ID: Type: **Poster**

-Gamma Coincidence Analysis of the 2015 Proficiency Test Exercise (PTE)

As part of regular laboratory operations, GBL15 (the UK CTBTO certified radionuclide laboratory) participates in annual Proficiency Test Exercises (PTEs) organised by the CTBTO. GBL15 consistently achieves the top 'A' grade in these exercises using dedicated HPGe detector systems; to achieve the sensitivity required these are specifically designed to use low-background materials, and are further enclosed within advanced passive and active shielding [1]. GBL15 also has a research system that is based on two high-efficiency HPGe detectors collocated in a single shield, currently capable of measuring and quantifying X-ray-gamma and gamma-gamma signals[2-4]. By measuring cascades of gamma radiation, the background is dramatically lowered, greatly increasing the sensitivity of the system. This poster describes the use of this system to conduct a PTE, and compares the results to a standard analysis. 1. Burnett J, Davies A, (2013) J Radioanal Nucl Chem 298-2, 987-992 2. Britton R, Burnett J, Davies A, Jackson M, (2015) J Environ Radioact 146, 1-5 3. Britton R, Jackson M, Davies A, (2015) J Environ Radioact 149, 158-163 4. Britton R, Jackson M, Davies A, (2016) J App Rad Isot 116, 128–133

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