Influence of gypsification on engineering behavior of expansive clay

Azam, S., Abduljauwad, S.N.

Journal of Geotechnical and Geoenvironmental Engineering
Vol. 126, Issue.6, 2000

Abstract: Volume change in argillaceous sediments can take place due to either swelling of expansive clay or gypsification of anhydrous calcium sulfate. Gypsification offers a variety of serious geotechnical hazards such as high swell pressure, floor heave in tunnels, massive rock uplift in dams, and damages to light structures and pavements. Some of these phenomena have been observed in the Arabian Gulf coastal region, where the behavior of local argillaceous sediments is controlled by severe climatic and environmental conditions. Based on laboratory investigation of natural and synthetic samples, this paper studies the influence of gypsification of anhydrite on the engineering behavior of calcareous expansive clay.