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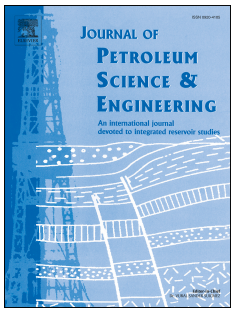

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Conformance Control for CO_2-EOR in Naturally Fractured Low Permeability Oil Reservoirs

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Abstract: Poor sweep efficiency seriously limits field applications of CO_2-EOR, especially in fractured reservoirs. The investigation of CO_2 production performance and the method to control CO_2 production becomes a key to successfully run a CO_2-EOR project. In this study, artificial sandstone cores were used to perform a series of CO_2 flooding experiments at reservoir conditions of pressure, temperature and formation water salinity. Injection pressure and rock heterogeneity were taken into account to study their effect on CO_2 production performance. Two-stage gas channeling control with three different scenarios, including PLS gel and ethylenediamine, starch gel and ethylenediamine, and starch gel and CO_2 foam, was presented to improve the conformance in 3-D fractured-core models. Based on production performance and experimental observation, three production stages were clearly stated, including gas-free production stage, oil/gas co-production stage, and gas channeling stage. Oil/gas co-production stage contributed the most to

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