

Response of sabkha to laboratory tests: a case study

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Abstract: Sabkha is a saline, evaporative flat soil that forms under arid climates. It is generally associated with saturated watertables that are very close to the ground surface. There are typically two major types of sabkhas; coastal and continental or inland. The presence of brines in the sabkha matrix and the crystallization of diagenetic minerals therein can lead to the highly variable mechanical properties of such a soil. This investigation was carried out to evaluate the engineering properties of this salt-laden and water-sensitive sabkha soil. Several laboratory tests were conducted, including compaction, permeability, unconfined compression, direct shear, triaxial water and/or sabkha brine on the properties of this unusual type of soil.