

Analisis petrofisika kelompok sihapas pematang pada lapangan cekungan sumatera tengah = Petrophysical analysis of Sihapas-Pematang group at Field S, Central Sumatera Basin

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Abstrak

[ABSTRAK

Pada studi ini telah dilakukan analisis petrofisika terhadap Kelompok Sihapas-Pematang pada Lapangan S, Cekungan Sumatera Tengah. Terdapat empat buah sumur yaitu KN-1, N-1, O-1, dan P-1 yang tersebar pada Lapangan S. Analisis petrofisika bertujuan untuk mengidentifikasi zona reservoir hidrokarbon melalui perhitungan parameter petrofisika yang terdiri dari perhitungan kandungan lempung, saturasi air, porositas, dan permeabilitas. Selanjutnya, penentuan nilai cutoff dari kandungan lempung, porositas, saturasi air, dan permeabilitas dilakukan untuk pembuatan lumping. Pengolahan tambahan yaitu well to seismic tie dilakukan dengan tujuan agar log sumur dapat diletakkan pada kedalaman sebenarnya dalam penampang seismik sehingga didapatkan gambaran kondisi struktur geologi bawah permukaan. Berdasarkan hasil lumping, zona yang potensial mengandung hidrokarbon dari empat buah sumur pada Lapangan S ini memiliki nilai porositas rata-rata yaitu 26 %, nilai saturasi air rata-rata yaitu 14 %, nilai kandungan lempung rata-rata yaitu 11 %, dan nilai permeabilitas rata-rata yaitu 121 mD.

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ABSTRACT

Through this study, a petrophysical analysis of the Sihapas-Pematang Group at Field S, Central Sumatera Basin has been conducted. There are four wells namely Well KN-1, Well N-1, Well O-1, and Well P-1 which spread at Field S. Petrophysical analysis aims to identify hydrocarbon reservoir zones through petrophysical parameter measurements which consist of volume shale, water saturation, porosity, and permeability. Afterwards, determining cutoff value of volume shale, porosity, water saturation, and permeability to generate lumping. An additional processing, which is well to seismic tie, conducted in order that the well log can be placed at the right depth in the seismic section so that the imaging of the subsurface geological structure condition may be acquired. Based on lumping result, the zones potentially containing hydrocarbon from the four wells at Field S have an average porosity value of 26%, an average of water saturation value of 14%, an average volume shale value of 11%, and an average permeability value of 121 mD., Through this study, a petrophysical analysis of the Sihapas-Pematang Group at Field S, Central Sumatera Basin has been conducted. There are four wells namely Well KN-1, Well N-1, Well O-1, and Well P-1 which spread at Field S. Petrophysical analysis aims to identify hydrocarbon reservoir zones through petrophysical parameter measurements which consist of volume shale, water saturation, porosity, and permeability. Afterwards, determining cutoff value of volume shale, porosity, water saturation, and permeability to generate lumping. An additional processing, which is well to seismic tie, conducted in order that the well log can be placed at the right depth in the seismic section so that the imaging of the subsurface geological structure condition may be acquired. Based on lumping result, the zones potentially containing hydrocarbon from the four wells at Field S have an average porosity value of 26%, an average of water

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