Bentonite Homogenisation: Development of the Design Basis

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Issues to be Resolved

• Bentonite used in a wide range of applications in disposal systems

• Homogeneity of bentonite needed in each system may differ, experimentalists and engineers need to be guided on the needs of the post-closure safety case – what are the requirements on homogeneity and how can they be related to technical feasibility?
  - homogenisation, development of heterogeneity, tolerability in the safety case

Nagra FE Experiment, Köhler et al. (2015)

Andra FSS Experiment, Foin et al. (2015)
Current Work

- DOPAS Project has developed an approach for integrating the design basis with performance assessment, full-scale testing and engineering design.
Proposed Work and Resources for a Joint Project

- Review current designs, design basis and modelling approaches for bentonite systems focusing on requirements on homogeneity (6MM)
- Work collaboratively with WMO representatives to further develop requirements / design basis hierarchies for bentonite systems (6MM)
- Undertake scoping performance assessment calculations to understand the impact of heterogeneity (12MM)
- Use results of scoping calculations and compliance evaluation based on wider project results to refine and revise design basis (6MM)
- Galson Sciences would look to work collaboratively with waste management organisations
References
