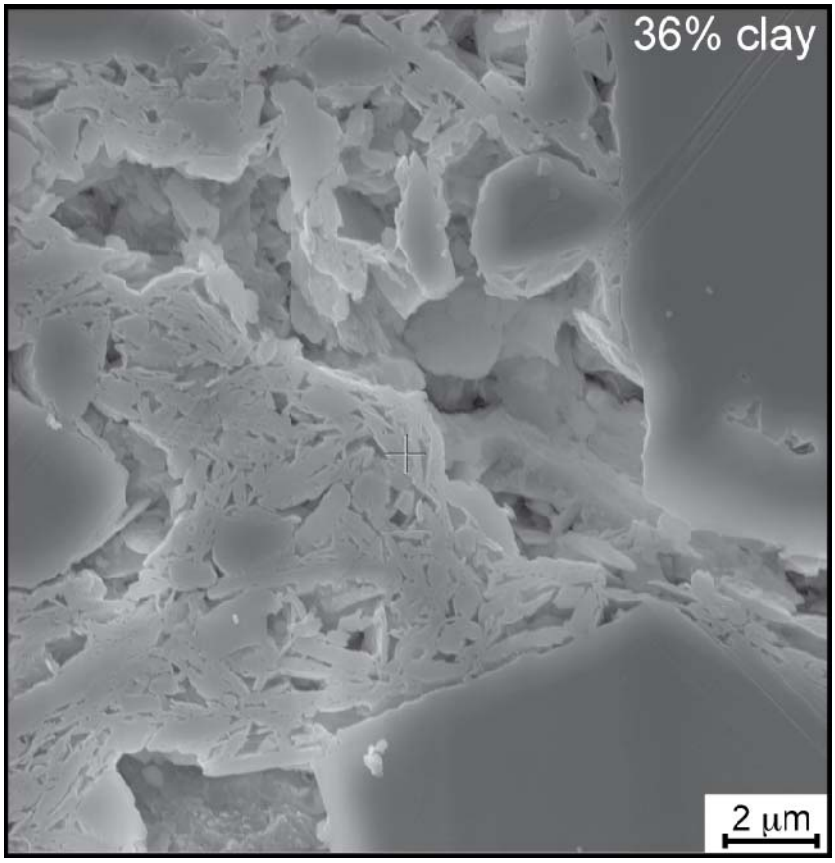
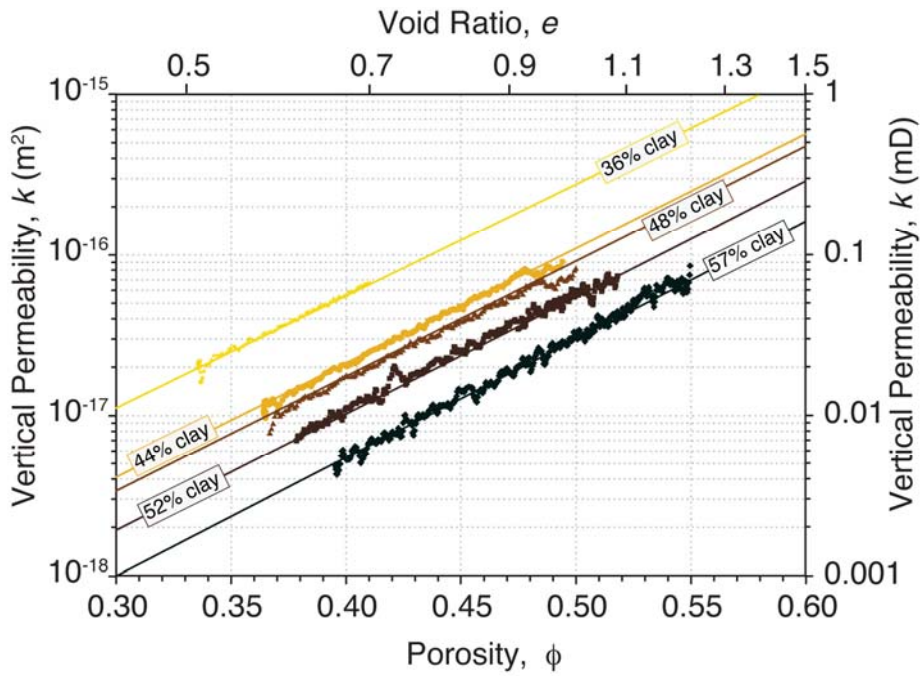


Figure DR1: Secondary electron microscope image of natural Boston Blue Clay (BBC)-silt mixture with 36% clay at magnification of 14,000. Image was taken after consolidation to maximum vertical effective stress of 2.4 MPa. It represents vertical cross-section of sample.

A)



B)

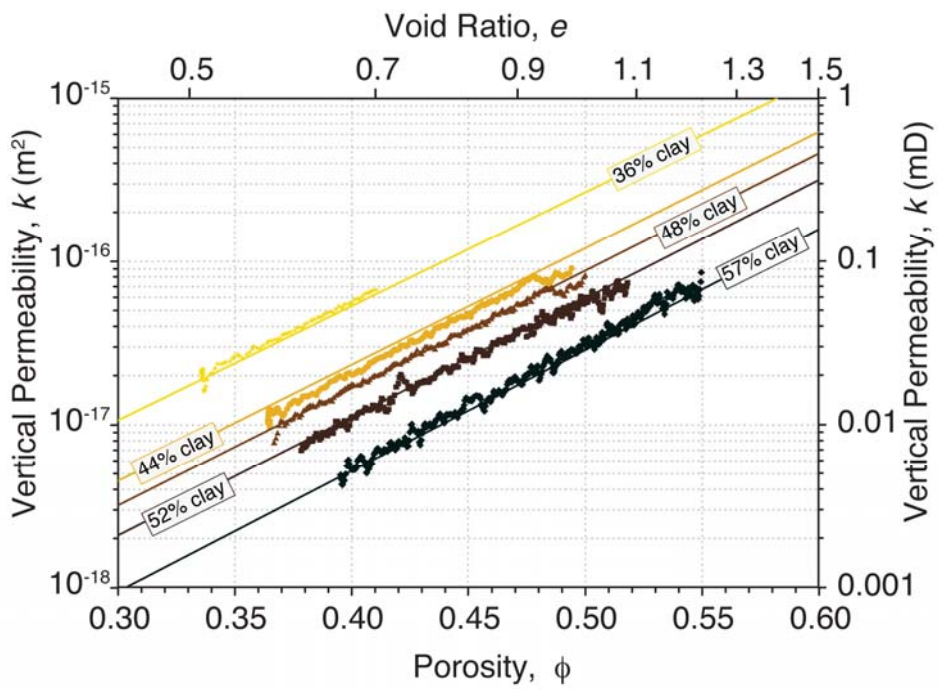


Figure DR2: Vertical permeabilities of natural Boston Blue Clay (BBC)–silt mixtures derived from uniaxial constant-rate-of-strain consolidation tests overlain by predicted permeabilities (solid lines). Black = 57% clay (pure BBC), dark brown = 52% clay, light brown = 48% clay, orange = 44% clay, and yellow = 36% clay. Percentages represent fractions of solid mass <2 μm. A: Permeability predicted from our geometric mean model based on grain size cutoff between clay and silt and 4 μm. B: Permeability predicted from our geometric mean model based on mineralogy.

TABLE DR1:
MODEL PARAMETERS OF ALTERNATIVE PERMEABILITY MODELS

γ_{cl}	k_0^{cl}	γ_{si}	k_0^{si}
Grain size cutoff at 4 μm			
7.92	-21.72	6.25	-16.91
Mineralogy			
8.54	-23.40	6.59	-17.96