

# Karakteristik Batubara Berdasarkan Analisis Petrografi Organik dan Nilai Sulfur Site Gurimbang, PT Berau Coal, Kecamatan Sambaliung, Kabupaten Berau, Provinsi Kalimantan Timur = Coal Characteristics Based on Organic Petrographic Analysis and Sulfur Value at Gurimbang Site, PT Berau Coal, Sambaliung District, Berau Regency, East Kalimantan Province

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## Abstrak

Batubara pada site Gurimbang PT Berau Coal Kecamatan Sambaliung, Kabupaten Berau, Kalimantan Timur dianalisis berdasarkan pengamatan makroskopis, metode analisis petrografi organik dan analisis nilai sulfur untuk mendapatkan karakteristik dan peringkat batubaranya. Berdasarkan hasil analisis pengamatan makroskopis, dapat diketahui bahwa seam K, KU, KL memiliki ciri berwarna hitam kecokelatan dengan cerat cokelat, memiliki bentuk sub-conchoidal sampai conchoidal, kekerasan moderately hard-hard, kilap kusam, banyak ditemukan jejak resin serta mineral pirit. Berdasarkan hasil analisis petrografi maseral, seluruh sampel didominasi oleh maseral vitrinite sebanyak 83.8-94.4%, maseral liptinite sebanyak 3.2%-11.2% dan maseral inertinite sebanyak 1.3%-4.2%. Berdasarkan hasil analisis petrografi mineral, seluruh sampel didominasi oleh mineral clay dengan jumlah 0.30% – 1.60% pada sampel yang berbeda.

Berdasarkan analisis nilai sulfur, seam KU memiliki kandungan sulfur dengan nilai tertinggi 2.58% dan terendah 0.41% dan dapat digolongkan ke dalam batubara high sulphur, sedangkan seam KL memiliki kandungan sulfur dengan nilai tertinggi 0.4% dan terendah 0.11% dan dapat digolongkan ke dalam batubara low sulphur. Berdasarkan hasil pengukuran reflektan dapat disimpulkan semua sampel yang ada termasuk ke dalam rank batubara lignit sampai dengan sub-bituminus C berdasarkan klasifikasi ASTM D 388-05. Berdasarkan perhitungan TPI dan GI, sampel terendapkan pada lingkungan pengendapan lower delta plain hingga upper delta plain dengan sublingkungan pengendapan telmatik dan limno-telmatic pada rawa gambut wet forest swamp dan fen.

.....Coal at the Gurimbang site of PT Berau Coal, Sambaliung District, Berau Regency, East Kalimantan was analyzed based on macroscopic observations, organic petrographic analysis methods and analysis of sulfur values to obtain the characteristics and rank of the coal. Based on the results of the macroscopic observation analysis, it can be seen that the K, KU, KL seams have a characteristic black-brown color with brown streaks, have a sub-conchoidal to conchoidal shape, moderately hard-hard hardness, dull luster, many traces of resin and pyrite minerals are found. Based on the results of maseral petrographic analysis, all samples were dominated by vitrinite maceral as much as 83.8-94.4%, liptinite as much as 3.2%-11.2% and inertinite as much as 1.3%-4.2%. Based on the results of mineral petrographic analysis, all samples were dominated by mineral clay with an amount of 0.30% - 1.60% in different samples. Based on the sulfur value analysis, seam KU has a sulfur content with the highest value of 2.58 and the lowest 0.41 and can be classified as high sulfur coal, while seam KL has a sulfur content with the highest value of 0.4 and the lowest 0.11 and can be classified as low sulfur coal. Based on the results of reflectance measurements, it can be concluded that all samples are included in the rank of lignite coal to sub-bituminous C based on ASTM D 388-05 classification. Based on TPI and GI calculations, the samples were deposited in the lower delta plain

to upper delta plain depositional environments with telmatic and limno-telmatic depositional environments in wet swamp forest and fen peat swamps.