

Pemetaan distribusi reservoir dengan menggunakan metode inversi seismik pada Lapangan F3 Netherland = Mapping of reservoir distribution using seismic inversion methods on F3 Netherland's field

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Abstrak

Telah dilakukan studi pemetaan distribusi reservoir dengan menggunakan metode inversi seismik. Pemetaan distribusi reservoir dilakukan dengan melihat persebaran dari nilai Acoustic Impedance (AI). Nilai AI didapatkan dengan melakukan metode inversi AI dengan masukan data seismik 3D Post-Stack dan kontrol dari empat buah sumur. Metode inversi yang digunakan adalah inversi bandlimited dan inversi spare-spike. Hasil proses inversi yaitu peta persebaran AI yang akan diidentifikasi sebagai distribusi reservoir pada tiga horizon (FS8, FS7, dan FS4). Lapangan F3 terletak di sektor laut utara Belanda. Lapangan ini memiliki potensi akumulasi hidrokarbon yang dangkal. Hal ini diindikasikan dengan keberadaan fenomena bright spots dan gas chimney pada penampang seismik.

Berdasarkan hasil persebaran nilai AI dan porosity untuk ke tiga horizon, daerah prospek terdapat pada bagian tengah mengarah ke bagian timur daerah penelitian.

.....The studied of reservoir distribution mapping using seismic inversion methods have been conducted. Reservoir distribution mapping was conducted by looking at the distribution Acoustic Impedance's (AI) values. AI valeus were obtained by the AI inversion method with input from 3D Post Stack Time Migration (PSTM) seismic data and control from four wells. Inversion Methods that have been used are band limited inversion and spare spike inversion.

The results of inversion process are AI distribution map which will be indentified as a distribution reservoir on three horozons (FS8, FS7, and FS4). F3 field was located on the Dutch sector of the North Sea. This field has shallow potential of hydrocarbon accumulation. This was indicated by the phenomenon's presence of gas chimney and the bright spot on the seismic section.

Based on the results of AI distribution and porosity values on those horizons, the prospect area were located on the middle leads to the eastern part of the study area.