IAEA-TEL-2021-03 World Wide Open Proficiency Test Exercise, Pie-charts, S-Shapes and Reported Results with Scores

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Abstract

This report contains the results and evaluation for the proficiency test conducted within the IAEA-TEL-2021-03 world wide open proficiency test exercise. The data is evaluated by the Terrestrial Environment Laboratory (TEL) of the NA Environment Laboratories using its standard approach for proficiency test evaluations.

1 Introduction

The following figures show the results (displayed in pie charts, characteristic S-shape graphs and tables) for the ALMERA Proficiency Test. In the S-shape graphs, the vertical axis displays the activity in [Bq/kg] and the horizontal axis shows the labcodes for the participating laboratories. The range on the vertical axis is limited to ($\pm$ 2 x Maximum acceptable relative bias(MARB)). The red line is the target value for the exercise, whereas the green lines are the assigned uncertainty for each analyte. The results are grouped by samples, then analytes. The data points are coloured in blue, yellow and red, corresponding to a result of "Accepted", "Warning", and "Not Accepted", respectively.

Disclaimer: This report has been generated automatically to provide information on-line to the participants. A more detailed evaluation will be published in the final report. If you find that any information provided in this report might be incorrect please contact us as soon as possible.

1.1 Evaluation criteria

The data is evaluated according to the following steps:

1. The relative bias between the reported and the target value (the best estimation of the true value) is expressed by the following equation:

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

2. The relative bias is compared to the Maximum Acceptable Relative Bias (MARB) which has been determined for each analyte, considering the radioanalytical methods, the level of radioactivity and the complexity of the analysis.

If the $|Bias_{relative}| \leq MARB$, the result will be "Accepted" for accuracy.

3. Based on fit-for-purpose and good laboratory practice principles, the expanded relative combined uncertainty should cover the relative bias:

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

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

where k is the coverage factor, for the 99% confidential level, $k = 2.58$. 4. If the result is between the $\pm MARB$ values, but it is not overlapping the target value within the uncertainty, this equation is used to decide if they are significantly different or not.

5. The P value is compared to the MARB also. If both the:

$$P \leq MARB$$

and

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

are fulfilled, the reported results will be "Accepted" for precision. The result will be assigned "Not accepted" for precision if either conditions are not fulfilled.

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

- "Accepted" when both, accuracy and precision achieved "Accepted" status

- "Not Accepted" when the accuracy is "Not accepted"

- "Warning" when accuracy is "Accepted" but the precision is "Not accepted"

7. As additional information, a z-score parameter is shown in the evaluation tables that is calculated by using the robust standard deviation described in [2]:

$$z = \left| \frac{Value_{reported} - Value_{target}}{robust\,sd} \right|$$

8. If the analyte is included in the proficiency test evaluation scheme, the stated target value is used to calculate the z-score. For those analytes, which are subject of an intercomparison only, the robust mean of the values reported is used instead.

2 Data Evaluation

A total of 326 laboratories from 78 different countries successfully reported data in the IAEA-TEL-2021-03 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.

For analytes evaluated by intercomparison (IC) parameters, the target value table lists the robust mean, robust standard deviation (SD) and MARB. A detailed table listing all evaluation results for the analyte (sorted by the laboratory code) are provided, where the Z-Scores are calculated using the robust mean as the $Value_{target}$ in the equation listed in 1.1 Evaluation criteria, point 7.

3 Proficiency Test Parameters

Reported Results for Co-60 Determination in Sample 1

TABLE 1. Target values

Parameter	Value
Target Value, Bq/kg	74.2
UNC, Bq/kg	3.3
MARB, %	20
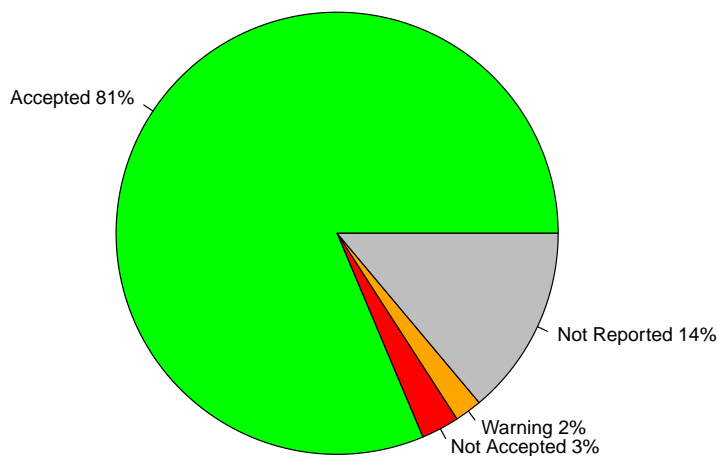
FIGURE 1. Percentage of Accepted vs. Warnings vs. Not Accepted vs. Not Reported results
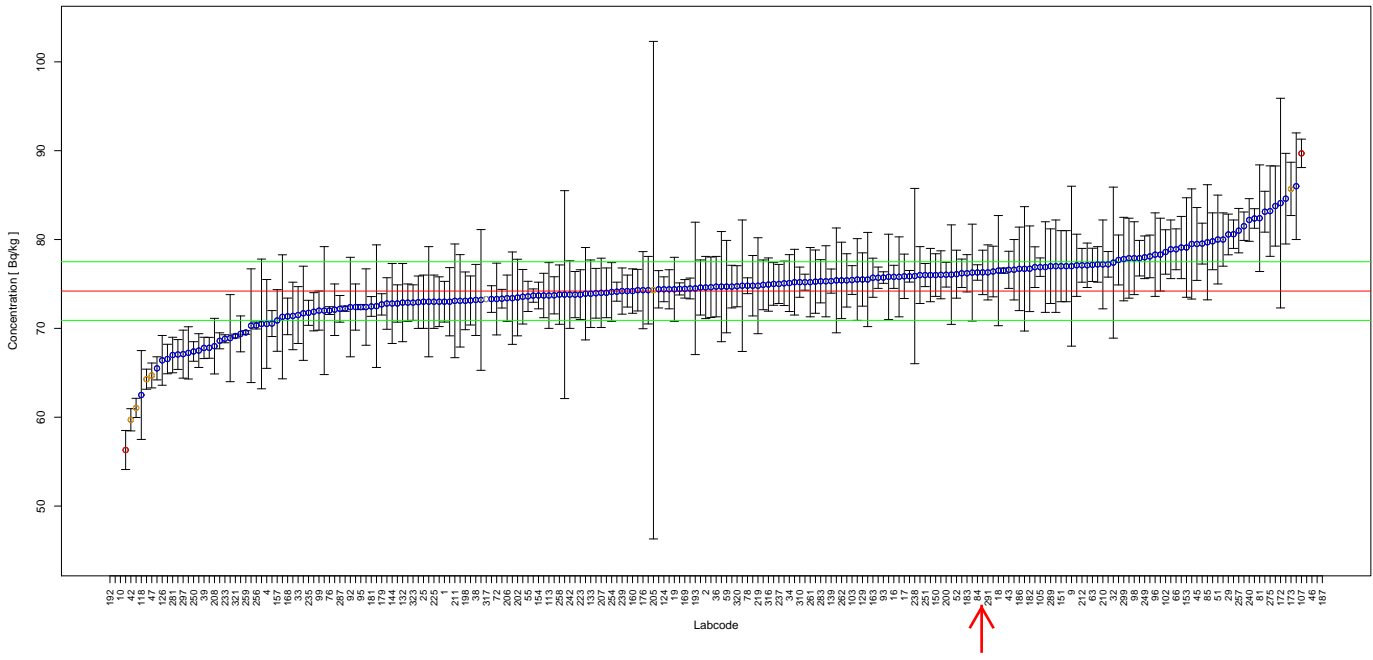
FIGURE 2. Reported results and evaluation parameters for Co-60. Blue points represent accepted scores, whereas yellow and red represent warning and not accepted scores respectively.

TABLE 2. Evaluation Results for Co-60 in Sample 1, Rep. Value and Rep. Unc. in Bq/kg

Labcode	Rep. Value	Rep. Unc.	Rel. Bias	P Test	Accuracy	Precision	Final Score	Z-Score
1	73.00	2.29	-1.62	5.44	A	A	A	0.36
2	74.6	3.5	0.54	6.46	A	A	A	0.12
3	74.3	3.8	0.13	6.78	A	A	A	0.03
4	70.5	5.0	-4.99	8.37	A	A	A	1.12
5	71.3	6.98	-3.91	10.75	A	A	A	0.88
6	65.5	1.3	-11.73	4.87	A	A	A	2.63
7	73.34	1.05	-1.16	4.67	A	A	A	0.26
8	82.37	1.10	11.01	4.64	A	A	A	2.47
9	77	9	3.77	12.51	A	A	A	0.85
10	7.15	0.97	-90.36	14.28	N	N	N	20.26
11	78.1	2.4	5.26	5.41	A	A	A	1.18
12	81.5	1.6	9.84	4.86	A	A	A	2.21
13	76.03	2.70	2.47	5.69	A	A	A	0.55
14	74.8	3.4	0.81	6.36	A	A	A	0.18
15	75.2	3.7	1.35	6.63	A	A	A	0.30
16	75.8	1.3	2.16	4.77	A	A	A	0.48
17	75.86	2.50	2.24	5.54	A	A	A	0.50
18	76.5	6.2	3.10	9.24	A	A	A	0.69
19	74.4	3.6	0.27	6.57	A	A	A	0.06
20	80.6	1.6	8.63	4.87	A	A	A	1.93
21	73.1	5.2	-1.48	8.39	A	A	A	0.33
22	77.9	2.0	4.99	5.14	A	A	A	1.12
25	73	3	-1.62	6.06	A	A	A	0.36
26	83.77	4.51	12.90	6.98	A	A	A	2.89
27	70.5	7.3	-4.99	11.27	A	A	A	1.12
29	80.57	2.29	8.58	5.28	A	A	A	1.92
31	77.70	2.81	4.72	5.73	A	A	A	1.06
32	77.4	8.5	4.31	11.85	A	A	A	0.97
33	71.5	3.2	-3.64	6.31	A	A	A	0.82
34	75.1	3.2	1.21	6.16	A	A	A	0.27

TABLE 2. Evaluation Results for Co-60 in Sample 1, Rep. Value and Rep. Unc. in Bq/kg

Labcode	Rep. Value	Rep. Unc.	Rel. Bias	P Test	Accuracy	Precision	Final Score	Z-Score
35	79.5	6.2	7.14	8.98	A	A	A	1.60
36	74.7	3.4	0.67	6.36	A	A	A	0.15
38	73.2	4.0	-1.35	7.05	A	A	A	0.30
39	67.8	1.2	-8.63	4.79	A	A	A	1.93
41	75.4	3.0	1.62	5.97	A	A	A	0.36
42	59.71	1.25	-19.53	4.92	A	N	W	4.38
43	76.59	2.09	3.22	5.22	A	A	A	0.72
45	79.5	4.1	7.14	6.81	A	A	A	1.60
46	130.33	2.97	75.65	5.00	N	N	N	16.96
47	64.7	1.4	-12.80	4.95	A	N	W	2.87
48	73.8	2.6	-0.54	5.67	A	A	A	0.12
50	83.13	2.30	12.04	5.24	A	A	A	2.70
51	80	5	7.82	7.67	A	A	A	1.75
52	76.1	2.7	2.56	5.69	A	A	A	0.57
53	77.1	3.5	3.91	6.36	A	A	A	0.88
55	73.6	1.7	-0.81	5.01	A	A	A	0.18
56	75.26	3.56	1.43	6.49	A	A	A	0.32
59	74.7	5.2	0.67	8.26	A	A	A	0.15
61	73.72	2.09	-0.65	5.27	A	A	A	0.15
63	77.15	1.87	3.98	5.07	A	A	A	0.89
66	78.9	2.3	6.33	5.32	A	A	A	1.42
68	75.4	5.9	1.62	9.00	A	A	A	0.36
69	77.21	1.44	4.06	4.82	A	A	A	0.91
70	74.44	0.68	0.32	4.54	A	A	A	0.07
72	73.302	4.040	-1.21	7.08	A	A	A	0.27
74	78.9	3.3	6.33	6.11	A	A	A	1.42
76	72.00	0.44	-2.96	4.49	A	A	A	0.66
77	75.2	0.9	1.35	4.61	A	A	A	0.30
78	74.8	0.89	0.81	4.60	A	A	A	0.18
80	68.9	4.9	-7.14	8.39	A	A	A	1.60
81	82.4	6.0	11.05	8.53	A	A	A	2.48
84	76.29	0.87	2.82	4.59	A	A	A	0.63
85	79.69	6.48	7.40	9.27	A	A	A	1.66
86	76.4	2.85	2.96	5.80	A	A	A	0.66
87	80	3	7.82	5.82	A	A	A	1.75
88	73.4	5.2	-1.08	8.36	A	A	A	0.24
89	208	10	180.32	6.55	N	N	N	40.42
92	72.4	5.6	-2.43	8.92	A	A	A	0.54
93	75.72	0.65	2.05	4.53	A	A	A	0.46
94	72.22	0.3	-2.67	4.47	A	A	A	0.60
95	72.40	0.29	-2.43	4.47	A	A	A	0.54
96	78.3	4.7	5.53	7.47	A	A	A	1.24
98	77.9	4.1	4.99	6.89	A	A	A	1.12
99	72	2.2	-2.96	5.40	A	A	A	0.66
101	76.6	3.4	3.23	6.28	A	A	A	0.73
102	78.6	2.5	5.93	5.47	A	A	A	1.33
103	75.44	1.62	1.67	4.94	A	A	A	0.37
105	76.89	1.04	3.63	4.65	A	A	A	0.81
106	76.5	0.3	3.10	4.46	A	A	A	0.69
107	89.7	1.6	20.89	4.79	N	N	N	4.68
108	75.8646	0.6531	2.24	4.53	Accuracy	Precision	A	0.50
109	79.1	3.5	6.60	6.27	A	A	A	1.48
111	76.9	5.1	3.64	7.99	A	A	A	0.82
113	73.7	3.7	-0.67	6.71	A	A	A	0.15

TABLE 2. Evaluation Results for Co-60 in Sample 1, Rep. Value and Rep. Unc. in Bq/kg

Labcode	Rep. Value	Rep. Unc.	Rel. Bias	P Test	Accuracy	Precision	Final Score	Z-Score
116	75.7	1.2	2.02	4.72	A	A	A	0.45
118	62.5	5.0	-15.77	9.15	A	A	A	3.53
120	74.6	3.1	0.54	6.09	A	A	A	0.12
121	74.0	2.8	-0.27	5.84	A	A	A	0.06
123	86	6	15.90	8.27	A	A	A	3.56
124	74.4	1.4	0.27	4.83	A	A	A	0.06
125	75.0	2.4	1.08	5.48	A	A	A	0.24
126	66.4	2.8	-10.51	6.13	A	A	A	2.36
129	75.5	3.0	1.75	5.96	A	A	A	0.39
130	76	3	2.43	5.95	A	A	A	0.54
132	72.9	4.4	-1.75	7.50	A	A	A	0.39
133	73.9	3.8	-0.40	6.80	A	A	A	0.09
134	76.89	2.29	3.63	5.35	A	A	A	0.81
135	75.07	2.5	1.17	5.56	A	A	A	0.26
137	67.813	1.176	-8.61	4.77	A	A	A	1.93
139	75.322	1.359	1.51	4.80	A	A	A	0.34
141	77.9	4.5	4.99	7.29	A	A	A	1.12
143	72.4	4.3	-2.43	7.42	A	A	A	0.54
144	72.8	4.5	-1.89	7.62	A	A	A	0.42
146	73.7	2.5	-0.67	5.59	A	A	A	0.15
147	72.5	6.9	-2.29	10.51	A	A	A	0.51
148	76.28	5.45	2.80	8.42	A	A	A	0.63
149	76.2	1.6	2.70	4.92	A	A	A	0.60
150	76.0	2.4	2.43	5.45	A	A	A	0.54
151	77.0	4.0	3.77	6.84	A	A	A	0.85
152	72.8	2.9	-1.89	5.97	A	A	A	0.42
153	79.1	5.6	6.60	8.36	A	A	A	1.48
154	73.7	1.5	-0.67	4.89	A	A	A	0.15
155	78.3	4.1	5.53	6.87	A	A	A	1.24
156	75.8	4.8	2.16	7.74	A	A	A	0.48
157	70.89	3.47	-4.46	6.61	A	A	A	1.00
158	76.7	7.0	3.37	10.15	A	A	A	0.76
159	68.6	0.9	-7.55	4.64	A	A	A	1.69
160	74.2	2.5	0.00	5.58	A	A	A	0.00
161	72.9	2.1	-1.75	5.30	A	A	A	0.39
162	72.8	2.1	-1.89	5.30	A	A	A	0.42
163	75.7	2.2	2.02	5.31	A	A	A	0.45
164	77	4	3.77	6.84	A	A	A	0.85
165	84.6	5.1	14.02	7.49	A	A	A	3.14
166	75.3	4.0	1.48	6.93	A	A	A	0.33
168	71.35	2.06	-3.84	5.30	A	A	A	0.86
169	74.45	1.04	0.34	4.66	A	A	A	0.08
171	70.30	6.40	-5.26	10.13	A	A	A	1.18
172	84.1	11.8	13.34	14.72	A	A	A	2.99
173	85.7	3.0	15.50	5.66	A	N	W	3.47
176	74.3	4.34	0.13	7.34	A	A	A	0.03
179	72.7	1.2	-2.02	4.74	A	A	A	0.45
180	76.05	5.60	2.49	8.60	A	A	A	0.56
181	72.468	1.113	-2.33	4.71	A	A	A	0.52
182	76.71	4.82	3.38	7.70	A	A	A	0.76
183	76.2	2.1	2.70	5.23	Accuracy	Precision	A	0.60
184	73.69	0.75	-0.69	4.56	A	A	A	0.15
185	75.5	5.3	1.75	8.31	A	A	A	0.39
186	76.7	4.7	3.37	7.57	A	A	A	0.76

TABLE 2. Evaluation Results for Co-60 in Sample 1, Rep. Value and Rep. Unc. in Bq/kg

Labcode	Rep. Value	Rep. Unc.	Rel. Bias	P Test	Accuracy	Precision	Final Score	Z-Score
187	481	11	548.25	5.00	N	N	N	122.90
189	76.3	2.5	2.83	5.52	A	A	A	0.63
191	74.9	2.8	0.94	5.81	A	A	A	0.21
192	0.039	0.002	-99.95	6.79	N	N	N	22.41
193	74.5	7.45	0.40	10.94	A	A	A	0.09
195	77.1	2.5	3.91	5.50	A	A	A	0.88
196	73.0	2.8	-1.62	5.87	A	A	A	0.36
197	74.7	2.4	0.67	5.49	A	A	A	0.15
198	73.10	3.25	-1.48	6.29	A	A	A	0.33
199	67.06	1.68	-9.62	5.10	A	A	A	2.16
200	76.04	1.39	2.48	4.81	A	A	A	0.56
201	72.0	7.2	-2.96	10.94	A	A	A	0.66
202	73.47	4.31	-0.98	7.36	A	A	A	0.22
205	74.3	28	0.13	37.95	A	N	W	0.03
206	73.4	2.6	-1.08	5.69	A	A	A	0.24
207	74	3.9	-0.27	6.90	A	A	A	0.06
208	68.0	3.13	-8.36	6.40	A	A	A	1.87
209	75.8	4.5	2.16	7.42	A	A	A	0.48
210	77.2	5.0	4.04	7.86	A	A	A	0.91
211	73.1	6.4	-1.48	9.82	A	A	A	0.33
212	77.1	1.9	3.91	5.08	A	A	A	0.88
213	75.5	4.6	1.75	7.54	A	A	A	0.39
214	73.9	5.2	-0.40	8.32	A	A	A	0.09
215	73	3.84	-1.62	6.89	A	A	A	0.36
216	73.56	3.07	-0.86	6.10	A	A	A	0.19
219	74.8	5.4	0.81	8.48	A	A	A	0.18
221	73.14	2.76	-1.43	5.83	A	A	A	0.32
222	70.542	1.46	-4.93	4.91	A	A	A	1.11
223	73.8	2.8	-0.54	5.85	A	A	A	0.12
224	79.8	3.2	7.55	5.99	A	A	A	1.69
225	73	3	-1.62	6.06	A	A	A	0.36
227	74.13	1.07	-0.09	4.68	A	A	A	0.02
228	72.1	2.9	-2.83	6.00	A	A	A	0.63
229	74.3	2.34	0.13	5.45	A	A	A	0.03
230	73.95	2.8	-0.34	5.84	A	A	A	0.08
231	73.8	11.70	-0.54	16.47	A	A	A	0.12
232	72.945	2.9487	-1.69	6.01	A	A	A	0.38
233	68.83	0.45	-7.24	4.50	A	A	A	1.62
234	79.54	2.30	7.20	5.30	A	A	A	1.61
235	71.75	1.41	-3.30	4.86	A	A	A	0.74
237	75.0	2.2	1.08	5.33	A	A	A	0.24
238	75.889	9.865	2.28	13.74	A	A	A	0.51
239	74.2	2.6	0.00	5.66	A	A	A	0.00
240	82.2	2.4	10.78	5.32	A	A	A	2.42
241	74.2	1.8	0.00	5.07	A	A	A	0.00
242	73.8	3.8	-0.54	6.80	A	A	A	0.12
245	74.7	6.2	0.67	9.42	A	A	A	0.15
246	64.28	1.13	-13.37	4.78	A	N	W	3.00
248	66.55	1.66	-10.31	5.10	A	A	A	2.31
249	78.0	2.4	5.12	5.41	A	A	A	1.15
250	67.4	1.1	-9.16	4.74	Accuracy	Precision	A	2.05
251	76.0	1.3	2.43	4.77	A	A	N	0.54
252	69.38059	2.02	-6.50	5.32	A	A	A	1.46
254	74.1	3.3	-0.13	6.29	A	A	A	0.03

TABLE 2. Evaluation Results for Co-60 in Sample 1, Rep. Value and Rep. Unc. in Bq/kg

Labcode	Rep. Value	Rep. Unc.	Rel. Bias	P Test	Accuracy	Precision	Final Score	Z-Score
255	74.4	2.2	0.27	5.34	A	A	A	0.06
256	70.32	0.39	-5.23	4.48	A	A	A	1.17
257	81	2.5	9.16	5.41	A	A	A	2.05
258	73.8	3.34	-0.54	6.35	A	A	A	0.12
259	69.54	0.20	-6.28	4.46	A	A	A	1.41
260	71.7	5.3	-3.37	8.63	A	A	A	0.76
261	75.2	3.9	1.35	6.83	A	A	A	0.30
262	75.4	4.3	1.62	7.23	A	A	A	0.36
263	71.87	2.15	-3.14	5.36	A	A	A	0.70
266	67.5	1.9	-9.03	5.26	A	A	A	2.02
267	126.84	7.87	70.94	7.63	N	N	N	15.90
268	72.4	2.6	-2.43	5.72	A	A	A	0.54
270	73.2	7.92	-1.35	11.70	A	A	A	0.30
274	71.4	3.8	-3.77	6.94	A	A	A	0.85
275	83.2	5.09	12.13	7.56	A	A	A	2.72
279	74.4	2.1	0.27	5.27	A	A	A	0.06
281	67	2	-9.70	5.36	A	A	A	2.18
283	75.3	2.43	1.48	5.49	A	A	A	0.33
286	76.0	3.2	2.43	6.12	A	A	A	0.54
287	72.2	1.5	-2.70	4.91	A	A	A	0.60
289	77.0	4.2	3.77	7.04	A	A	A	0.85
290	67.24	2.94	-9.38	6.24	A	A	A	2.10
291	76.3	3.1	2.83	6.02	A	A	A	0.63
295	77.0	5.2	3.77	8.09	A	A	A	0.85
297	67.1	2.7	-9.57	6.00	A	A	A	2.15
298	73.3	1.5	-1.21	4.90	A	A	A	0.27
299	77.8	4.7	4.85	7.50	A	A	A	1.09
304	5.83	0.44	-92.14	8.76	N	N	N	20.66
307	56.31	2.2	-24.11	5.92	N	N	N	5.40
310	75.2	1.7	1.35	4.99	A	A	A	0.30
312	61.05	1.08	-17.72	4.79	A	N	W	3.97
313	77.2	2.0	4.04	5.15	A	A	A	0.91
314	74.63	3.40	0.58	6.37	A	A	A	0.13
316	74.931	2.997	0.99	5.98	A	A	A	0.22
317	73.3		-1.21		A			0.27
320	74.74	2.31	0.73	5.42	A	A	A	0.16
321	69.14	0.21	-6.82	4.46	A	A	A	1.53
322	74.8	7.4	0.81	10.85	A	A	A	0.18
323	72.9	2.0	-1.75	5.23	A	A	A	0.39
324	74.49	1.17	0.39	4.72	A	A	A	0.09
325	73.0	6.2	-1.62	9.59	A	A	A	0.36

Reported Results for Cs-134 Determination in Sample 1

TABLE 3. Target values

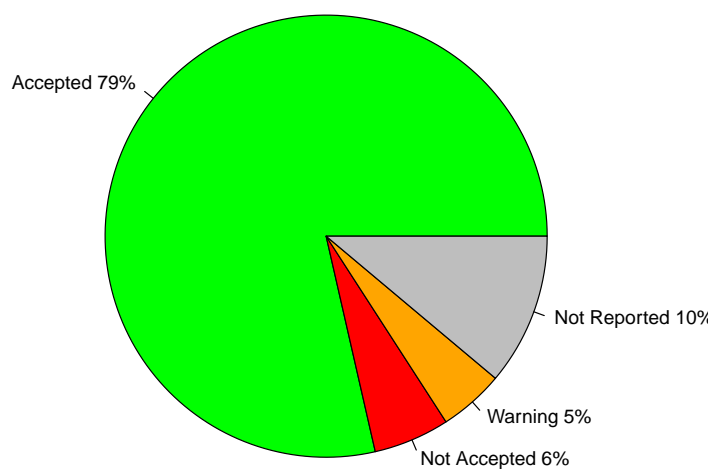| Parameter	Value
Target Value, Bq/kg	113.2
UNC, Bq/kg	5.1
MARB, %	20

FIGURE 3. Percentage of Accepted vs. Warnings vs. Not Accepted vs. Not Reported results
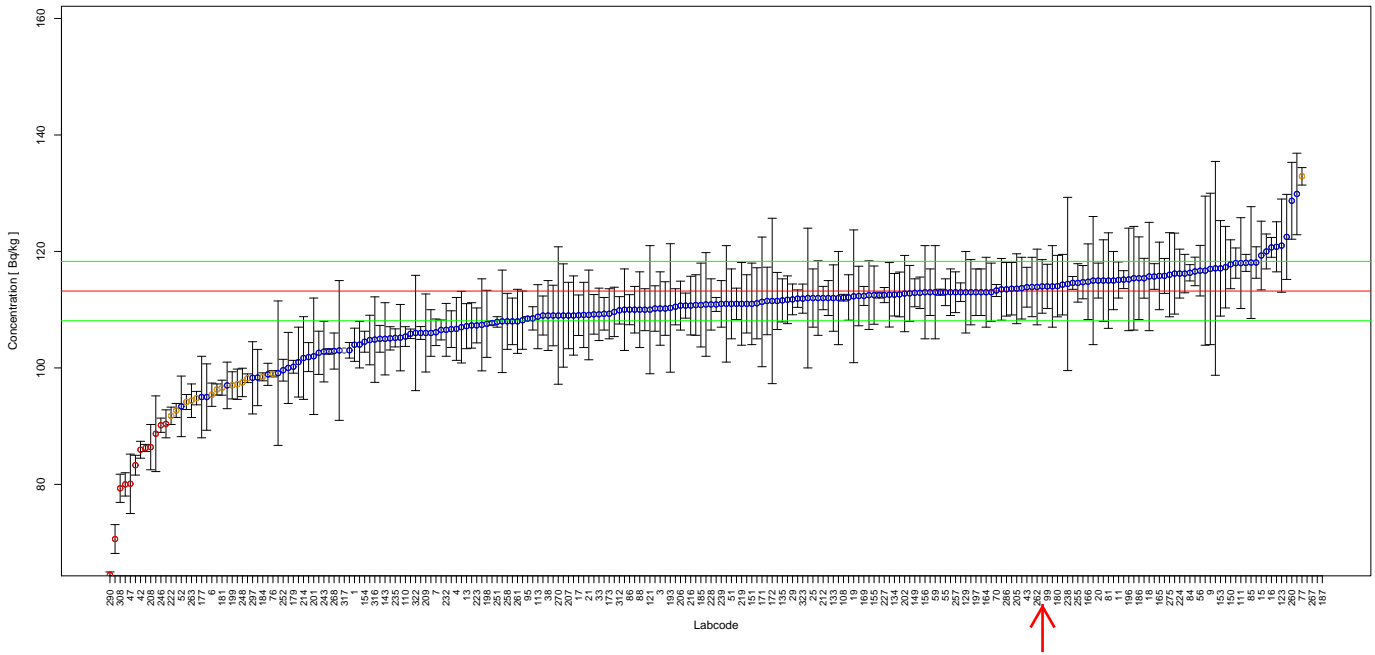
FIGURE 4. Reported results and evaluation parameters for Cs-134. Blue points represent accepted scores, whereas yellow and red represent warning and not accepted scores respectively.

TABLE 4. Evaluation Results for Cs-134 in Sample 1, Rep. Value and Rep. Unc. in Bq/kg

Labcode	Rep. Value	Rep. Unc.	Rel. Bias	P Test	Accuracy	Precision	Final Score	Z-Score
1	103.98	2.85	-8.14	5.27	A	A	A	1.51
2	110.0	3.6	-2.83	5.57	A	A	A	0.52
3	110.2	6.3	-2.65	7.28	A	A	A	0.49
4	106.7	5.4	-5.74	6.78	A	A	A	1.06
5	109	8.87	-3.71	9.30	A	A	A	0.69
6	95.4	2	-15.72	4.97	A	N	W	2.91
7	106.12	2.28	-6.25	4.99	A	A	A	1.16
8	94.15	1.29	-16.83	4.71	A	N	W	3.11
9	117	13	3.36	11.99	A	A	A	0.62
10	111.9	1.5	-1.15	4.70	A	A	A	0.21
11	115.1	3.1	1.68	5.25	A	A	A	0.31
12	118.1	2.7	4.33	5.05	A	A	A	0.80
13	107.17	3.87	-5.33	5.77	A	A	A	0.99
14	111.1	6.1	-1.86	7.10	A	A	A	0.34
15	119.3	5.9	5.39	6.69	A	A	A	1.00
16	120.7	1.7	6.63	4.72	A	A	A	1.23
17	109.05	3.48	-3.67	5.52	A	A	A	0.68
18	115.7	9.3	2.21	9.21	A	A	A	0.41
19	112.3	11.4	-0.80	11.11	A	A	A	0.15
20	115	3	1.59	5.21	A	A	A	0.29
21	109.1	7.7	-3.62	8.37	A	A	A	0.67
22	115.7	2.2	2.21	4.89	A	A	A	0.41
25	112	5	-1.06	6.34	A	A	A	0.20
26	129.87	7.00	14.73	7.02	A	A	A	2.72
27	112	12	-1.06	11.62	A	A	A	0.20
29	111.77	2.64	-1.26	5.09	A	A	A	0.23
31	102.60	3.71	-9.36	5.78	A	A	A	1.73
32	116.7	12.8	3.09	11.86	A	A	A	0.57
33	109.2	4.5	-3.53	6.11	A	A	A	0.65
34	110.8	5.2	-2.12	6.51	A	A	A	0.39

TABLE 4. Evaluation Results for Cs-134 in Sample 1, Rep. Value and Rep. Unc. in Bq/kg

Labcode	Rep. Value	Rep. Unc.	Rel. Bias	P Test	Accuracy	Precision	Final Score	Z-Score
35	108	8.8	-4.59	9.31	A	A	A	0.85
36	114.3	5.2	0.97	6.40	A	A	A	0.18
38	109	6	-3.71	7.11	A	A	A	0.69
39	113	5	-0.18	6.31	A	A	A	0.03
41	113.6	4.5	0.35	6.00	A	A	A	0.07
42	85.95	1.45	-24.07	4.81	N	N	N	4.45
43	113.86	3.42	0.58	5.41	A	A	A	0.11
45	111.5	5.8	-1.50	6.88	A	A	A	0.28
46	237.81	5.23	110.08	5.01	N	N	N	20.36
47	80.1	5.1	-29.24	7.80	N	N	N	5.41
48	113	4	-0.18	5.73	A	A	A	0.03
50	104.79	4.26	-7.43	6.07	A	A	A	1.37
51	111	6	-1.94	7.04	A	A	A	0.36
52	93.4	5.2	-17.49	7.16	A	A	A	3.24
53	113.9	5.1	0.62	6.35	A	A	A	0.11
55	113.0	2.3	-0.18	4.94	A	A	A	0.03
56	116.7	4.34	3.09	5.84	A	A	A	0.57
59	113	8.0	-0.18	8.39	A	A	A	0.03
61	101.86	2.49	-10.02	5.13	A	A	A	1.85
63	108.51	2.00	-4.14	4.87	A	A	A	0.77
64	109.0	5.2	-3.71	6.56	A	A	A	0.69
66	118	2.6	4.24	5.02	A	A	A	0.78
68	115.4	8.9	1.94	8.93	A	A	A	0.36
69	105.08	2.00	-7.17	4.89	A	A	A	1.33
70	113.29	1.03	0.08	4.60	A	A	A	0.01
72	112.558	5.534	-0.57	6.67	A	A	A	0.10
74	113.5	5.3	0.27	6.49	A	A	A	0.05
75	98.9	1.9	-12.63	4.90	A	A	A	2.34
76	99.00	0.54	-12.54	4.54	A	N	W	2.32
77	132.9	1.5	17.40	4.64	A	N	W	3.22
78	106	1.1	-6.36	4.62	A	A	A	1.18
80	107.4	7.9	-5.12	8.63	A	A	A	0.95
81	115.0	8.2	1.59	8.43	A	A	A	0.29
84	116.34	1.4	2.77	4.66	A	A	A	0.51
85	118.09	9.60	4.32	9.29	A	A	A	0.80
86	110	2.58	-2.83	5.08	A	A	A	0.52
87	115	5	1.59	6.26	A	A	A	0.29
88	110.0	6.5	-2.83	7.43	A	A	A	0.52
92	110	7	-2.83	7.80	A	A	A	0.52
93	98.23	0.75	-13.22	4.57	A	N	W	2.45
94	107.71	0.37	-4.85	4.52	A	A	A	0.90
95	108.47	0.35	-4.18	4.52	A	A	A	0.77
96	117.3	7.0	3.62	7.48	A	A	A	0.67
98	108.2	5.0	-4.42	6.45	A	A	A	0.82
99	114	3.8	0.71	5.60	A	A	A	0.13
101	115.8	3.0	2.30	5.20	A	A	A	0.42
102	120.8	4.3	6.71	5.74	A	A	A	1.24
103	116.57	2.45	2.98	4.97	A	A	A	0.55
105	118.04	1.46	4.28	4.67	A	A	A	0.79
106	112.5	0.5	-0.62	4.53	A	A	A	0.11
107	173	8	52.83	6.46	N	N	N	9.77
108	112.0638	0.5731	-1.00	4.53	A	A	A	0.19
109	113.7	5.3	0.44	6.48	A	A	A	0.08
110	105.387	1.694	-6.90	4.78	A	A	A	1.28

TABLE 4. Evaluation Results for Cs-134 in Sample 1, Rep. Value and Rep. Unc. in Bq/kg

Labcode	Rep. Value	Rep. Unc.	Rel. Bias	P Test	Accuracy	Precision	Final Score	Z-Score
111	118.0	7.8	4.24	8.00	A	A	A	0.78
112	70.6188	2.475	-37.62	5.71	N	N	N	6.96
113	108.8	5.5	-3.89	6.77	A	A	A	0.72
116	114.6	1.1	1.24	4.61	A	A	A	0.23
118	88.7	6.5	-21.64	8.60	N	A	N	4.00
120	110	4	-2.83	5.79	A	A	A	0.52
121	110	11	-2.83	10.97	A	A	A	0.52
123	121	8	6.89	8.00	A	A	A	1.27
124	113.0	1.6	-0.18	4.72	A	A	A	0.03
125	97.2	2.6	-14.13	5.24	A	N	W	2.61
126	100	6.1	-11.66	7.58	A	A	A	2.16
129	113	7	-0.18	7.66	A	A	A	0.03
130	108	4	-4.59	5.83	A	A	A	0.85
132	101	6.0	-10.78	7.46	A	A	A	1.99
133	112.0	5.7	-1.06	6.80	A	A	A	0.20
134	112.57	3.65	-0.56	5.55	A	A	A	0.10
135	111.6	3.7	-1.41	5.59	A	A	A	0.26
137	106.519	1.709	-5.90	4.78	A	A	A	1.09
139	94.819	1.1534	-16.24	4.67	A	N	W	3.00
140	109.2	3.4	-3.53	5.48	A	A	A	0.65
141	112	6.4	-1.06	7.28	A	A	A	0.20
143	105	6.2	-7.24	7.43	A	A	A	1.34
144	112.5	5.89	-0.62	6.91	A	A	A	0.11
146	111.7	4.1	-1.33	5.81	A	A	A	0.25
147	111	10	-1.94	10.07	A	A	A	0.36
148	116.2	6.95	2.65	7.49	A	A	A	0.49
149	112.9	2.4	-0.27	4.98	A	A	A	0.05
150	117.8	4.2	4.06	5.75	A	A	A	0.75
151	111.0	7.0	-1.94	7.75	A	A	A	0.36
152	113	4	-0.18	5.73	A	A	A	0.03
153	117.1	8.2	3.45	8.33	A	A	A	0.64
154	104.5	1.8	-7.69	4.82	A	A	A	1.42
155	112.5	5.0	-0.62	6.33	A	A	A	0.11
156	113	8	-0.18	8.39	A	A	A	0.03
157	98.35	4.83	-13.12	6.66	A	A	A	2.43
158	99.1	12.4	-12.46	13.30	A	A	A	2.30
159	92.7	1.2	-18.11	4.69	A	N	W	3.35
160	104	4	-8.13	5.92	A	A	A	1.50
161	110.5	3.1	-2.39	5.31	A	A	A	0.44
162	112.9	2.7	-0.27	5.10	A	A	A	0.05
163	114.0	4.6	0.71	6.05	A	A	A	0.13
164	113	6	-0.18	6.96	A	A	A	0.03
165	115.8	5.8	2.30	6.74	A	A	A	0.42
166	114.8	6.5	1.41	7.24	A	A	A	0.26
168	106.66	3.15	-5.78	5.39	A	A	A	1.07
169	112.36	1.63	-0.74	4.73	A	A	A	0.14
171	111.34	11.13	-1.64	10.96	A	A	A	0.30
172	111.5	14.2	-1.50	13.51	A	A	A	0.28
173	109.3	4.3	-3.45	5.98	A	A	A	0.64
176	107	6.15	-5.48	7.30	A	A	A	1.01
177	95	7	-16.08	8.64	Accuracy	Precision	A	2.97
179	100.2	1.1	-11.48	4.64	A	A	A	2.12
180	114.05	5.28	0.75	6.46	A	A	A	0.14
181	96.606	1.287	-14.66	4.70	A	N	W	2.71

TABLE 4. Evaluation Results for Cs-134 in Sample 1, Rep. Value and Rep. Unc. in Bq/kg

Labcode	Rep. Value	Rep. Unc.	Rel. Bias	P Test	Accuracy	Precision	Final Score	Z-Score
182	110.20	4.60	-2.65	6.14	A	A	A	0.49
183	112.62	3.84	-0.51	5.65	A	A	A	0.09
184	98.47	0.68	-13.01	4.56	A	N	W	2.41
185	110.8	7.2	-2.12	7.91	A	A	A	0.39
186	115.4	7.1	1.94	7.63	A	A	A	0.36
187	690.7	13.3	510.16	4.90	N	N	N	94.36
189	112.1	3.9	-0.97	5.69	A	A	A	0.18
190	103	12	-9.01	12.49	A	A	A	1.67
191	113	5.6	-0.18	6.70	A	A	A	0.03
193	110.3	11.03	-2.56	10.97	A	A	A	0.47
195	107.3	3.90	-5.21	5.79	A	A	A	0.96
196	115.2	8.8	1.77	8.87	A	A	A	0.33
197	113	4	-0.18	5.73	A	A	A	0.03
198	107.57	5.76	-4.97	7.00	A	A	A	0.92
199	97.01	2.33	-14.30	5.11	A	N	W	2.65
200	115.16	1.54	1.73	4.70	A	A	A	0.32
201	102	10	-9.89	10.79	A	A	A	1.83
202	112.77	6.55	-0.38	7.35	A	A	A	0.07
205	113.6	6	0.35	6.94	A	A	A	0.07
206	110.7	4.2	-2.21	5.89	A	A	A	0.41
207	109	5.7	-3.71	6.90	A	A	A	0.69
208	86.4	3.89	-23.67	6.37	N	N	N	4.38
209	106	6.7	-6.36	7.76	A	A	A	1.18
210	112	8	-1.06	8.45	A	A	A	0.20
211	115	11	1.59	10.57	A	A	A	0.29
212	112	2	-1.06	4.85	A	A	A	0.20
213	114	7	0.71	7.62	A	A	A	0.13
214	101.7	7.1	-10.16	8.31	A	A	A	1.88
215	109	6.8	-3.71	7.70	A	A	A	0.69
216	110.7	5.04	-2.21	6.41	A	A	A	0.41
219	111	7.1	-1.94	7.82	A	A	A	0.36
221	109.62	4.24	-3.16	5.94	A	A	A	0.58
222	91.78	1.49	-18.92	4.79	A	N	W	3.50
223	107.3	3.0	-5.21	5.30	A	A	A	0.96
224	116.2	4.2	2.65	5.78	A	A	A	0.49
225	111	5	-1.94	6.37	A	A	A	0.36
227	112.51	1.3	-0.61	4.65	A	A	A	0.11
228	110.9	4.4	-2.03	6.00	A	A	A	0.38
229	109	3.35	-3.71	5.45	A	A	A	0.69
230	113.0	4.0	-0.18	5.73	A	A	A	0.03
231	117.1	18.36	3.45	16.31	A	A	A	0.64
232	106.5404	4.5378	-5.88	6.20	A	A	A	1.09
233	105.86	0.82	-6.48	4.57	A	A	A	1.20
234	114.73	2.86	1.35	5.15	A	A	A	0.25
235	105.16	1.55	-7.10	4.74	A	A	A	1.31
237	110.2	3.9	-2.65	5.73	A	A	A	0.49
238	114.42	14.875	1.08	13.76	A	A	A	0.20
239	111	4	-1.94	5.77	A	A	A	0.36
240	116.2	3.3	2.65	5.33	A	A	A	0.49
241	120	3	6.01	5.15	A	A	A	1.11
242	109.1	5.6	-3.62	6.83	A	Prec	A	0.67
243	102.8	5.2	-9.19	6.77	A	A	A	1.70
245	96.3	0.95	-14.93	4.61	A	N	W	2.76
246	90.16	1.22	-20.35	4.70	N	N	N	3.76

TABLE 4. Evaluation Results for Cs-134 in Sample 1, Rep. Value and Rep. Unc. in Bq/kg

Labcode	Rep. Value	Rep. Unc.	Rel. Bias	P Test	Accuracy	Precision	Final Score	Z-Score
248	97.51	2.44	-13.86	5.15	A	N	W	2.56
249	112	3	-1.06	5.24	A	A	A	0.20
250	90.4	2.4	-20.14	5.23	N	N	N	3.73
251	107.9	0.9	-4.68	4.58	A	A	A	0.87
252	99.61	1.87	-12.01	4.88	A	A	A	2.22
254	111.5	4.9	-1.50	6.29	A	A	A	0.28
255	114.6	3.3	1.24	5.35	A	A	A	0.23
256	102.83	0.47	-9.16	4.53	A	A	A	1.69
257	113	3.5	-0.18	5.47	A	A	A	0.03
258	108	4.81	-4.59	6.34	A	A	A	0.85
259	113	0.52	-0.18	4.53	A	A	A	0.03
260	128.7	6.6	13.69	6.83	A	A	A	2.53
261	108	5.5	-4.59	6.80	A	A	A	0.85
262	113.9	6.5	0.62	7.27	A	A	A	0.11
263	94.37	2.88	-16.63	5.44	A	N	W	3.08
266	80.0	2.0	-29.33	5.15	N	N	N	5.42
267	183.89	12.10	62.45	7.97	N	N	N	11.55
268	102.9	3.1	-9.10	5.42	A	A	A	1.68
270	109	11.8	-3.71	11.73	A	A	A	0.69
273	110.7	2.15	-2.21	4.91	A	A	A	0.41
274	105.2	5.7	-7.07	7.05	A	A	A	1.31
275	116	7.22	2.47	7.68	A	A	A	0.46
279	112.8	4.8	-0.35	6.20	A	A	A	0.07
281	97	4	-14.31	6.11	A	A	A	2.65
283	111	2.7	-1.94	5.12	A	A	A	0.36
286	113.5	4.6	0.27	6.06	A	A	A	0.05
287	110.9	1.2	-2.03	4.63	A	A	A	0.38
289	115	7	1.59	7.57	A	A	A	0.29
290	64.45	0.52	-43.07	4.58	N	N	N	7.97
291	106	4	-6.36	5.88	A	A	A	1.18
295	95.0	5.7	-16.08	7.50	A	A	A	2.97
297	98.3	6.2	-13.16	7.75	A	A	A	2.43
299	122.5	7.3	8.22	7.47	A	A	A	1.52
307	83.3	1.7	-26.41	4.95	N	N	N	4.89
308	79.33	2.42	-29.92	5.44	N	N	N	5.53
310	105.0	2.3	-7.24	5.01	A	A	A	1.34
312	109.89	2.35	-2.92	4.99	A	A	A	0.54
313	109.3	2.8	-3.45	5.18	A	A	A	0.64
314	112.35	5.11	-0.75	6.40	A	A	A	0.14
316	104.865	7.341	-7.36	8.32	A	A	A	1.36
317	103		-9.01		A			1.67
320	115.40	3.42	1.94	5.39	A	A	A	0.36
321	86.26	0.61	-23.80	4.56	N	N	N	4.40
322	106.0	9.9	-6.36	10.37	A	A	A	1.18
323	111.9	2.5	-1.15	5.03	A	A	A	0.21
324	103.03	1.34	-8.98	4.69	A	A	A	1.66
325	110.9	8.9	-2.03	9.20	A	A	A	0.38

Reported Results for Cs-137 Determination in Sample 1

TABLE 5. Target values

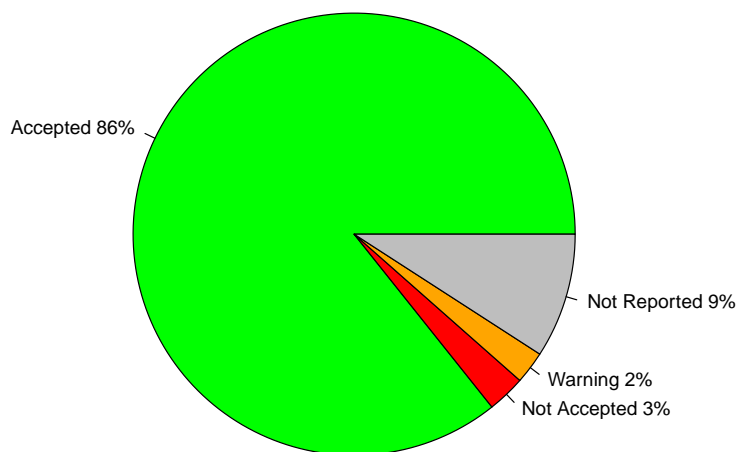| Parameter	Value
Target Value, Bq/kg	69.2
UNC, Bq/kg	3.1
MARB, %	20

FIGURE 5. Percentage of Accepted vs. Warnings vs. Not Accepted vs. Not Reported results
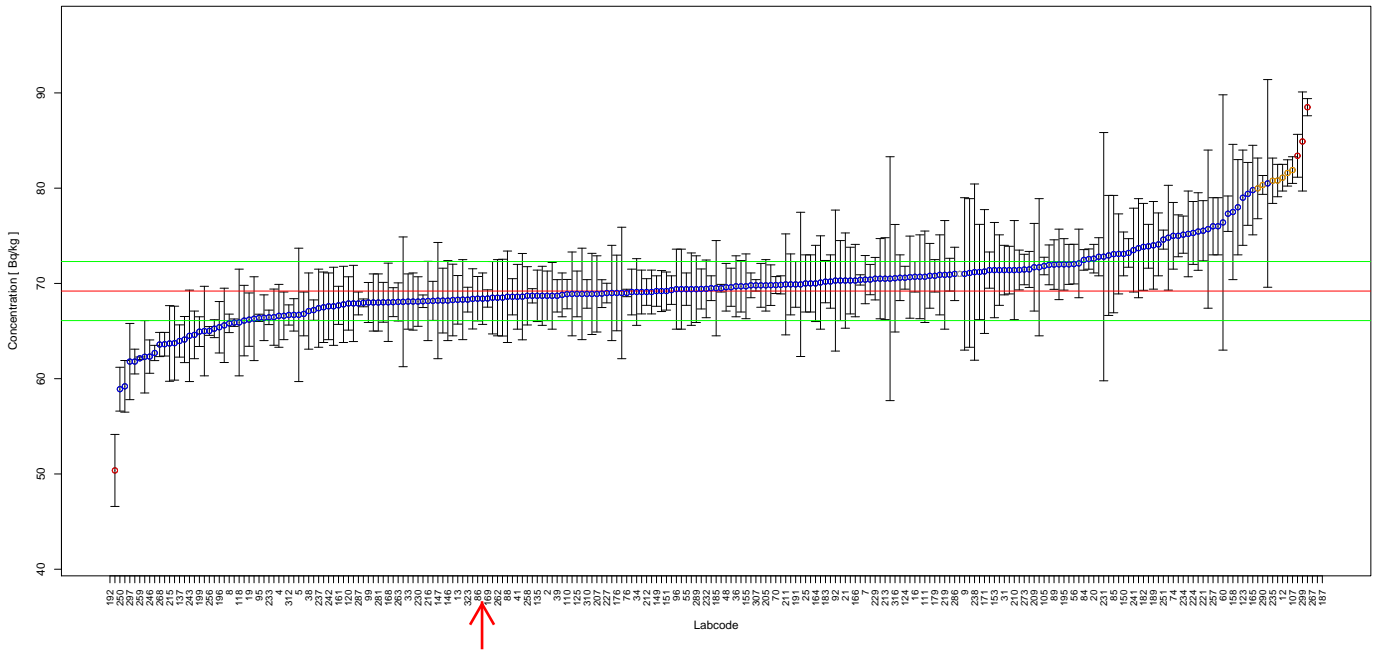
FIGURE 6. Reported results and evaluation parameters for Cs-137. Blue points represent accepted scores, whereas yellow and red represent warning and not accepted scores respectively.

TABLE 6. Evaluation Results for Cs-137 in Sample 1, Rep. Value and Rep. Unc. in Bq/kg

Labcode	Rep. Value	Rep. Unc.	Rel. Bias	P Test	Accuracy	Precision	Final Score	Z-Score
1	71.41	2.09	3.19	5.35	A	A	A	0.68
2	68.7	2.6	-0.72	5.86	A	A	A	0.15
3	67.5	3.7	-2.46	7.08	A	A	A	0.53
4	66.6	3.3	-3.76	6.68	A	A	A	0.80
5	66.7	7	-3.61	11.41	A	A	A	0.77
6	64.6	2.5	-6.65	5.92	A	A	A	1.42
7	70.40	2.53	1.73	5.74	A	A	A	0.37
8	65.81	0.97	-4.90	4.72	A	A	A	1.05
9	71	8	2.60	12.13	A	A	A	0.56
10	65.25	0.94	-5.71	4.71	A	A	A	1.22
11	70.6	2.4	2.02	5.62	A	A	A	0.43
12	81.1	1.4	17.20	4.80	A	N	W	3.68
13	68.28	2.55	-1.33	5.83	A	A	A	0.28
14	69.4	3.8	0.29	7.07	A	A	A	0.06
15	72.1	3.6	4.19	6.71	A	A	A	0.90
16	70.7	1.6	2.17	5.02	A	A	A	0.46
17	69.20	2.15	0.00	5.45	A	A	A	0.00
18	70.9	4.2	2.46	7.43	A	A	A	0.53
19	66.2	2.8	-4.34	6.16	A	A	A	0.93
20	72.6	1.5	4.91	4.93	A	A	A	1.05
21	70.3	5.0	1.59	8.41	A	A	A	0.34
22	73.2	1.5	5.78	4.93	A	A	A	1.24
25	70	3	1.16	6.20	A	A	A	0.25
26	75.45	4.07	9.03	7.01	A	A	A	1.93
27	71.4	1.9	3.18	5.21	A	A	A	0.68
29	77.32	1.86	11.73	5.08	A	A	A	2.51
31	71.40	2.60	3.18	5.77	A	A	A	0.68
32	71.1	7.8	2.75	11.85	A	A	A	0.59
33	68.1	2.9	-1.59	6.18	A	A	A	0.34
34	69.1	3.5	-0.14	6.76	A	A	A	0.03

TABLE 6. Evaluation Results for Cs-137 in Sample 1, Rep. Value and Rep. Unc. in Bq/kg

Labcode	Rep. Value	Rep. Unc.	Rel. Bias	P Test	Accuracy	Precision	Final Score	Z-Score
35	66.3	4.4	-4.19	8.01	A	A	A	0.90
36	69.7	3.2	0.72	6.41	A	A	A	0.15
38	67.1	4.0	-3.03	7.46	A	A	A	0.65
39	68.7	1.7	-0.72	5.12	A	A	A	0.15
41	68.6	3.4	-0.87	6.68	A	A	A	0.19
42	81.60	1.38	17.92	4.79	A	N	W	3.84
43	69.82	2.13	0.90	5.42	A	A	A	0.19
45	72.0	3.7	4.05	6.82	A	A	A	0.87
46	139.81	3.76	102.04	5.23	N	N	N	21.86
47	69.5	1.3	0.43	4.85	A	A	A	0.09
48	69.6	2.5	0.58	5.74	A	A	A	0.12
50	71.95	2.09	3.97	5.34	A	A	A	0.85
51	69	5	-0.29	8.52	A	A	A	0.06
52	69.7	2.7	0.72	5.92	A	A	A	0.15
53	68.3	4.2	-1.30	7.61	A	A	A	0.28
55	69.4	1.7	0.29	5.11	A	A	A	0.06
56	72.03	2.08	4.09	5.33	A	A	A	0.88
59	68.9	4.8	-0.43	8.28	A	A	A	0.09
60	76.4	13.4	10.40	18.10	A	A	A	2.23
61	69.42	2.10	0.32	5.41	A	A	A	0.07
63	68.02	2.09	-1.71	5.43	A	A	A	0.37
64	70.8	3.4	2.31	6.57	A	A	A	0.50
66	75.2	4.5	8.67	7.48	A	A	A	1.86
68	68.5	3.8	-1.01	7.13	A	A	A	0.22
69	70.92	1.72	2.49	5.09	A	A	A	0.53
70	69.83	0.89	0.91	4.66	A	A	A	0.20
72	68.613	4.531	-0.85	7.98	A	A	A	0.18
74	75.0	3.5	8.38	6.47	A	A	A	1.80
75	69.1	2.3	-0.14	5.58	A	A	A	0.03
76	69.00	0.39	-0.29	4.52	A	A	A	0.06
77	88.5	0.9	27.89	4.59	N	N	N	5.98
78	68.7	0.75	-0.72	4.61	A	A	A	0.15
80	73.7	5.2	6.50	8.36	A	A	A	1.39
81	74.8	5.5	8.09	8.61	A	A	A	1.73
84	72.47	1.08	4.73	4.72	A	A	A	1.01
85	73.08	6.16	5.61	9.55	A	A	A	1.20
86	68.4	2.33	-1.16	5.63	A	A	A	0.25
87	76	3	9.83	5.97	A	A	A	2.11
88	68.6	4.8	-0.87	8.31	A	A	A	0.19
89	71.98	2.6	4.02	5.75	A	A	A	0.86
92	70.3	7.4	1.59	11.44	A	A	A	0.34
93	69.85	0.95	0.94	4.68	A	A	A	0.20
94	65.88	0.39	-4.80	4.52	A	A	A	1.03
95	66.39	0.38	-4.06	4.52	A	A	A	0.87
96	69.4	4.2	0.29	7.53	A	A	A	0.06
98	71.2	5.0	2.89	8.33	A	A	A	0.62
99	68	2.1	-1.73	5.44	A	A	A	0.37
101	72.8	2.0	5.20	5.26	A	A	A	1.11
102	73.9	2.3	6.79	5.45	A	A	A	1.46
103	68.93	1.46	-0.39	4.96	A	A	A	0.08
105	71.83	0.92	3.80	4.66	Accuracy	Precision	A	0.81
106	69.5	0.4	0.43	4.52	A	A	A	0.09
107	81.9	1.4	18.35	4.79	A	N	W	3.93
108	70.3702	0.5407	1.69	4.55	A	A	A	0.36

TABLE 6. Evaluation Results for Cs-137 in Sample 1, Rep. Value and Rep. Unc. in Bq/kg

Labcode	Rep. Value	Rep. Unc.	Rel. Bias	P Test	Accuracy	Precision	Final Score	Z-Score
109	74.1	3.3	7.08	6.32	A	A	A	1.52
110	68.878	1.540	-0.47	5.01	A	A	A	0.10
111	70.7	4.8	2.17	8.13	A	A	A	0.46
112	79.9779	3.185	15.58	5.99	A	N	W	3.34
113	70.3	3.5	1.59	6.70	A	A	A	0.34
116	69.8	1.3	0.87	4.85	A	A	A	0.19
118	65.9	5.6	-4.77	9.61	A	A	A	1.02
120	67.9	2.8	-1.88	6.09	A	A	A	0.40
121	68.1	3.0	-1.59	6.28	A	A	A	0.34
123	79	5	14.16	7.75	A	A	A	3.03
124	70.6	1.2	2.02	4.79	A	A	A	0.43
125	68.9	2.4	-0.43	5.67	A	A	A	0.09
126	62.3	3.8	-9.97	7.57	A	A	A	2.14
129	69.6	2.0	0.58	5.32	A	A	A	0.12
130	70	3	1.16	6.20	A	A	A	0.25
132	65.6	3.9	-5.20	7.44	A	A	A	1.11
133	68.2	3.4	-1.45	6.70	A	A	A	0.31
134	70.66	4.31	2.11	7.57	A	A	A	0.45
135	68.7	2.7	-0.72	5.96	A	A	A	0.15
137	63.958	1.692	-7.58	5.20	A	A	A	1.62
139	72.559	1.0625	4.85	4.71	A	A	A	1.04
140	69.1	2.3	-0.14	5.58	A	A	A	0.03
141	73.1	4.2	5.64	7.29	A	A	A	1.21
143	67.9	4.0	-1.88	7.40	A	A	A	0.40
144	70.5	4.21	1.88	7.47	A	A	A	0.40
146	68.2	4.2	-1.45	7.62	A	A	A	0.31
147	68.2	6.1	-1.45	10.00	A	A	A	0.31
148	72.94	6.30	5.40	9.73	A	A	A	1.16
149	69.2	1.6	0.00	5.04	A	A	A	0.00
150	73.1	2.3	5.64	5.47	A	A	A	1.21
151	69.2	2.0	0.00	5.33	A	A	A	0.00
152	69.1	2.4	-0.14	5.67	A	A	A	0.03
153	71.4	5.0	3.18	8.31	A	A	A	0.68
154	69.3	1.5	0.14	4.98	A	A	A	0.03
155	69.7	3.4	0.72	6.62	A	A	A	0.15
156	68.9	4.4	-0.43	7.80	A	A	A	0.09
157	68.26	3.76	-1.36	7.10	A	A	A	0.29
158	77.5	7.1	11.99	10.20	A	A	A	2.57
159	62.7	0.8	-9.39	4.66	A	A	A	2.01
160	71.4	2.5	3.18	5.69	A	A	A	0.68
161	67.7	2.0	-2.17	5.37	A	A	A	0.46
162	68.6	1.9	-0.87	5.27	A	A	A	0.19
163	70.3	4.2	1.59	7.47	A	A	A	0.34
164	70	4	1.16	7.26	A	A	A	0.25
165	79.8	4.7	15.32	7.40	A	A	A	3.28
166	70.3	3.8	1.59	7.02	A	A	A	0.34
168	68.02	4.11	-1.71	7.52	A	A	A	0.37
169	68.42	0.91	-1.13	4.67	A	A	A	0.24
171	71.25	6.50	2.96	10.16	A	A	A	0.63
172	80.5	10.9	16.33	14.26	A	A	A	3.50
173	79.4	3.3	14.74	6.11	Accuracy	Precision	A	3.16
176	69.0	3.97	-0.29	7.29	A	A	A	0.06
177	78	5	12.72	7.82	A	A	A	2.72
179	70.8	1.7	2.31	5.08	A	A	A	0.50

TABLE 6. Evaluation Results for Cs-137 in Sample 1, Rep. Value and Rep. Unc. in Bq/kg

Labcode	Rep. Value	Rep. Unc.	Rel. Bias	P Test	Accuracy	Precision	Final Score	Z-Score
180	69.80	2.3	0.87	5.56	A	A	A	0.19
181	68.035	1.519	-1.68	5.01	A	A	A	0.36
182	73.84	4.56	6.71	7.63	A	A	A	1.44
183	70.19	2.22	1.43	5.48	A	A	A	0.31
184	68.13	0.66	-1.55	4.58	A	A	A	0.33
185	69.5	5.0	0.43	8.47	A	A	A	0.09
186	70.7	4.4	2.17	7.67	A	A	A	0.46
187	488	12	605.20	5.11	N	N	N	129.66
189	74.0	4.6	6.94	7.66	A	A	A	1.49
190	71.7	7.2	3.61	11.00	A	A	A	0.77
191	69.9	2.4	1.01	5.64	A	A	A	0.22
192	0.041	0.003	-99.94	8.58	N	N	N	21.41
193	68.07	6.81	-1.63	10.96	A	A	A	0.35
195	72.0	2.70	4.05	5.84	A	A	A	0.87
196	65.4	2.7	-5.49	6.09	A	A	A	1.18
197	68.8	2.3	-0.58	5.59	A	A	A	0.12
198	66.46	2.95	-3.96	6.31	A	A	A	0.85
199	64.94	1.56	-6.16	5.08	A	A	A	1.32
200	71.47	1.89	3.28	5.20	A	A	A	0.70
201	69.0	6.9	-0.29	10.96	A	A	A	0.06
202	68.51	4.03	-1.00	7.39	A	A	A	0.21
205	69.8	2.7	0.87	5.92	A	A	A	0.19
206	70.2	2.8	1.45	6.00	A	A	A	0.31
207	68.9	4.0	-0.43	7.33	A	A	A	0.09
208	59.2	2.71	-14.45	6.40	A	A	A	3.10
209	71.7	4.6	3.61	7.82	A	A	A	0.77
210	71.4	5.2	3.18	8.55	A	A	A	0.68
211	69.9	5.3	1.01	8.81	A	A	A	0.22
212	69.1	1.4	-0.14	4.92	A	A	A	0.03
213	70.5	4.3	1.88	7.57	A	A	A	0.40
214	70.1	4.9	1.30	8.30	A	A	A	0.28
215	63.7	3.97	-7.95	7.68	A	A	A	1.70
216	68.16	4.16	-1.50	7.57	A	A	A	0.32
219	70.9	5.7	2.46	9.20	A	A	A	0.53
221	75.53	3.16	9.15	6.13	A	A	A	1.96
222	83.4	2.25	20.52	5.23	N	N	N	4.40
223	66.4	2.4	-4.05	5.76	A	A	A	0.87
224	75.3	3.3	8.82	6.27	A	A	A	1.89
225	68	3	-1.73	6.29	A	A	A	0.37
227	68.99	1.03	-0.30	4.72	A	A	A	0.07
228	68.4	2.7	-1.16	5.97	A	A	A	0.25
229	70.5	2.23	1.88	5.48	A	A	A	0.40
230	68.1	2.6	-1.59	5.89	A	A	A	0.34
231	72.81	13.03	5.22	18.45	A	A	A	1.12
232	69.4304	3.0280	0.33	6.25	A	A	A	0.07
233	66.44	0.76	-3.99	4.62	A	A	A	0.85
234	75.12	1.95	8.55	5.18	A	A	A	1.83
235	80.78	2.38	16.73	5.36	A	N	W	3.59
237	67.4	4.1	-2.60	7.55	A	A	A	0.56
238	71.19	9.25	2.88	13.74	A	A	A	0.62
239	66.8	2.3	-3.47	5.65	Accuracy	Precision	A	0.74
240	75.0	2.2	8.38	5.35	A	A	A	1.80
241	73.5	4.4	6.21	7.48	A	A	A	1.33
242	67.6	3.5	-2.31	6.85	A	A	A	0.50

TABLE 6. Evaluation Results for Cs-137 in Sample 1, Rep. Value and Rep. Unc. in Bq/kg

Labcode	Rep. Value	Rep. Unc.	Rel. Bias	P Test	Accuracy	Precision	Final Score	Z-Score
243	64.5	4.8	-6.79	8.69	A	A	A	1.46
245	67.2	1.07	-2.89	4.75	A	A	A	0.62
246	62.32	1.75	-9.94	5.29	A	A	A	2.13
248	68.17	2.05	-1.49	5.40	A	A	A	0.32
249	70.5	12.8	1.88	18.70	A	A	A	0.40
250	58.9	2.3	-14.88	5.94	A	A	A	3.19
251	74.6	1.0	7.80	4.68	A	A	A	1.67
252	70.4041	1.59	1.74	5.02	A	A	A	0.37
254	68.7	3.1	-0.72	6.36	A	A	A	0.15
255	72.0	2.1	4.05	5.35	A	A	A	0.87
256	65.01	0.46	-6.05	4.54	A	A	A	1.30
257	76	3	9.83	5.97	A	A	A	2.11
258	68.7	3.06	-0.72	6.32	A	A	A	0.15
259	62.14	0.14	-10.20	4.49	A	A	A	2.19
260	71.4	3.7	3.18	6.85	A	A	A	0.68
261	68.7	3.5	-0.72	6.78	A	A	A	0.15
262	68.5	4.0	-1.01	7.36	A	A	A	0.22
263	68.06	2	-1.65	5.36	A	A	A	0.35
264	80.8	1.7	16.76	4.95	A	N	W	3.59
266	67.6	4.1	-2.31	7.54	A	A	A	0.50
267	126.73	8.17	83.14	7.85	N	N	N	17.81
268	63.59	1.27	-8.11	4.90	A	A	A	1.74
270	69.9	7.57	1.01	11.72	A	A	A	0.22
273	71.46	1.60	3.27	5.01	A	A	A	0.70
274	66.1	3.7	-4.48	7.17	A	A	A	0.96
275	68.9	4.26	-0.43	7.64	A	A	A	0.09
279	69.4	4.2	0.29	7.53	A	A	A	0.06
281	68	3	-1.73	6.29	A	A	A	0.37
283	69.9	3.2	1.01	6.41	A	A	A	0.22
286	71.0	2.8	2.60	5.97	A	A	A	0.56
287	67.9	1.2	-1.88	4.82	A	A	A	0.40
289	69.4	3.5	0.29	6.75	A	A	A	0.06
290	80.34	0.99	16.10	4.65	A	N	W	3.45
291	66.6	2.5	-3.76	5.84	A	A	A	0.80
295	65.0	4.7	-6.07	8.51	A	A	A	1.30
297	61.8	4.0	-10.69	7.87	A	A	A	2.29
298	61.8	1.3	-10.69	4.95	A	A	A	2.29
299	84.9	5.2	22.69	7.59	N	N	N	4.86
304	50.37	3.78	-27.21	8.74	N	N	N	5.83
307	69.8	0.6	0.87	4.56	A	A	A	0.19
308	63.73	3.88	-7.90	7.56	A	A	A	1.69
310	68.9	1.5	-0.43	4.98	A	A	A	0.09
312	66.69	1.06	-3.63	4.75	A	A	A	0.78
313	66.7	1.7	-3.61	5.15	A	A	A	0.77
314	68.38	3.16	-1.18	6.44	A	A	A	0.25
316	70.546	5.644	1.95	9.17	A	A	A	0.42
317	71		2.60		A			0.56
320	64.11	2.42	-7.36	5.86	A	A	A	1.58
321	67.96	0.41	-1.79	4.52	A	A	A	0.38
322	75.7	8.3	9.39	11.84	A	A	A	2.01
323	68.3	1.3	-1.30	4.87	Accuracy	Precision	A	0.28
324	63.62	1.24	-8.06	4.89	A	A	A	1.73
325	67.8	4.0	-2.02	7.41	A	A	A	0.43

Reported Results for Am-241 Determination in Sample 1

TABLE 7. Target values

Parameter	Value
Target Value, Bq/kg	60.9
UNC, Bq/kg	2.7
MARB, %	20

Accepted 68%

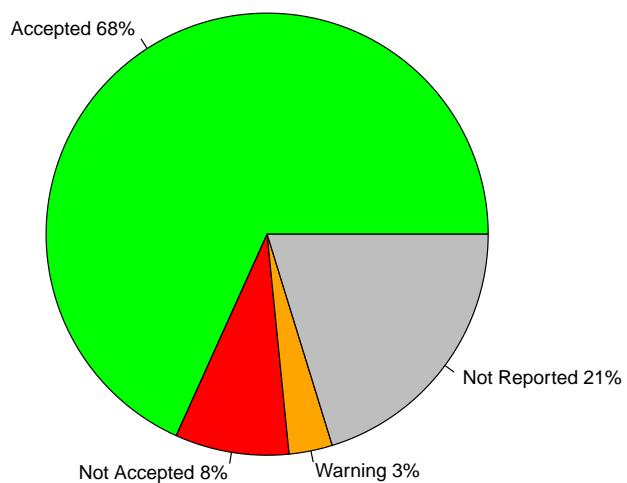Not Reported 21%

Not Accepted 8%

Warning 3%

FIGURE 7. Percentage of Accepted vs. Warnings vs. Not Accepted vs. Not Reported results
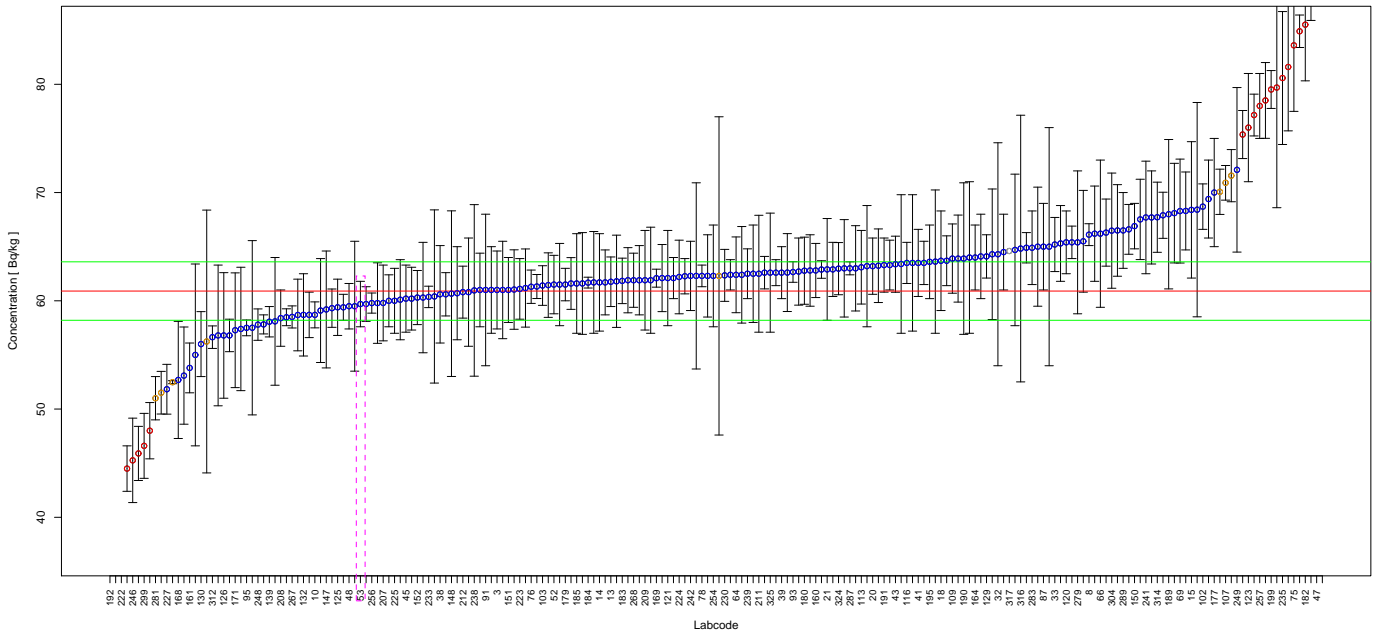
FIGURE 8. Reported results and evaluation parameters for Am-241. Blue points represent accepted scores, whereas yellow and red represent warning and not accepted scores respectively.

TABLE 8. Evaluation Results for Am-241 in Sample 1, Rep. Value and Rep. Unc. in Bq/kg

Labcode	Rep. Value	Rep. Unc.	Rel. Bias	P Test	Accuracy	Precision	Final Score	Z-Score
1	70.07	2.09	15.06	5.34	A	N	W	2.30
2	65.3	3.5	7.22	6.96	A	A	A	1.11
3	61.0	3.6	0.16	7.38	A	A	A	0.03
4	27.2	1.4	-55.34	6.79	N	N	N	8.47
5	60.4	8	-0.82	13.97	A	A	A	0.13
6	45.9	2.5	-24.63	7.02	N	N	N	3.77
7	53.09	4.49	-12.82	9.55	A	A	A	1.96
8	66.11	1.01	8.56	4.69	A	A	A	1.31
9	65	11	6.73	17.49	A	A	A	1.03
10	58.7	1.2	-3.61	4.88	A	A	A	0.55
11	58.7	2.1	-3.61	5.70	A	A	A	0.55
12	84.9	1.5	39.41	4.77	N	N	N	6.03
13	61.76	2.29	1.41	5.78	A	A	A	0.22
14	61.7	4.5	1.31	8.54	A	A	A	0.20
15	68.4	6.3	12.32	10.22	A	A	A	1.88
16	60.2	2.9	-1.15	6.55	A	A	A	0.18
17	63.24	3.40	3.84	6.97	A	A	A	0.59
18	63.7	4.6	4.60	8.47	A	A	A	0.70
19	61.7	3.0	1.31	6.58	A	A	A	0.20
20	63.2	2.6	3.78	6.05	A	A	A	0.58
21	62.9	4.7	3.28	8.69	A	A	A	0.50
22	63.5	2.0	4.27	5.44	A	A	A	0.65
25	61	4	0.16	7.92	A	A	A	0.03
26	58.69	3.31	-3.63	7.17	A	A	A	0.56
27	66.3	3.1	8.87	6.44	A	A	A	1.36
29	71.56	2.41	17.50	5.57	A	N	W	2.68
31	63.90	4.02	4.93	7.70	A	A	A	0.75
32	64.3	10.3	5.58	16.62	A	A	A	0.85
33	65.2	2.5	7.06	5.86	A	A	A	1.08
34	61.5	3.8	0.99	7.60	A	A	A	0.15

TABLE 8. Evaluation Results for Am-241 in Sample 1, Rep. Value and Rep. Unc. in Bq/kg

Labcode	Rep. Value	Rep. Unc.	Rel. Bias	P Test	Accuracy	Precision	Final Score	Z-Score
35	56.8	6.5	-6.73	12.27	A	A	A	1.03
36	61	3.4	0.16	7.12	A	A	A	0.03
38	60.6	4.5	-0.49	8.65	A	A	A	0.08
39	62.6	2.4	2.79	5.86	A	A	A	0.43
41	63.5	3.1	4.27	6.59	A	A	A	0.65
43	63.38	2.59	4.07	6.03	A	A	A	0.62
45	60.2	3.1	-1.15	6.80	A	A	A	0.18
46	75.36	2.22	23.74	5.32	N	N	N	3.63
47	139	17	128.24	13.01	N	N	N	19.62
48	59.5	2.1	-2.30	5.67	A	A	A	0.35
50	68.42	9.90	12.35	15.13	A	A	A	1.89
51	64	7	5.09	11.80	A	A	A	0.78
52	61.5	2.7	0.99	6.24	A	A	A	0.15
53	59.7	2.1	-1.97	5.66	A	A	A	0.30
56	62.27	1.63	2.25	5.15	A	A	A	0.34
59	61.7	4.7	1.31	8.81	A	A	A	0.20
63	78.51	3.50	28.92	6.29	N	N	N	4.42
64	62.4	3.5	2.46	7.15	A	A	A	0.38
66	66.2	6.8	8.70	11.19	A	A	A	1.33
68	68.1	4.6	11.82	8.08	A	A	A	1.81
69	68.29	4.80	12.13	8.31	A	A	A	1.86
70	51.51	1.97	-15.42	5.86	A	N	W	2.36
72	61.803	4.261	1.48	8.20	A	A	A	0.23
74	62.8	3.3	3.12	6.88	A	A	A	0.48
75	83.6	6.1	37.27	8.54	N	N	N	5.70
76	61.30	1.54	0.66	5.10	A	A	A	0.10
78	62.3	1.0	2.30	4.72	A	A	A	0.35
80	81.6	5.9	33.99	8.48	N	N	N	5.20
81	61.9	4.9	1.64	9.07	A	A	A	0.25
84	61.32	1.11	0.69	4.79	A	A	A	0.11
85	64.30	6.03	5.58	10.37	A	A	A	0.85
86	66.5	4.23	9.20	7.75	A	A	A	1.41
87	65	4	6.73	7.58	A	A	A	1.03
88	61.0	4.5	0.16	8.61	A	A	A	0.03
91	61	7	0.16	12.30	A	A	A	0.03
92	64.7	7.0	6.24	11.69	A	A	A	0.95
93	62.66	0.95	2.89	4.69	A	A	A	0.44
94	58.48	0.78	-3.97	4.63	A	A	A	0.61
95	57.50	0.73	-5.58	4.61	A	A	A	0.85
96	66.2	4.4	8.70	7.99	A	A	A	1.33
98	60.8	5.0	-0.16	9.34	A	A	A	0.03
99	59.1	4.8	-2.96	9.25	A	A	A	0.45
101	62.1	1.9	1.97	5.39	A	A	A	0.30
102	68.7	2.1	12.81	5.39	A	A	A	1.96
103	61.41	1.83	0.84	5.34	A	A	A	0.13
105	57.82	0.88	-5.06	4.69	A	A	A	0.77
106	62.6	1.2	2.79	4.83	A	A	A	0.43
107	70.9	1.6	16.42	4.97	A	N	W	2.51
109	63.9	3.2	4.93	6.69	A	A	A	0.75
111	67.7	4.3	11.17	7.75	A	A	A	1.71
113	63.1	3.4	3.61	6.98	A	A	A	0.55
116	63.5	1.9	4.27	5.35	A	A	A	0.65
118	63.2	5.6	3.78	9.91	A	A	A	0.58
120	65.4	2.9	7.39	6.27	A	A	A	1.13

TABLE 8. Evaluation Results for Am-241 in Sample 1, Rep. Value and Rep. Unc. in Bq/kg

Labcode	Rep. Value	Rep. Unc.	Rel. Bias	P Test	Accuracy	Precision	Final Score	Z-Score
121	62.1	4.4	1.97	8.36	A	A	A	0.30
123	76	5	24.79	7.93	N	N	N	3.79
124	62.4	1.4	2.46	4.97	A	A	A	0.38
125	59.4	2.6	-2.46	6.23	A	A	A	0.38
126	56.8	5.8	-6.73	11.13	A	A	A	1.03
129	64.1	2.0	5.25	5.42	A	A	A	0.80
130	56	3	-8.05	6.95	A	A	A	1.23
132	58.7	3.8	-3.61	7.85	A	A	A	0.55
133	61.9	3.2	1.64	6.81	A	A	A	0.25
134	63.62	6.62	4.47	11.31	A	A	A	0.68
135	64.1	3.9	5.25	7.53	A	A	A	0.80
137	61.6	2.39	1.15	5.89	A	A	A	0.18
139	58.066	1.4028	-4.65	5.05	A	A	A	0.71
141	62.1	3.1	1.97	6.68	A	A	A	0.30
144	62.3	8.6	2.30	14.50	A	A	A	0.35
146	59.5	6.0	-2.30	11.02	A	A	A	0.35
147	59.2	5.4	-2.79	10.14	A	A	A	0.43
148	60.66	7.65	-0.39	13.37	A	A	A	0.06
149	62.6	1.5	2.79	5.04	A	A	A	0.43
150	66.9	2.1	9.85	5.43	A	A	A	1.51
151	61.0	3.0	0.16	6.62	A	A	A	0.03
152	60.3	2.5	-0.99	6.07	A	A	A	0.15
153	63.0	4.5	3.45	8.41	A	A	A	0.53
154	48.0	2.6	-21.18	7.00	N	N	N	3.24
155	68.3	3.6	12.15	6.89	A	A	A	1.86
156	62.5	4.5	2.63	8.46	A	A	A	0.40
157	59.79	3.72	-1.82	7.64	A	A	A	0.28
159	56.8	1.5	-6.73	5.16	A	A	A	1.03
160	62.8	2.5	3.12	5.96	A	A	A	0.48
161	53.8	2.3	-11.66	6.16	A	A	A	1.78
162	62.7	3.1	2.96	6.64	A	A	A	0.45
163	57.4	5.7	-5.75	10.88	A	A	A	0.88
164	64	3	5.09	6.45	A	A	A	0.78
165	65.5	4.7	7.55	8.43	A	A	A	1.16
166	64.5	3.5	5.91	7.01	A	A	A	0.90
168	52.69	5.41	-13.48	11.18	A	A	A	2.06
169	62.09	0.83	1.95	4.63	A	A	A	0.30
171	57.28	5.30	-5.94	10.26	A	A	A	0.91
172	79.7	11.1	30.87	14.62	N	A	N	4.72
177	70	5	14.94	8.41	A	A	A	2.29
179	61.5	1.5	0.99	5.06	A	A	A	0.15
180	62.78	3.1	3.09	6.64	A	A	A	0.47
181	61.179	3.611	0.46	7.38	A	A	A	0.07
182	85.51	5.19	40.41	7.52	N	N	N	6.18
183	61.84	2.1	1.54	5.58	A	A	A	0.24
184	61.68	0.50	1.28	4.51	A	A	A	0.20
185	61.6	4.6	1.15	8.68	A	A	A	0.18
186	60.1	3.7	-1.31	7.59	A	A	A	0.20
187	88.1	2.2	44.66	5.09	N	N	N	6.83
189	68.0	6.9	11.66	11.07	A	A	A	1.78
190	63.9	7.0	4.93	11.82	Accuracy	Precision	A	0.75
191	63.3	2.5	3.94	5.94	A	A	A	0.60
192	0.023	0.003	-99.96	13.78	N	N	N	15.30
193	57.51	8.05	-5.57	14.68	A	A	A	0.85

TABLE 8. Evaluation Results for Am-241 in Sample 1, Rep. Value and Rep. Unc. in Bq/kg

Labcode	Rep. Value	Rep. Unc.	Rel. Bias	P Test	Accuracy	Precision	Final Score	Z-Score
195	63.6	3.40	4.43	6.95	A	A	A	0.68
196	60.7	4.3	-0.33	8.36	A	A	A	0.05
197	62.9	2.5	3.28	5.95	A	A	A	0.50
198	61.04	3.67	0.23	7.47	A	A	A	0.04
199	79.52	1.75	30.57	4.95	N	N	N	4.68
205	63.7	2.3	4.60	5.72	A	A	A	0.70
206	63.5	6.3	4.27	10.87	A	A	A	0.65
207	59.8	3.5	-1.81	7.34	A	A	A	0.28
208	58.4	2.6	-4.11	6.28	A	A	A	0.63
209	61.9	4.6	1.64	8.65	A	A	A	0.25
211	62.5	5.4	2.63	9.71	A	A	A	0.40
212	60.8	2.4	-0.16	5.94	A	A	A	0.03
213	62.3	3.8	2.30	7.54	A	A	A	0.35
216	61.45	2.98	0.90	6.57	A	A	A	0.14
219	62.3	14.7	2.30	24.01	A	N	W	0.35
222	30.9	2.16	-49.26	8.28	N	N	N	7.54
223	61.1	2.8	0.33	6.38	A	A	A	0.05
224	62.2	3.4	2.13	7.04	A	A	A	0.33
225	60	3	-1.48	6.68	A	A	A	0.23
227	51.83	2.3	-14.89	6.27	A	A	A	2.28
228	60.0	2.4	-1.48	5.97	A	A	A	0.23
230	62.35	2.4	2.38	5.87	A	A	A	0.36
231	56.24	12.14	-7.65	22.04	A	N	W	1.17
232	62.6082	3.5978	2.80	7.26	A	A	A	0.43
233	60.36	0.99	-0.89	4.73	A	A	A	0.14
234	77.16	1.93	26.70	5.09	N	N	N	4.09
235	80.58	6.14	32.32	8.82	N	N	N	4.94
237	63.4	6.4	4.11	11.03	A	A	A	0.63
238	60.96	7.924	0.10	13.73	A	A	A	0.02
239	62.5	2.3	2.63	5.76	A	A	A	0.40
240	66.6	2.3	9.36	5.62	A	A	A	1.43
241	67.7	5.2	11.17	8.87	A	A	A	1.71
242	62.3	3.2	2.30	6.79	A	A	A	0.35
246	45.26	3.90	-25.68	9.69	N	N	N	3.93
248	57.80	1.45	-5.09	5.09	A	A	A	0.78
249	72.1	7.6	18.39	11.44	A	A	A	2.81
250	44.5	2.1	-26.93	6.48	N	N	N	4.12
251	64.9	1.4	6.57	4.93	A	A	A	1.01
254	62.3	4.7	2.30	8.75	A	A	A	0.35
255	60.6	2.0	-0.49	5.53	A	A	A	0.08
256	59.79	0.93	-1.82	4.70	A	A	A	0.28
257	78	3	28.08	5.87	N	N	N	4.30
258	61.9	3.01	1.64	6.58	A	A	A	0.25
259	52.48	0.14	-13.83	4.44	A	N	W	2.12
261	61.6	4.7	1.15	8.82	A	A	A	0.18
262	65.0	5.5	6.73	9.55	A	A	A	1.03
263	59.32	1.77	-2.59	5.34	A	A	A	0.40
266	58.1	5.9	-4.60	11.08	A	A	A	0.70
267	58.51	1.02	-3.92	4.76	A	A	A	0.60
268	61.9	2.5	1.64	6.00	A	A	A	0.25
270	62.4	4.46	2.46	8.41	Accuracy	Precision	A	0.38
274	60.3	5.1	-0.99	9.55	A	A	A	0.15
275	63	3.94	3.45	7.67	A	A	A	0.53
279	65.4	6.6	7.39	11.02	A	A	A	1.13

TABLE 8. Evaluation Results for Am-241 in Sample 1, Rep. Value and Rep. Unc. in Bq/kg

Labcode	Rep. Value	Rep. Unc.	Rel. Bias	P Test	Accuracy	Precision	Final Score	Z–Score
281	51	2	-16.26	5.92	A	N	W	2.49
283	64.9	3.4	6.57	6.86	A	A	A	1.01
287	63	0.6	3.45	4.53	A	A	A	0.53
289	66.5	3.5	9.20	6.88	A	A	A	1.41
290	67.90	2.13	11.49	5.43	A	A	A	1.76
291	63.3	2.3	3.94	5.73	A	A	A	0.60
295	467.0	41.5	666.83	9.93	N	N	N	102.04
298	59.4	1.2	-2.46	4.87	A	A	A	0.38
299	46.6	3.0	-23.48	7.82	N	N	N	3.59
304	66.48	5.32	9.16	9.15	A	A	A	1.40
310	65.4	1.5	7.39	4.99	A	A	A	1.13
312	56.64	1.04	-7.00	4.80	A	A	A	1.07
313	69.4	3.6	13.96	6.82	A	A	A	2.14
314	67.72	3.24	11.20	6.52	A	A	A	1.71
316	64.826	12.317	6.45	19.51	A	A	A	0.99
317	64.6		6.08		A			0.93
320	67.52	3.71	10.87	7.06	A	A	A	1.66
321	62.89	0.81	3.27	4.62	A	A	A	0.50
322	55.0	8.4	-9.69	15.90	A	A	A	1.48
323	59.7	1.6	-1.97	5.18	A	A	A	0.30
324	62.97	2.41	3.40	5.86	A	A	A	0.52
325	62.6	5.5	2.79	9.84	A	A	A	0.43

Reported Results for Sr-90 Determination in Sample 2

TABLE 9. Target values

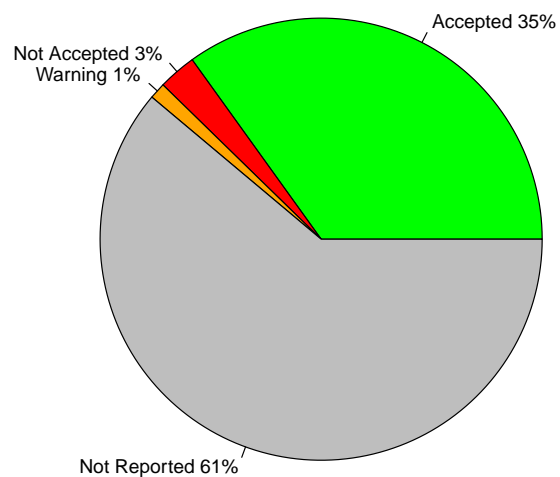| Parameter	Value
Target Value, Bq/kg	146.8
UNC, Bq/kg	8.4
MARB, %	30

FIGURE 9. Percentage of Accepted vs. Warnings vs. Not Accepted vs. Not Reported results
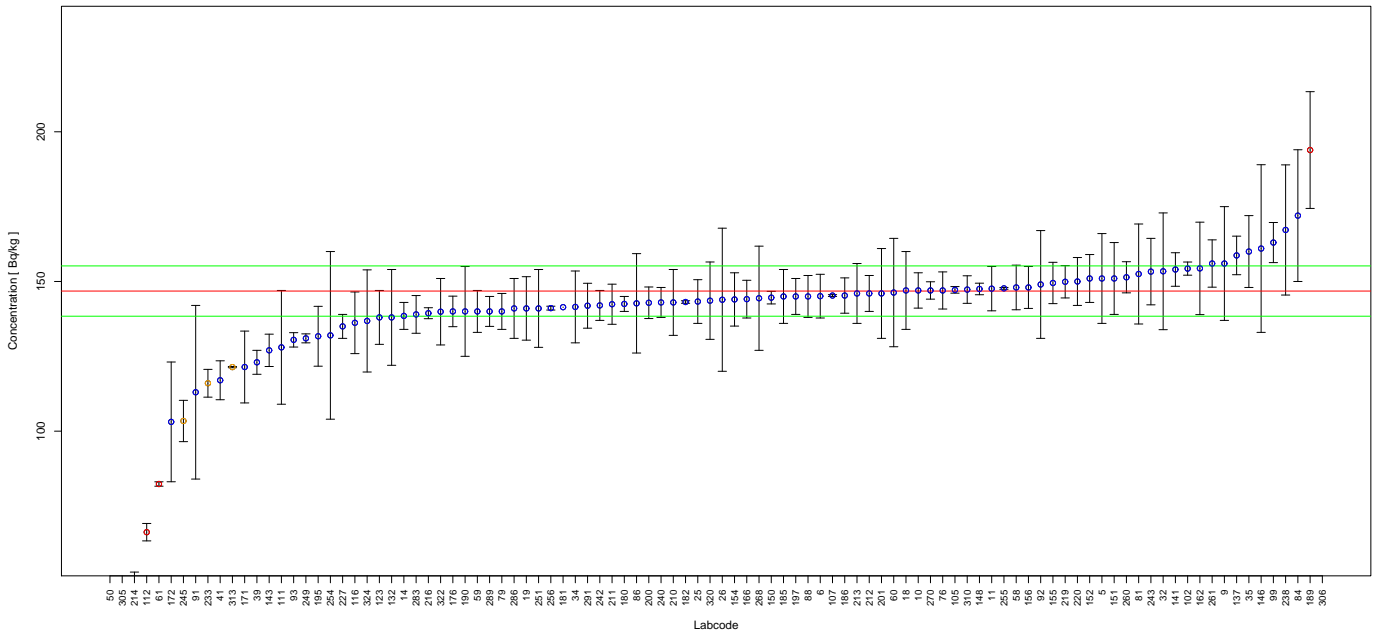
FIGURE 10. Reported results and evaluation parameters for Sr-90. Blue points represent accepted scores, whereas yellow and red represent warning and not accepted scores respectively.

TABLE 10. Evaluation Results for Sr-90 in Sample 2, Rep. Value and Rep. Unc. in Bq/kg

Labcode	Rep. Value	Rep. Unc.	Rel. Bias	P Test	Accuracy	Precision	Final Score	Z-Score
5	151	15	2.86	11.46	A	A	A	0.39
6	145.1	7.3	-1.16	7.62	A	A	A	0.16
9	156	19	6.27	13.46	A	A	A	0.85
10	147.0	5.9	0.14	6.99	A	A	A	0.02
11	147.6	7.4	0.54	7.61	A	A	A	0.07
14	138.5	4.5	-5.65	6.58	A	A	A	0.77
18	147	13	0.14	10.53	A	A	A	0.02
19	141	10.6	-3.95	9.45	A	A	A	0.54
25	143.3	7.3	-2.38	7.66	A	A	A	0.32
26	143.9	23.9	-1.98	17.57	A	A	A	0.27
32	153.4	19.5	4.50	13.94	A	A	A	0.61
34	141.5	12.0	-3.61	10.23	A	A	A	0.49
35	160	12	8.99	9.43	A	A	A	1.22
39	123	4	-16.21	6.58	A	A	A	2.21
41	117.0	6.5	-20.30	7.98	A	A	A	2.76
50	10.95	2.92	-92.54	27.27	N	N	N	12.60
58	148.00	7.45	0.82	7.62	A	A	A	0.11
59	140	7.0	-4.63	7.60	A	A	A	0.63
60	146.3	18.1	-0.34	13.63	A	A	A	0.05
61	82.35	0.73	-43.90	5.79	N	N	N	5.98
76	147.0	6.2	0.14	7.11	A	A	A	0.02
79	140	6	-4.63	7.15	A	A	A	0.63
81	152.5	16.7	3.88	12.36	A	A	A	0.53
84	172	22	17.17	14.01	A	A	A	2.34
86	142.7	16.6	-2.79	12.96	A	A	A	0.38
88	145	7	-1.23	7.49	A	A	A	0.17
91	113	29	-23.02	26.29	A	A	A	3.14
92	149	18	1.50	13.37	A	A	A	0.20
93	130.5	2.4	-11.10	6.01	A	A	A	1.51
99	163.0	6.7	11.04	7.05	A	A	A	1.50

TABLE 10. Evaluation Results for Sr-90 in Sample 2, Rep. Value and Rep. Unc. in Bq/kg

Labcode	Rep. Value	Rep. Unc.	Rel. Bias	P Test	Accuracy	Precision	Final Score	Z-Score
102	154.3	2.2	5.11	5.90	A	A	A	0.70
105	147.2	1.1	0.27	5.77	A	A	A	0.04
107	145.3	0.3	-1.02	5.73	A	A	A	0.14
111	128	19	-12.81	15.91	A	A	A	1.74
112	66.26	2.9109	-54.86	7.21	N	N	N	7.47
116	136.2	10.3	-7.22	9.48	A	A	A	0.98
123	138	9	-5.99	8.68	A	A	A	0.82
132	138	16	-5.99	12.93	A	A	A	0.82
137	158.7	6.44	8.11	7.01	A	A	A	1.10
141	154	5.6	4.90	6.78	A	A	A	0.67
143	127	5.4	-13.49	7.13	A	A	A	1.84
146	161	28	9.67	18.31	A	A	A	1.32
148	147.5	1.93	0.48	5.87	A	A	A	0.06
150	144.6	2.1	-1.50	5.90	A	A	A	0.20
151	151.0	12.0	2.86	9.79	A	A	A	0.39
152	151	8	2.86	7.80	A	A	A	0.39
154	144.0	8.9	-1.91	8.42	A	A	A	0.26
155	149.5	6.9	1.84	7.35	A	A	A	0.25
156	148	7	0.82	7.42	A	A	A	0.11
162	154.37	15.44	5.16	11.52	A	A	A	0.70
166	144.1	6.3	-1.84	7.20	A	A	A	0.25
171	121.43	12.00	-17.28	11.42	A	A	A	2.35
172	103.1	20.0	-29.77	20.22	A	A	A	4.05
176	140	5.10	-4.63	6.78	A	A	A	0.63
180	142.5	2.5	-2.93	5.98	A	A	A	0.40
181	141.41	0.01	-3.67	5.72	A	A	A	0.50
182	143.14	0.42	-2.49	5.73	A	A	A	0.34
185	145	9	-1.23	8.44	A	A	A	0.17
186	145.3	5.9	-1.02	7.02	A	A	A	0.14
189	193.9	19.5	32.08	11.57	N	N	N	4.37
190	140	15	-4.63	12.15	A	A	A	0.63
195	131.7	10.0	-10.29	9.51	A	A	A	1.40
197	145	6	-1.23	7.06	A	A	A	0.17
200	142.89	5.27	-2.66	6.81	A	A	A	0.36
201	146	15	-0.54	11.76	A	A	A	0.07
210	143	11	-2.59	9.59	A	A	A	0.35
211	142.4	6.7	-3.00	7.41	A	A	A	0.41
212	146	6	-0.54	7.04	A	A	A	0.07
213	146	10	-0.54	8.92	A	A	A	0.07
214	47.9	5.03	-67.37	11.96	N	N	N	9.17
216	139.4	1.83	-5.04	5.87	A	A	A	0.69
219	149.9	5.40	2.11	6.76	A	A	A	0.29
220	150	8	2.18	7.82	A	A	A	0.30
227	135	4	-8.04	6.44	A	A	A	1.09
233	116	4.64	-20.98	6.98	A	N	W	2.86
238	167.21	21.74	13.90	14.21	A	A	A	1.89
240	143	5	-2.59	6.71	A	A	A	0.35
242	142	5	-3.27	6.72	A	A	A	0.45
243	153.3	11.1	4.43	9.23	A	A	A	0.60
245	103.4	6.9	-29.56	8.79	A	N	W	4.03
249	131	1.5	-10.76	5.84	Accuracy	Precision	A	1.47
251	141	13	-3.95	10.85	A	A	A	0.54
254	132	28	-10.08	21.97	A	A	A	1.37
255	147.7	0.3	0.61	5.73	A	A	A	0.08

TABLE 10. Evaluation Results for Sr-90 in Sample 2, Rep. Value and Rep. Unc. in Bq/kg

Labcode	Rep. Value	Rep. Unc.	Rel. Bias	P Test	Accuracy	Precision	Final Score	Z-Score
256	141.100	0.642	-3.88	5.74	A	A	A	0.53
260	151.4	5.2	3.13	6.67	A	A	A	0.43
261	156	7.9	6.27	7.64	A	A	A	0.85
268	144.4	17.4	-1.63	13.34	A	A	A	0.22
270	147	2.9	0.14	6.05	A	A	A	0.02
283	139	6.3	-5.31	7.30	A	A	A	0.72
286	141	10	-3.95	9.11	A	A	A	0.54
289	140	5	-4.63	6.75	A	A	A	0.63
291	141.9	7.5	-3.34	7.79	A	A	A	0.45
305	22.2	0.53	-84.88	6.20	N	N	N	11.56
306	1441.35	56.35	881.85	6.93	N	N	N	120.09
310	147.3	4.6	0.34	6.52	A	A	A	0.05
313	121.4	0.2	-17.30	5.72	A	N	W	2.36
320	143.59	12.92	-2.19	10.66	A	A	A	0.30
322	139.9	11.1	-4.70	9.78	A	A	A	0.64
324	136.82	17.06	-6.80	13.72	A	A	A	0.93

Reported Results for Ba-133 Determination in Sample 2

TABLE 11. Target values

Parameter	Value
Target Value, Bq/kg	147.3
UNC, Bq/kg	6.6
MARB, %	20

Accepted 80%

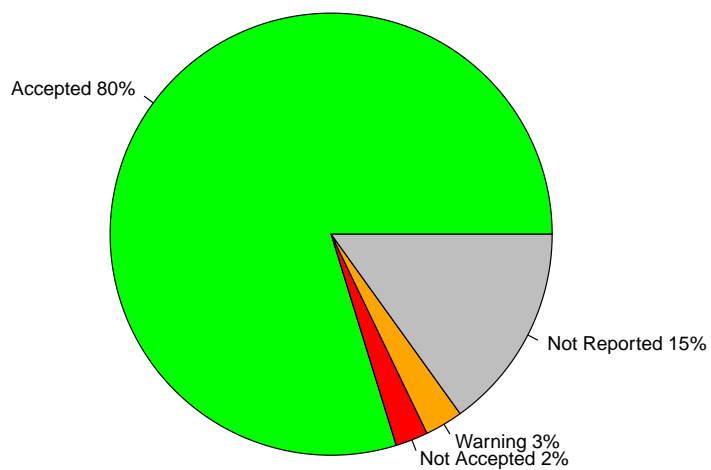Not Reported 15%

Warning 3%

Not Accepted 2%

FIGURE 11. Percentage of Accepted vs. Warnings vs. Not Accepted vs. Not Reported results
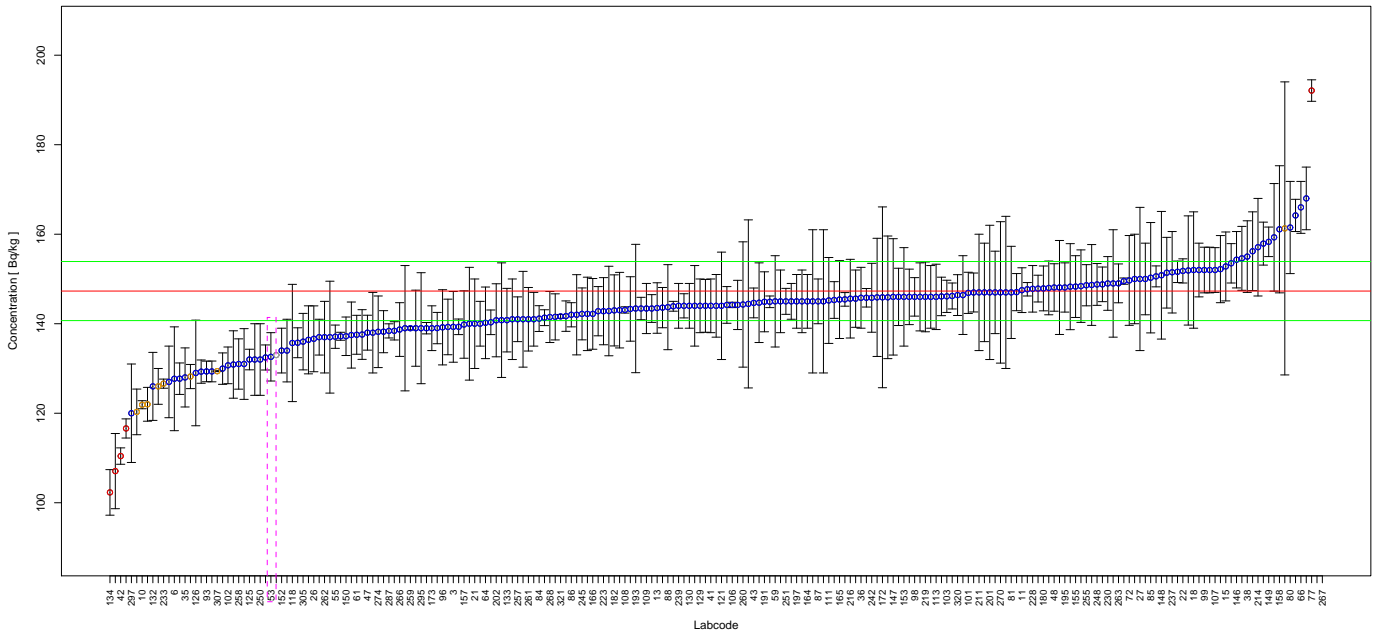
FIGURE 12. Reported results and evaluation parameters for Ba-133. Blue points represent accepted scores, whereas yellow and red represent warning and not accepted scores respectively.

TABLE 12. Evaluation Results for Ba-133 in Sample 2, Rep. Value and Rep. Unc. in Bq/kg

Labcode	Rep. Value	Rep. Unc.	Rel. Bias	P Test	Accuracy	Precision	Final Score	Z-Score
1	129.97	3.51	-11.77	5.23	A	A	A	2.42
2	143.3	7.2	-2.72	6.73	A	A	A	0.56
3	139.3	7.9	-5.43	7.23	A	A	A	1.12
4	142.2	8.2	-3.46	7.30	A	A	A	0.71
5	159.3	12.02	8.15	8.78	A	A	A	1.67
6	127.7	11.6	-13.31	10.13	A	A	A	2.73
7	139.28	6.21	-5.44	6.32	A	A	A	1.12
9	145	16	-1.56	11.91	A	A	A	0.32
10	121.9	0.90	-17.24	4.54	A	N	W	3.54
11	147.5	5.0	0.14	5.62	A	A	A	0.03
12	145.6	6.4	-1.15	6.28	A	A	A	0.24
13	143.51	5.64	-2.57	5.96	A	A	A	0.53
14	148.1	10.5	0.54	8.39	A	A	A	0.11
15	152.8	7.7	3.73	6.74	A	A	A	0.77
16	146.1	4.3	-0.81	5.36	A	A	A	0.17
17	141.53	5.15	-3.92	5.77	A	A	A	0.80
18	152	13	3.19	9.66	A	A	A	0.66
19	145.9	13.7	-0.95	10.40	A	A	A	0.20
20	168	7	14.05	6.12	A	A	A	2.89
21	140	10	-4.96	8.43	A	A	A	1.02
22	151.8	2.7	3.05	4.82	A	A	A	0.63
25	145	7	-1.56	6.59	A	A	A	0.32
26	136.63	7.36	-7.24	7.01	A	A	A	1.49
27	150	16	1.83	11.57	A	A	A	0.38
29	132.46	2.80	-10.07	4.95	A	A	A	2.07
31	130.89	7.53	-11.14	7.29	A	A	A	2.29
32	145.0	16.0	-1.56	11.91	A	A	A	0.32
33	145	7	-1.56	6.59	A	A	A	0.32
34	146.0	6.2	-0.88	6.17	A	A	A	0.18
35	128	6.6	-13.10	6.83	A	A	A	2.69

TABLE 12. Evaluation Results for Ba-133 in Sample 2, Rep. Value and Rep. Unc. in Bq/kg

Labcode	Rep. Value	Rep. Unc.	Rel. Bias	P Test	Accuracy	Precision	Final Score	Z-Score
36	145.8	6.8	-1.02	6.47	A	A	A	0.21
38	155	8	5.23	6.83	A	A	A	1.07
39	164.2	3.6	11.47	4.99	A	A	A	2.36
41	144.0	6.0	-2.24	6.12	A	A	A	0.46
42	110.43	1.83	-25.03	4.78	N	N	N	5.14
43	144.65	3.33	-1.80	5.04	A	A	A	0.37
45	136.4	7.6	-7.40	7.15	A	A	A	1.52
46	243.86	4.78	65.55	4.89	N	N	N	13.47
47	138	3.9	-6.31	5.30	A	A	A	1.30
48	148.1	5.3	0.54	5.73	A	A	A	0.11
50	137.59	5.55	-6.59	6.03	A	A	A	1.35
51	132	8	-10.39	7.54	A	A	A	2.13
52	120.3	5.1	-18.33	6.17	A	N	W	3.77
53	132.6	5.4	-9.98	6.05	A	A	A	2.05
55	137.1	2.6	-6.92	4.87	A	A	A	1.42
56	148.8	3.87	1.02	5.18	A	A	A	0.21
59	145	10.2	-1.56	8.34	A	A	A	0.32
61	137.53	4.35	-6.63	5.48	A	A	A	1.36
63	152.0	5.1	3.19	5.60	A	A	A	0.66
64	140.2	8	-4.82	7.26	A	A	A	0.99
66	166	5.8	12.70	5.68	A	A	A	2.61
68	156.2	8.8	6.04	7.20	A	A	A	1.24
69	138.41	2.04	-6.04	4.72	A	A	A	1.24
70	145.80	2.07	-1.02	4.70	A	A	A	0.21
72	149.674	10.033	1.61	8.06	A	A	A	0.33
74	142.8	5.5	-3.05	5.91	A	A	A	0.63
75	157.9	4.8	7.20	5.41	A	A	A	1.48
76	139.00	1.27	-5.63	4.57	A	A	A	1.16
77	192.1	2.4	30.41	4.65	N	N	N	6.25
80	161.5	10.3	9.64	7.79	A	A	A	1.98
81	147.0	10.3	-0.20	8.32	A	A	A	0.04
84	141.15	2.88	-4.18	4.92	A	A	A	0.86
85	150.28	12.33	2.02	9.35	A	A	A	0.42
86	142	2.7	-3.60	4.87	A	A	A	0.74
87	145	5	-1.56	5.65	A	A	A	0.32
88	143.7	9.5	-2.44	7.99	A	A	A	0.50
92	150	10	1.83	8.03	A	A	A	0.38
93	129.34	2.30	-12.19	4.82	A	A	A	2.50
94	139.31	1.74	-5.42	4.65	A	A	A	1.11
95	141.35	1.77	-4.04	4.65	A	A	A	0.83
96	139.2	8.4	-5.50	7.52	A	A	A	1.13
98	146.0	4.3	-0.88	5.36	A	A	A	0.18
99	152	5.1	3.19	5.60	A	A	A	0.66
101	146.9	4.6	-0.27	5.47	A	A	A	0.06
102	130.7	4.1	-11.27	5.47	A	A	A	2.32
103	146.12	3.6	-0.80	5.11	A	A	A	0.16
105	151.4	7.9	2.78	6.88	A	A	A	0.57
106	144.2	0.6	-2.10	4.50	A	A	A	0.43
107	152	5	3.19	5.56	A	A	A	0.66
108	143.0811	0.7052	-2.86	4.51	A	A	A	0.59
109	143.4	5.6	-2.65	5.94	Accuracy	Precision	A	0.54
111	145.2	9.6	-1.43	7.99	A	A	A	0.29
113	146.0	7.3	-0.88	6.71	A	A	A	0.18
116	143.9	1.1	-2.31	4.55	A	A	A	0.47

TABLE 12. Evaluation Results for Ba-133 in Sample 2, Rep. Value and Rep. Unc. in Bq/kg

Labcode	Rep. Value	Rep. Unc.	Rel. Bias	P Test	Accuracy	Precision	Final Score	Z-Score
118	135.7	13.1	-7.88	10.64	A	A	A	1.62
120	152	6	3.19	5.97	A	A	A	0.66
121	144	12	-2.24	9.46	A	A	A	0.46
123	127	8	-13.78	7.73	A	A	A	2.83
124	143.6	4.5	-2.51	5.47	A	A	A	0.52
125	132	2.3	-10.39	4.81	A	A	A	2.13
126	129	11.8	-12.42	10.19	A	A	A	2.55
129	144	6	-2.24	6.12	A	A	A	0.46
130	144	5	-2.24	5.67	A	A	A	0.46
132	126	7.6	-14.46	7.51	A	A	A	2.97
133	140.8	7.1	-4.41	6.75	A	A	A	0.91
134	102.31	5.09	-30.54	6.70	N	N	N	6.27
135	144.2	5.5	-2.10	5.88	A	A	A	0.43
137	116.6	2.14	-20.84	4.84	N	N	N	4.28
144	140.8	12.8	-4.41	10.14	A	A	A	0.91
146	154.3	6.3	4.75	6.06	A	A	A	0.98
147	146	13	-0.88	9.97	A	A	A	0.18
148	150.83	14.26	2.40	10.46	A	A	A	0.49
149	158.3	3.3	7.47	4.94	A	A	A	1.53
150	137.2	4.3	-6.86	5.47	A	A	A	1.41
151	141.0	6.0	-4.28	6.18	A	A	A	0.88
152	134	5	-9.03	5.83	A	A	A	1.85
153	146	11	-0.88	8.77	A	A	A	0.18
154	143.4	2.5	-2.65	4.81	A	A	A	0.54
155	148.3	6.9	0.68	6.46	A	A	A	0.14
156	141	9	-4.28	7.80	A	A	A	0.88
157	139.82	7.53	-5.08	7.01	A	A	A	1.04
158	161.1	14.2	9.37	9.89	A	A	A	1.92
159	129.3	2.6	-12.22	4.91	A	A	A	2.51
160	126	4	-14.46	5.49	A	N	W	2.97
161	145.3	4.1	-1.36	5.30	A	A	A	0.28
162	151.6	2.4	2.92	4.75	A	A	A	0.60
163	146.0	6.4	-0.88	6.27	A	A	A	0.18
164	145	6	-1.56	6.10	A	A	A	0.32
165	145.4	8.7	-1.29	7.48	A	A	A	0.26
166	142.2	7.9	-3.46	7.14	A	A	A	0.71
168	148.66	9.03	0.92	7.55	A	A	A	0.19
169	145.44	1.52	-1.26	4.60	A	A	A	0.26
171	145.89	13.20	-0.96	10.10	A	A	A	0.20
172	145.9	20.2	-0.95	14.55	A	A	A	0.20
173	139.0	5.0	-5.63	5.75	A	A	A	1.16
176	142	8.96	-3.60	7.74	A	A	A	0.74
177	139	14	-5.63	11.02	A	A	A	1.16
179	147.7	1.5	0.27	4.59	A	A	A	0.06
180	147.89	5.01	0.40	5.62	A	A	A	0.08
181	127.720	3.515	-13.29	5.26	A	A	A	2.73
182	142.98	7.94	-2.93	7.14	A	A	A	0.60
184	149.52	0.70	1.51	4.51	A	A	A	0.31
185	146.4	8.8	-0.61	7.50	A	A	A	0.13
186	131.0	7.9	-11.07	7.51	A	A	A	2.27
189	144.0	5.9	-2.24	6.07	Accuracy	Precision	A	0.46
190	147	17	-0.20	12.40	A	A	A	0.04
191	144.9	6.7	-1.63	6.44	A	A	A	0.33
193	143.4	14.34	-2.65	10.96	A	A	A	0.54

TABLE 12. Evaluation Results for Ba-133 in Sample 2, Rep. Value and Rep. Unc. in Bq/kg

Labcode	Rep. Value	Rep. Unc.	Rel. Bias	P Test	Accuracy	Precision	Final Score	Z-Score
195	148.1	5.50	0.54	5.82	A	A	A	0.11
196	149	12	1.15	9.22	A	A	A	0.24
197	145	6	-1.56	6.10	A	A	A	0.32
198	137.47	7.38	-6.67	6.99	A	A	A	1.37
199	128.20	2.70	-12.97	4.95	A	N	W	2.66
200	147.85	2.99	0.37	4.92	A	A	A	0.08
201	147	15	-0.20	11.14	A	A	A	0.04
202	140.77	8.16	-4.43	7.33	A	A	A	0.91
205	144	7	-2.24	6.61	A	A	A	0.46
206	148.4	8.1	0.75	7.06	A	A	A	0.15
207	134	7.0	-9.03	6.88	A	A	A	1.85
208	148.28	9.61	0.67	7.88	A	A	A	0.14
209	146	7.6	-0.88	6.87	A	A	A	0.18
211	147	13	-0.20	9.91	A	A	A	0.04
212	145	4	-1.56	5.26	A	A	A	0.32
213	144	9	-2.24	7.69	A	A	A	0.46
214	157.1	10.9	6.65	8.26	A	A	A	1.37
215	137	12.5	-6.99	10.16	A	A	A	1.44
216	145.6	8.79	-1.15	7.52	A	A	A	0.24
219	146	7.8	-0.88	6.97	A	A	A	0.18
221	146.98	4.35	-0.22	5.37	A	A	A	0.04
222	122	3.78	-17.18	5.45	A	N	W	3.53
223	142.8	7.5	-3.05	6.90	A	A	A	0.63
224	143.4	3.1	-2.65	4.97	A	A	A	0.54
225	146	7	-0.88	6.56	A	A	A	0.18
227	147.06	4.15	-0.16	5.30	A	A	A	0.03
228	147.8	5.2	0.34	5.70	A	A	A	0.07
230	149	6	1.15	6.02	A	A	A	0.24
231	161.3	32.74	9.50	20.79	A	N	W	1.95
232	143.0344	8.4405	-2.90	7.41	A	A	A	0.59
233	126.61	1.02	-14.05	4.55	A	N	W	2.89
234	138.22	4.7	-6.16	5.62	A	A	A	1.27
235	140.32	2.75	-4.74	4.89	A	A	A	0.97
237	151.5	9.1	2.85	7.49	A	A	A	0.59
238	144.43	18.776	-1.95	13.75	A	A	A	0.40
239	144	5	-2.24	5.67	A	A	A	0.46
240	153.5	4.4	4.21	5.32	A	A	A	0.86
241	150	8	1.83	6.97	A	A	A	0.38
242	145.8	7.7	-1.02	6.93	A	A	A	0.21
245	142.2	5.8	-3.46	6.06	A	A	A	0.71
246	129.34	2.32	-12.19	4.83	A	A	A	2.50
248	148.78	4.67	1.00	5.47	A	A	A	0.21
249	137	4	-6.99	5.35	A	A	A	1.44
250	132	8	-10.39	7.54	A	A	A	2.13
251	145	2.9	-1.56	4.91	A	A	A	0.32
252	139.0287	3.5	-5.62	5.14	A	A	A	1.15
254	139.0	8.5	-5.63	7.58	A	A	A	1.16
255	148.6	4.6	0.88	5.45	A	A	A	0.18
256	135.75	3.34	-7.84	5.11	A	A	A	1.61
257	141	5	-4.28	5.71	A	A	A	0.88
258	131	5.62	-11.07	6.20	Accuracy	Precision	A	2.27
259	139	0.36	-5.63	4.49	A	A	A	1.16
260	144.3	14.0	-2.04	10.69	A	A	A	0.42
261	141	7.1	-4.28	6.74	A	A	A	0.88

TABLE 12. Evaluation Results for Ba-133 in Sample 2, Rep. Value and Rep. Unc. in Bq/kg

Labcode	Rep. Value	Rep. Unc.	Rel. Bias	P Test	Accuracy	Precision	Final Score	Z–Score
262	137	8.0	-6.99	7.36	A	A	A	1.44
263	149.02	4.34	1.17	5.34	A	A	A	0.24
266	138.7	6.0	-5.84	6.23	A	A	A	1.20
267	253.93	8.66	72.39	5.63	N	N	N	14.87
268	141.5	5.7	-3.94	6.03	A	A	A	0.81
270	147	15.8	-0.20	11.64	A	A	A	0.04
274	138.2	8.0	-6.18	7.32	A	A	A	1.27
275	147	9.21	-0.20	7.70	A	A	A	0.04
279	152.2	7.5	3.33	6.66	A	A	A	0.68
281	138	9	-6.31	7.91	A	A	A	1.30
283	144	2.7	-2.24	4.86	A	A	A	0.46
286	141.0	10.7	-4.28	8.81	A	A	A	0.88
287	138.4	1.58	-6.04	4.62	A	A	A	1.24
288	147	11	-0.20	8.72	A	A	A	0.04
289	148	6	0.48	6.04	A	A	A	0.10
290	107.07	8.4	-27.31	9.03	N	N	N	5.61
291	140	5	-4.96	5.73	A	A	A	1.02
295	139.0	12.4	-5.63	9.98	A	A	A	1.16
297	120.0	11.0	-18.53	10.20	A	A	A	3.81
298	146.2	2.9	-0.75	4.90	A	A	A	0.15
299	144.7	8.9	-1.77	7.61	A	A	A	0.36
304	142.84	10.00	-3.03	8.31	A	A	A	0.62
305	136	6.31	-7.67	6.45	A	A	A	1.58
307	129.4	0.1	-12.15	4.48	A	N	W	2.50
310	144.2	4.1	-2.10	5.31	A	A	A	0.43
312	150.58	2.34	2.23	4.74	A	A	A	0.46
313	141.7	3.4	-3.80	5.08	A	A	A	0.78
314	154.61	7.14	4.96	6.43	A	A	A	1.02
317	133		-9.71		A			1.99
320	146.40	4.56	-0.61	5.46	A	A	A	0.13
321	141.64	0.43	-3.84	4.49	A	A	A	0.79
322	140.0	12.6	-4.96	10.05	A	A	A	1.02
323	144.9	1.3	-1.63	4.57	A	A	A	0.33
324	137.2	0.89	-6.86	4.53	A	A	A	1.41
325	151.9	12.2	3.12	9.20	A	A	A	0.64

Reported Results for Cs-137 Determination in Sample 2

TABLE 13. Target values

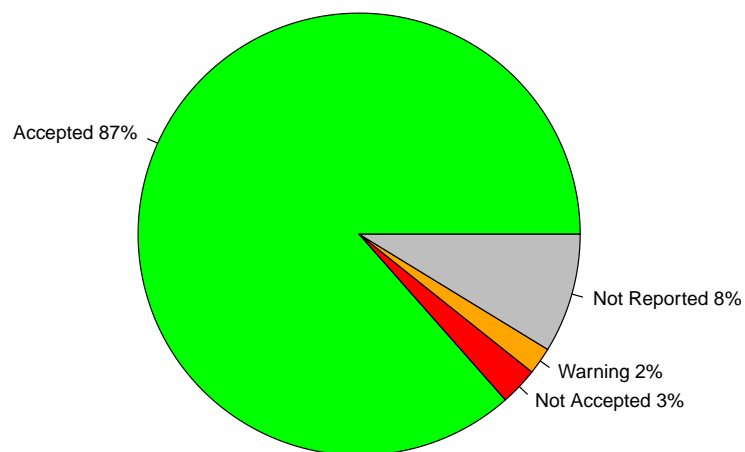| Parameter	Value
Target Value, Bq/kg	147.4
UNC, Bq/kg	6.6
MARB, %	20

FIGURE 13. Percentage of Accepted vs. Warnings vs. Not Accepted vs. Not Reported results
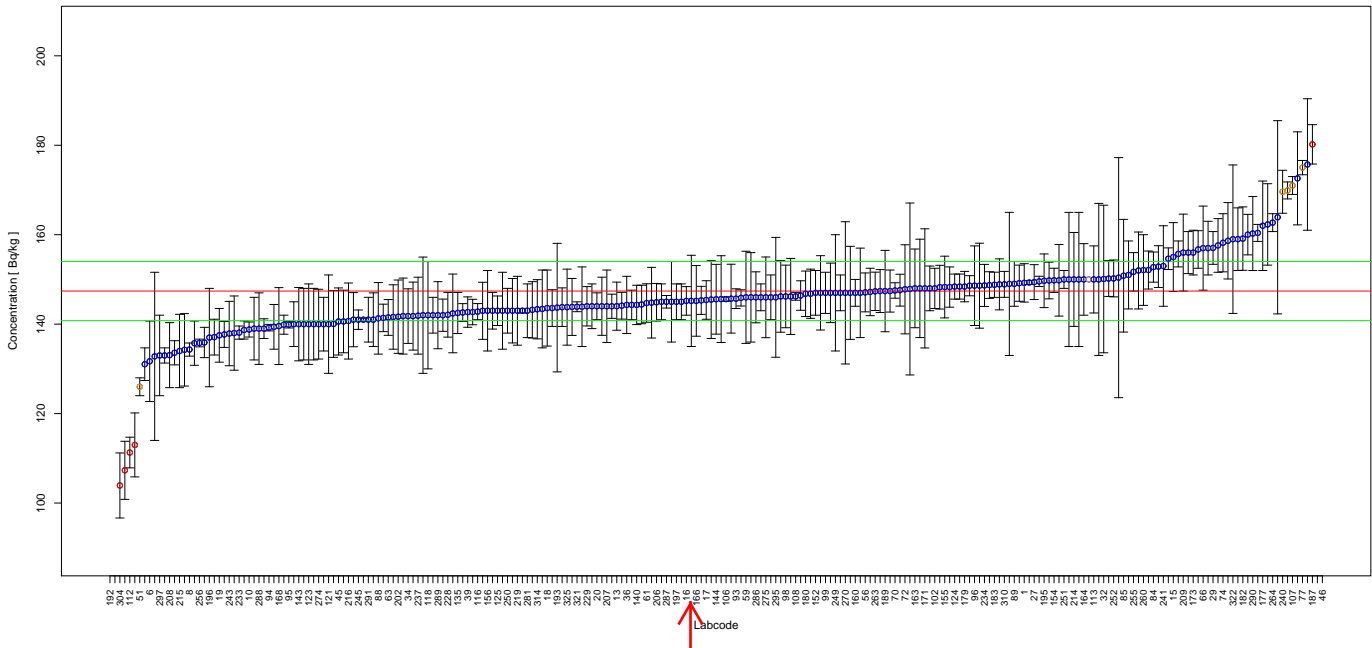
FIGURE 14. Reported results and evaluation parameters for Cs-137. Blue points represent accepted scores, whereas yellow and red represent warning and not accepted scores respectively.

TABLE 14. Evaluation Results for Cs-137 in Sample 2, Rep. Value and Rep. Unc. in Bq/kg

Labcode	Rep. Value	Rep. Unc.	Rel. Bias	P Test	Accuracy	Precision	Final Score	Z-Score
1	149.23	4.29	1.24	5.32	A	A	A	0.31
2	144.4	4.3	-2.04	5.38	A	A	A	0.51
3	141.8	7.6	-3.80	6.98	A	A	A	0.95
4	140.6	7.0	-4.61	6.70	A	A	A	1.15
5	142.4	8.8	-3.39	7.63	A	A	A	0.85
6	131.7	9	-10.65	8.17	A	A	A	2.66
7	148.27	4.89	0.59	5.56	A	A	A	0.15
8	134.32	1.47	-8.87	4.61	A	A	A	2.22
9	150	17	1.76	12.19	A	A	A	0.44
10	138.8	1.68	-5.83	4.64	A	A	A	1.46
11	147.4	4.8	0.00	5.54	A	A	A	0.00
12	169.9	1.9	15.26	4.62	A	N	W	3.81
13	144.02	5.38	-2.29	5.83	A	A	A	0.57
14	146.2	8.0	-0.81	7.07	A	A	A	0.20
15	155.0	7.7	5.16	6.69	A	A	A	1.29
16	145.2	3.2	-1.49	4.99	A	A	A	0.37
17	145.40	4.31	-1.36	5.37	A	A	A	0.34
18	143.6	8.5	-2.58	7.42	A	A	A	0.64
19	137.5	6.0	-6.72	6.25	A	A	A	1.68
20	144	3	-2.31	4.94	A	A	A	0.58
21	146	10	-0.95	8.18	A	A	A	0.24
22	155.7	2.9	5.63	4.85	A	A	A	1.41
25	145	4	-1.63	5.26	A	A	A	0.41
26	158.64	8.54	7.63	7.00	A	A	A	1.91
27	149.4	3.9	1.36	5.18	A	A	A	0.34
29	157.04	3.66	6.54	5.05	A	A	A	1.63
31	147.00	6.65	-0.27	6.37	A	A	A	0.07
32	150.1	16.5	1.83	11.87	A	A	A	0.46
33	140	6	-5.02	6.20	A	A	A	1.25
34	141.8	6.1	-3.80	6.21	A	A	A	0.95

TABLE 14. Evaluation Results for Cs-137 in Sample 2, Rep. Value and Rep. Unc. in Bq/kg

Labcode	Rep. Value	Rep. Unc.	Rel. Bias	P Test	Accuracy	Precision	Final Score	Z-Score
35	139	7	-5.70	6.74	A	A	A	1.42
36	144.3	6.4	-2.10	6.30	A	A	A	0.53
38	140	8	-5.02	7.26	A	A	A	1.25
39	142.7	3.4	-3.19	5.07	A	A	A	0.80
41	139.4	5.0	-5.43	5.74	A	A	A	1.36
42	154.63	2.42	4.91	4.74	A	A	A	1.23
43	148.74	2.98	0.91	4.91	A	A	A	0.23
45	140.6	7.5	-4.61	6.96	A	A	A	1.15
46	288.77	6.30	95.91	4.98	N	N	N	23.96
47	139	2.2	-5.70	4.75	A	A	A	1.42
48	147.2	5.3	-0.14	5.75	A	A	A	0.03
50	149.76	4.10	1.60	5.25	A	A	A	0.40
51	126	2	-14.52	4.75	A	N	W	3.63
52	148.9	5.7	1.02	5.89	A	A	A	0.25
53	145.7	7.7	-1.15	6.93	A	A	A	0.29
55	144.3	3.3	-2.10	5.03	A	A	A	0.53
56	147.1	4.35	-0.20	5.37	A	A	A	0.05
59	146	10.3	-0.95	8.36	A	A	A	0.24
60	132.8	18.8	-9.91	14.85	A	A	A	2.47
61	144.73	4.30	-1.81	5.37	A	A	A	0.45
63	141.5	4.0	-4.00	5.30	A	A	A	1.00
64	149.8	8	1.63	6.97	A	A	A	0.41
66	157	9.4	6.51	7.48	A	A	A	1.63
68	144.8	7.9	-1.76	7.06	A	A	A	0.44
69	148.59	2.25	0.81	4.73	A	A	A	0.20
70	147.53	1.73	0.09	4.63	A	A	A	0.02
72	147.792	9.961	0.27	8.09	A	A	A	0.07
74	158.2	6.5	7.33	6.08	A	A	A	1.83
75	147.4	4.7	0.00	5.50	A	A	A	0.00
76	143.00	0.52	-2.99	4.49	A	A	A	0.75
77	175	1.6	18.72	4.57	A	N	W	4.68
80	148.6	9.5	0.81	7.81	A	A	A	0.20
81	147.0	10.4	-0.27	8.37	A	A	A	0.07
84	152.76	3.37	3.64	4.99	A	A	A	0.91
85	150.83	12.60	2.33	9.48	A	A	A	0.58
86	143	4.1	-2.99	5.32	A	A	A	0.75
87	157	6	6.51	5.89	A	A	A	1.63
88	141.3	8.0	-4.14	7.22	A	A	A	1.03
89	149	5	1.09	5.60	A	A	A	0.27
92	149	16	1.09	11.63	A	A	A	0.27
93	145.70	2.2	-1.15	4.73	A	A	A	0.29
94	139.22	0.73	-5.55	4.51	A	A	A	1.39
95	139.89	0.74	-5.09	4.51	A	A	A	1.27
96	148.6	8.9	0.81	7.48	A	A	A	0.20
98	146.2	7.0	-0.81	6.56	A	A	A	0.20
99	147	4.6	-0.27	5.46	A	A	A	0.07
101	150.2	4.0	1.90	5.21	A	A	A	0.47
102	148.0	4.5	0.41	5.41	A	A	A	0.10
103	144.12	2.99	-2.23	4.93	A	A	A	0.56
105	160.4	1.9	8.82	4.63	A	A	A	2.20
106	145.6	0.5	-1.22	4.49	A	A	A	0.31
107	171	2	16.01	4.63	A	N	W	4.00
108	146.2275	0.8734	-0.80	4.52	A	A	A	0.20
109	157.6	6.0	6.92	5.88	A	A	A	1.73

TABLE 14. Evaluation Results for Cs-137 in Sample 2, Rep. Value and Rep. Unc. in Bq/kg

Labcode	Rep. Value	Rep. Unc.	Rel. Bias	P Test	Accuracy	Precision	Final Score	Z-Score
110	145.321	3.135	-1.41	4.97	A	A	A	0.35
111	145.6	9.7	-1.22	8.03	A	A	A	0.31
112	111.2964	3.429	-24.49	5.44	N	N	N	6.12
113	150.0	7.5	1.76	6.71	A	A	A	0.44
116	142.8	1.8	-3.12	4.65	A	A	A	0.78
118	142.0	12.0	-3.66	9.56	A	A	A	0.92
120	142	4	-3.66	5.29	A	A	A	0.92
121	140	11	-5.02	9.04	A	A	A	1.25
123	140	9	-5.02	7.83	A	A	A	1.25
124	148.4	2.8	0.68	4.86	A	A	A	0.17
125	143	3.3	-2.99	5.04	A	A	A	0.75
126	138	8.3	-6.38	7.50	A	A	A	1.59
129	147	4	-0.27	5.24	A	A	A	0.07
130	148	5	0.41	5.61	A	A	A	0.10
132	143	8.6	-2.99	7.50	A	A	A	0.75
133	143.0	7.2	-2.99	6.74	A	A	A	0.75
134	107.32	6.49	-27.19	7.52	N	N	N	6.79
135	142.5	4.6	-3.32	5.52	A	A	A	0.83
137	135.9	3.39	-7.80	5.13	A	A	A	1.95
139	149.56	1.1499	1.47	4.54	A	A	A	0.37
140	144.3	4.4	-2.10	5.42	A	A	A	0.53
141	152	8.6	3.12	7.22	A	A	A	0.78
143	140	8.2	-5.02	7.37	A	A	A	1.25
144	145.57	7.8	-1.24	6.98	A	A	A	0.31
146	143.9	8.9	-2.37	7.64	A	A	A	0.59
147	142	13	-3.66	10.19	A	A	A	0.92
148	152.87	4.67	3.71	5.42	A	A	A	0.93
149	146.4	3.3	-0.68	5.01	A	A	A	0.17
150	148.3	4.5	0.61	5.41	A	A	A	0.15
151	145.0	4.0	-1.63	5.26	A	A	A	0.41
152	147	5	-0.27	5.62	A	A	A	0.07
153	145.2	10.2	-1.49	8.33	A	A	A	0.37
154	149.8	2.7	1.63	4.83	A	A	A	0.41
155	148.3	6.9	0.61	6.46	A	A	A	0.15
156	143	9	-2.99	7.72	A	A	A	0.75
157	140.04	7.46	-4.99	6.96	A	A	A	1.25
158	175.7	14.7	19.20	9.49	A	A	A	4.80
159	133.0	1.7	-9.77	4.66	A	A	A	2.44
160	147	3	-0.27	4.92	A	A	A	0.07
161	143.6	4.1	-2.58	5.31	A	A	A	0.64
162	148.4	2.8	0.68	4.86	A	A	A	0.17
163	148.0	8.8	0.41	7.44	A	A	A	0.10
164	150	8	1.76	6.96	A	A	A	0.44
165	162.3	9.1	10.11	7.18	A	A	A	2.53
166	145.2	7.9	-1.49	7.05	A	A	A	0.37
168	139.57	8.60	-5.31	7.62	A	A	A	1.33
169	145.87	1.81	-1.04	4.65	A	A	A	0.26
171	148.00	13.32	0.41	10.05	A	A	A	0.10
172	163.9	21.6	11.19	13.92	A	A	A	2.80
173	156.0	5.0	5.83	5.51	A	A	A	1.46
176	147	8.31	-0.27	7.21	Accuracy	Precision	A	0.07
177	162	10	9.91	7.63	A	A	A	2.47
179	148.4	3.4	0.68	5.03	A	A	A	0.17
180	146.79	5.08	-0.41	5.66	A	A	A	0.10

TABLE 14. Evaluation Results for Cs-137 in Sample 2, Rep. Value and Rep. Unc. in Bq/kg

Labcode	Rep. Value	Rep. Unc.	Rel. Bias	P Test	Accuracy	Precision	Final Score	Z-Score
181	141.394	3.073	-4.07	4.98	A	A	A	1.02
182	159.13	7.09	7.96	6.32	A	A	A	1.99
183	148.8	2.82	0.95	4.86	A	A	A	0.24
184	149.31	0.43	1.30	4.49	A	A	A	0.32
185	146.2	8.5	-0.81	7.34	A	A	A	0.20
186	143.4	8.7	-2.71	7.54	A	A	A	0.68
187	180.2	4.4	22.25	5.10	N	N	N	5.56
189	147.4	9.1	0.00	7.63	A	A	A	0.00
190	150	15	1.76	10.96	A	A	A	0.44
191	146.8	5.5	-0.41	5.84	A	A	A	0.10
192	0.086	0.05	-99.94	58.31	N	N	N	24.97
193	143.7	14.37	-2.51	10.96	A	A	A	0.63
195	149.7	6.00	1.56	6.01	A	A	A	0.39
196	137	11	-7.06	9.19	A	A	A	1.76
197	145	4	-1.63	5.26	A	A	A	0.41
198	143.85	6.37	-2.41	6.30	A	A	A	0.60
199	142.71	2.85	-3.18	4.90	A	A	A	0.79
200	147.60	3.56	0.14	5.09	A	A	A	0.03
201	150	15	1.76	10.96	A	A	A	0.44
202	141.67	8.20	-3.89	7.32	A	A	A	0.97
205	146	5	-0.95	5.64	A	A	A	0.24
206	144.9	4.2	-1.70	5.33	A	A	A	0.42
207	144	8.1	-2.31	7.19	A	A	A	0.58
208	133.07	7.27	-9.72	7.06	A	A	A	2.43
209	156	8.6	5.83	7.10	A	A	A	1.46
210	147	10	-0.27	8.14	A	A	A	0.07
211	148	11	0.41	8.68	A	A	A	0.10
212	146	3	-0.95	4.93	A	A	A	0.24
213	145	9	-1.63	7.65	A	A	A	0.41
214	150	10.5	1.76	8.31	A	A	A	0.44
215	134	8.2	-9.09	7.58	A	A	A	2.27
216	140.7	8.50	-4.55	7.52	A	A	A	1.14
219	143	7.7	-2.99	7.00	A	A	A	0.75
221	160.02	4.53	8.56	5.30	A	A	A	2.14
222	156	4.7	5.83	5.40	A	A	A	1.46
223	137.1	4	-6.99	5.34	A	A	A	1.75
224	156.7	4.2	6.31	5.22	A	A	A	1.58
225	141	6	-4.34	6.18	A	A	A	1.08
227	142.61	1.98	-3.25	4.69	A	A	A	0.81
228	142.1	5.0	-3.60	5.69	A	A	A	0.90
229	144	4.40	-2.31	5.42	A	A	A	0.58
230	144	5	-2.31	5.67	A	A	A	0.58
231	150.4	26.84	2.04	18.40	A	A	A	0.51
232	142.9839	6.3825	-3.00	6.32	A	A	A	0.75
233	138.11	1.47	-6.30	4.60	A	A	A	1.57
234	148.66	4.7	0.85	5.48	A	A	A	0.21
235	149.16	4.04	1.19	5.23	A	A	A	0.30
237	141.9	8.6	-3.73	7.54	A	A	A	0.93
238	147.865	19.222	0.32	13.75	A	A	A	0.08
239	140	5	-5.02	5.73	A	A	A	1.25
240	169.6	4.8	15.06	5.30	Accuracy	N	W	3.76
241	153	9	3.80	7.39	A	A	A	0.95
242	141.6	7.2	-3.93	6.78	A	A	A	0.98
243	137.9	7.2	-6.45	6.88	A	A	A	1.61

TABLE 14. Evaluation Results for Cs-137 in Sample 2, Rep. Value and Rep. Unc. in Bq/kg

Labcode	Rep. Value	Rep. Unc.	Rel. Bias	P Test	Accuracy	Precision	Final Score	Z-Score
245	141.0	2.17	-4.34	4.73	A	A	A	1.08
246	131.05	3.65	-11.09	5.27	A	A	A	2.77
248	143.80	4.31	-2.44	5.39	A	A	A	0.61
249	147	13	-0.27	9.91	A	A	A	0.07
250	143	5	-2.99	5.68	A	A	A	0.75
251	150	2.0	1.76	4.67	A	A	A	0.44
252	150.2242	4.12	1.92	5.25	A	A	A	0.48
254	143.2	6.3	-2.85	6.28	A	A	A	0.71
255	151.7	4.3	2.92	5.30	A	A	A	0.73
256	135.79	0.86	-7.88	4.52	A	A	A	1.97
257	159	7	7.87	6.28	A	A	A	1.97
258	141	6.05	-4.34	6.20	A	A	A	1.08
259	141	0.32	-4.34	4.48	A	A	A	1.08
260	152.1	7.9	3.19	6.86	A	A	A	0.80
261	151	7.6	2.44	6.74	A	A	A	0.61
262	140	8.0	-5.02	7.26	A	A	A	1.25
263	147.34	4.29	-0.04	5.34	A	A	A	0.01
264	162.7	2.0	10.38	4.64	A	A	A	2.59
266	141.8	8.5	-3.80	7.48	A	A	A	0.95
267	264.79	17.03	79.64	7.84	N	N	N	19.90
268	133.6	2.7	-9.36	4.91	A	A	A	2.34
270	147	15.9	-0.27	11.71	A	A	A	0.07
273	152.1	4.25	3.19	5.28	A	A	A	0.80
274	140.0	7.8	-5.02	7.15	A	A	A	1.25
275	146	9.02	-0.95	7.63	A	A	A	0.24
279	145.5	8.7	-1.29	7.47	A	A	A	0.32
281	143	6	-2.99	6.14	A	A	A	0.75
283	144	6.5	-2.31	6.36	A	A	A	0.58
286	146.0	5.7	-0.95	5.94	A	A	A	0.24
287	145	1.4	-1.63	4.58	A	A	A	0.41
288	139	8	-5.70	7.29	A	A	A	1.42
289	142.0	7.5	-3.66	6.92	A	A	A	0.92
290	160.26	8.27	8.72	6.83	A	A	A	2.18
291	141	5	-4.34	5.71	A	A	A	1.08
295	146.0	13.4	-0.95	10.21	A	A	A	0.24
297	133.0	9.0	-9.77	8.11	A	A	A	2.44
298	137.7	2.9	-6.58	4.95	A	A	A	1.64
299	172.6	10.4	17.10	7.51	A	A	A	4.27
304	103.93	7.27	-29.49	8.31	N	N	N	7.37
305	113	7.15	-23.34	7.75	N	N	N	5.83
307	14.8	0.7	-89.96	6.51	N	N	N	22.47
308	134.26	8.10	-8.91	7.51	A	A	A	2.23
310	148.9	2.9	1.02	4.88	A	A	A	0.25
312	139.88	2.13	-5.10	4.73	A	A	A	1.27
313	142.0	3.6	-3.66	5.15	A	A	A	0.92
314	143.33	6.62	-2.76	6.43	A	A	A	0.69
317	150		1.76		A			0.44
320	135.75	4.95	-7.90	5.77	A	A	A	1.97
321	143.89	1.1	-2.38	4.54	A	A	A	0.59
322	159.0	16.6	7.87	11.36	A	A	A	1.97
323	144.0	2.7	-2.31	4.85	Accuracy	Precision	A	0.58
324	138.7	2.03	-5.90	4.71	A	A	A	1.47
325	143.8	8.5	-2.44	7.42	A	A	A	0.61

Reported Results for Am-241 Determination in Sample 2

TABLE 15. Target values

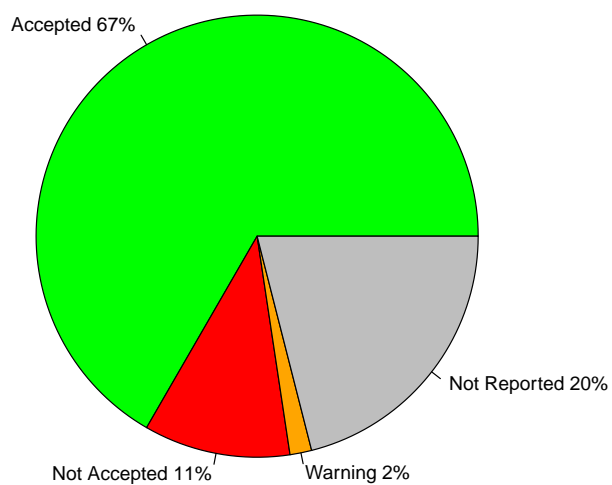| Parameter	Value
Target Value, Bq/kg	108.3
UNC, Bq/kg	4.9
MARB, %	20

FIGURE 15. Percentage of Accepted vs. Warnings vs. Not Accepted vs. Not Reported results
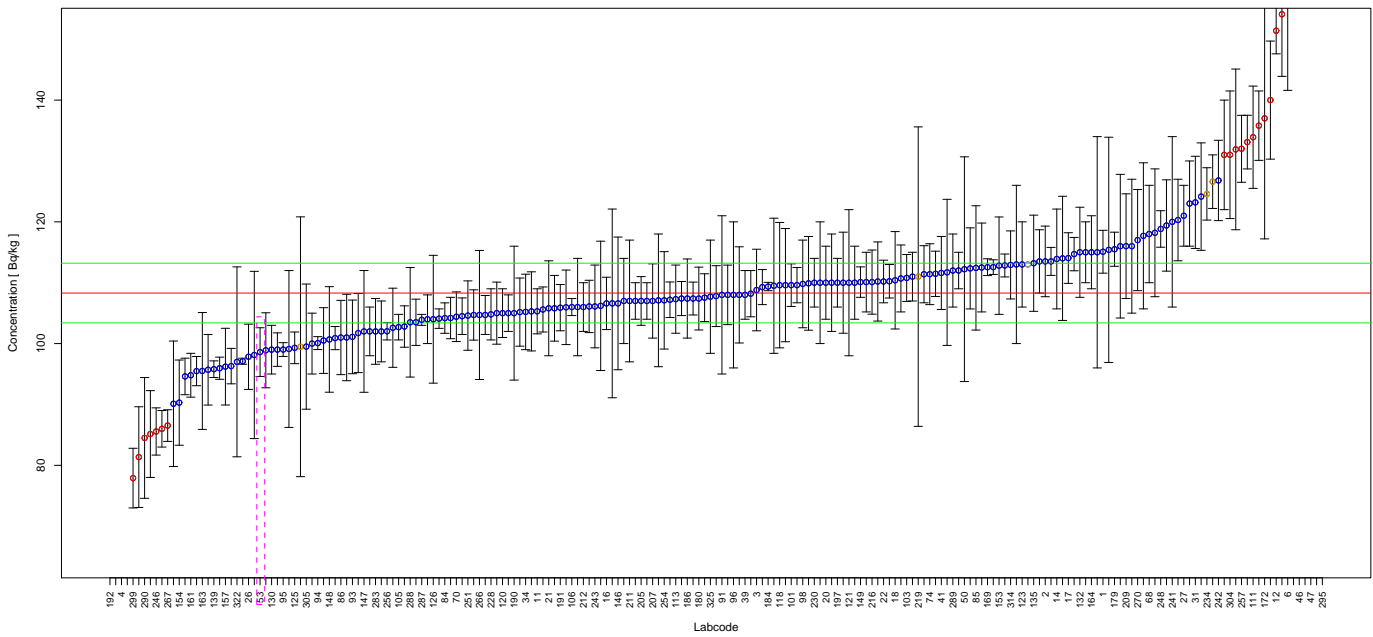
FIGURE 16. Reported results and evaluation parameters for Am-241. Blue points represent accepted scores, whereas yellow and red represent warning and not accepted scores respectively.

TABLE 16. Evaluation Results for Am-241 in Sample 2, Rep. Value and Rep. Unc. in Bq/kg

Labcode	Rep. Value	Rep. Unc.	Rel. Bias	P Test	Accuracy	Precision	Final Score	Z-Score
1	115.09	3.52	6.27	5.46	A	A	A	0.84
2	113.5	5.8	4.80	6.83	A	A	A	0.65
3	108.8	6.7	0.46	7.64	A	A	A	0.06
4	41.1	2.1	-62.05	6.82	N	N	N	8.35
5	111.7	12	3.14	11.66	A	A	A	0.42
6	156.1	14.5	44.14	10.33	N	N	N	5.94
7	85.14	7.13	-21.39	9.52	N	A	N	2.88
9	115	19	6.19	17.13	A	A	A	0.83
10	104.1	1.6	-3.88	4.78	A	A	A	0.52
11	105.3	3.7	-2.77	5.73	A	A	A	0.37
12	151.4	3.8	39.80	5.17	N	N	N	5.35
13	107.54	3.93	-0.70	5.82	A	A	A	0.09
14	113.9	8.2	5.17	8.50	A	A	A	0.70
15	118.2	10.5	9.14	9.97	A	A	A	1.23
16	106.6	4.3	-1.57	6.06	A	A	A	0.21
17	114.05	4.16	5.31	5.81	A	A	A	0.71
18	110.4	8.0	1.94	8.54	A	A	A	0.26
19	110.7	5.5	2.22	6.72	A	A	A	0.30
20	110	6	1.57	7.09	A	A	A	0.21
21	105.8	7.8	-2.31	8.65	A	A	A	0.31
22	110.2	3.5	1.75	5.53	A	A	A	0.24
25	110	10	1.57	10.15	A	A	A	0.21
26	97.83	5.36	-9.67	7.11	A	A	A	1.30
27	121	5	11.73	6.13	A	A	A	1.58
29	133.10	4.41	22.90	5.61	N	N	N	3.08
31	123.20	7.57	13.76	7.63	A	A	A	1.85
32	115.4	18.5	6.56	16.66	A	A	A	0.88
33	115	5	6.19	6.27	A	A	A	0.83
34	105.2	6.2	-2.86	7.43	A	A	A	0.39
35	95.7	5.8	-11.63	7.56	A	A	A	1.57

TABLE 16. Evaluation Results for Am-241 in Sample 2, Rep. Value and Rep. Unc. in Bq/kg

Labcode	Rep. Value	Rep. Unc.	Rel. Bias	P Test	Accuracy	Precision	Final Score	Z–Score
36	105	5.1	-3.05	6.64	A	A	A	0.41
38	106	8	-2.12	8.80	A	A	A	0.29
39	108	4	-0.28	5.85	A	A	A	0.04
41	111.6	6.0	3.05	7.03	A	A	A	0.41
43	110.24	2.75	1.79	5.17	A	A	A	0.24
45	100.5	5.4	-7.20	7.02	A	A	A	0.97
46	173.86	3.90	60.54	5.05	N	N	N	8.14
47	190	9.4	75.44	6.70	N	N	N	10.15
48	103.5	3.8	-4.43	5.83	A	A	A	0.60
50	112.22	18.46	3.62	17.06	A	A	A	0.49
51	39	1	-63.99	5.20	N	N	N	8.61
52	110.1	4.9	1.66	6.35	A	A	A	0.22
53	98.6	4.0	-8.96	6.08	A	A	A	1.20
56	107.2	2.92	-1.02	5.28	A	A	A	0.14
59	101	7.1	-6.74	8.36	A	A	A	0.91
63	135.8	5.7	25.39	6.17	N	N	N	3.42
64	110.2	6.5	1.75	7.43	A	A	A	0.24
66	116	11.8	7.11	11.13	A	A	A	0.96
68	118.0	8.0	8.96	8.15	A	A	A	1.20
69	111.46	3.72	2.92	5.62	A	A	A	0.39
70	104.41	4.08	-3.59	5.98	A	A	A	0.48
72	124.146	8.825	14.63	8.43	A	A	A	1.97
74	111.4	5.0	2.86	6.37	A	A	A	0.39
75	140	9.7	29.27	8.28	N	N	N	3.94
76	96.30	2.91	-11.08	5.44	A	A	A	1.49
80	154.1	10.2	42.29	8.02	N	N	N	5.69
81	108.0	7.9	-0.28	8.60	A	A	A	0.04
84	104.19	2.5	-3.80	5.12	A	A	A	0.51
85	112.43	10.21	3.81	10.15	A	A	A	0.51
86	101	6.1	-6.74	7.55	A	A	A	0.91
87	110	6	1.57	7.09	A	A	A	0.21
88	102.6	6.5	-5.26	7.79	A	A	A	0.71
91	108	13	-0.28	12.86	A	A	A	0.04
92	113	13	4.34	12.36	A	A	A	0.58
93	101.1	6.05	-6.65	7.50	A	A	A	0.89
94	100.08	1.06	-7.59	4.65	A	A	A	1.02
95	99.02	1.13	-8.57	4.67	A	A	A	1.15
96	108.0	12.0	-0.28	12.00	A	A	A	0.04
98	109.8	7.2	1.39	7.97	A	A	A	0.19
99	114	10.2	5.26	10.03	A	A	A	0.71
101	109.6	3.5	1.20	5.54	A	A	A	0.16
102	104.2	3.4	-3.79	5.58	A	A	A	0.51
103	110.78	3.85	2.29	5.71	A	A	A	0.31
105	102.7	2.1	-5.17	4.97	A	A	A	0.70
106	106.0	1.4	-2.12	4.71	A	A	A	0.29
107	112	3	3.42	5.26	A	A	A	0.46
109	107.8	5.0	-0.46	6.48	A	A	A	0.06
111	133.9	8.4	23.64	7.73	N	N	N	3.18
113	107.3	5.6	-0.92	6.91	A	A	A	0.12
116	107.4	2.8	-0.83	5.22	A	A	A	0.11
118	109.6	10.3	1.20	10.43	Accuracy	Precision	A	0.16
120	105	4	-3.05	5.91	A	A	A	0.41
121	110	12	1.57	11.81	A	A	A	0.21
123	113	7	4.34	7.67	A	A	A	0.58

TABLE 16. Evaluation Results for Am-241 in Sample 2, Rep. Value and Rep. Unc. in Bq/kg

Labcode	Rep. Value	Rep. Unc.	Rel. Bias	P Test	Accuracy	Precision	Final Score	Z-Score
124	104.7	3.2	-3.32	5.46	A	A	A	0.45
125	99.3	2.6	-8.31	5.23	A	A	A	1.12
126	104	10.5	-3.97	11.06	A	A	A	0.53
129	107	3	-1.20	5.32	A	A	A	0.16
130	99	4	-8.59	6.07	A	A	A	1.16
132	115	7.4	6.19	7.87	A	A	A	0.83
133	105.8	5.4	-2.31	6.82	A	A	A	0.31
134	81.35	8.27	-24.88	11.13	N	A	N	3.35
135	113.2	7.9	4.52	8.32	A	A	A	0.61
137	104.7	4.13	-3.32	6.00	A	A	A	0.45
139	95.794	1.3659	-11.55	4.74	A	A	A	1.55
144	106.6	15.5	-1.57	15.23	A	A	A	0.21
146	106.6	10.9	-1.57	11.18	A	A	A	0.21
147	102	10	-5.82	10.80	A	A	A	0.78
148	100.68	8.67	-7.04	9.73	A	A	A	0.95
149	110.1	2.5	1.66	5.06	A	A	A	0.22
150	102.8	3.4	-5.08	5.60	A	A	A	0.68
151	107.0	3.0	-1.20	5.32	A	A	A	0.16
152	102	4	-5.82	5.99	A	A	A	0.78
153	112.8	8.0	4.16	8.41	A	A	A	0.56
154	90.3	7.0	-16.62	8.98	A	A	A	2.24
155	120.3	6.7	11.08	7.18	A	A	A	1.49
156	107	7	-1.20	7.95	A	A	A	0.16
157	96.21	6.30	-11.16	7.96	A	A	A	1.50
159	100.9	1.9	-6.83	4.90	A	A	A	0.92
160	105	3	-3.05	5.35	A	A	A	0.41
161	94.8	3.6	-12.47	5.91	A	A	A	1.68
162	107.4	2.7	-0.83	5.18	A	A	A	0.11
163	95.5	9.6	-11.82	11.02	A	A	A	1.59
164	115	6	6.19	6.91	A	A	A	0.83
165	109.9	7.7	1.48	8.34	A	A	A	0.20
166	119.4	7.5	10.25	7.74	A	A	A	1.38
168	90.11	10.31	-16.80	12.30	A	A	A	2.26
169	112.55	1.38	3.92	4.69	A	A	A	0.53
171	106.20	10.62	-1.94	10.98	A	A	A	0.26
172	137.0	19.8	26.50	15.14	N	A	N	3.57
177	175	15	61.59	9.69	N	N	N	8.29
179	115.5	2.8	6.65	5.13	A	A	A	0.89
180	107.4	5.16	-0.83	6.60	A	A	A	0.11
181	105.958	6.122	-2.16	7.34	A	A	A	0.29
182	191.35	8.53	76.69	6.35	N	N	N	10.32
183	109.28	2.88	0.90	5.24	A	A	A	0.12
184	109.37	0.69	0.99	4.57	A	A	A	0.13
185	112.5	7.3	3.88	7.91	A	A	A	0.52
186	107.4	6.5	-0.83	7.56	A	A	A	0.11
189	117.7	12.0	8.68	11.15	A	A	A	1.17
190	105	11	-3.05	11.41	A	A	A	0.41
191	105.9	3.8	-2.22	5.77	A	A	A	0.30
192	0.034	0.002	-99.97	7.42	N	N	N	13.45
193	98.13	13.74	-9.39	14.71	A	A	A	1.26
195	110.0	8.00	1.57	8.57	Accuracy	Precision	A	0.21
196	116	11	7.11	10.51	A	A	A	0.96
197	110	4	1.57	5.80	A	A	A	0.21
198	105.29	6.50	-2.78	7.65	A	A	A	0.37

TABLE 16. Evaluation Results for Am-241 in Sample 2, Rep. Value and Rep. Unc. in Bq/kg

Labcode	Rep. Value	Rep. Unc.	Rel. Bias	P Test	Accuracy	Precision	Final Score	Z-Score
199	166.49	3.50	53.73	4.99	N	N	N	7.23
205	107	4	-1.20	5.87	A	A	A	0.16
206	131.9	13.2	21.79	10.98	N	A	N	2.93
207	107	6.1	-1.20	7.28	A	A	A	0.16
208	105.17	5.6	-2.89	6.99	A	A	A	0.39
209	116	8.6	7.11	8.69	A	A	A	0.96
211	107	10	-1.20	10.38	A	A	A	0.16
212	106	4	-2.12	5.89	A	A	A	0.29
216	110.1	5.27	1.66	6.59	A	A	A	0.22
219	111	24.6	2.49	22.62	A	N	W	0.34
222	56.4	3.7	-47.92	7.97	N	N	N	6.45
223	104.5	3	-3.51	5.36	A	A	A	0.47
224	108.2	3.8	-0.09	5.73	A	A	A	0.01
225	100	5	-7.66	6.74	A	A	A	1.03
227	95.48	2.4	-11.84	5.18	A	A	A	1.59
228	104.8	4.2	-3.23	6.04	A	A	A	0.43
230	110	4	1.57	5.80	A	A	A	0.21
231	99.48	21.34	-8.14	21.92	A	N	W	1.10
232	112.3524	6.6606	3.74	7.46	A	A	A	0.50
233	112.83	1.88	4.18	4.82	A	A	A	0.56
234	124.59	4.3	15.04	5.69	A	N	W	2.02
235	101.73	6.50	-6.07	7.83	A	A	A	0.82
237	109.5	11.1	1.11	11.10	A	A	A	0.15
238	99.113	12.885	-8.48	13.77	A	A	A	1.14
239	104	4	-3.97	5.94	A	A	A	0.53
240	126.6	4.4	16.90	5.71	A	N	W	2.27
241	120	14	10.80	12.51	A	A	A	1.45
242	126.8	6.6	17.08	6.90	A	A	A	2.30
243	106.1	6.8	-2.03	7.85	A	A	A	0.27
246	85.56	3.88	-21.00	6.41	N	N	N	2.82
248	118.83	3.0	9.72	5.18	A	A	A	1.31
249	131	9	20.96	8.23	N	A	N	2.82
250	102	5	-5.82	6.67	A	A	A	0.78
251	104.6	5.7	-3.42	7.08	A	A	A	0.46
254	107.1	8.0	-1.11	8.73	A	A	A	0.15
255	94.6	3.0	-12.65	5.53	A	A	A	1.70
256	102.02	1.42	-5.80	4.73	A	A	A	0.78
257	132	5.5	21.88	6.15	N	N	N	2.94
258	108	4.89	-0.28	6.40	A	A	A	0.04
259	97.1	0.5	-10.34	4.55	A	A	A	1.39
261	110	8.3	1.57	8.80	A	A	A	0.21
262	123	7.0	13.57	7.27	A	A	A	1.83
263	99.01	2.75	-8.58	5.31	A	A	A	1.15
266	104.7	10.6	-3.32	11.09	A	A	A	0.45
267	86.53	2.6	-20.10	5.43	N	N	N	2.70
268	106.1	4.3	-2.03	6.07	A	A	A	0.27
270	117	8.31	8.03	8.42	A	A	A	1.08
274	109.6	9.3	1.20	9.62	A	A	A	0.16
275	98.9	6.16	-8.68	7.70	A	A	A	1.17
279	107.1	10.9	-1.11	11.14	A	A	A	0.15
281	86	3	-20.59	5.71	N	N	N	2.77
283	102	5.4	-5.82	6.96	A	A	A	0.78
287	103.9	0.9	-4.06	4.61	A	A	A	0.55
288	103.5	9.0	-4.43	9.80	A	A	A	0.60

TABLE 16. Evaluation Results for Am-241 in Sample 2, Rep. Value and Rep. Unc. in Bq/kg

Labcode	Rep. Value	Rep. Unc.	Rel. Bias	P Test	Accuracy	Precision	Final Score	Z–Score
289	112	6	3.42	7.01	A	A	A	0.46
290	84.50	9.92	-21.98	12.58	N	A	N	2.96
291	111	4	2.49	5.78	A	A	A	0.34
295	859.0	80.2	693.17	10.37	N	N	N	93.25
298	113.5	2.3	4.80	4.96	A	A	A	0.65
299	77.9	4.9	-28.07	7.75	N	N	N	3.78
304	131.02	10.48	20.98	9.19	N	A	N	2.82
305	99.5	10.28	-8.13	11.28	A	A	A	1.09
310	105.6	3.7	-2.49	5.72	A	A	A	0.34
312	95.95	1.82	-11.40	4.91	A	A	A	1.53
313	113.5	5.2	4.80	6.44	A	A	A	0.65
314	112.92	5.59	4.27	6.71	A	A	A	0.57
317	113		4.34		A			0.58
320	111.39	4.69	2.85	6.18	A	A	A	0.38
321	112.56	1.2	3.93	4.65	A	A	A	0.53
322	97.0	15.6	-10.43	16.71	A	A	A	1.40
323	109.6	2.9	1.20	5.24	A	A	A	0.16
324	114.7	2.74	5.91	5.12	A	A	A	0.80
325	107.7	9.3	-0.55	9.75	A	A	A	0.07

Reported Results for K-40 Determination in Sample 4

TABLE 17. Target values

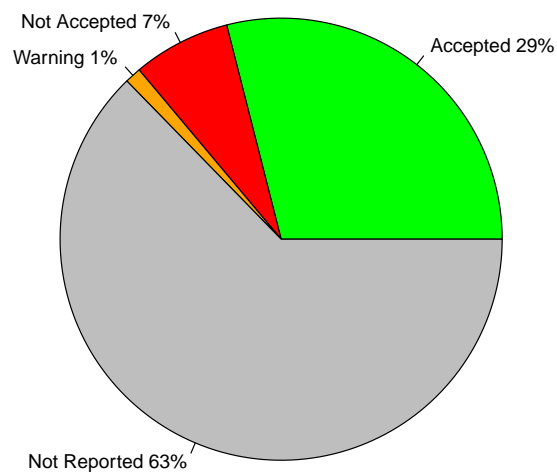| Parameter	Value
Target Value, Bq/kg	97.9
UNC, Bq/kg	7.2
MARB, %	30

FIGURE 17. Percentage of Accepted vs. Warnings vs. Not Accepted vs. Not Reported results
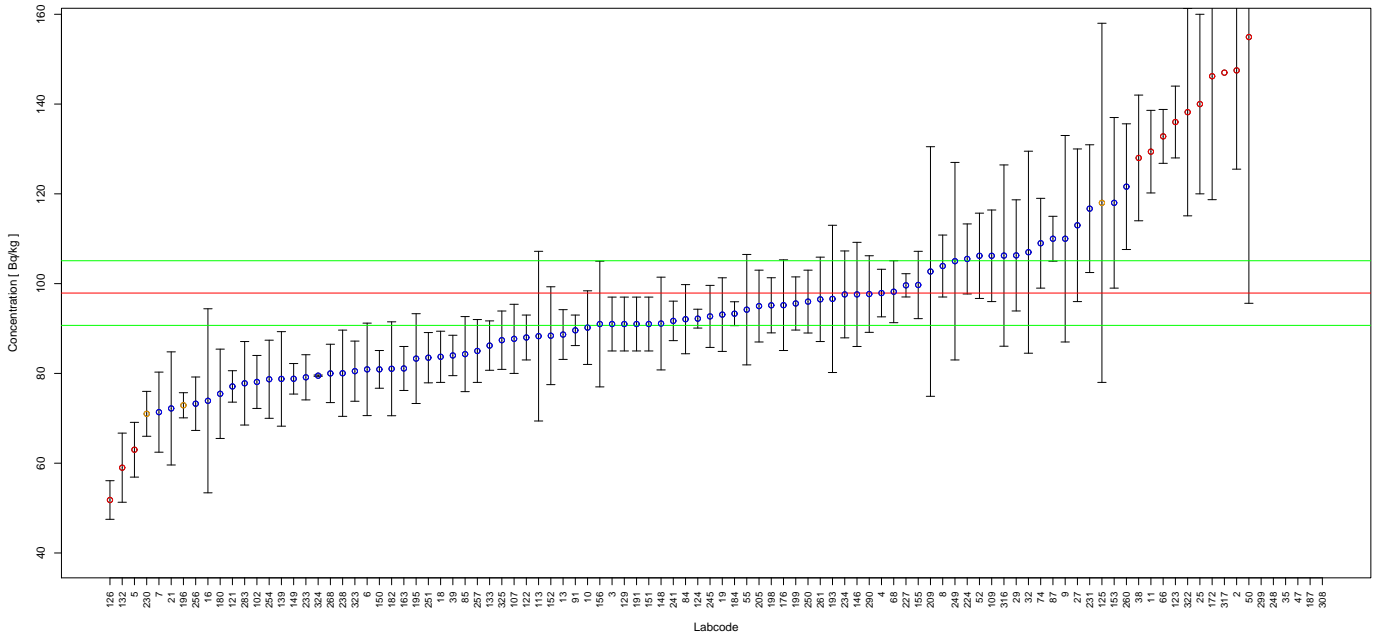
FIGURE 18. Reported results and evaluation parameters for K-40. Blue points represent accepted scores, whereas yellow and red represent warning and not accepted scores respectively.

TABLE 18. Evaluation Results for K-40 in Sample 4, Rep. Value and Rep. Unc. in Bq/kg

Labcode	Rep. Value	Rep. Unc.	Rel. Bias	P Test	Accuracy	Precision	Final Score	Z-Score
2	147.5	22	50.66	16.63	N	N	N	3.06
3	91	6	-7.05	9.88	A	A	A	0.43
4	97.9	5.3	0.00	9.13	A	A	A	0.00
5	63	6.1	-35.65	12.16	N	N	N	2.15
6	80.9	10.3	-17.36	14.70	A	A	A	1.05
7	71.37	8.92	-27.10	14.50	A	A	A	1.64
8	103.92	6.90	6.15	9.91	A	A	A	0.37
9	110	23	12.36	22.16	A	A	A	0.75
10	90.2	8.2	-7.87	11.69	A	A	A	0.47
11	129.4	9.2	32.18	10.23	N	N	N	1.94
13	88.66	5.54	-9.44	9.65	A	A	A	0.57
16	73.9	20.5	-24.51	28.70	A	A	A	1.48
18	83.7	5.7	-14.50	10.02	A	A	A	0.88
19	93.1	8.2	-4.90	11.47	A	A	A	0.30
21	72.2	12.6	-26.25	18.94	A	A	A	1.58
25	140	20	43.00	16.07	N	N	N	2.60
27	113	17	15.42	16.75	A	A	A	0.93
29	106.29	12.38	8.57	13.77	A	A	A	0.52
32	107.0	22.5	9.30	22.28	A	A	A	0.56
35	475	26	385.19	9.17	N	N	N	23.25
38	128	14	30.75	13.18	N	A	N	1.86
39	84.0	4.5	-14.20	9.10	A	A	A	0.86
47	518	9.4	429.11	7.58	N	N	N	25.90
50	154.93	59.31	58.25	38.98	N	N	N	3.52
52	106.2	9.5	8.48	11.58	A	A	A	0.51
55	94.2	12.3	-3.78	14.99	A	A	A	0.23
66	132.8	6	35.65	8.63	N	N	N	2.15
68	98.2	6.9	0.31	10.17	A	A	A	0.02
74	109.0	10.0	11.34	11.76	A	A	A	0.68
84	92.08	7.7	-5.94	11.14	A	A	A	0.36

TABLE 18. Evaluation Results for K-40 in Sample 4, Rep. Value and Rep. Unc. in Bq/kg

Labcode	Rep. Value	Rep. Unc.	Rel. Bias	P Test	Accuracy	Precision	Final Score	Z-Score
85	84.30	8.36	-13.89	12.35	A	A	A	0.84
87	110	5	12.36	8.65	A	A	A	0.75
91	89.6	3.4	-8.48	8.28	A	A	A	0.51
102	78.1	5.9	-20.22	10.54	A	A	A	1.22
107	87.7	7.7	-10.42	11.45	A	A	A	0.63
109	106.2	10.2	8.48	12.10	A	A	A	0.51
113	88.3	18.9	-9.81	22.63	A	A	A	0.59
121	77.1	3.5	-21.25	8.64	A	A	A	1.28
122	88.0	5.0	-10.11	9.29	A	A	A	0.61
123	136	8	38.92	9.42	N	N	N	2.35
124	92.2	2.1	-5.82	7.70	A	A	A	0.35
125	118	40	20.53	34.69	A	N	W	1.24
126	51.8	4.3	-47.09	11.09	N	N	N	2.84
129	91	6	-7.05	9.88	A	A	A	0.43
132	59.0	7.7	-39.73	14.98	N	N	N	2.40
133	86.2	5.5	-11.95	9.74	A	A	A	0.72
139	78.775	10.528	-19.54	15.25	A	A	A	1.18
146	97.6	11.6	-0.31	13.98	A	A	A	0.02
148	91.11	10.33	-6.94	13.51	A	A	A	0.42
149	78.8	3.4	-19.51	8.53	A	A	A	1.18
150	80.9	4.2	-17.36	9.00	A	A	A	1.05
151	91.0	6.0	-7.05	9.88	A	A	A	0.43
152	88.4	10.9	-9.70	14.36	A	A	A	0.59
153	118	19	20.53	17.70	A	A	A	1.24
155	99.7	7.5	1.84	10.52	A	A	A	0.11
156	91	14	-7.05	17.05	A	A	A	0.43
163	81.1	4.9	-17.16	9.52	A	A	A	1.04
172	146.2	27.5	49.34	20.20	N	A	N	2.98
176	95.2	10.1	-2.76	12.91	A	A	A	0.17
180	75.46	9.95	-22.92	15.10	A	A	A	1.38
182	81.03	10.46	-17.23	14.86	A	A	A	1.04
184	93.30	2.66	-4.70	7.89	A	A	A	0.28
187	10787	338	10918.39	7.99	N	N	N	659.01
191	91	6	-7.05	9.88	A	A	A	0.43
193	96.6	16.4	-1.33	18.50	A	A	A	0.08
195	83.3	10.0	-14.91	14.08	A	A	A	0.90
196	72.9	2.8	-25.54	8.30	A	N	W	1.54
198	95.17	6.14	-2.79	9.78	A	A	A	0.17
199	95.58	5.92	-2.37	9.62	A	A	A	0.14
205	95	8	-2.96	11.18	A	A	A	0.18
209	102.7	27.8	4.90	28.05	A	A	A	0.30
224	105.5	7.8	7.76	10.43	A	A	A	0.47
227	99.62	2.59	1.76	7.80	A	A	A	0.11
230	71	5	-27.48	10.18	A	N	W	1.66
231	116.70	14.23	19.20	14.24	A	A	A	1.16
233	79.13	5.03	-19.17	9.72	A	A	A	1.16
234	97.60	9.68	-0.31	12.35	A	A	A	0.02
238	80.042	9.605	-18.24	14.07	A	A	A	1.10
241	91.7	4.4	-6.33	8.78	A	A	A	0.38
245	92.7	6.91	-5.31	10.47	A	A	A	0.32
248	383.70	13.43	291.93	8.14	N	N	N	17.62
249	105	22	7.25	22.21	A	A	A	0.44
250	96	7	-1.94	10.36	A	A	A	0.12
251	83.5	5.6	-14.71	9.95	A	A	A	0.89

TABLE 18. Evaluation Results for K-40 in Sample 4, Rep. Value and Rep. Unc. in Bq/kg

Labcode	Rep. Value	Rep. Unc.	Rel. Bias	P Test	Accuracy	Precision	Final Score	Z-Score
254	78.7	8.7	-19.61	13.28	A	A	A	1.18
256	73.25	5.95	-25.18	10.96	A	A	A	1.52
257	85	7	-13.18	11.04	A	A	A	0.80
260	121.6	14.0	24.21	13.66	A	A	A	1.46
261	96.5	9.4	-1.43	12.21	A	A	A	0.09
268	80.0	6.5	-18.28	10.96	A	A	A	1.10
283	77.8	9.3	-20.53	14.03	A	A	A	1.24
290	97.68	8.53	-0.22	11.42	A	A	A	0.01
299	197.8	11.8	102.04	9.47	N	N	N	6.16
308	13226.73	547.96	13410.45	8.44	N	N	N	809.42
316	106.25	20.19	8.53	20.38	A	A	A	0.51
317	147		50.15		N		N	3.03
322	138.2	23.1	41.16	18.26	N	A	N	2.48
323	80.5	6.7	-17.77	11.11	A	A	A	1.07
324	79.5	0.14	-18.79	7.36	A	A	A	1.13
325	87.4	6.5	-10.73	10.46	A	A	A	0.65

Reported Results for Cs-134 Determination in Sample 4

TABLE 19. Target values

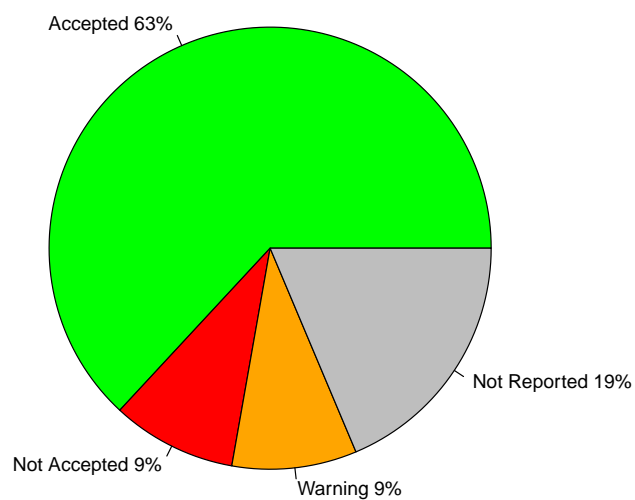| Parameter	Value
Target Value, Bq/kg	86.6
UNC, Bq/kg	4
MARB, %	25

FIGURE 19. Percentage of Accepted vs. Warnings vs. Not Accepted vs. Not Reported results
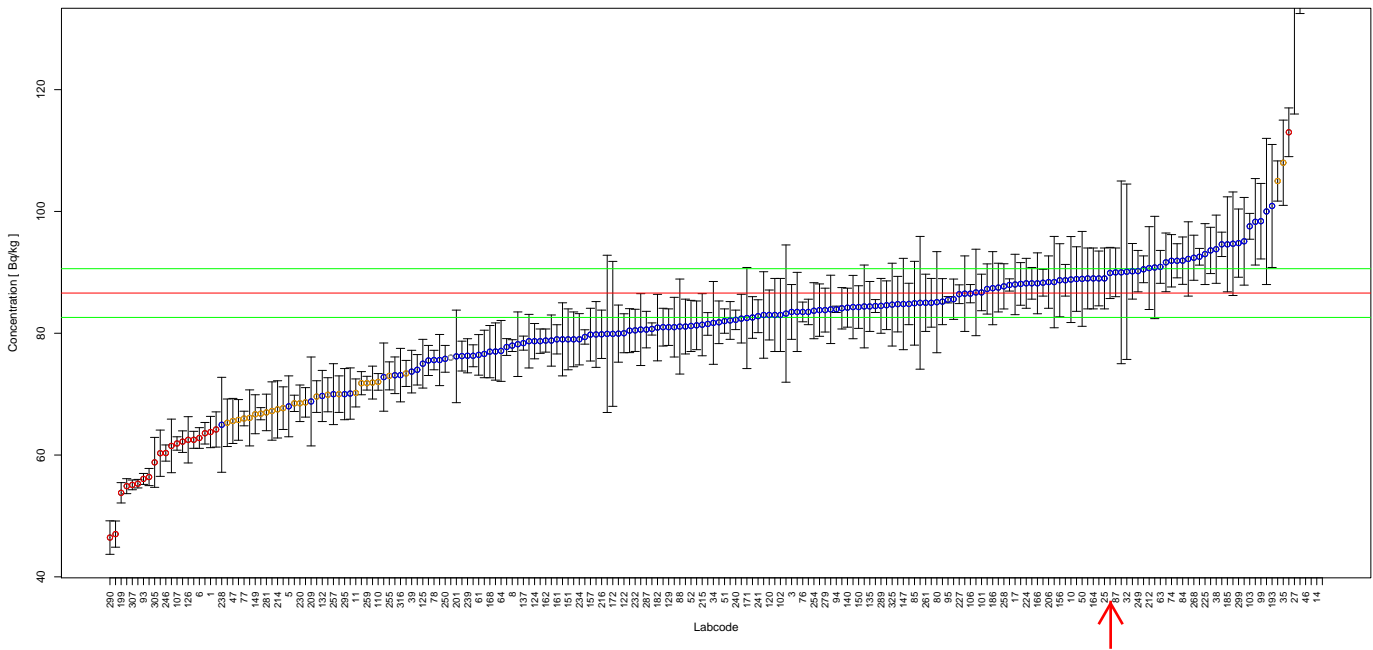
FIGURE 20. Reported results and evaluation parameters for Cs-134. Blue points represent accepted scores, whereas yellow and red represent warning and not accepted scores respectively.

TABLE 20. Evaluation Results for Cs-134 in Sample 4, Rep. Value and Rep. Unc. in Bq/kg

Labcode	Rep. Value	Rep. Unc.	Rel. Bias	P Test	Accuracy	Precision	Final Score	Z-Score
1	63.78	2.57	-26.35	6.13	N	N	N	2.28
2	83.5	6.5	-3.58	9.05	A	A	A	0.31
3	83.5	4.5	-3.58	7.10	A	A	A	0.31
4	89.0	4.5	2.77	6.85	A	A	A	0.24
5	68	5	-21.48	8.68	A	A	A	1.86
6	62.8	1.7	-27.48	5.35	N	N	N	2.38
7	83.50	2.09	-3.58	5.25	A	A	A	0.31
8	77.97	0.97	-9.97	4.78	A	A	A	0.86
9	90	15	3.93	17.29	A	A	A	0.34
10	88.82	7.06	2.56	9.19	A	A	A	0.22
11	70.2	2.3	-18.94	5.66	A	N	W	1.64
12	61.5	4.4	-28.98	8.52	N	N	N	2.51
13	87.27	4.12	0.77	6.60	A	A	A	0.07
14	2089	111	2312.24	7.04	N	N	N	200.24
15	83.8	4.3	-3.23	6.90	A	A	A	0.28
16	94.6	2	9.24	5.08	A	A	A	0.80
17	88.01	4.96	1.63	7.29	A	A	A	0.14
18	84.4	6.8	-2.54	9.29	A	A	A	0.22
19	85.0	10.9	-1.85	13.63	A	A	A	0.16
21	80.6	5.9	-6.93	8.66	A	A	A	0.60
25	89	5	2.77	7.27	A	A	A	0.24
26	91.64	4.82	5.82	7.00	A	A	A	0.50
27	136	20	57.04	15.41	N	N	N	4.94
29	75.53	2.47	-12.78	5.66	A	A	A	1.11
31	70.10	4.21	-19.05	7.58	A	A	A	1.65
32	90.1	14.4	4.04	16.64	A	A	A	0.35
33	85	4	-1.85	6.59	A	A	A	0.16
34	81.7	6.8	-5.66	9.52	A	A	A	0.49
35	108	7	24.71	7.96	A	N	W	2.14
36	84.6	4	-2.31	6.61	A	A	A	0.20

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TABLE 20. Evaluation Results for Cs-134 in Sample 4, Rep. Value and Rep. Unc. in Bq/kg

Labcode	Rep. Value	Rep. Unc.	Rel. Bias	P Test	Accuracy	Precision	Final Score	Z-Score
38	93.8	5.6	8.31	7.55	A	A	A	0.72
39	73.7	3.5	-14.90	6.62	A	A	A	1.29
41	87.5	4.0	1.04	6.50	A	A	A	0.09
42	54.89	1.23	-36.62	5.13	N	N	N	3.17
43	85.59	3.31	-1.17	6.02	A	A	A	0.10
45	94.7	8.5	9.35	10.09	A	A	A	0.81
46	144.59	4.37	66.96	5.52	N	N	N	5.80
47	65.6	3.7	-24.25	7.29	A	N	W	2.10
48	81.8	3.5	-5.54	6.30	A	A	A	0.48
50	88.93	7.79	2.69	9.90	A	A	A	0.23
51	82	2	-5.31	5.22	A	A	A	0.46
52	81.2	4.2	-6.24	6.93	A	A	A	0.54
53	89.0	5.0	2.77	7.27	A	A	A	0.24
55	76.3	1.8	-11.89	5.19	A	A	A	1.03
56	67.23	4.79	-22.37	8.49	A	N	W	1.94
59	86.5	6.2	-0.12	8.53	A	A	A	0.01
61	76.45	3.33	-11.72	6.35	A	A	A	1.01
63	90.9	2.7	4.97	5.49	A	A	A	0.43
64	77.1	5	-10.97	7.96	A	A	A	0.95
66	88.3	2.2	1.96	5.25	A	A	A	0.17
68	86.7	7.1	0.12	9.40	A	A	A	0.01
70	84.47	1.06	-2.46	4.79	A	A	A	0.21
72	90.173	4.564	4.13	6.85	A	A	A	0.36
74	91.9	4.3	6.12	6.57	A	A	A	0.53
76	83.50	1.62	-3.58	5.01	A	A	A	0.31
77	66	1.2	-23.79	4.96	A	N	W	2.06
78	75.6	1.6	-12.70	5.08	A	A	A	1.10
80	85.1	8.3	-1.73	10.79	A	A	A	0.15
81	88.4	7.5	2.08	9.66	A	A	A	0.18
84	91.92	3.89	6.14	6.26	A	A	A	0.53
85	84.93	6.88	-1.93	9.33	A	A	A	0.17
86	81.3	4.0	-6.12	6.75	A	A	A	0.53
87	90	4	3.93	6.41	A	A	A	0.34
88	81.1	7.8	-6.35	10.67	A	A	A	0.55
89	277	19	219.86	8.27	N	N	N	19.04
92	72.8	5.6	-15.94	8.97	A	A	A	1.38
93	56.08	0.90	-35.24	4.89	N	N	N	3.05
94	83.93	0.52	-3.08	4.66	A	A	A	0.27
95	85.50	0.52	-1.27	4.66	A	A	A	0.11
99	98.4	6.2	13.63	7.81	A	A	A	1.18
101	86.7	3.0	0.12	5.77	A	A	A	0.01
102	83	6	-4.16	8.58	A	A	A	0.36
103	97.56	2.12	12.66	5.10	A	A	A	1.10
106	86.5	1.5	-0.12	4.93	A	A	A	0.01
107	61.9	1.1	-28.52	4.95	N	N	N	2.47
108	87.9296	1.0036	1.54	4.76	A	A	A	0.13
109	89.9	4.2	3.81	6.57	A	A	A	0.33
110	72.015	1.366	-16.84	4.99	A	N	W	1.46
111	66.1	4.6	-23.67	8.35	A	N	W	2.05
112	140.4195	7.920	62.15	7.29	N	N	N	5.38
113	75.6	4.2	-12.70	7.22	Accuracy	Precision	A	1.10
116	105.0	3.3	21.25	5.59	A	N	W	1.84
120	83.0	4.1	-4.16	6.76	A	A	A	0.36
121	78.8	4.2	-9.01	7.05	A	A	A	0.78

TABLE 20. Evaluation Results for Cs-134 in Sample 4, Rep. Value and Rep. Unc. in Bq/kg

Labcode	Rep. Value	Rep. Unc.	Rel. Bias	P Test	Accuracy	Precision	Final Score	Z-Score
122	80.0	3.2	-7.62	6.11	A	A	A	0.66
123	83	6	-4.16	8.58	A	A	A	0.36
124	78.7	2.9	-9.12	5.91	A	A	A	0.79
125	75.0	4.0	-13.39	7.06	A	A	A	1.16
126	62.5	3.8	-27.83	7.64	N	N	N	2.41
129	81	3	-6.47	5.92	A	A	A	0.56
130	70	3	-19.17	6.30	A	N	W	1.66
132	69.7	4.2	-19.52	7.59	A	A	A	1.69
133	79.0	6.0	-8.78	8.89	A	A	A	0.76
135	84.4	4.1	-2.54	6.70	A	A	A	0.22
137	78.38	1.154	-9.49	4.85	A	A	A	0.82
139	62.501	1.3945	-27.83	5.13	N	N	N	2.41
140	84.2	3.2	-2.77	5.98	A	A	A	0.24
141	79.8	5.4	-7.85	8.19	A	A	A	0.68
143	84.3	5.2	-2.66	7.71	A	A	A	0.23
144	83.92	5.61	-3.09	8.13	A	A	A	0.27
146	90.5	2.2	4.50	5.22	A	A	A	0.39
147	84.8	7.5	-2.08	9.98	A	A	A	0.18
148	73.1	3.01	-15.59	6.19	A	A	A	1.35
149	66.7	3.2	-22.98	6.66	A	N	W	1.99
150	84.3	3.5	-2.66	6.21	A	A	A	0.23
151	79.0	5.0	-8.78	7.84	A	A	A	0.76
152	88.1	3.5	1.73	6.09	A	A	A	0.15
153	78.2	5.3	-9.70	8.20	A	A	A	0.84
154	71.9	2.7	-16.97	5.95	A	N	W	1.47
155	84.1	3.4	-2.89	6.14	A	A	A	0.25
156	88.7	6.0	2.42	8.19	A	A	A	0.21
157	79.77	4.33	-7.89	7.13	A	A	A	0.68
160	67.7	3.5	-21.82	6.93	A	N	W	1.89
161	79.0	2.4	-8.78	5.53	A	A	A	0.76
162	78.8	1.9	-9.01	5.21	A	A	A	0.78
163	69.9	2.8	-19.28	6.11	A	N	W	1.67
164	89	5	2.77	7.27	A	A	A	0.24
165	65.3	3.9	-24.60	7.55	A	N	W	2.13
166	88.2	5.0	1.85	7.31	A	A	A	0.16
168	76.98	4.29	-11.11	7.24	A	A	A	0.96
169	85.19	3.78	-1.63	6.40	A	A	A	0.14
171	82.50	8.30	-4.73	11.07	A	A	A	0.41
172	79.9	11.9	-7.74	15.59	A	A	A	0.67
173	113.0	4.0	30.48	5.82	N	N	N	2.64
176	2100	115	2324.94	7.16	N	N	N	201.34
180	82.59	3.42	-4.63	6.20	A	A	A	0.40
181	76.25	2.45	-11.95	5.63	A	A	A	1.03
182	80.93	5.46	-6.55	8.18	A	A	A	0.57
183	84.81	3.4	-2.07	6.12	A	A	A	0.18
184	79.39	1.18	-8.33	4.85	A	A	A	0.72
185	94.6	7.8	9.24	9.45	A	A	A	0.80
186	87.4	6.0	0.92	8.27	A	A	A	0.08
187	55.3	0.7	-36.14	4.79	N	N	N	3.13
189	81.0	4.9	-6.47	7.61	A	A	A	0.56
190	100	12	15.47	12.86	A	Precision	A	1.34
191	82.4	4.0	-4.85	6.70	A	A	A	0.42
193	100.9	10.1	16.51	11.02	A	A	A	1.43
195	81.1	4.50	-6.35	7.22	A	A	A	0.55

TABLE 20. Evaluation Results for Cs-134 in Sample 4, Rep. Value and Rep. Unc. in Bq/kg

Labcode	Rep. Value	Rep. Unc.	Rel. Bias	P Test	Accuracy	Precision	Final Score	Z-Score
196	76.6	3.9	-11.55	6.87	A	A	A	1.00
197	88.2	2.6	1.85	5.48	A	A	A	0.16
198	84.78	4.56	-2.10	7.09	A	A	A	0.18
199	53.80	1.67	-37.88	5.57	N	N	N	3.28
200	77.74	1.38	-10.23	4.95	A	A	A	0.89
201	76.2	7.6	-12.01	10.99	A	A	A	1.04
202	79.94	4.69	-7.69	7.47	A	A	A	0.67
205	82.1	3.1	-5.20	5.97	A	A	A	0.45
206	88.4	4.3	2.08	6.71	A	A	A	0.18
207	77	4.7	-11.09	7.65	A	A	A	0.96
208	64.2	2.89	-25.87	6.45	N	N	N	2.24
209	68.8	7.3	-20.55	11.57	A	A	A	1.78
210	95.1	7.2	9.82	8.87	A	A	A	0.85
212	90.7	6.8	4.73	8.81	A	A	A	0.41
213	92.2	6.1	6.47	8.07	A	A	A	0.56
214	67.5	4.7	-22.06	8.36	A	N	W	1.91
215	81.4	5.1	-6.00	7.78	A	A	A	0.52
216	79.83	3.97	-7.82	6.79	A	A	A	0.68
219	90.8	8.4	4.85	10.34	A	A	A	0.42
221	68.65	2.42	-20.73	5.81	A	N	W	1.79
222	62.2	1.77	-28.18	5.43	N	N	N	2.44
224	88.2	4.1	1.85	6.55	A	A	A	0.16
225	93	5	7.39	7.09	A	A	A	0.64
227	86.41	1.54	-0.22	4.95	A	A	A	0.02
230	68.5	3	-20.90	6.37	A	N	W	1.81
231	79.9	12.91	-7.74	16.80	A	A	A	0.67
232	80.4733	3.4637	-7.07	6.31	A	A	A	0.61
233	81.53	1.86	-5.85	5.15	A	A	A	0.51
234	79.01	4.21	-8.76	7.05	A	A	A	0.76
237	81.0	3.1	-6.47	6.00	A	A	A	0.56
238	64.968	7.796	-24.98	12.86	A	A	A	2.16
239	76.3	2.8	-11.89	5.90	A	A	A	1.03
240	82.2	1.6	-5.08	5.01	A	A	A	0.44
241	82.8	2.7	-4.39	5.65	A	A	A	0.38
242	78.7	4.4	-9.12	7.25	A	A	A	0.79
245	73.4	2.14	-15.24	5.46	A	N	W	1.32
246	60.33	1.33	-30.33	5.12	N	N	N	2.63
248	56.39	1.41	-34.88	5.25	N	N	N	3.02
249	90.2	3.4	4.16	5.96	A	A	A	0.36
250	75.8	2.2	-12.47	5.46	A	A	A	1.08
251	80.7	1.0	-6.81	4.78	A	A	A	0.59
252	65.77	3.34	-24.05	6.86	A	N	W	2.08
254	83.7	4.6	-3.35	7.18	A	A	A	0.29
255	73.0	2.3	-15.70	5.59	A	N	W	1.36
256	63.58	1.77	-26.58	5.39	N	N	N	2.30
257	70	5	-19.17	8.51	A	A	A	1.66
258	87.7	3.71	1.27	6.26	A	A	A	0.11
259	71.8	1.13	-17.09	4.88	A	N	W	1.48
260	83.0	7.1	-4.16	9.72	A	A	A	0.36
261	85.0	4.7	-1.85	7.20	A	A	A	0.16
262	88.9	5.3	2.66	7.54	Accuracy	Precision	A	0.23
263	79	4.5	-8.78	7.33	A	A	A	0.76
266	69.6	2.6	-19.63	5.94	A	N	W	1.70
267	66.79	1.0	-22.88	4.86	A	N	W	1.98

TABLE 20. Evaluation Results for Cs-134 in Sample 4, Rep. Value and Rep. Unc. in Bq/kg

Labcode	Rep. Value	Rep. Unc.	Rel. Bias	P Test	Accuracy	Precision	Final Score	Z–Score
268	92.4	3.7	6.70	6.11	A	A	A	0.58
273	80.43	3.61	-7.12	6.44	A	A	A	0.62
274	88.7	2.6	2.42	5.47	A	A	A	0.21
279	83.8	3.6	-3.23	6.31	A	A	A	0.28
281	67	3	-22.63	6.43	A	N	W	1.96
283	74	2.5	-14.55	5.72	A	A	A	1.26
287	80.6	3	-6.93	5.93	A	A	A	0.60
289	84.5	4.5	-2.42	7.05	A	A	A	0.21
290	46.45	2.75	-46.36	7.51	N	N	N	4.01
291	93.6	3.8	8.08	6.15	A	A	A	0.70
295	70.0	4.2	-19.17	7.57	A	A	A	1.66
297	60.3	3.8	-30.37	7.81	N	N	N	2.63
299	94.8	5.6	9.47	7.50	A	A	A	0.82
305	58.8	4.10	-32.10	8.36	N	N	N	2.78
307	55.1	0.8	-36.37	4.84	N	N	N	3.15
308	47.02	2.15	-45.70	6.50	N	N	N	3.96
310	71.8	1.9	-17.09	5.32	A	N	W	1.48
312	92.56	1.37	6.88	4.85	A	A	A	0.60
313	78.7	2.0	-9.12	5.27	A	A	A	0.79
314	83.23	11.27	-3.89	14.31	A	A	A	0.34
316	73.125	4.39	-15.56	7.57	A	A	A	1.35
317	76		-12.24		A			1.06
322	98.3	7.1	13.51	8.57	A	A	A	1.17
323	91.9	2.8	6.12	5.53	A	A	A	0.53
324	68.49	1.34	-20.91	5.02	A	N	W	1.81
325	84.7	6.8	-2.19	9.26	A	A	A	0.19

Reported Results for Cs-137 Determination in Sample 4

TABLE 21. Target values

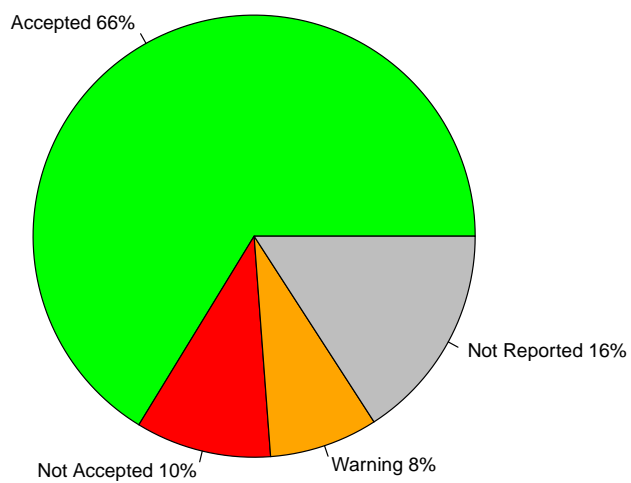| Parameter	Value
Target Value, Bq/kg	2063
UNC, Bq/kg	93
MARB, %	20

FIGURE 21. Percentage of Accepted vs. Warnings vs. Not Accepted vs. Not Reported results
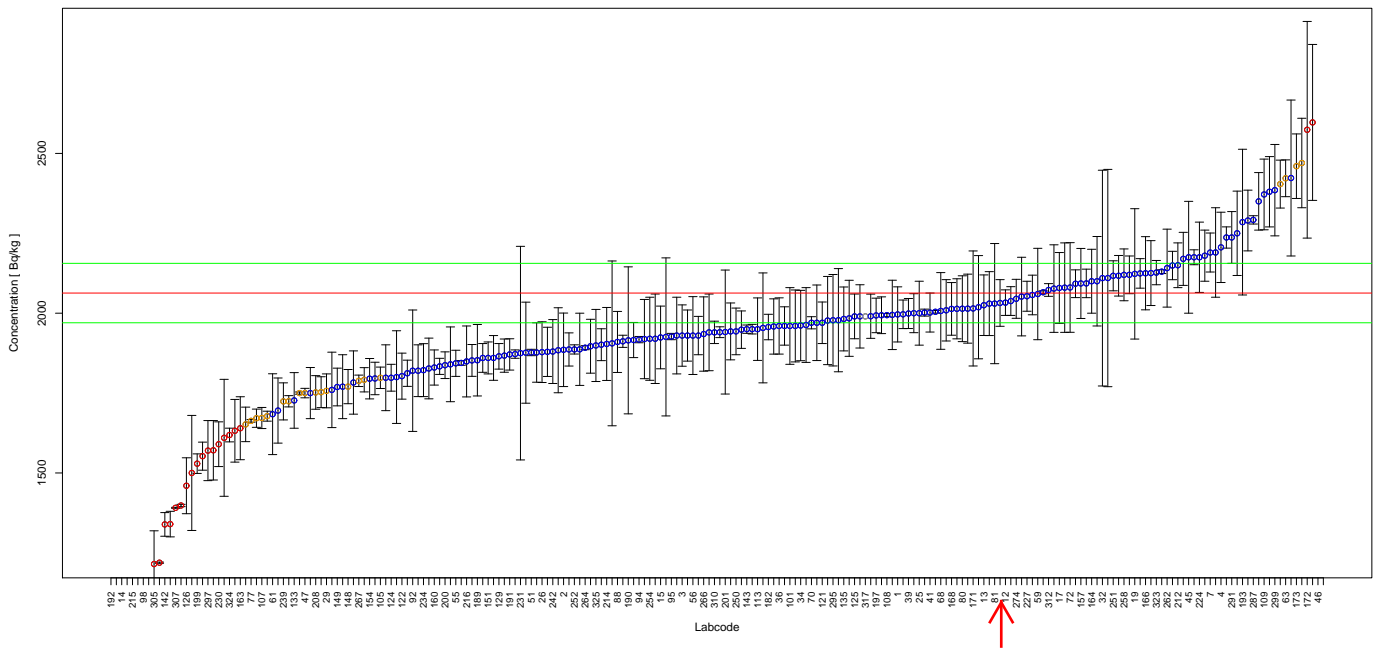
FIGURE 22. Reported results and evaluation parameters for Cs-137. Blue points represent accepted scores, whereas yellow and red represent warning and not accepted scores respectively.

TABLE 22. Evaluation Results for Cs-137 in Sample 4, Rep. Value and Rep. Unc. in Bq/kg

Labcode	Rep. Value	Rep. Unc.	Rel. Bias	P Test	Accuracy	Precision	Final Score	Z-Score
1	1996.20	86.26	-3.24	6.24	A	A	A	0.37
2	1885.4	115	-8.61	7.58	A	A	A	0.98
3	1930	96	-6.45	6.71	A	A	A	0.74
4	2206	110	6.93	6.72	A	A	A	0.79
5	1571	93	-23.85	7.44	N	N	N	2.73
6	1990.5	69.2	-3.51	5.69	A	A	A	0.40
7	2189.87	61.01	6.15	5.30	A	A	A	0.70
8	1940.50	16.91	-5.94	4.59	A	A	A	0.68
9	2110	340	2.28	16.73	A	A	A	0.26
10	2001.8	10.9	-2.97	4.54	A	A	A	0.34
11	1652	54	-19.92	5.57	A	N	W	2.28
12	2033	40	-1.45	4.92	A	A	A	0.17
13	2025.0	94.76	-1.84	6.50	A	A	A	0.21
14	87.9	4.9	-95.74	7.17	N	N	N	10.95
15	1924.1	98.1	-6.73	6.81	A	A	A	0.77
16	2124.5	46.2	2.98	5.01	A	A	A	0.34
17	2079.0	110.8	0.78	6.98	A	A	A	0.09
18	1940	120	-5.96	7.65	A	A	A	0.68
19	2123	204	2.91	10.61	A	A	A	0.33
21	1884	133	-8.68	8.38	A	A	A	0.99
25	2000	100	-3.05	6.73	A	A	A	0.35
26	1878.10	95.04	-8.96	6.78	A	A	A	1.03
27	2423	244	17.45	11.03	A	A	A	2.00
29	1756.95	53.06	-14.84	5.43	A	N	W	1.70
31	2013.7	94.00	-2.39	6.49	A	A	A	0.27
32	2109.8	337.6	2.27	16.62	A	A	A	0.26
33	1750	80	-15.17	6.42	A	A	A	1.74
34	1961.4	110.1	-4.92	7.20	A	A	A	0.56
35	2470	140	19.73	7.24	A	N	W	2.26
36	1960	88	-4.99	6.36	A	A	A	0.57

TABLE 22. Evaluation Results for Cs-137 in Sample 4, Rep. Value and Rep. Unc. in Bq/kg

Labcode	Rep. Value	Rep. Unc.	Rel. Bias	P Test	Accuracy	Precision	Final Score	Z-Score
38	2190	140	6.16	7.82	A	A	A	0.70
39	1999	47	-3.10	5.08	A	A	A	0.35
41	2002.0	61.0	-2.96	5.44	A	A	A	0.34
42	1219.2	1.85	-40.90	4.51	N	N	N	4.68
43	2093.2	44.6	1.46	4.99	A	A	A	0.17
45	2175.0	175.0	5.43	9.22	A	A	A	0.62
46	3032.20	67.26	46.98	5.02	N	N	N	5.37
47	1750	14.8	-15.17	4.59	A	N	W	1.74
48	1916	55	-7.13	5.34	A	A	A	0.81
50	2236.88	33.25	8.43	4.75	A	A	A	0.96
51	1877	10	-9.02	4.54	A	A	A	1.03
52	2170	83	5.19	5.91	A	A	A	0.59
53	2030	100	-1.60	6.68	A	A	A	0.18
55	1843.1	40.9	-10.66	5.02	A	A	A	1.22
56	1930	121.8	-6.45	7.76	A	A	A	0.74
59	2060	143	-0.15	8.28	A	A	A	0.02
60	1925.8	247.3	-6.65	13.61	A	A	A	0.76
61	1683.93	126.47	-18.37	8.76	A	A	A	2.10
63	2422.2	57.6	17.41	5.10	A	N	W	1.99
64	11531	95.2	458.94	4.58	N	N	N	52.49
66	2014.2	108	-2.37	7.01	A	A	A	0.27
68	2007	120	-2.71	7.49	A	A	A	0.31
70	1970	19	-4.51	4.61	A	A	A	0.52
72	2080.46	140.24	0.85	8.11	A	A	A	0.10
74	2380.0	110	15.37	6.46	A	A	A	1.76
75	1340	40	-35.05	5.41	N	N	N	4.01
76	2130.0	6.0	3.25	4.52	A	A	A	0.37
77	1663	4	-19.39	4.51	A	N	W	2.22
78	1950	15	-5.48	4.57	A	A	A	0.63
80	2014	103	-2.38	6.82	A	A	A	0.27
81	2030	188	-1.60	10.30	A	A	A	0.18
84	2052	123	-0.53	7.50	A	A	A	0.06
85	1978.10	161.44	-4.12	9.32	A	A	A	0.47
86	197	7.7	-90.45	5.97	N	N	N	10.34
87	2350	90	13.91	5.92	A	A	A	1.59
88	1910.0	95.5	-7.42	6.73	A	A	A	0.85
89	960	29	-53.47	5.43	N	N	N	6.11
92	1820	190	-11.78	11.37	A	A	A	1.35
93	1677.7	15.6	-18.68	4.60	A	N	W	2.14
94	1917.32	9.83	-7.06	4.54	A	A	A	0.81
95	1926.92	9.87	-6.60	4.54	A	A	A	0.75
98	849	51	-58.85	7.51	N	N	N	6.73
99	2250	132	9.06	7.40	A	A	A	1.04
101	1960	120	-4.99	7.60	A	A	A	0.57
102	1960	60	-4.99	5.45	A	A	A	0.57
103	2149.22	44.43	4.18	4.96	A	A	A	0.48
105	1797.8	33.5	-12.86	4.88	A	N	W	1.47
106	2004.4	4.2	-2.84	4.51	A	A	A	0.32
107	1672	33	-18.95	4.92	A	N	W	2.17
108	1993.8990	4.8703	-3.35	4.51	A	A	A	0.38
109	2371.6	110.6	14.96	6.49	Accuracy	Precision	A	1.71
110	1791.600	37.972	-13.16	4.98	A	N	W	1.50
111	65.9	4.5	-96.81	8.18	N	N	N	11.07
112	1724.3509	17.606	-16.42	4.62	A	N	W	1.88

TABLE 22. Evaluation Results for Cs-137 in Sample 4, Rep. Value and Rep. Unc. in Bq/kg

Labcode	Rep. Value	Rep. Unc.	Rel. Bias	P Test	Accuracy	Precision	Final Score	Z-Score
113	1950.0	97.8	-5.48	6.74	A	A	A	0.63
116	2404	75	16.53	5.48	A	N	W	1.89
120	1879	77	-8.92	6.09	A	A	A	1.02
121	1970	65	-4.51	5.59	A	A	A	0.52
122	1803	72	-12.60	6.02	A	A	A	1.44
123	1920	140	-6.93	8.57	A	A	A	0.79
124	1798	42	-12.85	5.08	A	A	A	1.47
125	1990	70	-3.54	5.72	A	A	A	0.40
126	1460	87.5	-29.23	7.50	N	N	N	3.34
129	1865	40	-9.60	4.99	A	A	A	1.10
130	1943	89	-5.82	6.43	A	A	A	0.67
132	1770	100	-14.20	7.23	A	A	A	1.62
133	1727	87	-16.29	6.76	A	A	A	1.86
135	1982	100	-3.93	6.77	A	A	A	0.45
137	1671.33	28.526	-18.99	4.82	A	N	W	2.17
139	1844.3	7.3256	-10.60	4.53	A	A	A	1.21
140	1993.6	57.5	-3.36	5.35	A	A	A	0.38
141	1930	120	-6.45	7.68	A	A	A	0.74
142	1339	37	-35.09	5.29	N	N	N	4.01
143	1950	13	-5.48	4.56	A	A	A	0.63
144	1994.67	108.5	-3.31	7.06	A	A	A	0.38
146	2120	59	2.76	5.30	A	A	A	0.32
147	1954	172	-5.28	9.89	A	A	A	0.60
148	1770.23	53.51	-14.19	5.43	A	N	W	1.62
149	1769	59	-14.25	5.61	A	A	A	1.63
150	1930	60	-6.45	5.48	A	A	A	0.74
151	1860.0	50.0	-9.84	5.25	A	A	A	1.13
152	2000	61	-3.05	5.44	A	A	A	0.35
153	1877	93	-9.02	6.70	A	A	A	1.03
154	1795	63.2	-12.99	5.72	A	A	A	1.49
155	2032	73	-1.50	5.76	A	A	A	0.17
156	2077	137	0.68	7.99	A	A	A	0.08
157	2093.03	109.58	1.46	6.91	A	A	A	0.17
160	1830	55	-11.29	5.42	A	A	A	1.29
161	1752.8	48.3	-15.04	5.28	A	N	W	1.72
162	1852.2	49.8	-10.22	5.25	A	A	A	1.17
163	1640.0	98.5	-20.50	7.51	N	N	N	2.34
164	2100	100	1.79	6.56	A	A	A	0.21
165	1783	99	-13.57	7.15	A	A	A	1.55
166	2125.0	114.5	3.01	7.03	A	A	A	0.34
168	2013.46	82.39	-2.40	6.09	A	A	A	0.27
169	1960.07	112.57	-4.99	7.30	A	A	A	0.57
171	2014.80	180.00	-2.34	10.01	A	A	A	0.27
172	2574.0	339.0	24.77	13.92	N	A	N	2.83
173	2460	101	19.24	6.10	A	N	W	2.20
176	91.7	5.42	-95.56	7.43	N	N	N	10.93
180	1901.4	49.9	-7.83	5.22	A	A	A	0.90
181	1996.49	44.69	-3.22	5.03	A	A	A	0.37
182	1956.69	39.87	-5.15	4.95	A	A	A	0.59
183	2092.2	43.42	1.42	4.96	A	A	A	0.16
184	2065.5	4.5	0.12	4.51	Accuracy	Precision	A	0.01
185	1977	138	-4.17	8.31	A	A	A	0.48
186	2080	140	0.82	8.10	A	A	A	0.09
187	1398.2	3.6	-32.22	4.52	N	N	N	3.69

TABLE 22. Evaluation Results for Cs-137 in Sample 4, Rep. Value and Rep. Unc. in Bq/kg

Labcode	Rep. Value	Rep. Unc.	Rel. Bias	P Test	Accuracy	Precision	Final Score	Z-Score
189	1852.8	111.8	-10.19	7.53	A	A	A	1.17
190	1915	230	-7.17	12.83	A	A	A	0.82
191	1871	49	-9.31	5.21	A	A	A	1.06
192	2.200	0.13	-99.89	7.43	N	N	N	11.42
193	2285	228	10.76	10.95	A	A	A	1.23
195	1930	80.0	-6.45	6.12	A	A	A	0.74
196	2038	45	-1.21	5.02	A	A	A	0.14
197	1993	54	-3.39	5.26	A	A	A	0.39
198	1958.4	86.5	-5.07	6.31	A	A	A	0.58
199	1529.14	30.58	-25.88	4.93	N	N	N	2.96
200	1837.22	41.74	-10.94	5.05	A	A	A	1.25
201	1941	194	-5.91	10.96	A	A	A	0.68
202	1798	103	-12.85	7.29	A	A	A	1.47
205	1860	45	-9.84	5.12	A	A	A	1.13
206	2125.5	101.5	3.03	6.57	A	A	A	0.35
207	1840	117	-10.81	7.79	A	A	A	1.24
208	1752	52.57	-15.08	5.42	A	N	W	1.72
209	1610	183	-21.96	12.23	N	A	N	2.51
210	1919	124	-6.98	7.88	A	A	A	0.80
212	2150	70	4.22	5.56	A	A	A	0.48
213	1984	119	-3.83	7.50	A	A	A	0.44
214	1903.7	114.2	-7.72	7.50	A	A	A	0.88
215	182	110	-91.18	60.61	N	N	N	10.43
216	1849	111	-10.37	7.51	A	A	A	1.19
219	2009	96.0	-2.62	6.57	A	A	A	0.30
221	1833.6	25.2	-11.12	4.71	A	A	A	1.27
222	1867.2	52	-9.49	5.30	A	A	A	1.09
224	2175	110	5.43	6.77	A	A	A	0.62
225	2290	95	11.00	6.13	A	A	A	1.26
227	2053.03	46.90	-0.48	5.05	A	A	A	0.06
230	1590	70	-22.93	6.30	N	N	N	2.62
231	1875	334.2	-9.11	18.39	A	A	A	1.04
232	1896.594	84.3145	-8.07	6.33	A	A	A	0.92
233	1948.47	58.58	-5.55	5.42	A	A	A	0.63
234	1821.79	82.87	-11.69	6.40	A	A	A	1.34
237	1887.0	113.0	-8.53	7.50	A	A	A	0.98
238	1500.054	180.007	-27.29	12.82	N	A	N	3.12
239	1724	58	-16.43	5.62	A	N	W	1.88
240	1912	19	-7.32	4.62	A	A	A	0.84
241	1963	117	-4.85	7.47	A	A	A	0.55
242	1880	100	-8.87	6.97	A	A	A	1.01
245	1886.5	51.9	-8.56	5.28	A	A	A	0.98
246	1552.59	43.89	-24.74	5.32	N	N	N	2.83
248	2117.10	63.51	2.62	5.41	A	A	A	0.30
249	2180	80	5.67	5.81	A	A	A	0.65
250	1943	73	-5.82	5.87	A	A	A	0.67
251	2117	47	2.62	5.03	A	A	A	0.30
252	1886.59	14.4	-8.55	4.57	A	A	A	0.98
253	1760	118	-14.69	8.08	A	A	A	1.68
254	1920	130	-6.93	8.13	A	A	A	0.79
255	1795.7	50.8	-12.96	5.32	Accuracy	Precision	A	1.48
256	1695.31	101.91	-17.82	7.51	A	A	A	2.04
257	1800	145	-12.75	9.23	A	A	A	1.46
258	2120	81.1	2.76	5.91	A	A	A	0.32

TABLE 22. Evaluation Results for Cs-137 in Sample 4, Rep. Value and Rep. Unc. in Bq/kg

Labcode	Rep. Value	Rep. Unc.	Rel. Bias	P Test	Accuracy	Precision	Final Score	Z–Score
259	1750	3.45	-15.17	4.51	A	N	W	1.74
260	1876.4	158.1	-9.05	9.56	A	A	A	1.03
261	1990	99	-3.54	6.71	A	A	A	0.40
262	2141	122	3.78	7.27	A	A	A	0.43
263	2100	140	1.79	8.05	A	A	A	0.21
264	1892	6.3	-8.29	4.52	A	A	A	0.95
266	1934.8	116.3	-6.21	7.51	A	A	A	0.71
267	1788.38	17.88	-13.31	4.62	A	N	W	1.52
268	2057	62	-0.29	5.42	A	A	A	0.03
273	1872	13.1	-9.26	4.56	A	A	A	1.06
274	2045	61	-0.87	5.41	A	A	A	0.10
279	1970.0	118.2	-4.51	7.50	A	A	A	0.52
281	1860	70	-9.84	5.87	A	A	A	1.13
283	1820	81	-11.78	6.33	A	A	A	1.35
287	2292	13	11.10	4.54	A	A	A	1.27
289	1827	95	-11.44	6.88	A	A	A	1.31
290	2175.00	23.33	5.43	4.63	A	A	A	0.62
291	2237	81	8.43	5.78	A	A	A	0.96
295	1978.0	143.1	-4.12	8.52	A	A	A	0.47
297	1570	94	-23.90	7.49	N	N	N	2.73
299	2385.0	143.0	15.61	7.50	A	A	A	1.79
305	1215	104	-41.11	9.67	N	N	N	4.70
307	1391	1.5	-32.57	4.51	N	N	N	3.73
308	1632.03	98.09	-20.89	7.51	N	N	N	2.39
310	1940	35	-5.96	4.86	A	A	A	0.68
312	2072.63	19.85	0.47	4.61	A	A	A	0.05
313	1812	41	-12.17	5.04	A	A	A	1.39
314	1905.54	257.87	-7.63	14.26	A	A	A	0.87
316	2018.75	161.5	-2.14	9.18	A	A	A	0.25
317	1990		-3.54		A			0.40
322	2597	244	25.88	10.42	N	A	N	2.96
323	2127	38	3.10	4.85	A	A	A	0.35
324	1618.75	21.44	-21.53	4.70	N	N	N	2.46
325	1899	112.8	-7.95	7.46	A	A	A	0.91

Reported Results for Cs-134 Determination in Sample 5

TABLE 23. Target values

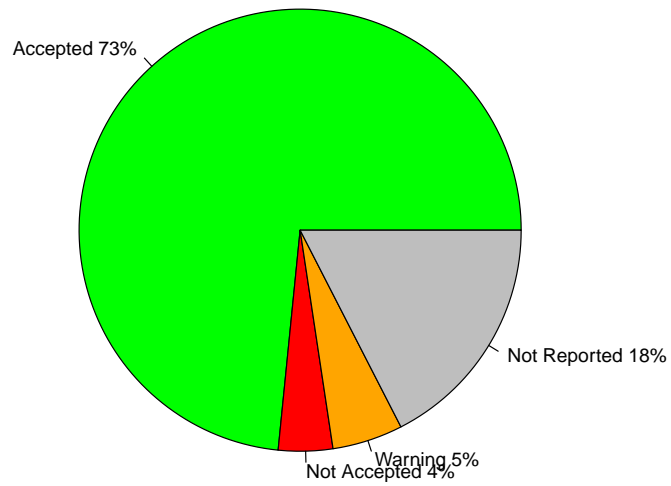| Parameter	Value
Target Value, Bq/kg	19.05
UNC, Bq/kg	0.86
MARB, %	30

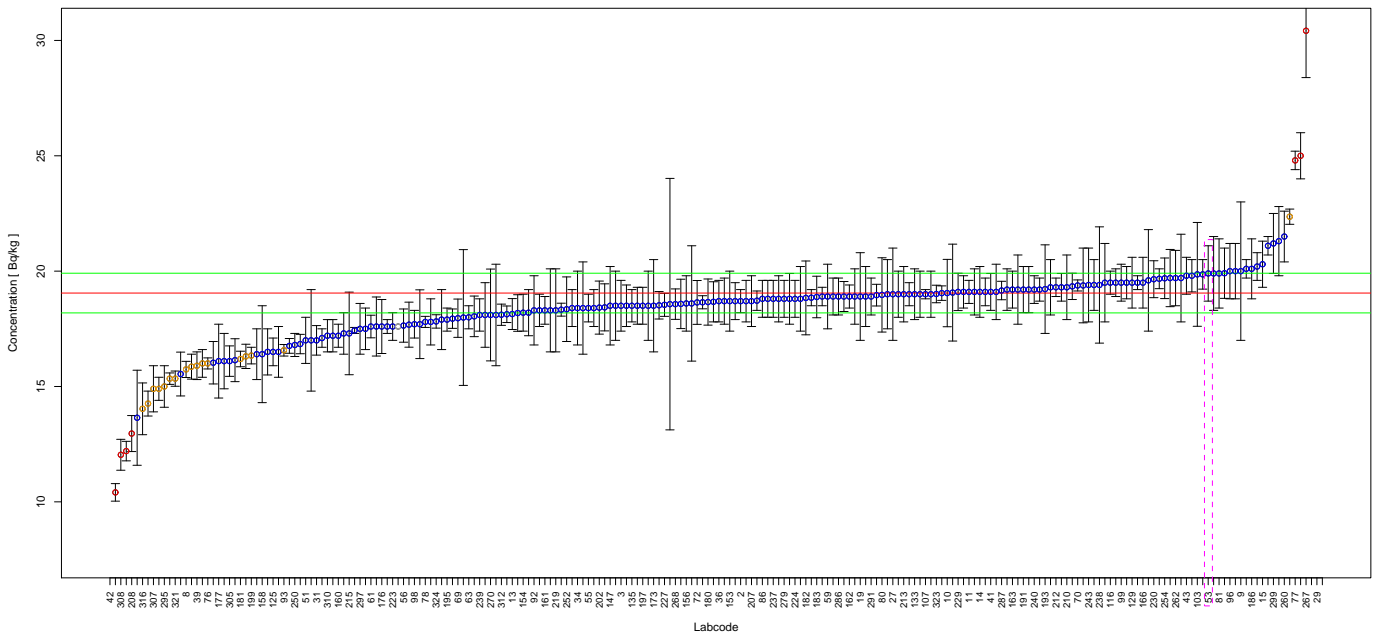FIGURE 23. Percentage of Accepted vs. Warnings vs. Not Accepted vs. Not Reported results

FIGURE 24. 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 24. Evaluation Results for Cs-134 in Sample 5, Rep. Value and Rep. Unc. in Bq/kg

Labcode	Rep. Value	Rep. Unc.	Rel. Bias	P Test	Accuracy	Precision	Final Score	Z-Score
2	18.7	0.5	-1.84	5.25	A	A	A	0.30
3	18.5	1.1	-2.89	7.47	A	A	A	0.47
4	17.5	0.9	-8.14	6.84	A	A	A	1.31
5	17.7	1.49	-7.09	9.55	A	A	A	1.14
6	14.9	0.5	-21.78	5.63	A	N	W	3.52
7	17.94	0.42	-5.83	5.09	A	A	A	0.94
8	15.74	0.35	-17.38	5.03	A	N	W	2.81
9	20	3	4.99	15.66	A	A	A	0.81
10	19.05	1.46	0.00	8.89	A	A	A	0.00
11	19.1	0.5	0.26	5.22	A	A	A	0.04
12	21.3	1.5	11.81	8.37	A	A	A	1.91
13	18.14	0.67	-4.78	5.83	A	A	A	0.77
14	19.1	1.1	0.26	7.32	A	A	A	0.04
15	20.3	1.0	6.56	6.68	A	A	A	1.06
16	20.1	0.4	5.51	4.93	A	A	A	0.89
17	18.43	1.02	-3.25	7.14	A	A	A	0.53
18	19.9	1.6	4.46	9.22	A	A	A	0.72
19	18.9	1.9	-0.79	11.02	A	A	A	0.13
20	19.5	0.6	2.36	5.46	A	A	A	0.38
21	16.1	1.2	-15.49	8.71	A	A	A	2.50
22	19.2	0.5	0.79	5.21	A	A	A	0.13
25	19	1	-0.26	6.93	A	A	A	0.04
26	19.91	1.09	4.51	7.10	A	A	A	0.73
27	19.0	2	-0.26	11.45	A	A	A	0.04
29	44.06	0.66	131.29	4.76	N	N	N	21.19
31	17.00	0.64	-10.76	5.88	A	A	A	1.74
32	19.6	2.2	2.89	12.10	A	A	A	0.47
34	18.4	1.6	-3.41	9.80	A	A	A	0.55
35	19	1.5	-0.26	9.09	A	A	A	0.04
36	18.7	0.9	-1.84	6.60	A	A	A	0.30

TABLE 24. Evaluation Results for Cs-134 in Sample 5, Rep. Value and Rep. Unc. in Bq/kg

Labcode	Rep. Value	Rep. Unc.	Rel. Bias	P Test	Accuracy	Precision	Final Score	Z-Score
38	18.2	1.0	-4.46	7.11	A	A	A	0.72
39	15.9	0.6	-16.54	5.88	A	N	W	2.67
41	19.1	0.8	0.26	6.16	A	A	A	0.04
42	4.32	0.37	-77.32	9.68	N	N	N	12.48
43	19.80	0.80	3.94	6.06	A	A	A	0.64
45	19.2	0.9	0.79	6.51	A	A	A	0.13
46	38.79	1.52	103.62	5.98	N	N	N	16.73
48	19.5	0.7	2.36	5.77	A	A	A	0.38
50	17.60	1.28	-7.61	8.56	A	A	A	1.23
51	17	1	-10.76	7.41	A	A	A	1.74
52	16.14	0.93	-15.28	7.32	A	A	A	2.47
53	19.9	1.2	4.46	7.53	A	A	A	0.72
55	18.4	0.6	-3.41	5.57	A	A	A	0.55
56	17.64	0.72	-7.40	6.09	A	A	A	1.19
59	18.9	1.4	-0.79	8.67	A	A	A	0.13
61	17.60	0.49	-7.61	5.30	A	A	A	1.23
63	18.0	0.5	-5.51	5.30	A	A	A	0.89
64	19.0	0.5	-0.26	5.23	A	A	A	0.04
66	20.2	0.6	6.04	5.40	A	A	A	0.97
68	19.2	1.5	0.79	9.02	A	A	A	0.13
69	17.96	0.83	-5.72	6.46	A	A	A	0.92
70	19.38	0.24	1.73	4.68	A	A	A	0.28
72	18.644	0.950	-2.13	6.81	A	A	A	0.34
74	18.8	0.8	-1.31	6.20	A	A	A	0.21
75	17.1	0.4	-10.24	5.08	A	A	A	1.65
76	16.00	0.24	-16.01	4.76	A	N	W	2.58
77	24.8	0.4	30.18	4.79	N	N	N	4.87
78	17.8	0.24	-6.56	4.71	A	A	A	1.06
80	18.97	1.61	-0.42	9.61	A	A	A	0.07
81	19.9	1.5	4.46	8.79	A	A	A	0.72
84	22.36	0.33	17.38	4.75	A	N	W	2.81
85	19.38	1.62	1.73	9.50	A	A	A	0.28
86	18.8	0.8	-1.31	6.20	A	A	A	0.21
87	25	1	31.23	6.03	N	N	N	5.04
88	18.4	2.0	-3.41	11.77	A	A	A	0.55
92	18.3	1.5	-3.94	9.36	A	A	A	0.64
93	16.57	0.25	-13.02	4.76	A	N	W	2.10
96	20.0	1.2	4.99	7.51	A	A	A	0.81
98	17.7	0.6	-7.09	5.65	A	A	A	1.14
99	19.5	0.8	2.36	6.10	A	A	A	0.38
101	19.34	0.57	1.52	5.39	A	A	A	0.25
102	19	1	-0.26	6.93	A	A	A	0.04
103	19.86	2.25	4.25	12.20	A	A	A	0.69
105	18.33	0.28	-3.78	4.77	A	A	A	0.61
107	19.0	0.2	-0.26	4.64	A	A	A	0.04
108	18.6506	0.2838	-2.10	4.76	A	A	A	0.34
109	18.9	0.8	-0.79	6.19	A	A	A	0.13
110	18.131	0.359	-4.82	4.93	A	A	A	0.78
111	18.9	1.3	-0.79	8.23	A	A	A	0.13
112	13.6454	2.060	-28.37	15.76	A	A	A	4.58
113	17.3	0.9	-9.19	6.89	Accuracy	Precision	A	1.48
116	19.5	0.5	2.36	5.19	A	A	A	0.38
120	19.1	0.7	0.26	5.81	A	A	A	0.04
121	18.8	1.4	-1.31	8.71	A	A	A	0.21

TABLE 24. Evaluation Results for Cs-134 in Sample 5, Rep. Value and Rep. Unc. in Bq/kg

Labcode	Rep. Value	Rep. Unc.	Rel. Bias	P Test	Accuracy	Precision	Final Score	Z-Score
123	16.5	1.1	-13.39	8.05	A	A	A	2.16
124	19.1	1.0	0.26	6.91	A	A	A	0.04
125	16.5	0.6	-13.39	5.80	A	A	A	2.16
126	16.5	1	-13.39	7.56	A	A	A	2.16
129	19.5	1.1	2.36	7.23	A	A	A	0.38
130	17.2	0.7	-9.71	6.08	A	A	A	1.57
133	19.0	1.1	-0.26	7.34	A	A	A	0.04
134	14.26	0.54	-25.14	5.89	A	N	W	4.06
135	18.5	0.7	-2.89	5.89	A	A	A	0.47
137	19.047	0.314	-0.02	4.81	A	A	A	0.00
139	16.306	0.52603	-14.40	5.55	A	N	W	2.33
140	18.5	0.9	-2.89	6.64	A	A	A	0.47
141	19.3	1.2	1.31	7.68	A	A	A	0.21
144	18.6	2.5	-2.36	14.18	A	A	A	0.38
146	18.7	0.9	-1.84	6.60	A	A	A	0.30
147	18.5	1.7	-2.89	10.24	A	A	A	0.47
148	18.52	0.595	-2.78	5.54	A	A	A	0.45
149	18.9	0.4	-0.79	4.99	A	A	A	0.13
150	19.2	1.0	0.79	6.89	A	A	A	0.13
152	18.4	0.8	-3.41	6.27	A	A	A	0.55
153	18.7	1.3	-1.84	8.29	A	A	A	0.30
154	18.2	0.8	-4.46	6.30	A	A	A	0.72
156	18.6	1.2	-2.36	7.87	A	A	A	0.38
157	16.03	0.92	-15.85	7.30	A	A	A	2.56
158	16.4	2.1	-13.91	13.58	A	A	A	2.25
160	17.2	0.5	-9.71	5.37	A	A	A	1.57
161	18.3	0.6	-3.94	5.58	A	A	A	0.64
162	18.9	0.5	-0.79	5.23	A	A	A	0.13
163	19.2	0.8	0.79	6.14	A	A	A	0.13
164	19	1	-0.26	6.93	A	A	A	0.04
165	19.7	1.9	3.41	10.65	A	A	A	0.55
166	19.5	1.1	2.36	7.23	A	A	A	0.38
168	15.54	0.95	-18.43	7.60	A	A	A	2.97
169	18.85	0.35	-1.05	4.88	A	A	A	0.17
171	19.07	2.10	0.10	11.90	A	A	A	0.02
172	17.0	2.2	-10.76	13.71	A	A	A	1.74
173	18.5	2.0	-2.89	11.72	A	A	A	0.47
176	17.6	1.17	-7.61	8.04	A	A	A	1.23
177	16.1	1.6	-15.49	10.92	A	A	A	2.50
179	19.5	0.3	2.36	4.77	A	A	A	0.38
180	18.66	1.0	-2.05	7.01	A	A	A	0.33
181	16.192	0.337	-15.00	4.97	A	N	W	2.42
182	18.84	1.60	-1.10	9.62	A	A	A	0.18
183	18.88	0.9	-0.89	6.57	A	A	A	0.14
184	16.76	0.32	-12.02	4.90	A	A	A	1.94
185	18.5	1.5	-2.89	9.28	A	A	A	0.47
186	20.1	1.3	5.51	7.89	A	A	A	0.89
189	18.8	1.1	-1.31	7.39	A	A	A	0.21
190	18.1	2.2	-4.99	12.97	A	A	A	0.81
191	19.2	1.0	0.79	6.89	A	A	A	0.13
193	19.22	1.92	0.89	10.96	Accuracy	Precision	A	0.14
195	17.9	0.50	-6.04	5.31	A	A	A	0.97
196	19.1	1.2	0.26	7.74	A	A	A	0.04
197	18.5	0.8	-2.89	6.25	A	A	A	0.47

TABLE 24. Evaluation Results for Cs-134 in Sample 5, Rep. Value and Rep. Unc. in Bq/kg

Labcode	Rep. Value	Rep. Unc.	Rel. Bias	P Test	Accuracy	Precision	Final Score	Z-Score
198	18.58	1.07	-2.47	7.32	A	A	A	0.40
199	16.34	0.36	-14.23	5.02	A	N	W	2.30
200	19.67	0.43	3.25	5.02	A	A	A	0.53
201	18.3	1.8	-3.94	10.82	A	A	A	0.64
202	18.42	1.15	-3.31	7.70	A	A	A	0.53
205	18.9	1.2	-0.79	7.79	A	A	A	0.13
206	18.8	1.0	-1.31	6.98	A	A	A	0.21
207	18.7	1.1	-1.84	7.41	A	A	A	0.30
208	12.96	0.78	-31.97	7.52	N	N	N	5.16
209	18.1	1.4	-4.99	8.96	A	A	A	0.81
210	19.3	1.4	1.31	8.54	A	A	A	0.21
211	19.5	1.7	2.36	9.82	A	A	A	0.38
212	19.3	0.4	1.31	4.97	A	A	A	0.21
213	19.0	1.2	-0.26	7.76	A	A	A	0.04
214	16.4	1.1	-13.91	8.09	A	A	A	2.25
215	17.3	1.79	-9.19	11.29	A	A	A	1.48
216	18.04	0.88	-5.30	6.65	A	A	A	0.86
219	18.3	1.8	-3.94	10.82	A	A	A	0.64
221	18.72	0.42	-1.73	5.04	A	A	A	0.28
222	12.2	0.423	-35.96	5.69	N	N	N	5.81
223	17.60	0.60	-7.61	5.66	A	A	A	1.23
224	18.8	0.8	-1.31	6.20	A	A	A	0.21
225	18.4	0.8	-3.41	6.27	A	A	A	0.55
227	18.54	0.50	-2.68	5.26	A	A	A	0.43
228	18.3	0.7	-3.94	5.92	A	A	A	0.64
229	19.1	0.809	0.26	6.19	A	A	A	0.04
230	19.65	0.8	3.15	6.08	A	A	A	0.51
231	17.99	2.943	-5.56	16.97	A	A	A	0.90
232	18.1849	0.7926	-4.54	6.28	A	A	A	0.73
233	73.74	0.18	287.09	4.52	N	N	N	46.35
234	19.80	0.70	3.94	5.73	A	A	A	0.64
235	18.57	5.45	-2.52	29.69	A	A	A	0.41
237	18.8	0.8	-1.31	6.20	A	A	A	0.21
238	19.4	2.52	1.84	13.75	A	A	A	0.30
239	18.1	0.7	-4.99	5.94	A	A	A	0.81
240	19.2	0.6	0.79	5.49	A	A	A	0.13
241	19.3	0.6	1.31	5.48	A	A	A	0.21
242	18.7	1.0	-1.84	7.00	A	A	A	0.30
243	19.4	1.6	1.84	9.40	A	A	A	0.30
246	15.34	0.248	-19.48	4.80	A	N	W	3.14
248	16.84	0.42	-11.60	5.16	A	A	A	1.87
249	18.5	0.8	-2.89	6.25	A	A	A	0.47
250	16.8	0.5	-11.81	5.41	A	A	A	1.91
251	17.6	0.3	-7.61	4.83	A	A	A	1.23
252	18.35	1.4	-3.67	8.87	A	A	A	0.59
254	19.69	0.88	3.36	6.35	A	A	A	0.54
255	19.1	0.6	0.26	5.50	A	A	A	0.04
256	17.43	0.13	-8.50	4.58	A	A	A	1.37
257	18.7	0.8	-1.84	6.22	A	A	A	0.30
260	21.5	1.1	12.86	6.82	A	A	A	2.08
261	20.0	1.2	4.99	7.51	Accuracy	Precision	A	0.81
262	19.7	1.2	3.41	7.58	A	A	A	0.55
263	15.86	0.54	-16.75	5.65	A	N	W	2.70
266	16.0	0.6	-16.01	5.87	A	N	W	2.58

TABLE 24. Evaluation Results for Cs-134 in Sample 5, Rep. Value and Rep. Unc. in Bq/kg

Labcode	Rep. Value	Rep. Unc.	Rel. Bias	P Test	Accuracy	Precision	Final Score	Z-Score
267	30.42	2.03	59.69	8.06	N	N	N	9.64
268	18.57	0.66	-2.52	5.75	A	A	A	0.41
270	18.1	1.99	-4.99	11.89	A	A	A	0.81
273	17.68	0.976	-7.19	7.13	A	A	A	1.16
274	17.8	1.0	-6.56	7.21	A	A	A	1.06
275	19.7	1.24	3.41	7.75	A	A	A	0.55
279	18.8	0.8	-1.31	6.20	A	A	A	0.21
283	18.9	0.65	-0.79	5.68	A	A	A	0.13
286	18.9	0.8	-0.79	6.19	A	A	A	0.13
287	19.16	0.4	0.58	4.97	A	A	A	0.09
289	19.4	1.1	1.84	7.25	A	A	A	0.30
290	10.41	0.38	-45.35	5.81	N	N	N	7.32
291	18.9	0.8	-0.79	6.19	A	A	A	0.13
294	21.1	0.4	10.76	4.90	A	A	A	1.74
295	15.0	0.9	-21.26	7.51	A	N	W	3.43
297	17.5	1.1	-8.14	7.74	A	A	A	1.31
299	21.2	1.3	11.29	7.61	A	A	A	1.82
305	16.1	0.66	-15.49	6.10	A	A	A	2.50
307	14.9	1	-21.78	8.09	A	N	W	3.52
308	12.04	0.67	-36.80	7.17	N	N	N	5.94
310	17.2	0.7	-9.71	6.08	A	A	A	1.57
312	18.11	0.46	-4.93	5.18	A	A	A	0.80
313	18.96	0.47	-0.47	5.15	A	A	A	0.08
314	18.67	0.87	-1.99	6.49	A	A	A	0.32
316	14.032	1.122	-26.34	9.18	A	N	W	4.25
317	17.6		-7.61		A			1.23
320	19.86	0.64	4.25	5.55	A	A	A	0.69
321	15.34	0.33	-19.48	5.00	A	N	W	3.14
322	17.9	1.3	-6.04	8.55	A	A	A	0.97
323	19.01	0.38	-0.21	4.94	A	A	A	0.03
324	17.82	0.29	-6.46	4.80	A	A	A	1.04
325	18.5	1.5	-2.89	9.28	A	A	A	0.47

Reported Results for Cs-137 Determination in Sample 5

TABLE 25. Target values

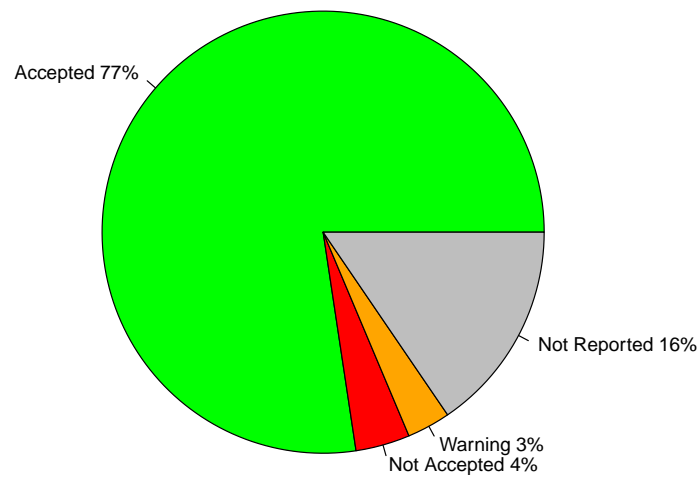| Parameter	Value
Target Value, Bq/kg	26.02
UNC, Bq/kg	1.17
MARB, %	25

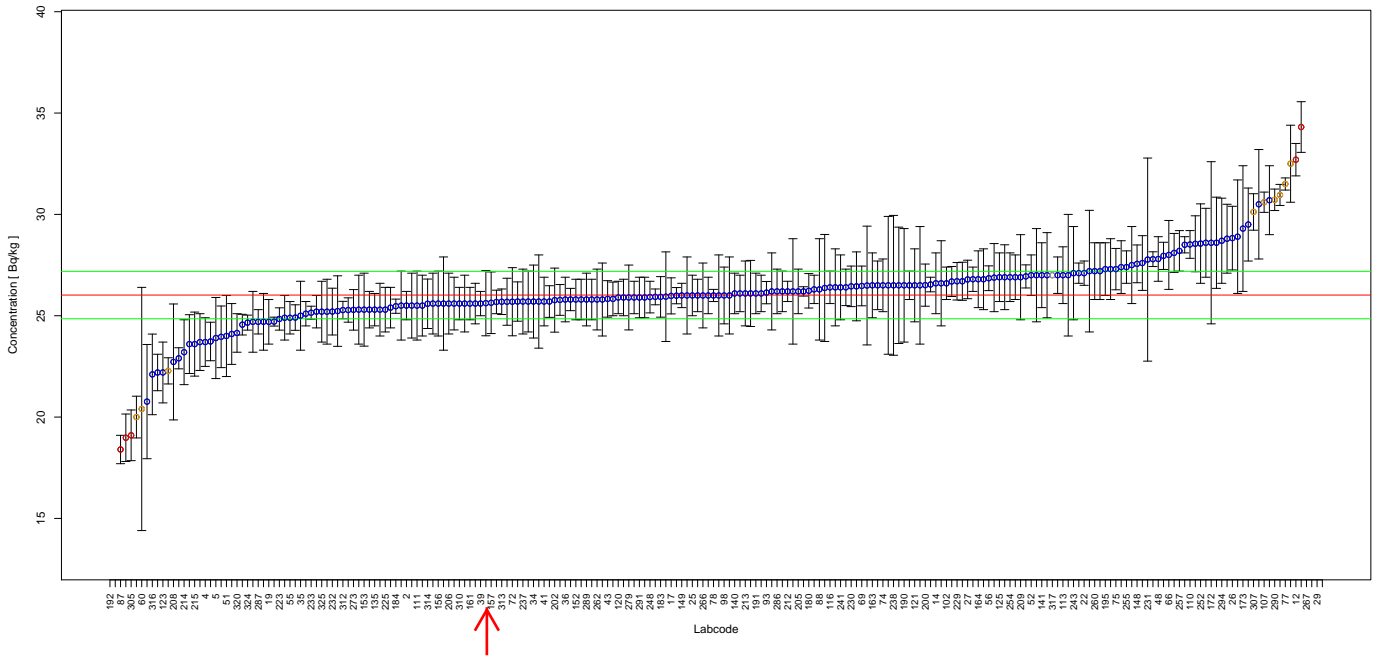FIGURE 25. Percentage of Accepted vs. Warnings vs. Not Accepted vs. Not Reported results

FIGURE 26. 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 26. Evaluation Results for Cs-137 in Sample 5, Rep. Value and Rep. Unc. in Bq/kg

Labcode	Rep. Value	Rep. Unc.	Rel. Bias	P Test	Accuracy	Precision	Final Score	Z-Score
2	25.5	0.7	-2.00	5.27	A	A	A	0.40
3	25.6	1.4	-1.61	7.08	A	A	A	0.33
4	23.7	1.2	-8.92	6.77	A	A	A	1.80
5	23.9	2	-8.15	9.50	A	A	A	1.64
6	22.2	0.9	-14.68	6.05	A	A	A	2.96
7	26.70	0.94	2.61	5.71	A	A	A	0.53
8	22.90	0.52	-11.99	5.04	A	A	A	2.42
9	27	3	3.77	11.99	A	A	A	0.76
10	23.73	0.95	-8.80	6.02	A	A	A	1.78
11	26.0	0.8	-0.08	5.45	A	A	A	0.02
12	32.7	0.8	25.67	5.12	N	N	N	5.18
13	25.70	0.97	-1.23	5.87	A	A	A	0.25
14	26.6	1.5	2.23	7.21	A	A	A	0.45
15	27.2	1.4	4.53	6.83	A	A	A	0.91
16	26.3	0.7	1.08	5.23	A	A	A	0.22
17	25.98	0.89	-0.15	5.65	A	A	A	0.03
18	27.0	2.3	3.77	9.63	A	A	A	0.76
19	24.7	1.1	-5.07	6.33	A	A	A	1.02
20	26.8	0.6	3.00	5.02	A	A	A	0.60
21	26.4	1.9	1.46	8.49	A	A	A	0.29
22	27.1	0.6	4.15	5.01	A	A	A	0.84
25	26	1	-0.08	5.92	A	A	A	0.02
26	28.83	1.57	10.80	7.06	A	A	A	2.18
27	26.79	0.95	2.96	5.73	A	A	A	0.60
29	70.14	1.03	169.56	4.73	N	N	N	34.20
31	26.2	1.00	0.69	5.90	A	A	A	0.14
32	26.5	2.9	1.84	11.83	A	A	A	0.37
34	25.7	1.8	-1.23	8.32	A	A	A	0.25
35	25	1.7	-3.92	8.15	A	A	A	0.79
36	25.8	1.1	-0.85	6.20	A	A	A	0.17

TABLE 26. Evaluation Results for Cs-137 in Sample 5, Rep. Value and Rep. Unc. in Bq/kg

Labcode	Rep. Value	Rep. Unc.	Rel. Bias	P Test	Accuracy	Precision	Final Score	Z-Score
38	24.7	1.5	-5.07	7.56	A	A	A	1.02
39	25.6	0.6	-1.61	5.07	A	A	A	0.33
41	25.7	1.2	-1.23	6.48	A	A	A	0.25
42	26.94	0.57	3.54	4.97	A	A	A	0.71
43	25.83	0.90	-0.73	5.69	A	A	A	0.15
45	25.5	1.7	-2.00	8.04	A	A	A	0.40
46	52.33	1.93	101.11	5.82	N	N	N	20.40
48	27.8	1.1	6.84	5.99	A	A	A	1.38
50	26.88	1.68	3.31	7.70	A	A	A	0.67
51	24	2	-7.76	9.47	A	A	A	1.57
52	27.0	1.0	3.77	5.83	A	A	A	0.76
53	25.6	1.5	-1.61	7.39	A	A	A	0.33
55	24.9	0.8	-4.30	5.53	A	A	A	0.87
56	26.85	0.61	3.19	5.04	A	A	A	0.64
59	26.0	1.9	-0.08	8.58	A	A	A	0.02
60	20.4	6	-21.60	29.75	A	N	W	4.36
61	25.83	0.83	-0.73	5.53	A	A	A	0.15
63	26.0	0.9	-0.08	5.67	A	A	A	0.02
64	26.0	2	-0.08	8.91	A	A	A	0.02
66	28	1.7	7.61	7.56	A	A	A	1.53
68	25.7	1.5	-1.23	7.37	A	A	A	0.25
69	26.47	0.98	1.73	5.82	A	A	A	0.35
70	25.99	0.40	-0.12	4.75	A	A	A	0.02
72	25.691	1.681	-1.26	7.94	A	A	A	0.26
74	26.5	1.3	1.84	6.65	A	A	A	0.37
75	27.3	1.02	4.92	5.85	A	A	A	0.99
76	26.20	0.23	0.69	4.58	A	A	A	0.14
77	31.5	0.3	21.06	4.60	A	N	W	4.25
78	26	0.3	-0.08	4.64	A	A	A	0.02
80	28.10	0.96	7.99	5.65	A	A	A	1.61
81	27.0	2.1	3.77	8.98	A	A	A	0.76
84	30.96	0.52	18.99	4.80	A	N	W	3.83
85	25.94	2.21	-0.31	9.63	A	A	A	0.06
86	24.9	1.1	-4.30	6.30	A	A	A	0.87
87	18.4	0.7	-29.29	5.89	N	N	N	5.91
88	26.3	2.5	1.08	10.52	A	A	A	0.22
89	25.9	1.0	-0.46	5.93	A	A	A	0.09
92	27.2	3.0	4.53	11.91	A	A	A	0.91
93	26.14	0.55	0.46	4.96	A	A	A	0.09
96	26.9	1.6	3.38	7.46	A	A	A	0.68
98	26.0	1.4	-0.08	7.02	A	A	A	0.02
99	25.9	0.9	-0.46	5.68	A	A	A	0.09
101	26.69	0.74	2.57	5.28	A	A	A	0.52
102	26.6	0.8	2.23	5.41	A	A	A	0.45
103	25.80	0.55	-0.85	4.98	A	A	A	0.17
105	28.5	0.4	9.53	4.71	A	A	A	1.92
107	30.6	0.5	17.60	4.78	A	N	W	3.55
108	27.7910	0.3639	6.81	4.68	A	A	A	1.37
109	26.5	1.2	1.84	6.38	A	A	A	0.37
110	28.517	0.684	9.60	5.10	A	A	A	1.94
111	25.5	1.7	-2.00	8.04	Accuracy	Precision	A	0.40
112	20.7639	2.818	-20.20	14.30	A	A	A	4.07
113	27.0	1.4	3.77	6.86	A	A	A	0.76
116	26.4	0.8	1.46	5.42	A	A	A	0.29

TABLE 26. Evaluation Results for Cs-137 in Sample 5, Rep. Value and Rep. Unc. in Bq/kg

Labcode	Rep. Value	Rep. Unc.	Rel. Bias	P Test	Accuracy	Precision	Final Score	Z-Score
120	25.9	0.8	-0.46	5.46	A	A	A	0.09
121	26.5	1.8	1.84	8.15	A	A	A	0.37
123	22.2	1.5	-14.68	8.12	A	A	A	2.96
124	26.1	0.9	0.31	5.67	A	A	A	0.06
125	26.9	1.2	3.38	6.33	A	A	A	0.68
126	23.7	1.4	-8.92	7.42	A	A	A	1.80
129	25.8	1.0	-0.85	5.94	A	A	A	0.17
130	25.3	0.9	-2.77	5.73	A	A	A	0.56
133	25.3	1.3	-2.77	6.83	A	A	A	0.56
134	18.98	1.17	-27.06	7.63	N	N	N	5.46
135	25.3	0.8	-2.77	5.50	A	A	A	0.56
137	25.1	0.602	-3.54	5.10	A	A	A	0.71
139	27.954	0.67057	7.43	5.10	A	A	A	1.50
140	26.1	1.0	0.31	5.91	A	A	A	0.06
141	27.0	1.6	3.77	7.44	A	A	A	0.76
144	26.5	3.4	1.84	13.60	A	A	A	0.37
146	25.5	1.6	-2.00	7.72	A	A	A	0.40
147	25.6	2.3	-1.61	10.05	A	A	A	0.33
148	27.56	0.932	5.92	5.63	A	A	A	1.19
149	26.0	0.6	-0.08	5.05	A	A	A	0.02
150	26.1	0.9	0.31	5.67	A	A	A	0.06
152	25.8	1.0	-0.85	5.94	A	A	A	0.17
153	25.3	1.8	-2.77	8.42	A	A	A	0.56
154	27.4	1.3	5.30	6.54	A	A	A	1.07
156	25.6	1.6	-1.61	7.70	A	A	A	0.33
157	25.64	1.52	-1.46	7.44	A	A	A	0.29
158	30.5	2.7	17.22	9.93	A	A	A	3.47
160	25.5	1.5	-2.00	7.40	A	A	A	0.40
161	25.6	0.8	-1.61	5.48	A	A	A	0.33
162	25.9	0.8	-0.46	5.46	A	A	A	0.09
163	26.5	1.6	1.84	7.53	A	A	A	0.37
164	26.8	1.4	3.00	6.89	A	A	A	0.60
165	29.5	1.8	13.37	7.58	A	A	A	2.70
166	26.8	1.5	3.00	7.18	A	A	A	0.60
168	25.23	1.74	-3.04	8.23	A	A	A	0.61
169	25.93	0.39	-0.35	4.74	A	A	A	0.07
171	26.49	2.93	1.81	11.94	A	A	A	0.36
172	28.6	4.0	9.92	14.69	A	A	A	2.00
173	29.3	3.1	12.61	11.50	A	A	A	2.54
176	23.6	1.45	-9.30	7.61	A	A	A	1.88
177	28.9	2.8	11.07	10.68	A	A	A	2.23
179	26.5	0.7	1.84	5.22	A	A	A	0.37
180	26.23	0.85	0.81	5.54	A	A	A	0.16
181	25.282	0.601	-2.84	5.09	A	A	A	0.57
182	28.60	2.25	9.92	9.06	A	A	A	2.00
183	25.93	1.0	-0.35	5.92	A	A	A	0.07
184	25.47	0.35	-2.11	4.70	A	A	A	0.43
185	26.6	2.1	2.23	9.09	A	A	A	0.45
186	25.3	1.7	-2.77	8.09	A	A	A	0.56
187	1112	25	4173.64	5.03	N	N	N	841.84
189	25.8	1.8	-0.85	8.30	A	Precision	A	0.17
190	26.5	2.8	1.84	11.48	A	A	A	0.37
191	26.1	1.0	0.31	5.91	A	A	A	0.06
192	0.016	0.001	-99.94	7.70	N	N	N	20.16

TABLE 26. Evaluation Results for Cs-137 in Sample 5, Rep. Value and Rep. Unc. in Bq/kg

Labcode	Rep. Value	Rep. Unc.	Rel. Bias	P Test	Accuracy	Precision	Final Score	Z-Score
193	26.37	2.64	1.35	10.97	A	A	A	0.27
195	27.3	1.30	4.92	6.55	A	A	A	0.99
196	28.8	1.7	10.68	7.42	A	A	A	2.16
197	25.6	1.0	-1.61	5.96	A	A	A	0.33
198	25.69	1.16	-1.27	6.37	A	A	A	0.26
199	24.56	0.51	-5.61	4.95	A	A	A	1.13
200	26.51	1.04	1.88	5.97	A	A	A	0.38
201	26.2	2.6	0.69	10.89	A	A	A	0.14
202	25.77	1.58	-0.96	7.60	A	A	A	0.19
205	26.2	1.1	0.69	6.15	A	A	A	0.14
206	25.6	1.5	-1.61	7.39	A	A	A	0.33
207	25.2	1.6	-3.15	7.78	A	A	A	0.64
208	22.72	2.86	-12.68	13.37	A	A	A	2.56
209	26.9	2.1	3.38	9.01	A	A	A	0.68
210	27.5	1.9	5.69	8.24	A	A	A	1.15
211	26.2	1.9	0.69	8.53	A	A	A	0.14
212	26.2	0.5	0.69	4.88	A	A	A	0.14
213	26.1	1.6	0.31	7.60	A	A	A	0.06
214	23.2	1.6	-10.84	8.23	A	A	A	2.19
215	23.6	1.58	-9.30	8.06	A	A	A	1.88
216	25.62	1.61	-1.54	7.73	A	A	A	0.31
219	25.7	2.3	-1.23	10.02	A	A	A	0.25
221	28.55	1.38	9.72	6.60	A	A	A	1.96
222	20	1.03	-23.14	6.84	A	N	W	4.67
223	24.84	0.55	-4.53	5.01	A	A	A	0.91
224	26.4	0.9	1.46	5.64	A	A	A	0.29
225	25.3	1.1	-2.77	6.25	A	A	A	0.56
227	25.78	0.76	-0.92	5.38	A	A	A	0.19
228	25.8	1.0	-0.85	5.94	A	A	A	0.17
229	26.7	0.924	2.61	5.67	A	A	A	0.53
230	26.45	1.0	1.65	5.87	A	A	A	0.33
231	27.77	5.010	6.73	18.59	A	A	A	1.36
232	25.204	1.1542	-3.14	6.42	A	A	A	0.63
233	25.15	0.32	-3.34	4.67	A	A	A	0.67
234	26.45	1.7	1.65	7.84	A	A	A	0.33
235	34.31	1.25	31.86	5.79	N	N	N	6.43
237	25.7	1.6	-1.23	7.68	A	A	A	0.25
238	26.5	3.45	1.84	13.77	A	A	A	0.37
239	25.2	0.8	-3.15	5.50	A	A	A	0.64
240	27.0	0.9	3.77	5.60	A	A	A	0.76
241	26.4	1.6	1.46	7.55	A	A	A	0.29
242	25.6	1.3	-1.61	6.78	A	A	A	0.33
243	27.1	2.3	4.15	9.60	A	A	A	0.84
246	22.28	0.646	-14.37	5.35	A	N	W	2.90
248	25.92	0.78	-0.38	5.41	A	A	A	0.08
249	26.9	1.1	3.38	6.08	A	A	A	0.68
250	25.4	1.0	-2.38	5.98	A	A	A	0.48
251	27.1	0.5	4.15	4.86	A	A	A	0.84
252	28.56	1.96	9.76	8.20	A	A	A	1.97
254	26.9	1.2	3.38	6.33	A	A	A	0.68
255	27.4	0.8	5.30	5.36	Accuracy	Precision	A	1.07
256	24.71	0.22	-5.03	4.58	A	A	A	1.02
257	28.2	1.0	8.38	5.73	A	A	A	1.69
260	27.2	1.4	4.53	6.83	A	A	A	0.91

TABLE 26. Evaluation Results for Cs-137 in Sample 5, Rep. Value and Rep. Unc. in Bq/kg

Labcode	Rep. Value	Rep. Unc.	Rel. Bias	P Test	Accuracy	Precision	Final Score	Z-Score
261	27.3	1.5	4.92	7.10	A	A	A	0.99
262	25.8	1.5	-0.85	7.35	A	A	A	0.17
263	25.7	0.78	-1.23	5.42	A	A	A	0.25
264	30.7	1.7	17.99	7.13	A	A	A	3.63
266	26.0	1.6	-0.08	7.62	A	A	A	0.02
267	48.34	3.13	85.78	7.88	N	N	N	17.30
268	24.91	0.63	-4.27	5.16	A	A	A	0.86
270	26.5	2.87	1.84	11.73	A	A	A	0.37
273	25.29	1.00	-2.81	5.99	A	A	A	0.57
274	24.7	1.4	-5.07	7.24	A	A	A	1.02
275	26.1	1.63	0.31	7.70	A	A	A	0.06
279	25.9	1.6	-0.46	7.64	A	A	A	0.09
283	27.6	1.35	6.07	6.64	A	A	A	1.22
286	26.2	1.1	0.69	6.15	A	A	A	0.14
287	24.7	0.6	-5.07	5.11	A	A	A	1.02
289	25.8	1.3	-0.85	6.75	A	A	A	0.17
290	30.72	0.53	18.06	4.82	A	N	W	3.64
291	25.9	1.0	-0.46	5.93	A	A	A	0.09
294	28.7	2.1	10.30	8.59	A	A	A	2.08
295	26.0	1.9	-0.08	8.58	A	A	A	0.02
297	24.1	1.5	-7.38	7.68	A	A	A	1.49
299	32.5	1.9	24.90	7.38	A	N	W	5.02
304	9.81	0.69	-62.30	8.35	N	N	N	12.57
305	19.1	1.25	-26.59	7.94	N	N	N	5.36
307	30.12	0.9	15.76	5.40	A	N	W	3.18
308	23.96	1.52	-7.92	7.78	A	A	A	1.60
310	25.6	0.8	-1.61	5.48	A	A	A	0.33
312	25.28	0.43	-2.84	4.81	A	A	A	0.57
313	25.69	0.63	-1.27	5.12	A	A	A	0.26
314	25.59	1.22	-1.65	6.55	A	A	A	0.33
316	22.106	1.989	-15.04	10.06	A	A	A	3.03
317	27		3.77		A			0.76
320	24.15	0.95	-7.19	5.97	A	A	A	1.45
321	26.54	0.36	2.00	4.70	A	A	A	0.40
322	28.6	1.7	9.92	7.45	A	A	A	2.00
323	25.68	0.58	-1.31	5.03	A	A	A	0.26
324	24.66	0.37	-5.23	4.74	A	A	A	1.05
325	25.2	1.5	-3.15	7.46	A	A	A	0.64

Reported Results for Cs-137 Determination in Sample 7

TABLE 27. Target values

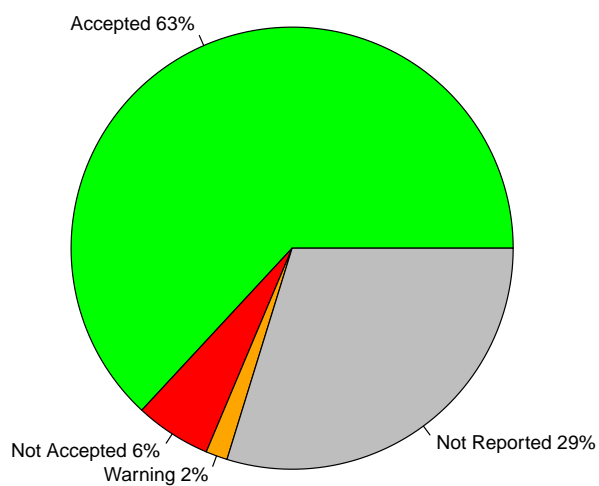| Parameter	Value
Target Value, Bq/sample	11.2
UNC, Bq/sample	0.6
MARB, %	20

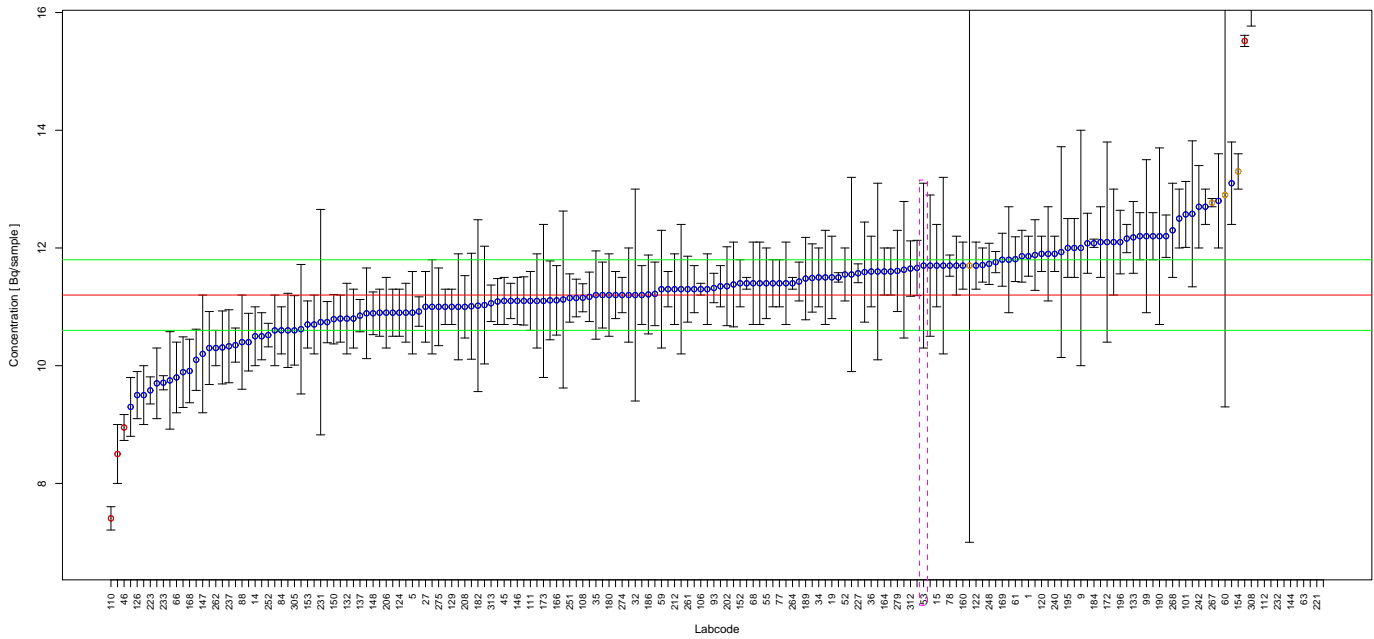FIGURE 27. Percentage of Accepted vs. Warnings vs. Not Accepted vs. Not Reported results

FIGURE 28. 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 28. Evaluation Results for Cs-137 in Sample 7, Rep. Value and Rep. Unc. in Bq/sample

Labcode	Rep. Value	Rep. Unc.	Rel. Bias	P Test	Accuracy	Precision	Final Score	Z-Score
1	11.86	0.34	5.89	6.08	A	A	A	0.84
2	11.01	0.9	-1.70	9.77	A	A	A	0.24
4	11.17	0.42	-0.27	6.55	A	A	A	0.04
5	10.9	0.7	-2.68	8.36	A	A	A	0.38
6	12.2	0.4	8.93	6.28	A	A	A	1.27
7	24.55	1.39	119.20	7.79	N	N	N	16.90
9	12	2	7.14	17.51	A	A	A	1.01
10	11.15	0.32	-0.45	6.08	A	A	A	0.06
14	10.5	0.5	-6.25	7.17	A	A	A	0.89
15	11.7	0.7	4.46	8.03	A	A	A	0.63
16	12.1	0.6	8.04	7.30	A	A	A	1.14
17	11.22	0.54	0.18	7.20	A	A	A	0.03
18	10.60	0.63	-5.36	8.00	A	A	A	0.76
19	11.5	0.7	2.68	8.11	A	A	A	0.38
21	10.89	0.77	-2.77	8.87	A	A	A	0.39
22	12.7	0.3	13.39	5.85	A	A	A	1.90
26	11.66	0.47	4.11	6.70	A	A	A	0.58
27	11.0	0.6	-1.79	7.65	A	A	A	0.25
32	11.2	1.8	0.00	16.94	A	A	A	0.00
34	11.5	0.5	2.68	6.90	A	A	A	0.38
35	11.2	0.75	0.00	8.58	A	A	A	0.00
36	11.6	0.6	3.57	7.45	A	A	A	0.51
38	12.8	0.8	14.29	8.23	A	A	A	2.03
41	10.9	0.5	-2.68	7.05	A	A	A	0.38
43	11.35	0.35	1.34	6.18	A	A	A	0.19
45	11.1	0.4	-0.89	6.46	A	A	A	0.13
46	8.95	0.22	-20.09	5.89	N	N	N	2.85
48	11.4	0.4	1.79	6.40	A	A	A	0.25
50	11.93	1.79	6.52	15.93	A	A	A	0.92
51	12.5	0.5	11.61	6.69	A	A	A	1.65

TABLE 28. Evaluation Results for Cs-137 in Sample 7, Rep. Value and Rep. Unc. in Bq/sample

Labcode	Rep. Value	Rep. Unc.	Rel. Bias	P Test	Accuracy	Precision	Final Score	Z-Score
52	11.55	0.45	3.13	6.62	A	A	A	0.44
53	11.7	1.4	4.46	13.11	A	A	A	0.63
55	11.4	0.6	1.79	7.51	A	A	A	0.25
59	11.3	1.0	0.89	10.34	A	A	A	0.13
60	12.9	3.6	15.18	28.42	A	N	W	2.15
61	11.81	0.38	5.45	6.25	A	A	A	0.77
63	24.30	0.70	116.96	6.08	N	N	N	16.58
64	10.1	0.52	-9.82	7.43	A	A	A	1.39
66	9.8	0.6	-12.50	8.14	A	A	A	1.77
68	11.4	0.7	1.79	8.15	A	A	A	0.25
70	23.21	0.64	107.23	6.03	N	N	N	15.20
72	11.124	1.503	-0.68	14.53	A	A	A	0.10
75	12.2	0.36	8.93	6.12	A	A	A	1.27
76	11.50	0.08	2.68	5.40	A	A	A	0.38
77	11.4	0.4	1.79	6.40	A	A	A	0.25
78	11.7	0.18	4.46	5.57	A	A	A	0.63
80	12.58	1.24	12.32	11.22	A	A	A	1.75
81	11.0	0.9	-1.79	9.78	A	A	A	0.25
84	10.6	0.4	-5.36	6.55	A	A	A	0.76
88	10.4	0.8	-7.14	9.37	A	A	A	1.01
89	11.6	0.4	3.57	6.37	A	A	A	0.51
92	11.7	1.2	4.46	11.57	A	A	A	0.63
93	11.32	0.25	1.07	5.79	A	A	A	0.15
96	10.6	0.6	-5.36	7.79	A	A	A	0.76
98	9.5	0.5	-15.18	7.51	A	A	A	2.15
99	12.2	1.3	8.93	11.93	A	A	A	1.27
101	12.57	0.56	12.23	6.97	A	A	A	1.73
102	10.92	0.25	-2.50	5.83	A	A	A	0.35
103	11.43	0.33	2.05	6.09	A	A	A	0.29
106	11.3	0.1	0.89	5.43	A	A	A	0.13
108	11.1537	0.2381	-0.41	5.77	A	A	A	0.06
110	7.406	0.198	-33.88	5.99	N	N	N	4.80
111	11.1	0.5	-0.89	7.00	A	A	A	0.13
112	21.9079	0.7988	95.61	6.48	N	N	N	13.55
113	11.3	0.6	0.89	7.54	A	A	A	0.13
116	11.7	1.5	4.46	13.89	A	A	A	0.63
120	11.9	0.3	6.25	5.92	A	A	A	0.89
121	11.88	0.60	6.07	7.36	A	A	A	0.86
122	11.7	0.4	4.46	6.36	A	A	A	0.63
123	12.0	0.5	7.14	6.79	A	A	A	1.01
124	10.9	0.4	-2.68	6.49	A	A	A	0.38
126	9.5	0.4	-15.18	6.81	A	A	A	2.15
129	11.0	0.3	-1.79	6.01	A	A	A	0.25
130	11.7	0.5	4.46	6.85	A	A	A	0.63
132	10.8	0.6	-3.57	7.72	A	A	A	0.51
133	12.18	0.61	8.75	7.33	A	A	A	1.24
134	10.31	0.62	-7.95	8.05	A	A	A	1.13
137	10.85	0.274	-3.12	5.92	A	A	A	0.44
139	15.518	0.095	38.55	5.39	N	N	N	5.47
144	23.3	2.8	108.04	13.16	N	N	N	15.32
146	11.1	0.4	-0.89	6.46	Accuracy	Precision	A	0.13
147	10.2	1.00	-8.93	11.17	A	A	A	1.27
148	10.89	0.363	-2.77	6.31	A	A	A	0.39
150	10.79	0.42	-3.66	6.62	A	A	A	0.52

TABLE 28. Evaluation Results for Cs-137 in Sample 7, Rep. Value and Rep. Unc. in Bq/sample

Labcode	Rep. Value	Rep. Unc.	Rel. Bias	P Test	Accuracy	Precision	Final Score	Z-Score
152	11.4	0.4	1.79	6.40	A	A	A	0.25
153	10.7	0.4	-4.46	6.53	A	A	A	0.63
154	13.3	0.3	18.75	5.81	A	N	W	2.66
156	11.0	0.8	-1.79	9.03	A	A	A	0.25
157	11.59	0.85	3.48	9.08	A	A	A	0.49
160	11.7	0.4	4.46	6.36	A	A	A	0.63
161	11.0	0.3	-1.79	6.01	A	A	A	0.25
162	10.35	0.29	-7.59	6.05	A	A	A	1.08
163	9.7	0.6	-13.39	8.18	A	A	A	1.90
164	11.6	0.4	3.57	6.37	A	A	A	0.51
166	11.11	0.59	-0.80	7.54	A	A	A	0.11
168	9.91	0.54	-11.52	7.64	A	A	A	1.63
169	11.80	0.45	5.36	6.58	A	A	A	0.76
171	10.62	1.10	-5.18	11.66	A	A	A	0.73
172	12.1	1.7	8.04	15.04	A	A	A	1.14
173	11.1	1.3	-0.89	12.88	A	A	A	0.13
177	11.03	1	-1.52	10.53	A	A	A	0.22
178	11.49	0.58	2.59	7.36	A	A	A	0.37
180	11.2	0.7	0.00	8.23	A	A	A	0.00
181	11.09	0.39	-0.98	6.41	A	A	A	0.14
182	11.02	1.46	-1.61	14.29	A	A	A	0.23
183	22.32	0.6	99.29	5.99	N	N	N	14.08
184	12.08	0.07	7.86	5.39	A	A	A	1.11
185	11.5	0.8	2.68	8.78	A	A	A	0.38
186	11.21	0.67	0.09	8.03	A	A	A	0.01
187	108.4	0.4	867.86	5.37	N	N	N	123.04
189	11.48	0.70	2.50	8.12	A	A	A	0.35
190	12.2	1.5	8.93	13.41	A	A	A	1.27
191	11.1	0.41	-0.89	6.51	A	A	A	0.13
193	11.63	1.16	3.84	11.32	A	A	A	0.54
195	12.0	0.50	7.14	6.79	A	A	A	1.01
196	12.10	0.54	8.04	6.97	A	A	A	1.14
197	10.8	0.5	-3.57	7.08	A	A	A	0.51
198	11.38	0.72	1.61	8.29	A	A	A	0.23
199	12.16	0.24	8.57	5.71	A	A	A	1.22
201	11.3	1.1	0.89	11.11	A	A	A	0.13
202	11.35	0.67	1.34	7.97	A	A	A	0.19
205	10.7	0.5	-4.46	7.11	A	A	A	0.63
206	10.9	0.6	-2.68	7.68	A	A	A	0.38
208	11.0	0.53	-1.79	7.21	A	A	A	0.25
209	11.7	4.7	4.46	40.53	A	N	W	0.63
210	11.8	0.9	5.36	9.32	A	A	A	0.76
212	11.3	0.6	0.89	7.54	A	A	A	0.13
213	11.4	0.7	1.79	8.15	A	A	A	0.25
214	11.9	0.8	6.25	8.60	A	A	A	0.89
215	9.89	0.60	-11.70	8.09	A	A	A	1.66
216	11.11	0.67	-0.80	8.07	A	A	A	0.11
219	11.1	0.8	-0.89	8.98	A	A	A	0.13
221	34.33	1.51	206.52	6.93	N	N	N	29.28
223	9.58	0.23	-14.46	5.87	A	A	A	2.05
227	11.57	0.16	3.30	5.53	Accuracy	Precision	A	0.47
228	10.9	0.4	-2.68	6.49	A	A	A	0.38
230	10.8	0.4	-3.57	6.51	A	A	A	0.51
231	10.74	1.915	-4.11	18.62	A	A	A	0.58

TABLE 28. Evaluation Results for Cs-137 in Sample 7, Rep. Value and Rep. Unc. in Bq/sample

Labcode	Rep. Value	Rep. Unc.	Rel. Bias	P Test	Accuracy	Precision	Final Score	Z-Score
232	22.4079	0.9037	100.07	6.71	N	N	N	14.19
233	9.71	0.12	-13.30	5.50	A	A	A	1.89
234	11.71	0.29	4.55	5.90	A	A	A	0.65
237	10.33	0.62	-7.77	8.05	A	A	A	1.10
238	11.55	1.65	3.13	15.26	A	A	A	0.44
239	10.9	0.4	-2.68	6.49	A	A	A	0.38
240	11.9	0.3	6.25	5.92	A	A	A	0.89
242	12.7	0.7	13.39	7.69	A	A	A	1.90
243	9.3	0.5	-16.96	7.59	A	A	A	2.41
248	11.73	0.35	4.73	6.13	A	A	A	0.67
249	11.2	0.4	0.00	6.44	A	A	A	0.00
251	11.15	0.41	-0.45	6.50	A	A	A	0.06
252	10.52	0.2	-6.07	5.68	A	A	A	0.86
254	10.40	0.49	-7.14	7.13	A	A	A	1.01
255	11.1	0.3	-0.89	6.00	A	A	A	0.13
256	10.30	0.62	-8.04	8.06	A	A	A	1.14
257	10.5	0.4	-6.25	6.57	A	A	A	0.89
259	11.76	0.18	5.00	5.57	A	A	A	0.71
260	11.4	0.7	1.79	8.15	A	A	A	0.25
261	11.3	0.56	0.89	7.30	A	A	A	0.13
262	10.3	0.3	-8.04	6.10	A	A	A	1.14
263	10.74	0.35	-4.11	6.27	A	A	A	0.58
264	11.4	0.1	1.79	5.43	A	A	A	0.25
266	8.5	0.5	-24.11	7.96	N	N	N	3.42
267	12.77	0.07	14.02	5.39	A	N	W	1.99
268	12.3	0.8	9.82	8.43	A	A	A	1.39
270	9.75	0.828	-12.95	10.04	A	A	A	1.84
274	11.2	0.3	0.00	5.99	A	A	A	0.00
275	11.0	0.66	-1.79	8.04	A	A	A	0.25
279	11.61	0.69	3.66	8.00	A	A	A	0.52
283	13.1	0.70	16.96	7.57	A	A	A	2.41
287	21.5	1.08	91.96	7.34	N	N	N	13.04
289	11.6	1.5	3.57	14.00	A	A	A	0.51
291	11.3	0.4	0.89	6.42	A	A	A	0.13
295	12.1	0.9	8.04	9.17	A	A	A	1.14
297	11.2	0.8	0.00	8.93	A	A	A	0.00
298	11.2	0.5	0.00	6.97	A	A	A	0.00
305	10.6	0.59	-5.36	7.73	A	A	A	0.76
307	11.4	0.1	1.79	5.43	A	A	A	0.25
308	16.78	1.01	49.82	8.06	N	N	N	7.06
310	11.3	0.3	0.89	5.98	A	A	A	0.13
312	11.65	0.47	4.02	6.71	A	A	A	0.57
313	11.06	0.31	-1.25	6.05	A	A	A	0.18
320	23.5	0.77	109.82	6.28	N	N	N	15.57
322	12.2	0.4	8.93	6.28	A	A	A	1.27
323	11.86	0.44	5.89	6.52	A	A	A	0.84
325	12.08	0.51	7.86	6.82	A	A	A	1.11
326	11.2	0.56	0.00	7.33	A	A	A	0.00

Reported Results for Pu-239 Determination in Sample 7

TABLE 29. Target values

Parameter	Value
Target Value, Bq/sample	8.47
UNC, Bq/sample	0.5
MARB, %	40

Warning 1%
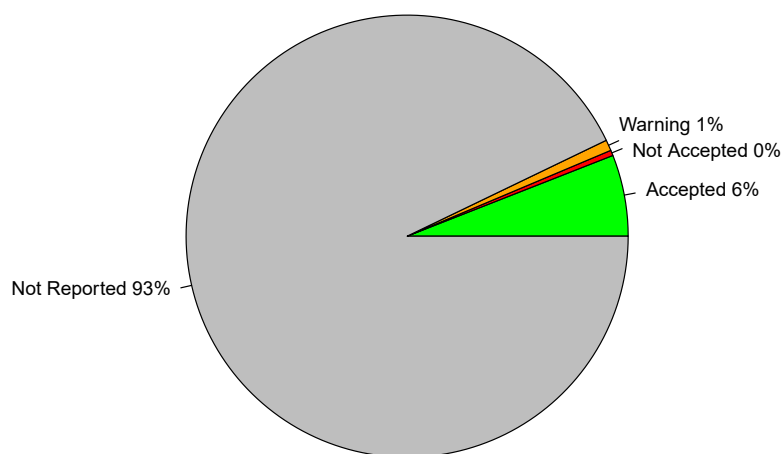Not Accepted 0%
Accepted 6%
Not Reported 93%

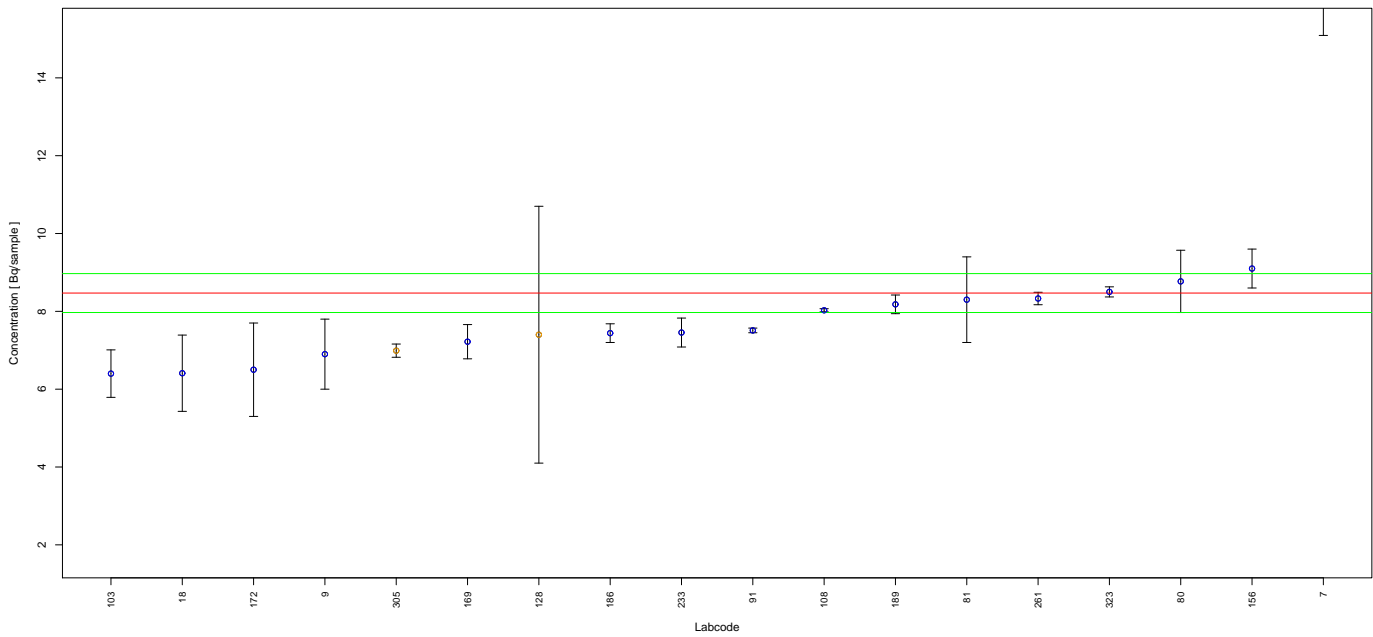FIGURE 29. Percentage of Accepted vs. Warnings vs. Not Accepted vs. Not Reported results

FIGURE 30. Reported results and evaluation parameters for Pu-239. Blue points represent accepted scores, whereas yellow and red represent warning and not accepted scores respectively.

TABLE 30. Evaluation Results for Pu-239 in Sample 7, Rep. Value and Rep. Unc. in Bq/sample

Labcode	Rep. Value	Rep. Unc.	Rel. Bias	P Test	Accuracy	Precision	Final Score	Z-Score
7	16.70	1.61	97.17	11.30	N	N	N	5.92
9	6.9	0.9	-18.54	14.32	A	A	A	1.13
18	6.41	0.98	-24.32	16.39	A	A	A	1.48
80	8.77	0.8	3.54	10.87	A	A	A	0.22
81	8.3	1.1	-2.01	14.51	A	A	A	0.12
91	7.51	0.06	-11.33	5.96	A	A	A	0.69
103	6.4	0.61	-24.44	11.21	A	A	A	1.49
108	8.02732	0.04028	-5.23	5.92	A	A	A	0.32
128	7.4	3.3	-12.63	44.98	A	N	W	0.77
156	9.1	0.5	7.44	8.06	A	A	A	0.45
169	7.22	0.44	-14.76	8.48	A	A	A	0.90
172	6.5	1.2	-23.26	19.38	A	A	A	1.42
186	7.44	0.24	-12.16	6.73	A	A	A	0.74
189	8.18	0.24	-3.42	6.59	A	A	A	0.21
233	7.4555	0.3718	-11.98	7.73	A	A	A	0.73
261	8.33	0.16	-1.65	6.21	A	A	A	0.10
305	6.99	0.17	-17.47	6.38	A	N	W	1.06
323	8.50	0.13	0.35	6.10	A	A	A	0.02

4 Intercomparison Parameters

Reported Results for Gross Alpha Determination in Sample 1

TABLE 31. Target values

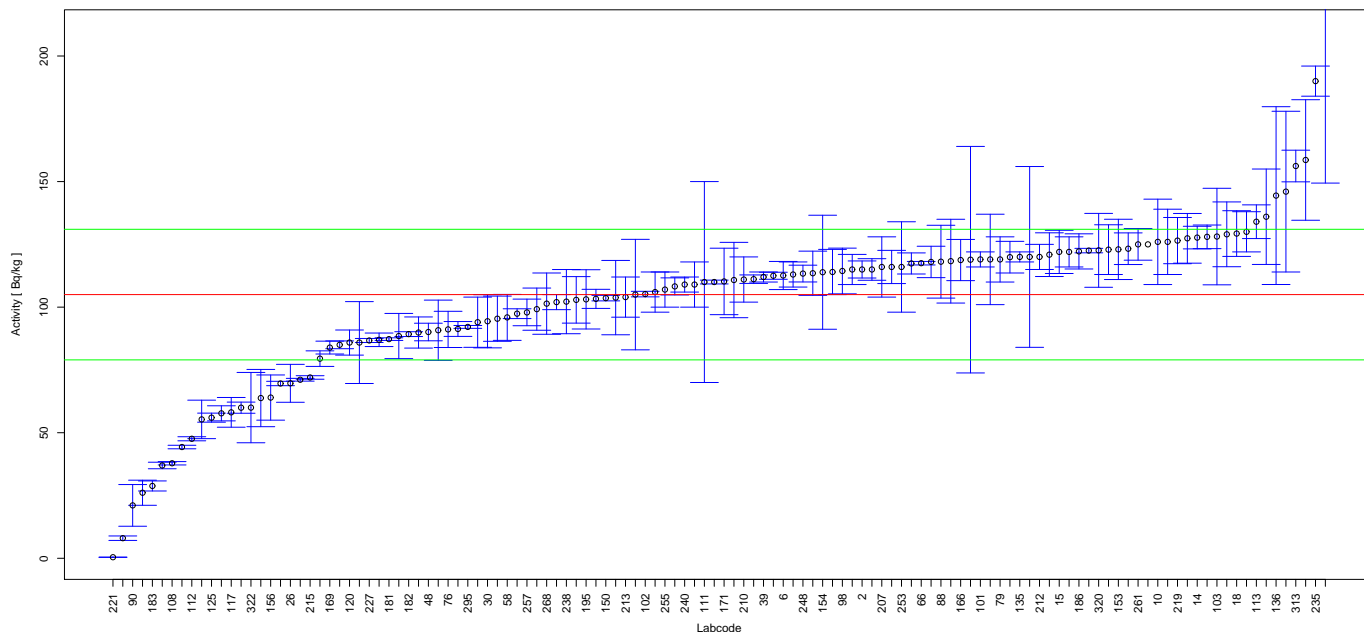| Parameter	Value
Robust Mean, Bq/kg	105
Robust SD, Bq/kg	26
MARB, %	50

FIGURE 31. Reported results and evaluation parameters for Gross Alpha in Sample 1.

TABLE 32. 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	85.00	1.55	0.77	A
2	115.0	3.4	0.38	A
5	126	13	0.81	A
6	112.6	5.6	0.29	A
8	108.26	3.40	0.13	A
9	114	9	0.35	A
10	126	17	0.81	A
14	127.7	4.5	0.87	A
15	122.0	8.6	0.65	A
18	129.3	9.1	0.93	A
25	117.4	4.2	0.48	A
26	69.67	7.55	1.36	A
30	94.38	10.59	0.41	A
32	113.5	8.8	0.33	A
34	109	9	0.15	A
35	99.2	8.4	0.22	A
39	112	2	0.27	A
41	122.9	9.9	0.69	A
45	90.8	12.0	0.55	A
48	90.1	3.5	0.57	A

TABLE 32. 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
50	118.31	16.68	0.51	A
51	113	5	0.31	A
58	95.92	9.15	0.35	A
59	118	6.25	0.50	A
60	118.9	45.1	0.53	A
61	59.97	2.22	1.73	A
63	112.5	1.4	0.29	A
66	117.5	0.7	0.48	A
69	123.27	6.30	0.70	A
73	122.52	0.89	0.67	A
76	91.14	7.21	0.53	A
78	110	0.76	0.19	A
79	119	9	0.54	A
84	55.3	7.66	1.91	A
88	118.1	14.5	0.50	A
90	21.06	8.3	3.23	N
96	88.5	9.0	0.63	A
98	114.4	9.1	0.36	A
99	63.8	11.4	1.58	A
100	301.52	152.12	7.56	N
101	119	3	0.54	A
102	105.2	1.1	0.01	A
103	128.11	19.22	0.89	A
108	37.8336	0.6665	2.58	W
111	110	40	0.19	A
112	47.5900	0.8100	2.21	W
113	134.02	6.71	1.12	A
116	158.6	24.0	2.06	W
117	58.11	5.92	1.80	A
120	85.9	5.0	0.73	A
123	115	6	0.38	A
125	56	1.8	1.88	A
135	120	2	0.58	A
136	144.42	35.40	1.52	A
137	87	2.69	0.69	A
148	69.6	0.871	1.36	A
150	103.6	1.1	0.05	A
151	94.0	10.0	0.42	A
153	123	12	0.69	A
154	113.9	22.7	0.34	A
156	64	9	1.58	A
157	36.95	1.30	2.62	W
162	111.14	1.69	0.24	A
164	122	6	0.65	A
166	118.76	8.20	0.53	A
169	83.90	2.56	0.81	A
171	110.24	13.23	0.20	A
172	85.9	16.3	0.73	A
180	89.9	6.2	0.58	A
181	87.27	0.52	0.68	A
182	89.26	0.96	0.61	A
183	28.8	2.0	2.93	W
185	136	19	1.19	A
186	122.2	7.0	0.66	A

TABLE 32. 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
189	103.3	3.8	0.07	A
190	146	32	1.58	A
193	26.1	5	3.03	N
195	103.1	11.8	0.07	A
197	130	8	0.96	A
207	116	12	0.42	A
208	120.9	8.7	0.61	A
210	111	9	0.23	A
212	120	5	0.58	A
213	104	8	0.04	A
215	72.00	0.70	1.27	A
219	126.5	9.2	0.83	A
221	0.42	0.05	4.02	N
224	79.5	3.1	0.98	A
227	86.73	0.80	0.70	A
228	128	4.70	0.88	A
233	102.90	9.26	0.08	A
235	190	6	3.27	N
238	102.2	12.78	0.11	A
240	109	3	0.15	A
242	119	18	0.54	A
243	95.4	9.0	0.37	A
248	113.37	3.34	0.32	A
249	120	36	0.58	A
250	44.3	0.7	2.33	W
251	119.9	6.3	0.57	A
252	91.31	2.96	0.53	A
253	116	18	0.42	A
254	105	22	0.00	A
255	107.0	7.0	0.08	A
256	71.092	0.553	1.30	A
257	97.9	5.3	0.27	A
259	97.4	1.95	0.29	A
261	125	6.3	0.77	A
266	115.0	4.3	0.38	A
267	57.72	3.004	1.82	A
268	101.4	12.2	0.14	A
269	102	3	0.12	A
280	127.407	9.895	0.86	A
283	129	12.9	0.92	A
287	8	0.89	3.73	N
291	106	8	0.04	A
295	92.13	0.57	0.50	A
305	116	6.61	0.42	A
310	110.8	15	0.22	A
313	156.2	6.3	1.97	A
317	125		0.77	A
320	122.62	14.71	0.68	A
322	60	14	1.73	A
324	103.8	14.8	0.05	A

Reported Results for Gross Beta Determination in Sample 1

TABLE 33. Target values

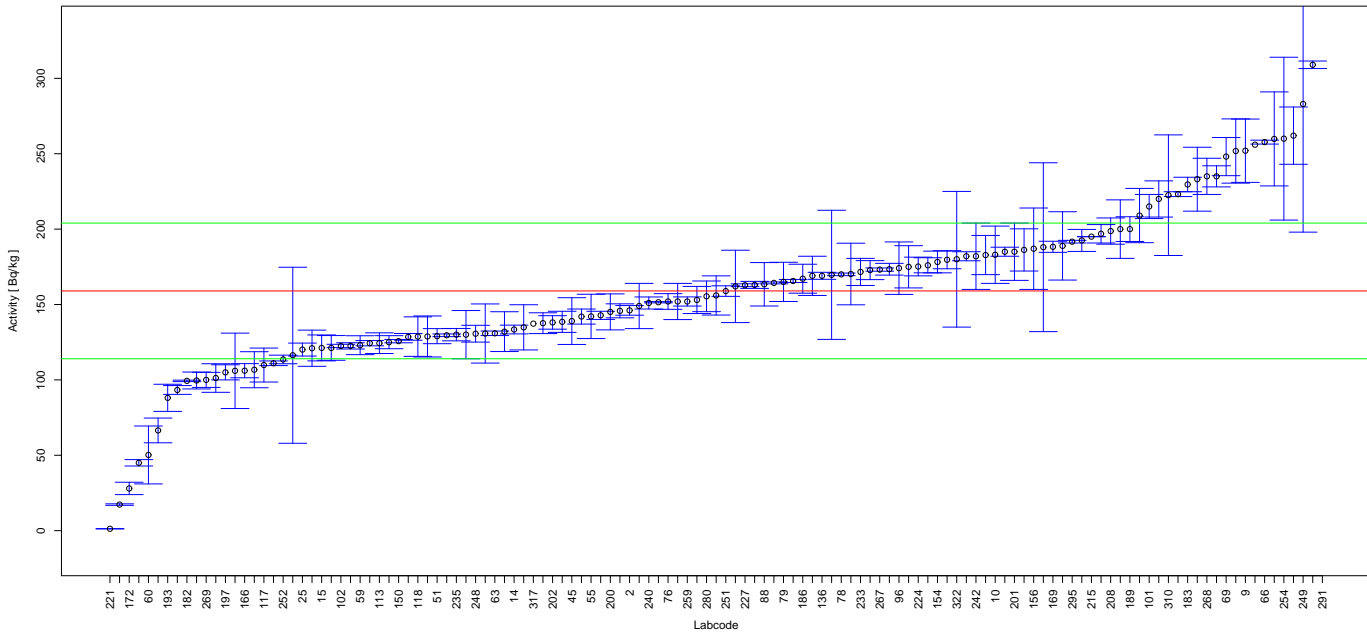| Parameter	Value
Robust Mean, Bq/kg	159
Robust SD, Bq/kg	45
MARB, %	55

FIGURE 32. Reported results and evaluation parameters for Gross Beta in Sample 1.

TABLE 34. 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	17.29	0.5	3.15	N
2	146.1	3.2	0.29	A
6	137.6	6.9	0.48	A
8	129.59	0.89	0.65	A
9	252	21	2.07	W
10	183	19	0.53	A
14	133.4	2.9	0.57	A
15	121.2	8.6	0.84	A
18	262	19	2.29	W
25	120.1	4.3	0.86	A
26	134.85	14.99	0.54	A
30	106.73	11.95	1.16	A
32	251.8	21.3	2.06	W
34	152	12	0.16	A
35	209	18	1.11	A
39	309	2.5	3.33	N
41	138.5	7.0	0.46	A
45	139.0	15.5	0.44	A
48	192.5	7.3	0.74	A
50	101.23	9.47	1.28	A
51	129	5	0.67	A

TABLE 34. 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
55	142.1	14.7	0.38	A
58	169.68	42.82	0.24	A
59	123	6.27	0.80	A
60	50.2	19.2	2.42	W
61	93.31	2.92	1.46	A
63	130.9	1.5	0.62	A
66	257.7	1.3	2.19	W
69	248.10	12.65	1.98	A
73	223.2	1.6	1.43	A
76	152.0	5.2	0.16	A
78	170	0.86	0.24	A
79	165	13	0.13	A
84	179.7	6	0.46	A
88	163.4	14.4	0.10	A
90	66.48	8.2	2.06	W
96	174.1	17.4	0.34	A
98	233.1	21.2	1.65	A
99	200.0	19.4	0.91	A
100	116.33	58.38	0.95	A
101	215	8	1.24	A
102	122.5	1.1	0.81	A
103	130.76	19.61	0.63	A
108	128.5346	2.2347	0.68	A
111	106	25	1.18	A
112	124.3297	1.7426	0.77	A
113	124.34	6.86	0.77	A
116	128.8	13.6	0.67	A
117	109.84	11.26	1.09	A
118	128.7	13.1	0.67	A
120	156	13	0.07	A
123	182	3	0.51	A
135	185	3	0.58	A
136	169.03	2.32	0.22	A
137	163	2.34	0.09	A
148	165.6	1.028	0.15	A
150	125.7	1.1	0.74	A
151	121.0	12.0	0.84	A
153	130	16	0.64	A
154	178.2	7.2	0.43	A
156	187	27	0.62	A
157	122.55	2.08	0.81	A
162	111.02	1.54	1.07	A
164	153	9	0.13	A
166	106.09	4.69	1.18	A
169	188.27	3.68	0.65	A
171	170.22	20.43	0.25	A
172	28.0	4.1	2.91	W
180	99.6	5.6	1.32	A
181	151.50	0.41	0.17	A
182	99.34	0.49	1.33	A
183	229.6	4.8	1.57	A
186	167.1	9.6	0.18	A
189	200.0	8.2	0.91	A
190	188	56	0.64	A

TABLE 34. 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
193	88.1	9	1.58	A
195	182.8	13.0	0.53	A
197	105	5	1.20	A
200	145.10	11.93	0.31	A
201	185	19	0.58	A
202	138.11	4.47	0.46	A
207	149	15	0.22	A
208	198.7	8.7	0.88	A
210	175	14	0.36	A
212	176	5	0.38	A
213	169	13	0.22	A
215	195.00	0.10	0.80	A
216	145.8	4.64	0.29	A
219	121.2	8.2	0.84	A
221	1.24	0.11	3.51	N
224	175.2	6.2	0.36	A
227	162.79	0.93	0.08	A
228	125	4.33	0.76	A
233	171.6	8.99	0.28	A
235	130	4.10	0.64	A
238	259.83	31.18	2.24	W
240	151	4	0.18	A
242	182	22	0.51	A
243	186.2	14.0	0.60	A
248	130.63	5.57	0.63	A
249	283	85	2.76	W
250	142.8	2.7	0.36	A
251	158.9	3.5	0.00	A
252	113.55	2.85	1.01	A
253	162	24	0.07	A
254	260	54	2.24	W
255	142.0	5.0	0.38	A
256	164.330	0.637	0.12	A
257	235	7	1.69	A
259	152	3.04	0.16	A
261	220	12	1.36	A
266	173.4	3.9	0.32	A
267	173.16	1.08	0.31	A
268	235	12	1.69	A
269	100	5	1.31	A
280	155.418	10.167	0.08	A
283	132	13.2	0.60	A
287	45	2.12	2.53	W
291	402	33	5.40	N
295	191.67	0.88	0.73	A
305	256		2.16	W
310	222.5	40	1.41	A
313	172.8	6.3	0.31	A
317	137.3		0.48	A
320	188.87	22.66	0.66	A
322	180	45	0.47	A
324	196.9	6.1	0.84	A

Reported Results for Gross Alpha Determination in Sample 2

TABLE 35. Target values

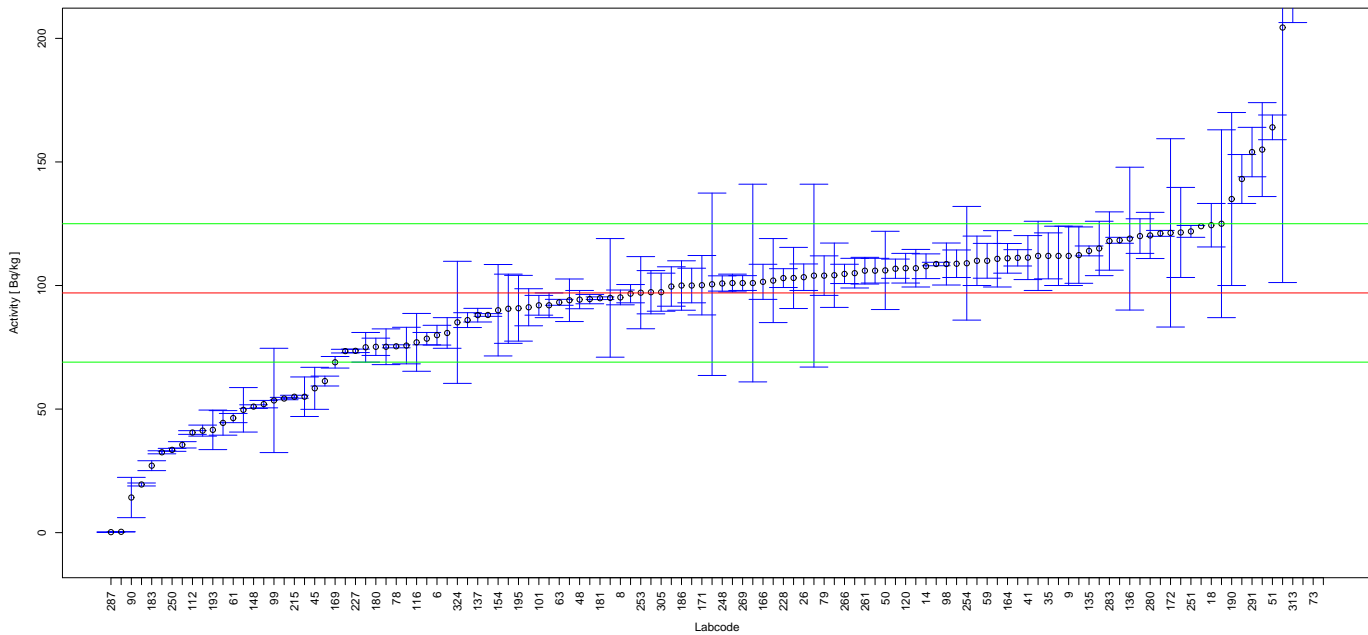| Parameter	Value
Robust Mean, Bq/kg	97
Robust SD, Bq/kg	28
MARB, %	55

FIGURE 33. Reported results and evaluation parameters for Gross Alpha in Sample 2.

TABLE 36. 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	19.49	0.60	2.77	W
2	111.2	3.3	0.51	A
5	101	40	0.14	A
6	79.9	4	0.61	A
8	95.18	2.99	0.06	A
9	112	12	0.54	A
10	110	10	0.46	A
14	107.8	5.0	0.39	A
15	107.0	7.6	0.36	A
18	124.4	8.8	0.98	A
25	106.8	3.9	0.35	A
26	103.36	5.36	0.23	A
30	11264	1282	398.82	N
32	112.3	11.4	0.55	A
34	91.2	7.5	0.21	A
35	112	9.3	0.54	A
39	52	1.5	1.61	A
41	111.3	8.9	0.51	A
45	58.4	8.5	1.38	A
48	94.3	3.7	0.10	A
50	106.11	15.83	0.33	A

TABLE 36. 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
51	164	5	2.39	W
58	75.22	7.23	0.78	A
59	110	7.04	0.46	A
60	100.5	36.9	0.12	A
61	46.37	1.86	1.81	A
63	93.2	1.2	0.14	A
66	108.7	0.7	0.42	A
69	108.81	5.57	0.42	A
73	367.31	3.10	9.65	N
76	80.80	6.20	0.58	A
78	75.4	0.61	0.77	A
79	104	8	0.25	A
84	49.7	9	1.69	A
88	110.8	11.4	0.49	A
90	14.22	8.15	2.96	W
98	108.7	8.5	0.42	A
99	53.5	21.1	1.55	A
100	204.39	103.19	3.84	N
101	92	4	0.18	A
102	121.1	1.2	0.86	A
103	121.47	18.22	0.87	A
108	32.5136	0.6182	2.30	W
111	104	37	0.25	A
112	40.5199	0.7501	2.02	W
113	94.03	8.61	0.11	A
116	77.0	11.7	0.71	A
117	44.41	4.97	1.88	A
120	107	6	0.36	A
123	105	6	0.29	A
135	114	2	0.61	A
136	118.97	28.90	0.78	A
137	88	2.76	0.32	A
148	51.0	0.733	1.64	A
150	118.3	1.2	0.76	A
151	75.0	6.0	0.79	A
153	115	11	0.64	A
154	90.0	18.5	0.25	A
156	55	8	1.50	A
157	35.54	1.28	2.19	W
164	111	6	0.50	A
166	101.49	7.10	0.16	A
169	68.94	2.34	1.00	A
171	100.12	12.02	0.11	A
172	121.3	38.1	0.87	A
180	75.2	3.5	0.78	A
181	94.86	0.54	0.08	A
182	73.45	0.74	0.84	A
183	27.1	2.0	2.50	W
185	112	14	0.54	A
186	100	10	0.11	A
189	96.7	3.7	0.01	A
190	135	35	1.36	A
193	41.6	8	1.98	A
195	90.8	13.3	0.22	A

TABLE 36. 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
197	120	7	0.82	A
207	112	12	0.54	A
208	99.6	7.97	0.09	A
211	101	3.6	0.14	A
212	106	5	0.32	A
215	55.00	0.60	1.50	A
219	143.1	9.9	1.65	A
221	0.34	0.031	3.45	N
224	78.5	2.5	0.66	A
227	73.57	0.70	0.84	A
228	103	3.81	0.21	A
233	97.29	8.75	0.01	A
235	316.66	4.8	7.85	N
238	104.16	13.02	0.26	A
240	86	3	0.39	A
242	102	17	0.18	A
243	75.7	7.4	0.76	A
248	100.83	3.09	0.14	A
249	125	38	1.00	A
250	33.5	0.6	2.27	W
251	121.9	2.4	0.89	A
252	61.34	2.0	1.27	A
253	97.1	14.6	0.00	A
254	109	23	0.43	A
255	100.0	7.0	0.11	A
256	54.260	0.483	1.53	A
257	92	5	0.18	A
259	94.5	1.89	0.09	A
261	106	5.4	0.32	A
266	104.7	3.9	0.28	A
267	41.29	2.23	1.99	A
268	155	19	2.07	W
269	101	3	0.14	A
280	120.260	9.343	0.83	A
283	118	11.8	0.75	A
287	0.2	0.14	3.46	N
291	154	10	2.04	W
295	88.08	0.55	0.32	A
305	97.3	7.70	0.01	A
310	90.6	14	0.23	A
313	215.1	8.7	4.22	N
317	124		0.96	A
320	103.06	12.37	0.22	A
322	95	24	0.07	A
324	85.1	24.7	0.43	A

Reported Results for Gross Beta Determination in Sample 2

TABLE 37. Target values

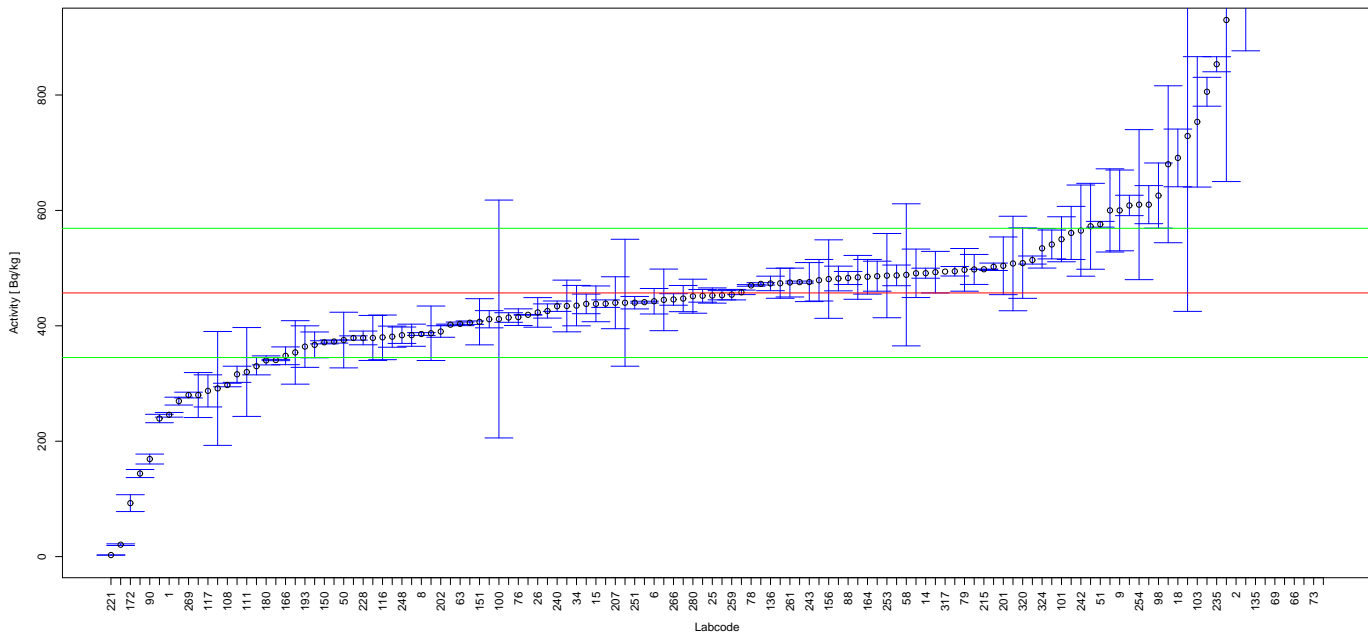| Parameter	Value
Robust Mean, Bq/kg	457
Robust SD, Bq/kg	112
MARB, %	50

FIGURE 34. Reported results and evaluation parameters for Gross Beta in Sample 2.

TABLE 38. 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	245.78	4.08	1.89	A
2	967.0	10.5	4.55	N
5	729	304	2.43	W
6	442.6	22.1	0.13	A
8	385.80	2.40	0.64	A
9	600	70	1.28	A
10	541	25	0.75	A
14	491.2	8.7	0.31	A
15	438.1	31.0	0.17	A
18	691	50	2.09	W
25	452.5	13.2	0.04	A
26	423.24	25.64	0.30	A
30	24952	2794	218.71	N
32	600.0	72.1	1.28	A
34	435	35	0.20	A
35	561	46	0.93	A
39	1159	6.5	6.27	N
41	447.2	22.7	0.09	A
45	280.0	39.0	1.58	A
48	438	17	0.17	A
50	375.32	48.23	0.73	A

TABLE 38. 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
51	576	5	1.06	A
55	434.4	44.8	0.20	A
58	488.35	123.11	0.28	A
59	367	22.35	0.80	A
60	291.5	98.7	1.48	A
61	239.35	7.29	1.94	A
63	403.4	3.1	0.48	A
66	1974.4	3.7	13.55	N
69	1926.00	97.85	13.12	N
73	3148.3	9.9	24.03	N
76	415.0	14.4	0.38	A
78	470	1.4	0.12	A
79	497	37	0.36	A
84	473.75	26	0.15	A
88	482.9	11.3	0.23	A
90	169.11	8.6	2.57	W
98	625.7	56.5	1.51	A
99	508.0	81.9	0.46	A
100	411.81	206.12	0.40	A
101	550	39	0.83	A
102	372.8	2.7	0.75	A
103	753.49	113.02	2.65	W
108	297.4197	3.0517	1.42	A
111	320	77	1.22	A
112	405.4258	2.9907	0.46	A
113	805.65	25.01	3.11	N
116	380.0	38.7	0.69	A
117	287.23	27.81	1.52	A
118	387.1	47.2	0.62	A
120	491	42	0.30	A
123	514	7	0.51	A
135	987	11	4.73	N
136	473.46	12.57	0.15	A
137	458	3.90	0.01	A
148	441	1.63	0.14	A
150	371.4	2.7	0.76	A
151	407.0	40.0	0.45	A
153	379	39	0.70	A
154	487.4	17.9	0.27	A
156	481	68	0.21	A
157	378.93	3.67	0.70	A
164	485	30	0.25	A
166	348.05	15.40	0.97	A
169	502.32	6.42	0.40	A
171	572.50	74.43	1.03	A
172	92.7	14.6	3.25	N
180	340.1	7.8	1.04	A
181	419.10	0.62	0.34	A
182	340.73	1.12	1.04	A
183	494.57	8.24	0.34	A
186	486	26	0.26	A
189	1930.0	16.4	13.15	N
190	680	136	1.99	A
193	364	36	0.83	A

TABLE 38. 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
195	482.0	21.4	0.22	A
197	330	15	1.13	A
200	383.72	19.18	0.65	A
201	504	50	0.42	A
202	390.12	9.95	0.60	A
207	440	45	0.15	A
208	608.6	17.65	1.35	A
210	484	38	0.24	A
212	452	11	0.04	A
213	479	36	0.20	A
215	498.00	0.18	0.37	A
216	425.7	12.3	0.28	A
219	381.2	18.3	0.68	A
221	2.69	0.21	4.06	N
224	493	36	0.32	A
227	472.69	2.04	0.14	A
228	379	11.90	0.70	A
233	497.70	25.98	0.36	A
235	853.33	13.05	3.54	N
238	444.95	53.39	0.11	A
240	434	9	0.21	A
242	565	79	0.96	A
243	475.8	33.8	0.17	A
248	383.70	14.20	0.65	A
249	930	280	4.22	N
250	438.4	6.5	0.17	A
251	440.1	10.8	0.15	A
252	269.51	6.80	1.67	A
253	487	73	0.27	A
254	610	130	1.37	A
255	453.0	8.0	0.04	A
256	401.991	0.996	0.49	A
257	610	33	1.37	A
259	454	9.08	0.03	A
261	475	25	0.16	A
266	445.7	10.0	0.10	A
267	414.4	8.31	0.38	A
268	316	14	1.26	A
269	280	5	1.58	A
280	451.318	29.467	0.05	A
283	974	97.4	4.62	N
287	20.7	1.44	3.90	N
291	144	7	2.79	W
295	475.70	1.82	0.17	A
305	2202		15.58	N
310	353.9	55	0.92	A
313	411.4	14.9	0.41	A
317	494		0.33	A
320	508.67	61.04	0.46	A
322	440	110	0.15	A
324	534.3	34.2	0.69	A

Reported Results for H-3 Determination in Sample 2

TABLE 39. Target values

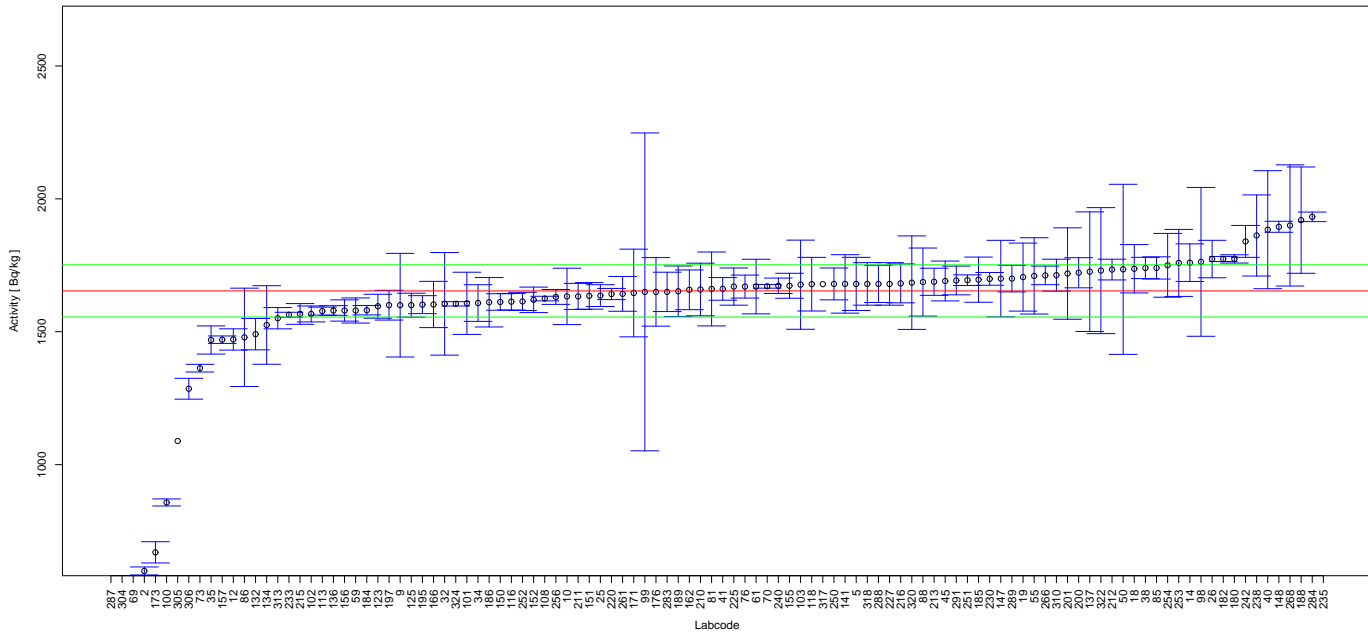| Parameter	Value
Robust Mean, Bq/kg	1653.6
Robust SD, Bq/kg	98.2
MARB, %	30

FIGURE 35. Reported results and evaluation parameters for H-3 in Sample 2.

TABLE 40. IC Evaluation Results for H-3 in Sample 2, Rep. Value and Rep. Unc. in Bq/kg

Labcode	Rep. Value	Rep. Unc.	Z-Score	Z-Score Evaluation
2	600.0	15	10.73	N
5	1680	100	0.27	A
9	1600	195	0.55	A
10	1633	106	0.21	A
12	1471	40	1.86	A
14	1760.0	70.7	1.08	A
18	1737	91	0.85	A
19	1705.6	127.9	0.53	A
25	1636	41	0.18	A
26	1773.57	70.48	1.22	A
32	1605	193	0.49	A
34	1608	69	0.46	A
35	1469	53	1.88	A
38	1740	40	0.88	A
40	1884	222	2.35	W
41	1661.3	42.6	0.08	A
45	1691	75	0.38	A
50	1734.85	319.96	0.83	A
55	1710.2	143.5	0.58	A
59	1580	47.23	0.75	A
61	1670.07	102.75	0.17	A

TABLE 40. IC Evaluation Results for H-3 in Sample 2, Rep. Value and Rep. Unc. in Bq/kg

Labcode	Rep. Value	Rep. Unc.	Z-Score	Z-Score Evaluation
69	399.59	0.06	12.77	N
70	1671	7	0.18	A
73	1363.0	14.4	2.96	W
76	1670.0	43.2	0.17	A
81	1661	139	0.08	A
85	1740.1	41.8	0.88	A
86	1479	185	1.78	A
88	1687	128	0.34	A
98	1763	280	1.11	A
99	1650	598	0.04	A
100	857.777	13.226	8.10	N
101	1607	117	0.47	A
102	1567	30	0.88	A
103	1677.02	167.70	0.24	A
108	1624.8385	8.6980	0.29	A
113	1577.61	15	0.77	A
116	1613	31	0.41	A
118	1679.0	100.9	0.26	A
123	1596	45	0.59	A
125	1600	45	0.55	A
132	1491	59	1.66	A
134	1525.45	147.82	1.30	A
136	1580	18	0.75	A
137	1726	225	0.74	A
141	1680	110	0.27	A
147	1700	144	0.47	A
148	1895	20.7	2.46	W
150	1612	31	0.42	A
151	1635.0	50.0	0.19	A
152	1620	48	0.34	A
155	1673	47	0.20	A
156	1580	40	0.75	A
157	1470.14	14.04	1.87	A
162	1657.8	74.7	0.04	A
166	1602.6	87.0	0.52	A
171	1645.80	165.00	0.08	A
173	670	40	10.02	N
176	1650	129	0.04	A
180	1774.1	15.6	1.23	A
182	1773.82	9.61	1.22	A
184	1581.0	17.6	0.74	A
185	1696	85	0.43	A
186	1611	93	0.43	A
188	1920	200	2.71	W
189	1652.4	95.1	0.01	A
195	1602	33.8	0.53	A
197	1600	56	0.55	A
200	1721.99	56.72	0.70	A
201	1719	172	0.67	A
210	1659	99	0.05	A
211	1633	49.0	0.21	A
212	1734	39	0.82	A
213	1688	51	0.35	A
215	1567	39.00	0.88	A

TABLE 40. IC Evaluation Results for H-3 in Sample 2, Rep. Value and Rep. Unc. in Bq/kg

Labcode	Rep. Value	Rep. Unc.	Z-Score	Z-Score Evaluation
216	1682	73.2	0.29	A
220	1642	21	0.12	A
225	1670	70	0.17	A
227	1680	80	0.27	A
230	1699	24	0.46	A
233	1564	9.28	0.91	A
235	3571.96	27.39	19.54	N
238	1862.28	152.6	2.13	W
240	1673	29	0.20	A
242	1840	60	1.90	A
250	1680	60	0.27	A
251	1694	20	0.41	A
252	1614.15	34.28	0.40	A
253	1759	126	1.07	A
254	1750	120	0.98	A
256	1631	28	0.23	A
261	1642.6	65.5	0.11	A
266	1712	35	0.59	A
268	1900	228	2.51	W
283	1650	74	0.04	A
284	1932.34	17.95	2.84	W
287	14.372	0.04	16.69	N
288	1680	70	0.27	A
289	1700	50	0.47	A
291	1693	54	0.40	A
304	32.0	1.43	16.51	N
305	1089		5.75	N
306	1285.53	39.21	3.75	N
310	1713	60	0.60	A
313	1551	40	1.04	A
317	1679		0.26	A
318	1680	80	0.27	A
320	1684.72	175.88	0.32	A
322	1730	237	0.78	A
324	1605.07	8.25	0.49	A

Reported Results for Eu-152 Determination in Sample 2

TABLE 41. Target values

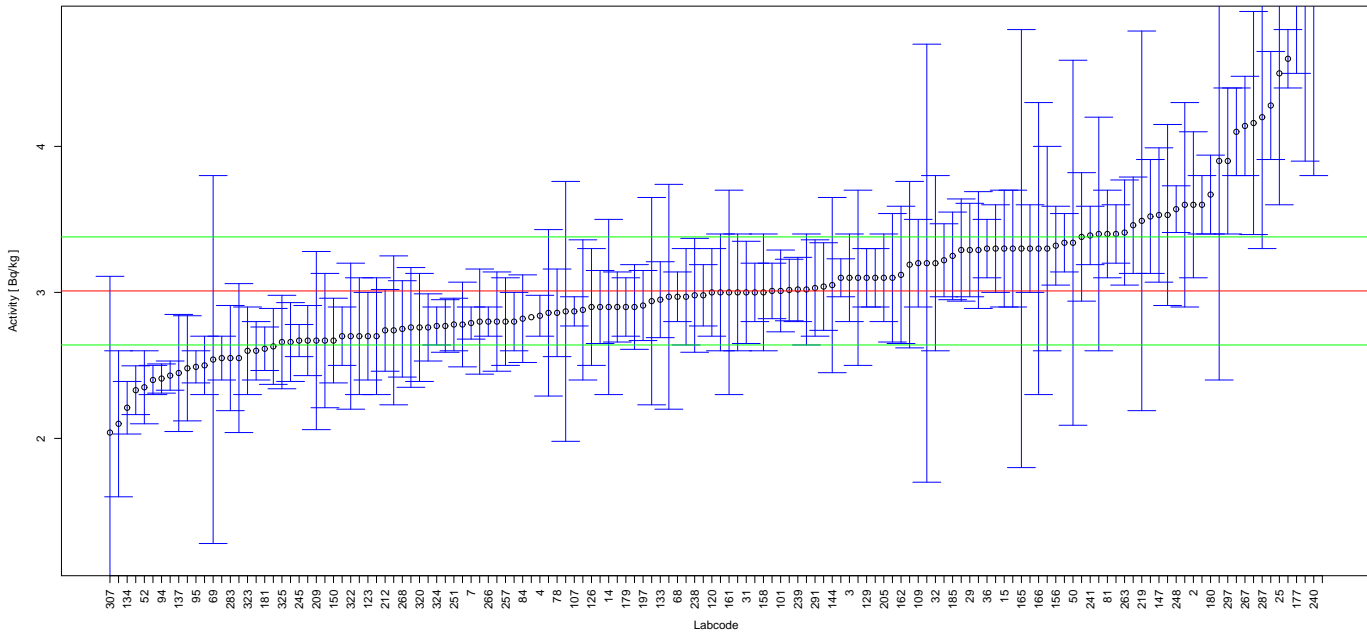| Parameter	Value
Robust Mean, Bq/kg	3.01
Robust SD, Bq/kg	0.37
MARB, %	30

FIGURE 36. Reported results and evaluation parameters for Eu-152 in Sample 2.

TABLE 42. IC Evaluation Results for Eu-152 in Sample 2, Rep. Value and Rep. Unc. in Bq/kg

Labcode	Rep. Value	Rep. Unc.	Z-Score	Z-Score Evaluation
2	3.6	0.5	1.59	A
3	3.1	0.3	0.24	A
4	2.84	0.14	0.46	A
7	2.79	0.11	0.59	A
9	3.3	0.7	0.78	A
10	2.66	0.27	0.95	A
11	2.77	0.18	0.65	A
14	2.9	0.6	0.30	A
15	3.3	0.4	0.78	A
16	2.7	0.4	0.84	A
18	2.97	0.33	0.11	A
20	3.10	0.13	0.24	A
21	2.80	0.34	0.57	A
25	4.5	0.9	4.03	N
29	3.29	0.32	0.76	A
31	3.00	0.35	0.03	A
32	3.2	0.6	0.51	A
34	3.4	0.8	1.05	A
36	3.3	0.2	0.78	A
38	3.46	0.33	1.22	A
39	3.6	0.2	1.59	A

TABLE 42. IC Evaluation Results for Eu-152 in Sample 2, Rep. Value and Rep. Unc. in Bq/kg

Labcode	Rep. Value	Rep. Unc.	Z-Score	Z-Score Evaluation
41	3.1	0.2	0.24	A
42	2.86	0.57	0.41	A
50	3.34	1.25	0.89	A
51	2.5	0.2	1.38	A
52	2.35	0.25	1.78	A
68	2.97	0.17	0.11	A
69	2.54	1.26	1.27	A
70	2.97	0.77	0.11	A
74	3.3	0.3	0.78	A
75	2.9	0.24	0.30	A
76	3.02	0.38	0.03	A
77	4.1	0.3	2.95	W
78	2.86	0.3	0.41	A
81	3.4	0.3	1.05	A
84	2.82	0.3	0.51	A
89	4.6	0.2	4.30	N
93	2.55	0.15	1.24	A
94	2.41	0.10	1.62	A
95	2.49	0.11	1.41	A
98	3.3	0.4	0.78	A
101	3.01	0.28	0.00	A
102	2.63	0.26	1.03	A
106	2.8	0.2	0.57	A
107	2.87	0.10	0.38	A
109	3.2	0.3	0.51	A
113	2.1	0.5	2.46	W
120	3.0	0.3	0.03	A
121	2.88	0.48	0.35	A
123	2.7	0.3	0.84	A
124	3.0	0.4	0.03	A
126	2.9	0.4	0.30	A
129	3.1	0.2	0.24	A
130	3.1	0.6	0.24	A
133	2.95	0.26	0.16	A
134	2.21	0.18	2.16	W
135	3.01	0.19	0.00	A
137	2.448	0.401	1.52	A
142	97.8	6.8	256.19	N
144	3.05	0.6	0.11	A
147	3.53	0.46	1.41	A
148	2.74	0.51	0.73	A
150	2.67	0.29	0.92	A
154	3.9	1.5	2.41	W
156	3.32	0.27	0.84	A
157	3.19	0.57	0.49	A
158	3.0	0.4	0.03	A
159	2.6	0.2	1.11	A
160	2.4	0.1	1.65	A
161	3.0	0.7	0.03	A
162	3.12	0.47	0.30	A
163	2.7	0.2	0.84	A
164	3.4	0.2	1.05	A
165	3.3	1.5	0.78	A
166	3.3	1.0	0.78	A

TABLE 42. IC Evaluation Results for Eu-152 in Sample 2, Rep. Value and Rep. Unc. in Bq/kg

Labcode	Rep. Value	Rep. Unc.	Z-Score	Z-Score Evaluation
169	2.76	0.41	0.68	A
171	2.80	0.36	0.57	A
172	2.48	0.36	1.43	A
177	5	0.5	5.38	N
179	2.9	0.2	0.30	A
180	3.67	0.27	1.78	A
181	2.614	0.149	1.07	A
182	2.87	0.89	0.38	A
185	3.25	0.3	0.65	A
191	2.98	0.21	0.08	A
193	3.04	0.3	0.08	A
195	3.29	0.35	0.76	A
196	3.10	0.44	0.24	A
197	2.91	0.24	0.27	A
199	3.22	0.25	0.57	A
205	3.1	0.3	0.24	A
209	2.67	0.61	0.92	A
212	2.74	0.28	0.73	A
219	3.49	1.3	1.30	A
222	2.67	0.46	0.92	A
223	3.29	0.40	0.76	A
224	3.3	0.3	0.78	A
225	2.76	0.23	0.68	A
230	3.34	0.2	0.89	A
231	5.051	1.152	5.52	N
232	3.0163	0.2108	0.02	A
233	2.43	0.10	1.57	A
238	2.98	0.39	0.08	A
239	3.02	0.22	0.03	A
240	5.1	1.3	5.65	N
241	3.39	0.20	1.03	A
245	2.67	0.11	0.92	A
246	2.33	0.167	1.84	A
248	3.57	0.16	1.51	A
251	2.78	0.18	0.62	A
254	2.78	0.29	0.62	A
255	3.2	1.5	0.51	A
257	2.8	0.3	0.57	A
261	3.53	0.62	1.41	A
262	3.6	0.7	1.59	A
263	3.41	0.36	1.08	A
266	2.8	0.1	0.57	A
267	4.14	0.34	3.05	N
268	2.75	0.33	0.70	A
270	4.16	0.764	3.11	N
274	2.67	0.24	0.92	A
275	3.38	0.44	1.00	A
279	3.0	0.4	0.03	A
281	2.7	0.4	0.84	A
283	2.55	0.36	1.24	A
287	4.2	0.9	3.22	N
288	2.90	0.25	0.30	A
291	3.03	0.33	0.05	A
297	3.9	0.5	2.41	W

TABLE 42. IC Evaluation Results for Eu-152 in Sample 2, Rep. Value and Rep. Unc. in Bq/kg

Labcode	Rep. Value	Rep. Unc.	Z-Score	Z-Score Evaluation
299	3.0	0.2	0.03	A
305	2.55	0.51	1.24	A
307	2.04	1.07	2.62	W
312	4.28	0.37	3.43	N
313	3.52	0.39	1.38	A
314	2.9	0.29	0.30	A
317	2.83		0.49	A
320	2.76	0.37	0.68	A
321	2.94	0.71	0.19	A
322	2.7	0.5	0.84	A
323	2.6	0.3	1.11	A
324	2.77	0.13	0.65	A
325	2.66	0.32	0.95	A

Reported Results for Gross Alpha Determination in Sample 5

TABLE 43. Target values

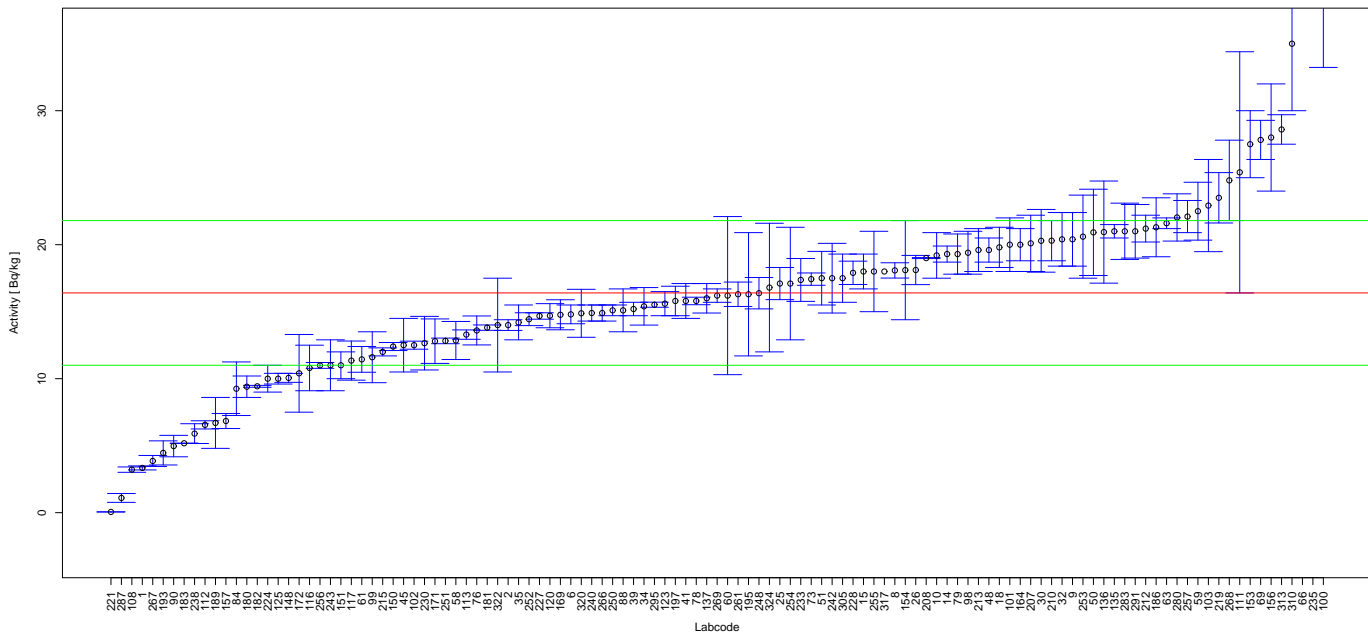| Parameter	Value
Robust Mean, Bq/kg	16.4
Robust SD, Bq/kg	5.4
MARB, %	60

FIGURE 37. Reported results and evaluation parameters for Gross Alpha in Sample 5.

TABLE 44. IC Evaluation Results for Gross Alpha in Sample 5, Rep. Value and Rep. Unc. in Bq/kg

Labcode	Rep. Value	Rep. Unc.	Z-Score	Z-Score Evaluation
1	3.34	0.15	2.42	W
2	14.0	0.4	0.44	A
6	14.8	0.7	0.30	A
8	18.08	0.57	0.31	A
9	20.4	2.0	0.74	A
10	19.2	1.7	0.52	A
14	19.3	0.6	0.54	A
15	18.0	1.3	0.30	A
18	19.8	1.5	0.63	A
25	17.1	1.2	0.13	A
26	18.11	1.09	0.32	A
30	20.29	2.34	0.72	A
32	20.4	2.0	0.74	A
34	15.4	1.4	0.19	A
35	14.2	1.3	0.41	A
39	15.2	0.5	0.22	A
41	15.8	1.3	0.11	A
45	12.5	2.0	0.72	A
48	19.6	0.9	0.59	A
50	20.92	3.22	0.84	A
51	17.5	2	0.20	A

TABLE 44. IC Evaluation Results for Gross Alpha in Sample 5, Rep. Value and Rep. Unc. in Bq/kg

Labcode	Rep. Value	Rep. Unc.	Z-Score	Z-Score Evaluation
58	12.85	1.42	0.66	A
59	22.5	2.16	1.13	A
60	16.2	5.9	0.04	A
61	11.44	0.96	0.92	A
63	21.6	0.4	0.96	A
66	38.8	0.5	4.15	N
69	27.82	1.46	2.11	W
73	17.43	0.46	0.19	A
76	13.60	1.08	0.52	A
78	15.8	0.28	0.11	A
79	19.3	1.5	0.54	A
84	9.25	2	1.32	A
88	15.1	1.6	0.24	A
90	4.97	0.8	2.12	W
98	19.4	1.6	0.56	A
99	11.6	1.9	0.89	A
100	70.83	37.6	10.08	N
101	20	2	0.67	A
102	12.5	0.3	0.72	A
103	22.92	3.44	1.21	A
108	3.2126	0.2003	2.44	W
111	25.4	9.0	1.67	A
112	6.5530	0.3052	1.82	A
113	13.29	0.35	0.58	A
116	10.8	1.7	1.04	A
117	11.35	1.46	0.94	A
120	14.7	0.9	0.31	A
123	15.6	0.9	0.15	A
125	10	0.4	1.19	A
135	21	0.5	0.85	A
136	20.94	3.81	0.84	A
137	16	1.1	0.07	A
148	10.06	0.334	1.17	A
150	12.4	0.3	0.74	A
151	11.0	1.0	1.00	A
153	27.5	2.5	2.06	W
154	18.1	3.7	0.31	A
156	28	4	2.15	W
157	6.84	0.56	1.77	A
164	20.0	1.2	0.67	A
169	14.77	1.12	0.30	A
171	12.80	1.66	0.67	A
172	10.4	2.9	1.11	A
180	9.4	0.8	1.30	A
181	13.81	0.20	0.48	A
182	9.43	0.07	1.29	A
183	5.18	0.01	2.08	W
186	21.3	2.2	0.91	A
189	6.7	1.9	1.80	A
193	4.46	0.9	2.21	W
195	16.3	4.60	0.02	A
197	15.8	1.1	0.11	A
207	20.1	2.1	0.69	A
208	19.0	0.036	0.48	A

TABLE 44. IC Evaluation Results for Gross Alpha in Sample 5, Rep. Value and Rep. Unc. in Bq/kg

Labcode	Rep. Value	Rep. Unc.	Z-Score	Z-Score Evaluation
210	20.3	1.5	0.72	A
212	21.2	1.0	0.89	A
213	19.6	1.6	0.59	A
215	12.00	0.30	0.81	A
219	23.5	1.88	1.31	A
221	0.056	0.01	3.03	N
224	10	1	1.19	A
227	14.68	0.24	0.32	A
228	17.9	0.87	0.28	A
230	12.65	2.0	0.69	A
233	17.37	1.60	0.18	A
235	46.66	1.65	5.60	N
238	5.9	0.738	1.94	A
240	14.9	0.6	0.28	A
242	17.5	2.6	0.20	A
243	11.0	1.9	1.00	A
248	16.38	1.17	0.00	A
250	15.1	0.4	0.24	A
251	12.82	0.21	0.66	A
252	14.44	0.48	0.36	A
253	20.6	3.1	0.78	A
254	17.1	4.2	0.13	A
255	18.0	3.0	0.30	A
256	10.990	0.218	1.00	A
257	22.1	1.2	1.06	A
261	16.3	0.91	0.02	A
266	14.9	0.6	0.28	A
267	3.86	0.41	2.32	W
268	24.8	3.0	1.56	A
269	16.2	0.5	0.04	A
280	22.033	1.763	1.04	A
283	21	2.1	0.85	A
287	1.1	0.33	2.83	W
291	21	2	0.85	A
295	15.52	0.19	0.16	A
305	17.5	1.80	0.20	A
310	35.0	5	3.44	N
313	28.6	1.1	2.26	W
317	18		0.30	A
320	14.88	1.79	0.28	A
322	14.0	3.5	0.44	A
324	16.8	4.8	0.07	A

Reported Results for Gross Beta Determination in Sample 5

TABLE 45. Target values

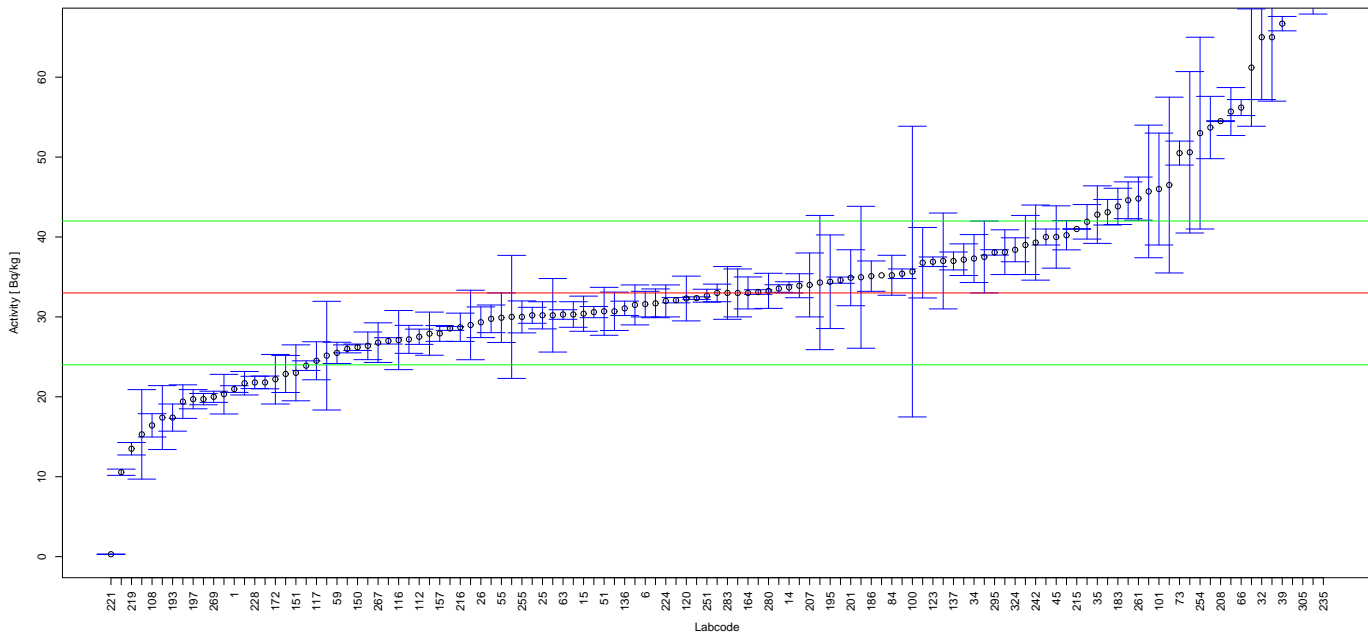| Parameter	Value
Robust Mean, Bq/kg	33
Robust SD, Bq/kg	9
MARB, %	50

FIGURE 38. Reported results and evaluation parameters for Gross Beta in Sample 5.

TABLE 46. IC Evaluation Results for Gross Beta in Sample 5, Rep. Value and Rep. Unc. in Bq/kg

Labcode	Rep. Value	Rep. Unc.	Z-Score	Z-Score Evaluation
1	20.97	0.42	1.34	A
2	35.4	0.6	0.27	A
6	31.6	1.6	0.16	A
8	28.55	0.24	0.49	A
9	65.0	8.0	3.56	N
10	34.3	8.4	0.14	A
14	33.7	0.7	0.08	A
15	30.4	2.2	0.29	A
18	53.7	3.9	2.30	W
25	30.2	1.7	0.31	A
26	29.33	1.92	0.41	A
30	20.33	2.48	1.41	A
32	65.0	7.8	3.56	N
34	37.3	3.0	0.48	A
35	42.8	3.6	1.09	A
39	66.7	0.9	3.74	N
41	30.3	1.6	0.30	A
45	40	3.9	0.78	A
48	43.1	1.6	1.12	A
50	22.86	2.32	1.13	A
51	30.7	3	0.26	A

TABLE 46. IC Evaluation Results for Gross Beta in Sample 5, Rep. Value and Rep. Unc. in Bq/kg

Labcode	Rep. Value	Rep. Unc.	Z-Score	Z-Score Evaluation
55	29.9	3.1	0.34	A
58	34.96	8.88	0.22	A
59	25.5	1.33	0.83	A
60	15.3	5.6	1.97	A
61	19.71	0.71	1.48	A
63	30.3	0.6	0.30	A
66	56.2	1	2.58	W
69	41.9	2.16	0.99	A
73	50.5	1.5	1.94	A
76	21.8	0.8	1.24	A
78	34.6	0.39	0.18	A
79	38.1	2.8	0.57	A
84	35.21	2.5	0.25	A
88	31.7	1.8	0.14	A
90	25.15	6.8	0.87	A
98	39.0	3.7	0.67	A
99	45.7	8.3	1.41	A
100	35.67	18.19	0.30	A
101	46	7	1.44	A
102	27.0	0.4	0.67	A
103	28.99	4.35	0.45	A
108	16.4285	1.4584	1.84	A
111	17.4	4.0	1.73	A
112	27.5146	0.9536	0.61	A
113	10.56	0.39	2.49	W
116	27.1	3.7	0.66	A
117	24.51	2.38	0.94	A
120	32.3	2.8	0.08	A
123	36.9	0.6	0.43	A
135	40	1	0.78	A
136	31.07	0.90	0.21	A
137	37	1.12	0.44	A
148	33.55	0.47	0.06	A
150	26.2	0.4	0.76	A
151	23.0	3.5	1.11	A
153	19.4	2.1	1.51	A
154	33.9	1.5	0.10	A
156	37	6	0.44	A
157	27.93	0.99	0.56	A
164	33	2	0.00	A
169	40.22	1.83	0.80	A
171	37.50	4.50	0.50	A
172	22.2	3.1	1.20	A
181	32.35	0.16	0.07	A
183	43.83	2.27	1.20	A
186	35.1	1.9	0.23	A
189	30.0	7.7	0.33	A
190	50.6	10.1	1.96	A
193	17.4	1.7	1.73	A
195	34.4	5.86	0.16	A
197	19.7	1.2	1.48	A
200	29.76	1.73	0.36	A
201	34.9	3.5	0.21	A
202	26.38	1.73	0.74	A

TABLE 46. IC Evaluation Results for Gross Beta in Sample 5, Rep. Value and Rep. Unc. in Bq/kg

Labcode	Rep. Value	Rep. Unc.	Z-Score	Z-Score Evaluation
207	34	4	0.11	A
208	54.5	0.054	2.39	W
210	31.5	2.5	0.17	A
212	33.0	1.1	0.00	A
213	30.7	2.4	0.26	A
215	41.00	0.04	0.89	A
216	28.7	1.77	0.48	A
219	13.5	0.78	2.17	W
221	0.3	0.03	3.63	N
224	32	2	0.11	A
227	32.09	0.33	0.10	A
228	21.8	0.77	1.24	A
233	37.16	1.98	0.46	A
235	86.66	3.07	5.96	N
238	61.2	7.344	3.13	N
240	26.0	0.5	0.78	A
242	39.3	4.7	0.70	A
243	27.9	2.7	0.57	A
248	27.19	1.75	0.65	A
250	30.2	1.0	0.31	A
251	32.65	0.81	0.04	A
252	23.90	0.6	1.01	A
253	30.2	4.6	0.31	A
254	53	12	2.22	W
255	30.0	2.0	0.33	A
256	33.112	0.288	0.01	A
257	55.7	3.0	2.52	W
261	44.8	2.7	1.31	A
266	30.6	0.7	0.27	A
267	26.78	2.48	0.69	A
268	44.6	2.3	1.29	A
269	20.0	0.7	1.44	A
280	33.262	2.196	0.03	A
283	33	3.3	0.00	A
287	21.7	1.47	1.26	A
291	33	3	0.00	A
295	38.07	0.34	0.56	A
305	79.6		5.18	N
310	82.9	15	5.54	N
313	75.8	2.8	4.76	N
317	35.2		0.24	A
320	36.78	4.41	0.42	A
322	46.5	11.0	1.50	A
324	38.4	1.5	0.60	A

Reported Results for Pu-239 Determination in Sample 5

TABLE 47. Target values

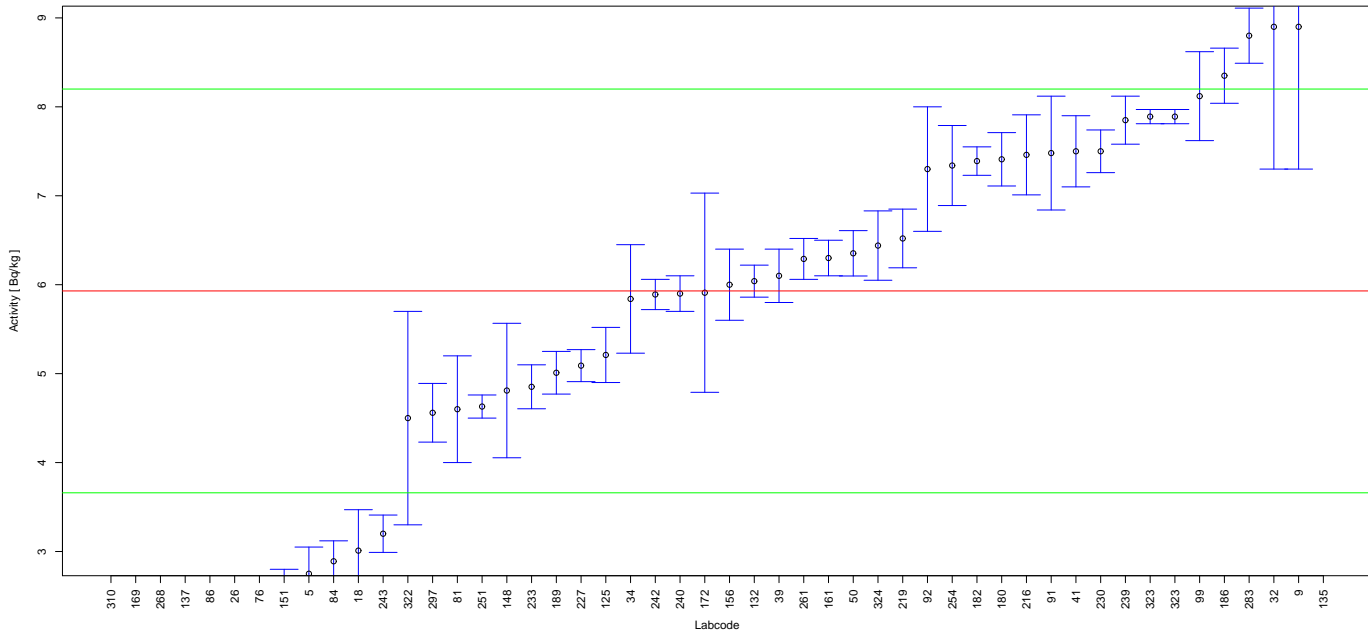| Parameter	Value
Robust Mean, Bq/kg	5.93
Robust SD, Bq/kg	2.27
MARB, %	25

FIGURE 39. Reported results and evaluation parameters for Pu-239 in Sample 5.

TABLE 48. IC Evaluation Results for Pu-239 in Sample 5, Rep. Value and Rep. Unc. in Bq/kg

Labcode	Rep. Value	Rep. Unc.	Z-Score	Z-Score Evaluation
5	2.75	0.3	1.40	A
9	8.9	1.6	1.31	A
18	3.01	0.46	1.29	A
26	2.24	0.02	1.63	A
32	8.9	1.6	1.31	A
34	5.84	0.61	0.04	A
39	6.1	0.3	0.07	A
41	7.5	0.4	0.69	A
50	6.353	0.255	0.19	A
76	2.358	0.178	1.57	A
81	4.6	0.6	0.59	A
84	2.89	0.23	1.34	A
86	2.0	0.25	1.73	A
91	7.48	0.64	0.68	A
92	7.3	0.7	0.60	A
99	8.12	0.5	0.96	A
125	5.21	0.31	0.32	A
132	6.04	0.18	0.05	A
135	10.9	0.3	2.19	W
137	1.6665	0.1467	1.88	A
148	4.81	0.756	0.49	A

TABLE 48. IC Evaluation Results for Pu-239 in Sample 5, Rep. Value and Rep. Unc. in Bq/kg

Labcode	Rep. Value	Rep. Unc.	Z-Score	Z-Score Evaluation
151	2.4	0.4	1.56	A
156	6.0	0.4	0.03	A
161	6.3	0.2	0.16	A
169	0.012	0.002	2.61	W
172	5.91	1.12	0.01	A
180	7.41	0.3	0.65	A
182	7.39	0.16	0.64	A
186	8.35	0.31	1.07	A
189	5.01	0.24	0.41	A
216	7.46	0.45	0.67	A
219	6.52	0.33	0.26	A
227	5.09	0.18	0.37	A
230	7.5	0.24	0.69	A
233	4.8520	0.2471	0.47	A
239	7.85	0.27	0.85	A
240	5.9	0.2	0.01	A
242	5.89	0.17	0.02	A
243	3.2	0.21	1.20	A
251	4.63	0.13	0.57	A
254	7.34	0.45	0.62	A
261	6.29	0.23	0.16	A
268	1.5	0.1	1.95	A
283	8.8	0.31	1.26	A
297	4.56	0.33	0.60	A
310	0.00764	0.00049	2.61	W
322	4.5	1.2	0.63	A
323	7.89	0.08	0.86	A
323	7.89	0.08	0.86	A
324	6.44	0.39	0.22	A

Reported Results for Am-241 Determination in Sample 5

TABLE 49. Target values

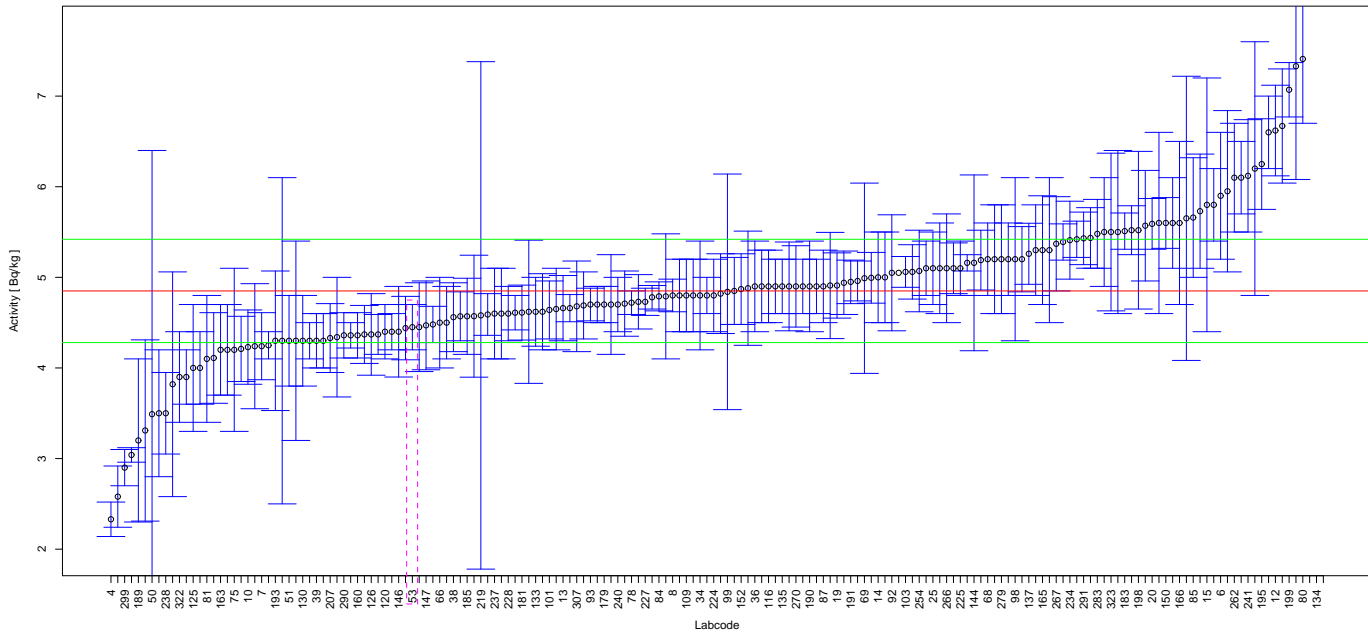| Parameter	Value
Robust Mean, Bq/kg	4.85
Robust SD, Bq/kg	0.57
MARB, %	30

FIGURE 40. Reported results and evaluation parameters for Am-241 in Sample 5.

TABLE 50. IC Evaluation Results for Am-241 in Sample 5, Rep. Value and Rep. Unc. in Bq/kg

Labcode	Rep. Value	Rep. Unc.	Z-Score	Z-Score Evaluation
2	5.5	0.6	1.14	A
3	4.6	0.5	0.44	A
4	2.33	0.19	4.42	N
6	5.9	0.7	1.84	A
7	4.24	0.37	1.07	A
8	4.80	0.18	0.09	A
9	5.5	0.9	1.14	A
10	4.23	0.41	1.09	A
11	4.73	0.30	0.21	A
12	6.62	0.5	3.11	N
13	4.66	0.36	0.33	A
14	5.0	0.5	0.26	A
15	5.8	1.4	1.67	A
16	6.2	1.4	2.37	W
18	5.20	0.60	0.61	A
19	4.91	0.36	0.11	A
20	5.59	0.28	1.30	A
21	4.34	0.66	0.89	A
22	4.3	0.3	0.96	A
25	5.1	0.4	0.44	A
26	3.31	1.00	2.70	W

TABLE 50. IC Evaluation Results for Am-241 in Sample 5, Rep. Value and Rep. Unc. in Bq/kg

Labcode	Rep. Value	Rep. Unc.	Z-Score	Z-Score Evaluation
31	5.57	0.61	1.26	A
32	5.3	0.8	0.79	A
34	4.8	0.6	0.09	A
36	4.9	0.5	0.09	A
38	4.56	0.38	0.51	A
39	4.3	0.3	0.96	A
41	4.7	0.2	0.26	A
45	4.9	0.4	0.09	A
46	7.33	1.25	4.35	N
50	3.49	2.91	2.39	W
51	4.3	0.5	0.96	A
52	4.48	0.20	0.65	A
53	4.45	0.25	0.70	A
56	4.37	0.22	0.84	A
59	4.8	0.4	0.09	A
64	5.3	0.5	0.79	A
66	4.5	0.5	0.61	A
68	5.2	0.4	0.61	A
69	4.99	1.05	0.25	A
70	5.95	0.89	1.93	A
74	4.8	0.4	0.09	A
75	4.2	0.9	1.14	A
78	4.72	0.13	0.23	A
80	7.41	0.71	4.49	N
81	4.1	0.7	1.32	A
84	4.79	0.16	0.11	A
85	5.66	0.66	1.42	A
87	4.9	0.4	0.09	A
92	5.05	0.64	0.35	A
93	4.70	0.18	0.26	A
96	4.9	0.3	0.09	A
98	5.2	0.9	0.61	A
99	4.84	1.3	0.02	A
101	4.64	0.32	0.37	A
102	5.8	0.4	1.67	A
103	5.06	0.17	0.37	A
105	4.36	0.14	0.86	A
107	3.04	0.08	3.18	N
109	4.8	0.4	0.09	A
111	6.1	0.4	2.19	W
113	5.6	0.5	1.32	A
116	4.9	0.4	0.09	A
120	4.4	0.3	0.79	A
121	4.70	0.55	0.26	A
123	3.9	0.3	1.67	A
124	4.0	0.4	1.49	A
125	4.0	0.7	1.49	A
126	4.37	0.45	0.84	A
129	4.8	0.2	0.09	A
130	4.3	0.5	0.96	A
133	4.62	0.38	0.40	A
134	37.25	7.25	56.84	N
135	4.90	0.3	0.09	A
137	5.26	0.337	0.72	A

TABLE 50. IC Evaluation Results for Am-241 in Sample 5, Rep. Value and Rep. Unc. in Bq/kg

Labcode	Rep. Value	Rep. Unc.	Z-Score	Z-Score Evaluation
139	4.5711	0.67289	0.49	A
144	5.16	0.97	0.54	A
146	4.4	0.5	0.79	A
147	4.47	0.49	0.67	A
148	4.91	0.586	0.11	A
149	4.66	0.15	0.33	A
150	5.60	0.28	1.32	A
152	4.87	0.39	0.04	A
153	4.69	0.37	0.28	A
154	4.3	1.8	0.96	A
156	4.62	0.79	0.40	A
157	4.24	0.69	1.07	A
160	4.36	0.25	0.86	A
161	5.6	1.0	1.32	A
162	4.62	0.42	0.40	A
163	4.2	0.5	1.14	A
164	4.9	0.3	0.09	A
165	5.3	0.6	0.79	A
166	5.6	0.9	1.32	A
169	4.96	0.22	0.19	A
171	4.11	0.50	1.30	A
172	3.5	0.7	2.37	W
177	35.7	5	54.12	N
179	4.7	0.2	0.26	A
180	4.94	0.35	0.16	A
181	4.611	0.303	0.42	A
182	6.67	0.63	3.19	N
183	5.51	0.2	1.16	A
184	5.39	0.20	0.95	A
185	4.57	0.42	0.49	A
186	5.73	0.63	1.54	A
187	124.4	0.3	209.74	N
189	3.2	0.9	2.89	W
190	4.9	0.5	0.09	A
191	4.95	0.24	0.18	A
193	4.3	0.77	0.96	A
195	6.25	0.50	2.46	W
196	4.85	0.37	0.00	A
197	4.57	0.27	0.49	A
198	5.52	0.87	1.18	A
199	7.07	0.30	3.89	N
205	4.9	0.3	0.09	A
207	4.33	0.38	0.91	A
209	4.9	0.49	0.09	A
211	4.82	0.44	0.05	A
212	5.52	0.27	1.18	A
213	5.2	0.4	0.61	A
219	4.58	2.8	0.47	A
223	4.65	0.45	0.35	A
224	4.8	0.4	0.09	A
225	5.1	0.3	0.44	A
227	4.73	0.15	0.21	A
228	4.6	0.3	0.44	A
230	4.995	0.28	0.25	A

TABLE 50. IC Evaluation Results for Am-241 in Sample 5, Rep. Value and Rep. Unc. in Bq/kg

Labcode	Rep. Value	Rep. Unc.	Z-Score	Z-Score Evaluation
231	5.651	1.568	1.41	A
232	5.4349	0.3340	1.03	A
233	4.78	0.13	0.12	A
234	5.41	0.43	0.98	A
237	4.6	0.5	0.44	A
238	3.5	0.45	2.37	W
239	4.37	0.32	0.84	A
240	4.7	0.3	0.26	A
241	6.12	0.62	2.23	W
242	5.1	0.3	0.44	A
246	2.58	0.338	3.98	N
248	4.71	0.36	0.25	A
249	4.21	0.36	1.12	A
250	4.4	0.2	0.79	A
251	4.3	1.1	0.96	A
254	5.07	0.45	0.39	A
255	4.2	0.5	1.14	A
256	4.61	0.19	0.42	A
257	6.6	0.4	3.07	N
261	4.79	0.69	0.11	A
262	6.1	0.6	2.19	W
263	4.88	0.63	0.05	A
266	5.1	0.6	0.44	A
267	5.37	0.52	0.91	A
268	4.59	0.23	0.46	A
270	4.90	0.449	0.09	A
274	4.5	0.4	0.61	A
275	4.44	0.35	0.72	A
279	5.2	0.6	0.61	A
281	4.3	0.2	0.96	A
283	5.48	0.38	1.11	A
287	5.42	0.2	1.00	A
289	5.0	0.5	0.26	A
290	4.36	0.25	0.86	A
291	5.43	0.29	1.02	A
299	2.9	0.2	3.42	N
305	4.45	0.49	0.70	A
307	4.68	0.5	0.30	A
310	5.06	0.3	0.37	A
312	4.25	0.15	1.05	A
313	5.1	0.28	0.44	A
314	5.19	0.33	0.60	A
317	5.05		0.35	A
320	3.82	1.24	1.81	A
321	5.2	0.36	0.61	A
322	3.9	0.5	1.67	A
323	5.50	0.87	1.14	A
324	5.16	0.09	0.54	A
325	5.1	0.5	0.44	A

Reported Results for Cm-244 Determination in Sample 5

TABLE 51. Target values

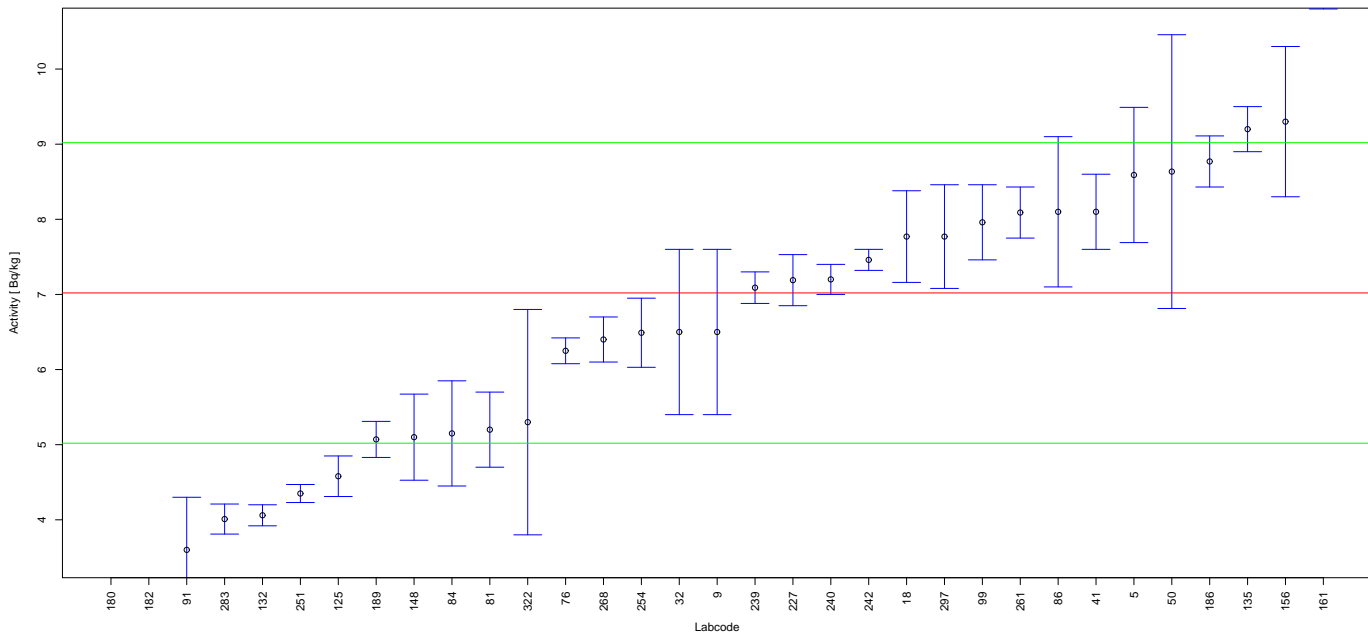| Parameter	Value
Robust Mean, Bq/kg	7.02
Robust SD, Bq/kg	2
MARB, %	25

FIGURE 41. Reported results and evaluation parameters for Cm-244 in Sample 5.

TABLE 52. IC Evaluation Results for Cm-244 in Sample 5, Rep. Value and Rep. Unc. in Bq/kg

Labcode	Rep. Value	Rep. Unc.	Z-Score	Z-Score Evaluation
5	8.59	0.9	0.79	A
9	6.5	1.1	0.26	A
18	7.77	0.61	0.38	A
32	6.5	1.1	0.26	A
41	8.1	0.5	0.54	A
50	8.635	1.822	0.81	A
76	6.2496	0.1717	0.39	A
81	5.2	0.5	0.91	A
84	5.15	0.7	0.93	A
86	8.1	1	0.54	A
91	3.6	0.7	1.71	A
99	7.96	0.5	0.47	A
125	4.58	0.27	1.22	A
132	4.06	0.14	1.48	A
135	9.2	0.3	1.09	A
148	5.10	0.573	0.96	A
156	9.3	1.0	1.14	A
161	11.4	0.6	2.19	W
180	1.53	0.16	2.74	W
182	1.56	0.08	2.73	W
186	8.77	0.34	0.88	A

TABLE 52. IC Evaluation Results for Cm-244 in Sample 5, Rep. Value and Rep. Unc. in Bq/kg

Labcode	Rep. Value	Rep. Unc.	Z-Score	Z-Score Evaluation
189	5.07	0.24	0.97	A
227	7.19	0.34	0.09	A
239	7.09	0.21	0.04	A
240	7.2	0.2	0.09	A
242	7.46	0.14	0.22	A
251	4.35	0.12	1.33	A
254	6.49	0.46	0.26	A
261	8.09	0.34	0.54	A
268	6.4	0.3	0.31	A
283	4.01	0.2	1.50	A
297	7.77	0.69	0.38	A
322	5.3	1.5	0.86	A

Reported Results for Gross Alpha Determination in Sample 7

TABLE 53. Target values

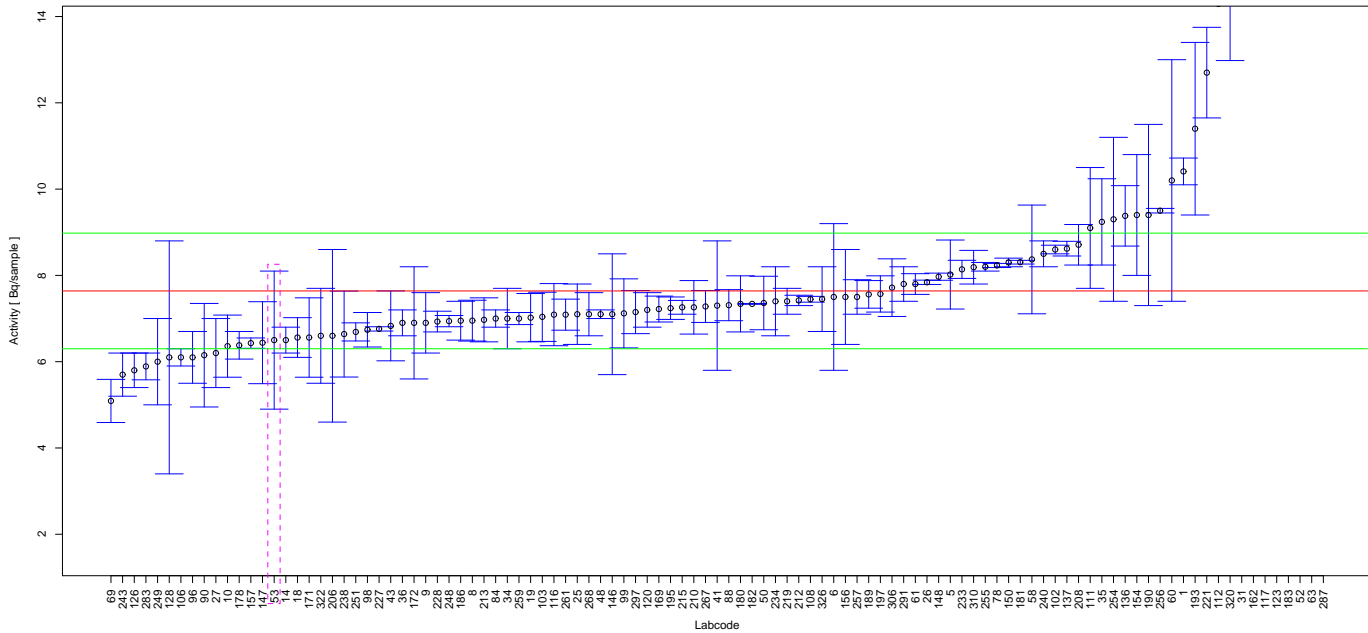| Parameter	Value
Robust Mean, Bq/sample	7.64
Robust SD, Bq/sample	1.34
MARB, %	40

FIGURE 42. Reported results and evaluation parameters for Gross Alpha in Sample 7.

TABLE 54. IC Evaluation Results for Gross Alpha in Sample 7, Rep. Value and Rep. Unc. in Bq/sample

Labcode	Rep. Value	Rep. Unc.	Z-Score	Z-Score Evaluation
1	10.41	0.31	2.07	W
5	8.02	0.8	0.28	A
6	7.5	1.7	0.10	A
8	6.951	0.4733	0.51	A
9	6.9	0.7	0.55	A
10	6.36	0.72	0.96	A
14	6.5	0.3	0.85	A
18	6.56	0.46	0.81	A
19	7.02	0.56	0.46	A
25	7.1	0.7	0.40	A
26	7.84	0.05	0.15	A
27	6.2	0.8	1.07	A
31	15.22	0.027	5.66	N
34	7.0	0.7	0.48	A
35	9.24	1.0	1.19	A
36	6.9	0.3	0.55	A
41	7.3	1.5	0.25	A
43	6.83	0.81	0.60	A
48	7.1	0.1	0.40	A
50	7.36	0.62	0.21	A
52	23.6	2.0	11.91	N

TABLE 54. IC Evaluation Results for Gross Alpha in Sample 7, Rep. Value and Rep. Unc. in Bq/sample

Labcode	Rep. Value	Rep. Unc.	Z-Score	Z-Score Evaluation
53	6.5	1.6	0.85	A
58	8.37	1.26	0.54	A
60	10.2	2.8	1.91	A
61	7.80	0.24	0.12	A
63	37.42	0.58	22.22	N
69	5.09	0.50	1.90	A
78	8.23	0.048	0.44	A
84	7	0.2	0.48	A
88	7.31	0.36	0.25	A
90	6.15	1.2	1.11	A
96	6.1	0.6	1.15	A
98	6.74	0.40	0.67	A
99	7.12	0.8	0.39	A
102	8.6	0.1	0.72	A
103	7.04	0.57	0.45	A
106	6.1	0.2	1.15	A
108	7.4469	0.06702	0.14	A
111	9.1	1.4	1.09	A
112	14.2924	0.0212	4.96	N
116	7.09	0.72	0.41	A
117	16.19	1.52	6.38	N
120	7.2	0.4	0.33	A
123	16.3	0.2	6.46	N
126	5.8	0.4	1.37	A
128	6.1	2.7	1.15	A
136	9.38	0.70	1.30	A
137	8.62	0.17	0.73	A
146	7.1	1.4	0.40	A
147	6.44	0.95	0.90	A
148	7.97	0.0828	0.25	A
150	8.3	0.1	0.49	A
154	9.4	1.4	1.31	A
156	7.5	1.1	0.10	A
157	6.43	0.12	0.90	A
162	15.43	0.13	5.81	N
169	7.22	0.30	0.31	A
171	6.56	0.92	0.81	A
172	6.9	1.3	0.55	A
178	6.38	0.32	0.94	A
180	7.34	0.65	0.22	A
181	8.306	0.043	0.50	A
182	7.34	0.01	0.22	A
183	17.64	0.8	7.46	N
186	6.95	0.45	0.51	A
189	7.56	0.32	0.06	A
190	9.40	2.10	1.31	A
193	11.4	2	2.81	W
195	7.24	0.26	0.30	A
197	7.57	0.42	0.05	A
206	6.6	2.0	0.78	A
208	8.71	0.47	0.80	A
210	7.26	0.62	0.28	A
212	7.42	0.12	0.16	A
213	6.97	0.51	0.50	A

TABLE 54. IC Evaluation Results for Gross Alpha in Sample 7, Rep. Value and Rep. Unc. in Bq/sample

Labcode	Rep. Value	Rep. Unc.	Z-Score	Z-Score Evaluation
215	7.26	0.16	0.28	A
219	7.4	0.30	0.18	A
221	12.7	1.05	3.78	N
227	6.76	0.05	0.66	A
228	6.93	0.24	0.53	A
233	8.14	0.21	0.37	A
234	7.4	0.8	0.18	A
238	6.64	0.996	0.75	A
240	8.5	0.3	0.64	A
243	5.7	0.5	1.45	A
248	6.94	0.13	0.52	A
249	6	1	1.22	A
251	6.69	0.21	0.71	A
254	9.3	1.9	1.24	A
255	8.2	0.1	0.42	A
256	9.500	0.053	1.39	A
257	7.5	0.4	0.10	A
259	7.0	0.14	0.48	A
261	7.09	0.36	0.41	A
267	7.28	0.37	0.27	A
268	7.1	0.5	0.40	A
283	5.89	0.31	1.31	A
287	135.45	3.66	95.38	N
291	7.8	0.4	0.12	A
297	7.15	0.5	0.37	A
306	7.716	0.668	0.06	A
310	8.19	0.39	0.41	A
320	15.08	2.1	5.55	N
322	6.6	1.1	0.78	A
326	7.45	0.75	0.14	A

Reported Results for Gross Beta Determination in Sample 7

TABLE 55. Target values

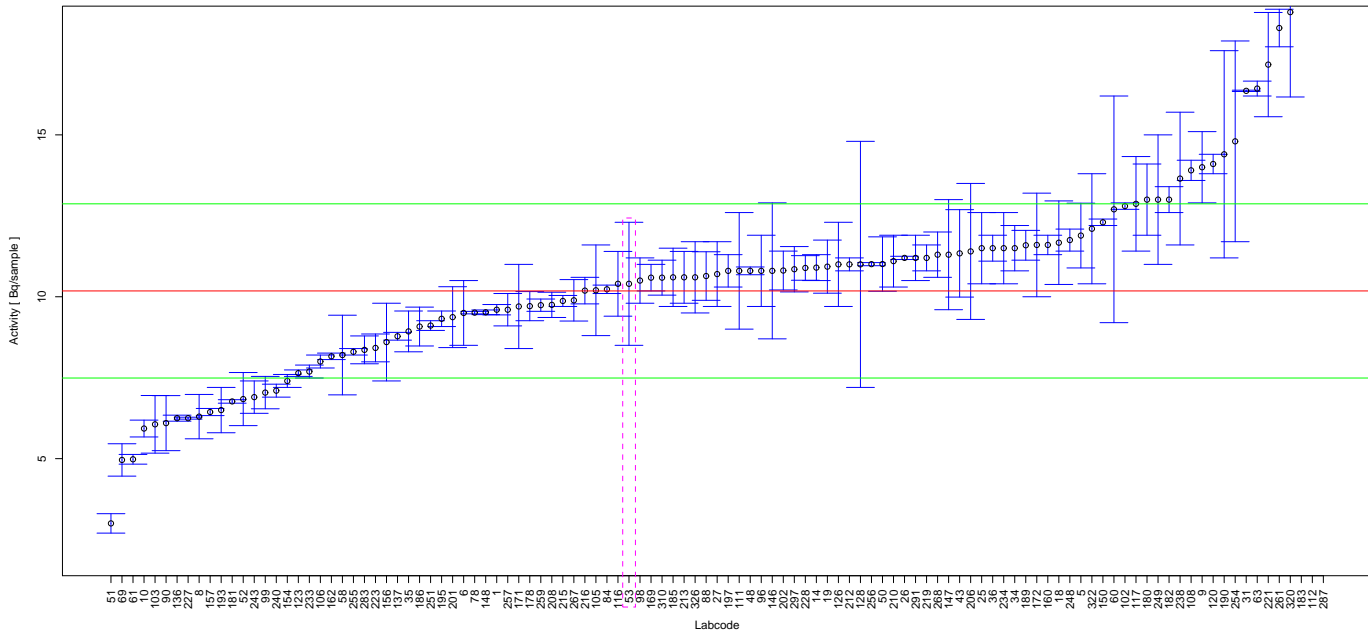| Parameter	Value
Robust Mean, Bq/sample	10.18
Robust SD, Bq/sample	2.69
MARB, %	40

FIGURE 43. Reported results and evaluation parameters for Gross Beta in Sample 7.

TABLE 56. IC Evaluation Results for Gross Beta in Sample 7, Rep. Value and Rep. Unc. in Bq/sample

Labcode	Rep. Value	Rep. Unc.	Z-Score	Z-Score Evaluation
1	9.60	0.16	0.22	A
5	11.89	1	0.64	A
6	9.5	1	0.25	A
8	6.298	0.685	1.44	A
9	14	1.1	1.42	A
10	5.93	0.26	1.58	A
14	10.9	0.4	0.27	A
18	11.67	1.29	0.55	A
19	10.93	0.82	0.28	A
25	11.5	1.1	0.49	A
26	11.20	0.05	0.38	A
27	10.7	1	0.19	A
31	16.36	0.02	2.30	W
34	11.5	0.7	0.49	A
35	8.93	0.63	0.46	A
36	11.5	0.4	0.49	A
43	11.34	1.35	0.43	A
48	10.8	0.12	0.23	A
50	11.01	0.84	0.31	A
51	3.0	0.3	2.67	W
52	6.84	0.82	1.24	A

TABLE 56. IC Evaluation Results for Gross Beta in Sample 7, Rep. Value and Rep. Unc. in Bq/sample

Labcode	Rep. Value	Rep. Unc.	Z-Score	Z-Score Evaluation
53	10.4	1.9	0.08	A
58	8.20	1.23	0.74	A
60	12.7	3.5	0.94	A
61	4.98	0.15	1.93	A
63	16.43	0.23	2.32	W
69	4.96	0.50	1.94	A
78	9.51	0.038	0.25	A
84	10.23	0.13	0.02	A
88	10.64	0.75	0.17	A
90	6.097	0.85	1.52	A
96	10.8	1.1	0.23	A
98	10.5	0.7	0.12	A
99	7.04	0.5	1.17	A
102	12.8	0.1	0.97	A
103	6.06	0.89	1.53	A
105	10.2	1.4	0.01	A
106	8.0	0.2	0.81	A
108	13.90406	0.3124	1.38	A
111	10.8	1.8	0.23	A
112	42.4124	0.1718	11.98	N
116	10.4	1.0	0.08	A
117	12.87	1.46	1.00	A
120	14.1	0.3	1.46	A
123	7.64	0.10	0.94	A
126	11.0	1.3	0.30	A
128	11.0	3.8	0.30	A
136	6.25	0.093	1.46	A
137	8.78	0.12	0.52	A
146	10.8	2.1	0.23	A
147	11.3	1.7	0.42	A
148	9.52	0.0719	0.25	A
150	12.3	0.1	0.79	A
154	7.4	0.2	1.03	A
156	8.6	1.2	0.59	A
157	6.44	0.11	1.39	A
160	11.6	0.3	0.53	A
162	8.16	0.10	0.75	A
169	10.59	0.41	0.15	A
171	9.70	1.30	0.18	A
172	11.6	1.6	0.53	A
178	9.71	0.45	0.17	A
180	13.0	1.1	1.05	A
181	6.767	0.054	1.27	A
182	13.0	0.40	1.05	A
183	27.6	0.8	6.48	N
185	10.6	0.9	0.16	A
186	9.08	0.60	0.41	A
189	11.59	0.46	0.52	A
190	14.4	3.2	1.57	A
193	6.5	0.7	1.37	A
195	9.32	0.24	0.32	A
197	10.8	0.5	0.23	A
201	9.37	0.94	0.30	A
202	10.81	0.60	0.23	A

TABLE 56. IC Evaluation Results for Gross Beta in Sample 7, Rep. Value and Rep. Unc. in Bq/sample

Labcode	Rep. Value	Rep. Unc.	Z-Score	Z-Score Evaluation
206	11.4	2.1	0.45	A
208	9.75	0.39	0.16	A
210	11.1	0.8	0.34	A
212	11.0	0.2	0.30	A
213	10.6	0.8	0.16	A
215	9.87	0.17	0.12	A
216	10.19	0.41	0.00	A
219	11.2	0.40	0.38	A
221	17.17	1.61	2.60	W
223	8.42	0.43	0.65	A
227	6.25	0.03	1.46	A
228	10.89	0.38	0.26	A
233	7.69	0.20	0.93	A
234	11.5	1.1	0.49	A
238	13.65	2.05	1.29	A
240	7.1	0.2	1.14	A
243	6.9	0.5	1.22	A
248	11.75	0.34	0.58	A
249	13	2	1.05	A
251	9.11	0.15	0.40	A
254	14.8	3.1	1.72	A
255	8.3	0.1	0.70	A
256	11.007	0.048	0.31	A
257	9.6	0.5	0.22	A
259	9.74	0.19	0.16	A
261	18.3	0.58	3.02	N
267	9.89	0.64	0.11	A
268	11.3	0.7	0.42	A
283	8.36	0.43	0.68	A
287	256.6	5.11	91.61	N
291	11.2	0.7	0.38	A
297	10.85	0.7	0.25	A
310	10.59	0.54	0.15	A
320	18.79	2.62	3.20	N
322	12.1	1.7	0.71	A
326	10.6	1.1	0.16	A

5 References

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