Recovery of Porosity and Permeability for High Plasticity Clays

Clays, which have been loaded to a high stress level, will under certain conditions keep low porosity and permeability due to the high degree of compression. In some situations it seems that porosity and permeability will recover to a very high extent when the clay is unloaded. This seems to be the case for high plasticity clays that are uncemented, and with a high content of clay minerals, especially smectite. Oedometer tests on samples from the Paleogene period show that 80% or more of the compaction will recover when unloaded, and if unloaded to a stress lower than in situ stress level the clay will expand to an even higher porosity.