

Exercise Summary

**NPL Environmental Radioactivity Proficiency Test
Exercise 2007 Workshop**

Arvic Harms

19 September 2007

Summary

2007

8 sample types

65 participants (32 UK and 33 overseas)

1295 results (1159 PTE results and 136 C results)

70% of the PTE results were in agreement

2005

5 sample types

48 participants (28 UK and 20 overseas)

858 results

72% of the PTE results were in agreement

PTE results in agreement (%)

<u>2007</u>		Proportion
Total	70	
2005 participants	72	69%
New participants	64	31%
UK	71	56%
Overseas	67	44%

<u>2005</u>		
Total	72	
2007 participants	71	85%
“Lost” participants	80	15%
UK	70	64%
Overseas	75	36%

Still problems with coincidence summing corrections:

Ba-133, Cs-134 and Eu-152 (mean/median values up to 8% too low)

Still problematic Nb-95 decay corrections: (only 29% and 46% of the results are 'in agreement' for GL and GH, respectively)

Was OBT (tritiated thymidine) in B2 samples unstable and converted into a volatile tritium compound?

One C sample (kept at NPL) proved to be inhomogeneous (Eu-152 / Eu-154 hot-particle)

Some Cm-244 results suggest a chemical separation from its Am-243 yield tracer

Individual results in agreement (excluding C samples)

Lab 3	3 / 6	Lab 17	11 / 22
Lab 4	4 / 26	Lab 18	10 / 10
Lab 5	21 / 27	Lab 19	9 / 11
Lab 7	22 / 26	Lab 21	24 / 29
Lab 8	34 / 45	Lab 22	30 / 34
Lab 9	9 / 10	Lab 23	9 / 10
Lab 13	26 / 29	Lab 25	24 / 33
Lab 14	13 / 17	Lab 26	12 / 15
Lab 15	17 / 20	Lab 27	11 / 20
Lab 16	9 / 12	Lab 28	32 / 39

Individual results in agreement (%); excluding C samples

Lab 29	4 / 15	Lab 45	9 / 10
Lab 30	9 / 17	Lab 46	22 / 23
Lab 32	25 / 27	Lab 47	29 / 36
Lab 34	19 / 25	Lab 48	5 / 10
Lab 35	21 / 38	Lab 52	20 / 20
Lab 38	21 / 29	Lab 53	20 / 21
Lab 39	11 / 12	Lab 54	16 / 20
Lab 40	7 / 24	Lab 55	17 / 23
Lab 41	10 / 16	Lab 56	2 / 12
Lab 42	12 / 14	Lab 58	1 / 10

Individual results in agreement (%); excluding C samples

Lab 59	10 / 10	Lab 73	32 / 38
Lab 61	7 / 20	Lab 74	5 / 16
Lab 62	9 / 10	Lab 75	14 / 18
Lab 65	15 / 17	Lab 76	9 / 12
Lab 66	9 / 37	Lab 77	9 / 10
Lab 67	9 / 10	Lab 78	2 / 6
Lab 68	17 / 21	Lab 79	7 / 10
Lab 69	1 / 1	Lab 80	6 / 10
Lab 71	4 / 5	Lab 81	9 / 11
Lab 72	8 / 11	Lab 82	17 / 20

Individual results in agreement (%); excluding C samples

Lab 83	2 / 20
Lab 84	3 / 10
Lab 85	4 / 12
Lab 86	16 / 20
Lab 87	13 / 20

Thank you