

عنوان مقاله:

Modeling and Experimental Results Analysis of MEOR Process

محل انتشار:

دومین کنگره مهندسی نفت ایران (سال: 1386)

تعداد صفحات اصل مقاله: 8

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خلاصه مقاله:

Injection of micro-organisms with a source of nutrients is a novel method to produce H₂, CO₂ and surfactant which help to mobilize oil in the reservoir. MEOR process may be taken place in-situ (within the reservoir) or ex-situ to treat hydrocarbons or manufacture production chemicals. IFT reduction, mobility control and oil viscosity reduction are the major mechanisms that can be accomplish through MEOR process. The cumulative recovery increase due to generation of in-situ surfactant, viscosity reducing bacteria and CO₂. In this work, the effect of each type of bacteria used for MEOR processes on final oil recovery was analyzed. Further, to identify the best condition of each bacterium for MEOR process, the effect of temperature and salinity on oil recovery was investigated using the experimental data. It was concluded that surfactant producing bacteria is more efficient than using viscosity reducing bacteria or CO₂ generating bacteria. Also it was observed that increasing temperature will decrease the oil recovery, but increasing the salinity, depending on the type of bacteria used, can increase or decrease the final oil produced.

کلمات کلیدی:

MEOR; micro-organism; viscosity reduction; oil recovery

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