

ABSTRACT

PT. Solusi Bangun Indonesia, Tbk is a company engaged in the cement industry located in Karangtalun Village, North Cilacap, Cilacap Regency, Central Java Province. PT. Solusi Bangun Indonesia, Tbk meets the demand for cement raw materials by mining in the Nusakambangan quarry.

The problem that determines the need for loading tools and conveyances that must be used in the XIII quarry in order to achieve production targets, the longer the hauling distance from the point of loading to the hopper. This can be done by determining the production capacity of the loading and conveying equipment used and calculating the work harmony between the loading and transportation means.

PT. Solusi Bangun Indonesia, Tbk set a production target of 1,350 tons / hour. To meet the production target, mining PT. Solusi Bangun Indonesia, Tbk uses a Caterpillar 990 H wheel loader and a Caterpillar 773 E dump truck. The research results show that the loading tool cycle time is 51 seconds and the conveyance cycle time is 833 seconds with a loading efficiency value of 65.81% and tools. transport 66.26%.

Based on the calculation, the production capacity of the Caterpillar 990 H Wheel Loader is 567 tons / hour and the Caterpillar 773 E Dump truck is 136 tons / hour for the XIII A quarry, 126 tons / hour for the XIII B quarry, 123 tons / hour for the XIII C quarry, 116 tonnes / hour for the XIII D quarry. With this the need for a Caterpillar 990 H Wheel Loader for every 3 units of quarry and for the needs of the Caterpillar 773 E Dump Truck for each quarry increases due to the hauling distance from the loading point to the hopper, 10 units for the quarry. XIII A, 11 units for quarry XIII B, 11 units for quarry XIII C, 12 units for quarry XIII D. 80 in XIII B, 0.79 in XIII C, 0.81 in XIII D.