

ABSTRAK

RANCANGAN *MINE SEQUENCE* PENAMBANGAN BATUBARA UNTUK MEMENUHI SASARAN PRODUKSI 207.000 TON DI *PIT 200* PT MULTI HARAPAN UTAMA

Oleh
Eleonora Clarissa Puspantari
NIM: 112210113
(Program Studi Sarjana Teknik Pertambangan)

PT Multi Harapan Utama (PT MHU) adalah perusahaan pertambangan batubara yang beroperasi di Kabupaten Kutai Kartanegara, Provinsi Kalimantan Timur. Kegiatan penambangan di *Pit 200* ditujukan untuk mencapai sasaran produksi sebesar 207.000 Ton batubara pada triwulan I tahun 2025. Permasalahan yang dihadapi yaitu belum optimalnya pencapaian sasaran produksi akibat ketidakseimbangan antara jumlah alat gali-muat dan alat angkut, serta jarak angkut dan waktu edar seiring dengan kemajuan tambang. Metodologi penelitian meliputi studi literatur untuk mencari referensi pustaka dan informasi penelitian dari buku, jurnal ilmiah, dokumen perusahaan, dan penelitian sebelumnya. Selanjutnya, observasi lapangan dilakukan untuk mengamati kondisi area penambangan, topografi, serta alat mekanis yang digunakan. Data yang digunakan terdiri dari data primer, berupa waktu edar alat gali-muat dan alat angkut, serta data sekunder diperoleh dari perusahaan. Pengolahan data dilakukan dengan menggunakan rumus teoritis dan perangkat lunak untuk analisis kebutuhan alat mekanis, penjadwalan produksi, serta rancangan *sequence* dan disposal. Berdasarkan hasil pengolahan data didapatkan kebutuhan alat gali-muat dan alat angkut untuk *overburden* adalah 6 unit *backhoe* Komatsu PC1250, 24 unit truk jungkit Komatsu HD785-7, 3 unit *backhoe* Komatsu PC500, dan 21 unit truk jungkit Volvo FMX400. Untuk batubara adalah 2 unit *backhoe* Komatsu PC300 dan 16 unit truk Scania P460-B8X4. Total produksi *Pit 200* pada triwulan I tahun 2025 mencapai 3.093.569,372 BCM untuk *overburden* dan 281.757,348 Ton untuk batubara. Pada bulan Januari, Februari, dan Maret 2025, volume *overburden* dan volume batubara adalah 984.322,128 BCM (70.752,320 Ton), 931.495,704 BCM (66.692,252 Ton), dan 1.177.751,540 BCM (144.312,776 Ton).

Kata Kunci: Kemajuan Penambangan, Penjadwalan, Perancangan, Perencanaan, *Setting Fleet*.

ABSTRACT

MINE SEQUENCE DESIGN FOR COAL MINING TO REACH PRODUCTION TARGET OF 207.000 TONS AT PIT 200 PT MULTI HARAPAN UTAMA

By

Eleonora Clarissa Puspantari

NIM: 112210113

(Mining Engineering Undergraduated Program)

PT Multi Harapan Utama (PT MHU) is a coal mining company operating in Kutai Kartanegara Regency, East Kalimantan Province. Mining activities at Pit 200 are aimed at achieving a production target of 207,000 tonnes of coal in the first quarter of 2025. The problem faced is the suboptimal achievement of production targets due to an imbalance between the number of loading and unloading equipment and transportation equipment, as well as the transport distance and circulation time in line with the progress of the mine. The research methodology includes literature reviews to identify relevant references and research information from books, scientific journals, company documents, and previous research. Furthermore, field observations were carried out to observe the condition of the mining area, topography, and the mechanical equipment used. The data used consists of primary data, including the cycle time of backhoes and transport equipment, and secondary data obtained from the company. Data processing is carried out using theoretical formulas and software for the analysis of mechanical equipment requirements, production scheduling, as well as the design of sequence and disposal. Based on the results of data processing, the requirements for excavation and transporting equipment for overburden was 6 units of backhoe Komatsu PC1250, 24 units of dump truck Komatsu HD785-7, 3 units of backhoe Komatsu PC500, and 21 units of dump truck Volvo FMX400. For coal, the requirements are 2 units of backhoe Komatsu PC300 and 16 units of truck Scania P460-B8X4. The total production of Pit 200 in the first quarter of 2025 is expected to reach 3.093.569,372 BCM for overburden and 281.757,348 tons for coal. In January, February, and March 2025, the volumes of overburden and coal volume are 984.322,128 BCM (70.752,320 Tons), 931.495,704 BCM (66.692,252 Tons), and 1.177.751,540 BCM (144.312,776 Tons).

Keywords: Mining Sequence, Scheduling, Design, Planning, Setting Fleet