

Field Scale Simulation Study of Miscible Water Alternating CO₂ Injection Process in Fractured Reservoirs

Authors : Hooman Fallah

Abstract : 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 this 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% comparing to water injection scenario.

Keywords : simulation study, CO₂, water alternating gas injection, fractured reservoirs

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