

RINGKASAN

Secara fisiografis daerah penelitian termasuk dalam Cekungan Sumatera Selatan, tepatnya pada Formasi Muara Enim Formasi pembawa batubara (*coal bearing formation*). Pada penelitian ini digunakan data sekunder berupa data LAS file hasil perekaman data well logging sebanyak 7 sumur yang kemudian dioalah menggunakan software WellCAD 5.5 untuk mendapatkan hasil lembar log yaitu *log gamma ray* dan *log densitas* yang kemudian diinterpretasi litologi bawah permukaan dengan membaca defleksi kurva log, dari hasil pembacaan kurva log didapatkan litologi pada daerah penelitian berupa batulempung, batulanau, batu lempung karbonan, dan batubara. Batubara memiliki ciri dengan respon log gamma ray yang rendah (<10 CPS) dan respon *log densitas* yang tinggi (>900 CPS). Untuk mengetahui persebaran *seam* batubara pada daerah penelitian dilakukan korelasi struktur dan korelasi stratigrafi pada *seam* batubara *onstrike* (barat laut – tenggara) dan cross strike (barat daya – timur laut) didapatkan 3 *seam* batubara *seam A*, *seam B*, *seam C*. *Seam A* mengalami *splitting* menjadi *seam A1* dan *seam A2* dikarenakan adanya pengaruh struktur. Dari hasil korelasi didapatkan kemenerusan batubara kearah barat daya – timur laut dengan mengalami penebalan dan penipisan lapisan. Analisa variasi ukuran butir dari litologi pada daerah penelitian menggunakan metode analisis elektrofases didapatkan dua pola pengendapan daerah penelitian bertipe *Serrated* dan *Bell* jika dibandingkan dengan klasifikasi Horne (1978) fasies yang berkembang pada daerah penelitian berupa *Swamp* pada litologi batubara, *Swamp* pada litologi batulempung, dan *flood Plain* pada batulempung terseling batulanau. Dan dari analisis fasies tersebut dapat diidentifikasi bahwa di daerah penelitian merupakan lingkungan pengendapan Delta pada zona *Transitional Lower Delta Plain* hingga *Upper Delta Plain*.

Kata kunci: Formasi Muara Enim, Well Logging, Elektrofases

SUMMARY

Physiographically, the research area is included in the South Sumatra Basin, precisely in the Muara Enim Formation coal bearing formation. In this study, secondary data is used in the form of LAS file data from recording well logging data as many as 7 wells which are then processed using WellCAD 5.5 software to obtain log sheet results, namely gamma ray logs and density logs which are then interpreted for subsurface lithology by reading the log curve deflection, from the results of reading the log curve, the lithology in the research area is obtained in the form of claystone, siltstone, carbonaceous claystone, and coal. Coal is characterized by low gamma ray log response (<10 CPS) and high density log response (>900 CPS). To determine the distribution of coal seams in the study area, structural correlation and stratigraphic correlation were carried out onstrike (northwest - southeast) and cross strike (southwest - northeast) coal seams and 3 coal seams were found, seam A, seam B, seam C. Seam A experienced splitting into seam A1 and seam A2 due to structural influences. From the correlation results, the coal slope is obtained in the southwest - northeast direction by experiencing thickening and thinning layers. Analysis of grain size variations of the lithology in the research area using the electrofacies analysis method obtained two patterns of deposition of the Serrated and Bell type research areas when compared to Horne's (1978) classification of facies that developed in the study area are BackSwamp in coal lithology, Swamp in mudstone lithology, and Flood Plain in mudstone interspersed with siltstone. And from the facies analysis, it can be identified that the study area is a Delta depositional environment in the Transitional Lower Delta Plain to Upper Delta Plain zone.

Keywords: *Muara Enim Formation, Well Logging, Electrofacies*