THE ENGINEERING GEOLOGICAL PROPERTY OF SUDAN EXPANSIVE SOIL

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The square of Sudan is 2600 thousand km2, one third of it has expansive soil distribution that often induces damage to engineering construction above or under ground. China Petroleum Engineering Construct Company (CPECC) did many In-Situ and laboratory researches to the expensive soil in Sudan Muglad basin filed production facility, including In-Situ soaked load test, expansive shear force test, SPT, CPT, VST, micro-penetration test, wave velocity, predominant period, rigidity coefficient, electrical elec.-resistance ratio, and in laboratory including special gravity, density, water content, sieve, liquid and plastic limit, max. dry density, optimum moister content, shrinkage coefficient ratio, free expansive ratio, swelling pressure, swelling movement under different load, triaxial and direct shear test, consolidation test, permeability test and chemical analyses, etc., make a through investigation of physical and mechanical properties of Sudan expansive soil under nature and saturated situation, analysis quantitatively the property changing with water content, the factors that influence swelling, establish the predictive equations of swelling pressure and swelling movement under different loading on the basis of actual recording data in field.