

SARI

GEOLOGI DAN PEMODELAN *RESERVOIR* PADA ZONA *LOWSTAND SYSTEM TRACT 3*, FORMASI TALANGAKAR, LAPANGAN WIDO, CEKUNGAN SUMATRA SELATAN

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Lapangan Wido secara administratif terletak di Provinsi Sumatra Selatan, Cekungan Sumatera Selatan dengan luas 15 km². Lapangan ini terletak pada dua kompartemen struktur yang berasosiasi dengan struktur lipatan yang berorientasi Utara – Selatan dan struktur sesar normal berorientasi Timur Laut – Barat Daya akibat periode deformasi kompresi. *Reservoir* pada Lapangan Wido adalah Formasi Talangakar *Transition Member* (TRM) dengan fokus penelitian pada interval lapisan batupasir pada system track lapisan *Lowstand System Track 3* (LST 3). Penelitian ini bertujuan untuk memahami kondisi geologi lapangan penelitian, menentukan karakteristik *reservoir* seperti fasies pengendapan, properti dan distribusi *reservoir*, serta prospek hidrokarbon pada *reservoir* LST 3. Data yang digunakan terdiri dari data *wireline log*, data petrofisik, dan data seismik 3D. Metode yang digunakan adalah analisis *wireline log*, *cutting*, analisis seismik dan perhitungan cadangan. *Reservoir* LST 3 Formasi Talangakar *Transition Member* TRM pada Lapangan Wido diendapkan pada lingkungan asosiasi delta yaitu *Distributary Channel* dan *Mouth Bar* dengan arah pengendapan dominan Utara – Selatan. Berdasarkan perhitungan petrofisika, *reservoir* daerah penelitian memiliki nilai rata – rata porositas efektif 12.9%, saturasi air 0,65 dan pada pemodelan properti permeabilitas rata– rata 50.68 mD serta *net to gross* senilai 0,27. Estimasi total volumetrik hidrokarbon pada Lapangan Wido sebesar 11.76 MSTB (*Million Stock Tank Barrels*)

Kata kunci : Cekungan Sumatera Selatan, Formasi Talangakar *Transition Member* (TRM), *object modelling*, pemodelan *reservoir*

ABSTRACT

GEOLOGY AND RESERVOIR MODELLING OF WIDO FIELD, LOW SYSTEM TRACT 3 INTERVAL, TALANGAKAR FORMATION, SOUTH SUMATRA BASIN

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Wido Field administratively is located in Prabumulih Province and part of South Sumatra Basin encompassing an area of 15 km². Wido Field is located in two compartment structure which associate with two anticlin with Nort – South and normal fault with Northeast-Southwest trend as result of compression stage. Reservoir of Wido Field is Talangakar Transition Member (TRM) Formation with study focus at sandstone interval Lowstand System Tract 3 (LST 3). The main purpose of this study are to know geological condition of Wido Field to determine reservoir characteristic such as depositional facies, reservoir properties and distribution, and hydrocarbon prospect of sandstone interval Z-600. The data used in this study consists of wireline log, petrophysic, and 3D seismic. Several methods that have been used are wireline analysis, cutting analysis, seismic analysis and hydrocarbon volumetric estimation. LST 3 resevoir Talangakar Transgressive Member TRM Formation was deposited in delta which is dominated distributary channel and mouth bar with North – South sedimentation trend. Based on reservoir property modelling and petrophysics calculate the research interval has average reservoir porosity is about 12.9%, water saturation 0,65 with average permeability 50.68 mD and net to gross is about 0,27. The total hydrocarbon volumetric estimation on Wido Field is 11.76 MSTB (*Million Stock Tank Barrels*)

Keywords : South Sumatra Basin, Talangakar Transition Member (TRM) Formation, object modelling, reservoir modelling