

ABSTRAK

PERHITUNGAN SUMBER DAYA BATUBARA *SEAM A* DI DAERAH RANTAU BUTA, KECAMATAN BATU SOPANG, KABUPATEN PASER, PROVINSI KALIMANTAN TIMUR

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Penelitian ini dilaksanakan di Daerah Rantau Buta, Kecamatan Batu Sopang, Kabupaten Paser, Provinsi Kalimantan Timur, dengan luas area penelitian $1,6 \times 1,7$ km². Secara geologi, daerah penelitian termasuk dalam Sub-cekungan Paser yang merupakan bagian dari Cekungan Barito. Tujuan penelitian ini adalah mengetahui kondisi geologi, menganalisis geometri lapisan batubara, serta menghitung sumber daya batubara berdasarkan integrasi data permukaan dan data pengeboran dari 91 titik bor.

Berdasarkan hasil pemetaan geologi, daerah penelitian tersusun oleh dua satuan litologi, yaitu Satuan batulempung Tanjung dan Satuan batupasir Tanjung yang berumur Eosen Awal – Eosen Akhir, keduanya diendapkan pada lingkungan *Transitional Lower Delta Plain*. Struktur geologi yang berkembang berupa kekar gerus. Geometri lapisan batubara menunjukkan ketebalan berkisar 0,7–3 meter (kategori tipis hingga sedang), kemiringan 6°–22° (kategori lapisan landai), arah jurus N280°E–N342°E, dan kemenerusan lapisan batubara di daerah penelitian termasuk dalam kategori puluhan meter hingga ratusan meter serta kondisi *split coal* yang dikontrol oleh sisipan batulempung dan batulempung karbonan.

Perhitungan sumberdaya batubara menggunakan metode *Circular* USGS berdasarkan SNI 5015:2019 dengan klasifikasi kondisi geologi moderat menghasilkan total sumberdaya sebesar 1.318,826 ton, terdiri atas sumberdaya terukur 1.027,356 ton, tertunjuk 291.447 ton, dan tereka 0,023 ton. Distribusi per seam meliputi Seam A sebesar 705,657 ton, Seam A1 sebesar 210,901 ton, dan Seam A2 sebesar 402,268 ton.

Kata kunci: Batubara, Geometri Lapisan, Metode Circular, Rantau Buta, Sumberdaya Batubara.

ABSTRACT

COAL RESOURCE ESTIMATION OF SEAM A IN RANTAU BUTA AREA, BATU SOPANG DISTRICT, PASER REGENCY, EAST KALIMANTAN PROVINCE

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This study was conducted in the Rantau Buta Area, Batu Sopang District, Paser Regency, East Kalimantan Province, covering a total research area of 1.6×1.7 km². The study area is situated within the Paser Sub-basin, which forms part of the greater Barito Basin. This research aimed to characterize the local geological conditions, analyze coal seam geometry, and estimate coal resources through the integration of surface mapping data and subsurface drilling data obtained from 91 boreholes.

Geological mapping revealed that the study area is underlain by two lithostratigraphic units: the Tanjung Claystone Unit and the Tanjung Sandstone Unit, both of Early Eocene age- Late Eocene age. These units were deposited under a Transitional Lower Delta Plain environment. The dominant geological structure observed throughout the area is shear joints. Coal seam geometry indicates thickness ranging from 0.7 to 3 meters, classified as thin to medium, with a gentle dip of 6°–22°, a strike direction of N280°E–N342°E and the continuity of the coal seams in the study area falls within the category of tens to hundreds of meters. Split coal conditions were also identified, controlled by the presence of claystone and carbonaceous claystone interbeds.

Coal resource estimation was carried out using the USGS Circular Method in accordance with SNI 5015:2019, under a moderate geological complexity classification. The total coal resource was estimated at 1,318.826 tonnes, comprising measured resources of 1,027.356 tonnes, indicated resources of 291.447 tonnes, and inferred resources of 0.023 tonnes. On a seam basis, Seam A contributed 705.657 tonnes, Seam A1 contributed 210.901 tonnes, and Seam A2 contributed 402.268 tonnes.

Keywords: Coal, Seam Geometry, Circular Methods, Rantau Buta, Coal Resources.