

**OPEN PIT MINE DESIGN FOR EAST AFRICAN PORTLAND CEMENT COMPANY****LTD.****AUTHORS**

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**ABSTRACT**

Infrastructure is one of the key pillars of Kenya's vision 2030. Most of the construction in Kenya including buildings, roads, bridges, ports and rails uses cement. This therefore calls for cheap, continuous and sustainable production of cement. Currently, cement in Kenya is produced by a number of cement manufacturers and still there is need for higher and more consistent production of cement. This is due to its high demand. East African Portland Cement Company Ltd (EAPCC) is one of the largest cement production companies in Kenya. The main raw material in cement production is limestone, which in Kenya is mined by open pit mining. To maintain consistent limestone production, a new pit must be developed for EAPCC before the exhaustion of the current active pit. This project therefore involves the design of an open pit mine, by analysis of drillhole data and mining software integration. The mining softwares are Surpac, which deals with geology and design, and Whittle software, which deals with mineral economics and pit optimization. Optimization is carried out to ensure optimum production is achieved while maintaining the lowest production costs and ensuring safety in the mining activity. This will generate a workable mining sequence for the company.