

Karakteristik Reservoir pada Formasi Lower Kintom B, Blok "X", Cekungan Banggai, Sulawesi Tengah = Reservoir Characterization of Lower Kintom B Formation, Block "X", Banggai Basin, Central Sulawesi

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Abstrak

Cekungan Banggai merupakan salah satu cekungan yang memiliki potensi hidrokarbon dan terletak di Sulawesi Tengah. Formasi Lower Kintom B yang terendapkan pada masa Pliosen Awal diinterpretasikan dapat menjadi reservoir hidrokarbon di Cekungan Banggai. Formasi ini terbentuk saat terjadinya kolisi antara Banggai-Sula dengan sabuk ofiolit Sulawesi Timur sehingga membentuk endapan molasse. Penelitian ini dilakukan untuk mengevaluasi sifat-sifat petrofisika batuan yang terdapat di Cekungan Banggai berdasarkan data log sumur yang terdapat pada sumur VR-3, VR-14, dan VR-15. Sifat-sifat petrofisika yang dihasilkan dari perhitungan ketiga log sumur, seperti nilai volume shale, porositas, dan saturasi air digunakan untuk penentuan kandidat reservoir yang juga didukung oleh data petrografi dan data mud log untuk mengetahui jenis litologi yang terdapat di zona reservoir. Berdasarkan hasil yang diperoleh, Formasi Lower Kintom B didominasi batulempung yang berasosiasi dengan batupasir dan batugamping di bagian atasnya. Batugamping tersebut diperkirakan sebagai zona reservoir Formasi Lower Kintom B, yaitu berupa batugamping mudstone hingga wackestone dan wackestone hingga packstone. Hasil perhitungan petrofisika pada zona reservoir Formasi Lower Kintom B didapatkan bahwa nilai volume shale berkisar antara 28-40%, nilai porositas efektif berkisar antara 14-36%, dan nilai saturasi air berkisar antara 29-40%.

.....The Banggai Basin is one of the basins that has potential for hydrocarbons and is located in Central Sulawesi. The Lower Kintom B Formation which was deposited in the Early Pliocene is interpreted to be a reservoir of hydrocarbons in the Banggai Basin. This formation was formed during a collision between Banggai-Sula micro-continent and the ophiolite belt of East Sulawesi which formed molasses deposits. This research was conducted to evaluate the petrophysical properties of the rocks in the Banggai Basin on well log data in the VR-3, VR-14, and VR-15 wells. Petrophysical resulting from the calculation of the three well logs, such as shale volume, porosity, and water saturation values are used to determine reservoir candidates which are also supported by petrographic and mud log data to determine the type of lithology in the reservoir zone. Based on the result obtained, the Lower Kintom B Formation is dominated by claystone associated with sandstone and limestone at the top. The limestone is interpreted to be a reservoir zone for the Lower Kintom B Formation, namely mudstone to wackestone and wackestone to packstone. The result of petrophysics calculations in the reservoir zone of the Lower Kintom B Formation found that shale volume values ranged from 28-40%, effective porosity values ranged from 14-36%, and water saturation values ranged from 29-40%.