Abstract Template

Abstract Title: GEOTECHNICAL PROPERTIES EVALUATION AND CHEMISTRY OF BLACK COTTON SOIL FROM NYIGBENYA IN ACCRA PLAINS OF GHANA

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Abstract (not more than 300 words)

Black cotton soil for the study was obtained from Nyigbena, a community located along the Tema-Aflao highway in Ghana. Some geotechnical, chemistry and mineralogical properties of the samples were studied in the laboratory. The test conducted were the particle size distribution test, specific gravity test atterberg's limit test, compaction test, free swell test and x-ray fluorescence test. The British Standard (BS) was used for the classification. The test results revealed that the black cotton soil is clayey silt sand and belonged to the A-7-6 group of the AASHTO classification system and the CH group of the unified soil classification system (USCS). The study further revealed that the black cotton soil has low strength and high compressibility with a high swelling and high plasticity. In view of the improvement in engineering properties of the soil after the addition of the quarry dust and Pozzolana, it is recommended that the black cotton soil be stabilized with these materials in appropriate percentages before applying the soil as a foundation material.

Keywords— *atterberg's limit, black cotton soil, dry density, geotechnical, plasticity index*

Professional Biography (100-150 words)

Elvis Baffoe has completed his BSc. (Hons) Geological Engineering at the age of 26 years from Kwame Nkrumah University of Science and Technology, Ghana, and, currently pursuing Masters in Civil Engineering at University of Pau and Pays l'Adour, France. His current research is on the Use of Seashells as high performance cement based-grouts used for geothermal well cementation. He has published more than 4 papers in reputed journals.



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