

عنوان مقاله:

Simulation and Sensitivity Analysis of a Miscible Gravity Drainage Displacement in a 2D-Radial Model

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خلاصه مقاله:

Fractured carbonate reservoirs are among the largest resources of oil in the world. A large number of these reservoirs are in Middle East and producing at very high production rates. In most of these reservoirs gravity drainage is the main production mechanism, where gas injection (recycling) has been one of the main pressure maintenance methods for maintaining these high production rates. In some of these reservoirs, immiscible gas/oil displacement may be used as a means of improved oil recovery method for increasing the productivity for a period of time, depending on the reservoir and fluid characteristics. However, in some reservoirs at which the matrix rock is dense and its porosity is very low, or in the case of heavy oil reservoirs, gas breakthrough and very low flow rates are the main difficulties facing the immiscible gas/oil displacement. In such cases, miscible displacement can be used as an alternative EOR method. This paper presents the results of simulation investigations conducted for the miscible displacement of oil with injected carbon dioxide in a fractured model. Here, the results of both immiscible and miscible displacement in a lab scale fractured model have been presented. The was utilized in this study. A sensitivity analysis was carried commercial simulator, CMG-GEM out and effect of different parameters such as model pressure, fracture .spacing, fracture to matrix permeability ratio and grid size on the miscible displacement were investigated

کلمات کلیدی:

Miscible displacement; CO2 injection; Gas injection; Gas storage; Fractured reservoirs; Enhanced Oil Recovery

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