INTISARI

MEMBANGUN MODEL GEOMETRI DAN ANALISA LINGKUNGAN PENGENDAPAN BATUBARA BERDASARKAN MODEL HORNE MENGGUNAKAN DATA WELL LOGGING PADA LAPANGAN "CGE" , KUTAI BARAT, KALIMANTAN TIMUR

Oleh:

Junitus Kevin Geraldy Hopaya
115140032

Penelitian ini dilakukan di lapangan PT. Trubaindo Coal Mining, Kutai Barat, Kalimantan Timur. Cekungan sedimen Kutai membentang dari dataran tinggi bagian tengah Kalimantan, melintasi pantai timur pulau ini dan menuju Selat Makassar. Lapangan penelitian merupakan lapangan tambang batubara aktif. Maka dari itu dilakukan kegiatan eksplorasi menggunakan metode *well logging* geofisika. Terdapat 38 titik bor *well* logging dengan kedalaman berkisar antara 40 – 70 meter

Data yang dihasilkan lewat micrologger dapat langsung digunakan dalam proses analisa dan interpretasi data well logging. Data tersebut dianalisa tiap litologinya kemudian diolah menggunakan *software Strater* dan *Rockwork 16* untuk menggambarkan korelasi antar lubang bor serta menghitung cadangan batubaranya. Kemudian digunakan *software Leapfrog* untuk menghasilkan model 3D pada data yang telah dikorelasi tersebut.

Hasil yang diperoleh dari penelitian ini yaitu litologi yang diinterpretasikan berdasarkan nilai cps yaitu Lapisan batulempung memiliki nilai *Gamma Ray* 50 – 90 cps dengan densitas 4500 – 7000 cps. Lapisan batulanau memiliki nilai *Gamma Ray* sedang berkisar antara 20 – 55 cps dan nilai densitas antara 3000 – 4500 cps, lapisan batupasir : nilai *Gamma Ray* relative rendah berkisar antara 12 – 25 cps dan nilai densitas tinggi 4000 – 6000 cps, Lapisan batubara memiliki nilai *Gamma Ray* rendah berkisar antara 0 – 15 cps dan nilai densitas tinggi 7500 – 9000 cps. Terdapat 10 *seam* batubara dengan ketebalan 1,5 sampai 4,5 meter. Berdasarkan hasil interpretasi dan analisa model fasies maka dapat disimpulkan bahwa fasies pengendapan daerah penelitian terdapat pada zona *transitional delta plain* ditandai dengan ditemukannya ciri – ciri *lower delta plain* dan *upper delta plain* pada hasil analisa.

Keyword : *Well Logging,* Geometri Batubara, Lingkungan Pengendapan, Horne

ABSTRACT

BUILDING COAL GEOMETRY MODEL AND DEPOSITIONAL ENVIRONMENT ANALYSIS BASED ON HORNE MODEL USING WELL LOGGING DATA IN "CGE" FIELD, WEST KUTAI, EAST BORNEO

By:

Junitus Kevin Geraldy Hopaya
115140032

This research was conducted in the PT. Trubaindo Coal Mining's field, West Kutai, East Borneo. Kutai sedimentary basin stretches from the highlands of the central part of Borneo, across the east coast of the island and towards the Makassar Strait. Research area is an active coal mine. Therefore, exploration carried out using geophysical well logging method. There are 38 well logging drill points with depths ranging from 40 - 70 meters

Data generated through the micrologger can be directly used in the process of analysis and interpretation of well logging data. The data is analyzed for each lithology then processed using Strater and Rockwork 16 software to describe the correlation between drill holes and calculating coal reserves. Then Leapfrog software is used to produce a 3D model on the correlated data.

The results obtained from this study are lithology which is interpreted based on the value of cps, namely the claystone layer has a Gamma Ray value of 50 - 90 cps with a density of 4500 - 7000 cps. Siltstone layer has a moderate Gamma Ray value ranging from 20-55 cps and a density value between 3000 - 4500 cps, sandstone layers: relatively low Gamma Ray values ranging from 12-25 cps and high density values 4000 - 6000 cps, Coal layer has a Gamma value Low Ray ranges from 0-15 cps and a high density value of 7500 - 9000 cps. There are 10 coal seam with a thickness of 1.5 to 4.5 meters. Based on the results of interpretation and analysis of facies models, it can be concluded that the depositional facies of the study area is located in the transitional delta plain zone, characterized by the discovery of lower delta plain and upper delta plain characteristic and geometry of coal on the results of the analysis.

Kata Kunci : Well Logging, Coal Geometry, Depositional Environment, Horne