

**GEOLOGI DAN STUDI PERSEBARAN *SEAM* BATUBARA  
DAN PENGARUHNYA TERHADAP ESTIMASI CADANGAN  
BATUBARA DI DAERAH GIRIMULYA,  
KECAMATAN KUSAN HULU, KABUPATEN TANAH BUMBU,  
PROVINSI KALIMANTAN SELATAN**

**SARI**

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Secara administratif, lokasi penelitian terletak pada wilayah konsesi PT. Borneo Indobara tepatnya pada Pit FX Daerah Girimulya, Kecamatan Kusan Hulu, Kabupaten Tanah Bumbu, Provinsi Kalimantan Selatan. Lokasi penelitian memiliki luasan 2,2 x 2,2 km atau sekitar 4,84 km<sup>2</sup>. Secara geografis, lokasi penelitian terletak pada koordinat (UTM -WGS84- Zona 50S) 3420750 mE – 344250 mE dan 9612000 mE – 9614395 mE. Secara astronomis, lokasi penelitian terletak pada 3°30'33.22"S – 3°29'15.35"S, 115°34'41,76"E – 115°35'52.35"E. Metode Penelitian yang dilakukan dalam penelitian ini terdiri atas studi pustaka, interpretasi geomorfologi, interpretasi geologi, dan studi kasus menggunakan analisa data stratmodel dan data survei. Geomorfologi daerah penelitian tersusun atas bentuklahan, yaitu bentuklahan *penepain* (D1), tubuh sungai (F1), dataran alluvial (F2), lahan penambangan (A1), lahan timbunan/*disposal* (A2), lahan tumpukan batubara/*ROM* (A3), dan kolam tambang/*sump* (A4). Stratigrafi daerah penelitian disusun oleh 4 satuan dari tua ke muda, yaitu Satuan Batulempung Formasi Warukin (Miosen Tengah-Akhir), Satuan Batupasir Formasi Warukin (Miosen Tengah-Akhir) yang terendapkan pada lingkungan pengendapan *transitional lower delta plain*, dan Satuan Konglomerat Formasi Dahor (Plio-Pleistosen) yang terendapkan pada lingkungan pengendapan *upper delta plain*, dan Satuan Endapan Alluvial (Holosen-Resen). Struktur geologi yang berkembang pada daerah penelitian berupa sesar, dan *cleat*. Sesar pada daerah penelitian terdapat pada LP 15 yang setelah dilakukan analisa stereografis memiliki nama *Right Reverse Slip Fault* (Rickard, 1972). *Cleat* pada daerah penelitian memiliki arah umum yang menunjukkan orientasi *face cleat* ke arah tenggara-barat daya. Daerah penelitian memiliki potensi geologi berupa batubara. Persebaran *seam* batubara pada daerah penelitian memiliki anomali berupa perbedaan ketebalan, perbedaan elevasi, serta sudut kemiringan *seam* yang lebih curam sehingga cadangan yang dihitung pada menggunakan data stratmodel (1.180.189,41 mT) berbeda dengan yang dihitung menggunakan data survei (1.213.877,01 mT)

**Kata Kunci** : Cekungan Asam-Asam, Batubara, Cadangan, Formasi Warukin, Persebaran *Seam*.

**GEOLOGY AND STUDY OF COAL SEAM DISTRIBUTION AND  
THEIR EFFECT ON COAL RESERVE ESTIMATION IN  
GIRIMULYA AREA, KUSAN HULU SUBDISTRICT,  
TANAH BUMBU DISTRICT, SOUTH KALIMANTAN PROVINCE**

**ABSTRACT**

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*Administratively, the research site is located in the concession area of PT Borneo Indobara, precisely in Pit FX Girimulya area, Kusan Hulu District, Tanah Bumbu Regency, South Kalimantan Province. The research site has an area of 2.2 x 2.2 km or approximately 4.84 km<sup>2</sup>. Geographically, the research site is located at coordinates (UTM -WGS84- Zone 50S) 3420750 mE - 344250 mE and 9612000 mE - 9614395 mE. Astronomically, the research site is located at 3°30'33.22 "S - 3°29'15.35 "S, 115°34'41.76 "E - 115°35'52.35 "E. The research methods carried out in this study consist of literature study, geomorphological interpretation, geological interpretation, and case studies using stratmodel data analysis and survei data analysis. The geomorphology of the study area is composed of landforms, namely penepain landform (D1), river body (F1), alluvial plain (F2), mining land (A1), stockpile land/disposal (A2), coal pile land/ROM (A3), and mine pond/sump (A4). The stratigraphy of the research area is arranged by 4 units from old to young, namely the Warukin Formation Limestone Unit (Middle-Late Miocene), the Warukin Formation Sandstone Unit (Middle-Late Miocene) deposited in the transitional lower delta plain depositional environment, and the Dahor Formation Conglomerate Unit (Plio-Pleistocene) deposited in the upper delta plain depositional environment, and Alluvial Deposition Unit (Holocene-Recent). Geological structures that develop in the study area are faults, and cleats. The fault in the study area is found in LP 15 which after stereographic analysis has the name Right Reverse Slip Fault (Rickard, 1972). Cleats in the study area have a general direction that shows the orientation of the cleat face to the southeast-southwest. The research area has geological potential in the form of coal. The distribution of coal seams in the research area has anomalies in the form of thickness differences, elevation differences, and steeper seam slope angles so that the reserves calculated using stratmodel data (1,180,189.41 mT) are different from those calculated using survey data (1,213,877.01 mT).*

**Keywords:** *Asam-Asam Basin, Coal, Reserves, Seam Distribution, Warukin Formation.*