

Swelling behaviour of calcareous clays from the Eastern Province of Saudi Arabia

Abduljawad, S.N.

Quarterly Journal of Engineering Geology

Vol. 27, Issue.4, 1994

Abstract: Presents the problems and the geotechnical and physicochemical properties of the calcareous expansive soil deposits in the Eastern Province of Saudi Arabia. X-ray, thermal and chemical analyses and scanning electron microscopy were used to estimate the type and quantity of clay and non-clay minerals and fabric of the investigated soil. The swelling potential was determined using a conventional oedometer test. A field test conducted for measurement of heave was compared with heave estimated from laboratory tests. Results showed that the investigated soil had moderate to very high swelling potential and the heave estimated from the suction method was very close to the value measured from the field test.