

INTISARI

ANALISIS PERBANDINGAN KARAKTERISTIK LOG LAPISAN BATUBARA BERDASARKAN DATA *WELL LOGGING* PADA FORMASI MANUMBAR, CEKUNGAN KUTAI DAN FORMASI WARUKIN, CEKUNGAN ASAM - ASAM

Oleh :

Aziza Islamiani

115.160.049

Telah dilakukan penelitian lapisan batubara menggunakan metode *well logging* pada Formasi Manumbar, Cekungan Kutai sebanyak 7 sumur dan Formasi Warukin, Cekungan Asam - asam sebanyak 12 sumur. Penelitian ini bertujuan untuk membandingkan karakteristik, lingkungan pengendapan dan aspek geologi lain lapisan batubara pada dua daerah penelitian berdasarkan densitas dan *vshale*.

Terdapat beberapa tahapan yang dilakukan pada penelitian ini yaitu : melakukan interpretasi data *well logging* (log densitas, log *gamma ray* dan log caliper), melakukan perhitungan densitas dan *vshale*, melakukan korelasi struktur dan stratigrafi. Sehingga diperoleh arah lapisan batubara, jenis lingkungan pengendapan, ketebalan dan faktor pengontrol yang membedakan dua daerah penelitian.

Berdasarkan hasil interpretasi log diperoleh lapisan batubara Formasi Manumbar dengan nilai densitas dan *vshale* (1.397 gr/cc - 1.582 gr/cc dan 0 % - 5 %), lingkungan pengendapan berupa *lower delta plain* - laut dangkal (Allen, 1998) dengan pola log *cylindrical, serrated, bell shape, funnel* dan *symmetrical*. Variasi ketebalan cenderung tipis - tebal, umumnya penipisan terjadi ke arah tenggara. Hal ini dipengaruhi oleh ketebalan, pembebanan sedimen, ketidakseimbangan kompaksi, *overpressure* batulempung, mineral pengotor, *splitting* dan *overburden*.

Sedangkan lapisan batubara Formasi Warukin diperoleh nilai densitas dan *vshale* (1.652 gr/cc - 1.853 gr/cc dan 7 % - 31 %), lingkungan pengendapan

berupa *lower delta plain* (Allen, 1998) dengan pola log *serrated*, *bell shape*, *funnel* dan *symmetrical*. Variasi ketebalan cenderung sangat tipis - tipis, umumnya penebalan terjadi ke arah timur. Hal ini dipengaruhi oleh ketebalan, *overpressure* (kompaksi batuan lempung), rekahan, *splitting*, *washout* dan mineral pengotor (*shale & non radioaktif*).

Kata Kunci : Elektrofases, Formasi Manumbar, Formasi Warukin, Lingkungan Pengendapan, *Lower Delta Plain*, *Well Logging*.

ABSTRACT

COMPARISON ANALYSIS OF LOG CHARACTERISTICS FOR THE COAL SEAMS BASED ON WELL LOGGING DATA IN MANUMBAR FORMATION, KUTAI BASIN AND WARUKIN FORMATION, ASAM - ASAM BASIN

Oleh :

Aziza Islamiani

115.160.049

The research has been done coal seams used well logging method in Manumbar Formation, Kutai Basin as many as 7 wells and Warukin Formation, Asam - asam Basin as many as 12 wells. The purpose of this research is to compare the characteristics depositional environment and other geological aspects of the coal seams in the two research areas based on density and vshale.

There are many stages in this research, that are : interpreted from well logging data (density logs, gamma ray logs and caliper logs), calculated of the density and vshale, well correlations are structure and stratigraphy. In order to obtain the direction of the coal seams, the type of depositional environment, thickness and control factors that differentiate the two research areas.

Based on the log interpretation, it was obtained coal seams in Manumbar Formation with the density and vshale value (1.397 gr/cc - 1.582 gr/cc dan 0 % - 5 %), deposition environment is lower delta plain - shallow marine (Allen, 1998) with log patterns are cylindrical, serrated, bell shape, funnel and symmetrical. Thickness variations disposed of thin - thick. Generally, the thinning occurs to the southeast. This is influenced by thickness, sediment loading, disequilibrium compaction, overpressure shale, impurity minerals, splitting and overburden.

While the coal seams of the Warukin Formation obtained density and vshale value (1.652 gr/cc - 1.853 gr/cc dan 7 % - 31 %) deposition environment is lower delta plain (Allen, 1998). Thickness variations disposed of very thin - thin. Generally, the thickening occurs to the east. This is influenced by thickness,

overpressure (shale compaction), cleat, splitting, washout and impurity minerals (shale & non radioaktif).

Keywords : *Electrofacies, Manumbar Formation, Warukin Formation, Depositional Environment, Lower Delta Plain, Well Logging.*