

ABSTRAK

OPTIMALISASI PRODUKTIVITAS ALAT PADA KEGIATAN PEMINDAHAN *OVERBURDEN* DI PT HARMONI PANCA UTAMA, *SITE* TAMBANG DAMAI, KALIMANTAN TIMUR

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PT Harmoni Panca Utama Jobsite Tambang Damai memiliki target produksi overburden sebesar 435.000 BCM/bulan. Berdasarkan pengamatan lapangan, produktivitas alat mekanis pada *fleet Excavator* Komatsu PC-2000 dan *Dump Truck* Komatsu HD785 belum optimal akibat tingginya hambatan kerja yang menyebabkan rendahnya jam kerja efektif serta kondisi *front* penambangan yang belum memenuhi standar operasional.

Penelitian ini bertujuan untuk menganalisis kondisi *front* kerja, mengidentifikasi hambatan kerja yang mempengaruhi produktivitas alat mekanis, serta mengevaluasi pengaruh upaya perbaikan terhadap peningkatan produktivitas alat pada kegiatan pemindahan *overburden*. Metode penelitian dilakukan melalui pengamatan langsung di lapangan dan pengumpulan data primer, kemudian dilakukan evaluasi perbaikan terhadap hambatan yang masih dapat ditekan.

Hasil penelitian menunjukkan bahwa kondisi aktual front kerja memiliki lebar 19 m, lebih kecil dibandingkan lebar minimum yang direkomendasikan sebesar 23 m. Nilai *EU* aktual alat muat dan alat angkut masing-masing sebesar 57,9% dan 56,6%. Setelah dilakukan perbaikan terhadap hambatan kerja dan penyesuaian kondisi operasional, nilai *effective utilization* meningkat menjadi 63,0% pada alat muat dan 62,9% pada alat angkut. Kemampuan produksi alat muat meningkat dari 422.954,1 BCM/bulan menjadi 478.298,7 BCM/bulan, sedangkan kemampuan produksi alat angkut meningkat dari 406.501,8 BCM/bulan menjadi 456.614,5 BCM/bulan. Nilai *match factor* setelah perbaikan sebesar 1,04 yang menunjukkan sistem kerja alat telah mendekati kondisi serasi. Dengan demikian, peningkatan jam kerja efektif dan penyesuaian dimensi *front* kerja mampu meningkatkan produktivitas alat mekanis sehingga target produksi dapat dicapai secara lebih optimal.

Kata kunci: *effective utilization*, *front* kerja, *match factor*, produktivitas alat, *overburden*

ABSTRACT

OPTIMIZATION OF MECHANICAL EQUIPMENT PRODUCTIVITY AT PT HARMONI PANCA UTAMA, TAMBANG DAMAI MINING SITE, EAST KALIMANTAN

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PT Harmoni Panca Utama, Tambang Damai Jobsite, has established an overburden production target of 435.000 BCM per month. Based on field observations, the productivity of mechanical equipment operating in the Komatsu PC-2000 Excavator and Komatsu HD785 Dump Truck fleet was not optimal due to high operational delays that reduced effective working hours, as well as mining face conditions that did not meet operational standards.

This study aims to analyze the condition of the mining face, identify operational constraints affecting equipment productivity, and evaluate the impact of improvement measures on increasing equipment productivity in overburden removal activities. The research was conducted through direct field observations and the collection of primary data. Subsequently, improvement evaluations were carried out on controllable operational constraints.

The results indicate that the actual mining face width was 19 m, which is smaller than the recommended minimum width of 23 m. The actual EU values of the loading and hauling equipment were 57,9% and 56,6%, respectively. After implementing improvements to operational constraints and adjusting operating conditions, the Effective Utilization increased to 63,0% for the loading equipment and 62,9% for the hauling equipment. The production capacity of the loading equipment increased from 422.954,1 BCM/month to 478.298,7 BCM/month, while the production capacity of the hauling equipment increased from 406.501,8 BCM/month to 456.614,5 BCM/month. The match factor after improvement was 1,04, indicating that the loading and hauling system had approached a balanced operating condition. Therefore, increasing effective working hours and optimizing mining face dimensions were proven to enhance equipment productivity, enabling the production target to be achieved more effectively.

Keywords: effective utilization, mining face, match factor, equipment productivity, overburden removal.