

RINGKASAN

Kegiatan penambangan di PT. Andalan Artha Primanusa menggunakan sistem tambang terbuka dengan metode *open pit*. Salah satu kegiatan pertambangan batubara adalah pengupasan lapisan tanah penutup (*overburden*) yang diawali dengan penggalian dan pengangkutan menuju area penimbunan (*disposal*). Lapisan tanah penutup dipindahkan dari lokasi penggalian (*front*) menuju *disposal* memerlukan alat mekanis berupa alat gali-muat *excavator* untuk alat penggalian/pemuatan dan *Dump Truck* serta *Articulated Dump Truck* sebagai alat angkutnya, sehingga perlu dilakukan analisa produktivitas.

Penelitian ini dilakukan untuk mengupayakan tercapainya produksi dari *Pit Batu Tegak* sesuai target produksi yang ditetapkan oleh perusahaan, dengan mengetahui faktor yang mempengaruhi produksi dan melakukan upaya peningkatan produksi.

Kegiatan pengupasan *overburden* pada saat ini dilakukan sistem *single back up* dan pola pemuatannya *top loading* menggunakan 1 unit alat gali-muat *Excavator Hitachi 870* dan 1 unit *Excavator Hitachi 470* untuk kegiatan *removal overburden* yang dimuat ke dalam alat angkut, dan diangkut menggunakan 5 unit *Dump Truck Hino 700* dan 5 unit *Articulated Dump Truck Volvo A40G* menuju lokasi *disposal* lawai 8.

Pada saat penelitian dilaksanakan belum tercapainya target produksi pengupasan *overburden* sebesar 300.500 BCM/bulan. Produksi pada bulan Februari 2022 yang mampu dihasilkan oleh suatu rangkaian kerja alat mekanis pada *fleet 806* dengan alat gali-muat *Excavator Hitachi 870* sebesar 178.394,44 BCM/Bulan dengan alat angkut *Articulated Dump Truck Volvo A40G* adalah sebesar 146.046 BCM/Bulan, sedangkan pada *fleet 812* mampu menghasilkan produksi *overburden* dengan menggunakan alat gali-muat *Excavator Hitachi 470* sebesar 114.989,77 BCM/Bulan dengan alat angkut *Dump Truck Hino 700* sebesar 105.116,51 BCM/Bulan.

Upaya peningkatan produksi dapat dilakukan dengan cara memperbaiki waktu edar untuk alat angkut dan meningkatkan waktu kerja efektif dengan melakukan perbaikan terhadap hambatan-hambatan yang terjadi, serta dilakukan perbaikan pada kondisi jalan angkut dengan melakukan pengukuran dan pembuatan jalan yang sesuai dengan standar geometri jalan yang sudah di tentukan, dan melakukan pembersihan sisa - sisa material serta perataan jalan bergelombang. Perbaikan waktu kerja dan kondisi teknis berdampak pada meningkatnya produksi alat mekanis, sehingga total produksi alat gali-muat meningkat menjadi 300.310,2 BCM/Bulan dan alat angkut meningkat menjadi 329.496,5 BCM/Bulan.

SUMMARY

Mining activities at PT. Andalan Artha Primanusa uses the open-pit mining method. One of the coal mining activities was the stripping of the overburden, which begins with digging and hauling to the disposal area. The overburden was removed from the loading point to the disposal, which required mechanical equipment such as excavators for digging/loading equipment also dump trucks and articulated dump trucks as means of hauling equipment, so it was necessary to do a productivity analysis.

This research was conducted to seek to achieve the smooth-running production of the company's open pit coal mining according to the production target set by the company, by examine the factors that affect the overburden production and maked efforts to increase the overburden production.

The overburden stripping activity was currently carried out using a single backup system and top-loading pattern. It used 1 unit of Hitachi 870 Excavator and 1 unit of Hitachi 470 Excavator for overburden removal activities to be loaded into 5 units of Dump Trucks Hino 700 and 5 units of Articulated Dump Truck Volvo A40G to be hauled to the lawai 8 disposal area.

The issue that occurred at the time of this research was that the production of overburden targeted by 300,500 BCM/Month has not been achieved. Based on the study results of the current calculation, it was known that the overburden production in February 2022 that could be produced a series haulers on 806 fleet using Hitachi 870 excavator to load the overburden in total 178,394.44 BCM/Month with five Volvo A40G Articulated Dump Trucks of 146,046 BCM/Month, while the 812 fleet that used the Hitachi 470 Excavator could produce 114,989.77 BCM/Month with the Hino 700 Dump Truck that produce 105,116.51 BCM/Month, so it was necessary to make improvements to carried out to solve problems that has affected the performance of mechanical equipment to achieve the production target.

Efforts to increase production could be done by improving the cycle time for haulers and increasing the effective working time by minimalizing to the obstructed that occured, as well as improving the condition of haul roads by measuring and constructing roads that complied with road geometry standards that have been developed, and carry out a cleaning of material residue and smoothing of bumpy roads. Improvements in cycle time and improvements in work efficiency have an impact on increasing the production of mechanical equipment, so that the total production of digging/loading equipment increased to 300,310.2 BCM/Month or 100% of the production target and hauling equipment increased to 329,496.5 BCM/Month or 110% of the production target.