



Simulated Seismic Load Tests on Dam Core Material to Scrutinize Pore Water Pressure Development

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Dam Core is the back bone of the large earthen dam and primarily constructed with fine grained soils. In this research Cyclic tri-axial tests are used to simulate the effect of different earthquake intensities on medium to high confined Fujinomori clay (replicated dam core material). Seismic load intensity is reproduced in the laboratory by applying different cyclic stress amplitudes, while the numbers of cycles (N) were kept constant. Both isotropic and anisotropic conditions are included in the test plan.

Key discussions are distresses generated by seismic loading such as pore water pressure (PWP), deformations, possibility of micro cracking, and effective strength reduction. With increase in cyclic stress amplitude, exponential increases in pore pressure (PWP), sudden decrease in mean effective principal stress (P') which ultimately increases overall instability in dam core, large deformations, and generation of micro / macro cracking are primary conclusions.