

عنوان مقاله:

Low Salinity Water flooding and Combination of Low Salinity Water flooding with Surfactant and Alkaline Injection to Improve Oil Recovery - Core Flooding Experiments

محل انتشار:

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خلاصه مقاله:

Several laboratory and field tests indicated that oil recovery in water flooding is dependent on the chemistry and salinity of the injected water, and that low salinity water injection can improve oil recovery. Low salinity water is a promising method for improving oil recovery in sandstone reservoirs. Several mechanisms have been known to be responsible for improving recovery by low salinity water flooding; though the predominant mechanism has not truly been known. This paper presents laboratory results and analysis of core flood studies of an Iranian oil reservoir for understanding how the water and oil chemistry and temperature affects the final recovery in order to optimize low salinity water flooding process. Experiments were done in tertiary recovery mode, first injection of formation water and then injection of low salinity water or combination of low salinity water and chemicals like surfactant or alkaline. The results in tertiary oil recovery. It concludes that combination of low salinity ۲-۴% results showed improving effect between water with surfactant or alkaline is drastic method for boosting the effect of low salinity water flooding. Also it deduces that decreasing the water salinity, increasing temperature and present of divalent ions in low salinity water can boost improving effect of low salinity water flooding.

کلمات کلیدی:

low salinity. water flooding. oil recovery. surfactant. alkaline

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