

Version 1
11th of August, 2022

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

Dear Colleague,

NPL ENVIRONMENTAL RADIOACTIVITY PROFICIENCY TEST EXERCISE 2022

I am pleased to inform you that the 2022 NPL Environmental Radioactivity Proficiency Test Exercise (PTE) is about to begin. This is the 28th in a series of similar exercises carried out by NPL since 1989. The exercises are designed to help users identify analytical problems and to support accreditation. The Nuclear Metrology Group at NPL is UKAS-accredited to ISO:IEC 17043:2010 to conduct these exercises.

There are five sample types in this year's exercise, described overleaf. All are solutions prepared from standardised single-nuclide solutions traceable to national standards of radioactivity.

Participants are requested not to discuss their results with third parties until the reporting deadline (see overleaf) has passed. An exercise report will be drafted in June 2023 for comments and will be emailed to all participants. A final version will be published in July 2023 and will be disseminated to the participants by email and will also be available on the NPL website. Also, NPL will be hosting a post-exercise forum at 'CARM 2023' (scheduled for November 2023) at which the results will be presented and discussed. Note that all submitted results will be treated in confidence and will be coded in the final report.

The Participation Fee for the PTE is £325. Additionally, there is a charge of £600 for each sample ordered. Dispatch costs will be advised; any sites requiring special arrangements for delivery must advise on the Enquiry Form and will be charged accordingly. Full charges including dispatch costs will be confirmed by an NPL Quotation on receipt of a completed Enquiry Form.

If you decide to participate, it would be helpful if you could ensure your official purchase order is issued as early as possible after receipt of our quotation in order to avoid any delays in getting the samples to you. **Please note that any orders for Sample Type A1 from overseas laboratories will require an export license.**

Further Information

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

TIMETABLE

The timetable for the 2022 NPL Environmental PTE is as follows:

| | |
|------------------------------------|--|
| Please order samples by | 1 st October 2022 |
| Dispatch of samples | 1 st November 2022 to 31 st January 2023 |
| Deadline for submission of results | 31 st May 2023 |
| Report to be issued | July 2023 |
| Discussion forum at CARM | November 2023 (Provisional) |

SAMPLE TYPES

| Sample Type* | Radionuclides | Activity Concentration Range |
|-----------------|---|------------------------------|
| Alpha Beta (AB) | ³ H, ⁶³ Ni, ⁹⁰ Sr, and ²³⁸ Pu in 20 g of 2 M HNO ₃ (with 10 ppm Ni, Sr and Ce) | 1-20 Bq g ⁻¹ |
| Alpha One (A1) | ²³⁸ U (as U-Nat), ²⁴¹ Am and ²⁴⁴ Cm in 500 g of 2 M HNO ₃ (with 10 ppm La, Mo and Zr) | 1-25 Bq kg ⁻¹ |
| Beta One (B1) | ³ H, ¹⁴ C and ¹²⁹ I in 500 g of 0.01 M NaOH (10 ppm Na ₂ CO ₃) | 0.1-1 Bq g ⁻¹ |
| Gamma High (GH) | ⁶⁰ Co, ⁸⁸ Y, ¹³³ Ba, ¹³⁷ Cs and ¹³⁹ Ce in 100 g of 1 M HNO ₃ (with 10 ppm Co, Y, Ba, Cs and Ce) | 1-50 Bq g ⁻¹ |
| Gamma Low (GL) | ⁵⁴ Mn, ⁶⁵ Zn, ¹³⁴ Cs, ²¹⁰ Pb and ²⁴¹ Am in 500 g of 1 M HNO ₃ (with 10 ppm Mn, Zn, Cs, 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.

Yours faithfully,



Elsje van Es

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