GEOTECHNICAL CHARACTERIZATION OF THE BATOUFAM LATERITIC GRAVELS (WEST CAMEROON) FOR ROAD CONSTRUCTION PURPOSE

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This study involves the geotechnical characterization of lateritic soils from Batoufam in the West Region within the Koung-Khi Division and Bayangam Sub-Division of Cameroon. The methodology involved the collection of samples from the field and laboratory analyses which involved identification tests (particle size analysis and Atterberg limits) and characterization tests (Proctor, CBR, simple compression and indirect traction) at the National Advanced School of Engineering of Yaounde. The results obtained show that: In the quarry, two stratigraphic levels are observed on the alteration profile developed on volcanic formations, a nodular and a superior sandy clay level on which vegetation is present; The material studied is a gravelly sandy clay of the A-2-7 (0) class according to the HRB classification; The gravelly materials have an optimum dry density of 2,23 and an optimum water content of 13% . The direct bearing capacity values of CBR and by immersion are 42,5 and 31 respectively, classifying them of the S5 class. The values of resistance to compression and traction are 15,44 bars ; 13,78 bars and 8,82 bars and of 1,7 bars ; 1,5 bars and 1,4 bars respectively after exposure for 4,7 and 28 days in open air. According to the practical guide involving road construction in tropical countries, the material studied is useful as plateform and base layer for all traffic classes (T1-T5), as well as foundation base for low traffic (T1-T3). Meanwhile, it uses as foundation base for high traffic (T4 and T5) and base layer necessitate a physico-chemical and/or geotechnical modifications.

Key words. Batoufam; West Region; Basalts; Geotechnical properties, Cameroon

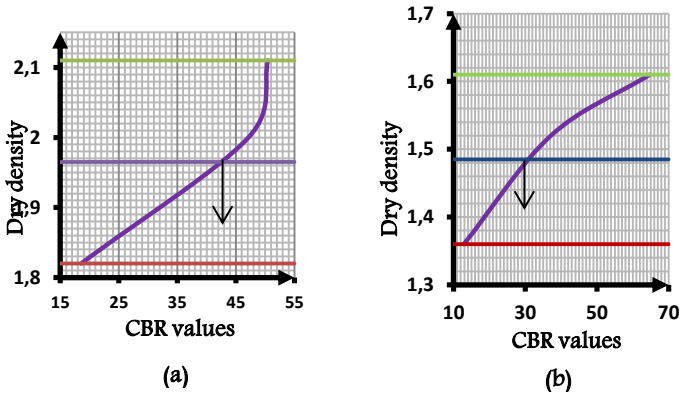


Figure 1 : Variation of density with CBR (a) immediate (b) by immersion

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TAKALA Boris Honore is a geologist at the base, and in the course of specialization in géotechnical sciences through a Doctoral Thesis in the aforementioned discipline. He is interested by the behaviour of grounds utilizes under road construction, when they are submitted to the traffic, as well as the hypotheses as for their improvement. In a developing country where road system is still little developed, combined to insufficient resources, one objective is to study the use of grounds in possible road projects, this in the whole of localities of the country.
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