RINGKASAN

ANALISA *WELL INTEGRITY* DAN *MITIGATION PLAN* TERHADAP KINERJA PRODUKSI SUMUR "AD-18" LAPANGAN "ALN"

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Sumur "AD-18" merupakan sumur *existing* yang berproduksi pada lapisan BRF dengan hasil tes produksi terakhir 790 BWPD, 0 BOPD, 100%WC, 0.32 MMSFCD. Sumur "AD-18" terindikasi adanya *water channeling* berdasarkan analisa log CBL-VDL yang menunjukan *bonding* semen yang kurang baik pada daerah sekitar perforasi dan analisa *noise logging* yang menunjukan adanya kebisingan dibawah interval perforasi sehingga menyebabkan penurunan laju produksi gas. Berdasarkan hal tersebut Sumur "AD-18" perlu dilakukan *remedial cementing* pada interval perforasi.

Penelitian ini diawali dengan pengumpulan data berupa data sumur, data produksi, dan histori permasalahan sumur, kemudian dilakukan analisa *well integrity* seperti analisa kualitatif dan kuantitatif CBL VDL USIT, dan analisa *noise logging*. Analisa tersebut menghasilkan *problem* yang mungkin terjadi pada Sumur "AD-18".

Evaluasi penyemenan primer pada interval 1480-1696 m menggunakan CBL menghasilkan *amplitude* sebesar 29 mV, *compressive strength* sebesar 125 psi dan nilai *bond index* sebesar 0,28. Sumur "AD-18" mengalami penurunan *water cut* dari 100% menjadi 76% dan kenaikan produksi sebesar 6,59 BOPD setelah dilakukan *remedial cementing*. Berdasarkan hasil tersebut *remedial cementing* pada Sumur "AD-18" berhasil memperbaiki ikatan semen baik di zona target maupun di zona sekat air dan zona reperforasi

Kata kunci: *Squeeze cementing, Well Integrity, Noise Logging*

ABSTRACT

ANALYSIS OF WELL INTEGRITY AND MITIGATION PLAN ON PRODUCTION PERFORMANCE IN WELL "AD-18" FIELD "ALN"

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The "AD-18" is an existing well producing in the BRF layer with the last production test result of 790 BWPD, 0 BOPD, 100%WC, 0.32 MMSFCD. Well "AD-18" is indicated to have water channeling based on CBL-VDL log analysis which shows poor cement bonding in the area around the perforation and noise logging analysis which shows noise below the perforation interval causing a decrease in gas production rate. Based on this, Well "AD-18" needs remedial cementing at the perforation interval.

This research begins with data collection in the form of well data, production data, and history of well problems, then well integrity analysis is carried out such as qualitative and quantitative analysis of CBL VDL USIT, and noise logging analysis. The analysis resulted in problems that may occur in the "AD-18" Well.

Evaluation of primary cementing in the 1480-1696 m interval using CBL resulted in an amplitude of 29 mV, compressive strength of 125 psi and bond index value of 0.28. Well "AD-18" experienced a decrease in water cut from 100% to 76% and an increase in production of 6.59 BOPD after remedial cementing. Based on these results, remedial cementing at Well "AD-18" successfully improved the cement bond in both the target zone and the water cut and reperforation zones.

Keywords: Squeeze cementing, well integrity, noise logging