

Version 1
3rd March 2025

www.npl.co.uk/products-services/radioactivity/environmental-pte

Dear Participant,

NPL ENVIRONMENTAL RADIOACTIVITY PROFICIENCY TEST EXERCISE 2024/25– SAMPLE AND REPORTING INFORMATION

Thank you for participating in the 2024/25 Environmental Radioactivity Proficiency Test Exercise (PTE). Please treat the proficiency test samples in the same manner as the majority of the samples you routinely measure. If you are using the exercise for method development or validation, please state this when submitting results so that this may be considered.

Electronic Reporting Forms can be found on the NPL website at:

<https://www.npl.co.uk/products-services/radioactivity/environmental-pte>

Please ensure that your reporting units are:

Bq g⁻¹ for AB, B1 and GH
Bq kg⁻¹ for A1 and GL

Please adhere to the following rules when entering data into the Reporting Form:

- Enter your Laboratory Code (not the name of your organisation) in the cell indicated – if you have not been allocated a Laboratory Code, please contact NPL;
- Enter Activity per Unit Mass and Uncertainties as numerical values only – **do not type in the units – these are included automatically**;
- If you do not wish to submit a value for a particular radionuclide, **do not delete the zeros from the cell** (our analysis program reads zero as 'no data submitted');
- Do not edit or modify the form in any way, as this may result in data not being included in the final data evaluations.

Please return the completed Reporting Forms to pte@npl.co.uk by **30th of June 2025**. A procedure enabling you to appeal against the assessment of your performance is available.

Please do not disclose your measurement results to third parties until the final version of the NPL report has been issued.

REFERENCE DATE

Activity per unit mass should be reported with a reference date of **2024-06-01 12:00 UTC**. The date is stated in the format YYYY-MM-DD.

FURTHER INFORMATION

The PTE items for this exercise will be produced by gravimetric dilutions of NPL standards which are validated by radiometric dilution checking. The Assigned Value for each radionuclide is calculated from the division of the standardised activity per unit mass of the original standard solution by the validated dilution factor(s). In most instances, the activities per unit mass of the radionuclides in the aqueous sample types are traceable to national standards of radioactivity, and therefore to the international measurement system.

In the instance that values are assigned, participants' results will be analysed to provide the deviation, and the associated standard uncertainty, from the NPL assigned value. It is expected that assigned values will be provided for all individual radionuclides listed in the "Sample Types" table.

Specific information on determination of the assigned value and how performance is evaluated will be detailed in the associated NPL report.

Any queries, or requests for additional information should be emailed to PTE@npl.co.uk

TIMETABLE

The timetable for the 2024/25 NPL Environmental PTE is as follows:

Deadline for submission of results	30th of June 2025
Report to be issued	September 2025
Workshop 2024-25	November (Provisional)

SAMPLE TYPES

Sample Type*	Radionuclides	Activity per Unit Mass Range
Alpha Beta (AB)	H-3, Ni-63, Sr-90, U-238 in 10 ppm Ni, Sr and Mo in 2 M HNO ₃	1-20 Bq g ⁻¹
Alpha One (A1)	Np-237, U-238, Am-241 in 10 ppm Nb, Mo and La in 2 M HNO ₃	5-100 Bq kg ⁻¹
Beta One (B1)	H-3, C-14, Tc-99 in 0.01 M NaOH and 10 ppm Na ₂ CO ₃ and 0.5 M NaOH	0.1-1 Bq g ⁻¹

Gamma High (GH)	Mn-54, Co-57, Zn-65, Ba-133, Cs-137 in 1 M HNO ₃ with 10 ppm Mn, Co, Zn, Ba and Cs	1-50 Bq g ⁻¹
Gamma Low (GL)	Y-88, Ce-139, Pb-210 and Am-241 in 1 M HNO ₃ with 10 ppm Ce, Pb and La	1-50 Bq kg ⁻¹

*Please note all samples are provided in HDPE bottles.

We hope you will decide to participate, and we look forward to another useful exercise.

It may be that there are other radionuclides measurable in samples. These are not reportable nuclides and do not appear on the reporting form.

We look forward to receiving your results.

Yours faithfully,

Elsje van Es

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(Co-ordinator of NPL's Environmental Radioactivity PTE)