

A comparative study of Kuantan bauxite mineralogy as potential material in civil engineering

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ABSTRACT

This Known as residual rock formed due to chemical weathering of igneous parent rock, Bauxite is naturally occurring mixture of minerals rich in hydrated aluminium oxides. The origin mineral and geochemistry involved in Kuantan Bauxite forming is however, rarely unveil, in which cause to lacking experience and knowledge in handling bauxite as it causes air and water pollution to surrounding environment and public health. Mineral composition in a bauxite formation is primarily significant to be characterised as to define its geotechnical engineering properties and to decide suitable mining methods prior mining works shall be executed. Hence, this review based on previous research aims to identify bauxite distribution in Kuantan, outline the predominantly mineral composition that can be found in Kuantan Bauxite genesis in order to verify geotechnical properties of Kuantan Bauxite as potential to civil engineering material industry. Several review of previous mineralogy and geochemistry studies, shows that XRD is the preferable method in verifying mineral content in Bauxite deposits around the world. It is also found that Kuantan Bauxite is after Basaltic parent rock. Minerals content of Kuantan Bauxite after Basaltic are found as gibbsite, hematite, goethite and quartz. Gibbsite is found as dominant mineral in Kuantan Bauxite. This review is significant for future research that related to Kuantan Bauxite civil engineering materials as it creates better understanding of Bauxite background as demanding potential earth resources for economic growth of Malaysia.

KEYWORDS:

Kuantan bauxite mineralogy; Potential material; Residual rock