

RINGKASAN

EVALUASI PENYEMENAN PRIMER PADA SUMUR “H-01” LAPANGAN “FS” DENGAN MENGGUNAKAN ANALISA CBL - VDL

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Sumur “H-01” mulai berproduksi pada 1 Maret 1991 dengan laju awal 10 BOPD dan water cut 50%, serta beroperasi hingga 1 Februari 2021 dengan total produksi minyak 1,25 MMSTB dan air 2,1 MMSTB. Water cut yang terus meningkat hingga 95% mengindikasikan adanya permasalahan keairan.

Hasil analisis Chan Diagnostic Plot menunjukkan bahwa masalah utama adalah *near wellbore water channeling* akibat kualitas penyemenan yang buruk, bukan karena *water coning*. Evaluasi saturation log memperlihatkan bahwa zona perforasi masih mengandung hidrokarbon, sementara CBL-VDL menunjukkan dominasi *bad bond* hingga *free pipe* dengan rata-rata bond index 0,39.

Dengan demikian, kesimpulan permasalahan keairan pada sumur ini disebabkan oleh kegagalan penyemenan yang mengakibatkan ikatan semen yang buruk (cement channeling).

Kata kunci: *Chan Diagnostic Plot, Cement Bond Log, Variable Density Log*

ABSTRACT

EVALUATION OF PRIMARY CEMENTING IN DRILLING WELLS USING CBL-VDL ANALYSIS

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Well “H-01” commenced production on March 1, 1991 with an initial rate of 10 BOPD and 50% water cut, and continued operating until February 1, 2021 with cumulative oil production of 1.25 MMSTB and water production of 2.1 MMSTB. The continuous increase in water cut, reaching 95% at the end of production, indicates a significant water production problem.

Analysis using the Chan Diagnostic Plot confirmed that the main issue was near wellbore water channeling due to poor cement integrity, rather than water coning. Saturation log evaluation showed that perforated zones still contained hydrocarbons, while CBL-VDL analysis indicated predominantly bad bond to free pipe conditions with an average bond index of 0.39.

It can be concluded that the water production problem in this well is caused by cementing failure, which resulted in poor cement bonding (cement channeling)..

Keywords: Chan Diagnostic Plot, Cement Bond Log, Variable Density Log,