

ABSTRACT

PT. Surya Watu Kencana (PT. SWK) is an andesite mining company located in Plampang Hamlet, Hargotirto Village, Kec. Kokap, Kab. Kulon Progo, Yogyakarta Special Region. Currently PT. SWK plans to open a new quarry, namely II with the same mining method as the previous namely the method quarry quarry, quarry.

The problem faced is determining how the tools fit the needs and means of transport should be used in quarrying II so that the production target of 16250 LCM month achieved.. This can be done by determining the production capability of the loading and transportation equipment used and calculating the work harmony between the loading equipment and transportation means.

PT. SWK has set a production target of 1000 tons / day for the quarry that will be opened. To achieve the production target, mining at PT. SWK uses the same mechanical tools as the previous namely the Excavator quarry, Volvo EC210B and the Dump Truck Toyota Dyna 130HT. From the results of research in the field, it was found that the cycle time for the loading equipment was 16.97 seconds and the cycle time for the transportation equipment was 1386.97 seconds with an efficiency value of 57% for loading equipment, while 62% for conveyances.

Based on the calculation results, the production capacity of the Excavator is Volvo EC210B 1154,263 tons / day and the Dump Truck is Toyota Dyna 130HT 105,806 tons / day for the second quarry. Thus, the need for an excavator Volvo EC210B for the quarry to be opened is 1 unit and the need for a Dump Truck Toyota Dyna 130HT is 10 units. The match factor obtained for the quarry to be opened is 0.97.