

RINGKASAN

ANALISA KONEKTIVITAS SUMUR INJEKSI-PRODUKSI DENGAN *TRACER TEST* DAN PLOT KINERJA SUMUR DI LAPANGAN “DA”

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Lapangan DA terletak Cekungan Sumatra, Provinsi Jambi. Lapangan ini mulai beroperasi pada tahun 1998. Skema *waterflooding* telah dilakukan pada lapangan DA sejak tahun 2000. Lapangan ini memperoleh *peak production performance* pada Desember 2001 dengan nilai 1.1983 bopd. Data produksi terakhir pada tahun 2019 menunjukkan rate produksi minyak hanya 10 bopd. Berdasarkan update terakhir *Recovery Factor* (RF) pada lapangan DA 22,05 MMSTB. Untuk *waterflooding*, suatu ketika mencapai rate injeksi harian 24.778 bwpd, pada tahun 2019 bernilai 7.200 bwpd.

Untuk menunjang kegiatan *waterflooding*, maka dilakukan *waterflood surveillance*. Kegiatan *study waterflood surveillance* meliputi analisa konektivitas antar sumur injeksi-produksi, analisa hasil *tracer*, dan analisa VRR. Analisa konektivitas antara sumur injeksi-produksi dengan memplot data produksi dengan data injeksi didukung dengan hasil *tracer* yang telah didapat dari lapangan. VRR atau *Voidage Replacement Ratio* merupakan perbandingan antara volume fluida yang diinjeksikan dengan volume fluida yang diproduksi, di mana jika nilai $VRR < 1$, maka tekanan reservoir mengalami penurunan sehingga diperlukan menaikkan laju injeksi. Jika $VRR > 1$ maka laju injeksi sudah optimal dengan naiknya tekanan reservoir.

Kata kunci: konektivitas sumur, analisa produksi, pengamatan dan pemantauan sumur, *waterflooding*, *tracer*.

ABSTRACT

ANALYSIS OF INJECTION-PRODUCTION WELL CONNECTIVITY USING TRACER TEST AND PERFORMANCE PLOT AT “DA” FIELD

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DA Field is located in the Sumatra Basin, Jambi Province. This field began operating in 1998. The waterflooding scheme has been implemented at the prosperous field since 2000. This field achieved peak production performance in December 2001 with a value of 11983 bopd. The latest production data in 2019 shows the oil production rate was only 10 bopd. Based on the latest update, the Recovery Factor (RF) in the DA field is 22.05 MMSTB. For waterflooding, at one time it reached a daily injection rate of 24778 bwpd, in 2019 it was worth 7200 bwpd.

To support waterflooding activities, waterflood surveillance is carried out. Waterflood surveillance study activities include connectivity analysis between injection-production wells, analysis of tracer results, and VRR analysis. Connectivity analysis between injection-production wells by plotting production data with injection data is supported by tracer results obtained from the field. VRR or Voidage Replacement Ratio is a comparison between the volume of fluid injected and the volume of fluid produced, where if the VRR value is <1 , then the reservoir pressure has decreased so it is necessary to increase the injection rate. If $VRR > 1$ then the injection rate is optimal with increasing reservoir pressure.

Keywords: well connectivity, production analysis, surveillance and monitoring wells, waterflooding, tracer.