

ABSTRAK

GEOLOGI DAN KUALITAS *COOKING COAL* DAERAH LAMPUNUT, KECAMATAN BARITO TUHUP RAYA, KABUPATEN MURUNG RAYA, PROVINSI KALIMANTAN TENGAH

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Daerah penelitian berada pada Daerah Lampunut dan sekitarnya, Kecamatan Barito Tuhup Raya, Kabupaten Murung Raya, Provinsi Kalimantan Tengah. Formasi geologi daerah penelitian adalah Formasi Batu Ayau yang termasuk kedalam Cekungan kutai sub Cekungan Kutai Atas. Metode yang digunakan yaitu dengan melakukan pemetaan geologi lapangan, pengambilan sampel dan analisis data, serta didukung oleh data sekunder atau secara kuantitatif dengan melakukan korelasi data bor. *Cooking Coal* digunakan terutama sebagai sumber karbon di industri besi dan baja dimana batubara digunakan sebagai reduktor bijih besi menjadi logam. Tujuan penelitian ini adalah untuk mengetahui kualitas batubara jenis *cooking coal* pada Formasi Batu Ayau di daerah Lampunut, dengan fokus pada pengukuran nilai *crucible swelling number*. Hasil penelitian ini diharapkan dapat memberikan informasi yang akurat mengenai potensi *cooking coal* di wilayah tersebut sebagai bahan baku industri besi dan baja, serta menjadi acuan dalam pengelolaan dan pemanfaatan sumber daya batubara secara optimal. Berdasarkan analisis deskriptif dari morfologi bentang alam daerah telitian terdiri dari empat satuan bentuk lahan yaitu satuan bentuk lahan perbukitan tererosi, tubuh sungai, limpah banjir dan bukit intrusi. Struktur geologi yang berkembang adalah kekar dengan arah umum barat laut-tenggara. Stratigrafi pada daerah telitian terdiri dari 2 satuan batuan dari tua ke muda yaitu satuan batulempung batu ayau dan intrsui andesit. Berdasarkan klasifikasi standar *American Society of Testing and Materials (ASTM) D 388*, kualitas batubara pada daerah penelitian yaitu *high volatile a bituminous coal* sampai *sub bitominous a*. Berdasarkan klasifikasi *crucible swelling number*, *cooking coal* daerah penelitian dominan tergolong *strongly caking*.

Kata kunci: Batubara, Batu Ayau, *Cooking Coal*, Kualitas Batubara, Stratigrafi

ABSTRACT

GEOLOGI AND QUALITY COKING COAL IN THE LAMPUNUT AREA, BARITO TUHUP RAYA SUB-DISTRICT, MURUNG RAYA DISTRICT, CENTRAL KALIMANTAN PROVINCE

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The research area is located in Lampunut and its surroundings, Barito Tuhup Raya Subdistrict, Murung Raya Regency, Central Kalimantan Province. The geological formation of the research area is the Batu Ayau Formation, which is part of the Kutai Basin sub-Kutai Atas Basin. The methods used were field geological mapping, sampling and data analysis, supported by secondary data or quantitative data correlation from borehole data. Cooking coal is mainly used as a carbon source in the iron and steel industry, where coal is used as a reducing agent to convert iron ore into metal. The purpose of this study was to determine the quality of cooking coal in the Batu Ayau Formation in the Lampunut area, with a focus on measuring the crucible swelling number. The results of this study are expected to provide accurate information about the potential of cooking coal in the region as a raw material for the iron and steel industry, as well as a reference for the optimal management and utilization of coal resources. Based on a descriptive analysis of the morphology of the study area, it consists of four landform units, namely eroded hills, river bodies, floodplains, and intrusive hills. The geological structure that has developed is a joint with a general northwest-southeast direction. The stratigraphy in the study area consists of two rock units from old to young, namely the Ayau claystone unit and the andesite intrusion. Based on the American Society of Testing and Materials (ASTM) D 388 standard classification, the quality of coal in the study area is high volatile bituminous coal to sub-bituminous coal. Based on the crucible swelling number classification, the cooking coal in the study area is predominantly strongly caking.

Keywords: Coal, Batu Ayau, Coking Coal, Quality Coal, Stratigraphy