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Field scale simulation study of miscible water alternating CO₂ injection process in fractured reservoirs

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Vast amounts of world oil reservoirs are in natural fractured reservoirs. There are different methods for increasing recovery from fractured reservoirs. Miscible injection of water alternating CO₂ is a good choice among these methods. In this method, water and CO₂ slugs are injected alternatively in reservoir as miscible agent into reservoir. This paper studies water injection scenario and miscible injection of water and CO₂ in a two dimensional, inhomogeneous fractured reservoir. The results show that miscible water alternating CO₂ gas injection leads to 3.95% increase in final oil recovery and total water production decrease of 3.89% compared to water injection scenario.

Biography

Hooman Fallah is currently working as a Lecturer in Iran Azad University. He has completed his Master's degree in Petroleum Engineering from Iran Azad University but his research area is mathematical modeling of petroleum processes.

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