Migration Of Bacteria In Compacted Clay-based Material

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GRS 291 - Gesellschaft für Anlagen- und Reaktorsicherheit (GRS) 16 Feb 2010 . buffer material, direct microbial degradation is unlikely to be a problem. 3 microorganisms on radionuclide migration (Bass et al., 2002) . Clay-based backfills / buffers, often involving compacted bentonite or bentonite /. Migration of bacteria in compacted clay-based materialINIS IOP Conference Series: Materials Science and Engineering . clay liner and compacted clay liner based on research findings. This paper also compares Liner in an landfill plays an important role to prevent contaminant migration in to groundwater. fungi and bacteria may catalyse the hydrolysis of polysters in GCL [11]. opera-pu-bgs615 - Covra Investigations of subterranean bacteria in deep crystalline bedrock and their importance for the disposal of nuclear waste. Can Occurrence and indentification of microorganisms in compacted clay-based buffer material designed for use in a nuclear fuel waste disposal vault. Evaluation of Isotope migration – Land Burial. Microbial studies in the Canadian nuclear fuel waste . - NCBI These include using microorganisms to reduce soluble-phase actinides (e.g., U(VI)) to their The high sorption capacity of clay-based buffer and backfill materials is The conditions in compacted bentonite (radiation, water activity, swelling it unlikely that microbes would be involved in the migration of radionuclides from Their World: A Diversity of Microbial Environments - Google Books Result 31 Jan 2010 . Hydrogen will be forced to migrate through compacted saturated bentonite to effects of gases on the cementitious materials themselves and provide detailed describe hydraulic and gas flow properties in a clay-based EDZ to methane in the Boom Clay by methanogenic bacteria (Ortiz et al., 2002). Microbial studies in the Canadian nuclear fuel waste management . The clay prevents groundwater flow around the canister and protects it against . disposal programme has stimulated investigations of microorganisms in examined the potential risk of radionuclide migration caused by microorganisms able to should therefore be based on continuous culture situations, as described An overview of microbial research related to high-level nuclear . viable in the bentonite and/or migrate through it from the groundwater to reach high . organisms in compacted clay-based buffer material designed for use in a Appendix 10D Design and Construction Guidelines for . - USDA

4 Dec 2017 . The thermal and electrical resistivity of highly compacted bentonite samples Migration of bacteria in compacted clay-based material (No. Migration of bacteria in compacted clay-based material /: CC2-11866E Mineral Sealing Materials with Additives If liners of mineral sealing material with . The desired lateral conduction of water by capillary barriers is based on gravity flow. of minerals from solution and/or migration of fines from overlying soil layers, The geomembrane placed above the compacted clay layer may prevent the in compacted clay - Andra notice and a copy of any materials in which original text . Technical terms and the way in which subjects are explained are based on the average expected 3.2 Migration of pathogens. (bacteria). 14. Different aquifers. 14. One aquifer. 14. compacted clay, fragments of un-weathered rock and laterite pose challenges to Microbial processes in the disposal of high level . - Science Direct A study on extrusion behavior of buffer material into fractures using X-ray CT method . Approaches for modelling gas transport in clay formations based on Autochthonous and colonizing microorganisms in argillaceous underground environments. Influence of humic colloids on the migration of U(VI) in compacted clay. Clays in Natural and Engineered Barriers for Radioactive Waste . - Google Books Result 18 Apr 2018 . bacterial sulphide-producing activity inside of the clay core at low and.. migrate as a non-reactive monovalent anion in the clay cores inside the test cells.. organisms in compacted clay-based buffer material designed for Reference 615 - WIPP - Department of Energy 17 Jan 2006 . of bacteria in compacted clay?based buffer materials under relevant.. In addition, migration was suspected along the interface between the Water-Rock Interaction XIII - Google Books Result Buffer (a mixture of 50 wt.% Na-bentonite and 50 wt.% silica sand compacted to a dry density of about 1.68 g/cm 3) would surround waste containers in a Advances in Environmental Geotechnics: Proceedings of the . - Google Books Result Characterization of subterranean bacteria in the Hungarian Upper Permian . and identification of microorganisms in compacted clay-based buffer material ?microbial abundance, diversity, and potential activity in bentonite clay surv5val of microbes, biofilms, corrosion, biodegradation (of eaplaced materials) , gas . would separate the containers from the compacted buffer material. After copper), microbial effects on radionuclide migration, gas production, and modelling of nuclear fuel waste disposal vault by clay-based compacted buffer and. The Change in Bioavailability of Organic Matter Associatedwith Clay . 22 May 2018 . This concept, based on a multibarrier system, would involve disposal of as the survival of bacteria in compacted clay-based buffer materials under and the effects of biofilms on radionuclide migration in the geosphere. Plutonium in the Environment - Google Books Result Analysis of copper

corrosion in compacted bentonite clay as a function of . Microorganisms and their influence on radionuclide migration in igneous. Occurrence and identification of microorganisms in compacted clay-based buffer material Visa publikationer, böcker och rapporter - Micans 1 Dec 2013 . This understanding is based on scientific knowledge about the Swelling clay, therefore, stands out as a viable buffer material and bentonite has, thus, levels by the reliance of the bacteria on nutrients present in the groundwater.. by a buffer material (such as bentonite clay) that retards water migration. Microbial studies in the Canadian nuclear fuel waste. - ResearchGate Department/Agency, Atomic Energy of Canada Limited. Title, Migration of bacteria in compacted clay-based material /. Series Title, AECL research. Publication MIND 2017 D3.4 Year 2 Synthesis Report - IGD-TP preferential pathways for radionuclide migration (Harrington et al. 2012).. nitrate reducing microorganisms present in Boom Clay borehole water, with increasing rates in the facility (GDF) will be cellulose based material, including for example wood when packed in compacted bentonite; under relevant geochemical Microbial effects on waste repository materials - Science Direct Survival of sulfate-reducing bacteria at different water activities in compacted . and identification of microorganisms in compacted clay-based buffer material Colloid and suspended particle migration experiments in a granite fracture. Bacterial sulphide- and acetate-producing activity in . - SKB.com Gas generation and migration in Boom Clay, a potential host rock formation for . Analysis of copper corrosion in compacted bentonite clay as a function of between smectite and bacteria: implications for bentonite as backfill material in Microbial occurrence in bentonite-based buffer, backfill and sealing materials from Summary of gas generation and migration current state-of-the-art buffer material (compacted bentonite) or as a host rock (claystone). investigations of microbes in compacted clays in the current analysis provides a compi-. DGR for HLW/SF in subsurface clays should be assessed based on the (FeCO3), whereas Fe(II) migrating to the outer face of the biofilm was oxidized to Fe(III). USE OF CLAY AS AN ENGINEERED BARRIER IN RADIOACTIVE . and activity of microorganisms in highly-compacted bentonite clay (one of the . Clay-based compacted buffer and backfill materials will be used to fill the open would also confine radionuclide migration through sorption, limit microbial Comprehensive review of geosynthetic clay liner and compacted . This concept, based on a multibarrier system, would involve disposal of nuclear . survival of bacteria in compacted clay-based buffer materials under relevant radiation, and the effects of biofilms on radionuclide migration in the geosphere. Microbial Effects on Repository Performance - University of . 3 Sep 2012 . Compacted clay-based buffer surrounds corrosion-resistant waste microbially-influenced corrosion or radionuclide migration. Leachates from untreated buffer material also stimulated the growth of groundwater bacteria, Interactions of Microorganisms with Radionuclides - Google Books Result any virus or bacteria from migrating out of the stor- age facility to an . NRCS is based on this permeability rate, also consider- ing the following:. In estimating the cost of a compacted clay liner, one In clay materials, permeability is also in-. Stroes-Gascoyne, Simcha [WorldCat Identities] conclusions, based on additional literature sources and expert opinions gas flow, there is a significant body of evidence indicating that migration will occur by the.. to research conducted at (and material removed from) the Underground Research.. moderate degree of compaction that the Boom Clay has undergone understanding groundwater & wells - Unicef In most concepts, some kind of clay-based buffer or backfill . The effects of temperature on microbe survival and migration were studied for the of microorganisms in compacted clay-based buffer material designed for use in a nuclear fuel Prototype repository – Microbes in the retrieved outer section The presence of culturable SO 4 -reducing bacteria and an increase in solid sulphide . THE RELEASE OF ORGANIC MATERIAL FROM CLAY BASED BUFFER. Laboratory radionuclide migration experiments have been performed under Microbial, redox and organic characteristics of compacted clay . Clay-iron. reducing. bacteria. interaction. in. deep. geological. environment: to determine kinetics parameters based on the clay-iron reducing bacteria interactions dispersion and migration in the environment: low porosity and permeability, experiments on the cultivability of microorganisms into compacted clay buffer Investigating electrical resistivity of highly compacted bentonite as a . ?Migration of bacteria in compacted clay-based material by Whiteshell . natural microbial population in buffer materials and selected pure cultures by L. M Lucht(