

INTISARI

ANALISIS PETROFISIKA DAN PERHITUNGAN VOLUMETRIK CADANGAN HIDROKARBON PADA LAPANGAN *PHOENIX* CEKUNGAN SUMATERA SELATAN

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Analisis petrofisika telah dilakukan pada Formasi Talang Akar pada Lapangan *Phoenix* Cekungan Sumatra Selatan. Analisis petrofisika dilakukan pada 60 sumur dan pada tiga *reservoir* Formasi Talang Akar yaitu lapisan a0, D dan E. Berdasarkan data uji kandung lapisan (DST) ketiga lapisan merupakan *reservoir* terbaik. Analisis petrofisika dilakukan untuk mendapatkan nilai kandungan serpih, porositas efektif, saturasi air dan permeabilitas dari ketiga lapisan tersebut menggunakan analisa probabilistic dan deterministik. Kemudian hasil tersebut akan digunakan sebagai masukan untuk perhitungan *Stock tank Original Oil in place* (STOOIP).

Hasil analisis petrofisika pada lapisan a0 didapatkan nilai kandungan serpih 0.34-0.73%, porositas efektif 0.046-0.16%, saturasi air 0.67-0.93% dan permeabilitas 3.54-43mD. Lapisan D didapatkan nilai kandungan serpih 0.39-0.77%, porositas efektif 0.025 -0.11%, saturasi air 0.65-0.95% dan permeabilitas 4.23- 795mD. Dan lapisan E didapatkan nilai kandungan serpih 0.2-0.57%, porositas efektif 0.76-0.15%, saturasi air 0.5-0.77% dan permeabilitas 0.3-63mD. Pada peta persebaran diketahui *reservoir* terpusat di antiklin. Dan hasil STOOIP pada masing-masing *reservoir* yaitu *reservoir* a0 sebesar 38.865 MMSTB, *reservoir* D sebesar 28.054MMSTB dan *reservoir* E sebesar 28.683MMSTB.

Kata Kunci : Analisis Petrofisika, STOOIP, Volumetrik, Uji Kandung Lapisan (DST)

ABSTRACT

PETROPHYSICAL ANALYSIS AND HYDROCARBON RESERVE VOLUMETRIC CALCULATION IN PHOENIX FIELD SOUTH SUMATERA BASIN

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Petrophysical analysis has been done on the Talang Akar Formation of Phoenix Field in South Sumatra Basin. Petrophysical analysis performed on 60 wells and three reservoirs in the layer a0, D and E of Talang Akar Formation. Based on the drill steam test (DST), the third layer is the best reservoir. Petrophysical analysis performed to obtain the volume of shale content, effective porosity, water saturation and permeability of the third layer using probabilistic and deterministic analysis. Then the results will be used as input for the calculation of Stock Tank Original Oil in place (STOOIP).

The results of petrophysical analysis in reservoir a0 has volume of shale 0.34-0.73%, effective porosity 0.046-0.16%, water saturation 0.67-0.93%. and permeability 3.54-43mD. Reservoir D has volume of shale 0.39-0.77%, effective porosity 0.025 - 0.11%, water saturation 0.65-0.95% and permeability 4.23-795mD. And reservoir E has volume of shale 0.2-0.57%, effective porosity 0.76-0.15%, water saturation 0.5-0.77% and permeability 0.3-63mD. Based on the map of reservoir distribution, are known the best reservoir in the centered of anticline. And the results STOOIP on each reservoir which contained to 38 865 MMSTB in reservoir a0, 28.054MMSTB for reservoir D and 28.683MMSTB for reservoir E.

Keywords: petrophysical analysis, STOOIP, Volumetrik, Drill Steam Test (DST)