Karakterisasi reservoir cekungan Kutai berdasarkan analisis atribut seismik dan model colored inversion = Characterization of oil and gas reservoir based on seismic attribute analysis and colored inversion model.

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Abstrak

Konsumsi dan kebutuhan minyak dan gas bumi di Indonesia semakin tahun semakin meningkat sayangnya produksi minyak dan gas di Indonesia belum bisa mengimbangi permintaan yang terus naik, sehingga diperlukan metode eksplorasi dan interpretasi yang lebih efektif sehingga produksi bisa ditingkatkan, salah satu nya dengan menggunakan Colored Inversion. Tujuan dari penelitian yang dilakukan pada kasus offshore sebuah lapangan di Kalimantan , Indonesia adalah mengkarakterisasi reservoir daerah tersebut berdasarkan metode Colored Inversion dan metode yang lebih konvensional yaitu Atribut Seismik. Metode Colored Inversion adalah salah satu metode inversi impendansi Akustik seismik 3D yang semua datanya berasal dari data seismik, sehingga mempersingkat waktu pemodelan. Dalam penelitian ini terdapat dua proses analisis reservoir, yang pertama berdasarkan atribut Envelope, Frekuensi, dan Fasa, kedua analisa berdasarkan hasil dari Colored Inversion. Kedua analisa ini kemudian di korelasikan sebagai pembuktian keakuratan identifikasi reservoir hidrokarbon dari proses Colored Inversion. Berdasarkan Hasil penelitian, Metode Colored Inversion sudah bisa memetakan parameter target yang diduga batuan reservoir serta memiliki korelasi yang cukup baik dengan analisi atribut seismik untuk mengkarakterisasikan reservoir hidrokarbon.

.....The consumption and demand for oil and gas in Indonesia is increasing year by year. Unfortunately, oil and gas production in Indonesia has not been able to keep up with the ever-increasing demand, so more effective exploration and interpretation methods are needed so that production can be increased, one of which is by using Colored Inversion. The purpose of the research conducted on the offshore case of a field in Kalimantan, Indonesia is to characterize the reservoir area based on the Colored Inversion method and the more conventional method, namely Seismic Attributes. The Colored Inversion Method is one of the 3D seismic acoustic impedance inversion methods in which all the data comes from seismic data, thus shortening the modeling time. In this study, there are two reservoir analysis processes, the first is based on the Envelope, Frequency, and Phase attributes, the second analysis is based on the results of the Colored inversion. These two analyzes are then correlated to prove the accuracy of the identification of the hydrocarbon reservoir from the Colored inversion process. Based on the results of the study, the Colored Inversion Method was able to map the target parameters suspected to be reservoir rocks and had a fairly good correlation with seismic attribute analysis to characterize hydrocarbon reservoirs.