

Analisis Distribusi Reservoir Menggunakan Multi Attribute dan Multi Attribute Rotation Scheme pada Formasi Talang Akar di Lapangan 'AS' Cekungan Sunda = Analysis of Reservoir Distribution Using Multi Attribute and Multi Attribute Rotation Scheme on the Talang Akar Formation in the 'AS' Field, Sunda Basin Abstract

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Abstrak

Sebagian Cekungan Sunda, dengan Formasi Talang Akar sebagai reservoir utama, merupakan area prospektif hidrokarbon di Indonesia. Tantangan distribusi reservoir di lapangan ini disebabkan oleh heterogenitas litologi yang tinggi akibat lingkungan pengendapan dan struktur geologi. Penelitian ini menggunakan metode inversi seismik impedansi akustik dan membandingkan metode Multi-Attribute Rotation Scheme (MARS) dengan Multi Attribute untuk memetakan distribusi reservoir batupasir. Hasilnya, MARS menunjukkan korelasi prediksi lebih tinggi (68–77%) dibandingkan Multi Attribute. Nilai impedansi akustik berkisar antara 13.434 hingga 19.771 gr/cc-ft/s, dengan properti target seperti porositas (13–17%), volume shale (VSH) (43–69%), dan saturasi air (S_w) antara 0 hingga 0.21. Ketiga metode menunjukkan kesesuaian dalam menggambarkan distribusi reservoir batupasir.

.....The Sunda Basin, with the Talang Akar Formation as the main reservoir, is a prospective hydrocarbon area in Indonesia. The reservoir distribution in this field faces challenges due to high lithological heterogeneity caused by the depositional environment and geological structure. This study uses seismic impedance inversion methods and compares the Multi-Attribute Rotation Scheme (MARS) with Multi-Attribute methods to map the distribution of sandstone reservoirs. The results show that MARS provides a higher prediction correlation (68–77%) compared to Multi-Attribute. Acoustic impedance values range from 13,434 to 19,771 gr/cc-ft/s, with target properties such as porosity (13–17%), shale volume (VSH) (43–69%), and water saturation (S_w) ranging from 0 to 0.21. The three methods show a good match in illustrating the distribution of sandstone reservoirs.