INTISARI

ESTIMASI SEBARAN POROSITAS RESERVOIR BATUPASIR LAPISAN TAF-3.1, FORMASI TALANG AKAR, LAPANGAN "PAWIRO", CEKUNGAN JAWA BARAT UTARA BERDASARKAN INVERSI SEISMIK IMPEDANSI AKUSTIK

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Penelitian untuk mengestimasi sebaran porositas reservoir batupasir di Lapangan "Pawiro", Cekungan Jawa Barat Utara telah dilakukan dengan menggunakan data seismik 3D PoTM, data sumur, dan informasi geologi. Tipe jebakan hidrokarbon pada area penelitian adalah jebakan stratigrafi dengan litologi batupasir dan jebakan struktur berupa sesar. Proses inversi dilakukan terhadap data seismik dengan metode inversi *maximum likehood* (*spare-spike*). Hasil proses inversi berupa volume impedansi akustik dan porositas.

Interpretasi dilakukan dengan membuat sayatan horizontal terhadap volume impedansi akustik dan porositas. Berdasarkan peta impedansi akustik diperoleh sebaran lapisan batupasir relatif pada arah utara dan timur laut daerah penelitian di lapisan TAF-3.1. Diperoleh nilai jangkauan impedansi akustik sebesar 5600 – 7000 ((gr/cc).(m/s)), dan porositas sebesar 10% hingga 14%. Selanjutnya, direkomendasikan titik UKP-07 dan UKP-08 sebagai lokasi sumur pengembangan berikutnya.

Kata kunci: inversi seismik, impedansi akustik, porositas, sumur pengembangan

ABSTRACT

POROSITY DISTRIBUTION ESTIMATION AT SANDSTONE RESERVOIR LAYER TAF-3.1 OF TALANG AKAR FORMATION IN "PAWIRO" FIELD, NORTH WEST JAVA BASIN BASED ON SEISMIC INVERSION ACOUSTIC IMPEDANCE

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A research for estimating the reservoir porosity distribution at "Pawiro" Field, North West Java Basin using 3D seismic data post stack time migration, well logs, and geological information has been performed. The hydrocarbon traps at the research area are sandstone lithological layer as stratigraphical trap and faults as structural trap. Inversion process of seismic data were carried with maximum likehood inversion (spare-spike) which yield the acoustic impedance and porosity volume.

The interpretation was carried out by making horizontal slices to the acoustic impedance and porosity volume. Based on accoustic impedantion map was shown the sandstone distribution to North and North-East direction of research area at TAF-3.1 layer. The range of acoustic impedance value in 5600 – 7000 ((gr/cc).(m/s)) yields, and have porosity values between 10% - 14%. Furthermore, UKP-07 and UKP-08 points are going to recommend to be the next development well locations.

Keywords: seismic inversion, acoustic impedance, porosity, development well