RINGKASAN

SKENARIO PENINGKATKAN *RECOVERY FACTOR* PADA LAPANGAN "SVL" LAPISAN A SEGMEN SELATAN MENGGUNAKAN SIMULASI RESERVOIR

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Lapangan "SVL" terletak di Cekungan Sumatera Selatan, Indonesia. Kegiatan produksi di Lapangan "SVL" telah dimulai semenjak September 2014. Pada Desember 2022 jumlah sumur di lapangan "SVL" hanya berjumlah 3 sumur. Dengan nilai *Original Oil In Place* sebesar 6.376 MMSTB dan *current recovery factor* sebesar 4.69%. Berdasarkan hal tersebut, Penulis memutuskan untuk melakukan simulasi dengan penambahan sumur *infill*, pembuatan *infill drilling* adalah salah satu teknik mengoptimumkan pengurasan *reservoir* yang pada akhirnya bisa meningkatkan *recovery factor*. Alasan dilakukannya *infill drilling* adalah suatu kondisi dimana pengembangan sumur sudah dilakukan, tetapi masih ada area *reservoir* yang belum terkuras.

Penelitian ini diawali dengan pengumpulan dan pengolahan data *reservoir*, meliputi data petrofisika (SCAL dan RCAL), data fluida (PVT), serta data produksi dan tekanan historis. Data tersebut digunakan untuk membangun model *reservoir* dinamis menggunakan *software Petrel*. Setelah model selesai dan divalidasi melalui proses *history matching*, dilakukan simulasi skenario penambahan sumur *infill* untuk mengevaluasi dampaknya terhadap peningkatan produksi dan *recovery factor.* Hasil dari simulasi ini menjadi dasar dalam penentuan strategi pengembangan lapangan "SVL" secara lebih optimal.

Penelitian ini menunjukkan bahwa penambahan empat sumur *infill* pada Lapangan SVL mampu meningkatkan *recovery factor* dari 4.69% menjadi 9.21%. Simulasi dilakukan menggunakan *Petrel*, dan lokasi sumur ditentukan berdasarkan analisis HCPV, OPU, dan OPP. Total produksi kumulatif didapatkan sebesar 587.348 MSTB.

Kata kunci ; Simulasi *Reservoir*, *Recovery Factor,* Sumur *Infill*

ABSTRACT

SCENARIO FOR IMPROVING RECOVERY FACTOR IN "SVL" FIELDS LAYER A SOUTH SEGMENT USING RESERVOIR SIMULATION

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The "SVL" field is located in the South Sumatra Basin, Indonesia. Production activities in the "SVL" field have started since September 2014. In December 2022 the number of wells in the "SVL" field will only be 3 wells. With an Original Oil In Place value of 6.376 MMSTB and a current recovery factor of 4.69%. Based on this, the author decided to carry out a simulation with the addition of infill wells, making infill drilling is one technique for optimizing reservoir draining which in the end can increase the recovery factor. The reason for carrying out infill drilling is a condition where well development has been carried out, but there is still an area of the reservoir that has not been drained

The research began with the collection and processing of reservoir data, including petrophysical data (SCAL and RCAL), fluid data (PVT), as well as historical production and pressure data. These data were used to construct a dynamic reservoir model using Petrel software. After the model was completed and validated through a history matching process, infill drilling scenarios were simulated to evaluate their impact on production enhancement and recovery factor. The simulation results served as the basis for determining an optimal development strategy for the SVL field

This study demonstrates that the addition of four infill wells in the SVL Field can increase the recovery factor from 4.69% to 9.21%. The simulation was carried out using Petrel, and the well locations were determined based on HCPV, OPU, and OPP analysis. The total cumulative production achieved was 587.348 MSTB.

Keywords ; Reservoir Simulation, Recovery Factor, Infill Well