

SARI

ANALISIS PERBANDINGAN KUALITAS BATUBARA DI *FRONT* PENAMBANGAN DAN *STOCKPILE* PADA PT. SURVEYOR CARBON CONSULTING INDONESIA (SCCI) DAERAH KUTAI KARTANEGARA, PROVINSI KALIMANTAN TIMUR

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Penelitian ini dilakukan untuk menganalisis dan membandingkan kualitas batubara pada dua lokasi berbeda, yaitu di *front* penambangan (PIT) dan *stockpile* (ROM) pada wilayah kerja PT. *Surveyor Carbon Consulting* Indonesia (SCCI), Kutai Kartanegara, Kalimantan Timur. Latar belakang penelitian ini berangkat dari kebutuhan untuk memastikan bahwa kualitas batubara yang ditambang tetap konsisten selama proses penanganan hingga penyimpanan, karena perubahan kualitas dapat berdampak langsung pada nilai ekonomi dan kelayakan jual batubara. Kajian teoritis mencakup konsep dasar tentang genesa batubara, klasifikasi dan peringkat batubara berdasarkan analisis proksimat (*total moisture, ash content, inherent moisture, calorific value*), serta penerapan metode statistik regresi linier sederhana untuk mengkaji hubungan antar parameter kualitas. Metode penelitian yang digunakan adalah analisis laboratorium berdasarkan standar ASTM dengan pendekatan proksimat, serta regresi statistik untuk mengetahui korelasi parameter kualitas. Pengambilan sampel dilakukan di tiga *seam* berbeda pada lokasi PIT dan ROM, disertai tahapan preparasi dan analisis laboratorium yang ketat untuk mendapatkan data valid dan representatif. Hasil penelitian menunjukkan adanya penurunan nilai *calorific value* dan kenaikan nilai *total moisture* serta *ash content* pada sampel ROM dibandingkan dengan PIT. Perubahan ini terjadi karena faktor lingkungan, proses *handling*, dan waktu penyimpanan. Dari hasil analisis statistik, diperoleh hubungan negatif antara kadar *ash* dan *moisture* terhadap nilai kalor. Seam SHD 1, SHD 2, dan SHD 3 menunjukkan tren penurunan kualitas di ROM. Kesimpulan dari penelitian ini adalah terdapat perubahan kualitas batubara antara lokasi penambangan dan *stockpile*, khususnya pada parameter *calorific value, ash content, dan total moisture*. Oleh karena itu, pengawasan kualitas dan pengelolaan *stockpile* yang baik menjadi kunci untuk menjaga mutu batubara.

Kata kunci: batubara, kualitas, *stockpile*, PIT, proksimat, *moisture, ash, calorific value*, Kalimantan Timur.

ABSTRACT

COMPARISON ANALYSIS OF COAL QUALITY ON THE MINING FRONT AND STOCKPILE AT PT. SURVEYOR CARBON CONSULTING INDONESIA (SCCI) KUTAI KARTANEGARA AREA, EAST KALIMANTAN PROVINCE

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This study aims to analyze and compare the coal quality between the mining front (PIT) and the stockpile (ROM) at PT. Surveyor Carbon Consulting Indonesia (SCCI), located in Kutai Kartanegara, East Kalimantan Province. The research is driven by the necessity to ensure that coal maintains its quality throughout the handling and storage processes, as any degradation can significantly affect its commercial value and compliance with market requirements. The theoretical foundation encompasses coal formation, classification, and ranking based on proximate analysis—namely total moisture, inherent moisture, ash content, and calorific value—as well as the use of statistical methods, particularly simple linear regression, to explore correlations among these parameters. The methodology includes standard laboratory analysis in accordance with ASTM procedures. Coal samples were collected from three different seams (SHD 1, SHD 2, and SHD 3) at both PIT and ROM locations. Each sample underwent preparation and proximate testing to assess the changes in coal quality during the transition from mining to stockpiling. Results show a consistent decline in calorific value, accompanied by increases in moisture and ash content in ROM samples compared to those from PIT. These quality variations are primarily influenced by environmental exposure, handling conditions, and particle size distribution. Statistical analysis indicates a negative correlation between ash and moisture content with calorific value. Among the seams, SHD 1 demonstrated the lowest coal quality. In conclusion, the study confirms that coal quality undergoes measurable deterioration during handling and storage. Continuous monitoring and proper stockpile management are essential to maintaining coal quality within acceptable industry standards.

Keywords: coal quality, mining front, stockpile, proximate analysis, moisture, ash content, calorific value, East Kalimantan.