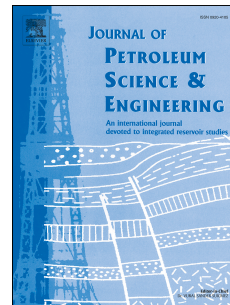


# Accepted Manuscript

Conformance control for CO<sub>2</sub>-EOR in naturally fractured low permeability oil reservoirs

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2 **Oil Reservoirs**

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11 **Abstract:** Poor sweep efficiency seriously limits field applications of CO<sub>2</sub>-EOR, especially in  
12 fractured reservoirs. The investigation of CO<sub>2</sub> production performance and the method to control  
13 CO<sub>2</sub> production becomes a key to successfully run a CO<sub>2</sub>-EOR project. In this study, artificial  
14 sandstone cores were used to perform a series of CO<sub>2</sub> flooding experiments at reservoir conditions  
15 of pressure, temperature and formation water salinity. Injection pressure and rock heterogeneity  
16 were taken into account to study their effect on CO<sub>2</sub> production performance. Two-stage gas  
17 channeling control with three different scenarios, including PLS gel and ethylenediamine, starch  
18 gel and ethylenediamine, and starch gel and CO<sub>2</sub> foam, was presented to improve the conformance  
19 in 3-D fractured-core models. Based on production performance and experimental observation,  
20 three production stages were clearly stated, including gas-free production stage, oil/gas  
21 co-production stage, and gas channeling stage. Oil/gas co-production stage contributed the most to

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