Identifikasi zona penyebaran hidrokarbon berdasarkan nilai poisson's ratio hasil analisis avo, studi kasus : batu pasir formasi talang akar sub cekungan Sumatera selatan = Hydrocarbon distribution identification base on poisson's ratio of avo, analysis result case study : sandstone of talang akar formation South Sumatra sub basin

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Abstrak

[ABSTRAK
Area penelitian merupakan struktur pengembangan pada bagian timur struktur ?Sulis?dengan luas area sekitar 3 km2 dan merupakan kompartemenisasi batupasir. Perbedaan batas minyak air pada sumur-sumur existing mengindikasikan adanya perbedaan facies dan lingkungan pengendapan dari batu pasir.
Terbatasnya jumlah sumur produksi serta data geologi pada area penelitian ini yang dapat memperkirakan penyebaran hidrokarbon secara lateral dan perubahan facies batupasir dapat menyebabkan suatu potensi kegagalan dalam memperoleh kandungan hidrokarbon pada pemboran sumur-sumur pengembangan di struktur ?Sulis? ini.
Tesis ini membahas metode analisa untuk dapat memperkirakan zona penyebaran hidrokarbon serta perkiraan jenis kandungannya. Perkiraan dari sebaran zona hidrokarbon adalah berdasarkan analisa dari kontras perubahan nilai poisson?s ratio yang tinggi serta adanya respon anomali seismik pada area penelitian. Nilai poisson?s ratio pada kisaran 0.1-0.2 diperkirakan merupakan jenis kandungan gas dan kisaran 0.2 ? 0.3 merupakan jenis kandungan minyak.
Data-data yang digunakan berupa data seismik 3D prestack gather dari struktur ?Sulis?, log sonic dan log density sumur acuan X-63 dan diproses menggunakan software Hampson Russell. Analisa AVO ini dilakukan dengan metode forward modelling yang meliputi poses Fluid Replacement Modelling, perhitungan perubahan nilai skala poisson?s ratio serta analisa Amplitude Versus Offset.
Hasil analisis yang berupa peta perubahan nilai poisson?s ratio serta respon seismik berupa anomaly amplitude telah dapat digunakan untuk mengidentifikasi zona penyebaran hidrokarbon pada area penelitian di struktur ?Sulis?.
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ABSTRACT
The area of study is development structure at the east of ?Sulis?structure with 3km2 of wide. This area consist of sandstone compartement with variation of deposition environment. The diference of oil water contact at the existing wells were indicated different of sandstone facies and deposition environment. The limitation of production wells and geology data to estimate lateral hydrocarbon distribution and sandstone facies in this area will be a failure risk potential in drilling wells development at?Sulis?structure.
The topic of this thesis is discussed about the methode analysis to predict about the distribution and type of hydrocarbon. The estimation of hydrocarbon distribution zone is base on high contrast of poisson?s ratio changed and seismic anomali respons in the area study. The value of Poisson?s ratio in the range 0.1 ? 0.2 is estimated of gas type and in range 0.2 ? 0.3 is estimated of oil type.
3D seismic prestack gather of?Sulis?structure, sonic and density log of existing X- 63 well was used in

processing analysis with Hampson Russell software. The AVO analysis is include forward modelling methode, fluid replacement modelling, scaled poisson?s ratio changed and amplitude versus offset.
The analysis result of scaled poisson?s ratio changed and amplitude anomalies respons has identified the distribution zones and type of hydrocarbon in area study of ?Sulis? structure.;The area of study is development structure at the east of ?Sulis?structure with 3km2 of wide. This area consist of sandstone compartement with variation of deposition environment. The diference of oil water contact at the existing wells were indicated different of sandstone facies and deposition environment. The limitation of production wells and geology data to estimate lateral hydrocarbon distribution and sandstone facies in this area will be a failure risk potential in drilling wells development at?Sulis?structure.
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