ABSTRAK

GEOLOGI DAN ANALISA KUALITAS BATUBARA SEAM T2 SERIES PADA PIT W1 WIUP TEI DUSUN GUMPA DAN SEKITARNYA, BARITO TIMUR, KALIMANTAN TENGAH

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Penelitian ini dilakukan di Desa Gumpa, Kabupaten Barito Timur, Kalimantan Tengah, dengan tujuan untuk mengetahui kondisi geologi dan kualitas batubara pada *Seam* T2 *Series*. Kajian geologi meliputi geomorfologi, stratigrafi, struktur geologi, dan lingkungan pengendapan, sedangkan kualitas batubara dianalisis melalui uji proksimat berdasarkan parameter *moisture, ash, volatile matter, fixed carbon*, dan *calorific value*. Metode yang digunakan mencakup pemetaan geologi permukaan, analisis laboratorium, serta interpretasi data bor. Hasil penelitian menunjukkan bahwa batubara terbentuk pada lingkungan pengendapan *upper delta plain* dengan satuan batuan berupa batupasir dan batulempung sisipan batupasir serta batubara. *Seam* T2 *Series* diklasifikasikan sebagai batubara *subbituminus*. Peta persebaran kualitas batubara *seam* T2 di daerah penelitian menunjukkan variasi yang dipengaruhi oleh kondisi geologi. Kandungan *ash* tertinggi berada di bagian timur dengan nilai 6,1–7% (adb), yang kemungkinan disebabkan oleh keberadaan sesar turun. Kandungan *moisture* tertinggi terdapat di bagian selatan dengan nilai 15–17% (adb), diduga akibat *overburden* yang bersifat impermeabel sehingga menjaga kelembaban batubara. Nilai *sulfur* relatif tinggi (0,65–0,75% adb) ditemukan di timur laut, juga berkaitan dengan pengaruh struktur sesar. *Calorific value* didominasi oleh nilai 3290–3300 (ar), tersebar merata di wilayah penelitian, yang mengindikasikan proses pemadatan dan pemanasan batubara yang cukup lama dan dalam.

Kata kunci: Geologi, Batubara, *Seam* T2 *Series*, Proksimat, Barito Timur, *Delta Plain, Subbituminus*

ABSTRACT

GEOLOGICAL AND COAL QUALITY ANALYSIS OF THE T2 SEAM SERIES IN PIT W1, TEI WIUP, GUMPA AND SURROUNDING AREAS, EAST BARITO REGENCY, CENTRAL KALIMANTAN

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This research was conducted in Gumpa Village, Barito Timur Regency, Central Kalimantan, with the aim of identifying the geological conditions and coal quality of the T2 Seam Series. The geological study includes geomorphology, stratigraphy, structural geology, and depositional environment, while coal quality was analyzed through proximate analysis using parameters such as moisture, ash, volatile matter, fixed carbon, and calorific value. The methods used in this study involved surface geological mapping, laboratory analysis, and drill core interpretation. The results indicate that the coal was deposited in an upper delta plain environment, with lithological units consisting of sandstone, claystone interbedded with sandstone, and coal. The T2 Seam Series is classified as sub-bituminous coal. The distribution map of coal quality in the study area shows variation influenced by geological conditions. The highest ash content (6.1–7% adb) is found in the eastern part, likely due to the presence of a normal fault. The highest moisture content (15–17% adb) is observed in the southern part, presumably caused by the impermeable overburden that retains moisture within the coal. Elevated sulfur values (0.65–0.75% adb) are located in the northeastern area, which may also be influenced by fault structures. The calorific value is predominantly in the range of 3290–3300 kcal/kg (ar), distributed throughout the area, indicating prolonged compaction and thermal maturation of the coal.

Keyword: Geology, Coal, T2 Series Seam, Proximate Analysis, East Barito, Delta Plain, Sub-bituminous