

ABSTRAK

PERENCANAAN REAKTIVASI SUMUR LAPANGAN “N” BERDASARKAN EVALUASI PRODUKSI, INTEGRITAS SUMUR DAN KEEKONOMIAN

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Lapangan "N" merupakan salah satu *mature field* yang terletak di wilayah *Offshore South East Sumatera* dan saat ini memiliki empat sumur *idle*, yaitu Sumur “N-08”, “N-09”, “N-10” dan “N-11”. Seiring dengan upaya optimalisasi aset migas eksisting di lapangan ini, penelitian ini dilakukan untuk mengevaluasi kelayakan teknis dan keekonomian dari keempat sumur tersebut sebagai dasar perencanaan reaktivasi.

Metode yang digunakan dalam penelitian ini meliputi analisis performa produksi menggunakan *Decline Curve Analysis* (DCA), optimasi *artificial lift* dengan ESP, evaluasi integritas sumur berdasarkan data *integrity inspection report*. Evaluasi keekonomian dilakukan menggunakan skema PSC *Gross Split* dengan pendekatan depresiasi *Double Declining Balance Balloon* dan indikator kelayakan keekonomian berupa *Net Present Value* (NPV), *Internal Rate of Return* (IRR), *Pay Out Time* (POT), *Profit to Investment Ratio* (PIR) dan *Discounted Profit to Investment Ratio* (DPIR).

Hasil penelitian menunjukkan bahwa sumur "N-10" merupakan kandidat paling layak untuk dilakukan reaktivasi, dengan nilai IRR mencapai 110,18%, waktu balik modal (POT) selama 1,14 tahun. Sumur "N-11", "N-08" dan "N-09" juga menunjukkan kelayakan untuk direaktivasi, meskipun dengan indikator keekonomian yang relatif lebih rendah. Penelitian ini menunjukkan bahwa pendekatan yang melibatkan analisis secara teknis, integritas sumur dan keekonomian dapat menjadi dasar perencanaan reaktivasi sumur *idle* yang komprehensif

Kata Kunci: Reaktivasi Sumur *Idle*, ESP, *Decline Curve Analysis*, *Well Integrity*

ABSTRACT

FIELD “N” IDLE WELL REACTIVATION PLAN BASED ON SUBSURFACE POTENTIAL AND MECHANICAL INTEGRITY EVALUATION

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“N” Field is a mature field located in the Offshore South East Sumatera area, currently has four idle wells: "N-08", "N-09", "N-10" and "N-11". This study aims to evaluate the technical and economic feasibility of these wells as a basis for reactivation planning.

The research methodology includes production performances analysis using Decline Curve Analysis, artificial lift optimization through the design of ESPs, and assessment of well integrity based on integrity inspection reports. Economic evaluation was conducted using the PSC Gross Split scheme with the Double Declining Balance Balloon depreciation approach, and economic feasibility indicators such as Net Present Value (NPV), Internal Rate of Return (IRR), Pay Out Time (POT), Profit to Investment Ratio (PIR) and Discounted Profit to Investment Ratio (DPIR).

The results show that well “N-10” is the most feasible candidate for reactivation, with an IRR of 110.18% and a payback period (POT) of 1.14 years. Wells “N-11,” “N-08,” and “N-09” also demonstrate feasibility for reactivation, although with relatively lower economic indicators. This study highlights that an approach combining technical analysis, well integrity assessment, and economic evaluation can serve as a comprehensive basis for idle well reactivation planning.

Keywords: Idle Well Reactivation, ESP, Decline Curve Analysis, Well Integrity.