

Morphology and Mineralogy of Acid Treated Soil

Authors : P. Hari Prasad Reddy, C. H. Rama Vara Prasad, G. Kalyan Kumar

Abstract : This paper presents the morphological and mineralogical changes occurring in the soil due to immediate and prolonged interaction with different concentrations of phosphoric acid and sulphuric acid. In order to assess the effect of acid contamination, a series of sediment volume, scanning electron microscopy and X-ray diffraction analysis tests were carried out on soil samples were exposed to different concentrations (1N, 4N and 8N) of phosphoric and sulphuric acid. Experimental results show that both acids showed severe morphological and mineralogical changes with synthesis of neogenic formations mainly at higher concentrations (4N and 8N) and at prolonged duration of interaction (28 and 80 days).

Keywords : phosphoric acid, scanning electron microscopy, sulphuric acid, x-ray diffraction analysis

Conference Title : ICSMGE 2015 : International Conference on Soil Mechanics and Geotechnical Engineering

Conference Location : Penang, Malaysia

Conference Dates : December 03-04, 2015