

RINGKASAN

PENENTUAN LAPISAN PRODUKTIF PADA SUMUR “RAP-27” LAPANGAN “NAGA” DENGAN REINTERPRETASI HASIL DATA *LOGGING*

Oleh

RADEN RAFFLY ADITYA PUTRA PRATAMA

NIM : 113190115

(Program Studi Sarjana Teknik Perminyakan)

Sumur RAP-27 merupakan sumur pengembangan yang terletak di lapangan “NAGA” tepatnya terletak di Cekungan Sumatera Selatan. Sumur tersebut diperkirakan masih memiliki cadangan hidrokarbon yang cukup menjanjikan pada lapisan lainnya, oleh karena itu, diperlukan analisa petrofisik berupa *well logging* untuk menentukan letak zona produktif guna dilakukannya kerja ulang pindah lapisan.

Pada skripsi ini, digunakan analisa data *well logging* yang akan dilakukan secara kualitatif berupa interpretasi dari kombinasi log berupa *log gamma ray*, *log resistivity*, *neutron log*, dan *density log* yang digunakan untuk menentukan zona produktif, serta analisa secara kuantitatif seperti perhitungan *VShale*, perhitungan porositas dengan melakukan validasi data antara data porositas *core* dengan data porositas log dengan hasil didapatkan metode perhitungan menggunakan porositas log *neutron-density*, perhitungan saturasi air dilakukan dengan metode Indonesia, dikarenakan perbandingan antara nilai data *core* lebih cenderung mendekati dengan hasil metode Indonesia kemudian dilanjutkan penentuan nilai *cut-off* berdasarkan data *rate test*. Dengan data yang telah diperoleh maka akan digunakan untuk menghitung nilai *in-place* hidrokarbon.

Berdasarkan hasil analisa yang telah dilakukan, Pada sumur “RAP-27” didapatkan nilai *cut-off* sebesar 0,52 untuk volume *shale*, 0,052 untuk porositas, dan 0,7 untuk saturasi air. Dari parameter *cut off* tersebut didapatkan nilai ketebalan bersih sebesar 85 ft dengan jumlah potensi hidrokarbon (OOIP) sebesar 2,41 MMSTB.

Kata Kunci : *well logging*, *interpretasi log*, *cut off*, *petrofisik*, *OOIP*

ABSTRACT

DETERMINATION OF PRODUCTIVE LAYERS IN THE "RAP-27" WELL "NAGA" FIELD BY ANALYZING DATA FROM LOGGING RESULTS

By

RADEN RAFFLY ADITYA PUTRA PRATAMA

NIM : 113190115

(Petroleum Engineering Undergraduate Program)

The RAP-27 well is a development well located in the "NAGA" field, precisely located in the South Sumatra Basin. It is estimated that the well still has quite promising hydrocarbon reserves in other layers, therefore, petrophysical analysis in the form of well logging is needed to determine the location of the productive zone in order to carry out rework to move layers.

In this thesis, well logging data analysis is used which will be carried out qualitatively in the form of interpretation of a combination of logs in the form of gamma ray logs, resistivity logs, neutron logs, and density logs which are used to determine productive zones, as well as quantitative analysis such as VShale calculations, porosity calculations. by validating data between core porosity data and log porosity data with the results obtained by a calculation method using neutron-density log porosity, water saturation calculations were carried out using the Indonesian method, due to the distribution of shale which is included in dispersed clay with salinity values included in moderate. and determining the cut-off value based on rate test data. With the data that has been obtained it will be used to calculate the in-place value of hydrocarbons.

Based on the results of the analysis that has been carried out, in the "RAP-27" well the cut-off values were obtained at 0,52 for shale volume, 0,052 for porosity, and 0,7 for water saturation. From these cut off parameters, a net thickness value of 85 ft was obtained with a total hydrocarbon potential (OOIP) of 2,41 MMSTB.

Key word : *well logging, interpretasi log, cut off, petrophysical, OOIP*