample 1, Rep. Value and Rep. Unc. in Bq/kg by gamma

Labcode	Reported value [Bq/kg]	Reported uncertainty ($k = 1$) [Bq/kg]	Relative bias [%]	P-Test [%]	Trueness evaluation	Precision evaluation	Final Score
38	12.2	1.9	117.86	16.36	N	N	N
40	5.77	0.453	3.04	9.31	A	A	A
104	7.24	2.43	29.29	33.93	A	N	W
135	5.1	0.8	-8.93	16.46	A	A	A
210	0.44	0.17	-92.14	38.96	N	N	N
215	5.35	0.11	-4.46	5.41	A	A	A
247	6.96	0.51	24.29	8.87	A	N	W
293	6.28	0.44	12.14	8.61	A	A	A
334	5.6	0.8	0.00	15.14	A	A	A
336	3.06	0.20	-45.36	8.23	N	N	N

Reported Results for Am-241 determination in Sample 1

TABLE 12. Target values

Parameter	Value
Activity Concentration [Bq/kg]	22.3
Uncertainty [Bq/kg]	1.1
Maximum Acceptable Relative Bias, [%]	20

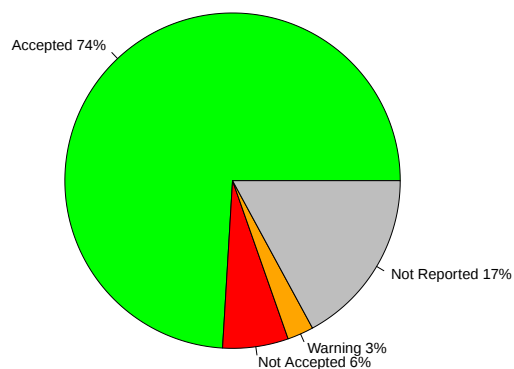


FIGURE 11. Percentage of Accepted vs. Warnings vs. Not Accepted vs. Not Reported results

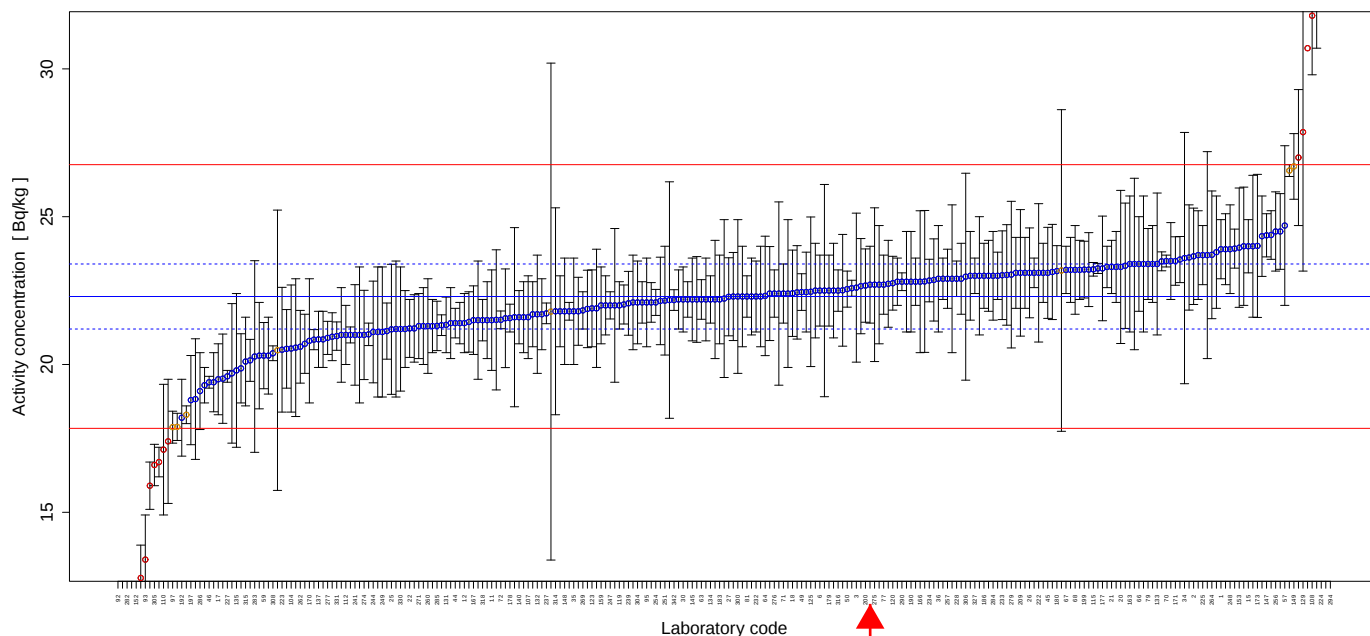


FIGURE 12. Reported results and evaluation parameters for Am-241. Blue points represent accepted scores, whereas yellow and red represent warning and not accepted scores respectively.

TABLE 13. Evaluation Results for Am-241 in Sample 1, Rep. Value and Rep. Unc. in Bq/kg by gamma

Labcode	Reported value [Bq/kg]	Reported uncertainty ($k = 1$) [Bq/kg]	Relative bias [%]	P-Test [%]	Trueness evaluation	Precision evaluation	Final Score
1	23.9	1.0	7.17	6.47	A	A	A
2	23.66	1.63	6.10	8.47	A	A	A
3	22.6	2.52	1.35	12.19	A	A	A
5	22.15	1.48	-0.67	8.31	A	A	A
6	22.5	1.2	0.90	7.26	A	A	A
7	43.96	4.4	97.13	11.16	N	N	N
8	22.51	1.89	0.94	9.74	A	A	A
10	22.9	0.7	2.69	5.80	A	A	A
11	21.5	1.7	-3.59	9.32	A	A	A
12	21.4	1.0	-4.04	6.79	A	A	A
13	23.8	1.9	6.73	9.38	A	A	A
14	23.0	1.5	3.14	8.18	A	A	A
15	24.0	0.9	7.62	6.20	A	A	A
16	23.34	2.12	4.66	10.34	A	A	A
17	19.5	1.2	-12.56	7.89	A	A	A
18	22.41	1.46	0.49	8.17	A	A	A
19	20.3	1.8	-8.97	10.15	A	A	A
20	23.3	2.59	4.48	12.16	A	A	A
21	23.3	0.9	4.48	6.27	A	A	A
22	21.22	0.98	-4.84	6.76	A	A	A
23	22.1	0.7	-0.90	5.86	A	A	A
25	21.19	2.2	-4.98	11.49	A	A	A
26	23.1	1.52	3.59	8.22	A	A	A
27	22.29	1.32	-0.04	7.71	A	A	A
28	21.2	2.3	-4.93	11.92	A	A	A
29	21.7	1.2	-2.69	7.41	A	A	A
30	22.2	1.1	-0.45	6.99	A	A	A
31	20.3	1.3	-8.97	8.08	A	A	A
32	21.33	0.35	-4.35	5.20	A	A	A
33	23.7	3.5	6.28	15.57	A	A	A
34	23.6	4.25	5.83	18.67	A	A	A
35	21.8	1.8	-2.24	9.62	A	A	A
36	22.9	1.8	2.69	9.28	A	A	A
37	22.7	1.3	1.79	7.56	A	A	A
38	22.4	2.5	0.45	12.20	A	A	A
39	21.3	0.9	-4.48	6.50	A	A	A
40	22.2	1.45	-0.45	8.18	A	A	A
42	21.6	3.03	-3.14	14.87	A	A	A
43	22.8	1.7	2.24	8.94	A	A	A
44	21.4	0.5	-4.04	5.46	A	A	A
45	23.1	1.54	3.59	8.29	A	A	A
46	19.4	0.2	-13.00	5.04	A	A	A
47	21.4	0.7	-4.04	5.92	A	A	A
48	22.9	1.2	2.69	7.20	A	A	A
49	22.45	0.62	0.67	5.65	A	A	A
50	22.55	0.61	1.12	5.63	A	A	A
51	23.7	1.5	6.28	8.02	A	A	A
52	22.8	0.8	2.24	6.05	A	A	A
54	19.3	0.6	-13.45	5.83	A	A	A
55	23.4	2.9	4.93	13.34	A	A	A
57	24.7	2.7	10.76	11.99	A	A	A
58	22.50	3.59	0.90	16.70	A	A	A
59	20.3	1.12	-8.97	7.40	A	A	A
60	21.88	1.31	-1.88	7.76	A	A	A
62	22.1	1.6	-0.90	8.76	A	A	A
63	22.2	0.67	-0.45	5.78	A	A	A
64	22.32	2.02	0.09	10.31	A	A	A
66	23.4	1.6	4.93	8.43	A	A	A
67	23.2	0.8	4.04	6.02	A	A	A
68	23.2	1.5	4.04	8.13	A	A	A

TABLE 13. Evaluation Results for Am-241 in Sample 1, Rep. Value and Rep. Unc. in Bq/kg by gamma

Labcode	Reported value [Bq/kg]	Reported uncertainty ($k = 1$) [Bq/kg]	Relative bias [%]	P-Test [%]	Trueness evaluation	Precision evaluation	Final Score
70	23.5	0.2	5.38	5.01	A	A	A
71	22.4	1	0.45	6.65	A	A	A
72	21.51	0.30	-3.54	5.13	A	A	A
73	22.3	1.7	0.00	9.08	A	A	A
75	21.02	0.38	-5.74	5.25	A	A	A
77	22.7	1.0	1.79	6.61	A	A	A
79	23.4	1.2	4.93	7.12	A	A	A
80	15.9	0.8	-28.70	7.05	N	N	N
81	22.3	0.7	0.00	5.85	A	A	A
82	21.22	1.14	-4.84	7.29	A	A	A
83	23.62	1.78	5.92	9.01	A	A	A
84	22.3	1.49	0.00	8.31	A	A	A
85	22.86	1.39	2.51	7.83	A	A	A
86	23.5	1.3	5.38	7.41	A	A	A
89	21.44	1.02	-3.86	6.85	A	A	A
90	21.13	0.95	-5.25	6.67	A	A	A
92	1.74	0.22	-92.20	13.57	N	N	N
93	13.40	1.51	-39.91	12.30	N	N	N
94	20.85	0.95	-6.50	6.72	A	A	A
95	22.1	1.5	-0.90	8.39	A	A	A
97	17.88	0.54	-19.82	5.78	A	N	W
98	22.44	1.58	0.63	8.60	A	A	A
99	20.94	0.81	-6.10	6.27	A	A	A
101	30.7		37.67		N		N
102	21.8	1.2	-2.24	7.39	A	A	A
104	20.54	2.15	-7.89	11.57	A	A	A
105	23.13	1.61	3.72	8.53	A	A	A
106	23.21	1.25	4.08	7.30	A	A	A
107	21.6	1.4	-3.14	8.15	A	A	A
108	31.8	2	42.60	7.99	N	N	N
110	17.12	2.21	-23.23	13.82	N	A	N
112	21	1	-5.83	6.86	A	A	A
114	22.5	1.6	0.90	8.65	A	A	A
115	23.22	0.23	4.13	5.03	A	A	A
116	22.18	4.00	-0.54	18.70	A	A	A
118	21.5	2.0	-3.59	10.53	A	A	A
119	22	0.8	-1.35	6.13	A	A	A
120	22.75	0.91	2.02	6.35	A	A	A
122	23.0	0.8	3.14	6.04	A	A	A
123	21.9	1.3	-1.79	7.72	A	A	A
125	22.46	2.53	0.72	12.30	A	A	A
126	16.7	0.5	-25.11	5.77	N	N	N
129	27.86	4.70	24.93	17.58	N	A	N
130	22.8	0.8	2.24	6.05	A	A	A
131	21.34	0.94	-4.30	6.61	A	A	A
132	21.7	2.0	-2.69	10.45	A	A	A
133	23.4	2.4	4.93	11.38	A	A	A
134	22.2	0.8	-0.45	6.11	A	A	A
135	19.8	2.6	-11.21	14.03	A	A	A
136	23	2	3.14	10.00	A	A	A
137	20.85	0.95	-6.50	6.72	A	A	A
139	22.1	0.67	-0.90	5.79	A	A	A
140	21.6	0.9	-3.14	6.46	A	A	A
141	20.57	2.33	-7.76	12.35	A	A	A
142	20.482	4.741	-8.15	23.67	A	N	W
144	23.3	1.2	4.48	7.13	A	A	A
145	22.2	1.4	-0.45	8.01	A	A	A
146	24.34	1.36	9.15	7.45	A	A	A
147	24.37	0.73	9.28	5.77	A	A	A
148	21.8	1.8	-2.24	9.62	A	A	A

TABLE 13. Evaluation Results for Am-241 in Sample 1, Rep. Value and Rep. Unc. in Bq/kg by gamma

Labcode	Reported value [Bq/kg]	Reported uncertainty ($k = 1$) [Bq/kg]	Relative bias [%]	P-Test [%]	Trueness evaluation	Precision evaluation	Final Score
149	26.7	1.11	19.73	6.45	A	N	W
151	22.3	1.3	0.00	7.64	A	A	A
152	11.6		-47.98		N		N
153	23.952	2.018	7.41	9.76	A	A	A
154	17.89	0.46	-19.78	5.56	A	N	W
155	22.2	1.0	-0.45	6.68	A	A	A
156	23.0	1.2	3.14	7.18	A	A	A
157	23.3	0.7	4.48	5.78	A	A	A
158	22.03	0.66	-1.21	5.77	A	A	A
159	22.0	1.3	-1.35	7.70	A	A	A
160	22.7	2.0	1.79	10.10	A	A	A
161	23.03	1.7	3.27	8.88	A	A	A
162	23.92	0.66	7.26	5.65	A	A	A
163	23.4	2.3	4.93	11.00	A	A	A
165	23.49	0.32	5.34	5.12	A	A	A
166	22.8	2.4	2.24	11.62	A	A	A
167	21.50	1.16	-3.59	7.31	A	A	A
168	21.4	1.2	-4.04	7.47	A	A	A
169	22.0	2.6	-1.35	12.81	A	A	A
170	20.8	2.1	-6.73	11.24	A	A	A
171	23.5	0.82	5.38	6.04	A	A	A
172	19.7	2.36	-11.66	12.96	A	A	A
173	24.012	2.42	7.68	11.22	A	A	A
174	24	2	7.62	9.68	A	A	A
176	17.4	2.1	-21.97	13.04	N	A	N
177	23.25	1.77	4.26	9.07	A	A	A
178	21.57	0.47	-3.27	5.39	A	A	A
179	22.5	1.2	0.90	7.26	A	A	A
180	23.16	0.86	3.86	6.17	A	A	A
181	23.9	1.2	7.17	7.04	A	A	A
182	22.23	2.67	-0.31	12.98	A	A	A
183	22.2	1.5	-0.45	8.37	A	A	A
184	22.9	2.5	2.69	11.98	A	A	A
185	22.81	2.40	2.29	11.62	A	A	A
186	23.0	1.1	3.14	6.87	A	A	A
188	22	1	-1.35	6.71	A	A	A
189	21	2.3	-5.83	12.01	A	A	A
190	22.8	1.7	2.24	8.94	A	A	A
192	18.2	1.3	-18.39	8.68	A	A	A
196	24.38	0.822	9.33	5.97	A	A	A
197	18.7953	1.5084	-15.72	9.42	A	A	A
198	22.2	0.6	-0.45	5.62	A	A	A
199	23.21	0.96	4.08	6.44	A	A	A
200	22.67	1.24	1.66	7.37	A	A	A
201	22.65	1.61	1.57	8.65	A	A	A
204	22.3	1.7	0.00	9.08	A	A	A
205	9.74	0.22	-56.32	5.43	N	N	N
206	21.564	1.669	-3.30	9.18	A	A	A
207	18.83	2.04	-15.56	11.90	A	A	A
209	23.10	2.14	3.59	10.50	A	A	A
210	23.40	2.30	4.93	11.00	A	A	A
213	23.1	1.2	3.59	7.16	A	A	A
214	21.5	1.3	-3.59	7.80	A	A	A
217	21.1	2.2	-5.38	11.53	A	A	A
218	21.8	1.15	-2.24	7.22	A	A	A
221	18.30	0.30	-17.94	5.20	A	N	W
222	23.10	2.34	3.59	11.27	A	A	A
223	20.50	2.11	-8.07	11.41	A	A	A
224	35.2	0.11	57.85	4.94	N	N	N
225	23.7	1.0	6.28	6.49	A	A	A

TABLE 13. Evaluation Results for Am-241 in Sample 1, Rep. Value and Rep. Unc. in Bq/kg by gamma

Labcode	Reported value [Bq/kg]	Reported uncertainty ($k = 1$) [Bq/kg]	Relative bias [%]	P-Test [%]	Trueness evaluation	Precision evaluation	Final Score
226	26.56	0.2	19.10	4.99	A	N	W
227	19.6	0.2	-12.11	5.04	A	A	A
228	22.9	0.6	2.69	5.59	A	A	A
232	22.3	1.2	0.00	7.30	A	A	A
233	23.02	1.5	3.23	8.17	A	A	A
234	22.84	0.72	2.42	5.85	A	A	A
235	23.1	1.2	3.59	7.16	A	A	A
236	24.5	1.28	9.87	7.19	A	A	A
237	21.73	0.35	-2.56	5.19	A	A	A
239	22.07	1.08	-1.03	6.95	A	A	A
240	21.6	1.2	-3.14	7.43	A	A	A
241	21.0	1.7	-5.83	9.48	A	A	A
243	24	2.4	7.62	11.15	A	A	A
244	21.1	1.72	-5.38	9.53	A	A	A
245	22.2	1.4	-0.45	8.01	A	A	A
246	23.55	0.78	5.61	5.94	A	A	A
247	22.0	0.46	-1.35	5.36	A	A	A
248	23.9	1.5	7.17	7.98	A	A	A
249	21.1	2.2	-5.38	11.53	A	A	A
251	22.16	1.84	-0.63	9.66	A	A	A
252	22.2	2.0	-0.45	10.27	A	A	A
254	22.1	0.44	-0.90	5.32	A	A	A
255	20.529	1.3297	-7.94	8.14	A	A	A
256	24.5	1.34	9.87	7.37	A	A	A
257	22.9	1.0	2.69	6.59	A	A	A
258	19.40	1.00	-13.00	7.13	A	A	A
259	21.9	2	-1.79	10.38	A	A	A
260	21.30	1.60	-4.48	8.99	A	A	A
261	21.7	1.1	-2.69	7.07	A	A	A
262	20.6	1.23	-7.62	7.74	A	A	A
263	21.8	0.3	-2.24	5.12	A	A	A
264	23.71	2.160	6.32	10.36	A	A	A
268	27.0	2.3	21.08	9.84	N	A	N
269	21.83	0.63	-2.11	5.71	A	A	A
270	23.4	1.3	4.93	7.43	A	A	A
271	21.3	1.1	-4.48	7.14	A	A	A
272	23.2	1.0	4.04	6.55	A	A	A
273	21.2	1.3	-4.93	7.87	A	A	A
274	21	1.51	-5.83	8.72	A	A	A
275	22.7	2.6	1.79	12.47	A	A	A
276	22.4	0.8	0.45	6.09	A	A	A
277	20.90	0.56	-6.28	5.61	A	A	A
279	23.04	2.48	3.32	11.84	A	A	A
281	21.51	2.37	-3.54	12.07	A	A	A
282	9.0	0.45	-59.64	7.02	N	N	N
283	20.27	3.241	-9.10	16.73	A	A	A
284	23.0	1.5	3.14	8.18	A	A	A
285	21.305	0.83549	-4.46	6.30	A	A	A
286	19.1	1.3	-14.35	8.41	A	A	A
288	21.0	0.27	-5.83	5.10	A	A	A
290	22.8	0.30	2.24	5.11	A	A	A
291	22.4	1.59	0.45	8.64	A	A	A
292	19.87	1.17	-10.90	7.68	A	A	A
293	23.2	1.1	4.04	6.84	A	A	A
294	44.7	2.7	100.45	7.80	N	N	N
295	22.4	3.1	0.45	14.69	A	A	A
296	22.45	1.35	0.67	7.78	A	A	A
298	20.7	1.0	-7.17	6.90	A	A	A
299	21.3	1.3	-4.48	7.85	A	A	A
300	22.3	2.6	0.00	12.66	A	A	A

TABLE 13. Evaluation Results for Am-241 in Sample 1, Rep. Value and Rep. Unc. in Bq/kg by gamma

Labcode	Reported value [Bq/kg]	Reported uncertainty ($k = 1$) [Bq/kg]	Relative bias [%]	P-Test [%]	Trueness evaluation	Precision evaluation	Final Score
301	20.14	0.71	-9.69	6.06	A	A	A
302	23.1	0.5	3.59	5.39	A	A	A
303	23.18	5.44	3.95	23.98	A	N	W
304	22.1	1.4	-0.90	8.03	A	A	A
305	16.6	0.7	-25.56	6.49	N	N	N
306	22.97	3.50	3.00	16.02	A	A	A
307	22.58	0.27	1.26	5.08	A	A	A
308	20.38	0.25	-8.61	5.08	A	A	A
309	19.52	1.51	-12.47	9.17	A	A	A
311	34.7	4.0	55.61	12.54	N	N	N
314	21.8	3.5	-2.24	16.80	A	A	A
315	20.1	1.5	-9.87	8.95	A	A	A
316	22.5	0.7	0.90	5.83	A	A	A
317	20.84	0.34	-6.55	5.20	A	A	A
318	21.5	0.7	-3.59	5.91	A	A	A
319	21.79	8.405	-2.29	38.89	A	N	W
322	12.78	1.11	-42.69	9.99	N	N	N
327	23.0	0.6	3.14	5.58	A	A	A
328	23.1	1.0	3.59	6.56	A	A	A
330	21.2	2.1	-4.93	11.07	A	A	A
331	20.96	0.48	-6.01	5.44	A	A	A
333	21.0	1.6	-5.83	9.08	A	A	A
334	22.5	1.6	0.90	8.65	A	A	A
336	5.96	0.45	-73.27	9.02	N	N	N
338	23.25	0.17	4.26	4.99	A	A	A
341	22.73	1.47	1.93	8.13	A	A	A
342	22.18	0.35	-0.54	5.18	A	A	A

Reported Results for Sr-90 determination in Sample 2

TABLE 14. Target values

Parameter	Value
Activity Concentration [Bq/kg]	14.2
Uncertainty [Bq/kg]	0.7
Maximum Acceptable Relative Bias, [%]	30

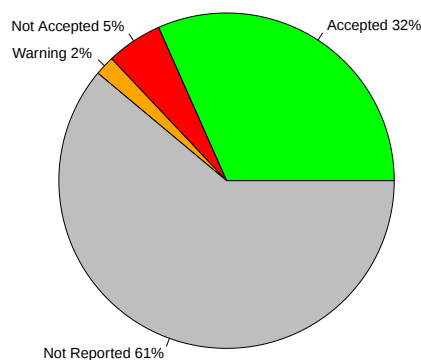


FIGURE 13. Percentage of Accepted vs. Warnings vs. Not Accepted vs. Not Reported results

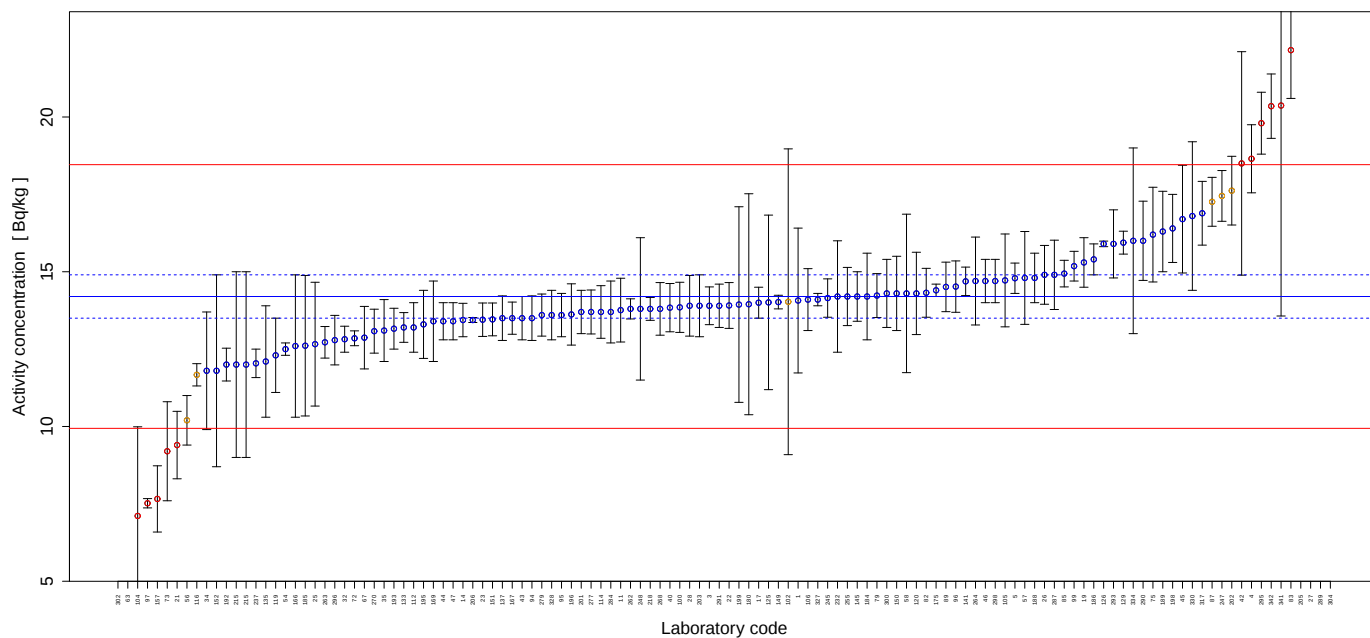


FIGURE 14. Reported results and evaluation parameters for Sr-90. Blue points represent accepted scores, whereas yellow and red represent warning and not accepted scores respectively.

TABLE 15. Evaluation Results for Sr-90 in Sample 2, Rep. Value and Rep. Unc. in Bq/kg by beta

Labcode	Reported value [Bq/kg]	Reported uncertainty ($k = 1$) [Bq/kg]	Relative bias [%]	P-Test [%]	Trueness evaluation	Precision evaluation	Final Score
1	14.07	2.34	-0.92	17.35	A	A	A
3	13.9	0.61	-2.11	6.60	A	A	A
4	18.65	1.10	31.34	7.69	N	N	N
5	14.79	0.49	4.15	5.94	A	A	A
11	13.76	1.03	-3.10	8.96	A	A	A
14	13.44	0.54	-5.35	6.36	A	A	A
17	14.0	0.5	-1.41	6.09	A	A	A
19	15.3	0.8	7.75	7.19	A	A	A
21	9.4	1.09	-33.80	12.60	N	N	N
22	13.91	0.74	-2.04	7.25	A	A	A
23	13.45	0.54	-5.28	6.36	A	A	A
25	12.66	2.0	-10.85	16.55	A	A	A
26	14.9	0.95	4.93	8.06	A	A	A
27	31.0	2.6	118.31	9.73	N	N	N
28	13.9	0.98	-2.11	8.60	A	A	A
32	12.82	0.42	-9.72	5.92	A	A	A
34	11.8	1.9	-16.90	16.84	A	A	A
35	13.1	1.0	-7.75	9.09	A	A	A
40	13.84	0.78	-2.54	7.49	A	A	A
42	18.5	3.61	30.28	20.13	N	A	N
43	13.5	0.7	-4.93	7.15	A	A	A
44	13.4	0.6	-5.63	6.66	A	A	A
45	16.7	1.74	17.61	11.53	A	A	A
46	14.7	0.7	3.52	6.85	A	A	A
47	13.4	0.6	-5.63	6.66	A	A	A
54	12.5	0.2	-11.97	5.18	A	A	A
56	10.2	0.8	-28.17	9.26	A	N	W
57	14.8	1.5	4.23	11.27	A	A	A
58	14.30	2.56	0.70	18.57	A	A	A
63	3.29	0.16	-76.83	6.92	N	N	N
67	12.87	1.01	-9.37	9.27	A	A	A
72	12.85	0.24	-9.51	5.27	A	A	A
73	9.2	1.6	-35.21	18.08	N	A	N
75	16.20	1.53	14.08	10.65	A	A	A
79	14.23	0.71	0.21	7.01	A	A	A
82	14.32	0.79	0.85	7.40	A	A	A
83	22.16	1.56	56.06	8.59	N	N	N
85	14.94	0.43	5.21	5.71	A	A	A
87	17.26	0.79	21.55	6.73	A	N	W
89	14.51	0.8	2.18	7.40	A	A	A
94	13.50	0.72	-4.93	7.26	A	A	A
95	13.6	0.7	-4.23	7.13	A	A	A
96	14.52	0.83	2.25	7.55	A	A	A
99	15.18	0.48	6.90	5.86	A	A	A
100	13.85	0.81	-2.46	7.65	A	A	A
102	14.03	4.94	-1.20	35.55	A	N	W
104	7.11	2.88	-49.93	40.81	N	N	N
105	14.72	1.50	3.66	11.32	A	A	A
106	14.1	1.0	-0.70	8.64	A	A	A
112	13.2	0.8	-7.04	7.81	A	A	A
114	13.7	0.85	-3.52	7.92	A	A	A
116	11.67	0.36	-17.82	5.82	A	N	W
119	12.3	1.2	-13.38	10.93	A	A	A
120	14.3	1.33	0.70	10.53	A	A	A
125	14.01	2.82	-1.34	20.72	A	A	A
126	15.9	0.09	11.97	4.96	A	A	A
129	15.94	0.37	12.25	5.45	A	A	A
133	13.2	0.48	-7.04	6.13	A	A	A
135	12.1	1.8	-14.79	15.67	A	A	A
137	13.50	0.72	-4.93	7.26	A	A	A

TABLE 15. Evaluation Results for Sr-90 in Sample 2, Rep. Value and Rep. Unc. in Bq/kg by beta

Labcode	Reported value [Bq/kg]	Reported uncertainty ($k = 1$) [Bq/kg]	Relative bias [%]	P-Test [%]	Trueness evaluation	Precision evaluation	Final Score
141	14.69	0.46	3.45	5.84	A	A	A
145	14.2	0.8	0.00	7.49	A	A	A
149	14.02	0.22	-1.27	5.17	A	A	A
150	14.3	1.2	0.70	9.73	A	A	A
151	13.46	0.53	-5.21	6.31	A	A	A
152	11.8	3.1	-16.90	26.73	A	A	A
157	7.66	1.07	-46.06	14.81	N	N	N
166	12.6	2.3	-11.27	18.91	A	A	A
167	13.50	0.52	-4.93	6.26	A	A	A
169	13.4	1.3	-5.63	10.88	A	A	A
175	14.4	0.2	1.41	5.12	A	A	A
180	13.95	3.57	-1.76	26.06	A	A	A
184	14.2	1.4	0.00	11.02	A	A	A
185	12.61	2.27	-11.20	18.66	A	A	A
186	15.4	0.5	8.45	5.90	A	A	A
188	14.8	0.8	4.23	7.32	A	A	A
189	16.3	1.3	14.79	9.38	A	A	A
192	12.0	0.53	-15.49	6.62	A	A	A
193	13.16	0.66	-7.32	7.03	A	A	A
195	13.3	1.1	-6.34	9.63	A	A	A
196	13.62	0.99	-4.08	8.78	A	A	A
198	16.4	1.1	15.49	8.32	A	A	A
199	13.94	3.16	-1.83	23.20	A	A	A
201	13.7	0.7	-3.52	7.10	A	A	A
202	17.62	1.11	24.08	8.00	A	N	W
203	13.9	1.0	-2.11	8.72	A	A	A
205	28.90	0.61	103.52	5.36	N	N	N
206	13.44	0.08	-5.35	4.97	A	A	A
215	12	3	-15.49	25.48	A	A	A
218	13.8	0.37	-2.82	5.61	A	A	A
232	14.2	1.8	0.00	13.60	A	A	A
237	12.04	0.46	-15.21	6.24	A	A	A
245	14.15	0.62	-0.35	6.60	A	A	A
247	17.45	0.82	22.89	6.81	A	N	W
248	13.8	2.3	-2.82	17.38	A	A	A
255	14.2	0.94	0.00	8.25	A	A	A
262	13.8	0.325	-2.82	5.46	A	A	A
263	12.72	0.51	-10.42	6.35	A	A	A
264	14.7	1.42	3.52	10.84	A	A	A
268	13.8	0.85	-2.82	7.89	A	A	A
270	13.08	0.71	-7.89	7.33	A	A	A
277	13.70	0.71	-3.52	7.15	A	A	A
279	13.6	0.68	-4.23	7.02	A	A	A
284	13.7	1.0	-3.52	8.81	A	A	A
287	14.9	1.12	4.93	8.99	A	A	A
289	104.89	8.85	638.66	9.77	N	N	N
290	16.0	1.28	12.68	9.40	A	A	A
291	13.9	0.7	-2.11	7.05	A	A	A
293	15.9	1.1	11.97	8.49	A	A	A
295	19.8	1.0	39.44	7.06	N	N	N
296	12.79	0.8	-9.93	7.96	A	A	A
298	14.7	0.7	3.52	6.85	A	A	A
300	14.3	1.1	0.70	9.14	A	A	A
302	2.1	0.3	-85.21	15.11	N	N	N
304	193	12	1259.15	7.93	N	N	N
317	16.89	1.03	18.94	7.84	A	A	A
327	14.1	0.2	-0.70	5.13	A	A	A
328	13.6	0.8	-4.23	7.67	A	A	A
330	16.8	2.4	18.31	15.11	A	A	A
334	16	3	12.68	19.39	A	A	A

TABLE 15. Evaluation Results for Sr-90 in Sample 2, Rep. Value and Rep. Unc. in Bq/kg by beta

Labcode	Reported value [Bq/kg]	Reported uncertainty ($k = 1$) [Bq/kg]	Relative bias [%]	P-Test [%]	Trueness evaluation	Precision evaluation	Final Score
341	20.37	6.80	43.45	33.74	N	N	N
342	20.35	1.04	43.31	7.10	N	N	N

Reported Results for Sb-125 determination in Sample 2

TABLE 16. Target values

Parameter	Value
Activity Concentration [Bq/kg]	73.0
Uncertainty [Bq/kg]	3.6
Maximum Acceptable Relative Bias, [%]	20

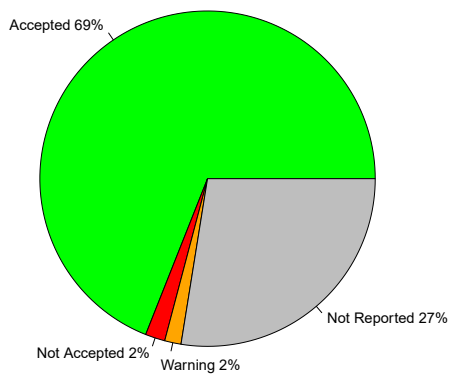


FIGURE 15. Percentage of Accepted vs. Warnings vs. Not Accepted vs. Not Reported results

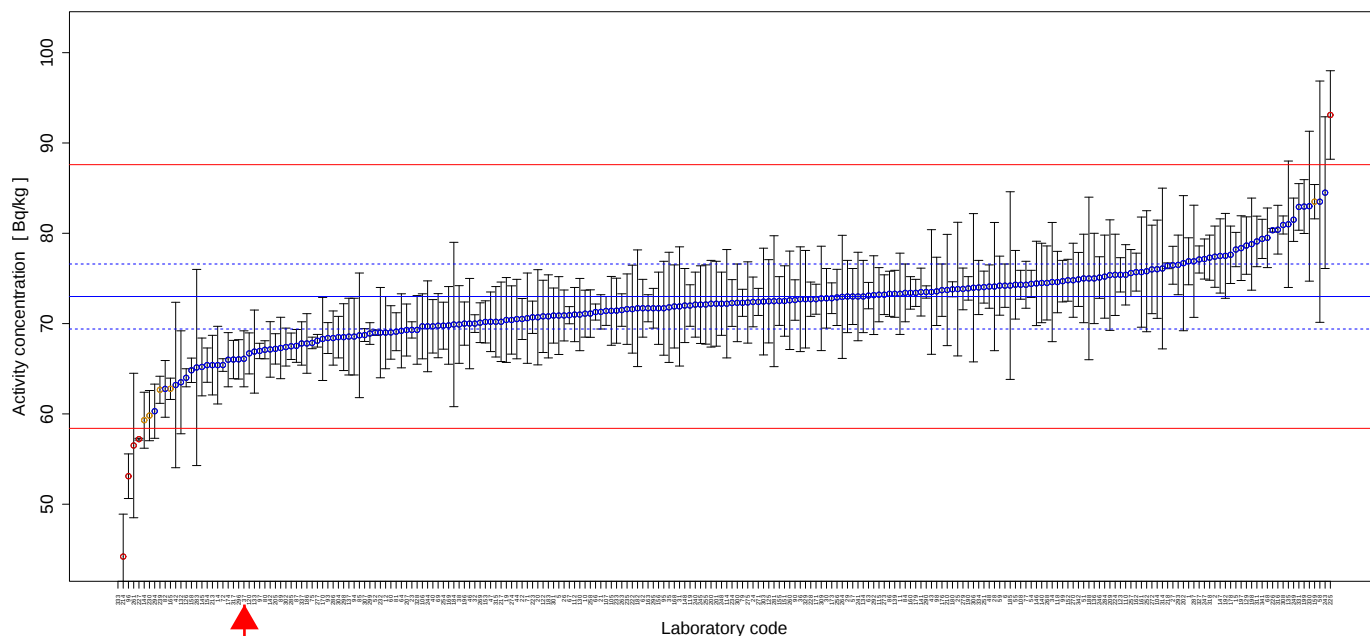


FIGURE 16. Reported results and evaluation parameters for Sb-125. Blue points represent accepted scores, whereas yellow and red represent warning and not accepted scores respectively.

TABLE 17. Evaluation Results for Sb-125 in Sample 2, Rep. Value and Rep. Unc. in Bq/kg by gamma

Labcode	Reported value [Bq/kg]	Reported uncertainty ($k = 1$) [Bq/kg]	Relative bias [%]	P-Test [%]	Trueness evaluation	Precision evaluation	Final Score
1	76.9	2.6	5.34	5.98	A	A	A
2	77.41	3.39	6.04	6.60	A	A	A
5	70.89	4.31	-2.89	7.83	A	A	A
6	74.2	2.4	1.64	5.90	A	A	A
10	71.1	2.6	-2.60	6.14	A	A	A
11	73.3	4.5	0.41	7.87	A	A	A
12	69	4	-5.48	7.61	A	A	A
14	65.4	4.3	-10.41	8.22	A	A	A
15	78.2	1.9	7.12	5.50	A	A	A
19	70.4	4.7	-3.56	8.30	A	A	A
20	70.7	5.27	-3.15	8.94	A	A	A
21	71.3	1.9	-2.33	5.61	A	A	A
22	70.51	2.27	-3.41	5.89	A	A	A
23	69.3	0.9	-5.07	5.10	A	A	A
24	72.4	2.755	-0.82	6.23	A	A	A
25	73.82	7.4	1.12	11.17	A	A	A
26	70.9	2.82	-2.88	6.34	A	A	A
27	76.46	2.10	4.74	5.64	A	A	A
28	74.1	7.1	1.51	10.78	A	A	A
29	73	4	0.00	7.37	A	A	A
30	72.8	3.3	-0.27	6.70	A	A	A
31	71.9	6.6	-1.51	10.42	A	A	A
32	70.00	0.98	-4.11	5.13	A	A	A
34	74.6	6.6	2.19	10.13	A	A	A
35	71.8	6.1	-1.64	9.82	A	A	A
36	72.7	5.8	-0.41	9.38	A	A	A
37	66.1	3.1	-9.45	6.81	A	A	A
38	69.9	4.3	-4.25	7.88	A	A	A
40	69.7	2.96	-4.52	6.51	A	A	A
42	63.2	9.16	-13.42	15.31	A	A	A
43	73.5	6.9	0.68	10.60	A	A	A
44	70.5	4.4	-3.42	7.95	A	A	A
46	70	5	-4.11	8.68	A	A	A
47	70.2	3.3	-3.84	6.81	A	A	A
48	74.1	2.4	1.51	5.90	A	A	A
51	75.0	4.9	2.74	8.19	A	A	A
52	69.0	0.3	-5.48	4.95	A	A	A
54	74.4	1.5	1.92	5.33	A	A	A
55	74.3	3.8	1.78	7.10	A	A	A
57	73.0	3.1	0.00	6.51	A	A	A
58	83.50	13.36	14.38	16.74	A	A	A
59	74.2	3.27	1.64	6.61	A	A	A
60	69.02	2.96	-5.45	6.54	A	A	A
62	71.7	3.2	-1.78	6.65	A	A	A
63	73.1	1.46	0.14	5.32	A	A	A
64	69.2	4.1	-5.21	7.71	A	A	A
66	71.28	0.89	-2.36	5.09	A	A	A
67	70.93	0.95	-2.84	5.11	A	A	A
68	79.5	3.3	8.90	6.45	A	A	A
69	69.77	3.55	-4.42	7.09	A	A	A
71	70.6	5	-3.29	8.63	A	A	A
72	65.41	0.70	-10.40	5.05	A	A	A
75	67.86	0.64	-7.04	5.02	A	A	A
77	74.3	2.6	1.78	6.05	A	A	A
79	72.3	1.5	-0.96	5.35	A	A	A
80	67.1	1.0	-8.08	5.15	A	A	A
81	69.1	2.1	-5.34	5.79	A	A	A
82	62.77	3.14	-14.01	7.02	A	A	A
84	73.4	3.2	0.55	6.58	A	A	A
85	68.7	6.9	-5.89	11.19	A	A	A

TABLE 17. Evaluation Results for Sb-125 in Sample 2, Rep. Value and Rep. Unc. in Bq/kg by gamma

Labcode	Reported value [Bq/kg]	Reported uncertainty ($k = 1$) [Bq/kg]	Relative bias [%]	P-Test [%]	Trueness evaluation	Precision evaluation	Final Score
86	73.3	2.5	0.41	6.00	A	A	A
87	67.53	1.82	-7.49	5.62	A	A	A
89	67.3	3.40	-7.81	7.06	A	A	A
90	72.61	2.24	-0.53	5.82	A	A	A
93	68.40	1.71	-6.30	5.53	A	A	A
94	68.56	4.25	-6.08	7.92	A	A	A
95	71.7	5.2	-1.78	8.77	A	A	A
96	53.10	2.47	-27.26	6.78	N	N	N
97	66.97	0.85	-8.26	5.09	A	A	A
98	73.57	3.78	0.78	7.12	A	A	A
99	74.7	2.3	2.33	5.81	A	A	A
104	76.02	5.44	4.14	8.69	A	A	A
105	71.41	3.81	-2.18	7.27	A	A	A
106	69.7	3.6	-4.52	7.14	A	A	A
107	71.4	1.6	-2.19	5.42	A	A	A
108	74.3	1.6	1.78	5.38	A	A	A
110	75.40	3.34	3.29	6.63	A	A	A
112	71	3	-2.74	6.49	A	A	A
114	72.2	6.0	-1.10	9.66	A	A	A
115	73.2	3.0	0.27	6.41	A	A	A
118	74.6	3.4	2.19	6.72	A	A	A
119	72	2.3	-1.37	5.88	A	A	A
120	66.70	2.27	-8.63	5.99	A	A	A
122	70.8	4.0	-3.01	7.50	A	A	A
123	75.4	1.9	3.29	5.54	A	A	A
125	72.47	4.61	-0.73	8.05	A	A	A
126	64	1	-12.33	5.17	A	A	A
129	78.64	3.18	7.73	6.38	A	A	A
130	71.0	4.0	-2.74	7.49	A	A	A
132	63.5	5.7	-13.01	10.24	A	A	A
133	66.9	4.6	-8.36	8.46	A	A	A
134	73	4	0.00	7.37	A	A	A
135	81	7	10.96	9.95	A	A	A
136	75	5	2.74	8.29	A	A	A
137	68.56	4.25	-6.08	7.92	A	A	A
139	73.3	2.6	0.41	6.07	A	A	A
140	74.5	4.4	2.05	7.69	A	A	A
141	73.49	2.65	0.67	6.11	A	A	A
142	67.139	3.074	-8.03	6.73	A	A	A
144	59.3	3.1	-18.77	7.19	A	N	W
145	65.2	3.2	-10.68	6.96	A	A	A
146	74.45	4.67	1.99	7.98	A	A	A
147	77.49	4.11	6.15	7.24	A	A	A
148	72.0	4.1	-1.37	7.53	A	A	A
151	72.5	3.9	-0.68	7.30	A	A	A
152	74.8	2.32	2.47	5.83	A	A	A
153	70.188	2.334	-3.85	5.95	A	A	A
154	65.4	1.9	-10.41	5.72	A	A	A
155	72.5	2.7	-0.68	6.18	A	A	A
156	71.7	4.0	-1.78	7.45	A	A	A
158	64.83	1.35	-11.19	5.35	A	A	A
159	83.5	1.9	14.38	5.43	A	N	W
160	73.4	1.8	0.55	5.51	A	A	A
161	75.7	6.1	3.70	9.45	A	A	A
162	75.7	2.1	3.70	5.66	A	A	A
163	71.7	1.5	-1.78	5.36	A	A	A
165	62.78	1.18	-14.00	5.28	A	N	W
168	71.9	4.6	-1.51	8.08	A	A	A
169	69.8	4.3	-4.38	7.89	A	A	A
170	68.3	4.6	-6.44	8.35	A	A	A

TABLE 17. Evaluation Results for Sb-125 in Sample 2, Rep. Value and Rep. Unc. in Bq/kg by gamma

Labcode	Reported value [Bq/kg]	Reported uncertainty ($k = 1$) [Bq/kg]	Relative bias [%]	P-Test [%]	Trueness evaluation	Precision evaluation	Final Score
171	72.7	1.66	-0.41	5.43	A	A	A
173	72.81	1.7	-0.26	5.46	A	A	A
174	66	3	-9.59	6.71	A	A	A
176	73.7	2.9	0.96	6.31	A	A	A
178	77.62	3.18	6.33	6.41	A	A	A
179	73.4	1.5	0.55	5.34	A	A	A
180	73.80	0.83	1.10	5.06	A	A	A
182	71.7	6.46	-1.78	10.27	A	A	A
183	70.8	4.6	-3.01	8.16	A	A	A
184	69.9	9.1	-4.25	13.92	A	A	A
185	74.21	10.39	1.66	14.84	A	A	A
186	67.8	3.3	-7.12	6.93	A	A	A
188	75	9	2.74	12.97	A	A	A
190	73.9	1.3	1.23	5.24	A	A	A
192	77.5	4.7	6.16	7.82	A	A	A
196	70.00	2.394	-4.11	6.00	A	A	A
197	78.3555	3.5843	7.34	6.73	A	A	A
198	78.8	5.1	7.95	8.14	A	A	A
199	82.96	2.98	13.64	6.10	A	A	A
200	72.2	4.8	-1.10	8.28	A	A	A
201	72.2	4.7	-1.10	8.17	A	A	A
202	76.69	7.48	5.05	10.93	A	A	A
205	67.20	1.68	-7.95	5.53	A	A	A
207	69.29	2.88	-5.08	6.45	A	A	A
209	75.37	6.12	3.25	9.50	A	A	A
210	73.72	6.16	0.99	9.70	A	A	A
213	65.4	3.3	-10.41	7.06	A	A	A
214	44.2	4.7	-39.45	11.72	N	N	N
217	70.2	4.4	-3.84	7.98	A	A	A
218	76.4	0.32	4.66	4.95	A	A	A
222	71.60	4.87	-1.92	8.40	A	A	A
223	70.70	1.79	-3.15	5.54	A	A	A
224	75.4	4.5	3.29	7.74	A	A	A
225	93.1	4.9	27.53	7.21	N	N	N
226	80.34	0.2	10.05	4.94	A	A	A
227	57.2	0.1	-21.64	4.93	N	N	N
228	72.7	1.9	-0.41	5.58	A	A	A
230	59.81	2.78	-18.07	6.78	A	N	W
232	69	5	-5.48	8.77	A	A	A
233	71.43	3.6	-2.15	7.05	A	A	A
234	72.28	2.59	-0.99	6.10	A	A	A
235	71.6	3.9	-1.92	7.35	A	A	A
239	62.67	1.50	-14.15	5.48	A	N	W
240	72.1	3.6	-1.23	7.02	A	A	A
241	73.0	4.9	0.00	8.33	A	A	A
243	84.5	8.4	15.75	11.10	A	A	A
244	69.7	5.03	-4.52	8.74	A	A	A
245	72.1	4.3	-1.23	7.74	A	A	A
246	75.1	2.3	2.88	5.81	A	A	A
247	77.15	2.22	5.68	5.71	A	A	A
248	72.2	3.5	-1.10	6.92	A	A	A
249	81.5	2.4	11.64	5.74	A	A	A
251	74.04	1.77	1.42	5.48	A	A	A
252	75.8	6.7	3.84	10.12	A	A	A
254	69.77	2.6	-4.42	6.18	A	A	A
255	72.114	4.3880	-1.21	7.83	A	A	A
256	72.9	3.11	-0.14	6.52	A	A	A
257	75.6	2.6	3.56	6.01	A	A	A
258	71.11	2.63	-2.59	6.16	A	A	A
260	72.58	5.45	-0.58	8.98	A	A	A

TABLE 17. Evaluation Results for Sb-125 in Sample 2, Rep. Value and Rep. Unc. in Bq/kg by gamma

Labcode	Reported value [Bq/kg]	Reported uncertainty ($k = 1$) [Bq/kg]	Relative bias [%]	P-Test [%]	Trueness evaluation	Precision evaluation	Final Score
261	56.5	8.0	-22.60	14.99	N	A	N
263	71.5	1.8	-2.05	5.54	A	A	A
264	72.96	6.817	-0.05	10.57	A	A	A
268	74.5	4.1	2.05	7.39	A	A	A
269	70.1	2.2	-3.97	5.85	A	A	A
270	74.8	4.1	2.47	7.37	A	A	A
271	72.4	1.5	-0.82	5.35	A	A	A
272	76.0	4.9	4.11	8.12	A	A	A
273	73.2	2.2	0.27	5.78	A	A	A
274	70.4	3.78	-3.56	7.29	A	A	A
275	72.34	4.5	-0.90	7.94	A	A	A
277	68.10	0.70	-6.71	5.04	A	A	A
279	73.84	2.31	1.15	5.84	A	A	A
281	72.48	7.248	-0.71	11.15	A	A	A
283	65.14	10.86	-10.77	17.39	A	A	A
284	75.2	4.6	3.01	7.86	A	A	A
285	67.491	1.4636	-7.55	5.39	A	A	A
286	68.4	3	-6.30	6.60	A	A	A
287	76.9	6.21	5.34	9.46	A	A	A
290	73.5	0.68	0.68	5.02	A	A	A
292	73.15	4.36	0.21	7.74	A	A	A
293	76.5	3.3	4.79	6.55	A	A	A
294	60.3	3.0	-17.40	7.01	A	A	A
295	71.7	2.2	-1.78	5.81	A	A	A
296	66.04	2.18	-9.53	5.93	A	A	A
298	68.5	3.7	-6.16	7.31	A	A	A
299	68.9	1.2	-5.62	5.23	A	A	A
300	72.3	4.3	-0.96	7.73	A	A	A
301	70.89	3.05	-2.89	6.54	A	A	A
302	67.4	2.1	-7.67	5.83	A	A	A
303	72.44	5.91	-0.77	9.53	A	A	A
304	68.5	2.3	-6.16	5.97	A	A	A
306	73.97	8.21	1.33	12.15	A	A	A
307	68.73	0.71	-5.85	5.04	A	A	A
308	80.92	1.00	10.85	5.08	A	A	A
309	72.79	5.78	-0.29	9.35	A	A	A
311	79.1	2.8	8.36	6.07	A	A	A
314	76.1	8.9	4.25	12.69	A	A	A
315	70.2	3.9	-3.84	7.43	A	A	A
316	80.4	2.7	10.14	5.97	A	A	A
317	66.02	2.12	-9.56	5.88	A	A	A
318	77.3	2.5	5.89	5.90	A	A	A
327	77.1	1.5	5.62	5.30	A	A	A
328	69.3	3.8	-5.07	7.37	A	A	A
329	72.7	5.4	-0.41	8.92	A	A	A
330	83.0	8.3	13.70	11.15	A	A	A
331	82.92	2.58	13.59	5.83	A	A	A
333	30.1	0.7	-58.77	5.45	N	N	N
334	74	3	1.37	6.38	A	A	A
337	67.8	2.4	-7.12	6.07	A	A	A
341	79.38	2.17	8.74	5.64	A	A	A
342	74.89	2.99	2.59	6.35	A	A	A

Reported Results for Cs-134 determination in Sample 2

TABLE 18. Target values

Parameter	Value
Activity Concentration [Bq/kg]	40.0
Uncertainty [Bq/kg]	2.0
Maximum Acceptable Relative Bias, [%]	20

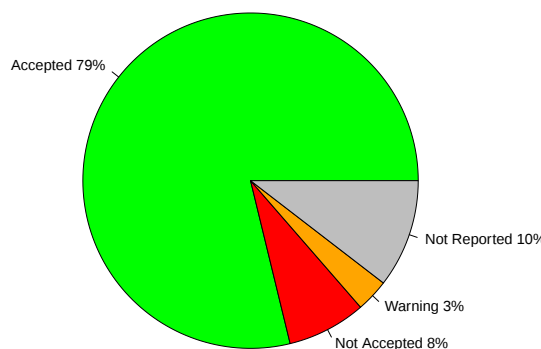


FIGURE 17. Percentage of Accepted vs. Warnings vs. Not Accepted vs. Not Reported results

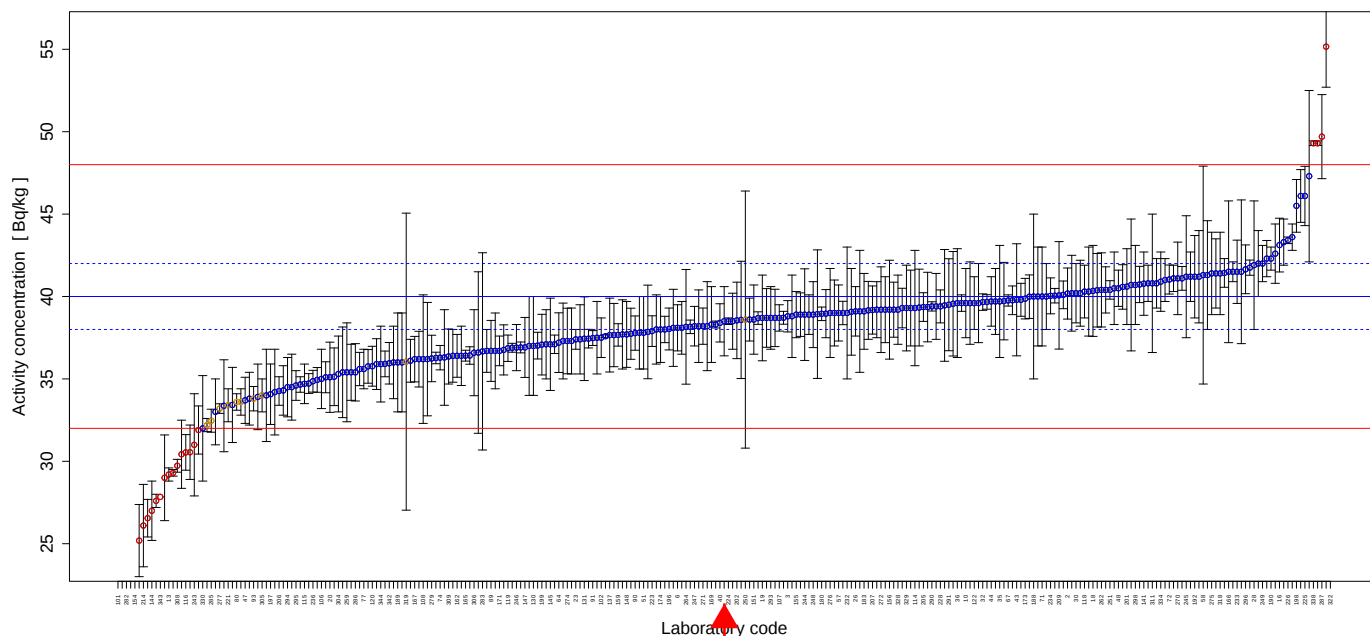


FIGURE 18. Reported results and evaluation parameters for Cs-134. Blue points represent accepted scores, whereas yellow and red represent warning and not accepted scores respectively.

TABLE 19. Evaluation Results for Cs-134 in Sample 2, Rep. Value and Rep. Unc. in Bq/kg by gamma

Labcode	Reported value [Bq/kg]	Reported uncertainty ($k = 1$) [Bq/kg]	Relative bias [%]	P-Test [%]	Trueness evaluation	Precision evaluation	Final Score
1	43.3	1.4	8.25	5.95	A	A	A
2	40.18	1.55	0.45	6.32	A	A	A
3	38.8	0.95	-3.00	5.57	A	A	A
4	33.42	2.28	-16.45	8.46	A	A	A
5	39.33	2.33	-1.68	7.75	A	A	A
6	38.1	1.4	-4.75	6.21	A	A	A
7	55.16	2.46	37.90	6.70	N	N	N
8	37.74	1.55	-5.65	6.47	A	A	A
10	39.6	2.1	-1.00	7.29	A	A	A
11	40.2	2.0	0.50	7.05	A	A	A
12	36	3	-10.00	9.72	A	A	A
13	29.2	0.4	-27.00	5.18	N	N	N
14	38.8	2.5	-3.00	8.16	A	A	A
15	43.6	0.8	9.00	5.33	A	A	A
16	43.12	1.63	7.80	6.27	A	A	A
17	38.0	2.1	-5.00	7.45	A	A	A
18	40.34	2.76	0.85	8.47	A	A	A
19	38.7	2.6	-3.25	8.37	A	A	A
20	35.1	2.13	-12.25	7.86	A	A	A
21	35.1	0.94	-12.25	5.67	A	A	A
22	40.58	1.35	1.45	6.01	A	A	A
23	37.4	0.6	-6.50	5.25	A	A	A
24	40.4	1.401	1.00	6.08	A	A	A
25	38.93	3.9	-2.68	11.20	A	A	A
26	39.1	1.50	-2.25	6.30	A	A	A
27	39.77	0.87	-0.57	5.46	A	A	A
28	41.9	3.9	4.75	10.57	A	A	A
29	39	2	-2.50	7.16	A	A	A
30	40.2	1.8	0.50	6.71	A	A	A
31	37.7	2.1	-5.75	7.49	A	A	A
32	39.66	0.50	-0.85	5.16	A	A	A
33	41.2	2.8	3.00	8.44	A	A	A
34	40.7	4	1.75	11.03	A	A	A
35	39.7	3.4	-0.75	9.92	A	A	A
36	39.6	3.3	-1.00	9.72	A	A	A
37	38.5	2.1	-3.75	7.40	A	A	A
38	39.3	2.3	-1.75	7.70	A	A	A
39	36.1	1.3	-9.75	6.16	A	A	A
40	38.4	1.16	-4.00	5.84	A	A	A
42	36.2	3.44	-9.50	10.74	A	A	A
43	39.8	3.4	-0.50	9.90	A	A	A
44	39.7	1.5	-0.75	6.27	A	A	A
45	34.0	2.8	-15.00	9.63	A	A	A
46	33	2	-17.50	7.86	A	A	A
47	33.7	1.4	-15.75	6.50	A	A	A
48	40.5	1.1	1.25	5.69	A	A	A
49	38.69	0.38	-3.28	5.10	A	A	A
50	38.71	0.39	-3.22	5.10	A	A	A
51	37.8	2.2	-5.50	7.67	A	A	A
52	38.1	1.6	-4.75	6.53	A	A	A
54	39.67	0.44	-0.82	5.12	A	A	A
55	41.4	2.1	3.50	7.12	A	A	A
56	46.1	1.6	15.25	6.09	A	A	A
57	39.0	1.7	-2.50	6.63	A	A	A
58	41.30	6.61	3.25	16.77	A	A	A
59	38.7	1.74	-3.25	6.72	A	A	A
60	36.76	1.52	-8.10	6.49	A	A	A
62	36.4	1.6	-9.00	6.66	A	A	A
63	37.1	0.56	-7.25	5.22	A	A	A
64	37.2	1.81	-7.00	6.98	A	A	A

TABLE 19. Evaluation Results for Cs-134 in Sample 2, Rep. Value and Rep. Unc. in Bq/kg by gamma

Labcode	Reported value [Bq/kg]	Reported uncertainty ($k = 1$) [Bq/kg]	Relative bias [%]	P-Test [%]	Trueness evaluation	Precision evaluation	Final Score
66	41.75	0.46	4.38	5.12	A	A	A
67	39.76	0.34	-0.60	5.07	A	A	A
68	42.3	1.1	5.75	5.64	A	A	A
69	34.94	0.75	-12.65	5.44	A	A	A
70	7.43	0.39	-81.42	7.25	N	N	N
71	40	3	0.00	9.01	A	A	A
72	41.03	0.88	2.58	5.44	A	A	A
73	39.3	1.2	-1.75	5.86	A	A	A
74	36.29	0.74	-9.28	5.40	A	A	A
75	36.89	0.27	-7.77	5.05	A	A	A
77	35.6	1.2	-11.00	6.03	A	A	A
79	39.8	1	-0.50	5.60	A	A	A
80	33.6	0.5	-16.00	5.22	A	N	W
81	38.9	1.2	-2.75	5.88	A	A	A
82	36.2	1.69	-9.50	6.84	A	A	A
83	34.72	0.6	-13.20	5.29	A	A	A
84	35.9	1.54	-10.25	6.59	A	A	A
85	40.2	2.3	0.50	7.60	A	A	A
86	41.2	1.5	3.00	6.19	A	A	A
87	35.76	1.02	-10.60	5.76	A	A	A
89	36.70	1.85	-8.25	7.10	A	A	A
90	37.78	1.04	-5.55	5.71	A	A	A
91	37.48	0.45	-6.30	5.14	A	A	A
93	33.80	0.74	-15.50	5.46	A	N	W
94	37.66	1.92	-5.85	7.14	A	A	A
95	39.6	2.4	-1.00	7.86	A	A	A
96	26.55	1.14	-33.62	6.59	N	N	N
97	34.66	0.47	-13.35	5.18	A	A	A
98	39.20	2.00	-2.00	7.14	A	A	A
99	35.91	0.78	-10.23	5.45	A	A	A
101	5.8		-85.50		N		N
102	37.5	1.2	-6.25	5.94	A	A	A
104	35.13	1.75	-12.17	7.06	A	A	A
105	39.36	2.11	-1.60	7.33	A	A	A
106	35.0	1.8	-12.50	7.17	A	A	A
107	38.7	0.8	-3.25	5.41	A	A	A
108	36.2	3.9	-9.50	11.88	A	A	A
110	39.99	1.32	-0.02	5.99	A	A	A
112	42	2	5.00	6.90	A	A	A
114	39.3	3.5	-1.75	10.21	A	A	A
115	34.7	1.2	-13.25	6.08	A	A	A
116	30.54	1.08	-23.65	6.12	N	N	N
118	40.3	1.6	0.75	6.38	A	A	A
119	36.86	0.8	-7.85	5.45	A	A	A
120	35.77	1.21	-10.57	6.04	A	A	A
122	39.6	1.6	-1.00	6.43	A	A	A
123	40.8	1.1	2.00	5.68	A	A	A
124	36.42	0.53	-8.95	5.21	A	A	A
125	39.07	2.63	-2.32	8.39	A	A	A
126	32.2	0.4	-19.50	5.15	A	N	W
129	37.59	0.09	-6.02	5.01	A	A	A
130	37.0	3.0	-7.50	9.53	A	A	A
131	37.44	2.54	-6.40	8.43	A	A	A
132	29.0	2.6	-27.50	10.27	N	N	N
133	39.1	3.7	-2.25	10.70	A	A	A
134	40	2	0.00	7.07	A	A	A
135	40	3	0.00	9.01	A	A	A
136	37	3	-7.50	9.53	A	A	A
137	37.66	2.24	-5.85	7.77	A	A	A
139	40.8	1.5	2.00	6.21	A	A	A

TABLE 19. Evaluation Results for Cs-134 in Sample 2, Rep. Value and Rep. Unc. in Bq/kg by gamma

Labcode	Reported value [Bq/kg]	Reported uncertainty ($k = 1$) [Bq/kg]	Relative bias [%]	P-Test [%]	Trueness evaluation	Precision evaluation	Final Score
140	38.2	2.2	-4.50	7.63	A	A	A
141	40.78	1.92	1.95	6.87	A	A	A
142	30.428	2.068	-23.93	8.44	N	N	N
144	27.0	1.8	-32.50	8.33	N	N	N
145	37.1	2.8	-7.25	9.05	A	A	A
146	40.38	2.23	0.95	7.45	A	A	A
147	36.91	1.82	-7.73	7.02	A	A	A
148	37.7	2.0	-5.75	7.29	A	A	A
149	31.9	1.46	-20.25	6.78	N	N	N
150	41.0	1.3	2.50	5.92	A	A	A
151	38.6	2.1	-3.50	7.39	A	A	A
152	35.6	1.01	-11.00	5.75	A	A	A
153	39.159	1.757	-2.10	6.72	A	A	A
154	19.13	0.57	-52.18	5.82	N	N	N
155	38.9	1.4	-2.75	6.16	A	A	A
156	39.2	3	-2.00	9.14	A	A	A
157	39.6	0.5	-1.00	5.16	A	A	A
158	41.43	0.87	3.57	5.42	A	A	A
159	37.67	0.68	-5.82	5.32	A	A	A
160	39.6	2.5	-1.00	8.05	A	A	A
161	41.3	3.3	3.25	9.43	A	A	A
162	36.4	1.3	-9.00	6.14	A	A	A
163	39.2	1.7	-2.00	6.62	A	A	A
165	36.41	0.33	-8.98	5.08	A	A	A
166	41.5	4.3	3.75	11.50	A	A	A
167	36.20	1.38	-9.50	6.29	A	A	A
168	37.8	2.2	-5.50	7.67	A	A	A
169	38.3	2.3	-4.25	7.81	A	A	A
170	37.3	2.3	-6.75	7.94	A	A	A
171	36.7	0.9	-8.25	5.57	A	A	A
172	35.4	2.75	-11.50	9.24	A	A	A
173	39.87	1.23	-0.33	5.88	A	A	A
174	38	2	-5.00	7.26	A	A	A
176	38.5	1.7	-3.75	6.67	A	A	A
177	49.3	0.14	23.25	5.01	N	N	N
178	38.16	0.41	-4.60	5.11	A	A	A
179	39.0	0.71	-2.50	5.32	A	A	A
180	38.95	0.41	-2.62	5.11	A	A	A
181	39.7	2.0	-0.75	7.10	A	A	A
182	39.56	3.17	-1.10	9.45	A	A	A
183	39.1	2.3	-2.25	7.72	A	A	A
184	47.3	5.2	18.25	12.08	A	A	A
185	41.50	4.36	3.75	11.64	A	A	A
186	36.4	1.8	-9.00	7.03	A	A	A
188	40	5	0.00	13.46	A	A	A
189	36	3	-10.00	9.72	A	A	A
190	42.3	0.7	5.75	5.27	A	A	A
192	41.2	2.5	3.00	7.86	A	A	A
193	37.02	0.81	-7.45	5.46	A	A	A
195	40.3	2.7	0.75	8.36	A	A	A
196	38.03	1.270	-4.92	6.01	A	A	A
197	34.0711	1.8350	-14.82	7.35	A	A	A
198	45.5	1.6	13.75	6.11	A	A	A
199	37.08	1.84	-7.30	7.04	A	A	A
200	39.72	2.35	-0.70	7.75	A	A	A
201	40.6	2.3	1.50	7.56	A	A	A
202	38.55	2.32	-3.63	7.82	A	A	A
204	38.2	2.7	-4.50	8.66	A	A	A
205	39.36	0.87	-1.60	5.47	A	A	A
206	34.266	0.866	-14.34	5.60	A	A	A

TABLE 19. Evaluation Results for Cs-134 in Sample 2, Rep. Value and Rep. Unc. in Bq/kg by gamma

Labcode	Reported value [Bq/kg]	Reported uncertainty ($k = 1$) [Bq/kg]	Relative bias [%]	P-Test [%]	Trueness evaluation	Precision evaluation	Final Score
207	39.18	1.46	-2.05	6.24	A	A	A
209	40.07	3.26	0.18	9.55	A	A	A
210	33.37	2.79	-16.58	9.74	A	A	A
211	37.443	0.565	-6.39	5.22	A	A	A
213	37.1	2.1	-7.25	7.55	A	A	A
214	26.1	2.5	-34.75	10.81	N	N	N
217	36.7	2.3	-8.25	8.02	A	A	A
218	38.3	0.21	-4.25	5.03	A	A	A
221	33.40	1.00	-16.50	5.83	A	N	W
222	39.20	1.67	-2.00	6.57	A	A	A
223	37.90	0.93	-5.25	5.57	A	A	A
224	38.5	0.2	-3.75	5.03	A	A	A
225	46.1	1.8	15.25	6.34	A	A	A
226	43.41	0.2	8.52	5.02	A	A	A
227	29.3	0.2	-26.75	5.05	N	N	N
228	39.4	1.0	-1.50	5.61	A	A	A
230	30.55	1.65	-23.62	7.36	N	N	N
232	39	4	-2.50	11.41	A	A	A
233	41.5	1.92	3.75	6.81	A	A	A
234	40.04	1.09	0.10	5.69	A	A	A
235	40.5	2.2	1.25	7.38	A	A	A
236	34.86	0.66	-12.85	5.35	A	A	A
237	41.50	0.60	3.75	5.20	A	A	A
239	17.12	0.41	-57.20	5.54	N	N	N
240	39.4	2.0	-1.50	7.13	A	A	A
241	36.0	2.2	-10.00	7.90	A	A	A
243	31	3.1	-22.50	11.18	N	A	N
244	38.9	2.78	-2.75	8.72	A	A	A
245	41.2	3.7	3.00	10.28	A	A	A
246	36.9	1.4	-7.75	6.28	A	A	A
247	38.2	1.2	-4.50	5.90	A	A	A
248	38.9	2.0	-2.75	7.17	A	A	A
249	42	1.1	5.00	5.64	A	A	A
250	38.6	7.8	-3.50	20.82	A	N	W
251	40.40	0.56	1.00	5.19	A	A	A
252	36.3	2.9	-9.25	9.42	A	A	A
254	33.6	0.8	-16.00	5.54	A	N	W
255	38.099	2.3382	-4.75	7.92	A	A	A
256	38.7	1.78	-3.25	6.79	A	A	A
257	38.6	1.3	-3.50	6.03	A	A	A
258	38.96	1.46	-2.60	6.25	A	A	A
259	35.4	3	-11.50	9.84	A	A	A
260	37.85	2.84	-5.37	9.02	A	A	A
261	42.6	1.8	6.50	6.55	A	A	A
262	40.4	2.25	1.00	7.48	A	A	A
263	38.0	0.8	-5.00	5.43	A	A	A
264	38.16	3.479	-4.60	10.40	A	A	A
265	40.1	0.84	0.25	5.42	A	A	A
268	37.4	2.1	-6.50	7.52	A	A	A
269	40.05	0.44	0.12	5.12	A	A	A
270	41.1	2.2	2.75	7.32	A	A	A
271	38.2	1.1	-4.50	5.77	A	A	A
272	39.2	2.6	-2.00	8.31	A	A	A
273	35.4	1.7	-11.50	6.93	A	A	A
274	37.3	1.99	-6.75	7.31	A	A	A
275	41.4	2.5	3.50	7.84	A	A	A
276	39.0	2.7	-2.50	8.54	A	A	A
277	33.20	0.29	-17.00	5.08	A	N	W
279	36.24	1.41	-9.40	6.34	A	A	A
281	38.58	3.558	-3.55	10.49	A	A	A

TABLE 19. Evaluation Results for Cs-134 in Sample 2, Rep. Value and Rep. Unc. in Bq/kg by gamma

Labcode	Reported value [Bq/kg]	Reported uncertainty ($k = 1$) [Bq/kg]	Relative bias [%]	P-Test [%]	Trueness evaluation	Precision evaluation	Final Score
282	17	0.31	-57.50	5.32	N	N	N
283	36.67	5.984	-8.32	17.07	A	A	A
284	34.5	2.0	-13.75	7.66	A	A	A
285	32.463	0.69741	-18.84	5.44	A	N	W
286	35.4	1.74	-11.50	7.01	A	A	A
287	49.7	2.55	24.25	7.16	N	N	N
290	39.4	0.28	-1.50	5.05	A	A	A
291	39.5	2.79	-1.25	8.65	A	A	A
292	33.91	1.99	-15.23	7.71	A	A	A
293	38.7	1.9	-3.25	7.01	A	A	A
294	34.5	1.8	-13.75	7.23	A	A	A
295	34.6	0.9	-13.50	5.64	A	A	A
296	41.65	1.48	4.12	6.13	A	A	A
298	40.7	2.4	1.75	7.73	A	A	A
299	27.6	0.4	-31.00	5.21	N	N	N
300	37.5	2.2	-6.25	7.71	A	A	A
301	38.90	1.32	-2.75	6.04	A	A	A
302	34.3	1.5	-14.25	6.64	A	A	A
303	39.46	3.39	-1.35	9.94	A	A	A
304	35.3	2.3	-11.75	8.21	A	A	A
305	34	1	-15.00	5.80	A	N	W
306	36.59	2.61	-8.52	8.71	A	A	A
307	36.91	0.33	-7.73	5.08	A	A	A
308	29.73	0.39	-25.67	5.17	N	N	N
309	36.36	1.67	-9.10	6.79	A	A	A
311	40.8	4.2	2.00	11.44	A	A	A
314	36.6	4.9	-8.50	14.29	A	A	A
315	34.2	2.6	-14.50	9.10	A	A	A
316	37.3	2.0	-6.75	7.33	A	A	A
317	36.27	0.35	-9.32	5.09	A	A	A
318	41.4	2.5	3.50	7.84	A	A	A
319	36.047	9.011	-9.88	25.49	A	N	W
322	87.7	6.75	119.25	9.18	N	N	N
327	41.1	0.8	2.75	5.37	A	A	A
328	39.2	2.1	-2.00	7.33	A	A	A
329	39.3	2.6	-1.75	8.29	A	A	A
330	32.0	3.2	-20.00	11.18	A	A	A
331	41.10	0.72	2.75	5.30	A	A	A
333	33.8	1.6	-15.50	6.89	A	A	A
334	40.9	1.8	2.25	6.66	A	A	A
335	25.19	2.19	-37.02	10.03	N	N	N
337	36.7	1.3	-8.25	6.13	A	A	A
338	49.30	0.14	23.25	5.01	N	N	N
341	40.73	1.10	1.82	5.68	A	A	A
342	35.95	1.26	-10.12	6.11	A	A	A
343	27.8397		-30.40		N		N
344	35.9	2.3	-10.25	8.13	A	A	A

Reported Results for Cs-137 determination in Sample 2

TABLE 20. Target values

Parameter	Value
Activity Concentration [Bq/kg]	44.1
Uncertainty [Bq/kg]	2.2
Maximum Acceptable Relative Bias, [%]	20

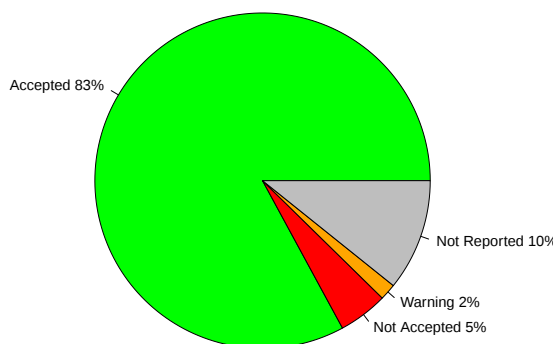


FIGURE 19. Percentage of Accepted vs. Warnings vs. Not Accepted vs. Not Reported results

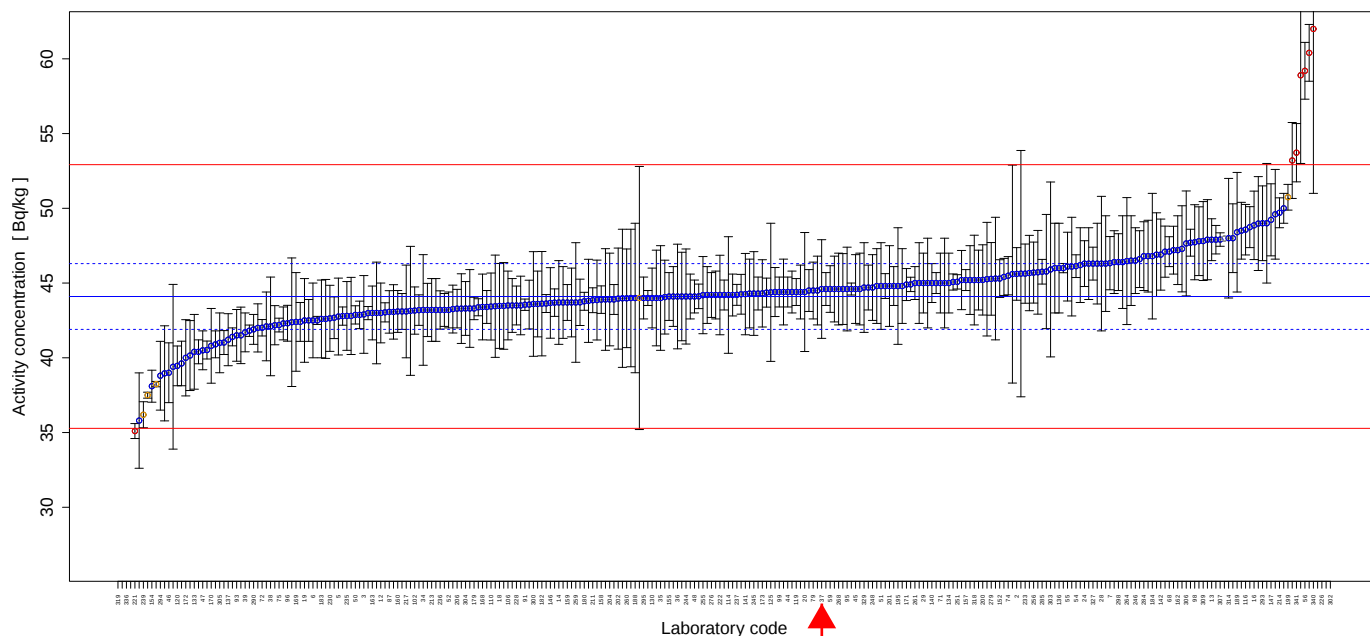


FIGURE 20. Reported results and evaluation parameters for Cs-137. Blue points represent accepted scores, whereas yellow and red represent warning and not accepted scores respectively.

TABLE 21. Evaluation Results for Cs-137 in Sample 2, Rep. Value and Rep. Unc. in Bq/kg by gamma

Labcode	Reported value [Bq/kg]	Reported uncertainty ($k = 1$) [Bq/kg]	Relative bias [%]	P-Test [%]	Trueness evaluation	Precision evaluation	Final Score
1	47.2	1.6	7.03	6.03	A	A	A
2	45.61	1.76	3.42	6.31	A	A	A
3	42.9	2.60	-2.72	7.85	A	A	A
4	48.98	3.14	11.07	8.12	A	A	A
5	42.76	2.57	-3.04	7.81	A	A	A
6	42.5	2.5	-3.63	7.71	A	A	A
7	46.33	1.78	5.06	6.30	A	A	A
8	47.29	2.88	7.23	7.87	A	A	A
10	44.3	2.3	0.45	7.20	A	A	A
11	44.8	2.5	1.59	7.49	A	A	A
12	43	2	-2.49	6.82	A	A	A
13	47.9	1.4	8.62	5.78	A	A	A
14	43.7	2.8	-0.91	8.12	A	A	A
15	47.7	0.9	8.16	5.33	A	A	A
16	48.86	2.29	10.79	6.84	A	A	A
17	42.1	2.3	-4.54	7.40	A	A	A
18	43.47	2.84	-1.43	8.22	A	A	A
19	42.5	2.8	-3.63	8.26	A	A	A
20	44.4	3.98	0.68	10.26	A	A	A
21	44.5	1.4	0.91	5.90	A	A	A
22	44.40	1.64	0.68	6.21	A	A	A
23	43.4	1.1	-1.59	5.60	A	A	A
24	46.3	1.532	4.99	5.99	A	A	A
25	42.38	4.3	-3.90	11.31	A	A	A
26	42.0	1.61	-4.76	6.29	A	A	A
27	44.11	0.82	0.02	5.32	A	A	A
28	46.3	4.5	4.99	10.92	A	A	A
29	45	2	2.04	6.68	A	A	A
30	44.1	2.0	0.00	6.74	A	A	A
31	43.3	2.6	-1.81	7.81	A	A	A
32	45.07	0.54	2.20	5.13	A	A	A
33	46.4	3.1	5.22	8.34	A	A	A
34	43.2	3.7	-2.04	9.91	A	A	A
35	44.0	3.5	-0.23	9.39	A	A	A
36	44.1	3.5	0.00	9.37	A	A	A
37	44.6	3.3	1.13	8.92	A	A	A
38	42.1	3.3	-4.54	9.29	A	A	A
39	41.7	1.3	-5.44	5.88	A	A	A
40	42.3	1.10	-4.08	5.63	A	A	A
42	39.4	5.51	-10.66	14.85	A	A	A
43	43.9	3.4	-0.45	9.21	A	A	A
44	44.4	1.0	0.68	5.47	A	A	A
45	44.6	2.3	1.13	7.18	A	A	A
46	39	2	-11.56	7.15	A	A	A
47	40.5	1.3	-8.16	5.93	A	A	A
48	44.1	1.1	0.00	5.58	A	A	A
49	42.79	0.61	-2.97	5.19	A	A	A
50	42.87	0.61	-2.79	5.19	A	A	A
51	44.8	2.9	1.59	8.17	A	A	A
52	43.2	1.2	-2.04	5.71	A	A	A
54	46.13	0.76	4.60	5.25	A	A	A
55	46.1	2.3	4.54	7.06	A	A	A
56	59.2	1.9	34.24	5.93	N	N	N
57	45.0	3.0	2.04	8.33	A	A	A
58	45.60	7.29	3.40	16.75	A	A	A
59	44.6	1.56	1.13	6.09	A	A	A
60	43.50	1.96	-1.36	6.72	A	A	A
61	70.44	2.97	59.73	6.53	N	N	N
62	44.2	1.9	0.23	6.59	A	A	A
63	46.2	2.5	4.76	7.36	A	A	A

TABLE 21. Evaluation Results for Cs-137 in Sample 2, Rep. Value and Rep. Unc. in Bq/kg by gamma

Labcode	Reported value [Bq/kg]	Reported uncertainty ($k = 1$) [Bq/kg]	Relative bias [%]	P-Test [%]	Trueness evaluation	Precision evaluation	Final Score
64	43.47	2.9	-1.43	8.33	A	A	A
66	45.0	0.7	2.04	5.23	A	A	A
67	44.36	0.97	0.59	5.45	A	A	A
68	47.1	1.0	6.80	5.42	A	A	A
69	43.63	0.60	-1.07	5.17	A	A	A
70	22.3	1.6	-49.43	8.74	N	N	N
71	45	2	2.04	6.68	A	A	A
72	42.01	0.55	-4.74	5.16	A	A	A
73	43.5	1.8	-1.36	6.48	A	A	A
74	45.49	1.28	3.15	5.73	A	A	A
75	42.19	0.46	-4.33	5.11	A	A	A
77	44.8	1.3	1.59	5.77	A	A	A
79	44.5	1.9	0.91	6.57	A	A	A
80	41.4	0.6	-6.12	5.19	A	A	A
81	42.4	1.3	-3.85	5.86	A	A	A
82	43.29	2.33	-1.84	7.34	A	A	A
83	41.02	0.8	-6.98	5.36	A	A	A
84	45.2	1.98	2.49	6.64	A	A	A
85	44.8	2.5	1.59	7.49	A	A	A
86	44.1	1.5	0.00	6.04	A	A	A
87	43.07	1.42	-2.34	5.98	A	A	A
89	44.40	2.20	0.68	7.03	A	A	A
90	44.25	1.33	0.34	5.82	A	A	A
91	43.55	0.38	-1.25	5.06	A	A	A
93	41.50	1.73	-5.90	6.50	A	A	A
94	39.62	1.49	-10.16	6.25	A	A	A
95	44.6	2.8	1.13	8.02	A	A	A
96	42.31	1.20	-4.06	5.74	A	A	A
97	43.38	0.57	-1.63	5.16	A	A	A
98	47.73	2.51	8.23	7.25	A	A	A
99	44.4	1.0	0.68	5.47	A	A	A
101	63.4		43.76		N		N
102	43.16	1.58	-2.13	6.19	A	A	A
104	53.20	2.54	20.63	6.91	N	N	N
105	44.06	2.47	-0.09	7.50	A	A	A
106	43.5	2.3	-1.36	7.27	A	A	A
107	43.9	1.0	-0.45	5.48	A	A	A
108	44	0.5	-0.23	5.12	A	A	A
110	43.43	2.24	-1.52	7.18	A	A	A
114	44.2	3.9	0.23	10.14	A	A	A
115	44.4	1.4	0.68	5.90	A	A	A
116	48.57	1.69	10.14	6.08	A	A	A
118	45.0	2.7	2.04	7.80	A	A	A
119	44.4	0.9	0.68	5.38	A	A	A
120	39.46	1.33	-10.52	6.02	A	A	A
122	44.4	1.8	0.68	6.43	A	A	A
123	46.6	1.9	5.67	6.44	A	A	A
124	40.52	0.60	-8.12	5.20	A	A	A
125	44.38	4.62	0.63	11.54	A	A	A
126	40.9	0.9	-7.26	5.45	A	A	A
129	45.67	2.52	3.56	7.44	A	A	A
130	44.0	2.0	-0.23	6.75	A	A	A
131	43.71	1.55	-0.88	6.12	A	A	A
132	45.3	4.1	2.72	10.33	A	A	A
133	40.4	2.5	-8.39	7.95	A	A	A
134	45	2	2.04	6.68	A	A	A
135	49	4	11.11	9.57	A	A	A
136	46	3	4.31	8.21	A	A	A
137	41.21	1.74	-6.55	6.54	A	A	A
139	44.2	1.4	0.23	5.91	A	A	A

TABLE 21. Evaluation Results for Cs-137 in Sample 2, Rep. Value and Rep. Unc. in Bq/kg by gamma

Labcode	Reported value [Bq/kg]	Reported uncertainty ($k = 1$) [Bq/kg]	Relative bias [%]	P-Test [%]	Trueness evaluation	Precision evaluation	Final Score
140	45.0	1.3	2.04	5.76	A	A	A
141	44.26	2.72	0.36	7.92	A	A	A
142	46.903	2.377	6.36	7.11	A	A	A
144	46.8	2.4	6.12	7.15	A	A	A
145	43.2	2.1	-2.04	6.97	A	A	A
146	43.67	2.36	-0.98	7.35	A	A	A
147	49.23	2.41	11.63	6.99	A	A	A
148	43.7	2.4	-0.91	7.42	A	A	A
149	41.5	1.89	-5.90	6.75	A	A	A
150	44.3	1.1	0.45	5.57	A	A	A
151	43.7	2.3	-0.91	7.25	A	A	A
152	45.3	1.26	2.72	5.71	A	A	A
153	43.863	2.671	-0.54	7.87	A	A	A
154	38.1	1.07	-13.61	5.72	A	A	A
155	44.1	1.6	0.00	6.17	A	A	A
156	44.6	2.2	1.13	7.02	A	A	A
157	45.2	0.7	2.49	5.22	A	A	A
158	43.89	0.92	-0.48	5.41	A	A	A
159	43.7	1.2	-0.91	5.69	A	A	A
160	43.1	1.4	-2.27	5.95	A	A	A
161	46.9	2.8	6.35	7.78	A	A	A
162	47.2	2.3	7.03	6.97	A	A	A
163	43.0	1.8	-2.49	6.51	A	A	A
165	44.91	0.48	1.84	5.10	A	A	A
166	44	4.6	-0.23	11.58	A	A	A
167	43.20	1.78	-2.04	6.47	A	A	A
168	43.4	2.2	-1.59	7.11	A	A	A
169	42.4	3.3	-3.85	9.24	A	A	A
170	40.8	2.5	-7.48	7.90	A	A	A
171	44.9	1.07	1.81	5.53	A	A	A
172	40.0	2.55	-9.30	8.09	A	A	A
173	44.31	2.25	0.48	7.12	A	A	A
174	46	3	4.31	8.21	A	A	A
176	46.3	2.4	4.99	7.19	A	A	A
178	42.99	0.44	-2.52	5.09	A	A	A
179	43.3	0.75	-1.81	5.28	A	A	A
180	43.78	0.60	-0.73	5.17	A	A	A
181	45.2	2.3	2.49	7.13	A	A	A
182	43.62	3.49	-1.09	9.43	A	A	A
183	42.6	2.6	-3.40	7.88	A	A	A
184	46.8	4.2	6.12	10.27	A	A	A
185	43.98	4.62	-0.27	11.63	A	A	A
186	48.0	2.3	8.84	6.92	A	A	A
188	44	5	-0.23	12.41	A	A	A
189	48.4	4	9.75	9.65	A	A	A
190	44.6	1.1	1.13	5.57	A	A	A
192	46.3	2.7	4.99	7.67	A	A	A
193	42.18	1.31	-4.35	5.88	A	A	A
195	44.8	3.9	1.59	10.03	A	A	A
196	42.68	1.396	-3.22	5.97	A	A	A
197	47.9004	0.9527	8.62	5.37	A	A	A
198	48.5	1.9	9.98	6.34	A	A	A
199	50.74	0.86	15.06	5.27	A	N	W
200	45.21	2.35	2.52	7.20	A	A	A
201	44.8	2.7	1.59	7.82	A	A	A
202	43.96	3.38	-0.32	9.17	A	A	A
204	43.9	3.1	-0.45	8.65	A	A	A
205	43.69	0.92	-0.93	5.41	A	A	A
206	43.289	1.289	-1.84	5.81	A	A	A
207	43.81	2.78	-0.66	8.07	A	A	A

TABLE 21. Evaluation Results for Cs-137 in Sample 2, Rep. Value and Rep. Unc. in Bq/kg by gamma

Labcode	Reported value [Bq/kg]	Reported uncertainty ($k = 1$) [Bq/kg]	Relative bias [%]	P-Test [%]	Trueness evaluation	Precision evaluation	Final Score
209	45.26	3.80	2.63	9.77	A	A	A
210	43.45	3.42	-1.47	9.32	A	A	A
211	43.851	0.831	-0.56	5.34	A	A	A
213	43.2	2.1	-2.04	6.97	A	A	A
214	49.7	1.0	12.70	5.38	A	A	A
217	43.1	3.1	-2.27	8.75	A	A	A
218	46.0	0.31	4.31	5.03	A	A	A
221	35.10	0.50	-20.41	5.19	N	N	N
222	44.20	2.66	0.23	7.82	A	A	A
223	42.80	2.58	-2.95	7.82	A	A	A
224	38.24	0.18	-13.29	5.01	A	N	W
225	60.4	1.9	36.96	5.90	N	N	N
226	66.76	0.2	51.38	5.00	N	N	N
227	37.5	0.2	-14.97	5.02	A	N	W
228	43.5	1.3	-1.36	5.82	A	A	A
230	42.64	2.21	-3.31	7.19	A	A	A
232	45	3	2.04	8.33	A	A	A
233	45.63	1.98	3.47	6.61	A	A	A
234	45.41	1.24	2.97	5.69	A	A	A
235	42.8	2.3	-2.95	7.33	A	A	A
236	43.2	1.28	-2.04	5.80	A	A	A
237	44.21	0.70	0.25	5.23	A	A	A
239	36.19	0.87	-17.94	5.54	A	N	W
240	43.6	2.2	-1.13	7.10	A	A	A
241	44.0	3.2	-0.23	8.82	A	A	A
243	50	1	13.38	5.37	A	A	A
244	44.1	3.18	0.00	8.77	A	A	A
245	44.3	2.8	0.45	8.05	A	A	A
246	46.5	2.2	5.44	6.88	A	A	A
247	43.19	1.02	-2.06	5.52	A	A	A
248	44.7	2.2	1.36	7.01	A	A	A
249	49.6	3	12.47	7.84	A	A	A
250	44	8.8	-0.23	20.61	A	N	W
251	45.08	0.48	2.22	5.10	A	A	A
252	46.3	3.2	4.99	8.52	A	A	A
254	40.4	0.8	-8.39	5.37	A	A	A
255	44.192	2.5808	0.21	7.68	A	A	A
256	45.7	2.04	3.63	6.69	A	A	A
257	44.2	1.6	0.23	6.16	A	A	A
258	43.26	1.60	-1.90	6.21	A	A	A
259	43.7	4	-0.91	10.42	A	A	A
260	43.98	3.30	-0.27	9.01	A	A	A
261	45.0	1.1	2.04	5.56	A	A	A
262	47.9	2.68	8.62	7.50	A	A	A
263	44.6	0.4	1.13	5.07	A	A	A
264	46.47	4.246	5.37	10.41	A	A	A
265	44.8	0.83	1.59	5.32	A	A	A
268	44.6	2.4	1.13	7.34	A	A	A
269	43.04	0.64	-2.40	5.21	A	A	A
270	44.5	2.3	0.91	7.18	A	A	A
271	44.7	1.5	1.36	6.01	A	A	A
272	46.5	3.0	5.44	8.16	A	A	A
273	44.6	2.4	1.13	7.34	A	A	A
274	44.6	2.37	1.13	7.29	A	A	A
275	45.72	2.8	3.67	7.90	A	A	A
276	44.2	1.5	0.23	6.03	A	A	A
277	42.50	0.27	-3.63	5.03	A	A	A
279	45.28	2.43	2.68	7.33	A	A	A
281	43.14	4.314	-2.18	11.18	A	A	A
282	21	0.38	-52.38	5.31	N	N	N

TABLE 21. Evaluation Results for Cs-137 in Sample 2, Rep. Value and Rep. Unc. in Bq/kg by gamma

Labcode	Reported value [Bq/kg]	Reported uncertainty ($k = 1$) [Bq/kg]	Relative bias [%]	P-Test [%]	Trueness evaluation	Precision evaluation	Final Score
283	45.63	8.239	3.47	18.73	A	A	A
284	46.8	2.3	6.12	7.00	A	A	A
285	45.757	0.82507	3.76	5.30	A	A	A
286	42.6	2.64	-3.40	7.96	A	A	A
287	47.1	1.71	6.80	6.17	A	A	A
290	41.9	1.00	-4.99	5.53	A	A	A
291	44.1	2.96	0.00	8.36	A	A	A
292	40.15	2.34	-8.96	7.67	A	A	A
293	49.0	2.5	11.11	7.14	A	A	A
294	38.8	2.3	-12.02	7.75	A	A	A
295	44	1.4	-0.23	5.92	A	A	A
296	43.56	1.63	-1.22	6.24	A	A	A
298	46.4	1.9	5.22	6.45	A	A	A
299	43.2	1.1	-2.04	5.60	A	A	A
300	43.6	3.5	-1.13	9.45	A	A	A
301	43.07	1.82	-2.34	6.54	A	A	A
302	423	0.6	859.18	4.99	N	N	N
303	45.91	5.85	4.10	13.68	A	A	A
304	43.3	1.8	-1.81	6.49	A	A	A
305	41	2	-7.03	6.98	A	A	A
306	47.65	3.51	8.05	8.90	A	A	A
307	47.91	0.45	8.64	5.08	A	A	A
308	41.81	0.38	-5.19	5.07	A	A	A
309	47.81	2.64	8.41	7.44	A	A	A
311	43.1	1.2	-2.27	5.71	A	A	A
314	48.0	4.0	8.84	9.71	A	A	A
315	43.0	3.4	-2.49	9.35	A	A	A
316	44.2	1.0	0.23	5.48	A	A	A
317	42.87	0.92	-2.79	5.43	A	A	A
318	45.2	3	2.49	8.30	A	A	A
319	15.438	4.015	-64.99	26.48	N	N	N
322	35.8	3.19	-18.82	10.21	A	A	A
327	46.3	1.1	4.99	5.53	A	A	A
328	47.8	2.3	8.39	6.93	A	A	A
329	44.7	3.0	1.36	8.36	A	A	A
330	58.9	5.9	33.56	11.19	N	N	N
331	48.74	1.37	10.52	5.73	A	A	A
333	46.4	2.1	5.22	6.74	A	A	A
334	45.2	2.0	2.49	6.67	A	A	A
335	38.96	3.18	-11.66	9.57	A	A	A
336	21.7	0.64	-50.79	5.80	N	N	N
337	42.5	1.4	-3.63	5.98	A	A	A
340	62	11	40.59	18.43	N	A	N
341	53.72	1.95	21.81	6.17	N	N	N
342	45.77	3.82	3.79	9.72	A	A	A
343	47.9754		8.79		A		
344	46.1	3.3	4.54	8.73	A	A	A

Reported Results for Po-210 determination in Sample 2

TABLE 22. Target values

Parameter	Value
Activity Concentration [Bq/kg]	5.21
Uncertainty [Bq/kg]	0.26
Maximum Acceptable Relative Bias, [%]	30

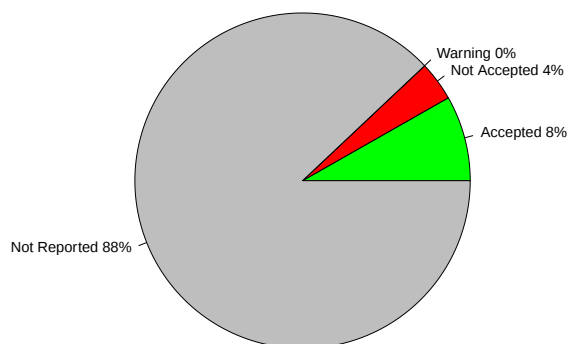


FIGURE 21. Percentage of Accepted vs. Warnings vs. Not Accepted vs. Not Reported results

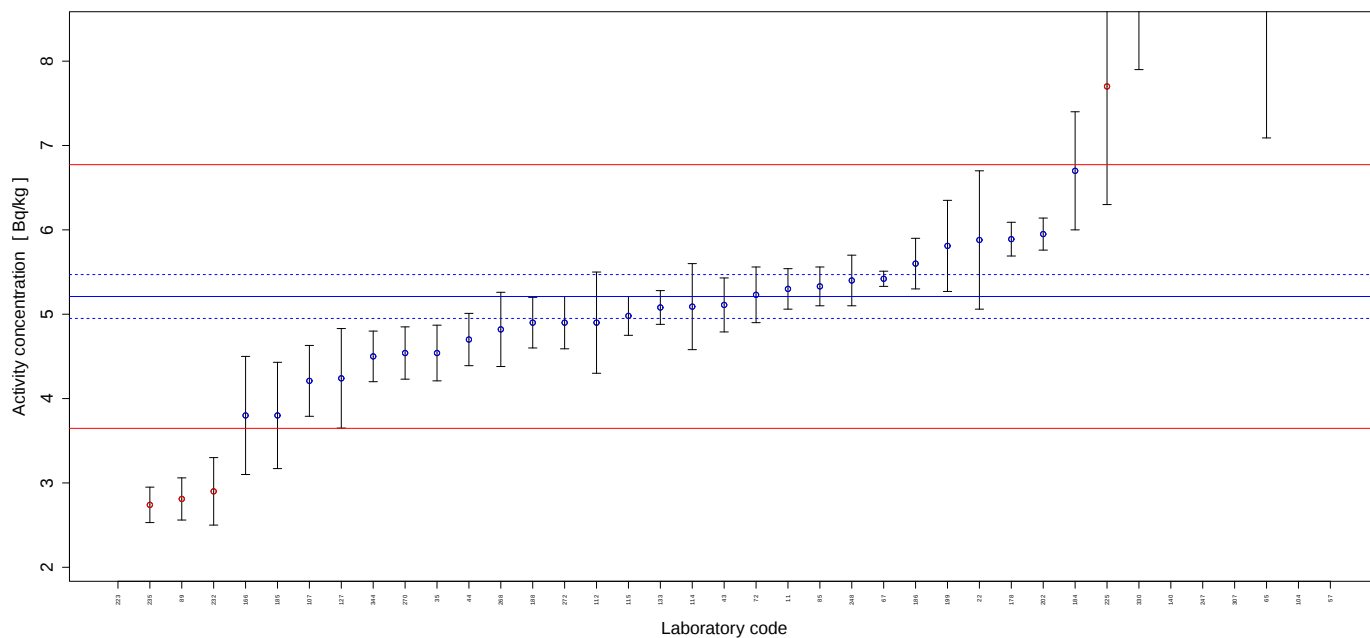


FIGURE 22. Reported results and evaluation parameters for Po-210. Blue points represent accepted scores, whereas yellow and red represent warning and not accepted scores respectively.

TABLE 23. Evaluation Results for Po-210 in Sample 2, Rep. Value and Rep. Unc. in Bq/kg by alpha

Labcode	Reported value [Bq/kg]	Reported uncertainty ($k = 1$) [Bq/kg]	Relative bias [%]	P-Test [%]	Trueness evaluation	Precision evaluation	Final Score
11	5.30	0.24	1.73	6.74	A	A	A
22	5.88	0.82	12.86	14.81	A	A	A
35	4.54	0.33	-12.86	8.82	A	A	A
43	5.11	0.32	-1.92	8.01	A	A	A
44	4.70	0.31	-9.79	8.27	A	A	A
57	20.8	1.4	299.23	8.38	N	N	N
65	14.37	7.28	175.82	50.91	N	N	N
67	5.42	0.09	4.03	5.26	A	A	A
72	5.23	0.33	0.38	8.04	A	A	A
85	5.33	0.23	2.30	6.60	A	A	A
89	2.81	0.25	-46.07	10.20	N	N	N
104	16.88	0.07	223.99	5.01	N	N	N
107	4.21	0.42	-19.19	11.15	A	A	A
112	4.9	0.6	-5.95	13.22	A	A	A
114	5.09	0.51	-2.30	11.19	A	A	A
115	4.98	0.23	-4.41	6.80	A	A	A
127	4.24	0.59	-18.62	14.78	A	A	A
133	5.08	0.20	-2.50	6.36	A	A	A
140	10.70	0.59	105.37	7.44	N	N	N
166	3.8	0.7	-27.06	19.09	A	A	A
178	5.89	0.20	13.05	6.04	A	A	A
184	6.70	0.70	28.60	11.58	A	A	A
185	3.80	0.63	-27.06	17.31	A	A	A
186	5.6	0.3	7.49	7.32	A	A	A
188	4.9	0.3	-5.95	7.90	A	A	A
199	5.81	0.54	11.52	10.55	A	A	A
202	5.95	0.19	14.20	5.92	A	A	A
223	0.52	0.05	-90.02	10.83	N	N	N
225	7.7	1.4	47.79	18.85	N	A	N
232	2.9	0.4	-44.34	14.67	N	N	N
235	2.74	0.21	-47.41	9.15	N	N	N
247	11.26	0.20	116.12	5.30	N	N	N
248	5.4	0.3	3.65	7.47	A	A	A
268	4.82	0.44	-7.49	10.40	A	A	A
270	4.54	0.31	-12.86	8.46	A	A	A
272	4.9	0.31	-5.95	8.06	A	A	A
307	13.25	0.48	154.32	6.17	N	N	N
330	9.2	1.3	76.58	14.99	N	N	N
344	4.5	0.3	-13.63	8.33	A	A	A

Reported Results for Pb-210 determination in Sample 2

TABLE 24. Target values

Parameter	Value
Activity Concentration [Bq/kg]	5.23
Uncertainty [Bq/kg]	0.26
Maximum Acceptable Relative Bias, [%]	30

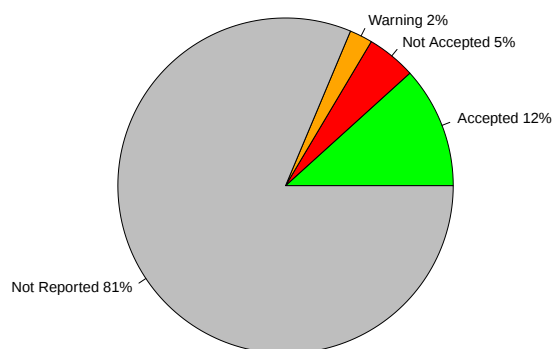


FIGURE 23. Percentage of Accepted vs. Warnings vs. Not Accepted vs. Not Reported results

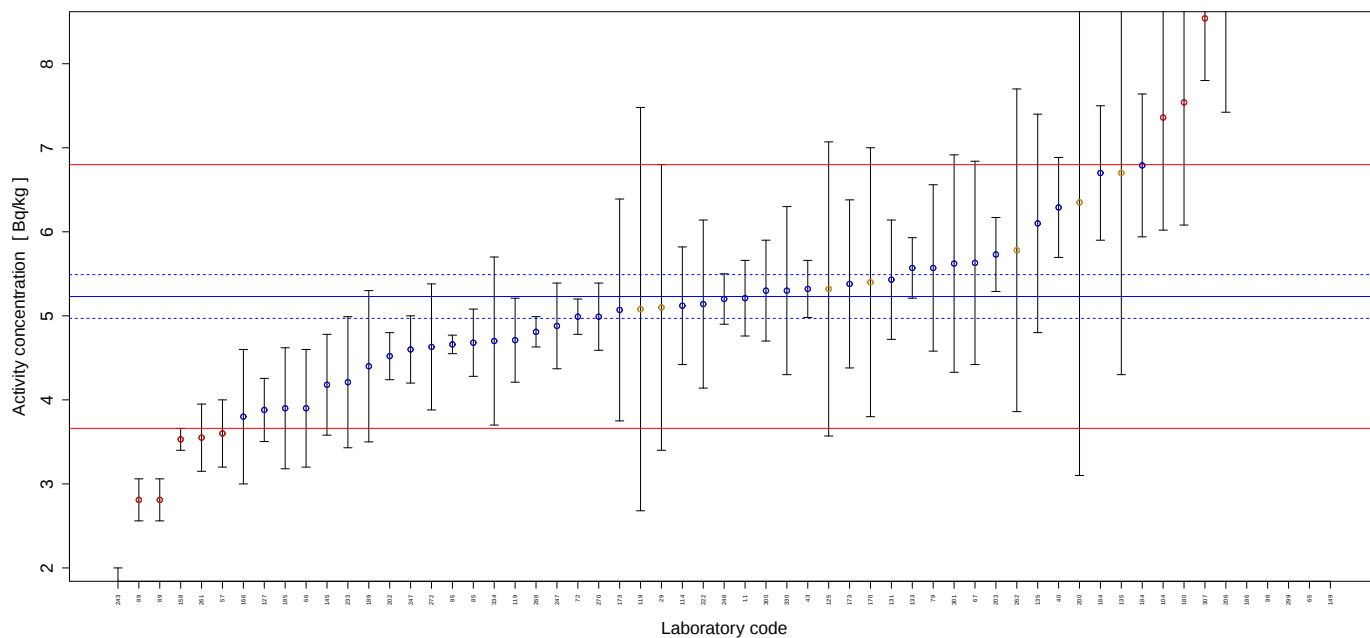


FIGURE 24. Reported results and evaluation parameters for Pb-210. Blue points represent accepted scores, whereas yellow and red represent warning and not accepted scores respectively.

TABLE 25. Evaluation Results for Pb-210 in Sample 2, Rep. Value and Rep. Unc. in Bq/kg by beta

Labcode	Reported value [Bq/kg]	Reported uncertainty ($k = 1$) [Bq/kg]	Relative bias [%]	P-Test [%]	Trueness evaluation	Precision evaluation	Final Score
11	5.21	0.45	-0.38	9.97	A	A	A
43	5.32	0.34	1.72	8.10	A	A	A
57	3.6	0.4	-31.17	12.17	N	A	N
65	23.31	10.06	345.70	43.44	N	N	N
72	4.99	0.21	-4.59	6.51	A	A	A
85	4.66	0.11	-10.90	5.50	A	A	A
89	2.81	0.25	-46.27	10.19	N	N	N
104	7.36	1.34	40.73	18.87	N	A	N
114	5.12	0.7	-2.10	14.55	A	A	A
119	4.71	0.5	-9.94	11.72	A	A	A
127	3.88	0.376	-25.81	10.89	A	A	A
133	5.57	0.36	6.50	8.15	A	A	A
135	6.1	1.3	16.63	21.88	A	A	A
145	4.18	0.60	-20.08	15.19	A	A	A
166	3.8	0.8	-27.34	21.63	A	A	A
173	5.38	1	2.87	19.24	A	A	A
184	6.70	0.80	28.11	12.93	A	A	A
185	3.90	0.72	-25.43	19.12	A	A	A
186	10.0	0.3	91.20	5.81	N	N	N
189	4.4	0.9	-15.87	21.05	A	A	A
202	4.52	0.28	-13.58	7.94	A	A	A
203	5.73	0.44	9.56	9.15	A	A	A
247	4.88	0.51	-6.69	11.57	A	A	A
248	5.2	0.3	-0.57	7.62	A	A	A
262	5.78	1.92	10.52	33.59	A	N	W
268	4.81	0.18	-8.03	6.22	A	A	A
270	4.99	0.40	-4.59	9.43	A	A	A
272	4.63	0.75	-11.47	16.94	A	A	A
300	5.3	0.6	1.34	12.36	A	A	A
307	8.54	0.74	63.29	9.99	N	N	N
330	5.3	1.0	1.34	19.51	A	A	A

TABLE 26. Evaluation Results for Pb-210 in Sample 2, Rep. Value and Rep. Unc. in Bq/kg by gamma

Labcode	Reported value [Bq/kg]	Reported uncertainty ($k = 1$) [Bq/kg]	Relative bias [%]	P-Test [%]	Trueness evaluation	Precision evaluation	Final Score
29	5.1	1.7	-2.49	33.70	A	N	W
40	6.29	0.595	20.27	10.69	A	A	A
66	3.9	0.7	-25.43	18.62	A	A	A
67	5.63	1.21	7.65	22.06	A	A	A
79	5.57	0.99	6.50	18.46	A	A	A
85	4.68	0.40	-10.52	9.89	A	A	A
89	2.81	0.25	-46.27	10.19	N	N	N
98	13.01	1.46	148.76	12.27	N	N	N
119	5.08	2.4	-2.87	47.50	A	N	W
125	5.32	1.75	1.72	33.27	A	N	W
131	5.43	0.71	3.82	13.99	A	A	A
135	6.7	2.4	28.11	36.16	A	N	W
149	26.2	6.98	400.96	27.10	N	N	N
158	3.53	0.13	-32.50	6.19	N	N	N
170	5.4	1.6	3.25	30.04	A	N	W
173	5.07	1.32	-3.06	26.51	A	A	A
180	7.54	1.46	44.17	19.99	N	A	N
184	6.79	0.85	29.83	13.47	A	A	A
200	6.35	3.25	21.41	51.42	A	N	W
206	9.509	2.086	81.82	22.49	N	N	N
222	5.14	1.00	-1.72	20.08	A	A	A
233	4.21	0.78	-19.50	19.18	A	A	A
243	1.8	0.2	-65.58	12.17	N	N	N

TABLE 26. Evaluation Results for Pb-210 in Sample 2, Rep. Value and Rep. Unc. in Bq/kg by gamma

Labcode	Reported value [Bq/kg]	Reported uncertainty ($k = 1$) [Bq/kg]	Relative bias [%]	P-Test [%]	Trueness evaluation	Precision evaluation	Final Score
247	4.60	0.4	-12.05	10.02	A	A	A
261	3.55	0.40	-32.12	12.32	N	N	N
299	15.8	1.5	202.10	10.72	N	N	N
301	5.622	1.294	7.50	23.55	A	A	A
334	4.7	1.0	-10.13	21.85	A	A	A

Reported Results for Ra-226 determination in Sample 2

TABLE 27. Target values

Parameter	Value
Activity Concentration [Bq/kg]	6.32
Uncertainty [Bq/kg]	0.32
Maximum Acceptable Relative Bias, [%]	30

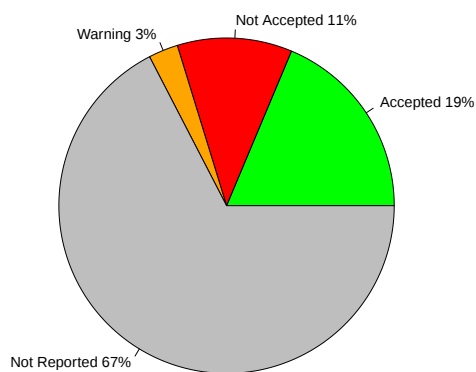


FIGURE 25. Percentage of Accepted vs. Warnings vs. Not Accepted vs. Not Reported results

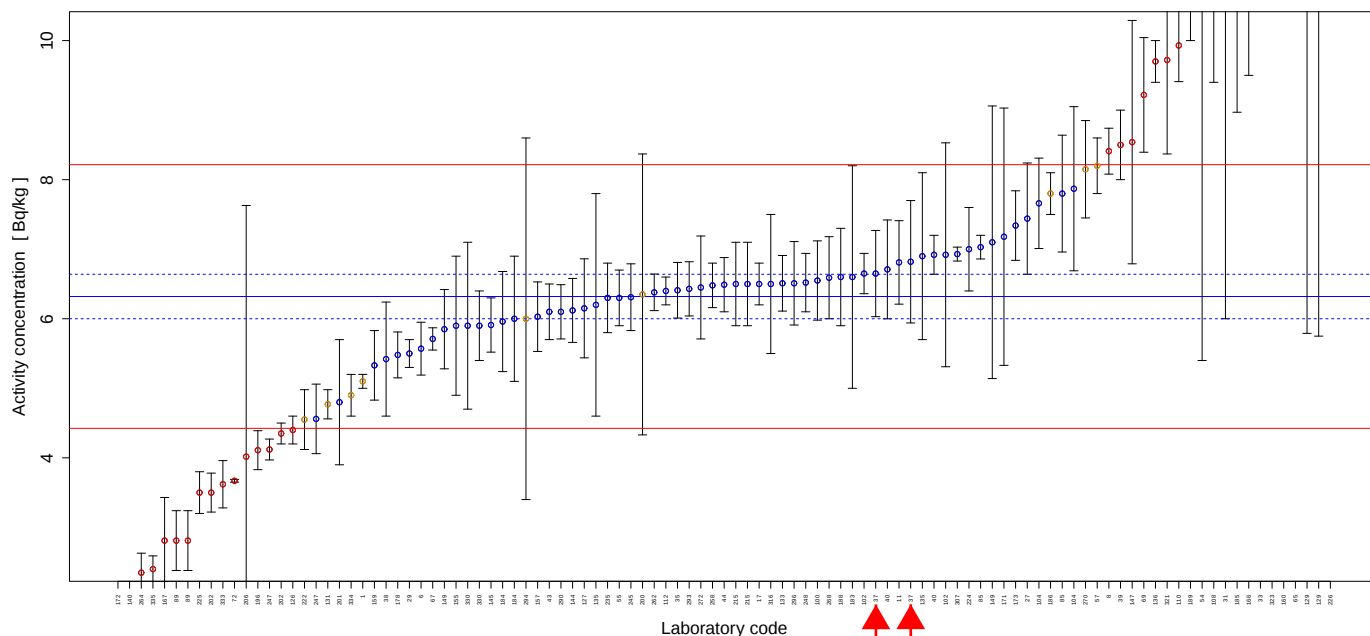


FIGURE 26. Reported results and evaluation parameters for Ra-226. Blue points represent accepted scores, whereas yellow and red represent warning and not accepted scores respectively.

TABLE 28. Evaluation Results for Ra-226 in Sample 2, Rep. Value and Rep. Unc. in Bq/kg by alpha

Labcode	Reported value [Bq/kg]	Reported uncertainty ($k = 1$) [Bq/kg]	Relative bias [%]	P-Test [%]	Trueness evaluation	Precision evaluation	Final Score
1	5.10	0.10	-19.30	5.43	A	N	W
11	6.81	0.60	7.75	10.16	A	A	A
29	5.5	0.2	-12.97	6.23	A	A	A
31	11	5	74.05	45.74	N	N	N
35	6.41	0.40	1.42	8.04	A	A	A
37	6.65	0.62	5.22	10.61	A	A	A
40	6.92	0.28	9.49	6.48	A	A	A
43	6.1	0.4	-3.48	8.28	A	A	A
44	6.49	0.39	2.69	7.86	A	A	A
57	8.2	0.4	29.75	7.03	A	N	W
65	21.32	2.67	237.34	13.51	N	N	N
67	5.71	0.16	-9.65	5.79	A	A	A
69	9.219	0.824	45.87	10.27	N	N	N
72	3.67	0.02	-41.93	5.09	N	N	N
85	7.03	0.17	11.23	5.61	A	A	A
89	2.81	0.43	-55.54	16.12	N	N	N
100	6.55	0.57	3.64	10.07	A	A	A
102	6.65	0.29	5.22	6.68	A	A	A
104	7.66	0.65	21.20	9.88	A	A	A
112	6.4	0.2	1.27	5.95	A	A	A
127	6.15	0.712	-2.69	12.64	A	A	A
129	25.25	19.46	299.53	77.24	N	N	N
133	6.51	0.40	3.01	7.96	A	A	A
135	6.9	1.2	9.18	18.11	A	A	A
136	9.7	0.3	53.48	5.93	N	N	N
140	0.14	0.03	-97.78	22.02	N	N	N
145	5.91	0.39	-6.49	8.32	A	A	A
149	5.85	0.57	-7.44	10.98	A	A	A
155	5.9	1.0	-6.65	17.69	A	A	A
157	6.03	0.50	-4.59	9.72	A	A	A
160	14.0	0.9	121.52	8.18	N	N	N
167	2.81	0.62	-55.54	22.64	N	A	N
172	0.078	0.023	-98.77	29.92	N	N	N
173	7.34	0.5	16.14	8.49	A	A	A
184	6.0	0.9	-5.06	15.83	A	A	A
185	11.10	2.13	75.63	19.85	N	N	N
186	7.8	0.3	23.42	6.36	A	N	W
188	6.6	0.7	4.43	11.75	A	A	A
189	10.6	0.6	67.72	7.59	N	N	N
196	4.11	0.28	-34.97	8.49	N	N	N
202	4.35	0.15	-31.17	6.13	N	N	N
215	6.5	0.6	2.85	10.53	A	A	A
225	3.5	0.3	-44.62	9.96	N	N	N
235	6.3	0.5	-0.32	9.41	A	A	A
245	6.31	0.48	-0.16	9.14	A	A	A
247	4.12	0.15	-34.81	6.24	N	N	N
248	6.52	0.42	3.16	8.19	A	A	A
258	6.48	0.32	2.53	7.07	A	A	A
262	6.38	0.263	0.95	6.53	A	A	A
268	6.59	0.59	4.27	10.29	A	A	A
270	8.15	0.70	28.96	9.97	A	N	W
272	6.45	0.74	2.06	12.54	A	A	A
290	6.1	0.39	-3.48	8.16	A	A	A
296	6.51	0.6	3.01	10.52	A	A	A
307	6.93	0.10	9.65	5.26	A	A	A
321	9.72	1.35	53.80	14.78	N	N	N
330	5.9	1.2	-6.65	20.96	A	A	A
333	3.62	0.34	-42.72	10.67	N	N	N

TABLE 29. Evaluation Results for Ra-226 in Sample 2, Rep. Value and Rep. Unc. in Bq/kg by gamma

Labcode	Reported value [Bq/kg]	Reported uncertainty ($k = 1$) [Bq/kg]	Relative bias [%]	P-Test [%]	Trueness evaluation	Precision evaluation	Final Score
6	5.57	0.38	-11.87	8.50	A	A	A
8	8.41	0.33	33.07	6.41	N	N	N
17	6.5	0.3	2.85	6.85	A	A	A
27	7.44	0.80	17.72	11.89	A	A	A
33	12.2	1.5	93.04	13.30	N	N	N
37	6.82	0.88	7.91	13.86	A	A	A
38	5.42	0.82	-14.24	15.95	A	A	A
39	8.5	0.5	34.49	7.76	N	N	N
40	6.71	0.711	6.17	11.74	A	A	A
54	10.8	5.4	70.89	50.26	N	N	N
55	6.3	0.4	-0.32	8.12	A	A	A
85	7.80	0.84	23.42	11.90	A	A	A
89	2.81	0.43	-55.54	16.12	N	N	N
102	6.92	1.61	9.49	23.81	A	A	A
104	7.87	1.18	24.53	15.83	A	A	A
108	10.9	1.5	72.47	14.66	N	N	N
110	9.93	0.52	57.12	7.28	N	N	N
126	4.4	0.2	-30.38	6.80	N	N	N
129	25.25	19.50	299.53	77.39	N	N	N
131	4.77	0.21	-24.53	6.71	A	N	W
135	6.2	1.6	-1.90	26.30	A	A	A
144	6.12	0.46	-3.16	9.06	A	A	A
147	8.54	1.75	35.13	21.11	N	A	N
149	7.10	1.96	12.34	28.07	A	A	A
159	5.33	0.50	-15.66	10.66	A	A	A
171	7.18	1.85	13.61	26.26	A	A	A
178	5.48	0.33	-13.29	7.87	A	A	A
183	6.6	1.6	4.43	24.77	A	A	A
184	5.96	0.72	-5.70	13.10	A	A	A
200	6.35	2.02	0.47	32.21	A	N	W
201	4.8	0.9	-24.05	19.42	A	A	A
202	3.50	0.28	-44.62	9.47	N	N	N
206	4.017	3.612	-36.44	90.06	N	N	N
215	6.5	0.6	2.85	10.53	A	A	A
222	4.55	0.43	-28.01	10.72	A	N	W
224	7	0.6	10.76	9.96	A	A	A
226	30.11	0.2	376.42	5.11	N	N	N
247	4.56	0.50	-27.85	12.08	A	A	A
264	2.349	0.2797	-62.83	12.94	N	N	N
293	6.43	0.39	1.74	7.90	A	A	A
294	6.0	2.6	-5.06	43.63	A	N	W
316	6.5	1	2.85	16.20	A	A	A
323	12.25	0.32	93.83	5.70	N	N	N
330	5.9	0.5	-6.65	9.87	A	A	A
334	4.9	0.3	-22.47	7.94	A	N	W
335	2.40	0.19	-62.03	9.40	N	N	N

Reported Results for K-40 determination in Sample 4

TABLE 30. Target values

Parameter	Value
Activity Concentration [Bq/kg]	584
Uncertainty [Bq/kg]	20
Maximum Acceptable Relative Bias, [%]	30

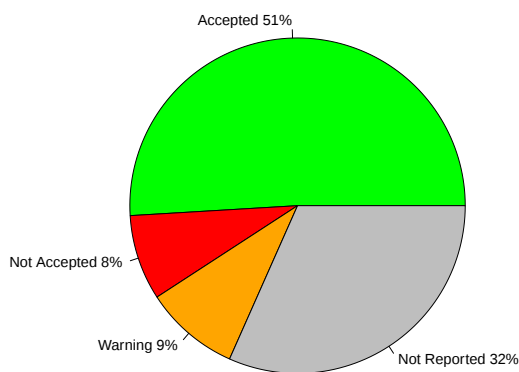


FIGURE 27. Percentage of Accepted vs. Warnings vs. Not Accepted vs. Not Reported results

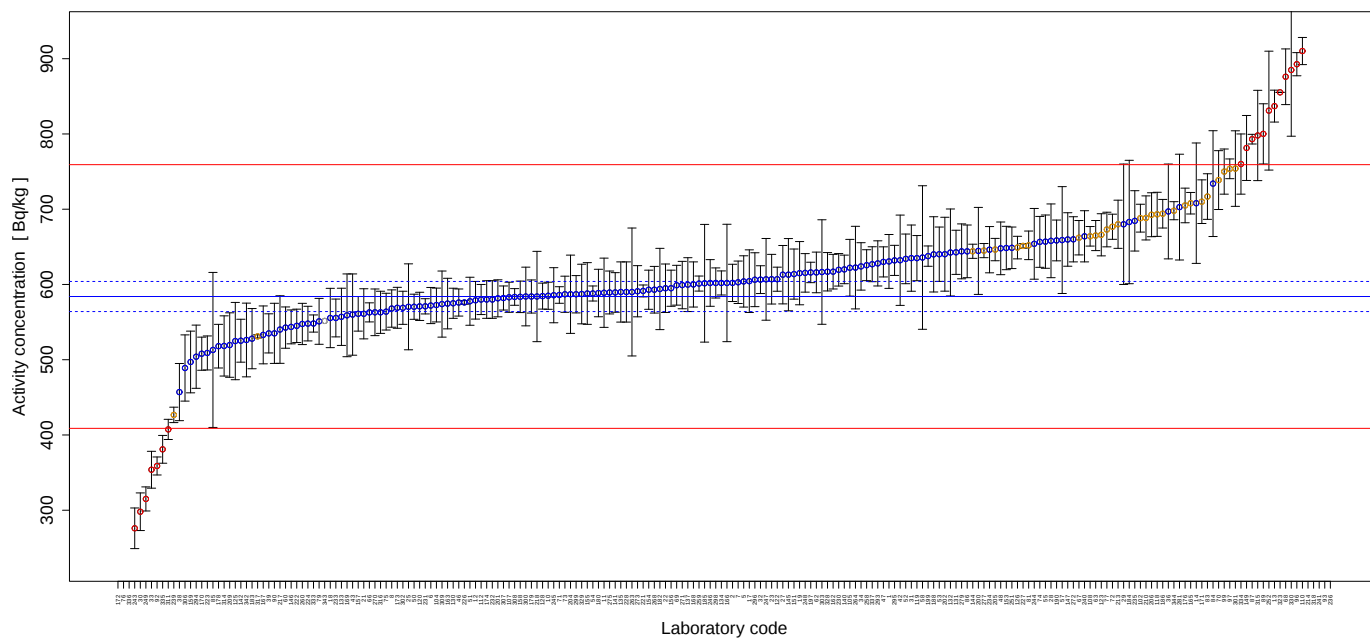


FIGURE 28. Reported results and evaluation parameters for K-40. Blue points represent accepted scores, whereas yellow and red represent warning and not accepted scores respectively.

TABLE 31. Evaluation Results for K-40 in Sample 4, Rep. Value and Rep. Unc. in Bq/kg by gamma

Labcode	Reported value [Bq/kg]	Reported uncertainty ($k = 1$) [Bq/kg]	Relative bias [%]	P-Test [%]	Trueness evaluation	Precision evaluation	Final Score
1	630.6	35.8	7.98	6.63	A	A	A
2	602.09	24.76	3.10	5.35	A	A	A
5	604.03	34.07	3.43	6.60	A	A	A
6	572	24.0	-2.05	5.42	A	A	A
7	602.9	28.2	3.24	5.80	A	A	A
8	568.00	24.80	-2.74	5.55	A	A	A
10	585	18	0.17	4.60	A	A	A
11	589	46	0.86	8.53	A	A	A
12	579	25	-0.86	5.51	A	A	A
13	837	21.2	43.32	4.26	N	N	N
14	708	80	21.23	11.81	A	A	A
17	604.4	41.6	3.49	7.69	A	A	A
18	555.45	39.41	-4.89	7.88	A	A	A
19	615	42	5.31	7.64	A	A	A
21	561	33.3	-3.94	6.85	A	A	A
22	595	32.2	1.88	6.40	A	A	A
23	607	33	3.94	6.43	A	A	A
25	570.3	57.1	-2.35	10.58	A	A	A
27	613.0	38.8	4.97	7.20	A	A	A
28	658	49	12.67	8.20	A	A	A
29	680	80	16.44	12.25	A	A	A
30	298	25	-48.97	9.06	N	N	N
31	635	44	8.73	7.73	A	A	A
32	606.41	18.47	3.84	4.58	A	A	A
33	353.8	24.5	-39.42	7.73	N	N	N
34	624	31.5	6.85	6.10	A	A	A
36	697	63	19.35	9.67	A	A	A
38	457	38	-21.75	8.99	A	A	A
39	535	26	-8.39	5.95	A	A	A
42	632.2	60.00	8.25	10.09	A	A	A
43	560	54	-4.11	10.23	A	A	A
46	576	18	-1.37	4.64	A	A	A
47	630	20	7.88	4.67	A	A	A
48	648	35	10.96	6.40	A	A	A
50	570.38	16.68	-2.33	4.50	A	A	A
51	577.7	31.9	-1.08	6.50	A	A	A
52	634	33	8.56	6.23	A	A	A
53	640.2	36.1	9.62	6.60	A	A	A
54	588	10	0.68	3.82	A	A	A
55	656.9	35.4	12.48	6.39	A	A	A
57	659	71	12.84	11.31	A	A	A
58	635.80	95.37	8.87	15.39	A	A	A
60	542.69	27.43	-7.07	6.11	A	A	A
62	616	27.0	5.48	5.56	A	A	A
63	665	20	13.87	4.56	A	N	W
66	562.91	12.68	-3.61	4.10	A	A	A
67	662.12	22.85	13.38	4.86	A	N	W
68	876	37	50.00	5.44	N	N	N
69	599.00	26.45	2.57	5.59	A	A	A
70	738.7	39.1	26.49	6.30	A	N	W
71	586	11	0.34	3.91	A	A	A
72	676.7	16.7	15.87	4.22	A	N	W
73	587	24	0.51	5.33	A	A	A
74	656.6	33.81	12.43	6.18	A	A	A
75	563.88	24.43	-3.45	5.52	A	A	A
76	51.5	7.18	-91.18	14.36	N	N	N
77	673	23	15.24	4.84	A	N	W
79	551	30.5	-5.65	6.51	A	A	A
81	652	19	11.64	4.50	A	N	W
83	716.82	30.29	22.74	5.44	A	N	W

TABLE 31. Evaluation Results for K-40 in Sample 4, Rep. Value and Rep. Unc. in Bq/kg by gamma

Labcode	Reported value [Bq/kg]	Reported uncertainty ($k = 1$) [Bq/kg]	Relative bias [%]	P-Test [%]	Trueness evaluation	Precision evaluation	Final Score
84	734	70.3	25.68	10.17	A	A	A
85	513	103	-12.16	20.37	A	A	A
86	644	35	10.27	6.42	A	A	A
87	793.08	6.43	35.80	3.52	N	N	N
89	800.1	40.0	37.00	6.06	N	N	N
90	535.04	39.95	-8.38	8.21	A	A	A
92	358.8	11.97	-38.56	4.78	N	N	N
93	1280	71	119.18	6.52	N	N	N
96	892.69	15.38	52.86	3.83	N	N	N
97	753.68	13.12	29.05	3.84	A	N	W
99	750	30	28.42	5.27	A	N	W
102	688.1	18.5	17.83	4.35	A	N	W
104	572.67	22.48	-1.94	5.21	A	A	A
105	622.2	37.7	6.54	6.96	A	A	A
107	583	20	-0.17	4.85	A	A	A
108	664	13	13.70	3.94	A	N	W
110	910.19	18.04	55.85	3.96	N	N	N
112	580	20	-0.68	4.86	A	A	A
118	693.2	29.3	18.70	5.44	A	N	W
119	635	30	8.73	5.84	A	A	A
120	570.9	18.73	-2.24	4.74	A	A	A
122	607	16	3.94	4.32	A	A	A
123	666	28	14.04	5.42	A	N	W
125	524.78	51.35	-10.14	10.37	A	A	A
126	649	15	11.13	4.13	A	N	W
128	584.52	17.26	0.09	4.52	A	A	A
130	575	20	-1.54	4.88	A	A	A
131	642.72	29.33	10.05	5.71	A	A	A
132	642.5	57.8	10.02	9.63	A	A	A
133	557	38.0	-4.62	7.63	A	A	A
134	602	16	3.08	4.33	A	A	A
135	590	40	1.03	7.60	A	A	A
137	599.79	35.78	2.70	6.88	A	A	A
140	620	19	6.16	4.60	A	A	A
141	589.4	26.3	0.92	5.62	A	A	A
142	525.26	28.522	-10.06	6.42	A	A	A
144	644.1	9.4	10.29	3.72	A	N	W
145	613	48	4.97	8.55	A	A	A
146	543.6	22.5	-6.92	5.37	A	A	A
147	659.78	35.54	12.98	6.38	A	A	A
149	781.37	43.185	33.80	6.50	N	N	N
151	613.8	33.3	5.10	6.42	A	A	A
153	648.451	28.823	11.04	5.61	A	A	A
154	593	26	1.54	5.56	A	A	A
155	588	41	0.68	7.77	A	A	A
156	595	24	1.88	5.29	A	A	A
157	561	23	-3.94	5.34	A	A	A
158	583.58	20.92	-0.07	4.96	A	A	A
159	497	41	-14.90	8.93	A	A	A
162	617	23	5.65	5.06	A	A	A
163	574.6	33.6	-1.61	6.78	A	A	A
165	707.95	14.30	21.22	3.98	A	N	W
166	602	78	3.08	13.40	A	A	A
167	533.00	38.45	-8.73	7.99	A	A	A
168	600	30	2.74	6.06	A	A	A
169	559	55	-4.28	10.42	A	A	A
170	508	22	-13.01	5.52	A	A	A
171	710	29	21.58	5.33	A	N	W
172	50.2	2.74	-91.40	6.44	N	N	N
173	569	27.2	-2.57	5.88	A	A	A

TABLE 31. Evaluation Results for K-40 in Sample 4, Rep. Value and Rep. Unc. in Bq/kg by gamma

Labcode	Reported value [Bq/kg]	Reported uncertainty ($k = 1$) [Bq/kg]	Relative bias [%]	P-Test [%]	Trueness evaluation	Precision evaluation	Final Score
174	580	25	-0.68	5.51	A	A	A
176	705	23	20.72	4.73	A	N	W
178	518	29	-11.30	6.56	A	A	A
179	584	22	0.00	5.09	A	A	A
180	588.63	31.54	0.79	6.36	A	A	A
182	594	54	1.71	9.71	A	A	A
183	528	40	-9.59	8.31	A	A	A
184	683	82	16.95	12.48	A	A	A
185	601.60	78.21	3.01	13.44	A	A	A
186	694	19	18.84	4.38	A	N	W
188	640	50	9.59	8.53	A	A	A
190	658.5	27.1	12.76	5.35	A	A	A
197	615.9755	13.5813	5.48	4.07	A	A	A
199	637.67	13.5	9.19	4.03	A	A	A
200	644.6	57.8	10.38	9.60	A	A	A
201	581.6	24.6	-0.41	5.44	A	A	A
202	640.2	49.1	9.62	8.40	A	A	A
204	587	52	0.51	9.50	A	A	A
205	646.37	14.85	10.68	4.12	A	N	W
206	692.66	29.19	18.61	5.43	A	N	W
209	519.50	42.83	-11.04	8.93	A	A	A
210	688.43	29.27	17.88	5.46	A	N	W
213	680	32	16.44	5.82	A	N	W
214	1020	48	74.66	5.82	N	N	N
217	540.1	44.9	-7.52	8.99	A	A	A
218	584	60	0.00	10.83	A	A	A
221	591.40	7.90	1.27	3.68	A	A	A
222	545.00	22.20	-6.68	5.32	A	A	A
223	509.00	22.60	-12.84	5.61	A	A	A
224	548	23	-6.16	5.42	A	A	A
226	576.10	2.38	-1.35	3.45	A	A	A
227	651.2	3	11.51	3.46	A	N	W
228	590	40	1.03	7.60	A	A	A
230	619.47	21.58	6.07	4.89	A	A	A
231	570.95	10.11	-2.23	3.86	A	A	A
232	580	25	-0.68	5.51	A	A	A
233	555.48	25.14	-4.88	5.68	A	A	A
234	646.21	30.73	10.65	5.86	A	A	A
235	684.5	40.1	17.21	6.79	A	A	A
236	1881.4	129.07	222.16	7.67	N	N	N
239	426.69	10.24	-26.94	4.18	A	N	W
240	664	34	13.70	6.16	A	A	A
241	1268	94.8	117.12	8.22	N	N	N
243	276	27	-52.74	10.36	N	N	N
244	654	47	11.99	7.96	A	A	A
245	585.7	36.6	0.29	7.13	A	A	A
246	602	31	3.08	6.18	A	A	A
247	606.8	54.3	3.90	9.58	A	A	A
248	615.4	25.6	5.38	5.39	A	A	A
249	315	16	-46.06	6.13	N	N	N
251	648.71	27.59	11.08	5.46	A	A	A
252	831	79	42.29	10.10	N	N	N
258	625.60	20.54	7.12	4.74	A	A	A
259	601.2	10	2.95	3.81	A	A	A
260	547.52	27.4	-6.25	6.06	A	A	A
263	590	85	1.03	14.81	A	A	A
264	622.4	54.88	6.58	9.46	A	A	A
268	593	31	1.54	6.25	A	A	A
270	563	31	-3.60	6.48	A	A	A
271	599.2	31.5	2.60	6.27	A	A	A

TABLE 31. Evaluation Results for K-40 in Sample 4, Rep. Value and Rep. Unc. in Bq/kg by gamma

Labcode	Reported value [Bq/kg]	Reported uncertainty ($k = 1$) [Bq/kg]	Relative bias [%]	P-Test [%]	Trueness evaluation	Precision evaluation	Final Score
272	660	30	13.01	5.69	A	A	A
273	591	34	1.20	6.70	A	A	A
275	589.35	28.5	0.92	5.93	A	A	A
277	645.00	9.40	10.45	3.72	A	N	W
279	644	36.48	10.27	6.62	A	A	A
281	702.8	70.28	20.34	10.57	A	A	A
293	628	30	7.53	5.88	A	A	A
294	504	42	-13.70	9.01	A	A	A
295	632	20	8.22	4.66	A	A	A
296	606.33	35.80	3.82	6.83	A	A	A
298	602	20	3.08	4.77	A	A	A
299	587.0	24.8	0.51	5.44	A	A	A
300	584	39	0.00	7.51	A	A	A
301	754.0	50.2	29.11	7.49	A	N	W
302	569	22	-2.57	5.17	A	A	A
303	616.53	69.44	5.57	11.77	A	A	A
306	489	44	-16.27	9.63	A	A	A
307	582	16	-0.34	4.39	A	A	A
308	583.41	11.06	-0.10	3.91	A	A	A
309	573.94	43.92	-1.72	8.38	A	A	A
311	407.4	13.4	-30.24	4.75	N	N	N
314	518.3	40.0	-11.25	8.44	A	A	A
315	798	60	36.64	8.26	N	N	N
316	563.0	28.0	-3.60	6.04	A	A	A
317	531	2.1	-9.08	3.45	A	N	W
318	1158	45	98.29	5.18	N	N	N
323	855.28	0.15	46.45	3.42	N	N	N
328	616.9	25.5	5.63	5.37	A	A	A
329	587.3	39.6	0.57	7.56	A	A	A
330	885	88	51.54	10.52	N	N	N
333	548.1	11.4	-6.15	4.01	A	A	A
334	760	40	30.14	6.28	N	N	N
335	380.93	18.47	-34.77	5.94	N	N	N
336	70.9	4.02	-87.86	6.62	N	N	N
337	626.9	23.2	7.35	5.04	A	A	A
342	526.22	48.98	-9.89	9.92	A	A	A
343	551.545		-5.56		A		
344	698	12	19.52	3.83	A	N	W

Reported Results for Cs-134 determination in Sample 4

TABLE 32. Target values

Parameter	Value
Activity Concentration [Bq/kg]	6.93
Uncertainty [Bq/kg]	0.50
Maximum Acceptable Relative Bias, [%]	30

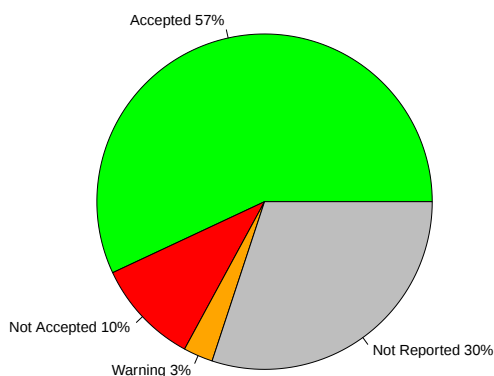


FIGURE 29. Percentage of Accepted vs. Warnings vs. Not Accepted vs. Not Reported results

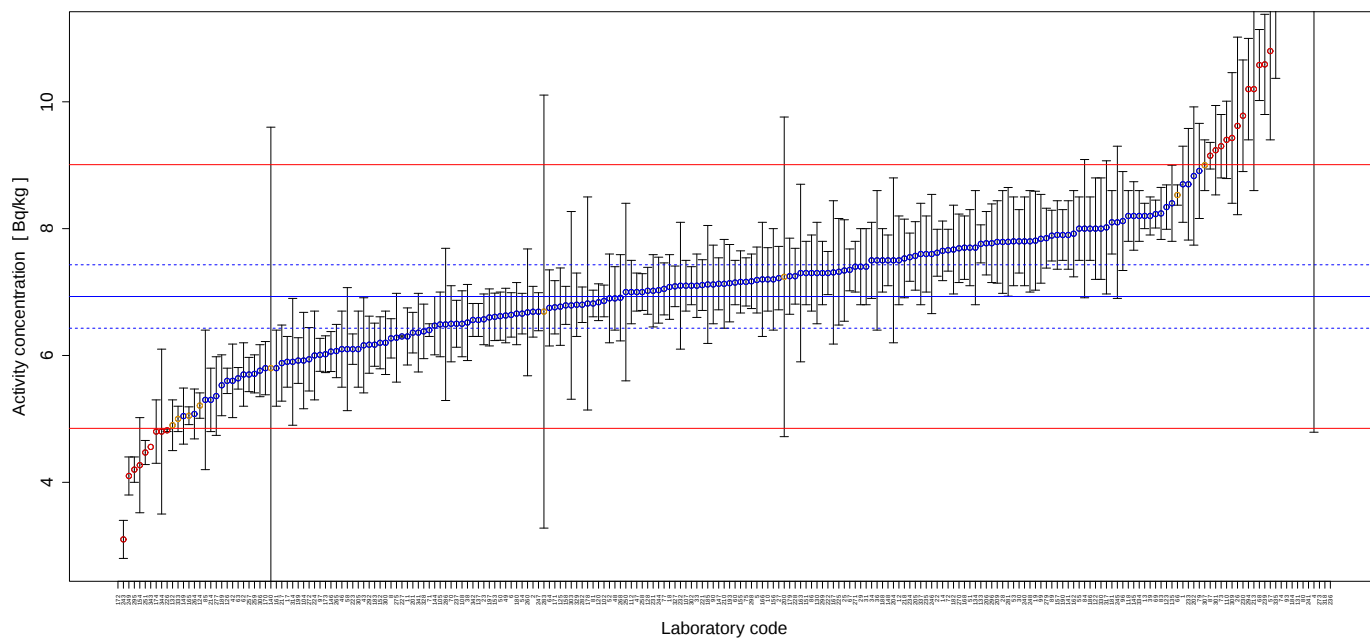


FIGURE 30. Reported results and evaluation parameters for Cs-134. Blue points represent accepted scores, whereas yellow and red represent warning and not accepted scores respectively.

TABLE 33. Evaluation Results for Cs-134 in Sample 4, Rep. Value and Rep. Unc. in Bq/kg by gamma

Labcode	Reported value [Bq/kg]	Reported uncertainty ($k = 1$) [Bq/kg]	Relative bias [%]	P-Test [%]	Trueness evaluation	Precision evaluation	Final Score
1	8.7	0.6	25.54	9.98	A	A	A
2	6.69	0.40	-3.46	9.37	A	A	A
4	16.03	11.24	131.31	70.49	N	N	N
5	7.19	0.52	3.75	10.22	A	A	A
6	6.64	0.35	-4.18	8.94	A	A	A
8	6.27	0.31	-9.52	8.75	A	A	A
10	7.2	0.5	3.90	10.01	A	A	A
11	6.30	0.45	-9.09	10.15	A	A	A
12	7.5	0.7	8.23	11.80	A	A	A
13	8.2	0.2	18.33	7.62	A	A	A
14	7.65	0.47	10.39	9.48	A	A	A
17	5.9	0.4	-14.86	9.90	A	A	A
18	7.08	0.51	2.16	10.20	A	A	A
19	7.81	0.78	12.70	12.32	A	A	A
22	7.62	0.37	9.96	8.70	A	A	A
23	6.57	0.4	-5.19	9.44	A	A	A
25	7.34	0.8	5.92	13.07	A	A	A
26	9.62	1.40	38.82	16.24	N	A	N
27	7.22	0.50	4.18	10.00	A	A	A
28	7.79	0.81	12.41	12.66	A	A	A
29	7.4	0.6	6.78	10.85	A	A	A
30	7.8	0.5	12.55	9.65	A	A	A
31	7.4	0.6	6.78	10.85	A	A	A
33	7.1	0.5	2.45	10.08	A	A	A
34	7.5	0.6	8.23	10.77	A	A	A
36	7.5	1.1	8.23	16.35	A	A	A
38	6.52	0.60	-5.92	11.69	A	A	A
39	8.2	0.3	18.33	8.09	A	A	A
42	5.6	0.58	-19.19	12.62	A	A	A
43	6.16	0.75	-11.11	14.15	A	A	A
46	6.1	0.6	-11.98	12.20	A	A	A
47	7.0	0.3	1.01	8.39	A	A	A
48	6.9	0.5	-0.43	10.23	A	A	A
49	6.63	0.43	-4.33	9.70	A	A	A
50	6.62	0.38	-4.47	9.22	A	A	A
51	7.7	0.6	11.11	10.62	A	A	A
52	6.9	0.7	-0.43	12.45	A	A	A
53	7.8	0.7	12.55	11.52	A	A	A
54	6.66	0.32	-3.90	8.67	A	A	A
55	8.0	0.5	15.44	9.55	A	A	A
57	10.8	1.4	55.84	14.84	N	N	N
58	6.10	0.97	-11.98	17.46	A	A	A
60	7.15	0.35	3.17	8.72	A	A	A
62	5.7	0.5	-17.75	11.36	A	A	A
63	5.64	0.17	-18.61	7.82	A	A	A
64	6.75	0.6	-2.60	11.45	A	A	A
66	8.53	0.16	23.09	7.45	A	N	W
67	7.35	0.33	6.06	8.50	A	A	A
68	10.58	0.56	52.67	8.95	N	N	N
69	8.23	0.22	18.76	7.69	A	A	A
70	6.5	0.6	-6.20	11.72	A	A	A
71	6.4	0.1	-7.65	7.38	A	A	A
72	7.66	0.33	10.53	8.40	A	A	A
73	9.3	0.5	34.20	9.00	N	N	N
74	12.3	0.57	77.49	8.58	N	N	N
75	7.16	0.38	3.32	8.96	A	A	A
77	7.05	0.41	1.73	9.27	A	A	A
79	8.91	0.75	28.57	11.09	A	A	A
80	14.3	0.6	106.35	8.35	N	N	N
81	6.82	0.21	-1.59	7.84	A	A	A

TABLE 33. Evaluation Results for Cs-134 in Sample 4, Rep. Value and Rep. Unc. in Bq/kg by gamma

Labcode	Reported value [Bq/kg]	Reported uncertainty ($k = 1$) [Bq/kg]	Relative bias [%]	P-Test [%]	Trueness evaluation	Precision evaluation	Final Score
83	8.24	0.41	18.90	8.76	A	A	A
84	8	1.09	15.44	15.42	A	A	A
85	5.3	1.1	-23.52	21.97	A	A	A
86	7.3	0.6	5.34	10.94	A	A	A
87	9.15	0.21	32.03	7.57	N	N	N
89	7.89	0.40	13.85	8.82	A	A	A
90	7.12	0.62	2.74	11.31	A	A	A
93	13	1	87.59	10.55	N	N	N
96	8.12	0.78	17.17	12.01	A	A	A
97	6.01	0.26	-13.28	8.41	A	A	A
99	7.84	0.70	13.13	11.48	A	A	A
102	6.86	0.25	-1.01	8.08	A	A	A
104	5.92	0.76	-14.57	14.73	A	A	A
105	6.49	0.51	-6.35	10.67	A	A	A
107	7.1	0.4	2.45	9.15	A	A	A
108	6.5	0.52	-6.20	10.77	A	A	A
110	9.40	0.61	35.64	9.70	N	N	N
112	7.0	0.5	1.01	10.15	A	A	A
118	8.2	0.4	18.33	8.71	A	A	A
120	6.84	0.29	-1.30	8.37	A	A	A
122	8.0	0.8	15.44	12.33	A	A	A
123	8.34	0.35	20.35	8.35	A	A	A
124	5.21	0.20	-24.82	8.17	A	N	W
125	6.77	0.61	-2.31	11.54	A	A	A
126	5.6	0.2	-19.19	8.05	A	A	A
128	7.02	0.37	1.30	8.94	A	A	A
130	7.3	0.8	5.34	13.12	A	A	A
131	14.24	1.44	105.48	12.42	N	N	N
132	4.9	0.4	-29.29	10.89	A	N	W
133	7.76	0.300	11.98	8.19	A	A	A
134	7.7	0.9	11.11	13.74	A	A	A
135	8.4	0.6	21.21	10.15	A	A	A
137	6.56	0.26	-5.34	8.23	A	A	A
140	5.8	3.8	-16.31	65.91	A	N	W
141	7.90	0.54	14.00	9.94	A	A	A
144	6.47	0.46	-6.64	10.13	A	A	A
145	8.20	0.54	18.33	9.77	A	A	A
146	6.062	0.315	-12.53	8.89	A	A	A
147	7.13	0.41	2.89	9.23	A	A	A
148	7.5	0.4	8.23	8.97	A	A	A
149	5.0443	0.44215	-27.21	11.35	A	A	A
151	7.3	0.5	5.34	9.95	A	A	A
152	6.2	0.41	-10.53	9.79	A	A	A
153	6.609	0.374	-4.63	9.17	A	A	A
154	4.27	0.75	-38.38	18.99	N	A	N
155	7.16	0.49	3.32	9.94	A	A	A
156	7.2	0.8	3.90	13.25	A	A	A
157	7.90	0.54	14.00	9.94	A	A	A
158	6.79	0.30	-2.02	8.46	A	A	A
161	5.8	0.6	-16.31	12.61	A	A	A
162	7.92	0.68	14.29	11.21	A	A	A
163	7.3	1.4	5.34	20.49	A	A	A
165	5.05	0.14	-27.13	7.73	A	N	W
166	7.2	0.9	3.90	14.43	A	A	A
167	7.31	1.13	5.48	17.06	A	A	A
168	7.7	0.5	11.11	9.71	A	A	A
170	5.80	0.42	-16.31	10.22	A	A	A
171	6.76	0.42	-2.45	9.52	A	A	A
172	0.474	0.06	-93.16	14.57	N	N	N
173	6.02	0.29	-13.13	8.68	A	A	A

TABLE 33. Evaluation Results for Cs-134 in Sample 4, Rep. Value and Rep. Unc. in Bq/kg by gamma

Labcode	Reported value [Bq/kg]	Reported uncertainty ($k = 1$) [Bq/kg]	Relative bias [%]	P-Test [%]	Trueness evaluation	Precision evaluation	Final Score
174	4.8	0.5	-30.74	12.67	N	A	N
178	6.82	1.68	-1.59	25.67	A	A	A
179	7.25	0.60	4.62	10.98	A	A	A
180	6.66	0.49	-3.90	10.30	A	A	A
181	8.1	0.5	16.88	9.50	A	A	A
182	7.67	0.7	10.68	11.63	A	A	A
183	6.17	0.34	-10.97	9.08	A	A	A
184	13.3	1.7	91.92	14.68	N	N	N
185	7.12	0.93	2.74	14.92	A	A	A
186	8.0	0.5	15.44	9.55	A	A	A
188	7.5	0.5	8.23	9.82	A	A	A
189	5.53	0.48	-20.20	11.29	A	A	A
190	7.9	0.4	14.00	8.81	A	A	A
193	7.14	0.61	3.03	11.18	A	A	A
197	6.6003	0.4496	-4.76	9.92	A	A	A
199	5.92	0.36	-14.57	9.44	A	A	A
200	7.24	2.52	4.47	35.55	A	N	W
201	6.36	0.32	-8.23	8.80	A	A	A
202	8.83	1.09	27.42	14.30	A	A	A
204	7.5	1.3	8.23	18.78	A	A	A
205	7.57	0.54	9.24	10.15	A	A	A
206	7.77	0.50	12.12	9.67	A	A	A
209	7.79	0.65	12.41	11.03	A	A	A
210	7.13	0.70	2.89	12.18	A	A	A
213	10.2	1.6	47.19	17.27	N	N	N
214	5.3	0.5	-23.52	11.88	A	A	A
217	5.88	0.60	-15.15	12.50	A	A	A
218	7.53	0.62	8.66	10.95	A	A	A
221	7.11	0.40	2.60	9.15	A	A	A
222	7.30	0.34	5.34	8.59	A	A	A
223	6.10	0.24	-11.98	8.22	A	A	A
224	6	0.7	-13.42	13.72	A	A	A
225	7.32	0.84	5.63	13.56	A	A	A
226	4.82	0.02	-30.45	7.23	N	N	N
227	6.3	0.01	-9.09	7.22	A	A	A
228	7.25	0.44	4.62	9.43	A	A	A
230	9.78	0.88	41.13	11.53	N	N	N
231	7.02	0.57	1.30	10.86	A	A	A
232	7.1	1.0	2.45	15.82	A	A	A
233	8.70	0.88	25.54	12.42	A	A	A
234	7.55	0.38	8.95	8.80	A	A	A
235	7.6	0.6	9.67	10.70	A	A	A
236	21.35	2.61	208.08	14.20	N	N	N
237	6.50	0.37	-6.20	9.19	A	A	A
239	10.59	0.79	52.81	10.38	N	N	N
240	7.8	0.7	12.55	11.52	A	A	A
241	16.0	1.0	130.88	9.55	N	N	N
243	3.1	0.3	-55.27	12.07	N	N	N
244	7.03	0.52	1.44	10.33	A	A	A
245	8.1	1.2	16.88	16.48	A	A	A
246	7.60	0.94	9.67	14.32	A	A	A
247	6.69	0.3	-3.46	8.50	A	A	A
248	7.8	0.8	12.55	12.54	A	A	A
249	4.1	0.3	-40.84	10.28	N	N	N
250	7	1.4	1.01	21.26	A	A	A
251	4.47	0.19	-35.50	8.37	N	N	N
257	5.70	0.27	-17.75	8.63	A	A	A
258	7.00	0.29	1.01	8.32	A	A	A
259	5.71	0.3	-17.60	8.93	A	A	A
260	6.68	1.00	-3.61	16.62	A	A	A

TABLE 33. Evaluation Results for Cs-134 in Sample 4, Rep. Value and Rep. Unc. in Bq/kg by gamma

Labcode	Reported value [Bq/kg]	Reported uncertainty ($k = 1$) [Bq/kg]	Relative bias [%]	P-Test [%]	Trueness evaluation	Precision evaluation	Final Score
264	5.078	0.3933	-26.72	10.59	A	A	A
265	6.07	0.42	-12.41	10.00	A	A	A
268	6.91	0.68	-0.29	12.20	A	A	A
270	7.69	0.54	10.97	10.07	A	A	A
271	7.4	0.4	6.78	9.02	A	A	A
272	5.94	0.5	-14.29	11.09	A	A	A
273	16.4	1.0	136.65	9.45	N	N	N
275	6.28	0.7	-9.38	13.28	A	A	A
277	5.36	0.62	-22.66	13.63	A	A	A
279	7.85	0.472	13.28	9.39	A	A	A
281	7.792	0.857	12.44	13.15	A	A	A
282	6.8	0.28	-1.88	8.31	A	A	A
283	6.692	3.414	-3.43	51.52	A	N	W
286	6.49	1.2	-6.35	19.85	A	A	A
292	6.17	0.45	-10.97	10.26	A	A	A
294	10.2	0.8	47.19	10.66	N	N	N
295	4.2	0.2	-39.39	8.64	N	N	N
296	7.77	0.62	12.12	10.76	A	A	A
298	7.17	0.43	3.46	9.38	A	A	A
299	7.3	0.5	5.34	9.95	A	A	A
300	6.2	0.5	-10.53	10.82	A	A	A
301	9.237	0.705	33.29	10.50	N	N	N
302	7.1	0.3	2.45	8.36	A	A	A
303	6.79	1.48	-2.02	22.96	A	A	A
305	6.1	0.6	-11.98	12.20	A	A	A
306	5.76	0.41	-16.88	10.14	A	A	A
307	9.0	0.4	29.87	8.47	A	N	W
309	9.43	1.03	36.08	13.09	N	N	N
314	5.9	1.0	-14.86	18.42	A	A	A
317	8.02	1.05	15.73	14.95	A	A	A
318	19.8	2.5	185.71	14.54	N	N	N
327	7.09	0.32	2.31	8.51	A	A	A
328	6.38	0.43	-7.94	9.87	A	A	A
329	6.8	0.5	-1.88	10.30	A	A	A
330	8.0	0.8	15.44	12.33	A	A	A
333	5.0	0.2	-27.85	8.25	A	N	W
334	8.2	0.4	18.33	8.71	A	A	A
335	11.62	1.25	67.68	12.95	N	N	N
337	7.6	0.8	9.67	12.76	A	A	A
341	6.36	0.62	-8.23	12.13	A	A	A
342	6.56	0.26	-5.34	8.23	A	A	A
343	4.55803		-34.23		N		N
344	4.8	1.3	-30.74	28.03	N	A	N

Reported Results for Cs-137 determination in Sample 4

TABLE 34. Target values

Parameter	Value
Activity Concentration [Bq/kg]	270
Uncertainty [Bq/kg]	17
Maximum Acceptable Relative Bias, [%]	30

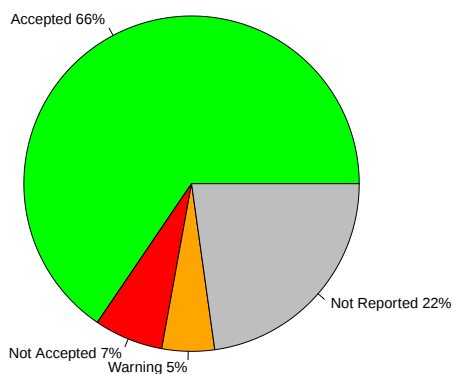


FIGURE 31. Percentage of Accepted vs. Warnings vs. Not Accepted vs. Not Reported results

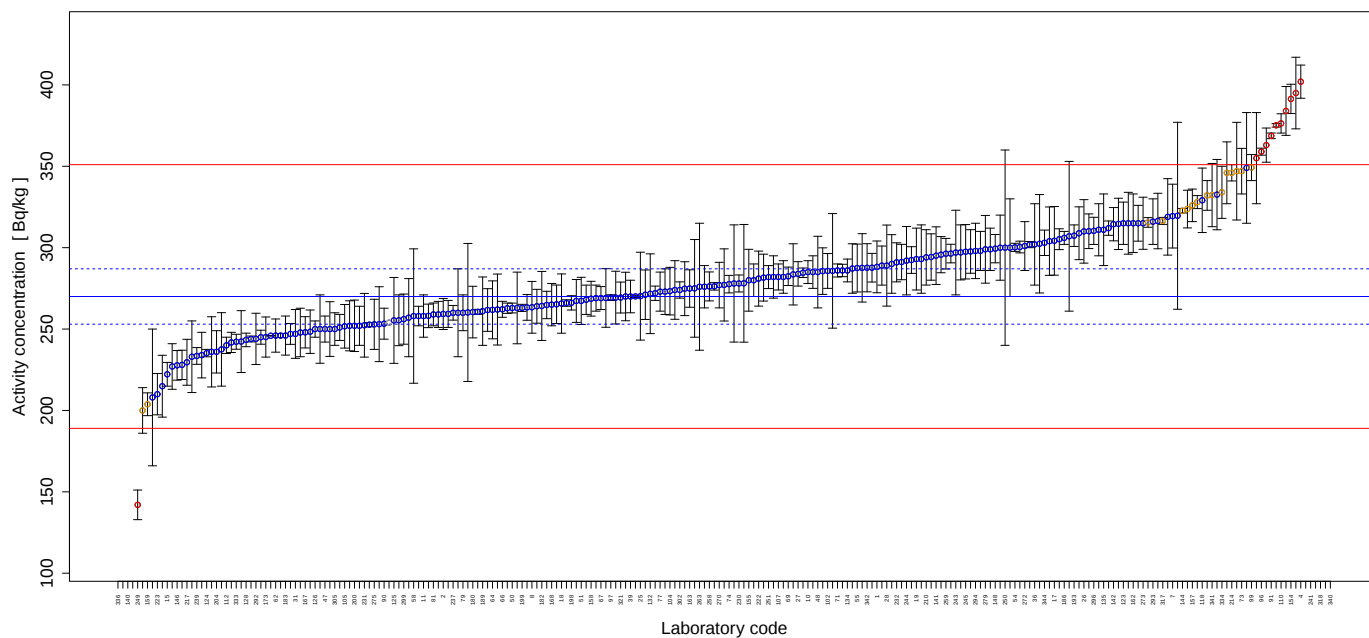


FIGURE 32. Reported results and evaluation parameters for Cs-137. Blue points represent accepted scores, whereas yellow and red represent warning and not accepted scores respectively.

TABLE 35. Evaluation Results for Cs-137 in Sample 4, Rep. Value and Rep. Unc. in Bq/kg by gamma

Labcode	Reported value [Bq/kg]	Reported uncertainty ($k = 1$) [Bq/kg]	Relative bias [%]	P-Test [%]	Trueness evaluation	Precision evaluation	Final Score
1	288.2	15.9	6.74	8.37	A	A	A
2	259.27	9.54	-3.97	7.29	A	A	A
4	401.99	10.19	48.89	6.79	N	N	N
5	316.37	17.05	17.17	8.29	A	A	A
6	250	16.8	-7.41	9.21	A	A	A
7	319.4	19.6	18.30	8.79	A	A	A
8	263.37	15.9	-2.46	8.72	A	A	A
10	285	7	5.56	6.76	A	A	A
11	258	13	-4.44	8.06	A	A	A
12	280	10	3.70	7.24	A	A	A
13	363	10.5	34.44	6.93	N	N	N
14	297.1	16.9	10.04	8.49	A	A	A
15	222.2	7.3	-17.70	7.10	A	A	A
17	304.2	21.1	12.67	9.37	A	A	A
18	265.66	18.21	-1.61	9.31	A	A	A
19	293	19	8.52	9.04	A	A	A
21	263.3	7.9	-2.48	6.97	A	A	A
23	268	9	-0.74	7.14	A	A	A
25	270.2	27.0	0.07	11.81	A	A	A
26	310	19.5	14.81	8.90	A	A	A
27	283.9	7.5	5.15	6.83	A	A	A
28	289	24.9	7.04	10.67	A	A	A
29	275	30	1.85	12.60	A	A	A
30	298	12	10.37	7.47	A	A	A
31	247	15	-8.52	8.75	A	A	A
33	269.1	18.0	-0.33	9.19	A	A	A
34	262	21.8	-2.96	10.43	A	A	A
36	302	25	11.85	10.40	A	A	A
38	253	23	-6.30	11.06	A	A	A
39	270	10	0.00	7.30	A	A	A
42	237.5	22.57	-12.04	11.40	A	A	A
43	257	24	-4.81	11.26	A	A	A
46	251	8	-7.04	7.06	A	A	A
47	250	8	-7.41	7.06	A	A	A
48	285	22	5.56	9.96	A	A	A
49	262.8	3.16	-2.67	6.41	A	A	A
50	262.93	3.01	-2.62	6.40	A	A	A
51	267.3	14.5	-1.00	8.31	A	A	A
52	282	13	4.44	7.80	A	A	A
53	287.7	8.8	6.56	7.00	A	A	A
54	300.2	2.5	11.19	6.35	A	A	A
55	287.5	14.7	6.48	8.11	A	A	A
57	315	19	16.67	8.72	A	A	A
58	258.00	41.28	-4.44	17.19	A	A	A
60	265.22	11.83	-1.77	7.72	A	A	A
62	246	10.2	-8.89	7.54	A	A	A
63	258	6	-4.44	6.71	A	A	A
64	261.8	17.8	-3.04	9.27	A	A	A
66	262.14	4.9	-2.91	6.57	A	A	A
67	269.03	7.06	-0.36	6.82	A	A	A
68	466	18	72.59	7.39	N	N	N
69	282.40	5.66	4.59	6.61	A	A	A
70	305.2	6.4	13.04	6.64	A	A	A
71	286	4	5.93	6.45	A	A	A
72	315.5	2.96	16.85	6.37	A	N	W
73	347	14	28.52	7.48	A	N	W
74	277.6	5.38	2.81	6.59	A	A	A
75	274.81	16.55	1.78	8.71	A	A	A
76	200	14	-25.93	9.42	A	N	W
77	273	12	1.11	7.68	A	A	A

TABLE 35. Evaluation Results for Cs-137 in Sample 4, Rep. Value and Rep. Unc. in Bq/kg by gamma

Labcode	Reported value [Bq/kg]	Reported uncertainty ($k = 1$) [Bq/kg]	Relative bias [%]	P-Test [%]	Trueness evaluation	Precision evaluation	Final Score
79	260	11	-3.70	7.59	A	A	A
80	300.4	3.6	11.26	6.41	A	A	A
81	259	7	-4.07	6.85	A	A	A
83	323.72	11.57	19.90	7.24	A	N	W
84	347	30.0	28.52	10.70	A	N	W
85	208	42	-22.96	21.15	A	A	A
86	293	21	8.52	9.54	A	A	A
87	375.16	1.08	38.95	6.30	N	N	N
89	384.0	15.0	42.22	7.41	N	N	N
90	253.30	9.51	-6.19	7.33	A	A	A
91	368.71	1.73	36.56	6.31	N	N	N
93	608	13	125.19	6.65	N	N	N
96	358.98	2.15	32.96	6.32	N	N	N
97	269.32	1.76	-0.25	6.33	A	A	A
99	349.2	8.0	29.33	6.70	A	N	W
102	285.7	10.7	5.81	7.33	A	A	A
104	273.29	14.62	1.22	8.26	A	A	A
105	251.7	13.4	-6.78	8.25	A	A	A
107	282	8	4.44	6.91	A	A	A
108	328	4	21.48	6.41	A	N	W
110	376.33	5.93	39.38	6.49	N	N	N
112	240	5	-11.11	6.63	A	A	A
118	329.1	19.8	21.89	8.71	A	A	A
119	272	4.4	0.74	6.50	A	A	A
120	264.8	8.42	-1.93	7.05	A	A	A
122	282	10	4.44	7.23	A	A	A
123	315	13	16.67	7.53	A	A	A
124	235.23	2.28	-12.88	6.37	A	A	A
125	255.32	26.38	-5.44	12.10	A	A	A
126	250	5	-7.41	6.61	A	A	A
128	243.32	4.16	-9.88	6.52	A	A	A
129	214.89	19.00	-20.41	10.85	A	A	A
130	285	10	5.56	7.21	A	A	A
131	291.18	10.87	7.84	7.32	A	A	A
132	271.7	24.5	0.63	11.00	A	A	A
133	270	14.9	0.00	8.37	A	A	A
134	286	7	5.93	6.76	A	A	A
135	311	22	15.19	9.47	A	A	A
137	248.37	13.33	-8.01	8.27	A	A	A
140	26.3	7.6	-90.26	29.58	N	N	N
141	295.1	17.7	9.30	8.70	A	A	A
142	314.421	10.222	16.45	7.09	A	A	A
144	322.7	1.4	19.52	6.31	A	N	W
145	234	14	-13.33	8.69	A	A	A
146	227.7	9.1	-15.67	7.46	A	A	A
147	308.86	16.22	14.39	8.20	A	A	A
148	299.4	8.7	10.89	6.93	A	A	A
149	294.27	14.2515	8.99	7.94	A	A	A
151	287.2	15.2	6.37	8.23	A	A	A
152	259.3	8.30	-3.96	7.06	A	A	A
153	269.330	16.193	-0.25	8.71	A	A	A
154	391.4	9	44.96	6.70	N	N	N
155	280	19	3.70	9.26	A	A	A
156	289	12	7.04	7.54	A	A	A
157	326	10	20.74	7.00	A	N	W
158	268.65	10.69	-0.50	7.45	A	A	A
159	203.8	7.0	-24.52	7.17	A	N	W
161	233	22	-13.70	11.35	A	A	A
162	315	18	16.67	8.50	A	A	A
163	274.9	11.5	1.81	7.56	A	A	A

TABLE 35. Evaluation Results for Cs-137 in Sample 4, Rep. Value and Rep. Unc. in Bq/kg by gamma

Labcode	Reported value [Bq/kg]	Reported uncertainty ($k = 1$) [Bq/kg]	Relative bias [%]	P-Test [%]	Trueness evaluation	Precision evaluation	Final Score
165	310.10	10.65	14.85	7.17	A	A	A
166	278	36	2.96	14.40	A	A	A
167	248.00	9.60	-8.15	7.39	A	A	A
168	265	13	-1.85	7.98	A	A	A
169	250	21	-7.41	10.50	A	A	A
170	227	14	-15.93	8.81	A	A	A
171	269	8.0	-0.37	6.96	A	A	A
172	21.1	1.30	-92.19	8.81	N	N	N
173	245.1	12.32	-9.22	8.06	A	A	A
174	290	18	7.41	8.84	A	A	A
176	346	19	28.15	8.35	A	N	W
178	260.2	42.4	-3.63	17.47	A	A	A
179	315	11	16.67	7.20	A	A	A
180	260.43	15.85	-3.54	8.76	A	A	A
181	285.6	14.3	5.78	8.04	A	A	A
182	264.2	21.2	-2.15	10.20	A	A	A
183	246	12	-8.89	7.96	A	A	A
184	300	30	11.11	11.82	A	A	A
185	278.10	36.15	3.00	14.44	A	A	A
186	306	4	13.33	6.43	A	A	A
188	300	20	11.11	9.17	A	A	A
189	261	21	-3.33	10.22	A	A	A
190	295.7	11.1	9.52	7.33	A	A	A
193	307.37	6.62	13.84	6.65	A	A	A
197	276.2339	2.2879	2.31	6.35	A	A	A
198	266.1	4.4	-1.44	6.51	A	A	A
199	263.01	2.18	-2.59	6.35	A	A	A
200	252.0	15.8	-6.67	8.89	A	A	A
201	247.9	14.9	-8.19	8.70	A	A	A
202	314.61	15.76	16.52	8.05	A	A	A
204	236	13	-12.59	8.37	A	A	A
205	296.38	5.71	9.77	6.58	A	A	A
206	332.10	9.12	23.00	6.87	A	N	W
209	262.97	22.01	-2.60	10.47	A	A	A
210	294.04	17.01	8.90	8.55	A	A	A
213	355	28	31.48	10.09	N	N	N
214	346	5	28.15	6.46	A	N	W
217	229.6	14.1	-14.96	8.80	A	A	A
218	299	13	10.74	7.65	A	A	A
221	252.70	1.30	-6.41	6.32	A	A	A
222	281.00	16.90	4.07	8.71	A	A	A
223	210.00	12.70	-22.22	8.73	A	A	A
224	284.6	2.9	5.41	6.38	A	A	A
225	252	12	-6.67	7.89	A	A	A
226	270.06	0.7	0.02	6.30	A	A	A
227	245.9	0.2	-8.93	6.30	A	A	A
228	274	18	1.48	9.10	A	A	A
230	278.01	5.21	2.97	6.57	A	A	A
231	252.33	19.57	-6.54	9.99	A	A	A
232	291	12	7.78	7.53	A	A	A
233	258.1	7.22	-4.41	6.89	A	A	A
234	297.67	13.39	10.25	7.74	A	A	A
235	281.6	14.4	4.30	8.11	A	A	A
236	1075.75	24.5	298.43	6.70	N	N	N
237	260	4.5	-3.70	6.53	A	A	A
239	233.47	5.14	-13.53	6.67	A	A	A
240	311	16	15.19	8.13	A	A	A
241	515	37.3	90.74	9.60	N	N	N
243	297	26	10.00	10.78	A	A	A
244	292	21	8.15	9.56	A	A	A

TABLE 35. Evaluation Results for Cs-137 in Sample 4, Rep. Value and Rep. Unc. in Bq/kg by gamma

Labcode	Reported value [Bq/kg]	Reported uncertainty ($k = 1$) [Bq/kg]	Relative bias [%]	P-Test [%]	Trueness evaluation	Precision evaluation	Final Score
245	297.5	16.7	10.19	8.44	A	A	A
246	304	21	12.59	9.35	A	A	A
247	286.0	3.8	5.93	6.43	A	A	A
248	271.1	15.2	0.41	8.43	A	A	A
249	142	9.1	-47.41	8.98	N	N	N
250	300	60	11.11	20.97	A	A	A
251	281.93	7.05	4.42	6.77	A	A	A
252	395	22	46.30	8.41	N	N	N
257	228	9	-15.56	7.43	A	A	A
258	276.20	8.89	2.30	7.07	A	A	A
259	296.3	9.4	9.74	7.05	A	A	A
260	277.11	22.17	2.63	10.18	A	A	A
263	276	39	2.22	15.47	A	A	A
264	236	21.57	-12.59	11.10	A	A	A
265	243.9	1.8	-9.67	6.34	A	A	A
268	273	14	1.11	8.12	A	A	A
270	277	14	2.59	8.07	A	A	A
271	261.7	13.1	-3.07	8.04	A	A	A
272	301	15	11.48	8.03	A	A	A
273	315	16	16.67	8.09	A	A	A
275	252.9	15.4	-6.33	8.76	A	A	A
277	246.00	1.24	-8.89	6.32	A	A	A
279	299	20.8	10.74	9.38	A	A	A
281	302.4	30.24	12.00	11.82	A	A	A
282	312	4.4	15.56	6.45	A	A	A
283	319.6	57.43	18.37	19.04	A	A	A
286	255.4	15.6	-5.41	8.77	A	A	A
291	252	15.37	-6.67	8.77	A	A	A
292	243.97	15.74	-9.64	9.01	A	A	A
293	316	14	17.04	7.70	A	A	A
294	298	17	10.37	8.50	A	A	A
295	247	6.4	-8.52	6.81	A	A	A
296	310.32	8.35	14.93	6.85	A	A	A
298	259	8	-4.07	7.01	A	A	A
299	256.1	15.4	-5.15	8.71	A	A	A
300	242.3	19	-10.26	10.06	A	A	A
301	332.6	21.6	23.19	9.05	A	A	A
302	274	5	1.48	6.56	A	A	A
303	285.75	35.19	5.83	13.83	A	A	A
304	260	27	-3.70	12.14	A	A	A
305	250	10	-7.41	7.46	A	A	A
306	276	13	2.22	7.86	A	A	A
307	266	2.0	-1.48	6.34	A	A	A
308	260.55	1.55	-3.50	6.32	A	A	A
309	267.27	13.18	-1.01	8.00	A	A	A
311	241.8	6.2	-10.44	6.80	A	A	A
314	287.6	21.0	6.52	9.64	A	A	A
315	307	46	13.70	16.25	A	A	A
316	245.0	4.3	-9.26	6.54	A	A	A
317	316.46	2.14	17.21	6.33	A	N	W
318	672	60	148.89	10.93	N	N	N
321	269.37	9.5	-0.23	7.22	A	A	A
322	37.78	2.91	-86.01	9.95	N	N	N
327	301.9	1.9	11.81	6.33	A	A	A
328	264.0	10.4	-2.22	7.43	A	A	A
329	283.6	18.8	5.04	9.14	A	A	A
330	349	34	29.26	11.60	A	A	A
333	242.2	4.6	-10.30	6.58	A	A	A
334	334	16	23.70	7.91	A	N	W
335	318.92	23.48	18.12	9.69	A	A	A

TABLE 35. Evaluation Results for Cs-137 in Sample 4, Rep. Value and Rep. Unc. in Bq/kg by gamma

Labcode	Reported value [Bq/kg]	Reported uncertainty ($k = 1$) [Bq/kg]	Relative bias [%]	P-Test [%]	Trueness evaluation	Precision evaluation	Final Score
336	4.62	0.27	-98.29	8.59	N	N	N
337	292.4	8.2	8.30	6.89	A	A	A
340	3041	513	1026.30	18.01	N	N	N
341	332.31	19.43	23.08	8.59	A	N	W
342	287.66	14.79	6.54	8.13	A	A	A
343	253.942		-5.95		A		
344	303	7.8	12.22	6.80	A	A	A

Reported Results for Tl-208 determination in Sample 4

TABLE 36. Target values

Parameter	Value
Activity Concentration [Bq/kg]	11.8
Uncertainty [Bq/kg]	0.8
Maximum Acceptable Relative Bias, [%]	30

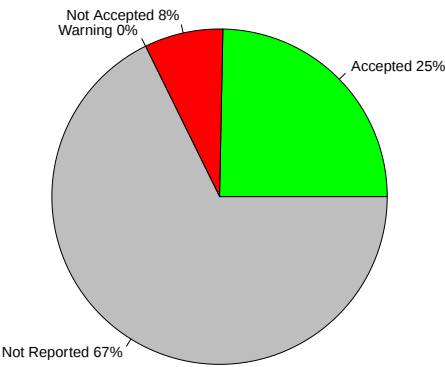


FIGURE 33. Percentage of Accepted vs. Warnings vs. Not Accepted vs. Not Reported results

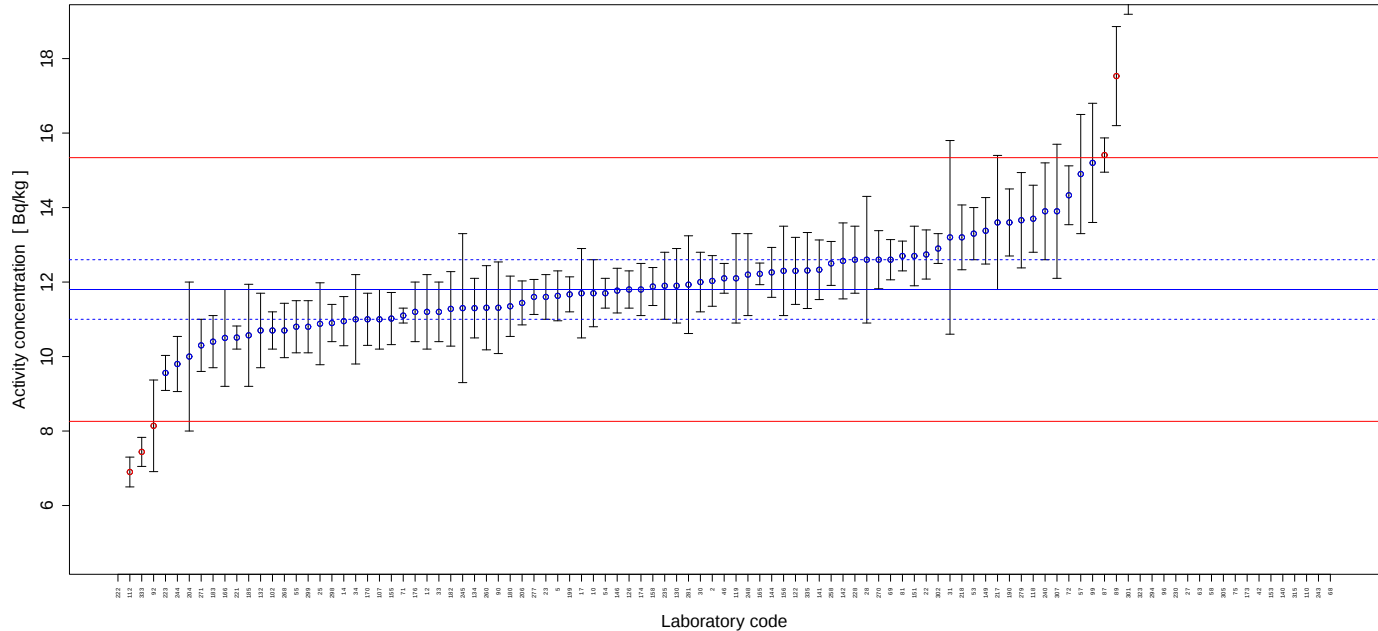


FIGURE 34. Reported results and evaluation parameters for Tl-208. Blue points represent accepted scores, whereas yellow and red represent warning and not accepted scores respectively.

TABLE 37. Evaluation Results for Tl-208 in Sample 4, Rep. Value and Rep. Unc. in Bq/kg by gamma

Labcode	Reported value [Bq/kg]	Reported uncertainty ($k = 1$) [Bq/kg]	Relative bias [%]	P-Test [%]	Trueness evaluation	Precision evaluation	Final Score
2	12.03	0.68	1.95	8.83	A	A	A
5	11.63	0.67	-1.44	8.90	A	A	A
10	11.7	0.9	-0.85	10.25	A	A	A
12	11.2	1.0	-5.08	11.21	A	A	A
14	10.95	0.66	-7.20	9.07	A	A	A
17	11.7	1.2	-0.85	12.29	A	A	A
22	12.74	0.66	7.97	8.53	A	A	A
23	11.6	0.6	-1.69	8.53	A	A	A
25	10.88	1.1	-7.80	12.17	A	A	A
27	31.3	1.4	165.25	8.12	N	N	N
28	12.6	1.7	6.78	15.10	A	A	A
30	12.0	0.8	1.69	9.51	A	A	A
31	13.2	2.6	11.86	20.83	A	A	A
33	11.2	0.8	-5.08	9.85	A	A	A
34	11	1.2	-6.78	12.84	A	A	A
42	35.1	3.33	197.46	11.66	N	N	N
46	12.1	0.4	2.54	7.54	A	A	A
53	13.3	0.7	12.71	8.58	A	A	A
54	11.7	0.4	-0.85	7.59	A	A	A
55	10.8	0.7	-8.47	9.38	A	A	A
57	14.9	1.6	26.27	12.70	A	A	A
58	32.0	4.8	171.19	16.46	N	N	N
63	31.5	0.9	166.95	7.36	N	N	N
68	49.7	2.3	321.19	8.21	N	N	N
69	12.60	0.54	6.78	8.02	A	A	A
71	11.1	0.2	-5.93	7.02	A	A	A
72	14.33	0.79	21.44	8.74	A	A	A
75	32.53	1.95	175.68	9.05	N	N	N
81	12.7	0.4	7.63	7.48	A	A	A
87	15.41	0.46	30.59	7.41	N	N	N
89	17.53	1.33	48.56	10.17	N	N	N
90	11.31	1.23	-4.15	12.82	A	A	A
92	8.14	1.23	-31.02	16.56	N	A	N
96	24.68	1.81	109.15	9.99	N	N	N
99	15.2	1.6	28.81	12.52	A	A	A
102	10.7	0.5	-9.32	8.23	A	A	A
107	11.0	0.8	-6.78	9.94	A	A	A
110	45.91	0.76	289.07	6.98	N	N	N
112	6.9	0.4	-41.53	8.92	N	N	N
118	13.7	0.9	16.10	9.44	A	A	A
119	12.1	1.2	2.54	12.01	A	A	A
122	12.3	0.9	4.24	9.98	A	A	A
126	11.8	0.5	0.00	7.99	A	A	A
130	11.9	1.0	0.85	10.80	A	A	A
132	10.7	1.0	-9.32	11.55	A	A	A
134	11.3	0.8	-4.24	9.80	A	A	A
140	39.7	2.4	236.44	9.08	N	N	N
141	12.33	0.80	4.49	9.38	A	A	A
142	12.568	1.020	6.51	10.58	A	A	A
144	12.26	0.67	3.90	8.71	A	A	A
146	11.77	0.60	-0.25	8.48	A	A	A
149	13.376	0.8923	13.36	9.51	A	A	A
151	12.7	0.8	7.63	9.25	A	A	A
153	35.282	2.145	199.00	9.11	N	N	N
155	11.02	0.7	-6.61	9.29	A	A	A
156	12.3	1.2	4.24	11.88	A	A	A
158	11.88	0.51	0.68	8.02	A	A	A
165	12.22	0.29	3.56	7.18	A	A	A
166	10.5	1.3	-11.02	14.12	A	A	A
170	11.0	0.7	-6.78	9.30	A	A	A

TABLE 37. Evaluation Results for Tl-208 in Sample 4, Rep. Value and Rep. Unc. in Bq/kg by gamma

Labcode	Reported value [Bq/kg]	Reported uncertainty ($k = 1$) [Bq/kg]	Relative bias [%]	P-Test [%]	Trueness evaluation	Precision evaluation	Final Score
173	33.65	1.34	185.17	7.86	N	N	N
174	11.8	0.7	0.00	9.01	A	A	A
176	11.2	0.8	-5.08	9.85	A	A	A
180	11.35	0.81	-3.81	9.84	A	A	A
182	11.28	1	-4.41	11.16	A	A	A
183	10.4	0.7	-11.86	9.55	A	A	A
185	10.57	1.37	-10.42	14.63	A	A	A
190	13.6	0.9	15.25	9.47	A	A	A
199	11.67	0.47	-1.10	7.89	A	A	A
204	10.0	2.0	-15.25	21.12	A	A	A
206	11.44	0.59	-3.05	8.52	A	A	A
217	13.6	1.8	15.25	14.87	A	A	A
218	13.2	0.87	11.86	9.46	A	A	A
221	10.51	0.31	-10.93	7.39	A	A	A
222	2.57	0.16	-78.22	9.20	N	N	N
223	9.56	0.47	-18.98	8.37	A	A	A
228	12.6	0.9	6.78	9.85	A	A	A
230	29.1	1.2	146.61	7.94	N	N	N
235	11.9	0.9	0.85	10.16	A	A	A
240	13.9	1.3	17.80	11.55	A	A	A
243	49	4.9	315.25	12.08	N	N	N
244	9.8	0.74	-16.95	10.15	A	A	A
245	11.3	2.0	-4.24	18.95	A	A	A
248	12.2	1.1	3.39	11.28	A	A	A
258	12.50	0.59	5.93	8.26	A	A	A
260	11.31	1.13	-4.15	12.07	A	A	A
268	10.7	0.73	-9.32	9.62	A	A	A
270	12.6	0.78	6.78	9.18	A	A	A
271	10.3	0.7	-12.71	9.60	A	A	A
277	11.60	0.47	-1.69	7.90	A	A	A
279	13.66	1.28	15.76	11.57	A	A	A
281	11.93	1.312	1.10	12.92	A	A	A
294	24.5	2.8	107.63	13.29	N	N	N
298	10.9	0.5	-7.63	8.19	A	A	A
299	10.8	0.7	-8.47	9.38	A	A	A
301	20.61	1.42	74.66	9.67	N	N	N
302	12.9	0.4	9.32	7.46	A	A	A
305	32	2	171.19	9.22	N	N	N
307	13.9	1.8	17.80	14.62	A	A	A
315	42.5	4.1	260.17	11.79	N	N	N
323	20.68	0.01	75.25	6.78	N	N	N
333	7.44	0.39	-36.95	8.57	N	N	N
335	12.31	1.02	4.32	10.71	A	A	A

Reported Results for Pb-210 determination in Sample 4

TABLE 38. Target values

Parameter	Value
Activity Concentration [Bq/kg]	26.6
Uncertainty [Bq/kg]	1.8
Maximum Acceptable Relative Bias, [%]	30

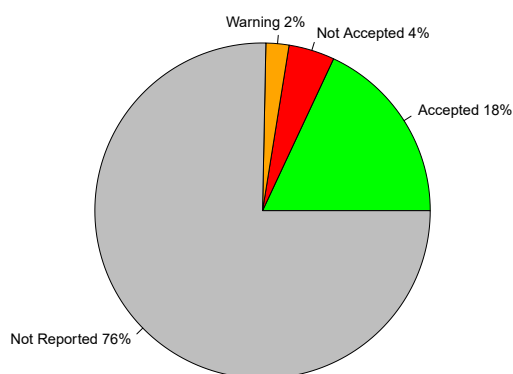


FIGURE 35. Percentage of Accepted vs. Warnings vs. Not Accepted vs. Not Reported results

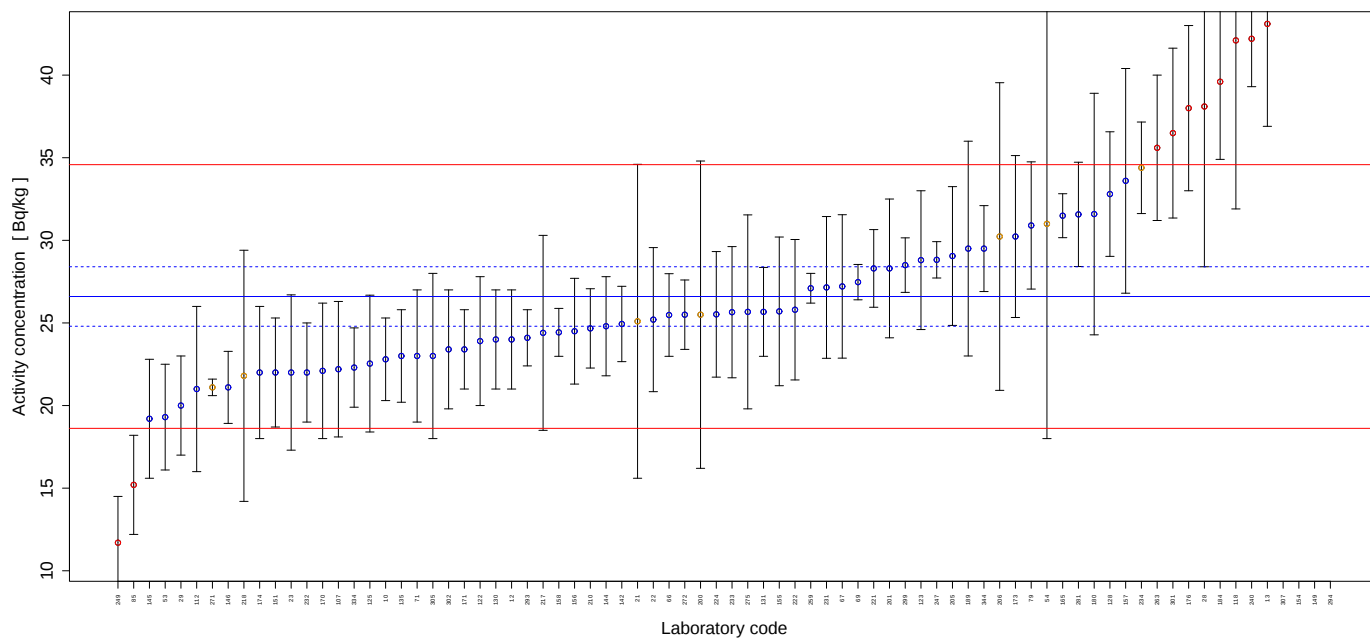


FIGURE 36. Reported results and evaluation parameters for Pb-210. Blue points represent accepted scores, whereas yellow and red represent warning and not accepted scores respectively.

TABLE 39. Evaluation Results for Pb-210 in Sample 4, Rep. Value and Rep. Unc. in Bq/kg by gamma

Labcode	Reported value [Bq/kg]	Reported uncertainty ($k = 1$) [Bq/kg]	Relative bias [%]	P-Test [%]	Trueness evaluation	Precision evaluation	Final Score
10	22.8	2.5	-14.29	12.88	A	A	A
12	24	3	-9.77	14.21	A	A	A
13	43.1	6.2	62.03	15.90	N	N	N
21	25.1	9.5	-5.64	38.45	A	N	W
22	25.2	4.36	-5.26	18.58	A	A	A
23	22.0	4.7	-17.29	22.41	A	A	A
28	38.1	9.7	43.23	26.34	N	A	N
29	20	3	-24.81	16.46	A	A	A
53	19.3	3.2	-27.44	17.91	A	A	A
54	31	13	16.54	42.48	A	N	W
66	25.48	2.5	-4.21	11.92	A	A	A
67	27.21	4.34	2.29	17.33	A	A	A
69	27.47	1.07	3.27	7.81	A	A	A
71	23	4	-13.53	18.66	A	A	A
79	30.9	3.85	16.17	14.18	A	A	A
85	15.2	3.0	-42.86	20.86	N	A	N
107	22.2	4.1	-16.54	19.67	A	A	A
112	21	5	-21.05	24.75	A	A	A
118	42.1	10.2	58.27	25.16	N	A	N
122	23.9	3.9	-10.15	17.67	A	A	A
123	28.8	4.2	8.27	16.08	A	A	A
125	22.54	4.14	-15.26	19.57	A	A	A
128	32.80	3.77	23.31	13.34	A	A	A
130	24	3	-9.77	14.21	A	A	A
131	25.67	2.69	-3.50	12.47	A	A	A
135	23.0	2.8	-13.53	13.93	A	A	A
142	24.937	2.280	-6.25	11.37	A	A	A
144	24.8	3.0	-6.77	13.86	A	A	A
145	19.2	3.6	-27.82	19.93	A	A	A
146	21.1	2.18	-20.68	12.35	A	A	A
149	157.65	45.476	492.67	29.63	N	N	N
151	22.0	3.3	-17.29	16.46	A	A	A
154	147	14	452.63	11.68	N	N	N
155	25.7	4.5	-3.38	18.77	A	A	A
156	24.5	3.2	-7.89	14.71	A	A	A
157	33.6	6.8	26.32	21.34	A	A	A
158	24.43	1.45	-8.16	9.00	A	A	A
165	31.49	1.33	18.38	7.98	A	A	A
170	22.1	4.1	-16.92	19.75	A	A	A
171	23.4	2.4	-12.03	12.29	A	A	A
173	30.23	4.9	13.65	17.56	A	A	A
174	22	4	-17.29	19.40	A	A	A
176	38	5	42.86	14.80	N	N	N
180	31.59	7.31	18.76	24.11	A	A	A
184	39.6	4.7	48.87	13.66	N	N	N
189	29.5	6.5	10.90	23.05	A	A	A
200	25.5	9.3	-4.14	37.09	A	N	W
201	28.3	4.2	6.39	16.31	A	A	A
205	29.05	4.20	9.21	15.96	A	A	A
206	30.23	9.31	13.65	31.53	A	N	W
210	24.67	2.4	-7.26	11.85	A	A	A
217	24.4	5.9	-8.27	25.11	A	A	A
218	21.8	7.6	-18.05	35.51	A	N	W
221	28.30	2.35	6.39	10.71	A	A	A
222	25.80	4.25	-3.01	17.81	A	A	A
224	25.52	3.8	-4.06	16.36	A	A	A
231	27.15	4.29	2.07	17.19	A	A	A
232	22	3	-17.29	15.22	A	A	A
233	25.65	3.97	-3.57	16.89	A	A	A
234	34.39	2.77	29.29	10.52	A	N	W

TABLE 39. Evaluation Results for Pb-210 in Sample 4, Rep. Value and Rep. Unc. in Bq/kg by gamma

Labcode	Reported value [Bq/kg]	Reported uncertainty ($k = 1$) [Bq/kg]	Relative bias [%]	P-Test [%]	Trueness evaluation	Precision evaluation	Final Score
240	42.2	2.9	58.65	9.64	N	N	N
247	28.82	1.1	8.35	7.77	A	A	A
249	11.7	2.8	-56.02	24.87	N	A	N
259	27.1	0.9	1.88	7.54	A	A	A
263	35.6	4.4	33.83	14.09	N	A	N
271	21.1	0.5	-20.68	7.17	A	N	W
272	25.5	2.1	-4.14	10.66	A	A	A
275	25.67	5.87	-3.50	23.85	A	A	A
281	31.57	3.157	18.68	12.07	A	A	A
293	24.1	1.7	-9.40	9.77	A	A	A
294	167	43	527.82	26.62	N	N	N
299	28.5	1.65	7.14	8.91	A	A	A
301	36.49	5.14	37.18	15.63	N	A	N
302	23.4	3.6	-12.03	16.81	A	A	A
305	23	5	-13.53	22.77	A	A	A
307	49.1	3.1	84.59	9.25	N	N	N
334	22.3	2.4	-16.17	12.71	A	A	A
344	29.5	2.6	10.90	11.11	A	A	A

Reported Results for Bi-212 determination in Sample 4

TABLE 40. Target values

Parameter	Value
Activity Concentration [Bq/kg]	32.9
Uncertainty [Bq/kg]	1.9
Maximum Acceptable Relative Bias, [%]	30

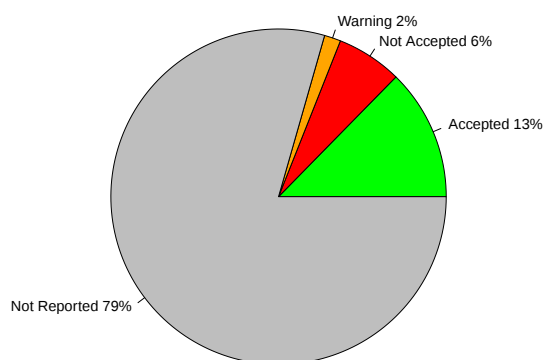


FIGURE 37. Percentage of Accepted vs. Warnings vs. Not Accepted vs. Not Reported results

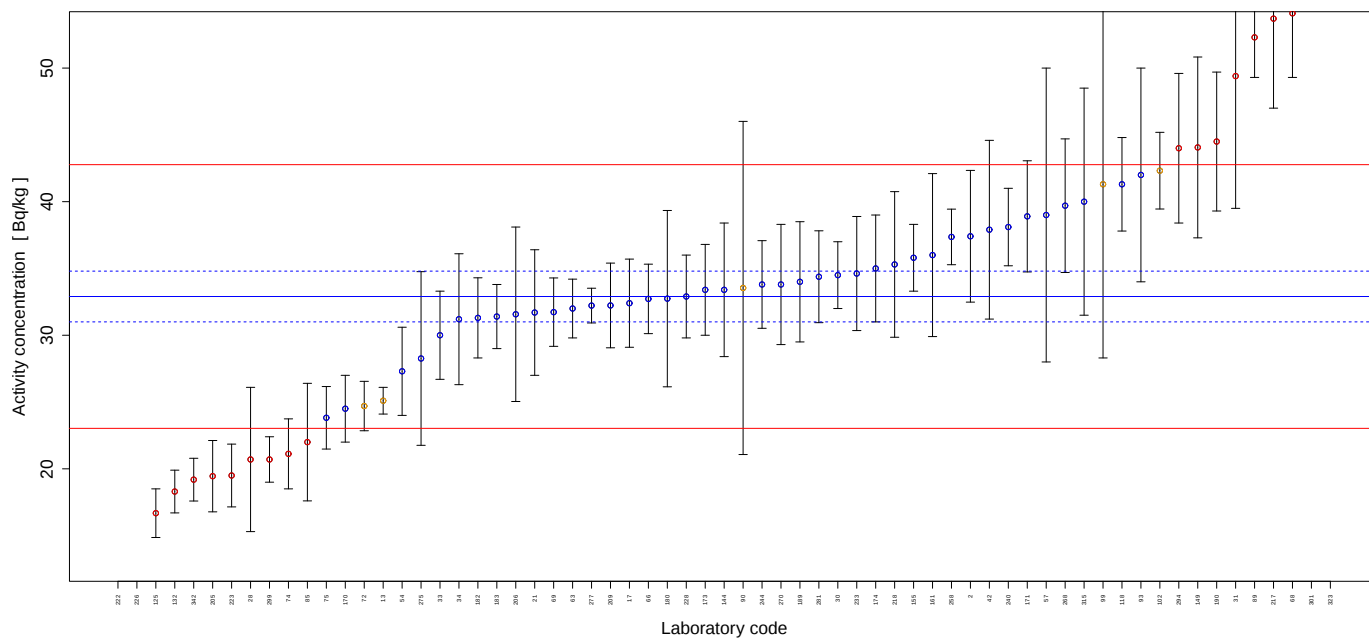


FIGURE 38. Reported results and evaluation parameters for Bi-212. Blue points represent accepted scores, whereas yellow and red represent warning and not accepted scores respectively.

TABLE 41. Evaluation Results for Bi-212 in Sample 4, Rep. Value and Rep. Unc. in Bq/kg by gamma

Labcode	Reported value [Bq/kg]	Reported uncertainty ($k = 1$) [Bq/kg]	Relative bias [%]	P-Test [%]	Trueness evaluation	Precision evaluation	Final Score
2	37.41	4.93	13.71	14.39	A	A	A
13	25.1	1	-23.71	7.02	A	N	W
17	32.4	3.3	-1.52	11.71	A	A	A
21	31.7	4.7	-3.65	15.91	A	A	A
28	20.7	5.4	-37.08	26.72	N	A	N
30	34.5	2.5	4.86	9.27	A	A	A
31	49.4	9.9	50.15	20.86	N	A	N
33	30.0	3.3	-8.81	12.42	A	A	A
34	31.2	4.9	-5.17	16.73	A	A	A
42	37.9	6.69	15.20	18.57	A	A	A
54	27.3	3.3	-17.02	13.40	A	A	A
57	39	11	18.54	28.79	A	A	A
63	32.0	2.2	-2.74	8.98	A	A	A
66	32.72	2.6	-0.55	9.82	A	A	A
68	54.1	4.8	64.44	10.59	N	N	N
69	31.73	2.56	-3.56	9.92	A	A	A
72	24.70	1.85	-24.92	9.46	A	N	W
74	21.12	2.62	-35.81	13.68	N	N	N
75	23.82	2.34	-27.60	11.40	A	A	A
85	22.0	4.4	-33.13	20.82	N	A	N
89	52.3	3.0	58.97	8.14	N	N	N
90	33.54	12.47	1.95	37.63	A	N	W
93	42	8	27.66	19.90	A	A	A
99	41.3	13	25.53	32.00	A	N	W
102	42.32	2.87	28.63	8.91	A	N	W
118	41.3	3.5	25.53	10.26	A	A	A
125	16.68	1.82	-49.30	12.35	N	N	N
132	18.3	1.6	-44.38	10.48	N	N	N
144	33.4	5.0	1.52	16.05	A	A	A
149	44.06	6.7685	33.92	16.41	N	A	N
155	35.8	2.5	8.81	9.06	A	A	A
161	36.0	6.1	9.42	17.90	A	A	A
170	24.5	2.5	-25.53	11.72	A	A	A
171	38.9	4.16	18.24	12.15	A	A	A
173	33.4	3.4	1.52	11.70	A	A	A
174	35	4	6.38	12.80	A	A	A
180	32.74	6.60	-0.49	20.97	A	A	A
182	31.3	3	-4.86	11.19	A	A	A
183	31.4	2.4	-4.56	9.58	A	A	A
189	34	4.5	3.34	14.44	A	A	A
190	44.5	5.2	35.26	13.03	N	N	N
205	19.45	2.67	-40.88	14.89	N	N	N
206	31.57	6.53	-4.04	21.48	A	A	A
209	32.23	3.17	-2.04	11.41	A	A	A
217	53.7	6.7	63.22	13.75	N	N	N
218	35.3	5.45	7.29	16.48	A	A	A
222	7.17	0.57	-78.21	9.83	N	N	N
223	19.50	2.35	-40.73	13.36	N	N	N
226	10.89	0.02	-66.90	5.78	N	N	N
228	32.9	3.1	0.00	11.05	A	A	A
233	34.62	4.27	5.23	13.62	A	A	A
240	38.1	2.9	15.81	9.55	A	A	A
244	33.8	3.28	2.74	11.29	A	A	A
258	37.36	2.08	13.56	8.02	A	A	A
268	39.7	5.0	20.67	13.86	A	A	A
270	33.8	4.5	2.74	14.51	A	A	A
275	28.26	6.5	-14.10	23.71	A	A	A
277	32.22	1.30	-2.07	7.04	A	A	A
281	34.38	3.438	4.50	11.55	A	A	A
294	44.0	5.6	33.74	13.98	N	A	N

TABLE 41. Evaluation Results for Bi-212 in Sample 4, Rep. Value and Rep. Unc. in Bq/kg by gamma

Labcode	Reported value [Bq/kg]	Reported uncertainty ($k = 1$) [Bq/kg]	Relative bias [%]	P-Test [%]	Trueness evaluation	Precision evaluation	Final Score
299	20.7	1.7	-37.08	10.04	N	N	N
301	65.89	6.83	100.27	11.87	N	N	N
315	40.0	8.5	21.58	22.02	A	A	A
323	87.49	0.14	165.93	5.78	N	N	N
342	19.19	1.60	-41.67	10.14	N	N	N

Reported Results for Pb-212 determination in Sample 4

TABLE 42. Target values

Parameter	Value
Activity Concentration [Bq/kg]	32.9
Uncertainty [Bq/kg]	1.9
Maximum Acceptable Relative Bias, [%]	30

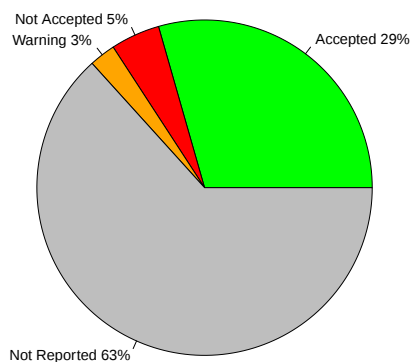


FIGURE 39. Percentage of Accepted vs. Warnings vs. Not Accepted vs. Not Reported results

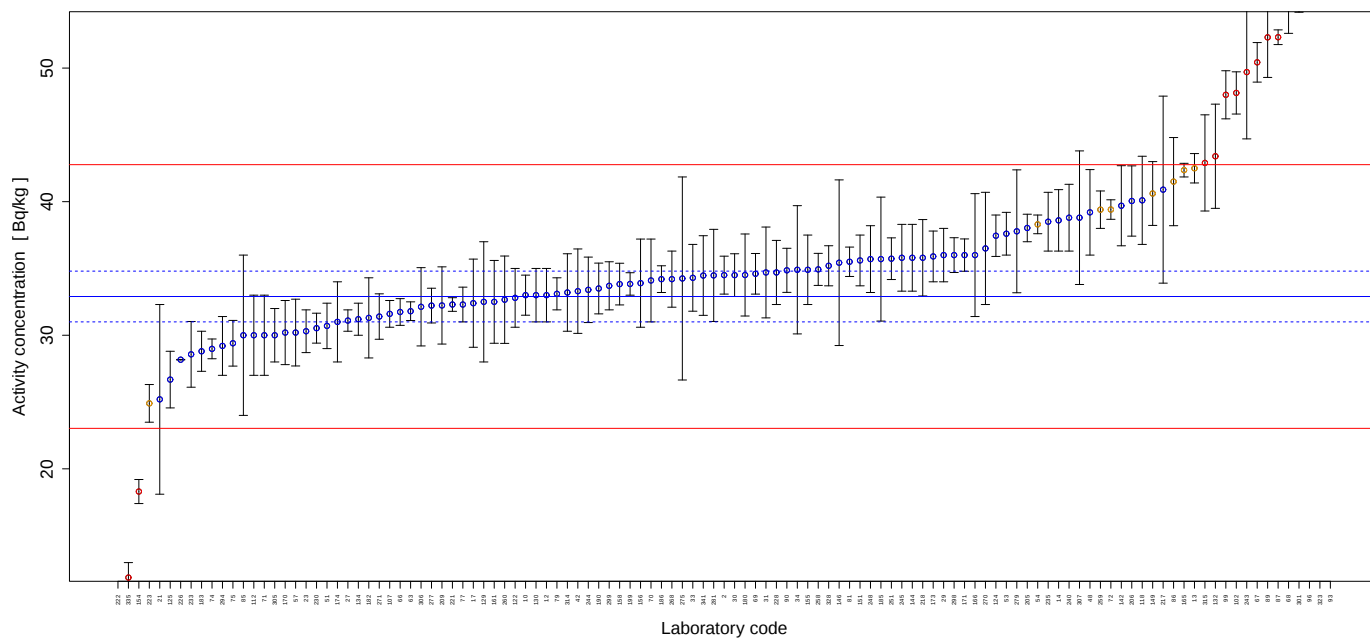


FIGURE 40. Reported results and evaluation parameters for Pb-212. Blue points represent accepted scores, whereas yellow and red represent warning and not accepted scores respectively.

TABLE 43. Evaluation Results for Pb-212 in Sample 4, Rep. Value and Rep. Unc. in Bq/kg by gamma

Labcode	Reported value [Bq/kg]	Reported uncertainty ($k = 1$) [Bq/kg]	Relative bias [%]	P-Test [%]	Trueness evaluation	Precision evaluation	Final Score
2	34.50	1.42	4.86	7.09	A	A	A
10	33.0	1.5	0.30	7.35	A	A	A
12	33	2	0.30	8.37	A	A	A
13	42.5	1.1	29.18	6.33	A	N	W
14	38.6	2.3	17.33	8.30	A	A	A
17	32.4	3.3	-1.52	11.71	A	A	A
21	25.2	7.1	-23.40	28.76	A	A	A
23	30.3	1.6	-7.90	7.83	A	A	A
27	31.1	0.8	-5.47	6.32	A	A	A
29	36	2	9.42	8.01	A	A	A
30	34.5	1.6	4.86	7.41	A	A	A
31	34.7	3.4	5.47	11.37	A	A	A
33	34.3	2.5	4.26	9.30	A	A	A
34	34.9	4.8	6.08	14.92	A	A	A
42	33.3	3.16	1.22	11.11	A	A	A
48	39.2	3.2	19.15	10.00	A	A	A
51	30.7	1.7	-6.69	8.00	A	A	A
53	37.6	1.6	14.29	7.17	A	A	A
54	38.3	0.7	16.41	6.06	A	N	W
57	30.2	2.5	-8.21	10.09	A	A	A
63	31.8	0.7	-3.34	6.18	A	A	A
66	31.74	1.0	-3.53	6.58	A	A	A
67	50.43	1.48	53.28	6.48	N	N	N
68	55.0	2.4	67.17	7.24	N	N	N
69	34.60	1.52	5.17	7.26	A	A	A
70	34.1	3.1	3.65	10.77	A	A	A
71	30	3	-8.81	11.55	A	A	A
72	39.41	0.73	19.79	6.06	A	N	W
74	28.98	0.74	-11.91	6.31	A	A	A
75	29.40	1.71	-10.64	8.20	A	A	A
77	32.3	1.3	-1.82	7.04	A	A	A
79	33.1	1.2	0.61	6.82	A	A	A
81	35.5	1.1	7.90	6.55	A	A	A
85	30.0	6.0	-8.81	20.82	A	A	A
86	41.5	3.3	26.14	9.83	A	N	W
87	52.31	0.55	59.00	5.87	N	N	N
89	52.3	3.0	58.97	8.14	N	N	N
90	34.86	1.65	5.96	7.47	A	A	A
93	80	5	143.16	8.51	N	N	N
96	62.65	2.10	90.43	6.68	N	N	N
99	48.0	1.8	45.90	6.89	N	N	N
102	48.14	1.58	46.32	6.64	N	N	N
107	31.6	1.0	-3.95	6.59	A	A	A
112	30	3	-8.81	11.55	A	A	A
118	40.1	3.3	21.88	10.05	A	A	A
122	32.8	2.2	-0.30	8.85	A	A	A
124	37.45	1.55	13.83	7.11	A	A	A
125	26.68	2.12	-18.91	9.82	A	A	A
129	32.50	4.50	-1.22	15.00	A	A	A
130	33	2	0.30	8.37	A	A	A
132	43.4	3.9	31.91	10.68	N	N	N
134	31.2	1.2	-5.17	6.94	A	A	A
142	39.694	2.998	20.65	9.51	A	A	A
144	35.8	2.5	8.81	9.06	A	A	A
146	35.43	6.2	7.69	18.43	A	A	A
149	40.61	2.38835	23.43	8.24	A	N	W
151	35.6	1.9	8.21	7.86	A	A	A
154	18.3	0.9	-44.38	7.59	N	N	N
155	34.9	2.6	6.08	9.43	A	A	A
156	33.9	3.3	3.04	11.32	A	A	A

TABLE 43. Evaluation Results for Pb-212 in Sample 4, Rep. Value and Rep. Unc. in Bq/kg by gamma

Labcode	Reported value [Bq/kg]	Reported uncertainty ($k = 1$) [Bq/kg]	Relative bias [%]	P-Test [%]	Trueness evaluation	Precision evaluation	Final Score
158	33.83	1.56	2.83	7.39	A	A	A
161	32.5	3.1	-1.22	11.15	A	A	A
165	42.36	0.51	28.75	5.90	A	N	W
166	36	4.6	9.42	14.02	A	A	A
170	30.2	2.4	-8.21	9.82	A	A	A
171	36	1.21	9.42	6.68	A	A	A
173	35.9	1.9	9.12	7.83	A	A	A
174	31	3	-5.78	11.27	A	A	A
180	34.51	3.07	4.89	10.61	A	A	A
182	31.3	3	-4.86	11.19	A	A	A
183	28.8	1.5	-12.46	7.78	A	A	A
185	35.70	4.64	8.51	14.22	A	A	A
186	34.2	1.0	3.95	6.47	A	A	A
190	33.5	1.9	1.82	8.09	A	A	A
199	33.84	0.84	2.86	6.29	A	A	A
205	38.03	1.03	15.59	6.38	A	A	A
206	40.05	2.63	21.73	8.74	A	A	A
209	32.23	2.89	-2.04	10.67	A	A	A
217	40.9	7.0	24.32	18.06	A	A	A
218	35.8	2.86	8.81	9.86	A	A	A
221	32.30	0.51	-1.82	5.99	A	A	A
222	7.17	0.57	-78.21	9.83	N	N	N
223	24.90	1.41	-24.32	8.09	A	N	W
226	28.17	0.02	-14.38	5.78	A	A	A
228	34.7	2.4	5.47	9.01	A	A	A
230	30.53	1.12	-7.20	6.84	A	A	A
233	28.57	2.46	-13.16	10.37	A	A	A
235	38.5	2.2	17.02	8.12	A	A	A
240	38.8	2.5	17.93	8.65	A	A	A
243	49.7	5	51.06	11.60	N	N	N
244	33.4	2.45	1.52	9.34	A	A	A
245	35.8	2.5	8.81	9.06	A	A	A
248	35.7	2.5	8.51	9.08	A	A	A
251	35.73	1.56	8.60	7.24	A	A	A
258	34.93	1.20	6.17	6.72	A	A	A
259	39.4	1.4	19.76	6.78	A	N	W
260	32.66	3.27	-0.73	11.56	A	A	A
268	34.2	2.1	3.95	8.43	A	A	A
270	36.5	4.2	10.94	12.87	A	A	A
271	31.4	1.7	-4.56	7.92	A	A	A
275	34.25	7.6	4.10	22.93	A	A	A
277	32.22	1.30	-2.07	7.04	A	A	A
279	37.78	4.6	14.83	13.48	A	A	A
281	34.48	3.448	4.80	11.55	A	A	A
294	29.2	2.2	-11.25	9.49	A	A	A
298	36.0	1.3	9.42	6.81	A	A	A
299	33.7	1.8	2.43	7.87	A	A	A
301	57.74	3.56	75.50	8.45	N	N	N
305	30	2	-8.81	8.82	A	A	A
306	32.13	2.93	-2.34	10.79	A	A	A
307	38.8	5.0	17.93	14.12	A	A	A
314	33.2	2.9	0.91	10.47	A	A	A
315	42.9	3.6	30.40	10.19	N	N	N
323	68.33	0.04	107.69	5.78	N	N	N
328	35.2	1.5	6.99	7.18	A	A	A
335	11.86	1.12	-63.95	11.07	N	N	N
341	34.47	2.98	4.77	10.40	A	A	A

Reported Results for Bi-214 determination in Sample 4

TABLE 44. Target values

Parameter	Value
Activity Concentration [Bq/kg]	20.8
Uncertainty [Bq/kg]	1.0
Maximum Acceptable Relative Bias, [%]	30

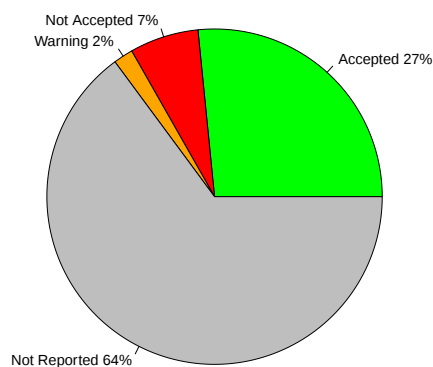


FIGURE 41. Percentage of Accepted vs. Warnings vs. Not Accepted vs. Not Reported results

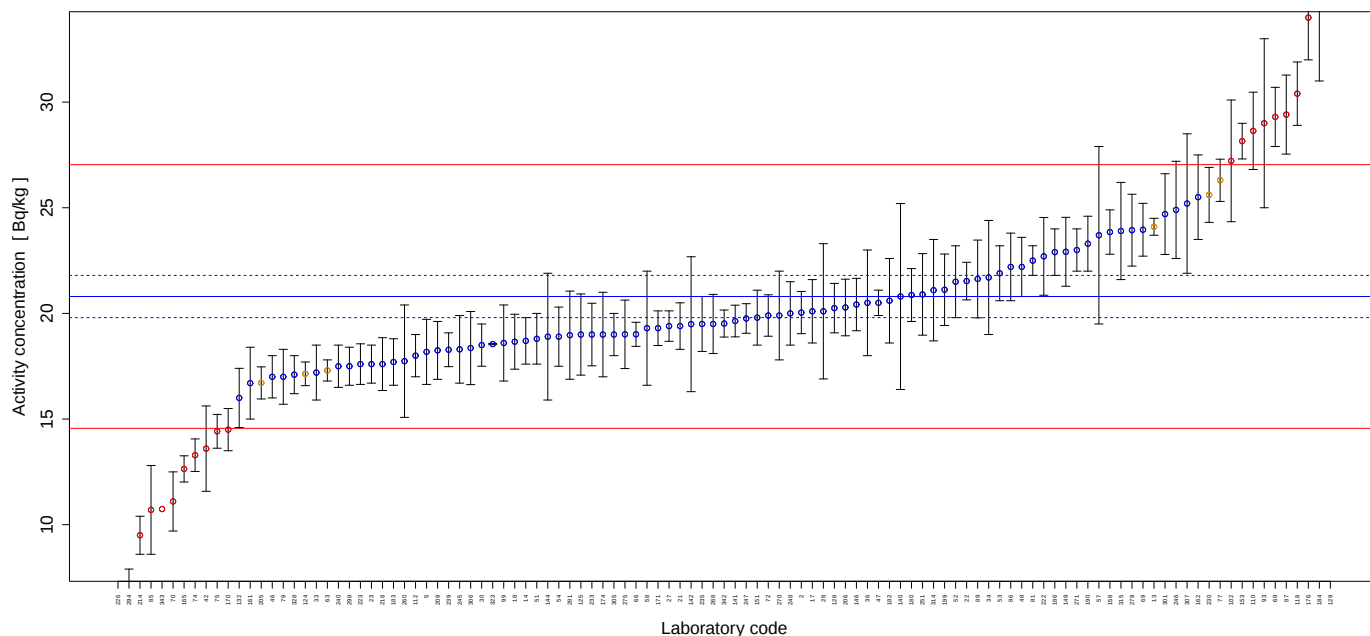


FIGURE 42. Reported results and evaluation parameters for Bi-214. Blue points represent accepted scores, whereas yellow and red represent warning and not accepted scores respectively.

TABLE 45. Evaluation Results for Bi-214 in Sample 4, Rep. Value and Rep. Unc. in Bq/kg by gamma

Labcode	Reported value [Bq/kg]	Reported uncertainty ($k = 1$) [Bq/kg]	Relative bias [%]	P-Test [%]	Trueness evaluation	Precision evaluation	Final Score
2	20.04	1.00	-3.65	6.93	A	A	A
5	18.18	1.54	-12.60	9.74	A	A	A
13	24.1	0.4	15.87	5.09	A	N	W
14	18.7	1.1	-10.10	7.60	A	A	A
17	20.1	1.5	-3.37	8.88	A	A	A
18	18.66	1.3	-10.29	8.46	A	A	A
21	19.4	1.1	-6.73	7.43	A	A	A
22	21.53	0.89	3.51	6.34	A	A	A
23	17.6	0.9	-15.38	7.02	A	A	A
27	19.4	0.72	-6.73	6.07	A	A	A
28	20.1	3.2	-3.37	16.63	A	A	A
30	18.5	1.0	-11.06	7.23	A	A	A
33	17.2	1.3	-17.31	8.96	A	A	A
34	21.7	2.7	4.33	13.34	A	A	A
36	20.5	2.5	-1.44	13.11	A	A	A
42	13.60	2.02	-34.62	15.61	N	A	N
46	17	1	-18.27	7.60	A	A	A
47	20.5	0.6	-1.44	5.63	A	A	A
48	22.2	1.4	6.73	7.93	A	A	A
51	18.8	1.2	-9.62	7.99	A	A	A
52	21.5	1.7	3.37	9.25	A	A	A
53	21.9	1.3	5.29	7.64	A	A	A
54	18.9	1.4	-9.13	8.83	A	A	A
57	23.7	4.2	13.94	18.36	A	A	A
58	19.3	2.7	-7.21	14.79	A	A	A
63	17.3	0.5	-16.83	5.61	A	N	W
66	19.01	0.57	-8.61	5.67	A	A	A
68	29.3	1.4	40.87	6.78	N	N	N
69	23.96	1.25	15.19	7.09	A	A	A
70	11.1	1.4	-46.63	13.50	N	N	N
72	19.90	0.98	-4.33	6.88	A	A	A
74	13.29	0.77	-36.11	7.53	N	N	N
75	14.42	0.80	-30.67	7.34	N	N	N
77	26.3	1.0	26.44	6.13	A	N	W
79	17	1.3	-18.27	9.03	A	A	A
81	22.5	0.7	8.17	5.73	A	A	A
85	10.7	2.1	-48.56	20.21	N	A	N
86	22.2	1.6	6.73	8.66	A	A	A
87	29.41	1.87	41.39	7.97	N	N	N
89	21.63	1.84	3.99	9.77	A	A	A
93	29	4	39.42	14.61	N	N	N
99	18.6	1.8	-10.58	10.81	A	A	A
102	27.22	2.88	30.87	11.62	N	N	N
110	28.64	1.83	37.69	8.00	N	N	N
112	18	1	-13.46	7.35	A	A	A
118	30.4	1.5	46.15	6.89	N	N	N
124	17.14	0.56	-17.60	5.81	A	N	W
125	19.0	1.92	-8.65	11.19	A	A	A
128	20.25	1.17	-2.64	7.52	A	A	A
129	166.80	22.70	701.92	14.43	N	N	N
132	16.0	1.4	-23.08	9.98	A	A	A
140	20.8	4.4	0.00	21.69	A	A	A
141	19.64	0.75	-5.58	6.14	A	A	A
142	19.489	3.193	-6.30	17.07	A	A	A
144	18.9	3.0	-9.13	16.59	A	A	A
146	20.42	1.24	-1.83	7.75	A	A	A
149	22.917	1.63135	10.18	8.59	A	A	A
151	19.8	1.3	-4.81	8.14	A	A	A
153	28.154	0.843	35.36	5.66	N	N	N
158	23.85	1.05	14.66	6.52	A	A	A

TABLE 45. Evaluation Results for Bi-214 in Sample 4, Rep. Value and Rep. Unc. in Bq/kg by gamma

Labcode	Reported value [Bq/kg]	Reported uncertainty ($k = 1$) [Bq/kg]	Relative bias [%]	P-Test [%]	Trueness evaluation	Precision evaluation	Final Score
161	16.7	1.7	-19.71	11.26	A	A	A
162	25.5	2.0	22.60	9.20	A	A	A
165	12.64	0.62	-39.23	6.87	N	N	N
170	14.5	1.0	-30.29	8.41	N	N	N
171	19.3	0.82	-7.21	6.42	A	A	A
174	19	2	-8.65	11.57	A	A	A
176	34	2	63.46	7.60	N	N	N
180	20.87	1.25	0.34	7.68	A	A	A
182	20.6	2	-0.96	10.83	A	A	A
183	17.7	1.1	-14.90	7.86	A	A	A
184	35.2	4.2	69.23	12.86	N	N	N
186	22.9	1.1	10.10	6.80	A	A	A
190	23.3	1.3	12.02	7.37	A	A	A
199	21.12	1.69	1.54	9.34	A	A	A
205	16.71	0.76	-19.66	6.62	A	N	W
206	20.28	1.34	-2.50	8.17	A	A	A
209	18.25	1.37	-12.26	8.91	A	A	A
214	9.5	0.9	-54.33	10.62	N	N	N
218	17.6	1.25	-15.38	8.58	A	A	A
222	22.70	1.84	9.13	9.42	A	A	A
223	17.60	0.96	-15.38	7.27	A	A	A
226	0.46	0.02	-97.79	6.48	N	N	N
230	25.61	1.30	23.12	6.99	A	N	W
233	19.00	1.48	-8.65	9.15	A	A	A
235	19.5	1.3	-6.25	8.22	A	A	A
239	18.28	0.80	-12.12	6.50	A	A	A
240	17.5	1.0	-15.87	7.47	A	A	A
245	18.3	1.6	-12.02	9.98	A	A	A
246	24.9	2.3	19.71	10.41	A	A	A
247	19.76	0.7	-5.00	5.97	A	A	A
248	20.0	1.5	-3.85	8.91	A	A	A
251	20.90	1.93	0.48	10.41	A	A	A
260	17.74	2.66	-14.71	15.75	A	A	A
268	19.5	1.4	-6.25	8.64	A	A	A
270	19.9	2.1	-4.33	11.60	A	A	A
271	23.0	1.0	10.58	6.48	A	A	A
275	19.01	1.62	-8.61	9.78	A	A	A
279	23.94	1.7	15.10	8.58	A	A	A
281	18.97	2.086	-8.80	12.00	A	A	A
294	6.4	1.5	-69.23	23.93	N	N	N
298	17.5	0.9	-15.87	7.04	A	A	A
301	24.70	1.91	18.75	9.11	A	A	A
305	19	1	-8.65	7.13	A	A	A
306	18.36	1.73	-11.73	10.58	A	A	A
307	25.2	3.3	21.15	13.95	A	A	A
314	21.1	2.4	1.44	12.35	A	A	A
315	23.9	2.3	14.90	10.76	A	A	A
323	18.55	0.03	-10.82	4.81	A	A	A
328	17.1	0.9	-17.79	7.13	A	A	A
342	19.52	0.64	-6.15	5.82	A	A	A
343	10.7407		-48.36		N		N

Reported Results for Pb-214 determination in Sample 4

TABLE 46. Target values

Parameter	Value
Activity Concentration [Bq/kg]	20.8
Uncertainty [Bq/kg]	1.0
Maximum Acceptable Relative Bias, [%]	30

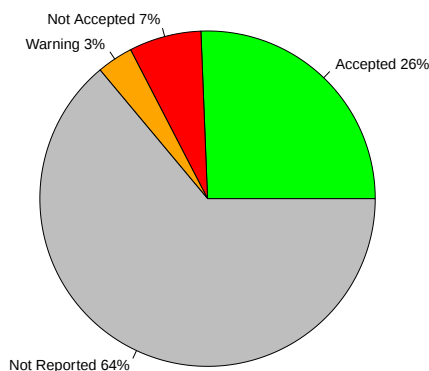


FIGURE 43. Percentage of Accepted vs. Warnings vs. Not Accepted vs. Not Reported results

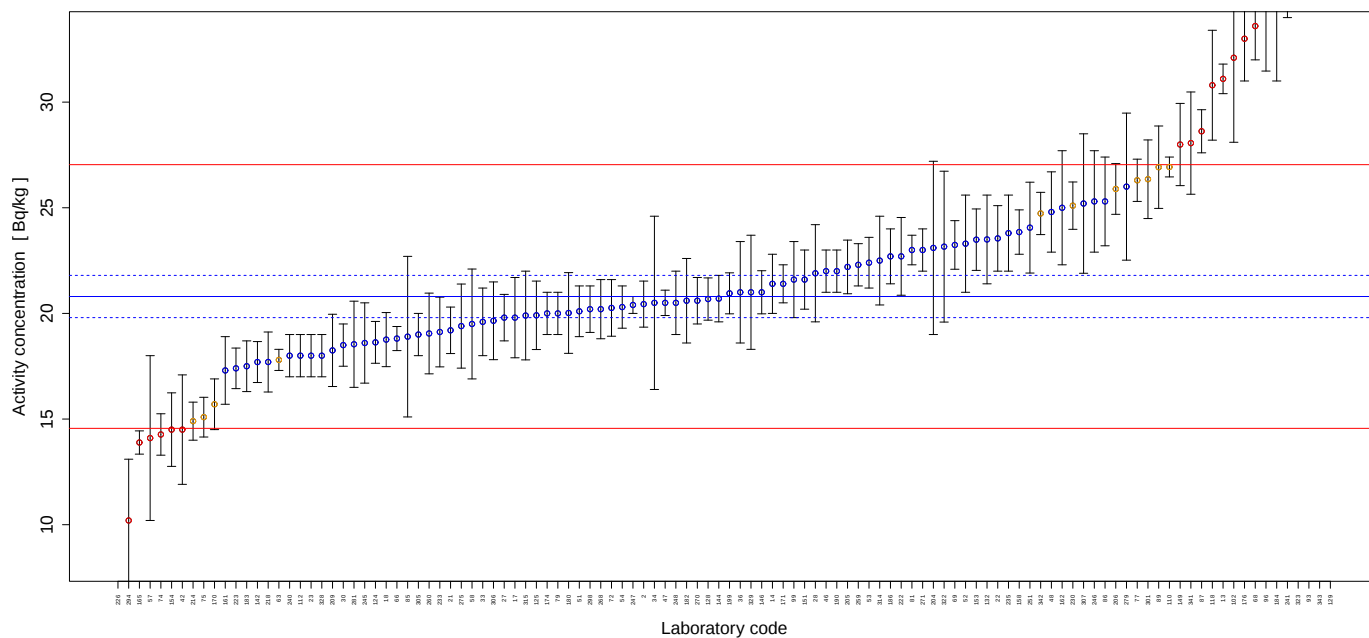


FIGURE 44. Reported results and evaluation parameters for Pb-214. Blue points represent accepted scores, whereas yellow and red represent warning and not accepted scores respectively.

TABLE 47. Evaluation Results for Pb-214 in Sample 4, Rep. Value and Rep. Unc. in Bq/kg by gamma

Labcode	Reported value [Bq/kg]	Reported uncertainty ($k = 1$) [Bq/kg]	Relative bias [%]	P-Test [%]	Trueness evaluation	Precision evaluation	Final Score
2	20.44	1.09	-1.73	7.18	A	A	A
13	31.1	0.7	49.52	5.31	N	N	N
14	21.4	1.4	2.88	8.12	A	A	A
17	19.8	1.9	-4.81	10.73	A	A	A
18	18.76	1.28	-9.81	8.35	A	A	A
21	19.2	1.1	-7.69	7.48	A	A	A
22	23.55	1.55	13.22	8.15	A	A	A
23	18.0	1.0	-13.46	7.35	A	A	A
27	19.8	1.1	-4.81	7.35	A	A	A
28	21.9	2.3	5.29	11.55	A	A	A
30	18.5	1.0	-11.06	7.23	A	A	A
33	19.6	1.6	-5.77	9.47	A	A	A
34	20.5	4.1	-1.44	20.57	A	A	A
36	21.0	2.4	0.96	12.40	A	A	A
42	14.50	2.59	-30.29	18.50	N	A	N
46	22	1	5.77	6.62	A	A	A
47	20.5	0.6	-1.44	5.63	A	A	A
48	24.8	1.9	19.23	9.04	A	A	A
51	20.1	1.2	-3.37	7.67	A	A	A
52	23.3	2.3	12.02	10.98	A	A	A
53	22.4	1.2	7.69	7.20	A	A	A
54	20.3	1.0	-2.40	6.88	A	A	A
57	14.1	3.9	-32.21	28.07	N	A	N
58	19.5	2.6	-6.25	14.17	A	A	A
63	17.8	0.5	-14.42	5.57	A	N	W
66	18.81	0.57	-9.57	5.68	A	A	A
68	33.6	1.6	61.54	6.77	N	N	N
69	23.24	1.15	11.73	6.90	A	A	A
72	20.26	1.34	-2.60	8.18	A	A	A
74	14.27	0.98	-31.39	8.38	N	N	N
75	15.09	0.94	-27.45	7.87	A	N	W
77	26.3	1.0	26.44	6.13	A	N	W
79	20	1	-3.85	6.94	A	A	A
81	23.0	0.7	10.58	5.69	A	A	A
85	18.9	3.8	-9.13	20.67	A	A	A
86	25.3	2.1	21.63	9.59	A	A	A
87	28.62	1.02	37.60	5.98	N	N	N
89	26.92	1.95	29.42	8.69	A	N	W
93	41	4	97.12	10.88	N	N	N
96	34.81	3.34	67.36	10.73	N	N	N
99	21.6	1.8	3.85	9.62	A	A	A
102	32.1	4.0	54.33	13.36	N	N	N
110	26.93	0.47	29.47	5.11	A	N	W
112	18	1	-13.46	7.35	A	A	A
118	30.8	2.6	48.08	9.71	N	N	N
124	18.63	0.99	-10.43	7.17	A	A	A
125	19.91	1.62	-4.28	9.45	A	A	A
128	20.68	1	-0.58	6.82	A	A	A
129	100	5.50	380.77	7.31	N	N	N
132	23.5	2.1	12.98	10.15	A	A	A
142	17.698	0.969	-14.91	7.29	A	A	A
144	20.7	1.1	-0.48	7.17	A	A	A
146	21.0	1.02	0.96	6.83	A	A	A
149	27.993	1.94595	34.58	8.45	N	N	N
151	21.6	1.4	3.85	8.07	A	A	A
153	23.490	1.454	12.93	7.84	A	A	A
154	14.5	1.74	-30.29	12.93	N	A	N
158	23.85	1.05	14.66	6.52	A	A	A
161	17.3	1.6	-16.83	10.42	A	A	A
162	25.0	2.7	20.19	11.82	A	A	A

TABLE 47. Evaluation Results for Pb-214 in Sample 4, Rep. Value and Rep. Unc. in Bq/kg by gamma

Labcode	Reported value [Bq/kg]	Reported uncertainty ($k = 1$) [Bq/kg]	Relative bias [%]	P-Test [%]	Trueness evaluation	Precision evaluation	Final Score
165	13.89	0.55	-33.22	6.23	N	N	N
170	15.7	1.2	-24.52	9.03	A	N	W
171	21.4	0.9	2.88	6.39	A	A	A
174	20	1	-3.85	6.94	A	A	A
176	33	2	58.65	7.74	N	N	N
180	20.02	1.91	-3.75	10.68	A	A	A
182	20.6	2	-0.96	10.83	A	A	A
183	17.5	1.2	-15.87	8.37	A	A	A
184	35.6	4.6	71.15	13.79	N	N	N
186	22.7	1.3	9.13	7.48	A	A	A
190	22.0	1.0	5.77	6.62	A	A	A
199	20.95	0.97	0.72	6.67	A	A	A
204	23.1	4.1	11.06	18.39	A	A	A
205	22.20	1.27	6.73	7.47	A	A	A
206	25.89	1.20	24.47	6.68	A	N	W
209	18.25	1.71	-12.26	10.53	A	A	A
214	14.9	0.9	-28.37	7.72	A	N	W
218	17.7	1.42	-14.90	9.35	A	A	A
222	22.70	1.84	9.13	9.42	A	A	A
223	17.40	0.96	-16.35	7.32	A	A	A
226	1.25	0.02	-93.99	5.07	N	N	N
230	25.10	1.12	20.67	6.56	A	N	W
233	19.12	1.65	-8.08	9.88	A	A	A
235	23.8	1.8	14.42	8.96	A	A	A
240	18.0	1.0	-13.46	7.35	A	A	A
241	36.8	2.8	76.92	9.00	N	N	N
245	18.6	1.9	-10.58	11.29	A	A	A
246	25.3	2.4	21.63	10.63	A	A	A
247	20.4	0.4	-1.92	5.19	A	A	A
248	20.5	1.5	-1.44	8.76	A	A	A
251	24.06	2.15	15.67	10.15	A	A	A
259	22.3	1	7.21	6.57	A	A	A
260	19.05	1.91	-8.41	11.12	A	A	A
268	20.2	1.4	-2.88	8.43	A	A	A
270	20.6	1.1	-0.96	7.19	A	A	A
271	23.0	1.0	10.58	6.48	A	A	A
275	19.4	1.99	-6.73	11.33	A	A	A
279	26	3.48	25.00	14.22	A	A	A
281	18.54	2.039	-10.87	12.00	A	A	A
294	10.2	2.9	-50.96	28.83	N	A	N
298	20.2	1.1	-2.88	7.26	A	A	A
301	26.35	1.86	26.68	8.54	A	N	W
305	19	1	-8.65	7.13	A	A	A
306	19.65	1.84	-5.53	10.53	A	A	A
307	25.2	3.3	21.15	13.95	A	A	A
314	22.5	2.1	8.17	10.50	A	A	A
315	19.9	2.1	-4.33	11.60	A	A	A
322	23.16	3.57	11.35	16.15	A	A	A
323	37.42	0.04	79.90	4.81	N	N	N
328	18.0	1.0	-13.46	7.35	A	A	A
329	21.0	2.7	0.96	13.73	A	A	A
341	28.06	2.42	34.90	9.87	N	N	N
342	24.73	1.00	18.89	6.28	A	N	W
343	67.3531		223.81		N		N

Reported Results for Ra-226 determination in Sample 4

TABLE 48. Target values

Parameter	Value
Activity Concentration [Bq/kg]	20.8
Uncertainty [Bq/kg]	1.0
Maximum Acceptable Relative Bias, [%]	30

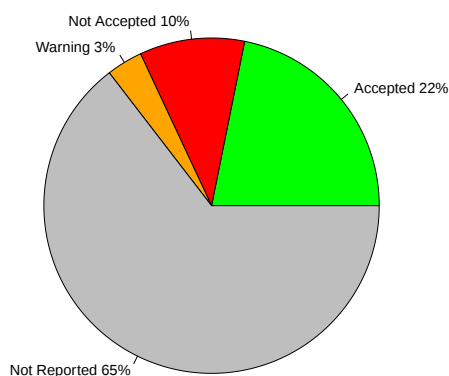


FIGURE 45. Percentage of Accepted vs. Warnings vs. Not Accepted vs. Not Reported results

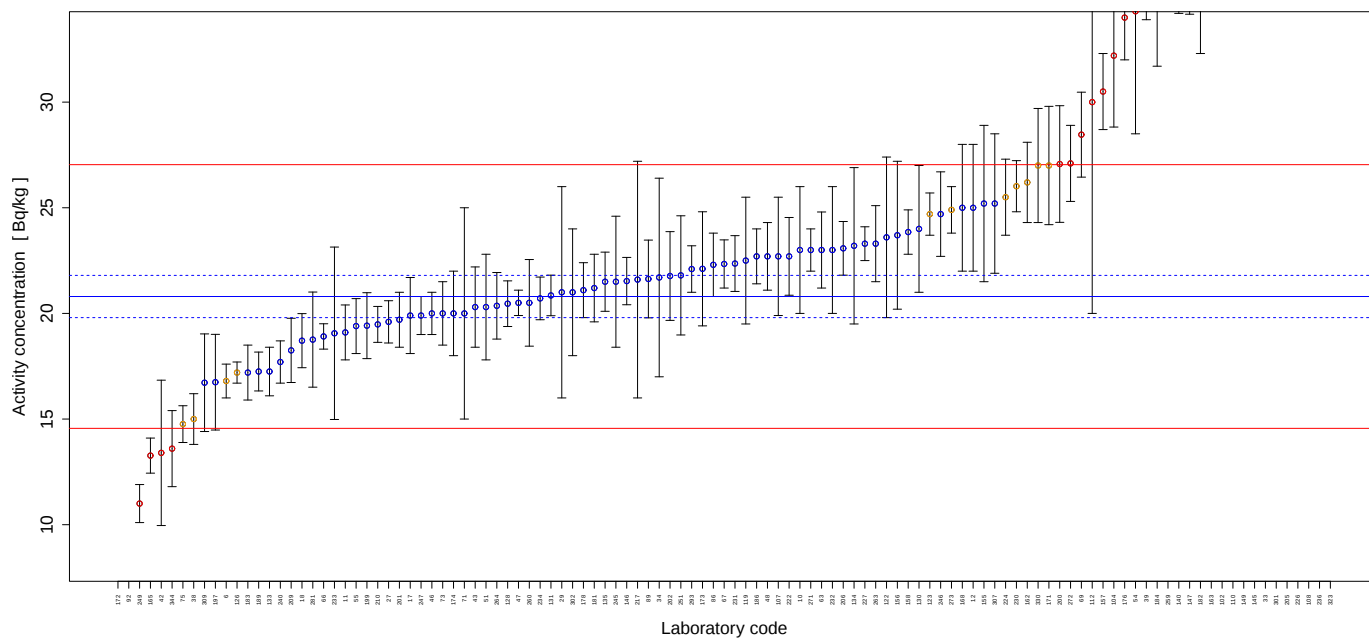


FIGURE 46. Reported results and evaluation parameters for Ra-226. Blue points represent accepted scores, whereas yellow and red represent warning and not accepted scores respectively.

TABLE 49. Evaluation Results for Ra-226 in Sample 4, Rep. Value and Rep. Unc. in Bq/kg by gamma

Labcode	Reported value [Bq/kg]	Reported uncertainty ($k = 1$) [Bq/kg]	Relative bias [%]	P-Test [%]	Trueness evaluation	Precision evaluation	Final Score
6	16.8	0.8	-19.23	6.77	A	N	W
10	23	3	10.58	13.90	A	A	A
11	19.1	1.3	-8.17	8.33	A	A	A
12	25	3	20.19	12.93	A	A	A
17	19.9	1.8	-4.33	10.24	A	A	A
18	18.71	1.28	-10.05	8.36	A	A	A
27	19.6	1.0	-5.77	7.01	A	A	A
29	21	5	0.96	24.29	A	A	A
33	51.3	5.3	146.63	11.40	N	N	N
34	21.7	4.7	4.33	22.19	A	A	A
38	15	1.2	-27.88	9.33	A	N	W
39	35.5	1.6	70.67	6.59	N	N	N
42	13.4	3.44	-35.58	26.12	N	A	N
43	20.3	1.9	-2.40	10.52	A	A	A
46	20	1	-3.85	6.94	A	A	A
47	20.5	0.6	-1.44	5.63	A	A	A
48	22.7	1.6	9.13	8.53	A	A	A
51	20.3	2.5	-2.40	13.22	A	A	A
54	34.3	5.8	64.90	17.58	N	N	N
55	19.4	1.3	-6.73	8.25	A	A	A
63	23.0	1.8	10.58	9.18	A	A	A
66	18.91	0.6	-9.09	5.76	A	A	A
67	22.34	1.14	7.40	7.01	A	A	A
69	28.46	2.01	36.83	8.54	N	N	N
71	20	5	-3.85	25.46	A	A	A
73	20.0	1.5	-3.85	8.91	A	A	A
75	14.76	0.87	-29.04	7.61	A	N	W
86	22.3	1.5	7.21	8.27	A	A	A
89	21.63	1.84	3.99	9.77	A	A	A
92	6.16	0.54	-70.38	10.00	N	N	N
102	43.92	4.27	111.15	10.85	N	N	N
104	32.20	3.38	54.81	11.55	N	N	N
107	22.7	2.8	9.13	13.24	A	A	A
108	61.1	6.9	193.75	12.27	N	N	N
110	49.58	0.89	138.37	5.13	N	N	N
112	30	10	44.23	33.68	N	N	N
119	22.5	3	8.17	14.17	A	A	A
122	23.6	3.8	13.46	16.80	A	A	A
123	24.7	1.0	18.75	6.29	A	N	W
126	17.2	0.5	-17.31	5.62	A	N	W
128	20.46	1.08	-1.63	7.14	A	A	A
130	24.0	3.0	15.38	13.39	A	A	A
131	20.85	0.96	0.24	6.66	A	A	A
133	17.25	1.15	-17.07	8.22	A	A	A
134	23.2	3.7	11.54	16.66	A	A	A
135	21.5	1.4	3.37	8.09	A	A	A
140	39.9	5.7	91.83	15.07	N	N	N
145	51.3	6.0	146.63	12.65	N	N	N
146	21.53	1.12	3.51	7.08	A	A	A
147	40.83	6.67	96.30	17.03	N	N	N
149	51.241	11.8895	146.35	23.70	N	N	N
155	25.2	3.7	21.15	15.45	A	A	A
156	23.7	3.5	13.94	15.53	A	A	A
157	30.5	1.8	46.63	7.61	N	N	N
158	23.85	1.05	14.66	6.52	A	A	A
162	26.2	1.9	25.96	8.70	A	N	W
163	41.3	6.1	98.56	15.53	N	N	N
165	13.27	0.83	-36.20	7.89	N	N	N
168	25	3	20.19	12.93	A	A	A
171	27	2.8	29.81	11.43	A	N	W

TABLE 49. Evaluation Results for Ra-226 in Sample 4, Rep. Value and Rep. Unc. in Bq/kg by gamma

Labcode	Reported value [Bq/kg]	Reported uncertainty ($k = 1$) [Bq/kg]	Relative bias [%]	P-Test [%]	Trueness evaluation	Precision evaluation	Final Score
172	1.71	0.328	-91.78	19.77	N	N	N
173	22.11	2.7	6.30	13.12	A	A	A
174	20	2	-3.85	11.10	A	A	A
176	34	2	63.46	7.60	N	N	N
178	21.1	1.3	1.44	7.81	A	A	A
181	21.2	1.6	1.92	8.95	A	A	A
182	41.3	9	98.56	22.32	N	N	N
183	17.2	1.3	-17.31	8.96	A	A	A
184	36.0	4.3	73.08	12.88	N	N	N
186	22.7	1.3	9.13	7.48	A	A	A
189	17.25	0.92	-17.07	7.18	A	A	A
197	16.7448	2.2643	-19.50	14.35	A	A	A
199	19.42	1.56	-6.63	9.36	A	A	A
200	27.07	2.76	30.14	11.27	N	N	N
201	19.7	1.3	-5.29	8.16	A	A	A
202	21.77	2.10	4.66	10.78	A	A	A
205	56.91	8.10	173.61	15.02	N	N	N
206	23.08	1.27	10.96	7.31	A	A	A
209	18.25	1.52	-12.26	9.62	A	A	A
210	19.48	0.85	-6.35	6.49	A	A	A
217	21.6	5.6	3.85	26.37	A	A	A
222	22.70	1.84	9.13	9.42	A	A	A
224	25.5	1.8	22.60	8.54	A	N	W
226	60.43	0.2	190.53	4.82	N	N	N
227	23.3	0.8	12.02	5.91	A	A	A
230	26.02	1.21	25.10	6.69	A	N	W
231	22.36	1.32	7.50	7.61	A	A	A
232	23	3	10.58	13.90	A	A	A
233	19.06	4.08	-8.37	21.94	A	A	A
234	20.71	1.01	-0.43	6.85	A	A	A
236	71.4	8.51	243.27	12.85	N	N	N
240	17.7	1.0	-14.90	7.42	A	A	A
245	21.5	3.1	3.37	15.20	A	A	A
246	24.7	2.0	18.75	9.42	A	A	A
247	19.9	0.9	-4.33	6.60	A	A	A
249	11	0.9	-47.12	9.49	N	N	N
251	21.8	2.82	4.81	13.80	A	A	A
259	39.2	2	88.46	7.01	N	N	N
260	20.50	2.05	-1.44	11.10	A	A	A
263	23.3	1.8	12.02	9.10	A	A	A
264	20.36	1.575	-2.12	9.11	A	A	A
271	23.0	1.0	10.58	6.48	A	A	A
272	27.1	1.8	30.29	8.20	N	N	N
273	24.9	1.1	19.71	6.53	A	N	W
281	18.76	2.251	-9.81	12.93	A	A	A
293	22.1	1.1	6.25	6.92	A	A	A
301	53.21	7.17	155.82	14.31	N	N	N
302	21	3	0.96	15.07	A	A	A
307	25.2	3.3	21.15	13.95	A	A	A
309	16.72	2.31	-19.62	14.63	A	A	A
323	211.92	24.17	918.85	12.38	N	N	N
330	27.0	2.7	29.81	11.10	A	N	W
344	13.6	1.8	-34.62	14.08	N	A	N

Reported Results for Ac-228 determination in Sample 4

TABLE 50. Target values

Parameter	Value
Activity Concentration [Bq/kg]	32.9
Uncertainty [Bq/kg]	1.9
Maximum Acceptable Relative Bias, [%]	30

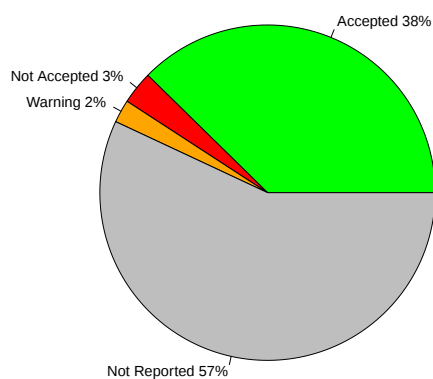


FIGURE 47. Percentage of Accepted vs. Warnings vs. Not Accepted vs. Not Reported results

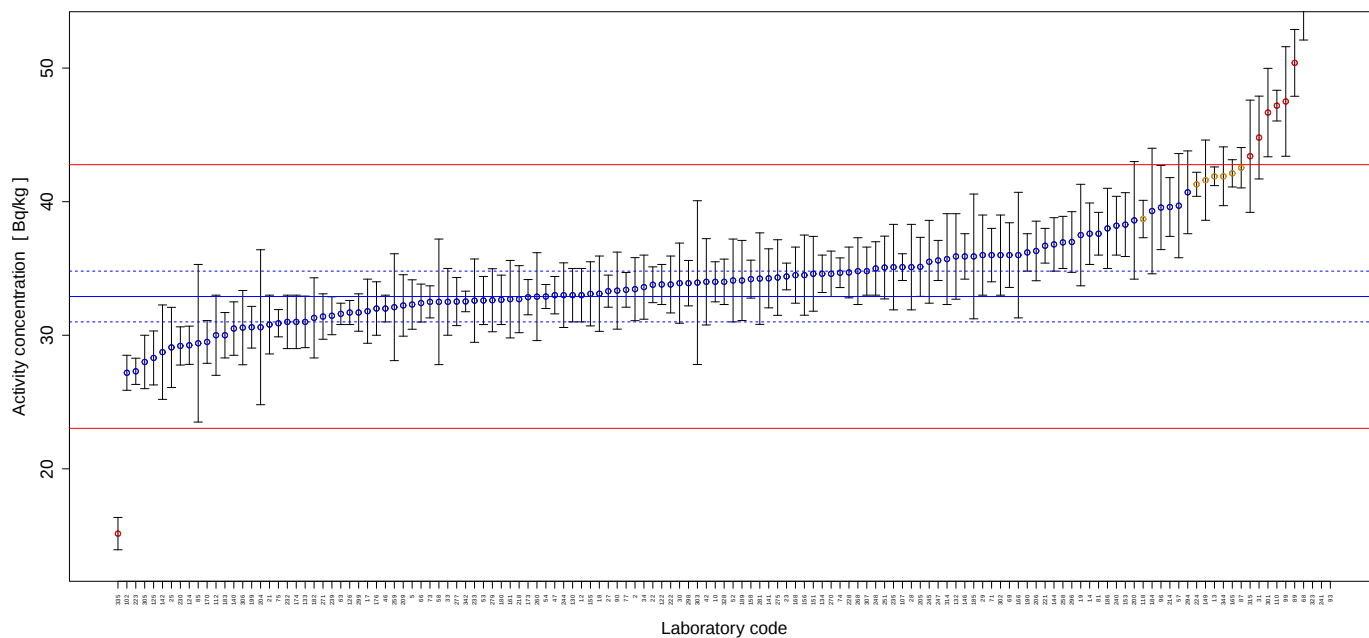


FIGURE 48. Reported results and evaluation parameters for Ac-228. Blue points represent accepted scores, whereas yellow and red represent warning and not accepted scores respectively.

TABLE 51. Evaluation Results for Ac-228 in Sample 4, Rep. Value and Rep. Unc. in Bq/kg by gamma

Labcode	Reported value [Bq/kg]	Reported uncertainty ($k = 1$) [Bq/kg]	Relative bias [%]	P-Test [%]	Trueness evaluation	Precision evaluation	Final Score
2	33.45	2.36	1.67	9.12	A	A	A
5	32.30	1.85	-1.82	8.13	A	A	A
10	34	1.5	3.34	7.27	A	A	A
12	33	2	0.30	8.37	A	A	A
13	41.9	0.7	27.36	6.01	A	N	W
14	37.6	2.3	14.29	8.41	A	A	A
17	31.8	2.4	-3.34	9.50	A	A	A
18	33.11	2.82	0.64	10.29	A	A	A
19	37.5	3.8	13.98	11.66	A	A	A
21	30.8	2.2	-6.38	9.19	A	A	A
22	33.78	1.34	2.67	7.01	A	A	A
23	34.4	1.0	4.56	6.47	A	A	A
25	29.09	3.0	-11.58	11.82	A	A	A
27	33.3	1.2	1.22	6.81	A	A	A
28	35.1	3.2	6.69	10.79	A	A	A
29	36	3	9.42	10.14	A	A	A
30	33.9	3.0	3.04	10.57	A	A	A
31	44.8	3.1	36.17	9.01	N	N	N
33	32.5	2.5	-1.22	9.62	A	A	A
34	33.6	2.4	2.13	9.19	A	A	A
42	34.0	3.23	3.34	11.12	A	A	A
46	32	1	-2.74	6.57	A	A	A
47	33	1.4	0.30	7.17	A	A	A
52	34.1	3.1	3.65	10.77	A	A	A
53	32.6	1.8	-0.91	7.99	A	A	A
54	32.9	0.9	0.00	6.39	A	A	A
57	39.7	3.9	20.67	11.40	A	A	A
58	32.5	4.7	-1.22	15.57	A	A	A
63	31.6	0.8	-3.95	6.31	A	A	A
66	32.41	1.42	-1.49	7.25	A	A	A
68	55.2	3.1	67.78	8.06	N	N	N
69	36.00	2.42	9.42	8.86	A	A	A
71	36	2	9.42	8.01	A	A	A
73	32.5	1.2	-1.22	6.85	A	A	A
74	34.68	1.11	5.41	6.60	A	A	A
75	30.90	1.02	-6.08	6.65	A	A	A
77	33.4	1.3	1.52	6.96	A	A	A
81	37.6	1.6	14.29	7.17	A	A	A
85	29.4	5.9	-10.64	20.88	A	A	A
87	42.54	1.51	29.30	6.78	A	N	W
89	50.39	2.5	53.16	7.61	N	N	N
90	33.34	2.884	1.34	10.40	A	A	A
93	77	5	134.04	8.69	N	N	N
96	39.56	3.15	20.24	9.84	A	A	A
99	47.5	4.1	44.38	10.39	N	N	N
102	27.19	1.31	-17.36	7.52	A	A	A
107	35.1	1.0	6.69	6.44	A	A	A
110	47.19	1.15	43.43	6.27	N	N	N
112	30	3	-8.81	11.55	A	A	A
118	38.7	1.4	17.63	6.81	A	N	W
122	33.8	1.5	2.74	7.28	A	A	A
124	29.25	1.43	-11.09	7.57	A	A	A
125	28.3	2.02	-13.98	9.18	A	A	A
126	31.7	0.9	-3.65	6.44	A	A	A
130	33.0	2.0	0.30	8.37	A	A	A
132	35.9	3.2	9.12	10.62	A	A	A
133	31.00	1.93	-5.78	8.49	A	A	A
134	34.6	1.4	5.17	7.05	A	A	A
140	30.5	2.0	-7.29	8.74	A	A	A
141	34.26	2.21	4.13	8.66	A	A	A

TABLE 51. Evaluation Results for Ac-228 in Sample 4, Rep. Value and Rep. Unc. in Bq/kg by gamma

Labcode	Reported value [Bq/kg]	Reported uncertainty ($k = 1$) [Bq/kg]	Relative bias [%]	P-Test [%]	Trueness evaluation	Precision evaluation	Final Score
142	28.734	3.534	-12.66	13.59	A	A	A
144	36.8	2.0	11.85	7.93	A	A	A
146	35.9	1.7	9.12	7.47	A	A	A
149	41.609	3.0023	26.47	9.24	A	N	W
151	34.6	2.8	5.17	9.94	A	A	A
153	38.282	2.390	16.36	8.50	A	A	A
155	33.1	2.4	0.61	9.27	A	A	A
156	34.5	3.0	4.86	10.44	A	A	A
158	34.20	1.42	3.95	7.11	A	A	A
161	32.7	2.9	-0.61	10.58	A	A	A
165	42.12	1.02	28.02	6.26	A	N	W
166	36	4.7	9.42	14.28	A	A	A
168	34.5	2.1	4.86	8.39	A	A	A
170	29.5	1.6	-10.33	7.92	A	A	A
173	32.85	1.32	-0.15	7.04	A	A	A
174	31	2	-5.78	8.66	A	A	A
176	32	2	-2.74	8.51	A	A	A
180	32.65	1.85	-0.76	8.09	A	A	A
182	31.3	3	-4.86	11.19	A	A	A
183	30.0	1.7	-8.81	8.09	A	A	A
184	39.3	4.7	19.45	13.28	A	A	A
185	35.90	4.67	9.12	14.23	A	A	A
186	38	3	15.50	9.78	A	A	A
189	34.1	3	3.65	10.52	A	A	A
190	36.2	1.4	10.03	6.95	A	A	A
199	30.6	1.56	-6.99	7.70	A	A	A
200	38.6	4.4	17.33	12.78	A	A	A
204	30.6	5.8	-6.99	19.81	A	A	A
205	35.12	2.21	6.75	8.54	A	A	A
206	36.31	2.23	10.36	8.43	A	A	A
209	32.23	2.30	-2.04	9.18	A	A	A
214	39.6	2.2	20.36	8.01	A	A	A
218	32.7	2.51	-0.61	9.61	A	A	A
221	36.70	1.30	11.55	6.77	A	A	A
222	33.80	2.13	2.74	8.55	A	A	A
223	27.30	0.98	-17.02	6.80	A	A	A
224	41.3	0.9	25.53	6.17	A	N	W
228	34.7	1.9	5.47	7.96	A	A	A
230	29.2	1.43	-11.25	7.57	A	A	A
232	31	2	-5.78	8.66	A	A	A
233	32.59	3.12	-0.94	11.18	A	A	A
235	35.1	3.2	6.69	10.79	A	A	A
239	31.46	1.42	-4.38	7.33	A	A	A
240	38.2	2.2	16.11	8.16	A	A	A
241	65.3	5.2	98.48	9.84	N	N	N
244	33	2.42	0.30	9.33	A	A	A
245	35.5	3.1	7.90	10.47	A	A	A
247	35.6	1.5	8.21	7.15	A	A	A
248	35.0	2.0	6.38	8.12	A	A	A
251	35.07	2.35	6.60	8.85	A	A	A
258	36.95	1.95	12.31	7.82	A	A	A
259	32.1	4	-2.43	13.73	A	A	A
260	32.89	3.29	-0.03	11.55	A	A	A
268	34.8	2.5	5.78	9.22	A	A	A
270	34.6	1.7	5.17	7.58	A	A	A
271	31.4	1.7	-4.56	7.92	A	A	A
275	34.32	2.83	4.32	10.07	A	A	A
277	32.52	1.80	-1.16	8.00	A	A	A
279	32.62	2.36	-0.85	9.26	A	A	A
281	34.24	3.424	4.07	11.55	A	A	A

TABLE 51. Evaluation Results for Ac-228 in Sample 4, Rep. Value and Rep. Unc. in Bq/kg by gamma

Labcode	Reported value [Bq/kg]	Reported uncertainty ($k = 1$) [Bq/kg]	Relative bias [%]	P-Test [%]	Trueness evaluation	Precision evaluation	Final Score
294	40.7	3.1	23.71	9.56	A	A	A
296	36.98	2.27	12.40	8.43	A	A	A
298	33.9	1.7	3.04	7.65	A	A	A
299	31.7	1.4	-3.65	7.27	A	A	A
301	46.67	3.31	41.85	9.15	N	N	N
302	36	3	9.42	10.14	A	A	A
303	33.94	6.13	3.16	18.96	A	A	A
305	28	2	-14.89	9.19	A	A	A
306	30.57	2.78	-7.08	10.77	A	A	A
307	34.8	1.8	5.78	7.75	A	A	A
314	35.7	3.4	8.51	11.14	A	A	A
315	43.4	4.2	31.91	11.27	N	N	N
323	59.91	0.04	82.10	5.78	N	N	N
328	34.0	1.7	3.34	7.64	A	A	A
335	15.15	1.21	-53.95	9.86	N	N	N
342	32.53	0.77	-1.12	6.24	A	A	A
344	41.9	2.2	27.36	7.81	A	N	W

Reported Results for Th-234 determination in Sample 4

TABLE 52. Target values

Parameter	Value
Activity Concentration [Bq/kg]	23.0
Uncertainty [Bq/kg]	1.5
Maximum Acceptable Relative Bias, [%]	30

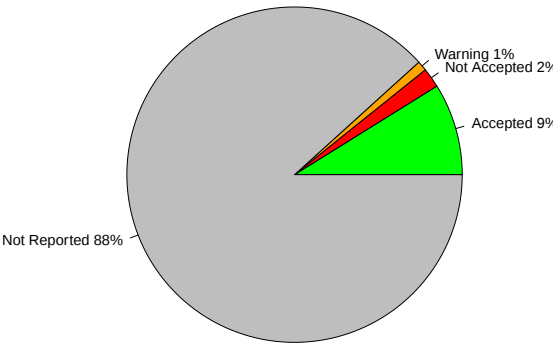


FIGURE 49. Percentage of Accepted vs. Warnings vs. Not Accepted vs. Not Reported results

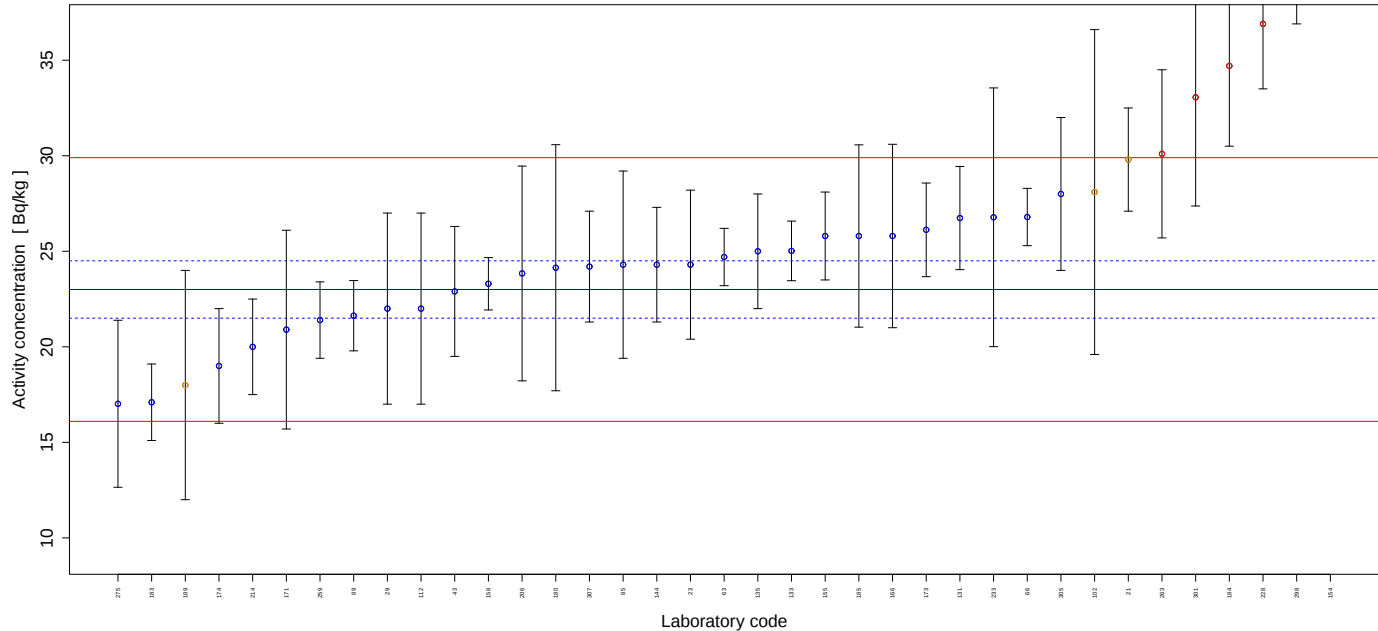


FIGURE 50. Reported results and evaluation parameters for Th-234. Blue points represent accepted scores, whereas yellow and red represent warning and not accepted scores respectively.

TABLE 53. Evaluation Results for Th-234 in Sample 4, Rep. Value and Rep. Unc. in Bq/kg by gamma

Labcode	Reported value [Bq/kg]	Reported uncertainty ($k = 1$) [Bq/kg]	Relative bias [%]	P-Test [%]	Trueness evaluation	Precision evaluation	Final Score
21	29.8	2.7	29.57	11.16	A	N	W
23	24.3	3.9	5.65	17.32	A	A	A
29	22	5	-4.35	23.64	A	A	A
43	22.9	3.4	-0.43	16.22	A	A	A
63	24.7	1.5	7.39	8.91	A	A	A
66	26.794	1.5	16.50	8.59	A	A	A
85	24.3	4.9	5.65	21.19	A	A	A
89	21.63	1.84	-5.96	10.72	A	A	A
102	28.1	8.5	22.17	30.94	A	N	W
112	22	5	-4.35	23.64	A	A	A
131	26.74	2.70	16.26	12.02	A	A	A
133	25.02	1.56	8.78	9.02	A	A	A
135	25	3	8.70	13.66	A	A	A
144	24.3	3.0	5.65	13.96	A	A	A
154	65.5	5.2	184.78	10.27	N	N	N
155	25.8	2.3	12.17	11.05	A	A	A
158	23.30	1.37	1.30	8.78	A	A	A
166	25.8	4.8	12.17	19.71	A	A	A
171	20.9	5.2	-9.13	25.72	A	A	A
173	26.122	2.45	13.57	11.42	A	A	A
174	19	3	-17.39	17.08	A	A	A
180	24.14	6.44	4.96	27.46	A	A	A
183	17.1	2.0	-25.65	13.39	A	A	A
184	34.7	4.2	50.87	13.75	N	N	N
185	25.80	4.77	12.17	19.60	A	A	A
189	18	6	-21.74	33.97	A	N	W
206	23.84	5.62	3.65	24.46	A	A	A
214	20.0	2.5	-13.04	14.10	A	A	A
228	36.9	3.4	60.43	11.29	N	N	N
233	26.78	6.77	16.43	26.11	A	A	A
259	21.4	2	-6.96	11.40	A	A	A
263	30.1	4.4	30.87	16.01	N	A	N
275	17.02	4.37	-26.00	26.49	A	A	A
298	41.9	5.0	82.17	13.60	N	N	N
301	33.06	5.69	43.74	18.41	N	A	N
305	28	4	21.74	15.70	A	A	A
307	24.2	2.9	5.22	13.64	A	A	A

Reported Results for U-235 determination in Sample 4

TABLE 54. Target values

Parameter	Value
Activity Concentration [Bq/kg]	1.22
Uncertainty [Bq/kg]	0.15
Maximum Acceptable Relative Bias, [%]	30

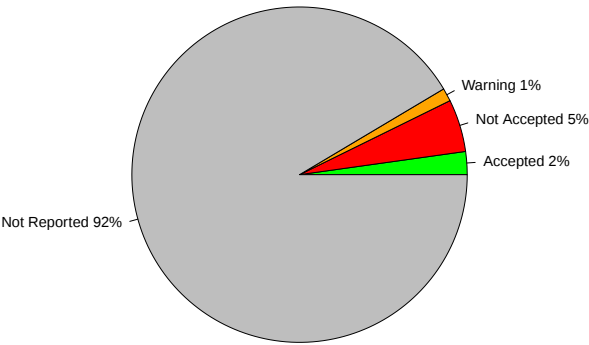


FIGURE 51. Percentage of Accepted vs. Warnings vs. Not Accepted vs. Not Reported results

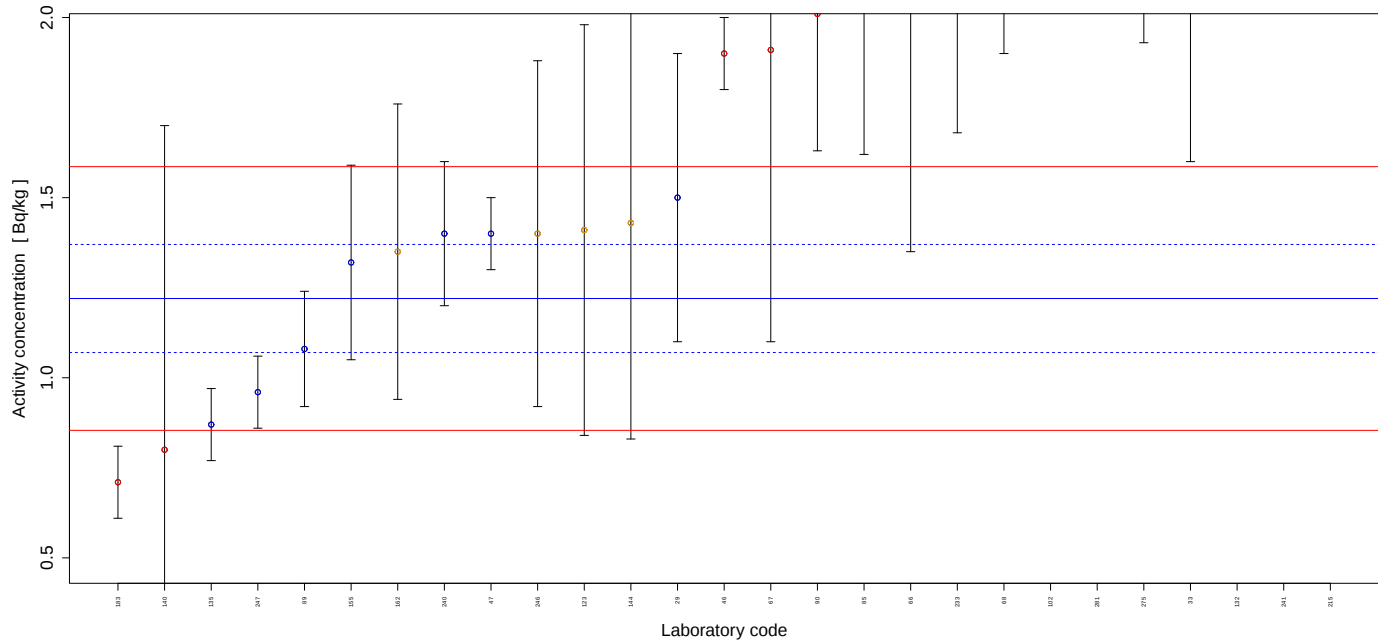


FIGURE 52. Reported results and evaluation parameters for U-235. Blue points represent accepted scores, whereas yellow and red represent warning and not accepted scores respectively.

TABLE 55. Evaluation Results for U-235 in Sample 4, Rep. Value and Rep. Unc. in Bq/kg by gamma

Labcode	Reported value [Bq/kg]	Reported uncertainty ($k = 1$) [Bq/kg]	Relative bias [%]	P-Test [%]	Trueness evaluation	Precision evaluation	Final Score
29	1.5	0.4	22.95	29.36	A	A	A
33	2.8	1.2	129.51	44.59	N	N	N
46	1.9	0.1	55.74	13.37	N	N	N
47	1.4	0.1	14.75	14.22	A	A	A
66	2.05	0.7	68.03	36.29	N	N	N
67	1.91	0.81	56.56	44.15	N	N	N
68	2.28	0.38	86.89	20.71	N	N	N
85	2.03	0.41	66.39	23.65	N	N	N
89	1.08	0.16	-11.48	19.25	A	A	A
90	2.01	0.38	64.75	22.55	N	N	N
102	2.38	0.30	95.08	17.61	N	N	N
123	1.41	0.57	15.57	42.25	A	N	W
132	3.6	0.3	195.08	14.85	N	N	N
135	0.87	0.10	-28.69	16.83	A	A	A
140	0.8	0.9	-34.43	113.17	N	N	N
144	1.43	0.60	17.21	43.72	A	N	W
155	1.32	0.27	8.20	23.87	A	A	A
162	1.35	0.41	10.66	32.76	A	N	W
183	0.71	0.10	-41.80	18.70	N	A	N
215	7.88	0.21	545.90	12.58	N	N	N
233	2.2	0.52	80.33	26.64	N	N	N
240	1.4	0.2	14.75	18.85	A	A	A
241	4.0	0.3	227.87	14.40	N	N	N
246	1.40	0.48	14.75	36.42	A	N	W
247	0.96	0.1	-21.31	16.11	A	A	A
275	2.63	0.7	115.57	29.32	N	N	N
281	2.61	0.365	113.93	18.62	N	N	N

Reported Results for Cs-134 determination in Sample 5

TABLE 56. Target values

Parameter	Value
Activity per sample [Bq/sample]	5.40
Uncertainty [Bq/sample]	0.21
Maximum Acceptable Relative Bias, [%]	30

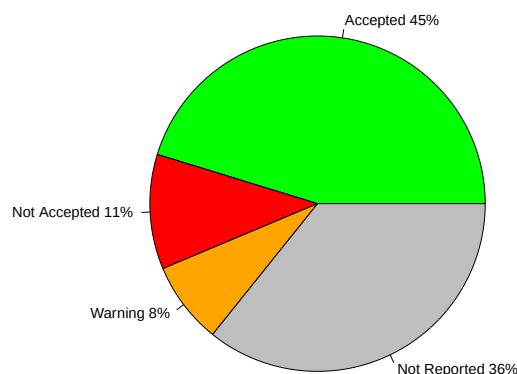


FIGURE 53. Percentage of Accepted vs. Warnings vs. Not Accepted vs. Not Reported results

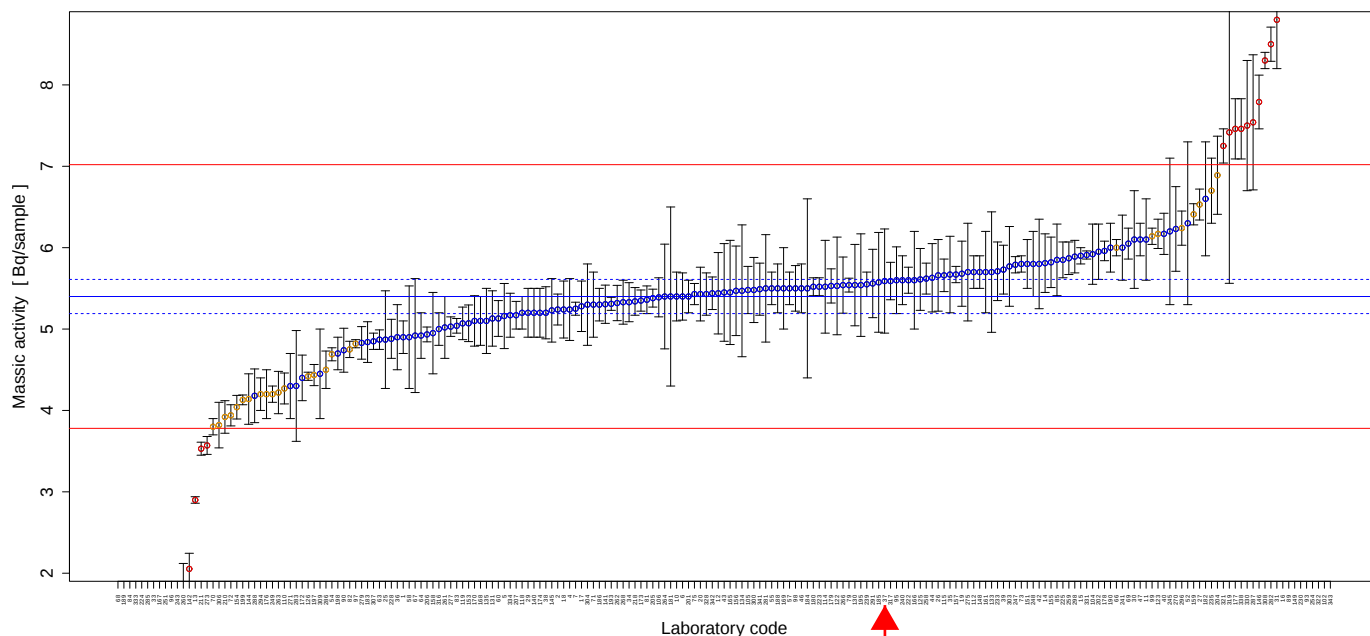


FIGURE 54. Reported results and evaluation parameters for Cs-134. Blue points represent accepted scores, whereas yellow and red represent warning and not accepted scores respectively.

TABLE 57. Evaluation Results for Cs-134 in Sample 5, Rep. Value and Rep. Unc. in Bq/sample by gamma

Labcode	Reported value [Bq/sample]	Reported uncertainty ($k = 1$) [Bq/sample]	Relative bias [%]	P-Test [%]	Trueness evaluation	Precision evaluation	Final Score
1	4.9	0.2	-9.26	5.64	A	A	A
2	5.24	0.19	-2.96	5.32	A	A	A
4	5.24	0.38	-2.96	8.23	A	A	A
5	5.16	0.40	-4.44	8.67	A	A	A
6	5.4	0.29	0.00	6.63	A	A	A
7	5.25	0.08	-2.78	4.18	A	A	A
10	5.4	0.3	0.00	6.78	A	A	A
11	6.10	0.50	12.96	9.07	A	A	A
12	5.44	0.50	0.74	9.98	A	A	A
13	2.9	0.04	-46.30	4.13	N	N	N
14	5.81	0.36	7.59	7.32	A	A	A
15	5.9	0.1	9.26	4.24	A	A	A
16	12.01	1.31	122.41	11.58	N	N	N
17	5.28	0.31	-2.22	7.04	A	A	A
18	5.24	0.35	-2.96	7.73	A	A	A
19	5.68	0.40	5.19	8.04	A	A	A
20	5.43	0.33	0.56	7.22	A	A	A
25	4.87	0.6	-9.81	12.92	A	A	A
26	5.66	0.44	4.81	8.69	A	A	A
27	6.53	0.19	20.93	4.86	A	N	W
29	5.2	0.3	-3.70	6.96	A	A	A
30	6.1	0.6	12.96	10.58	A	A	A
31	8.8	0.6	62.96	7.85	N	N	N
33	0.3	0.02	-94.44	7.72	N	N	N
34	5.33	0.24	-1.30	5.95	A	A	A
35	5.67	0.47	5.00	9.16	A	A	A
36	4.9	0.4	-9.26	9.04	A	A	A
37	5.59	0.64	3.52	12.09	A	A	A
38	5.2	0.32	-3.70	7.28	A	A	A
39	5.73	0.30	6.11	6.52	A	A	A
40	6.17	0.253	14.26	5.65	A	A	A
42	5.8	0.55	7.41	10.25	A	A	A
43	5.45	0.60	0.93	11.68	A	A	A
44	5.63	0.42	4.26	8.41	A	A	A
46	5.5	0.3	1.85	6.70	A	A	A
47	6.1	0.2	12.96	5.09	A	A	A
52	6.3	1.0	16.67	16.34	A	A	A
54	4.69	0.08	-13.15	4.25	A	N	W
55	5.5	0.2	1.85	5.32	A	A	A
57	5.5	0.2	1.85	5.32	A	A	A
58	4.90	0.63	-9.26	13.43	A	A	A
60	5.13	0.22	-5.00	5.79	A	A	A
63	4.87	0.12	-9.81	4.60	A	A	A
64	4.92	0.28	-8.89	6.89	A	A	A
66	6.0	0.1	11.11	4.23	A	N	W
67	4.92	0.7	-8.89	14.75	A	A	A
68	0.0581	0.0023	-98.92	5.55	N	N	N
69	6.05	0.19	12.04	5.00	A	A	A
70	3.8	0.1	-29.63	4.70	A	N	W
71	5.3	0.4	-1.85	8.49	A	A	A
72	3.94	0.13	-27.04	5.10	A	N	W
73	5.8	0.1	7.41	4.25	A	A	A
75	5.43	0.13	0.56	4.57	A	A	A
79	5.54	0.085	2.59	4.18	A	A	A
81	5.36	0.17	-0.74	5.02	A	A	A
82	4.75	0.1	-12.04	4.42	A	N	W
83	5.04	0.09	-6.67	4.28	A	A	A
84	0.12	0.009	-97.78	8.45	N	N	N
85	5.85	0.44	8.33	8.47	A	A	A
89	12.68	0.6	134.81	6.12	N	N	N

TABLE 57. Evaluation Results for Cs-134 in Sample 5, Rep. Value and Rep. Unc. in Bq/sample by gamma

Labcode	Reported value [Bq/sample]	Reported uncertainty ($k = 1$) [Bq/sample]	Relative bias [%]	P-Test [%]	Trueness evaluation	Precision evaluation	Final Score
90	4.74	0.27	-12.22	6.90	A	A	A
93	20.9	0.2	287.04	4.00	N	N	N
95	5.60	0.41	3.70	8.29	A	A	A
96	1.0	0.01	-81.48	4.02	N	N	N
97	4.82	0.05	-10.74	4.02	A	N	W
98	5.50	0.28	1.85	6.41	A	A	A
99	6.14	0.10	13.70	4.22	A	N	W
102	80.75	1.56	1395.37	4.34	N	N	N
104	5.92	0.37	9.63	7.36	A	A	A
105	5.48	0.29	1.48	6.57	A	A	A
106	5.39	0.24	-0.19	5.91	A	A	A
110	4.27	0.19	-20.93	5.91	A	N	W
112	5.7	0.2	5.56	5.24	A	A	A
114	5.52	0.57	2.22	11.03	A	A	A
115	5.66	0.20	4.81	5.25	A	A	A
118	5.2	0.2	-3.70	5.47	A	A	A
119	5.07	0.2	-6.11	5.54	A	A	A
122	5.53	0.6	2.41	11.53	A	A	A
123	6.17	0.18	14.26	4.86	A	N	W
125	5.61	0.38	3.89	7.81	A	A	A
126	4.42	0.05	-18.15	4.05	A	N	W
130	5.54	0.50	2.59	9.83	A	A	A
131	5.13	0.34	-5.00	7.68	A	A	A
133	5.70	0.74	5.56	13.55	A	A	A
134	5.47	0.81	1.30	15.31	A	A	A
135	5.1	0.4	-5.56	8.75	A	A	A
140	5.2	0.3	-3.70	6.96	A	A	A
141	5.305	0.235	-1.76	5.89	A	A	A
142	2.053	0.192	-61.98	10.13	N	N	N
144	4.14	0.31	-23.33	8.44	A	N	W
145	5.23	0.39	-3.15	8.41	A	A	A
146	7.79	0.33	44.26	5.75	N	N	N
148	5.7	0.2	5.56	5.24	A	A	A
149	12.7	0.29868	135.19	4.54	N	N	N
151	5.8	0.3	7.41	6.47	A	A	A
153	5.071	0.225	-6.09	5.90	A	A	A
154	4.04	0.145	-25.19	5.29	A	N	W
155	5.82	0.31	7.78	6.60	A	A	A
156	5.47	0.55	1.30	10.78	A	A	A
157	5.67	0.10	5.00	4.27	A	A	A
158	4.95	0.50	-8.33	10.82	A	A	A
159	6.41	0.13	18.70	4.39	A	N	W
161	5.7	0.5	5.56	9.60	A	A	A
165	5.45	0.64	0.93	12.37	A	A	A
166	5.6	0.6	3.70	11.40	A	A	A
167	0.31	0.03	-94.26	10.43	N	N	N
168	5.1	0.3	-5.56	7.05	A	A	A
169	5.5	0.5	1.85	9.89	A	A	A
170	5.10	0.31	-5.56	7.22	A	A	A
172	4.40	0.28	-18.52	7.46	A	A	A
173	5.35	0.13	-0.93	4.59	A	A	A
174	5.2	0.3	-3.70	6.96	A	A	A
176	4.2	0.3	-22.22	8.13	A	N	W
177	7.46	0.37	38.15	6.30	N	N	N
178	5.96	0.12	10.37	4.38	A	A	A
179	5.53	0.21	2.41	5.44	A	A	A
180	5.52	0.11	2.22	4.37	A	A	A
181	5.4	1.1	0.00	20.74	A	A	A
182	6.6	0.7	22.22	11.30	A	A	A
183	4.84	0.25	-10.37	6.47	A	A	A

TABLE 57. Evaluation Results for Cs-134 in Sample 5, Rep. Value and Rep. Unc. in Bq/sample by gamma

Labcode	Reported value [Bq/sample]	Reported uncertainty ($k = 1$) [Bq/sample]	Relative bias [%]	P-Test [%]	Trueness evaluation	Precision evaluation	Final Score
184	5.50	1.10	1.85	20.37	A	A	A
185	5.574	0.613	3.22	11.66	A	A	A
186	5.3	0.2	-1.85	5.42	A	A	A
188	5.5	0.3	1.85	6.70	A	A	A
189	0.0667	0.0033	-98.76	6.29	N	N	N
190	6.0	0.3	11.11	6.33	A	A	A
193	5.31	0.08	-1.67	4.17	A	A	A
195	5.54	0.63	2.59	12.02	A	A	A
197	4.4348	0.13	-17.87	4.87	A	N	W
198	4.7	0.2	-12.96	5.76	A	A	A
199	4.13	0.06	-23.52	4.15	A	N	W
201	5.4	0.2	0.00	5.37	A	A	A
202	5.95	0.34	10.19	6.91	A	A	A
204	6.89	0.48	27.59	7.98	A	N	W
205	5.38	0.11	-0.37	4.39	A	A	A
206	4.934	0.091	-8.63	4.30	A	A	A
207	5.17	0.17	-4.26	5.09	A	A	A
210	3.92	0.2	-27.41	6.42	A	N	W
211	3.530	0.08	-34.63	4.50	N	N	N
218	5.34	0.17	-1.11	5.03	A	A	A
222	5.60	0.16	3.70	4.83	A	A	A
223	5.52	0.11	2.22	4.37	A	A	A
224	0.25	0.004	-95.37	4.21	N	N	N
225	5.85	0.22	8.33	5.41	A	A	A
228	4.88	0.24	-9.63	6.27	A	A	A
230	16.00	1.01	196.30	7.41	N	N	N
233	5.71	0.36	5.74	7.41	A	A	A
235	6.7	0.4	24.07	7.13	A	N	W
239	5.55	0.15	2.78	4.74	A	A	A
240	5.6	0.3	3.70	6.62	A	A	A
241	6	0.4	11.11	7.72	A	A	A
243	1.57	0.15	-70.93	10.32	N	N	N
245	6.2	0.9	14.81	15.03	A	A	A
247	5.79	0.1	7.22	4.26	A	A	A
248	5.8	0.4	7.41	7.92	A	A	A
249	4.2	0.1	-22.22	4.56	A	N	W
251	0.325	0.008	-93.98	4.60	N	N	N
254	35.43	0.91	556.11	4.66	N	N	N
258	5.62	0.19	4.07	5.15	A	A	A
259	5.87	0.2	8.70	5.17	A	A	A
260	1.84	0.28	-65.93	15.71	N	N	N
261	5.02	0.38	-7.04	8.51	A	A	A
262	5.32	0.217	-1.48	5.64	A	A	A
263	4.22	0.26	-21.85	7.29	A	N	W
264	5.4	0.6433	0.00	12.53	A	A	A
266	5.54	0.345	2.59	7.34	A	A	A
268	5.33	0.27	-1.30	6.39	A	A	A
270	6.23	0.52	15.37	9.21	A	A	A
271	4.3	0.4	-20.37	10.08	A	A	A
273	3.57	0.11	-33.89	4.96	N	N	N
275	5.7	0.6	5.56	11.22	A	A	A
277	5.03	0.12	-6.85	4.56	A	A	A
279	4.83	0.2	-10.56	5.68	A	A	A
281	5.50	0.66	1.85	12.61	A	A	A
282	8.5	0.21	57.41	4.61	N	N	N
283	4.301	0.6806	-20.35	16.30	A	A	A
285	0.25107	0.0024160	-95.35	4.01	N	N	N
286	4.50	0.23	-16.67	6.42	A	N	W
287	7.54	0.83	39.63	11.67	N	N	N
288	4.18	0.33	-22.59	8.80	A	A	A

TABLE 57. Evaluation Results for Cs-134 in Sample 5, Rep. Value and Rep. Unc. in Bq/sample by gamma

Labcode	Reported value [Bq/sample]	Reported uncertainty ($k = 1$) [Bq/sample]	Relative bias [%]	P-Test [%]	Trueness evaluation	Precision evaluation	Final Score
291	5.56	0.42	2.96	8.50	A	A	A
294	4.2	0.2	-22.22	6.15	A	N	W
296	6.24	0.21	15.56	5.14	A	N	W
298	5.89	0.20	9.07	5.16	A	A	A
300	5.48	0.4	1.48	8.27	A	A	A
303	5.77	0.49	6.85	9.34	A	A	A
304	5.3	0.5	-1.85	10.20	A	A	A
306	3.82	0.28	-29.26	8.30	A	N	W
307	4.85	0.10	-10.19	4.40	A	A	A
308	8.30	0.10	53.70	4.07	N	N	N
309	4.45	0.55	-17.59	12.96	A	A	A
316	5.0	0.2	-7.41	5.58	A	A	A
317	5.59	0.23	3.52	5.66	A	A	A
319	7.417	1.855	37.35	25.31	N	A	N
321	7.25	0.21	34.26	4.85	N	N	N
322	61.19	5.94	1033.15	10.46	N	N	N
328	5.43	0.26	0.56	6.17	A	A	A
330	7.5	0.8	38.89	11.35	N	N	N
331	5.91	0.05	9.44	3.98	A	A	A
333	0.190	0.005	-96.48	4.70	N	N	N
334	5.17	0.27	-4.26	6.51	A	A	A
338	7.46	0.37	38.15	6.30	N	N	N
341	5.49	0.32	1.67	7.01	A	A	A
342	5.44	0.2	0.74	5.35	A	A	A
343	6945.84		128526.67		N		N

Reported Results for Sr-90 determination in Sample 5

TABLE 58. Target values

Parameter	Value
Activity per sample [Bq/sample]	2.25
Uncertainty [Bq/sample]	0.10
Maximum Acceptable Relative Bias, [%]	30

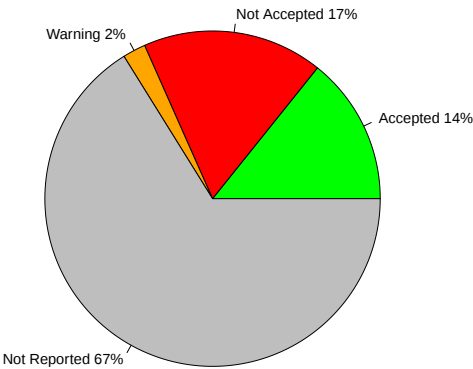


FIGURE 55. Percentage of Accepted vs. Warnings vs. Not Accepted vs. Not Reported results

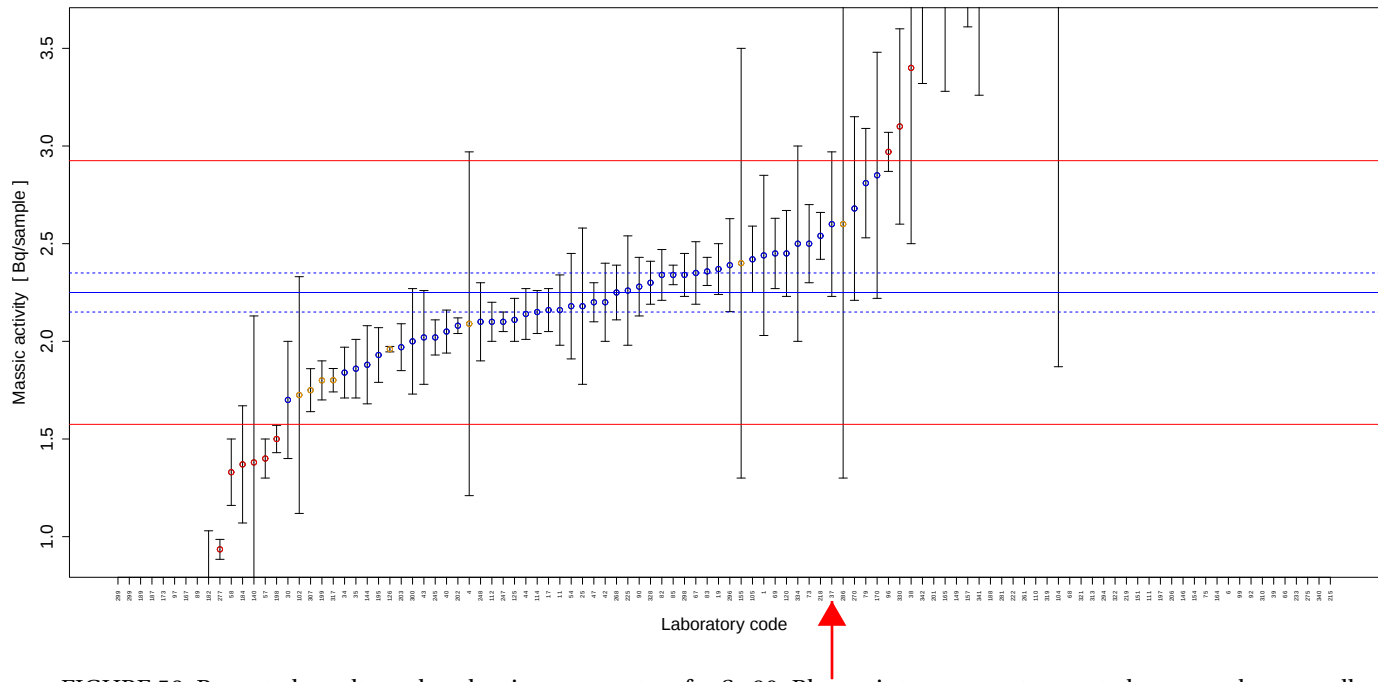


FIGURE 56. Reported results and evaluation parameters for Sr-90. Blue points represent accepted scores, whereas yellow and red represent warning and not accepted scores respectively.

TABLE 59. Evaluation Results for Sr-90 in Sample 5, Rep. Value and Rep. Unc. in Bq/sample by beta

Labcode	Reported value [Bq/sample]	Reported uncertainty ($k = 1$) [Bq/sample]	Relative bias [%]	P-Test [%]	Trueness evaluation	Precision evaluation	Final Score
1	2.44	0.41	8.44	17.38	A	A	A
4	2.09	0.88	-7.11	42.34	A	N	W
6	9.0	0.18	300.00	4.87	N	N	N
11	2.16	0.18	-4.00	9.44	A	A	A
17	2.16	0.11	-4.00	6.76	A	A	A
19	2.37	0.13	5.33	7.06	A	A	A
25	2.18	0.4	-3.11	18.88	A	A	A
30	1.7	0.3	-24.44	18.20	A	A	A
34	1.84	0.13	-18.22	8.35	A	A	A
35	1.86	0.15	-17.33	9.21	A	A	A
37	2.60	0.37	15.56	14.91	A	A	A
38	3.4	0.9	51.11	26.84	N	A	N
39	12.30	0.65	446.67	6.91	N	N	N
40	2.05	0.11	-8.89	6.97	A	A	A
42	2.20	0.20	-2.22	10.12	A	A	A
43	2.02	0.24	-10.22	12.69	A	A	A
44	2.14	0.13	-4.89	7.53	A	A	A
47	2.2	0.1	-2.22	6.36	A	A	A
54	2.18	0.27	-3.11	13.16	A	A	A
57	1.4	0.1	-37.78	8.41	N	N	N
58	1.33	0.17	-40.89	13.53	N	N	N
66	18.3	0.9	713.33	6.63	N	N	N
67	2.35	0.16	4.44	8.13	A	A	A
68	4.782	0.096	112.53	4.88	N	N	N
69	2.45	0.18	8.89	8.59	A	A	A
73	2.5	0.2	11.11	9.15	A	A	A
75	8.131	0.040	261.38	4.47	N	N	N
79	2.81	0.28	24.89	10.91	A	A	A
82	2.34	0.13	4.00	7.11	A	A	A
83	2.358	0.072	4.80	5.39	A	A	A
85	2.34	0.05	4.00	4.93	A	A	A
89	0.68	0.07	-69.78	11.21	N	N	N
90	2.28	0.15	1.33	7.94	A	A	A
92	9.23	1.28	310.22	14.56	N	N	N
96	2.97	0.1	32.00	5.58	N	N	N
97	0.34	0.02	-84.89	7.37	N	N	N
99	9.14	0.015	306.22	4.45	N	N	N
102	1.725	0.606	-23.33	35.41	A	N	W
104	4.75	2.88	111.11	60.79	N	N	N
105	2.42	0.17	7.56	8.31	A	A	A
110	4.71	0.02	109.33	4.46	N	N	N
111	7.47	0.22	232.00	5.33	N	N	N
112	2.1	0.1	-6.67	6.51	A	A	A
114	2.15	0.11	-4.44	6.78	A	A	A
120	2.45	0.22	8.89	10.02	A	A	A
125	2.11	0.11	-6.22	6.85	A	A	A
126	1.960	0.014	-12.89	4.50	A	N	W
140	1.38	0.75	-38.67	54.53	N	N	N
144	1.88	0.20	-16.44	11.53	A	A	A
146	7.64	0.32	239.56	6.11	N	N	N
149	4.08	0.36	81.33	9.88	N	N	N
151	7.31	0.17	224.89	5.02	N	N	N
154	7.81	0.7	247.11	10.00	N	N	N
155	2.4	1.1	6.67	46.05	A	N	W
157	4.11	0.50	82.67	12.95	N	N	N
164	8.3429	0.2459	270.80	5.33	N	N	N
167	0.64	0.07	-71.56	11.81	N	N	N
170	2.85	0.63	26.67	22.55	A	A	A
173	0.34	0.08	-84.89	23.95	N	N	N
182	0.73	0.3	-67.56	41.34	N	N	N

TABLE 59. Evaluation Results for Sr-90 in Sample 5, Rep. Value and Rep. Unc. in Bq/sample by beta

Labcode	Reported value [Bq/sample]	Reported uncertainty ($k = 1$) [Bq/sample]	Relative bias [%]	P-Test [%]	Trueness evaluation	Precision evaluation	Final Score
184	1.37	0.30	-39.11	22.34	N	A	N
187	0.149	0.016	-93.38	11.62	N	N	N
188	4.3	0.4	91.11	10.31	N	N	N
189	0.104	0.010	-95.38	10.59	N	N	N
195	1.93	0.14	-14.22	8.51	A	A	A
197	7.5556	0.7619	235.80	11.02	N	N	N
198	1.5	0.07	-33.33	6.44	N	N	N
199	1.80	0.10	-20.00	7.11	A	N	W
201	4.0	0.1	77.78	5.10	N	N	N
202	2.08	0.04	-7.56	4.84	A	A	A
203	1.97	0.12	-12.44	7.54	A	A	A
206	7.584	0.036	237.07	4.47	N	N	N
215	56	6	2388.89	11.60	N	N	N
218	2.54	0.12	12.89	6.49	A	A	A
219	7.03	0.69	212.44	10.77	N	N	N
222	4.58	0.50	103.56	11.79	N	N	N
225	2.26	0.28	0.44	13.16	A	A	A
233	18.75	2.26	733.33	12.85	N	N	N
245	2.02	0.09	-10.22	6.29	A	A	A
247	2.1	0.05	-6.67	5.04	A	A	A
248	2.1	0.2	-6.67	10.51	A	A	A
261	4.66	0.45	107.11	10.63	N	N	N
268	2.25	0.14	0.00	7.65	A	A	A
270	2.68	0.47	19.11	18.09	A	A	A
275	22.8	6.0	913.33	26.69	N	N	N
277	0.935	0.051	-58.44	7.04	N	N	N
281	4.464	0.446	98.40	10.93	N	N	N
286	2.6	1.3	15.56	50.20	A	N	W
294	5.9	0.6	162.22	11.10	N	N	N
296	2.39	0.238	6.22	10.90	A	A	A
298	2.34	0.11	4.00	6.47	A	A	A
299	0.06	0.02	-97.33	33.63	N	N	N
300	2.0	0.27	-11.11	14.21	A	A	A
307	1.75	0.11	-22.22	7.70	A	N	W
310	9.89	0.038	339.56	4.46	N	N	N
313	5.32	0.03	136.44	4.48	N	N	N
317	1.801	0.06	-19.96	5.55	A	N	W
319	4.732	0.725	110.31	15.95	N	N	N
321	4.99	0.28	121.78	7.16	N	N	N
322	6.29	1.21	179.56	19.74	N	N	N
328	2.30	0.11	2.22	6.53	A	A	A
330	3.1	0.5	37.78	16.73	N	A	N
334	2.5	0.5	11.11	20.49	A	A	A
340	28.4	2.6	1162.22	10.18	N	N	N
341	4.15	0.89	84.44	21.90	N	N	N
342	3.91	0.59	73.78	15.73	N	N	N

Reported Results for Cs-134 determination in Sample 6

TABLE 60. Target values

Parameter	Value
Activity per sample [Bq/sample]	7.84
Uncertainty [Bq/sample]	0.31
Maximum Acceptable Relative Bias, [%]	30

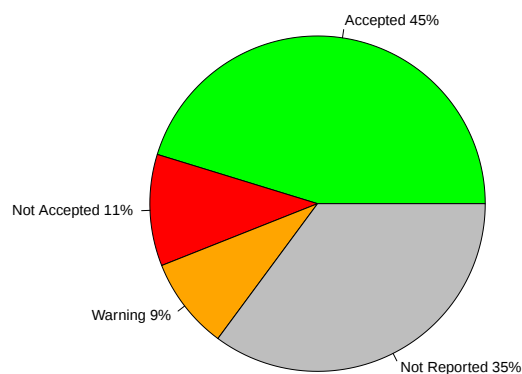


FIGURE 57. Percentage of Accepted vs. Warnings vs. Not Accepted vs. Not Reported results

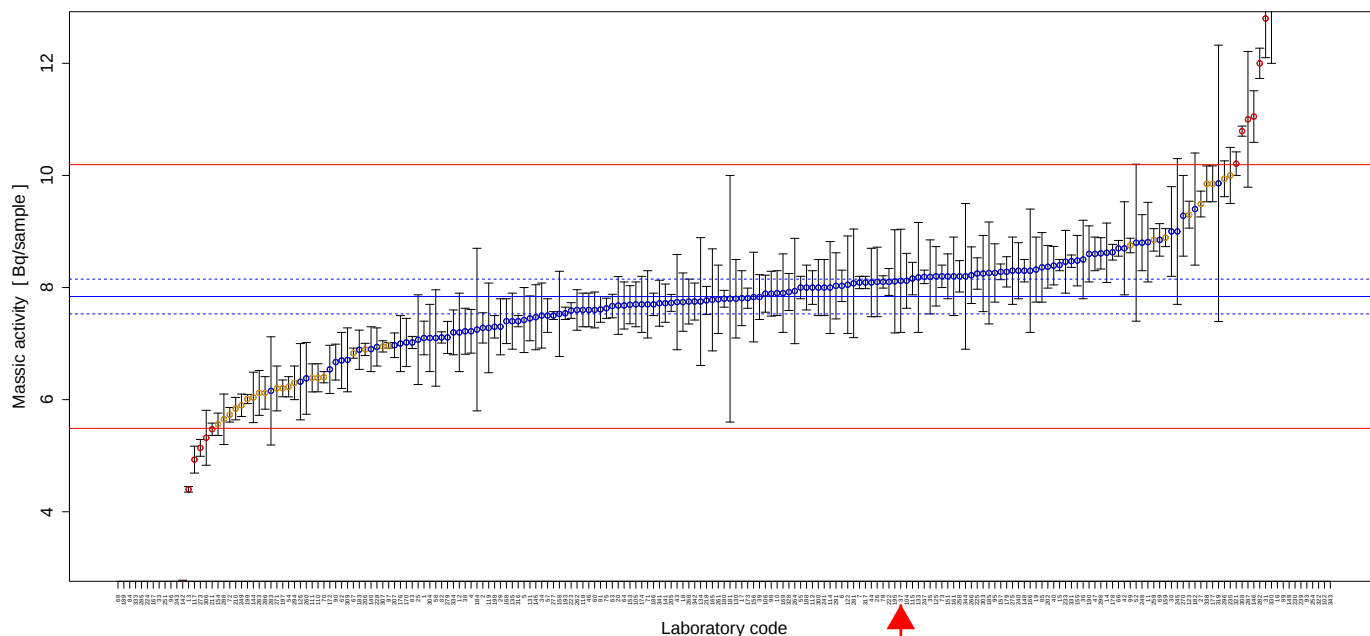


FIGURE 58. Reported results and evaluation parameters for Cs-134. Blue points represent accepted scores, whereas yellow and red represent warning and not accepted scores respectively.

TABLE 61. Evaluation Results for Cs-134 in Sample 6, Rep. Value and Rep. Unc. in Bq/sample by gamma

Labcode	Reported value [Bq/sample]	Reported uncertainty ($k = 1$) [Bq/sample]	Relative bias [%]	P-Test [%]	Trueness evaluation	Precision evaluation	Final Score
1	7.1	0.3	-9.44	5.79	A	A	A
2	7.28	0.27	-7.14	5.42	A	A	A
4	7.22	0.39	-7.91	6.69	A	A	A
5	7.42	0.58	-5.36	8.76	A	A	A
6	8.03	0.28	2.42	5.27	A	A	A
7	8.09	0.11	3.19	4.18	A	A	A
10	7.9	0.4	0.77	6.42	A	A	A
11	8.81	0.71	12.37	8.98	A	A	A
12	7.2	0.7	-8.16	10.50	A	A	A
13	4.4	0.05	-43.88	4.11	N	N	N
14	8.62	0.53	9.95	7.31	A	A	A
15	8.4	0.1	7.14	4.13	A	A	A
16	17.08	1.86	117.86	11.59	N	N	N
17	7.81	0.49	-0.38	7.42	A	A	A
18	7.74	0.52	-1.28	7.80	A	A	A
19	8.32	0.58	6.12	8.01	A	A	A
20	7.68	0.515	-2.04	7.78	A	A	A
25	7.07	0.8	-9.82	11.99	A	A	A
26	8.10	0.62	3.32	8.62	A	A	A
27	9.49	0.23	21.05	4.64	A	N	W
29	7.3	0.5	-6.89	7.91	A	A	A
30	9.0	0.8	14.80	9.73	A	A	A
31	12.8	0.7	63.27	6.75	N	N	N
33	0.44	0.03	-94.39	7.88	N	N	N
34	7.5	0.58	-4.34	8.69	A	A	A
35	8.19	0.66	4.46	8.98	A	A	A
36	8.5	0.7	8.42	9.14	A	A	A
37	8.12	0.92	3.57	12.00	A	A	A
38	7.22	0.41	-7.91	6.92	A	A	A
39	7.83	0.40	-0.13	6.46	A	A	A
40	8.39	0.343	7.02	5.69	A	A	A
42	8.70	0.83	10.97	10.33	A	A	A
43	7.74	0.85	-1.28	11.67	A	A	A
44	8.09	0.61	3.19	8.51	A	A	A
46	7.6	0.3	-3.06	5.59	A	A	A
47	8.6	0.3	9.69	5.27	A	A	A
52	8.8	1.4	12.24	16.39	A	A	A
54	6.23	0.18	-20.54	4.90	A	N	W
55	8.0	0.2	2.04	4.68	A	A	A
57	7.5	0.3	-4.34	5.62	A	A	A
58	7.10	0.86	-9.44	12.74	A	A	A
60	7.60	0.32	-3.06	5.78	A	A	A
62	6.7	0.5	-14.54	8.45	A	A	A
63	7.67	0.21	-2.17	4.81	A	A	A
64	7.68	0.42	-2.04	6.75	A	A	A
66	8.7	0.14	10.97	4.27	A	A	A
67	6.83	0.09	-12.88	4.17	A	N	W
68	0.0847	0.0035	-98.92	5.72	N	N	N
69	8.85	0.29	12.88	5.14	A	A	A
70	6.4	0.1	-18.37	4.25	A	N	W
71	7.7	0.6	-1.79	8.74	A	A	A
72	5.73	0.13	-26.91	4.56	A	N	W
73	8.2	0.2	4.59	4.65	A	A	A
75	7.63	0.18	-2.68	4.60	A	A	A
79	8.1	0.11	3.32	4.18	A	A	A
81	7.61	0.23	-2.93	4.98	A	A	A
82	7.11	0.1	-9.31	4.20	A	A	A
83	7.02	0.108	-10.46	4.24	A	A	A
84	0.18	0.12	-97.70	66.78	N	N	N
85	8.36	0.62	6.63	8.40	A	A	A

TABLE 61. Evaluation Results for Cs-134 in Sample 6, Rep. Value and Rep. Unc. in Bq/sample by gamma

Labcode	Reported value [Bq/sample]	Reported uncertainty ($k = 1$) [Bq/sample]	Relative bias [%]	P-Test [%]	Trueness evaluation	Precision evaluation	Final Score
89	17.98	0.9	129.34	6.38	N	N	N
90	6.67	0.32	-14.92	6.22	A	A	A
93	30.2	0.3	285.20	4.08	N	N	N
95	8.26	0.52	5.36	7.43	A	A	A
96	1.0	0.01	-87.24	4.08	N	N	N
97	6.97	0.05	-11.10	4.02	A	N	W
98	7.89	0.40	0.64	6.43	A	A	A
99	8.75	0.13	11.61	4.22	A	N	W
102	119.1	2.0	1419.13	4.30	N	N	N
104	8.12	0.49	3.57	7.21	A	A	A
105	7.70	0.40	-1.79	6.53	A	A	A
106	7.89	0.33	0.64	5.76	A	A	A
110	6.39	0.25	-18.49	5.56	A	N	W
111	6.388	0.25	-18.52	5.56	A	N	W
112	8.0	0.3	2.04	5.45	A	A	A
114	8.00	0.82	2.04	10.99	A	A	A
115	8.16	0.29	4.08	5.32	A	A	A
117	4.93	0.24	-37.12	6.27	N	N	N
118	7.6	0.3	-3.06	5.59	A	A	A
119	7.28	0.8	-7.14	11.68	A	A	A
122	8.05	0.87	2.68	11.51	A	A	A
123	9.30	0.24	18.62	4.72	A	N	W
125	8.20	0.53	4.59	7.58	A	A	A
126	6.32	0.68	-19.39	11.46	A	A	A
130	7.8	0.7	-0.51	9.81	A	A	A
131	7.45	0.40	-4.97	6.67	A	A	A
133	8.18	0.98	4.34	12.62	A	A	A
134	7.75	1.14	-1.15	15.23	A	A	A
135	7.4	0.5	-5.61	7.83	A	A	A
140	6.9	0.4	-11.99	7.02	A	A	A
141	7.721	0.341	-1.52	5.93	A	A	A
142	2.705	0.074	-65.50	4.81	N	N	N
144	6.04	0.45	-22.96	8.43	A	N	W
145	7.47	0.58	-4.72	8.71	A	A	A
146	11.05	0.46	40.94	5.74	N	N	N
148	8.3	0.2	5.87	4.63	A	A	A
149	19.3	0.434	146.17	4.55	N	N	N
151	8.2	0.4	4.59	6.28	A	A	A
153	7.693	0.340	-1.88	5.93	A	A	A
154	5.56	0.2	-29.08	5.35	A	N	W
155	8.48	0.45	8.16	6.62	A	A	A
156	7.83	0.80	-0.13	10.96	A	A	A
157	8.28	0.14	5.61	4.30	A	A	A
158	7.53	0.76	-3.95	10.84	A	A	A
159	8.89	0.16	13.39	4.34	A	N	W
161	8.2	0.7	4.59	9.41	A	A	A
165	7.78	0.91	-0.77	12.35	A	A	A
166	8.3	1.1	5.87	13.83	A	A	A
167	0.41	0.03	-94.77	8.32	N	N	N
168	7.4	0.4	-5.61	6.70	A	A	A
169	7.9	0.7	0.77	9.70	A	A	A
170	7.02	0.43	-10.46	7.29	A	A	A
172	6.54	0.43	-16.58	7.67	A	A	A
173	7.81	0.18	-0.38	4.58	A	A	A
174	7.7	0.5	-1.79	7.60	A	A	A
176	7.0	0.5	-10.71	8.16	A	A	A
177	9.85	0.32	25.64	5.12	A	N	W
178	8.63	0.14	10.08	4.27	A	A	A
179	8.28	0.27	5.61	5.13	A	A	A
180	7.80	0.15	-0.51	4.40	A	A	A

TABLE 61. Evaluation Results for Cs-134 in Sample 6, Rep. Value and Rep. Unc. in Bq/sample by gamma

Labcode	Reported value [Bq/sample]	Reported uncertainty ($k = 1$) [Bq/sample]	Relative bias [%]	P-Test [%]	Trueness evaluation	Precision evaluation	Final Score
181	7.8	2.2	-0.51	28.48	A	A	A
182	9.4	1.0	19.90	11.35	A	A	A
183	6.89	0.35	-12.12	6.44	A	A	A
184	7.25	1.45	-7.53	20.39	A	A	A
185	8.260	0.909	5.36	11.69	A	A	A
186	7.7	0.2	-1.79	4.73	A	A	A
188	8.0	0.4	2.04	6.37	A	A	A
189	0.0944	0.0083	-98.80	9.64	N	N	N
190	8.6	0.5	9.69	7.03	A	A	A
193	7.54	0.11	-3.83	4.21	A	A	A
195	8.11	0.92	3.44	12.01	A	A	A
197	6.2012	0.15	-20.90	4.64	A	N	W
198	7.3	0.2	-6.89	4.81	A	A	A
199	6.01	0.08	-23.34	4.17	A	N	W
202	8.37	0.38	6.76	6.02	A	A	A
205	7.726	0.151	-1.45	4.41	A	A	A
206	6.896	0.109	-12.04	4.26	A	N	W
207	6.97	0.22	-11.10	5.06	A	A	A
210	5.84	0.2	-25.51	5.23	A	N	W
211	5.472	0.109	-30.20	4.43	N	N	N
218	7.77	0.25	-0.89	5.10	A	A	A
222	8.10	0.24	3.32	4.94	A	A	A
223	7.59	0.14	-3.19	4.36	A	A	A
224	0.36	0.005	-95.41	4.19	N	N	N
225	8.25	0.28	5.23	5.21	A	A	A
228	6.94	0.34	-11.48	6.30	A	A	A
230	23.00	1.08	193.37	6.14	N	N	N
233	8.46	0.56	7.91	7.71	A	A	A
235	10.0	0.5	27.55	6.37	A	N	W
239	26.5	0.58	238.01	4.52	N	N	N
240	8.3	0.5	5.87	7.21	A	A	A
241	8.0	0.5	2.04	7.40	A	A	A
243	2.2	0.2	-71.94	9.91	N	N	N
245	9.0	1.3	14.80	14.98	A	A	A
247	8.19	0.12	4.46	4.22	A	A	A
248	8.8	0.5	12.24	6.92	A	A	A
249	5.9	0.2	-24.74	5.21	A	N	W
251	0.481	0.009	-93.86	4.37	N	N	N
254	52.23	1.36	566.20	4.73	N	N	N
258	8.20	0.28	4.59	5.22	A	A	A
259	8.85	0.2	12.88	4.55	A	N	W
260	6.38	0.64	-18.62	10.78	A	A	A
261	7.79	0.61	-0.64	8.77	A	A	A
262	7.60	0.362	-3.06	6.19	A	A	A
263	6.12	0.40	-21.94	7.64	A	N	W
264	7.938	0.9393	1.25	12.48	A	A	A
266	8.22	0.505	4.85	7.31	A	A	A
268	7.75	0.40	-1.15	6.50	A	A	A
270	9.28	0.72	18.37	8.71	A	A	A
271	6.2	0.4	-20.92	7.57	A	N	W
273	5.14	0.15	-34.44	4.91	N	N	N
275	8.3	0.6	5.87	8.24	A	A	A
277	7.50	0.07	-4.34	4.06	A	A	A
279	7.11	0.286	-9.31	5.64	A	A	A
281	8.075	0.969	3.00	12.63	A	A	A
282	12	0.27	53.06	4.55	N	N	N
283	6.156	0.9651	-21.48	16.17	A	A	A
285	0.32708	0.0027546	-95.83	4.04	N	N	N
286	6.12	0.29	-21.94	6.17	A	N	W
287	11.0	1.21	40.31	11.69	N	N	N

TABLE 61. Evaluation Results for Cs-134 in Sample 6, Rep. Value and Rep. Unc. in Bq/sample by gamma

Labcode	Reported value [Bq/sample]	Reported uncertainty ($k = 1$) [Bq/sample]	Relative bias [%]	P-Test [%]	Trueness evaluation	Precision evaluation	Final Score
288	5.65	0.45	-27.93	8.89	A	N	W
291	8.03	0.59	2.42	8.34	A	A	A
294	6.3	0.3	-19.64	6.19	A	N	W
296	9.94	0.32	26.79	5.10	A	N	W
298	8.61	0.28	9.82	5.12	A	A	A
300	8	0.5	2.04	7.40	A	A	A
303	8.25	0.68	5.23	9.14	A	A	A
304	7.1	0.6	-9.44	9.33	A	A	A
306	5.32	0.49	-32.14	10.02	N	N	N
307	6.95	0.10	-11.35	4.21	A	N	W
308	10.79	0.09	37.63	4.04	N	N	N
309	6.71	0.57	-14.41	9.37	A	A	A
316	7.4	0.1	-5.61	4.18	A	A	A
317	8.09	0.11	3.19	4.18	A	A	A
319	9.859	2.465	25.75	25.31	A	A	A
321	10.21	0.21	30.23	4.46	N	N	N
322	67.7	6.21	763.52	9.99	N	N	N
328	7.92	0.33	1.02	5.74	A	A	A
330	13.3	1.3	69.64	10.54	N	N	N
331	8.47	0.11	8.04	4.16	A	A	A
333	0.316	0.006	-95.97	4.39	N	N	N
334	7.2	0.4	-8.16	6.82	A	A	A
338	9.85	0.32	25.64	5.12	A	N	W
341	7.72	0.41	-1.53	6.62	A	A	A
342	7.75	0.33	-1.15	5.81	A	A	A
343	1109.83		14055.99		N		N
344	8.2	1.3	4.59	16.34	A	A	A

Reported Results for Sr-90 determination in Sample 7

TABLE 62. Target values

Parameter	Value
Activity per sample [Bq/sample]	4.52
Uncertainty [Bq/sample]	0.22
Maximum Acceptable Relative Bias, [%]	30

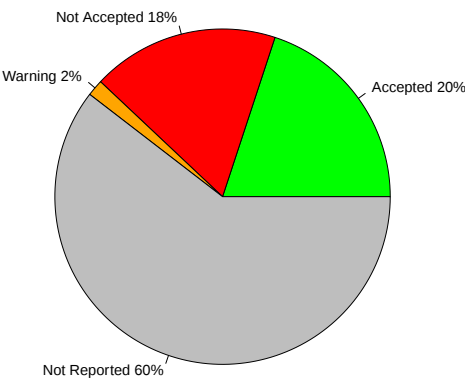


FIGURE 59. Percentage of Accepted vs. Warnings vs. Not Accepted vs. Not Reported results

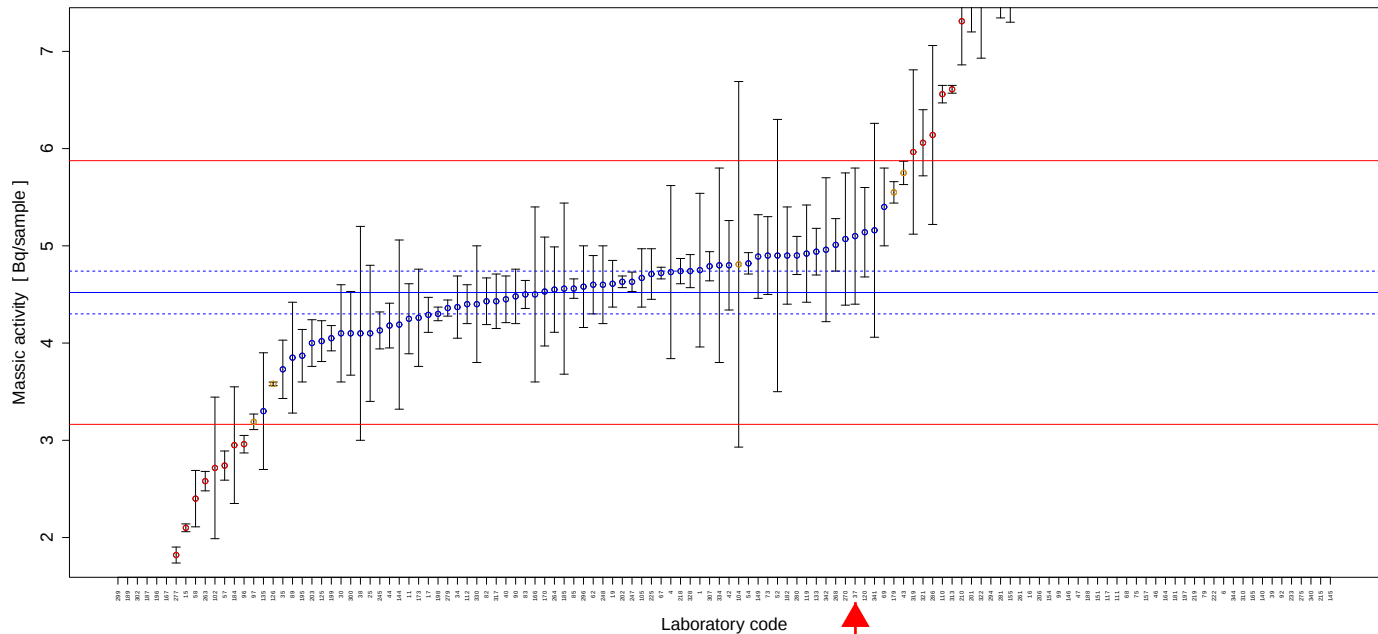


FIGURE 60. Reported results and evaluation parameters for Sr-90. Blue points represent accepted scores, whereas yellow and red represent warning and not accepted scores respectively.

TABLE 63. Evaluation Results for Sr-90 in Sample 7, Rep. Value and Rep. Unc. in Bq/sample by beta

Labcode	Reported value [Bq/sample]	Reported uncertainty ($k = 1$) [Bq/sample]	Relative bias [%]	P-Test [%]	Trueness evaluation	Precision evaluation	Final Score
1	4.75	0.79	5.09	17.33	A	A	A
4	4.73	0.89	4.65	19.44	A	A	A
6	11.6	0.23	156.64	5.26	N	N	N
11	4.25	0.36	-5.97	9.77	A	A	A
15	2.1	0.04	-53.54	5.23	N	N	N
16	8.69	0.28	92.26	5.84	N	N	N
17	4.29	0.18	-5.09	6.43	A	A	A
19	4.61	0.24	1.99	7.13	A	A	A
25	4.10	0.7	-9.29	17.75	A	A	A
30	4.1	0.5	-9.29	13.13	A	A	A
34	4.37	0.32	-3.32	8.79	A	A	A
35	3.73	0.30	-17.48	9.40	A	A	A
37	5.10	0.7	12.83	14.56	A	A	A
38	4.1	1.1	-9.29	27.27	A	A	A
39	14.60	0.77	223.01	7.18	N	N	N
40	4.45	0.24	-1.55	7.26	A	A	A
42	4.80	0.46	6.19	10.75	A	A	A
43	5.75	0.12	27.21	5.30	A	N	W
44	4.18	0.23	-7.52	7.35	A	A	A
46	9.64	0.1	113.27	4.98	N	N	N
47	9.17	0.1	102.88	4.99	N	N	N
52	4.9	1.4	8.41	28.98	A	A	A
54	4.82	0.11	6.64	5.38	A	A	A
57	2.74	0.15	-39.38	7.33	N	N	N
58	2.40	0.29	-46.90	13.03	N	N	N
62	4.6	0.3	1.77	8.14	A	A	A
67	4.72	0.06	4.42	5.03	A	A	A
68	9.51	0.12	110.40	5.03	N	N	N
69	5.4	0.4	19.47	8.86	A	A	A
73	4.9	0.4	8.41	9.50	A	A	A
75	9.521	0.043	110.64	4.89	N	N	N
79	10.5	0.54	132.30	7.08	N	N	N
82	4.43	0.24	-1.99	7.28	A	A	A
83	4.5	0.144	-0.44	5.82	A	A	A
85	4.56	0.10	0.88	5.34	A	A	A
89	3.85	0.57	-14.82	15.58	A	A	A
90	4.48	0.28	-0.88	7.92	A	A	A
92	16.41	3.18	263.05	19.98	N	N	N
96	2.96	0.09	-34.51	5.74	N	N	N
97	3.19	0.08	-29.42	5.48	A	N	W
99	8.92	0.015	97.35	4.87	N	N	N
102	2.716	0.728	-39.91	27.24	N	A	N
104	4.81	1.88	6.42	39.39	A	N	W
105	4.67	0.30	3.32	8.06	A	A	A
110	6.56	0.09	45.13	5.06	N	N	N
111	9.38	0.28	107.52	5.71	N	N	N
112	4.4	0.2	-2.65	6.66	A	A	A
117	9.37	0.45	107.30	6.84	N	N	N
119	4.92	0.5	8.85	11.27	A	A	A
120	5.14	0.46	13.72	10.19	A	A	A
125	4.02	0.21	-11.06	7.14	A	A	A
126	3.580	0.019	-20.80	4.90	A	N	W
133	4.94	0.24	9.29	6.88	A	A	A
135	3.3	0.6	-26.99	18.82	A	A	A
140	13.45	0.38	197.57	5.63	N	N	N
144	4.19	0.87	-7.30	21.33	A	A	A
145	567	23	12444.25	6.34	N	N	N
146	8.99	0.38	98.89	6.45	N	N	N
149	4.89	0.43	8.19	10.05	A	A	A
151	9.34	0.22	106.64	5.41	N	N	N

TABLE 63. Evaluation Results for Sr-90 in Sample 7, Rep. Value and Rep. Unc. in Bq/sample by beta

Labcode	Reported value [Bq/sample]	Reported uncertainty ($k = 1$) [Bq/sample]	Relative bias [%]	P-Test [%]	Trueness evaluation	Precision evaluation	Final Score
154	8.8	0.8	94.69	10.31	N	N	N
155	8.4	1.1	85.84	13.97	N	N	N
157	9.55	1.00	111.28	11.55	N	N	N
164	9.7269	2.0544	115.20	21.67	N	N	N
165	12.35	0.51	173.23	6.38	N	N	N
166	4.5	0.9	-0.44	20.58	A	A	A
167	0.75	0.08	-83.41	11.72	N	N	N
170	4.53	0.56	0.22	13.29	A	A	A
173	4.26	0.5	-5.75	12.71	A	A	A
179	5.55	0.11	22.79	5.26	A	N	W
181	9.8	1.0	116.81	11.31	N	N	N
182	4.9	0.5	8.41	11.31	A	A	A
184	2.95	0.60	-34.73	20.91	N	A	N
185	4.56	0.88	0.88	19.90	A	A	A
187	0.209	0.019	-95.38	10.31	N	N	N
188	9.2	0.5	103.54	7.30	N	N	N
189	0.130	0.013	-97.12	11.12	N	N	N
195	3.87	0.27	-14.38	8.51	A	A	A
196	0.674	0.118	-85.09	18.17	N	N	N
197	9.8365	0.9874	117.62	11.16	N	N	N
198	4.3	0.07	-4.87	5.13	A	A	A
199	4.05	0.13	-10.40	5.83	A	A	A
201	7.5	0.3	65.93	6.30	N	N	N
202	4.63	0.06	2.43	5.04	A	A	A
203	4.00	0.24	-11.50	7.73	A	A	A
206	8.775	0.034	94.14	4.88	N	N	N
210	7.310	0.449	61.73	7.84	N	N	N
215	92	9	1935.40	10.93	N	N	N
218	4.74	0.13	4.87	5.59	A	A	A
219	10.17	1.02	125.00	11.15	N	N	N
222	11.00	0.50	143.36	6.66	N	N	N
225	4.71	0.26	4.20	7.36	A	A	A
233	23.57	2.82	421.46	12.92	N	N	N
245	4.13	0.19	-8.63	6.70	A	A	A
247	4.63	0.10	2.43	5.32	A	A	A
248	4.6	0.4	1.77	9.97	A	A	A
261	8.60	0.51	90.27	7.67	N	N	N
263	2.58	0.10	-42.92	6.22	N	N	N
264	4.55	0.439	0.66	10.81	A	A	A
268	5.01	0.27	10.84	7.26	A	A	A
270	5.07	0.68	12.17	14.27	A	A	A
275	28.2	7.0	523.89	25.30	N	N	N
277	1.820	0.082	-59.73	6.63	N	N	N
279	4.36	0.083	-3.54	5.23	A	A	A
280	4.901	0.196	8.43	6.30	A	A	A
281	8.16	0.816	80.53	11.12	N	N	N
286	6.14	0.92	35.84	15.75	N	A	N
294	8.0	0.5	76.99	7.92	N	N	N
296	4.58	0.42	1.33	10.38	A	A	A
299	0.07	0.02	-98.45	28.98	N	N	N
300	4.1	0.43	-9.29	11.56	A	A	A
302	0.202	0.0036	-95.53	5.18	N	N	N
307	4.79	0.15	5.97	5.79	A	A	A
310	11.73	0.040	159.51	4.88	N	N	N
313	6.61	0.04	46.24	4.90	N	N	N
317	4.43	0.28	-1.99	7.98	A	A	A
319	5.9650	0.845	31.97	14.98	N	A	N
321	6.06	0.34	34.07	7.43	N	N	N
322	7.76	0.83	71.68	11.75	N	N	N
328	4.74	0.17	4.87	6.05	A	A	A

TABLE 63. Evaluation Results for Sr-90 in Sample 7, Rep. Value and Rep. Unc. in Bq/sample by beta

Labcode	Reported value [Bq/sample]	Reported uncertainty ($k = 1$) [Bq/sample]	Relative bias [%]	P-Test [%]	Trueness evaluation	Precision evaluation	Final Score
330	4.4	0.6	-2.65	14.48	A	A	A
334	4.8	1.0	6.19	21.39	A	A	A
340	29.6	2.7	554.87	10.34	N	N	N
341	5.16	1.10	14.16	21.87	A	A	A
342	4.96	0.74	9.73	15.69	A	A	A
344	11.6	1.9	156.64	17.09	N	N	N

3.2 Display of intercomparison values

Reported Results for gross alpha Determination in Sample 1

TABLE 64. Target values

Parameter	Value
Robust Mean, Bq/kg	27.8
Robust SD, Bq/kg	6.4
N	240

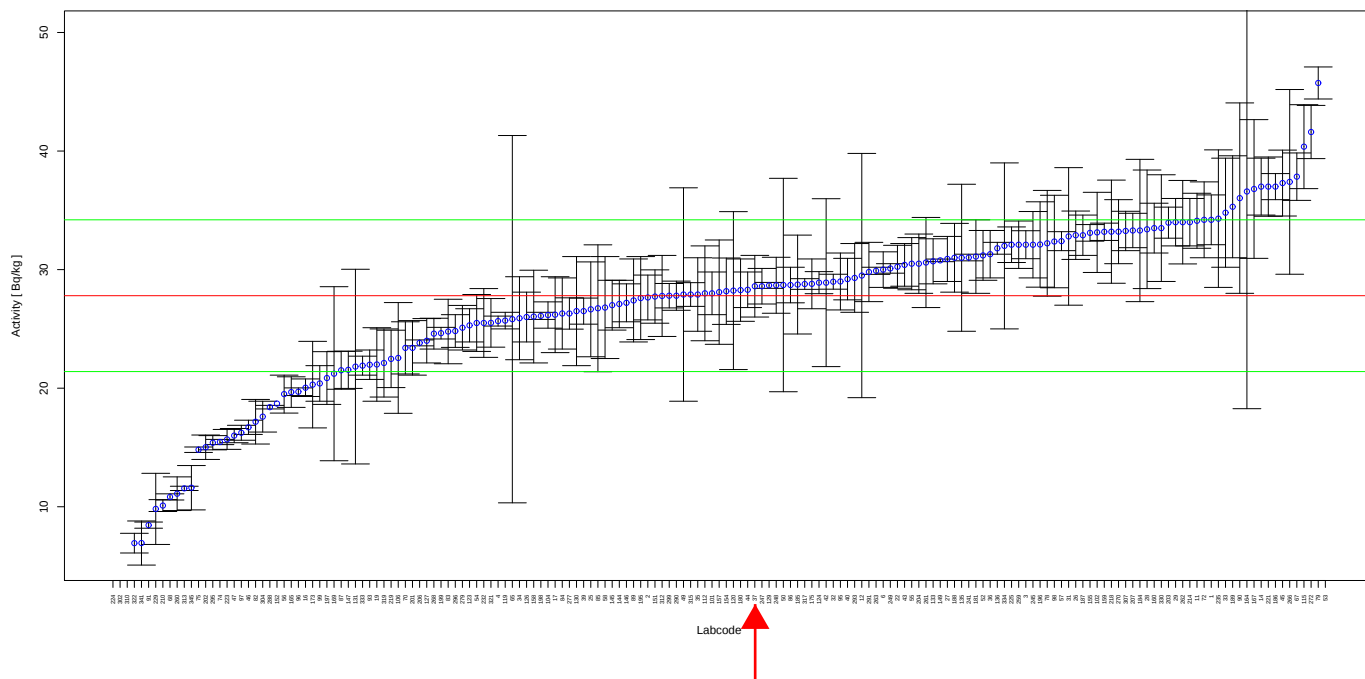


FIGURE 61. Reported results and evaluation parameters for gross alpha in Sample 1.

TABLE 65. IC Evaluation Results for gross alpha in Sample 1, Rep. Value and Rep. Unc. in Bq/kg

Labcode	Rep. Value	Rep. Unc.	Z-Score	Z-Score Evaluation
1	34.2	2.1	1.00	A
2	27.65	1.89	0.02	A
3	32.1	1.18	0.67	A
4	25.66	0.42	0.33	A
6	30.0	1.5	0.34	A
11	34.12	2.32	0.99	A
12	29.5	10.3	0.27	A
14	37.0	2.4	1.44	A
16	20.04	0.74	1.21	A
17	26.2	3.2	0.25	A
19	22.0	3.1	0.91	A
22	30.24	1.81	0.38	A
25	26.65	4.0	0.18	A
26	32.9	2.04	0.80	A
27	30.9	1.9	0.48	A
28	33.4	5.0	0.87	A
29	34	2	0.97	A
31	32.8	5.8	0.78	A
32	28.98	0.63	0.18	A
33	34.8	4.6	1.09	A
34	25.9	3.5	0.30	A
35	27.9	3.1	0.02	A
36	31.3	2.0	0.55	A
37	28.6	2.6	0.13	A

TABLE 65. IC Evaluation Results for gross alpha in Sample 1, Rep. Value and Rep. Unc. in Bq/kg

Labcode	Rep. Value	Rep. Unc.	Z-Score	Z-Score Evaluation
39	26.5	1.1	0.20	A
40	29.2	1.75	0.22	A
42	28.9	7.08	0.17	A
43	30.4	1.8	0.41	A
44	28.3	1.5	0.08	A
45	37.3	2.78	1.48	A
46	16.7	0.6	1.73	A
47	16.0	0.6	1.84	A
49	27.9	9	0.02	A
50	28.7	9	0.14	A
52	31.2	2.1	0.53	A
53	141.7	0.11	17.80	N
54	25.5	2.4	0.36	A
55	30.5	2.2	0.42	A
56	19.5	1.6	1.30	A
57	32.4	0.8	0.72	A
58	26.8	4.3	0.16	A
65	25.82	15.49	0.31	A
67	37.84	2	1.57	A
68	10.83	0.26	2.65	W
70	23.4	2.2	0.69	A
72	34.2	3.2	1.00	A
74	15.46	0.22	1.93	A
75	14.81	0.23	2.03	W
78	32.22	4.46	0.69	A
79	45.742	1.351	2.80	W
82	17.17	1.88	1.66	A
83	24.78	2.72	0.47	A
84	26.3	3.0	0.23	A
85	26.74	5.35	0.17	A
86	28.7	1.5	0.14	A
87	21.51	1.60	0.98	A
89	27.4	3.5	0.06	A
90	36.03	8.03	1.29	A
91	8.45	0.26	3.02	N
93	21.98	1.24	0.91	A
95	29.0	2.4	0.19	A
96	19.701	0.323	1.27	A
97	16.24	0.63	1.81	A
98	32.37	3.9	0.71	A
99	20.4	1.5	1.16	A
101	28.0	1.8	0.03	A
102	33.14	3.38	0.83	A
104	26.17	1.11	0.25	A
106	22.55	4.67	0.82	A
112	28	4	0.03	A
115	40.37	3.54	1.96	A
119	25.7	0.7	0.33	A
120	28.23	6.66	0.07	A
123	25.3	1.4	0.39	A
124	28.90	0.93	0.17	A
126	26.0	2.1	0.28	A
127	24	1.87	0.59	A
129	28.67	0.25	0.14	A
130	26.5	4.6	0.20	A
131	21.82	8.21	0.93	A
133	30.7	1.9	0.45	A
135	31.0	6.2	0.50	A
136	31.8	0.5	0.62	A
144	27.1	2.0	0.11	A
145	27.0	2.1	0.13	A

TABLE 65. IC Evaluation Results for gross alpha in Sample 1, Rep. Value and Rep. Unc. in Bq/kg

Labcode	Rep. Value	Rep. Unc.	Z-Score	Z-Score Evaluation
146	27.2	1.6	0.09	A
147	21.55	1.57	0.98	A
149	30.78	0.11	0.47	A
151	27.73	2.25	0.01	A
152	18.7		1.42	A
154	28.18	2.8	0.06	A
155	33.1	0.7	0.83	A
157	28.1	4.4	0.05	A
158	26.04	3.91	0.28	A
159	33.19	0.73	0.84	A
160	33.5	2.1	0.89	A
164	36.59	18.32	1.37	A
165	19.67	1.29	1.27	A
167	36.80	5.85	1.41	A
169	21.22	7.34	1.03	A
173	20.3	3.65	1.17	A
175	28.8	2.1	0.16	A
180	28.27	2.63	0.07	A
181	31.1	3.1	0.52	A
184	33.3	6.0	0.86	A
185	28.74	4.17	0.15	A
186	37.0	1.1	1.44	A
187	32.9	1.7	0.80	A
188	31.0	2.9	0.50	A
189	35.3	4.3	1.17	A
195	27.6	3.5	0.03	A
196	32.12	3.6	0.67	A
197	20.8557	2.2239	1.09	A
198	26.1	0.3	0.27	A
199	24.64	0.49	0.49	A
201	23.4	2.3	0.69	A
202	15.02	1.03	2.00	A
203	33.96	1.31	0.96	A
204	30.5	2.5	0.42	A
206	23.82	0.25	0.62	A
207	33.30	1.45	0.86	A
210	10.1	0.5	2.77	W
214	34	2	0.97	A
218	33.2	4.35	0.84	A
219	22.47	2.42	0.83	A
221	37.00	2.50	1.44	A
223	15.68	0.84	1.89	A
224	0.07	0.02	4.33	N
225	32.1	1.5	0.67	A
229	9.82	3.0	2.81	W
232	25.5	2.9	0.36	A
235	34.3	5.8	1.02	A
241	31.02	0.28	0.50	A
245	32.1	2.8	0.67	A
247	28.6	1.5	0.13	A
248	28.68	2.36	0.14	A
249	30.1	0.4	0.36	A
259	32.1	2	0.67	A
260	11.10	1.42	2.61	W
261	30.6	3.8	0.44	A
262	34.0	3.52	0.97	A
263	29.9	0.3	0.33	A
266	37.4	7.79	1.50	A
268	24.6	1.3	0.50	A
270	33.2	2.7	0.84	A
272	41.606	2.244	2.16	W

TABLE 65. IC Evaluation Results for gross alpha in Sample 1, Rep. Value and Rep. Unc. in Bq/kg

Labcode	Rep. Value	Rep. Unc.	Z-Score	Z-Score Evaluation
277	26.30	1.32	0.23	A
279	25.1	1.88	0.42	A
288	18.40	0.15	1.47	A
290	27.8	1.23	0.00	A
291	29.8	2.5	0.31	A
293	29.3	2.9	0.23	A
295	15.4	0.6	1.94	A
296	24.82	1.38	0.47	A
299	27.8	1.03	0.00	A
302	0.08	0.002	4.33	N
304	17.6	1.3	1.59	A
307	33.26	1.66	0.85	A
310	2.188	0.0342	4.00	N
312	27.78	3.417	0.00	A
313	11.55	0.18	2.54	W
315	27.9	1.0	0.02	A
317	28.786	0.45	0.15	A
319	22.125	2.873	0.89	A
321	25.51	2.05	0.36	A
322	6.93	0.83	3.26	N
330	33.5	4.5	0.89	A
333	21.9	0.8	0.92	A
334	32	7	0.66	A
341	6.94	1.86	3.26	N
345	11.6052	1.87	2.53	W

Reported Results for gross beta Determination in Sample 1

TABLE 66. Target values

Parameter	Value
Robust Mean, Bq/kg	17.3
Robust SD, Bq/kg	5.8
N	240

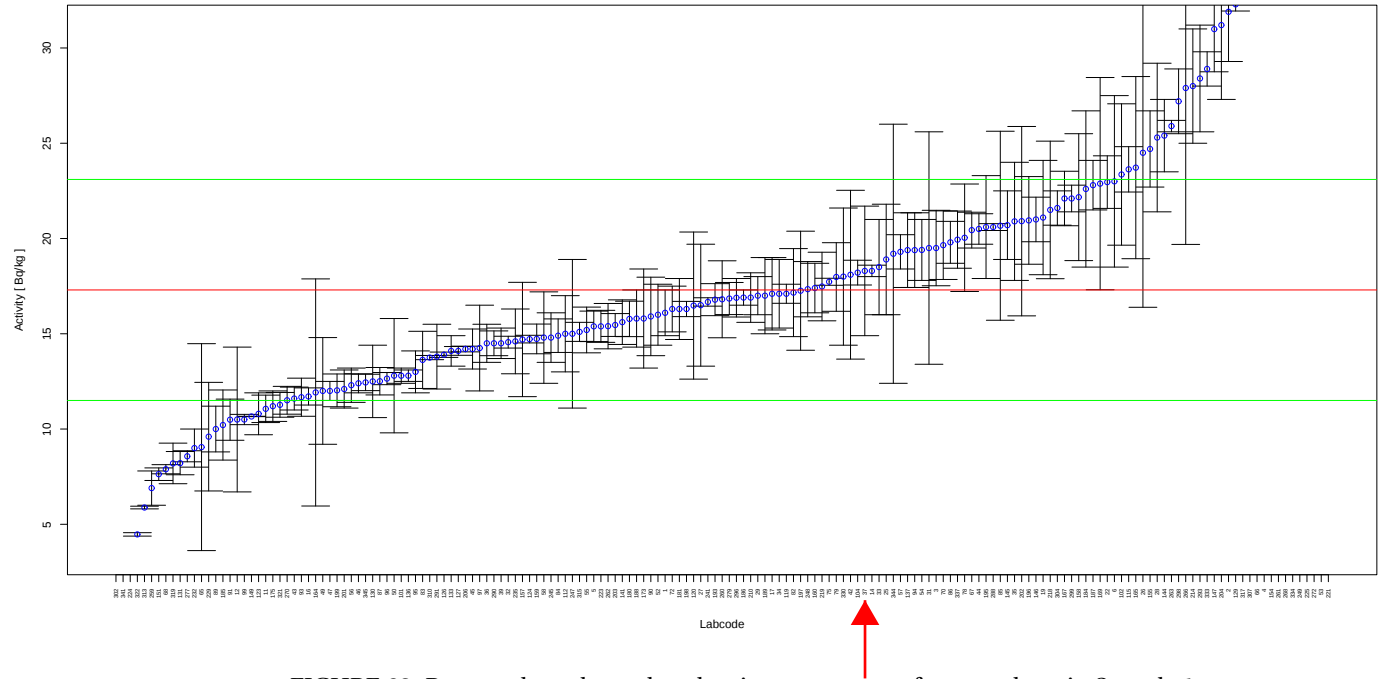


FIGURE 62. Reported results and evaluation parameters for gross beta in Sample 1.

TABLE 67. IC Evaluation Results for gross beta in Sample 1, Rep. Value and Rep. Unc. in Bq/kg

Labcode	Rep. Value	Rep. Unc.	Z-Score	Z-Score Evaluation
1	16.1	1.2	0.21	A
2	31.90	2.61	2.52	W
3	19.5	1.98	0.38	A
4	38.20	0.90	3.60	N
5	15.39	0.80	0.33	A
6	23.0	4.5	0.98	A
11	11.06	0.72	1.08	A
12	10.5	3.8	1.17	A
14	18.3	0.3	0.17	A
16	11.71	0.45	0.96	A
17	17.1	1.9	0.03	A
19	21.1	3.0	0.66	A
22	22.96	1.38	0.98	A
25	18.90	2.9	0.28	A
26	24.5	8.11	1.24	A
27	16.5	3.2	0.14	A
28	25.3	3.9	1.38	A
29	17	1	0.05	A
31	19.5	6.1	0.38	A
32	14.56	0.31	0.47	A
33	18.5	2.5	0.21	A
34	17.1	1.8	0.03	A
35	20.9	3.1	0.62	A
36	14.5	1.0	0.48	A
37	18.3	3.4	0.17	A

TABLE 67. IC Evaluation Results for gross beta in Sample 1, Rep. Value and Rep. Unc. in Bq/kg

Labcode	Rep. Value	Rep. Unc.	Z-Score	Z-Score Evaluation
39	14.5	0.8	0.48	A
42	18.1	4.43	0.14	A
43	11.6	0.6	0.98	A
44	20.5	0.8	0.55	A
45	14.2	1.05	0.53	A
46	12.4	0.5	0.84	A
47	12.0	0.5	0.91	A
49	12	2.8	0.91	A
50	12.8	3	0.78	A
52	16.0	1.6	0.22	A
53	146.4	0.13	22.26	N
54	19.4	1.6	0.36	A
55	15.2	1.2	0.36	A
56	12.3	0.9	0.86	A
57	19.3	0.9	0.34	A
58	14.8	2.4	0.43	A
65	9.05	5.43	1.42	A
66	37.4	2.22	3.47	N
67	20.44	0.94	0.54	A
68	7.89	0.24	1.62	A
70	19.65	1.8	0.41	A
72	16.3	1.2	0.17	A
75	17.729	0.184	0.07	A
78	20.04	2.82	0.47	A
79	17.98	1.80	0.12	A
82	17.16	2.31	0.02	A
83	13.63	1.5	0.63	A
84	14.9	0.88	0.41	A
85	20.67	4.96	0.58	A
86	19.8	1.1	0.43	A
87	12.51	0.72	0.83	A
89	10.0	1.2	1.26	A
90	15.91	2.06	0.24	A
91	10.49	1.08	1.17	A
93	11.67	1.00	0.97	A
94	19.39	1.96	0.36	A
95	13.0	1.1	0.74	A
96	12.647	0.319	0.80	A
97	14.25	2.25	0.53	A
99	10.50	0.27	1.17	A
101	12.8	0.4	0.78	A
102	23.36	3.71	1.04	A
104	18.21	0.65	0.16	A
112	15	2	0.40	A
115	23.63	1.19	1.09	A
119	17.1	0.5	0.03	A
120	16.48	3.86	0.14	A
123	10.8	1.1	1.12	A
124	14.72	0.20	0.44	A
126	13.9	0.14	0.59	A
127	14.10	0.23	0.55	A
129	32.29	0.35	2.58	W
130	12.5	1.9	0.83	A
131	8.21	0.61	1.57	A
133	14.1	0.8	0.55	A
136	12.8	0.3	0.78	A
137	19.39	1.96	0.36	A
141	15.61	1.17	0.29	A
144	25.4	1.9	1.40	A
145	20.7	1.8	0.59	A
146	21.0	1.17	0.64	A

TABLE 67. IC Evaluation Results for gross beta in Sample 1, Rep. Value and Rep. Unc. in Bq/kg

Labcode	Rep. Value	Rep. Unc.	Z-Score	Z-Score Evaluation
147	30.99	2.24	2.36	W
149	10.66	0.01	1.14	A
151	7.63	0.33	1.67	A
154	38.5	3.85	3.66	N
155	24.7	2.0	1.28	A
157	14.7	3.0	0.45	A
158	22.17	3.33	0.84	A
159	14.73	0.78	0.44	A
160	17.4	1.3	0.02	A
164	11.92	5.96	0.93	A
165	23.72	4.78	1.11	A
167	22.10	1.43	0.83	A
169	22.88	5.57	0.96	A
173	15.8	2.6	0.26	A
175	11.2	0.8	1.05	A
180	15.78	0.93	0.26	A
181	16.3	1.6	0.17	A
184	22.6	4.1	0.91	A
185	10.21	1.84	1.22	A
186	16.9	0.4	0.07	A
187	22.8	1.3	0.95	A
188	15.8	1.5	0.26	A
189	17	2	0.05	A
193	16.79	0.84	0.09	A
195	20.6	2.7	0.57	A
196	20.95	2.3	0.63	A
197	17.2595	3.1245	0.01	A
198	16.3	0.4	0.17	A
199	12.03	0.86	0.91	A
201	12.1	1.0	0.90	A
202	20.91	4.97	0.62	A
203	15.46	0.60	0.32	A
204	31.2	3.9	2.40	W
206	14.20	0.15	0.53	A
210	16.9	1.3	0.07	A
214	28	3	1.84	A
218	21.5	3.61	0.72	A
219	17.48	1.8	0.03	A
221	273.42	0.05	44.16	N
223	15.39	0.84	0.33	A
224	1.165	0.075	2.78	W
225	55.5	5.7	6.59	N
229	9.60	2.85	1.33	A
232	9	1	1.43	A
235	14.6	1.7	0.47	A
241	16.67	0.22	0.11	A
245	14.8	1.3	0.43	A
247	15.0	3.9	0.40	A
248	17.34	1.45	0.01	A
249	54.4	0.9	6.40	N
259	6.9	0.9	1.79	A
260	16.81	2.02	0.08	A
261	40.3	5.5	3.97	N
262	15.4	1.19	0.33	A
263	25.9	0.3	1.48	A
266	27.9	8.21	1.83	A
268	41.2	2.5	4.12	N
270	11.51	0.73	1.00	A
272	66.77	3.07	8.53	N
277	8.57	0.29	1.51	A
279	16.85	0.8425	0.08	A

TABLE 67. IC Evaluation Results for gross beta in Sample 1, Rep. Value and Rep. Unc. in Bq/kg

Labcode	Rep. Value	Rep. Unc.	Z-Score	Z-Score Evaluation
288	20.6	0.18	0.57	A
290	14.5	0.65	0.48	A
291	13.8	1.7	0.60	A
293	28.4	2.8	1.91	A
296	16.89	1.01	0.07	A
298	27.2	1.7	1.71	A
299	22.1	0.7	0.83	A
302	0.3	0.012	2.93	W
304	21.6	0.9	0.74	A
307	36.44	3.78	3.30	N
310	13.751	0.1104	0.61	A
313	5.88	0.07	1.97	A
315	15.1	0.5	0.38	A
317	35.96	0.49	3.22	N
319	8.195	1.065	1.57	A
321	11.27	0.65	1.04	A
322	4.47	0.09	2.21	W
330	18.0	3.6	0.12	A
333	28.9	0.9	2.00	A
334	48	10	5.29	N
337	19.94	1.5	0.46	A
341	0.74	0.2	2.86	W
344	19.2	6.8	0.33	A
345	12.4457	0.43	0.84	A

Reported Results for gross alpha Determination in Sample 2

TABLE 68. Target values

Parameter	Value
Robust Mean, Bq/kg	13.2
Robust SD, Bq/kg	6.1
N	226

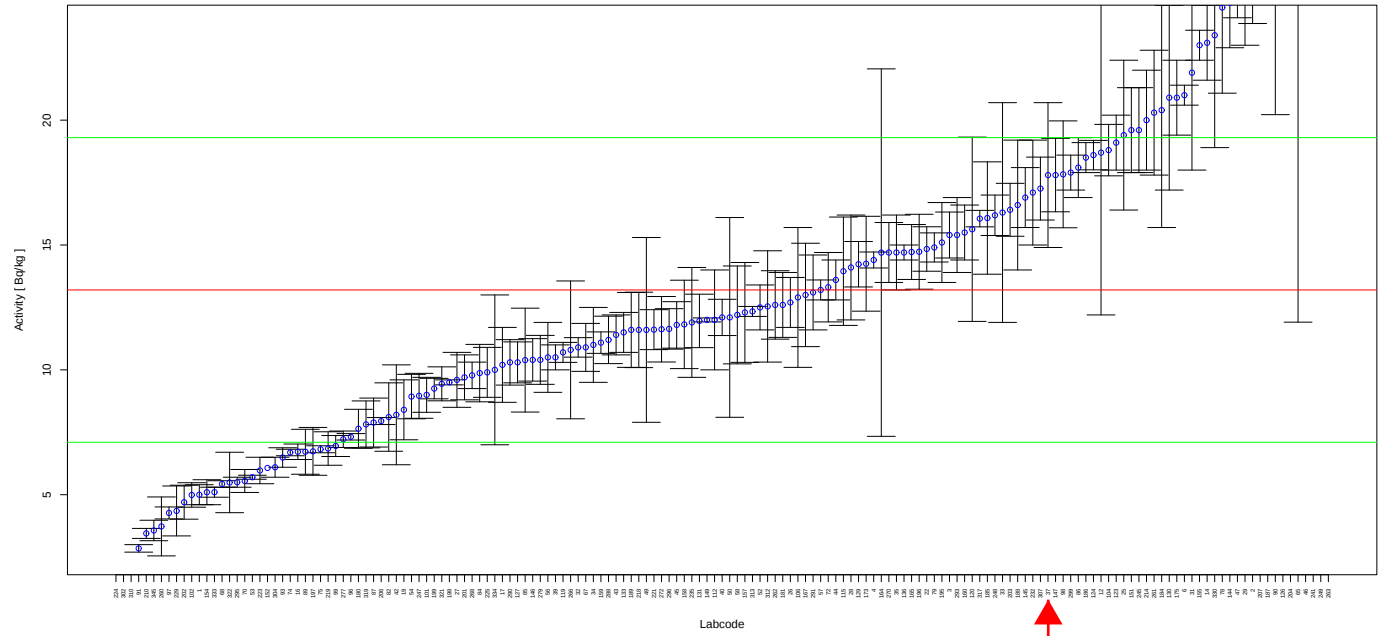


FIGURE 63. Reported results and evaluation parameters for gross alpha in Sample 2.

TABLE 69. IC Evaluation Results for gross alpha in Sample 2, Rep. Value and Rep. Unc. in Bq/kg

Labcode	Rep. Value	Rep. Unc.	Z-Score	Z-Score Evaluation
1	5.0	0.4	1.34	A
2	25.60	1.73	2.03	W
3	15.4	0.92	0.36	A
4	14.40	0.32	0.20	A
6	21.0	0.4	1.28	A
12	18.7	6.5	0.90	A
14	23.1	1.5	1.62	A
16	6.72	0.31	1.06	A
17	10.2	1.5	0.49	A
19	8.40	1.20	0.79	A
22	14.84	0.89	0.27	A
25	19.4	3.0	1.02	A
26	12.7	1.00	0.08	A
27	9.6	1.1	0.59	A
28	14.1	2.1	0.15	A
29	25	2	1.93	A
31	21.9	3.9	1.43	A
32	10.90	0.39	0.38	A
33	16.3	4.4	0.51	A
34	11	1.5	0.36	A
35	14.7	1.5	0.25	A
37	17.8	2.9	0.75	A
39	10.5	0.5	0.44	A
40	12.1	0.726	0.18	A
42	8.2	2.00	0.82	A

TABLE 69. IC Evaluation Results for gross alpha in Sample 2, Rep. Value and Rep. Unc. in Bq/kg

Labcode	Rep. Value	Rep. Unc.	Z-Score	Z-Score Evaluation
43	11.4	0.8	0.30	A
44	13.6	0.8	0.07	A
45	11.8	0.93	0.23	A
46	29.8	0.9	2.72	W
47	24.9	0.8	1.92	A
49	11.6	3.7	0.26	A
50	12.1	4	0.18	A
52	12.5	0.9	0.11	A
53	5.7	0.08	1.23	A
54	8.93	0.89	0.70	A
56	10.5	1.4	0.44	A
57	13.2	0.4	0.00	A
58	12.20	1.96	0.16	A
65	29.78	17.87	2.72	W
67	10.9	0.96	0.38	A
68	5.43	0.13	1.27	A
70	5.55	0.46	1.25	A
72	13.31	1.39	0.02	A
74	6.69	0.13	1.07	A
75	6.82	0.14	1.05	A
78	24.51	3.43	1.85	A
79	14.902	0.583	0.28	A
82	8.11	1.37	0.83	A
84	9.87	1.15	0.55	A
85	10.39	2.08	0.46	A
86	18.1	1.2	0.80	A
87	7.89	0.98	0.87	A
89	6.72	0.90	1.06	A
90	26.96	6.74	2.26	W
91	2.85	0.15	1.70	A
93	6.49	0.39	1.10	A
96	7.319	0.129	0.96	A
97	4.27	0.24	1.46	A
98	17.83	2.14	0.76	A
99	6.95	0.42	1.02	A
101	9.0	0.7	0.69	A
102	4.99	0.49	1.35	A
104	18.8	1.03	0.92	A
106	12.9	2.8	0.05	A
112	12	2	0.20	A
115	13.95	2.17	0.12	A
119	10.7	0.4	0.41	A
120	15.63	3.69	0.40	A
123	19.1	1.1	0.97	A
124	18.60	0.59	0.89	A
126	27.0	1.1	2.26	W
127	10.3	0.82	0.48	A
129	14.23	0.91	0.17	A
130	20.9	3.7	1.26	A
131	11.96	1.07	0.20	A
133	11.5	0.8	0.28	A
136	14.7	0.3	0.25	A
144	24.7	1.8	1.89	A
145	16.9	1.2	0.61	A
146	10.4	0.85	0.46	A
147	17.80	1.47	0.75	A
149	12.00	0.08	0.20	A
151	19.60	1.7	1.05	A
152	6.07		1.17	A
154	5.1	0.5	1.33	A
155	23.0	0.6	1.61	A

TABLE 69. IC Evaluation Results for gross alpha in Sample 2, Rep. Value and Rep. Unc. in Bq/kg

Labcode	Rep. Value	Rep. Unc.	Z-Score	Z-Score Evaluation
157	12.3	2.0	0.15	A
158	11.82	1.77	0.23	A
159	11.09	0.43	0.35	A
160	15.5	1.1	0.38	A
164	14.6959	7.3578	0.25	A
165	14.72	1.1	0.25	A
167	13.00	2.07	0.03	A
173	14.25	1.9	0.17	A
175	20.9	1.5	1.26	A
180	7.64	0.78	0.91	A
181	12.6	1.3	0.10	A
184	20.4	4.7	1.18	A
185	16.08	2.25	0.47	A
186	18.5	0.6	0.87	A
187	26.3	1.3	2.15	W
188	16.6	2.6	0.56	A
189	11.6	1.5	0.26	A
195	15.1	1.6	0.31	A
196	14.73	1.5	0.25	A
197	6.7358	0.9581	1.06	A
198	9.5	0.1	0.61	A
199	9.25	0.41	0.65	A
201	9.7	0.9	0.57	A
202	4.70	0.68	1.39	A
203	16.41	1.06	0.53	A
204	27.4	2.3	2.33	W
206	7.95	0.14	0.86	A
207	26.07	1.44	2.11	W
210	3.45	0.2	1.60	A
214	20	2	1.11	A
218	11.6	1.51	0.26	A
219	6.85	0.67	1.04	A
221	11.61	0.80	0.26	A
223	5.97	0.53	1.19	A
224	0.04	0.01	2.16	W
225	9.9	1.0	0.54	A
229	4.35	1.00	1.45	A
232	17.1	2.1	0.64	A
235	11.9	2.2	0.21	A
241	31.42	0.28	2.99	W
245	19.6	1.7	1.05	A
247	8.96	0.90	0.70	A
248	16.19	0.81	0.49	A
249	32.5	0.4	3.16	N
260	3.73	1.18	1.55	A
261	20.3	2.5	1.16	A
262	12.6	1.37	0.10	A
263	160	1	24.07	N
266	10.8	2.76	0.39	A
268	9.78	0.53	0.56	A
270	14.7	1.2	0.25	A
272	11.626	1.311	0.26	A
277	7.22	0.33	0.98	A
279	10.4	0.98	0.46	A
288	11.2	0.95	0.33	A
290	10.3	0.91	0.48	A
291	13.1	1.5	0.02	A
293	15.4	1.5	0.36	A
295	5.5	0.2	1.26	A
296	11.64	0.81	0.26	A
299	17.9	0.7	0.77	A

TABLE 69. IC Evaluation Results for gross alpha in Sample 2, Rep. Value and Rep. Unc. in Bq/kg

Labcode	Rep. Value	Rep. Unc.	Z-Score	Z-Score Evaluation
302	0.28	0.043	2.12	W
304	6.1	0.4	1.16	A
307	17.26	1.26	0.67	A
310	0.8039	0.0164	2.03	W
312	12.54	2.229	0.11	A
313	12.34	0.20	0.14	A
317	16.057	0.33	0.47	A
319	7.816	0.940	0.88	A
321	9.44	0.68	0.62	A
322	5.49	1.21	1.26	A
330	23.4	4.5	1.67	A
333	5.1	0.2	1.33	A
334	10	3	0.52	A
345	3.5676	0.41	1.58	A

Reported Results for gross beta Determination in Sample 2

TABLE 70. Target values

Parameter	Value
Robust Mean, Bq/kg	135
Robust SD, Bq/kg	42
N	231

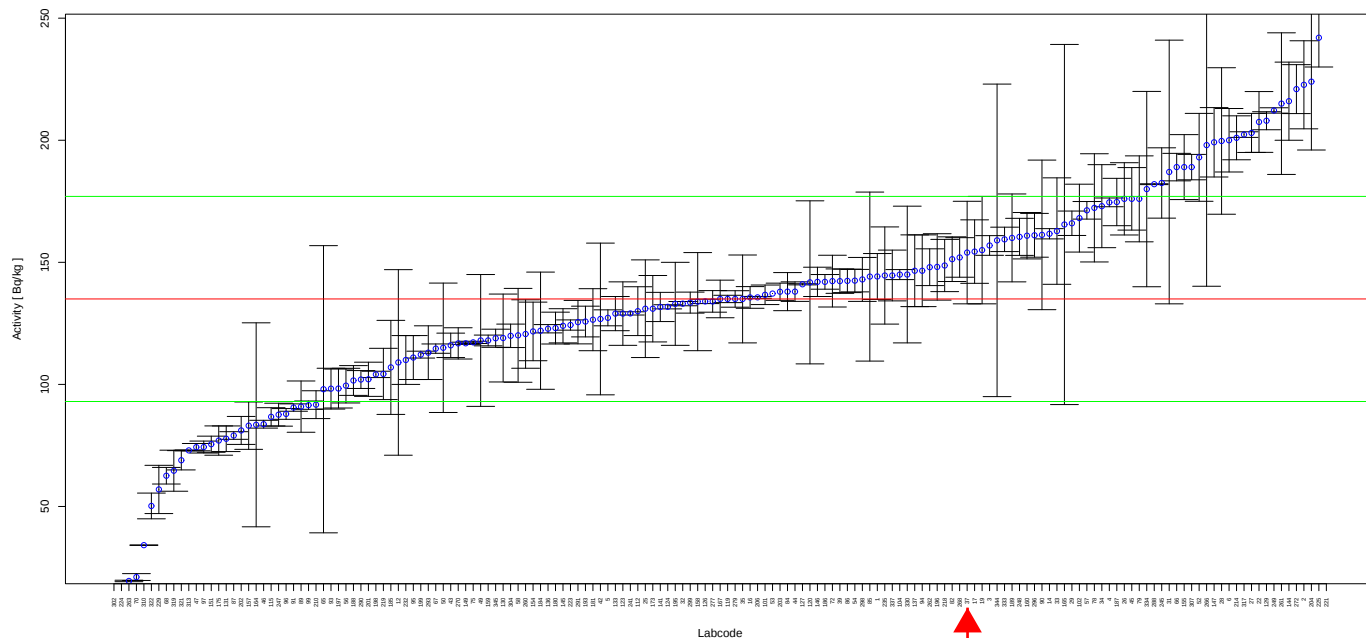


FIGURE 64. Reported results and evaluation parameters for gross beta in Sample 2.

TABLE 71. IC Evaluation Results for gross beta in Sample 2, Rep. Value and Rep. Unc. in Bq/kg

Labcode	Rep. Value	Rep. Unc.	Z-Score	Z-Score Evaluation
1	144.2	9.4	0.22	A
2	222.71	18.03	2.09	W
3	156.9	4.03	0.52	A
4	174.56	1.79	0.94	A
5	127.27	3.27	0.18	A
6	200.0	13.0	1.55	A
12	109	38	0.62	A
14	161.7	2.1	0.64	A
16	135.62	4.44	0.01	A
17	154.4	13.0	0.46	A
19	155	22	0.48	A
22	207.49	12.45	1.73	A
25	131	20.0	0.10	A
26	176	14.8	0.98	A
27	203	8	1.62	A
28	199.7	30.0	1.54	A
29	166	5	0.74	A
31	187	54	1.24	A
32	133.08	0.87	0.05	A
33	162.8	21.8	0.66	A
34	173	17	0.90	A
35	135	18	0.00	A
37	154	21	0.45	A
39	142.3	5.0	0.17	A
42	126.8	31.07	0.20	A

TABLE 71. IC Evaluation Results for gross beta in Sample 2, Rep. Value and Rep. Unc. in Bq/kg

Labcode	Rep. Value	Rep. Unc.	Z-Score	Z-Score Evaluation
43	116	5	0.45	A
44	138	4	0.07	A
45	176	12.8	0.98	A
46	83.7	1.6	1.22	A
47	74.3	1.5	1.45	A
49	118	27	0.40	A
50	115	26.5	0.48	A
52	193	18	1.38	A
53	137.2	0.01	0.05	A
54	142.5	4.6	0.18	A
56	99.5	7.1	0.85	A
57	171.3	3.6	0.86	A
58	120.10	19.22	0.35	A
65	98.02	58.81	0.88	A
66	189.0	5.63	1.29	A
67	114.66	1.91	0.48	A
68	62.6	3.4	1.72	A
70	21.1	1.4	2.71	W
72	142.3	10.6	0.17	A
75	117.222	0.460	0.42	A
78	172.31	22.16	0.89	A
79	176	17.6	0.98	A
82	151.29	9.15	0.39	A
84	138	7.8	0.07	A
85	144.16	34.61	0.22	A
86	142.4	4.8	0.18	A
87	79.07	1.56	1.33	A
89	90.90	10.5	1.05	A
90	161.24	30.63	0.62	A
91	90.52	1.51	1.06	A
93	98.26	8.36	0.87	A
94	146.55	14.69	0.28	A
95	111	9	0.57	A
96	87.902	2.202	1.12	A
97	74.34	2.45	1.44	A
99	91.5	1.7	1.04	A
101	136.7	4.0	0.04	A
102	168.1	13.9	0.79	A
104	144.98	2.05	0.24	A
112	130	10	0.12	A
115	86.73	3.73	1.15	A
119	135	1.5	0.00	A
120	141.8	33.39	0.16	A
123	129	13	0.14	A
124	131.78	0.85	0.08	A
126	134	0.9	0.02	A
127	141	0.235	0.14	A
129	207.99	3.69	1.74	A
130	119	18	0.38	A
131	77.74	5.25	1.36	A
133	129	7	0.14	A
136	122.8	1.7	0.29	A
137	146.55	14.69	0.28	A
141	131.72	5.98	0.08	A
144	216	16	1.93	A
145	124	7	0.26	A
146	142	6	0.17	A
147	199.16	14.21	1.53	A
149	116.84	0.45	0.43	A
151	75.51	3.30	1.42	A
154	121.7	12	0.32	A

TABLE 71. IC Evaluation Results for gross beta in Sample 2, Rep. Value and Rep. Unc. in Bq/kg

Labcode	Rep. Value	Rep. Unc.	Z-Score	Z-Score Evaluation
155	189.0	13.3	1.29	A
157	83.1	9.7	1.24	A
158	133.9	20.09	0.03	A
159	118.0	2.2	0.40	A
160	160.9	9.5	0.62	A
164	83.4528	41.7728	1.23	A
165	165.49	73.75	0.73	A
167	135.00	7.70	0.00	A
173	131	13.6	0.10	A
175	77	6	1.38	A
180	123.07	6.52	0.28	A
181	126.5	12.7	0.20	A
184	122	24	0.31	A
185	106.97	19.26	0.67	A
186	142	3	0.17	A
187	174.7	9.7	0.95	A
188	101.6	6.1	0.80	A
189	160	18	0.60	A
193	125.75	6.29	0.22	A
195	133	17	0.05	A
196	148.12	13.6	0.31	A
197	98.3126	7.977	0.87	A
198	104.1	1.3	0.74	A
199	112.20	1.41	0.54	A
201	102.1	7.0	0.78	A
202	81.15	5.73	1.28	A
203	137.95	3.52	0.07	A
204	224	28	2.12	W
206	135.65	0.38	0.02	A
210	91.7	5.7	1.03	A
214	201	9	1.57	A
218	148.7	10.7	0.33	A
219	104.28	10.5	0.73	A
221	2727.00	0.30	61.71	N
223	124.32	2.10	0.25	A
224	1.565	0.008	3.18	N
225	242	12	2.55	W
229	56.98	9.88	1.86	A
232	110	10	0.60	A
235	144.6	19.9	0.23	A
241	129.08	0.66	0.14	A
245	182.5	14.4	1.13	A
247	87.6	4.7	1.13	A
248	160.43	7.59	0.61	A
249	212.2	1.1	1.84	A
260	120.64	14.02	0.34	A
261	215	29	1.90	A
262	148	7.53	0.31	A
263	19.5	0.3	2.75	W
266	198	57.8	1.50	A
268	152	8.1	0.40	A
270	116.8	6.4	0.43	A
272	220.94	10.02	2.05	W
277	134.00	4.42	0.02	A
279	135	3.375	0.00	A
288	182	0.17	1.12	A
290	102	3.66	0.79	A
291	125.5	8.9	0.23	A
293	113	11	0.52	A
296	161.07	8.97	0.62	A
298	143	9	0.19	A

TABLE 71. IC Evaluation Results for gross beta in Sample 2, Rep. Value and Rep. Unc. in Bq/kg

Labcode	Rep. Value	Rep. Unc.	Z-Score	Z-Score Evaluation
299	133.5	4.3	0.04	A
302	1.53	0.16	3.18	N
304	119.9	4.8	0.36	A
307	189	5.2	1.29	A
310	34.158	0.110	2.40	W
313	72.97	0.18	1.48	A
317	202.32	1.15	1.60	A
319	64.653	8.405	1.67	A
321	68.93	3.95	1.57	A
322	50.22	5.27	2.02	W
330	145	28	0.24	A
333	159.4	5.0	0.58	A
334	180	40	1.07	A
337	144.61	10.4	0.23	A
344	159	64	0.57	A
345	118.9038	3.71	0.38	A

Reported Results for Th-232 Determination in Sample 4

TABLE 72. Target values

Parameter	Value
Target value [Bq/kg]	32.9
Uncertainty [Bq/kg]	2.0

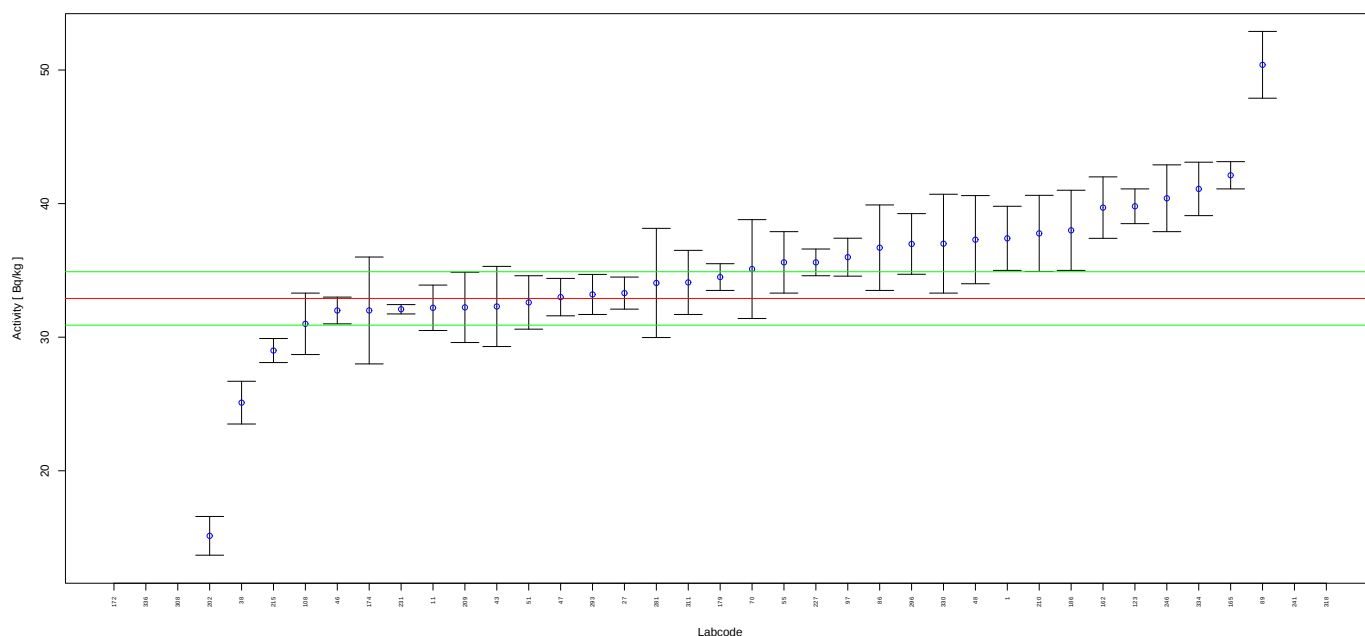


FIGURE 65. Reported results and evaluation parameters for Th-232 in Sample 4.

TABLE 73. IC Evaluation Results for Th-232 in Sample 4, Rep. Value and Rep. Unc. in Bq/kg

Labcode	Rep. Value	Rep. Unc.	Z-Score	Z-Score Evaluation
1	37.4	2.4	2.25	W
11	32.2	1.7	0.35	A
27	33.3	1.2	0.20	A
38	25.1	1.6	3.90	N
43	32.3	3.0	0.30	A
46	32	1	0.45	A
47	33	1.4	0.05	A
48	37.3	3.3	2.20	W
51	32.6	2.0	0.15	A
55	35.6	2.3	1.35	A
70	35.1	3.7	1.10	A
86	36.7	3.2	1.90	A
89	50.39	2.5	8.75	N
97	35.99	1.42	1.55	A
108	31	2.3	0.95	A
123	39.8	1.3	3.45	N
162	39.7	2.3	3.40	N
165	42.12	1.02	4.61	N
172	3.24	0.357	14.83	N
174	32	4	0.45	A
179	34.5	1.0	0.80	A
186	38	3	2.55	W
202	15.13	1.45	8.88	N
209	32.23	2.63	0.34	A
210	37.77	2.85	2.44	W
215	29.0	0.9	1.95	A

TABLE 73. IC Evaluation Results for Th-232 in Sample 4, Rep. Value and Rep. Unc. in Bq/kg

Labcode	Rep. Value	Rep. Unc.	Z-Score	Z-Score Evaluation
227	35.6	1.0	1.35	A
231	32.09	0.35	0.40	A
241	65.3	5.2	16.20	N
246	40.4	2.5	3.75	N
281	34.06	4.087	0.58	A
293	33.2	1.5	0.15	A
296	36.98	2.27	2.04	W
308	9.12	0.11	11.89	N
311	34.1	2.4	0.60	A
318	70.2	5.1	18.65	N
330	37	3.7	2.05	W
334	41.1	2.0	4.10	N
336	4.62	0.27	14.14	N

Reported Results for U-234 Determination in Sample 4

TABLE 74. Target values

Parameter	Value
Target value [Bq/kg]	23.0
Uncertainty [Bq/kg]	1.5

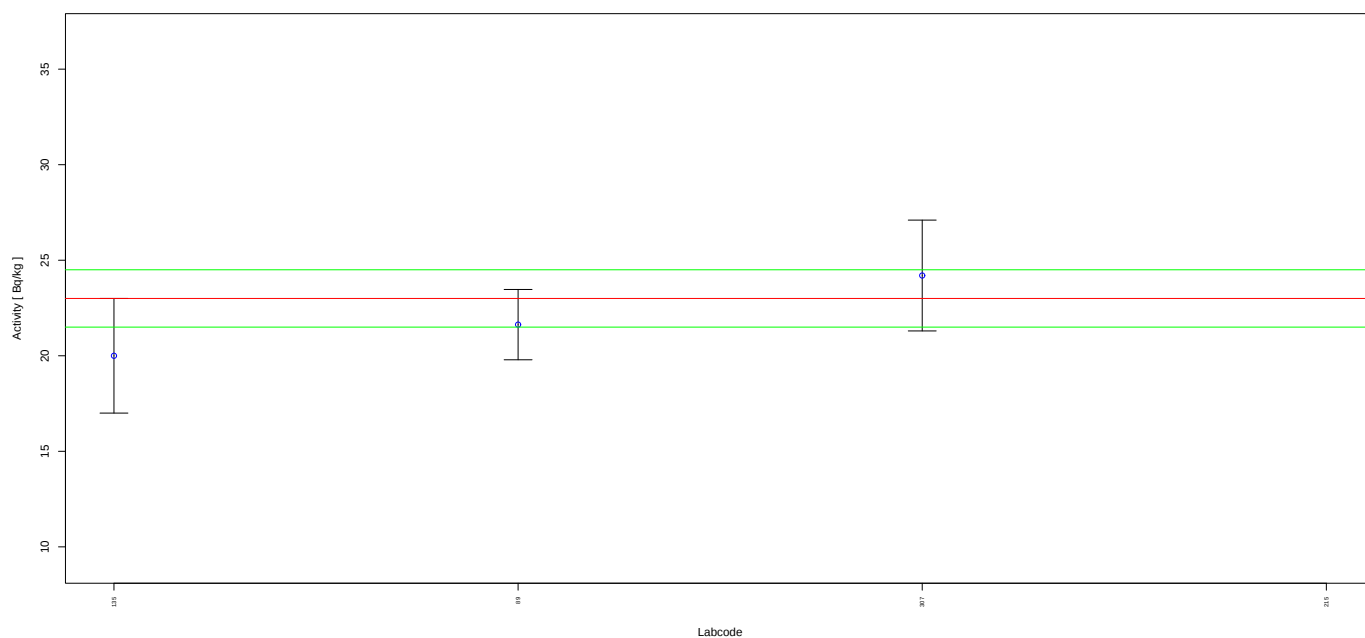


FIGURE 66. Reported results and evaluation parameters for U-234 in Sample 4.

TABLE 75. IC Evaluation Results for U-234 in Sample 4, Rep. Value and Rep. Unc. in Bq/kg

Labcode	Rep. Value	Rep. Unc.	Z-Score	Z-Score Evaluation
89	21.63	1.84	0.91	A
135	20	3	2.00	A
215	170	6	98.00	N
307	24.2	2.9	0.80	A

Reported Results for U-238 Determination in Sample 4

TABLE 76. Target values

Parameter	Value
Target value [Bq/kg]	23.0
Uncertainty [Bq/kg]	1.5

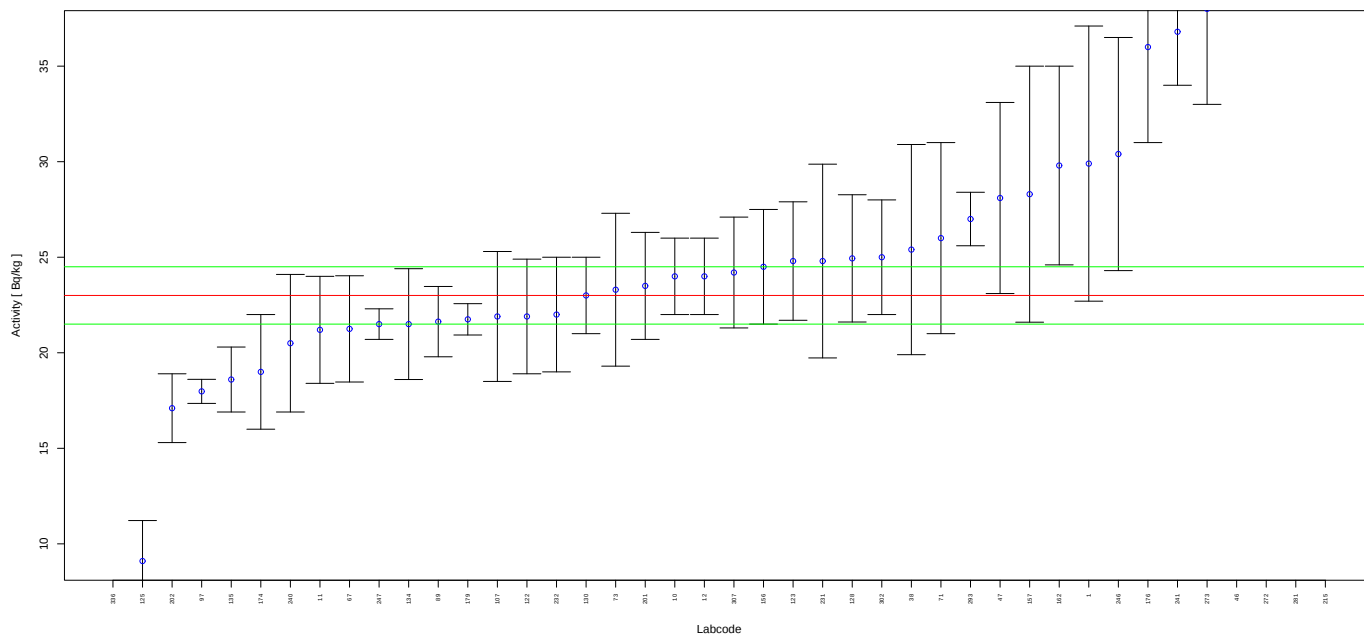


FIGURE 67. Reported results and evaluation parameters for U-238 in Sample 4.

TABLE 77. IC Evaluation Results for U-238 in Sample 4, Rep. Value and Rep. Unc. in Bq/kg

Labcode	Rep. Value	Rep. Unc.	Z-Score	Z-Score Evaluation
1	29.9	7.2	4.60	N
10	24	2	0.67	A
11	21.2	2.8	1.20	A
12	24	2	0.67	A
38	25.4	5.5	1.60	A
46	42	4	12.67	N
47	28.1	5.0	3.40	N
67	21.25	2.78	1.17	A
71	26	5	2.00	A
73	23.3	4.0	0.20	A
89	21.63	1.84	0.91	A
97	17.98	0.63	3.35	N
107	21.9	3.4	0.73	A
122	21.9	3.0	0.73	A
123	24.8	3.1	1.20	A
125	9.10	2.12	9.27	N
128	24.94	3.33	1.29	A
130	23.0	2.0	0.00	A
134	21.5	2.9	1.00	A
135	18.6	1.7	2.93	W
156	24.5	3.0	1.00	A
157	28.3	6.7	3.53	N
162	29.8	5.2	4.53	N
174	19	3	2.67	W
176	36	5	8.67	N
179	21.75	0.82	0.83	A

TABLE 77. IC Evaluation Results for U-238 in Sample 4, Rep. Value and Rep. Unc. in Bq/kg

Labcode	Rep. Value	Rep. Unc.	Z-Score	Z-Score Evaluation
201	23.5	2.8	0.33	A
202	17.1	1.8	3.93	N
215	169	8	97.33	N
231	24.80	5.07	1.20	A
232	22	3	0.67	A
240	20.5	3.6	1.67	A
241	36.8	2.8	9.20	N
246	30.4	6.1	4.93	N
247	21.50	0.8	1.00	A
272	54.6	3.9	21.07	N
273	38	5	10.00	N
281	55.53	6.664	21.69	N
293	27.0	1.4	2.67	W
302	25	3	1.33	A
307	24.2	2.9	0.80	A
336	2.28	0.18	13.81	N

4 References

References

- [1] International Organization for Standardization (ISO). (2010). Conformity assessment - General requirements for proficiency testing, ISO/IEC 17043:2010. Geneva: Switzerland.
- [2] International Organization for Standardization (ISO). (2022). Statistical methods for use in proficiency testing by interlaboratory comparison, ISO 13528:2022. Geneva: Switzerland.

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