

SARI

Daerah penelitian secara administratif termasuk kedalam Desa Benua Baru, Kecamatan Kotabangun, Kabupaten Kutai Kartanegara, Provinsi Kalimantan Timur. Penelitian ini bertujuan untuk mengintegrasikan kajian tatanan geologi dengan aspek geometri lapisan batubara di daerah penelitian. Metodologi yang digunakan yaitu akuisisi data, analisis, dan sintesa. Berdasarkan aspek-aspek geomorfologi, maka daerah penelitian terbagi menjadi tiga yaitu Perbukitan Homoklin Bergelombang Kuat (S1), Perbukitan Homoklin Bergelombang Lemah (S2), dan Dataran Fluvial (F1). Stratigrafi daerah penelitian termasuk kedalam Formasi Balikpapan yang terdiri dari tiga satuan batuan, dari tua ke muda: satuan batulempung Balikpapan dengan lingkungan pengendapan *delta plain*, satuan batupasir Balikpapan dengan lingkungan pengendapan *delta plain* dan Endapan Aluvial. Hasil analisis karakteristik geometri, tebal lapisan termasuk kedalam kategori tipis, kemiringan berkisar dari 5°-15° dan arah kemenerusan batubara berdasarkan korelasi bor *on strike* memiliki kisaran *strike* N250-260E. Bentuk lapisan batubara daerah penelitian terbagi menjadi bentuk *splitting* dan menebal-menipis. Faktor pengontrol geometri Seam Benoa Baru terendapkan di lingkungan *delta plain* pada fasies *swamp*, namun sedimentasi tersebut tidak berkembang dengan baik karena sumber material yang terbatas serta pengaruh *influx* material pengotor dari *channel* dan lingkungan laut.

Kata kunci: Batubara, Formasi Balikpapan, Geometri

ABSTRACT

The research area is administratively included within Benua Baru Village, Kotabangun District, Kutai Kartanegara Regency, East Kalimantan Province. This study aims to integrate geological studies with the geometric aspects of coal seams in the research area. The methodology used includes data acquisition, analysis, and synthesis. Based on geomorphological aspects, the research area is divided into three regions: Strongly Undulating Homocline Hills (S1), Weakly Undulating Homocline Hills (S2), and Fluvial Plains (F1). The stratigraphy of the research area belongs to the Balikpapan Formation, which consists of three rock units, from oldest to youngest: the Balikpapan mudstone unit with a delta plain depositional environment, the Balikpapan sandstone unit with delta plain and alluvial deposit environments. The results of the geometric characteristics analysis indicate that the thickness of the coal seams is categorized as thin, with a dip ranging from 5° to 15°, and the strike direction of the coal seams, based on borehole correlations on strike, ranges from N250-260E. The shape of the coal seams in the research area is classified into splitting and thinning-thickening forms. The controlling factors for the geometry of the Benua Baru seam are its deposition in a delta plain environment within a swamp facies. However, sedimentation did not develop well due to limited material sources and the influence of contaminant influx from channels and marine environments.

Keywords: Balikpapan Formation, Coal, Geometry