

ABSTRACT

PT. Timah (Persero) Tbk is located in Pemali, Bangka Induk, Bangka Belitung islands, mining system applied there is surface mining using open pit method. This method is mechanically combined between loading and transportation equipments.

A unit Excavator Backhoe Komatsu PC 300 LC-8 with bucket capacity 2,3 m³ and five units Articulated Dump Truck Terex TA 400 with vessel capacity 22,3 m³ are used in ore loading and transportation activities in PT. Timah (Persero) Tbk.

Ore production target used by PT. Timah (Persero) Tbk is 160.000 m³/month. Now, the number of loading production in the field is 157.288 m³/month and the number of transportation production is 110.890 m³/month. Both of mechanical production equipments has not fulfilled the target yet. Hence, repairing is needed to increase productivity. Effort used to increase productivity is by increasing effective working time decreasing obstruction time while loading and transportation activities is one of the efforts. After repairing, working efficiency in loading equipment increases from 77,85 % to 80,18 %, wheater in transportation equipment working efficiency increases from 77,70 % to 80,51 %. By increasing loading and transportation working efficiency, the number of production also increases. The loading increase becomes 161.995 m³/month and the transportation increase becomes 114.900m³/month.

Adding the numbers of transportation equipment from 5 (five) units to 7 (seven) units make the transportation equipment production increase becomes 163.737 m³/month. Match factor of loading and transportation equipment changes after adding the number of transportation equipment from 0,71 to 0,98 so waiting time of loading equipment from 0,84 minutes becomes 0,023 minutes. By doing so, ore production target can reach 160.000 m³/month.