

ABSTRAK

PERENCANAAN *MINE SEQUENCE* PADA PENAMBANGAN BATUBARA PIT 24 *WEST BLOCK* DI PT INDOMINCO MANDIRI, KALIMANTAN TIMUR

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Peningkatan sasaran produksi batubara *Pit 24 West Block* PT Indominco Mandiri pada tahun 2025 dibandingkan realisasi tahun sebelumnya menuntut perencanaan kemajuan penambangan serta penyesuaian kebutuhan alat mekanis agar sasaran produksi triwulan dapat tercapai. Penelitian ini bertujuan merancang *mine sequence* dan disposal triwulanan serta menentukan kebutuhan alat gali-muat dan alat angkut berdasarkan sasaran produksi *overburden* dan batubara tahun 2025. Metode penelitian yang digunakan adalah metode kuantitatif deskriptif yang meliputi studi literatur, observasi lapangan, pengambilan data primer berupa waktu edar alat mekanis diperoleh melalui observasi langsung di lapangan dan sekunder meliputi data geologi, topografi, sasaran produksi, spesifikasi alat, dan desain tambang, pengolahan data dilakukan dengan menghitung parameter produktivitas alat, kapasitas produksi, kebutuhan alat mekanis, serta penyusunan rancangan kemajuan penambangan dan disposal menggunakan perangkat lunak. Berdasarkan hasil pengolahan data didapatkan bahwa rancangan kemajuan penambangan tahun 2025 mampu memenuhi sasaran produksi per triwulan dengan total volume *overburden* sebesar 11.320.486,61 BCM dan produksi batubara sebesar 619.330,53 ton. Hasil perencanaan produksi *overburden* setiap triwulan masing-masing sebesar 3.286.334 BCM, 3.004.900 BCM, 3.647.679 BCM, dan 1.381.572 BCM, sedangkan sasaran produksi batubara sebesar 125.265 ton, 179.341 ton, 191.013 ton, dan 123.710 ton. Kebutuhan alat mekanis per triwulan berurutan dari 7, 6, 6, dan 3 unit Komatsu PC1250, 1 unit Komatsu PC300 setiap triwulan, 27, 24, 24, dan 10 unit Komatsu HD785, serta 5, 6, 5, dan 4 unit truk Isuzu. Kombinasi alat gali-muat dan alat angkut yang direncanakan dinilai mampu memenuhi kebutuhan produksi sesuai rencana penambangan tahun 2025.

Kata Kunci: *Mine Sequence*, Penjadwalan Penambangan, Sasaran Produksi, Perencanaan, Alat Mekanis

ABSTRACT

MINE SEQUENCE PLANNING IN COAL MINING PIT 24 WEST BLOCK AT PT INDOMINCO MANDIRI, EAST KALIMANTAN

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The increase in coal production targets at Pit 24 West Block, PT Indominco Mandiri in 2025 compared to the previous year's production realization requires systematic mine sequence planning and appropriate mechanical equipment allocation to ensure quarterly production targets are achieved. This study aims to design quarterly mine sequence and disposal plans and to determine loading and hauling equipment requirements based on overburden and coal production targets for 2025. The research applies a descriptive quantitative method consisting of literature review, field observation, primary data collection in the form of equipment cycle time obtained through direct field measurements, and secondary data including geological data, topographic data, production targets, equipment specifications, and mine design. Data processing was conducted by calculating equipment productivity parameters, production capacity, mechanical equipment requirements, and developing mine sequence and disposal designs using mine planning software. The results indicate that the proposed mine sequence for 2025 is capable of achieving quarterly production targets with a total overburden volume of 11,320,486.61 BCM and total coal production of 619,330.53 tons. Planned quarterly overburden production amounts to 3,286,334 BCM, 3,004,900 BCM, 3,647,679 BCM, and 1,381,572 BCM, while coal production targets are 125,265 tons, 179,341 tons, 191,013 tons, and 123,710 tons, respectively. The planned mechanical equipment requirements per quarter consist of 7, 6, 6, and 3 units of Komatsu PC1250; 1 unit of Komatsu PC300 in each quarter; 27, 24, 24, and 10 units of Komatsu HD785; and 5, 6, 5, and 4 units of Isuzu trucks. The planned combination of loading and hauling equipment is considered adequate to meet overburden and coal production requirements in accordance with the 2025 mining plan.

Keywords: Mine Sequence, Mine Scheduling, Production Targets, Mine Planning, Mechanical Equipment