Contribution ID : **30** Type : **Oral Presentation**

Characterisation of the UK cement backfill material pre- and post- groundwater leaching experiments

Thursday, 2 November 2017 14:00 (15)

In the UK, the volume of intermediate level waste (ILW) requiring final disposal in a geological disposal facility, is almost 450,000 m3. In one of the UK conceptual scenarios for the geological disposal facility in a high-strength crystalline rock, the vaults will be backfilled with a cement-based material, known as Nirex Reference Vault Backfill (NRVB). This material will provide a physical and chemical barrier to radionuclide release to the environment. Over the expected long lifetime performance of a cementitious backfill material, NRVB will age and alter, specifically due to interactions with groundwater. Understanding how these interactions will affect the properties of this material is of crucial importance for the development of a robust safety case for the geological disposal facility. We here present the results of a detailed characterisation of NRVB pre- and post- groundwater leaching experiments, using three different types of groundwater (granitic, clay and saline groundwater), as analysed using conventional and advanced (e.g. tomography, synchrotron XRD) techniques.

Summary

Primary author(s) : Ms VASCONCELOS, Rita (University of Sheffield)

Co-author(s) : Dr CORKHILL, Claire (University of Sheffield); Prof. PROVIS, John (University of Sheffield); Prof. HYATT, Neil (University of Sheffield)

Presenter(s) : Ms VASCONCELOS, Rita (University of Sheffield)

Session Classification : Repositories & Geological Disposal

Track Classification : National and international collaborative waste management programs