

## RINGKASAN

### **IDENTIFIKASI *BYPASSED OIL* DARI DATA *LOGGING* DAN DATA *TEST* UNTUK *WORKOVER* SERTA ANALISIS KEEKONOMIAN SEDERHANA PADA SUMUR WD-03 LAPANGAN KHS**

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Sumur WD-03 merupakan sumur produksi dengan status *Long Term Closed* (LTC) yang berada pada Lapangan KHS yang termasuk dalam Cekungan Sumatera Tengah. Di akhir tahun 2012, sumur tersebut mengalami penurunan produksi sehingga menyebabkan sumur ini harus ditutup sementara. Untuk menanggulangi permasalahan ini akan dilakukan identifikasi *bypassed oil*. *Bypassed oil* adalah minyak yang tertinggal atau terlewat pada lapisan terproduksi di awal eksplorasi yang dapat terjadi karena beberapa hal diantaranya yaitu heterogenitas *reservoir* yang tinggi, kebijakan ekonomi yang tidak terlalu mempertimbangkan lapisan yang tipis di awal produksi, dan lain-lain.

Identifikasi *bypassed oil* dilakukan mulai dari analisis kuantitatif berupa penentuan *cut-off* dari permeabilitas dan resistivitas. Dilanjutkan dengan analisis kualitatif dengan data *logging* dan korelasi struktur Lapangan KHS serta divalidasi dengan data *test* untuk menentukan *current oil water contact* dan validasi adanya produksi minyak sehingga diperoleh 2 zona interval *bypassed oil* yang direkomendasikan untuk *workover* pada Sumur WD-03. Perhitungan keekonomian sederhana dimulai dengan perhitungan nilai kumulatif minyak dan *liquid*, dilanjutkan dengan estimasi durasi pengerjaan *workover*, *cost estimation*, *cash flow* untuk mendapatkan indikator keekonomian, kemudian dilanjutkan dengan melakukan sensitivitas sebesar 20% pada nilai produksi minyak, harga minyak, *opex*, dan investasi.

Interval *bypassed oil* yang direkomendasikan untuk dilakukan *workover* pada Sumur WD-03 yaitu 2983-2994 ft dan 3034-3040 ft. Nilai kumulatif minyak setelah dilakukan perhitungan dari data *rate forecast* sebesar 50,071.41 STB. Indikator keekonomian terbukti ekonomis setelah sudah dilakukan perhitungan indikator keekonomian. Hasil sensitivitas yang dilakukan menunjukkan bahwa nilai *oil production* dan *oil price* sangat sensitif terhadap perhitungan *cash flow*.

Kata kunci : *bypassed oil*, *logging*, data *test*, *workover*, keekonomian sederhana

## ABSTRACT

### ***IDENTIFICATION OF BYPASSED OIL FROM LOGGING DATA AND TEST DATA FOR WORKOVER AS WELL AS SIMPLE ECONOMIC ANALYSIS ON WD-03 WELL OF KHS FIELD***

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*The WD-03 well is a production well with Long Term Closed (LTC) status located in the KHS Field which is included in the Central Sumatra Basin. At the end of 2012, the well experienced a decline in production, causing the well to be temporarily closed. To overcome this problem, bypassed oil will be identified. Bypassed oil is oil that is left behind or bypassed in the produced layer at the start of exploration which can occur due to several things, including high reservoir heterogeneity, economic policies that do not really take into account thin layers at the start of production, and so on.*

*Identification of bypassed oil is carried out starting from quantitative analysis in the form of determining the cut-off of permeability and resistivity. Followed by qualitative analysis using logging data and correlation of the KHS Field structure and validated with test data to determine current oil water contact and validation of oil production to obtain 2 bypassed oil interval zones recommended for workover on Well WD-03. Simple economic calculations start with calculating the cumulative value of oil and liquids, followed by estimating the duration of workover work, cost estimation, cash flow to obtain economic indicators, then continuing with a sensitivity of 20% to the value of oil production, oil prices, opex and investment.*

*The recommended oil bypass intervals for workover on Well WD-03 are 2983-2994 ft and 3034-3040 ft. The cumulative value of oil after calculations from rate forecast data is 50,071.41 STB. Economic indicators are proven to be economical after economic indicator calculations have been carried out. The sensitivity results show that the oil production and oil price values are very sensitive to cash flow calculations.*

*Keywords: bypassed oil, logging, data test, workover, simple economy*