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Civil Engineering.

Engineering Geology (CVE 313)

1) Clay materials

In recent years detailed mineralogical analyses have been made of a large number of different clays, and they indicate that there are three (31, 46) important groups of clay minerals: kaolinite, montmorillonite and illite. We also have: Vermiculite, mica, talc, sepiolite, amorphous clay (allophone), and chlorite.

2) The geology of Nigeria formed beginning in the Archean and Proterozoic eons of the Precambrian. The country forms the Nigerian province and more than half of its surface is igneous and metamorphic crystalline basement rock from the Precambrian. Between 2.9 billion and 500 million years ago, Nigeria was affected by three major orogenic mountain-building events and related igneous intrusions. Following the Pan-African Orogeny, in the Cambrian at the time that multi-cellular life proliferated, Nigeria began to experience regional sedimentation and witnessed new igneous intrusions. By the Cretaceous period of the late Mesozoic, massive sedimentation was underway in different basins, due to a large marine transgression. By the Eocene, in the Cenozoic, the region returned to terrestrial conditions.

Nigeria has tremendous oil and natural gas resources housed in its thick sedimentary basins, as well as reserves of gold, lead, zinc, tantalite, columbite, coal and tin.