

عنوان مقاله:

Sand pack flooding of a modified nano-polymer suspension at different temperatures and water salinities to enhance the oil recovery

محل انتشار:

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خلاصه مقاله:

Parameters affecting the oil recovery are classified into two categories of microscopic and macroscopic efficiencies. Using polymers has some consequences of increasing the reservoir fluid viscosity and decreasing the mobility ratio, which would increase the macroscopic efficiency. Besides, nanoparticles have a direct impact on both efficiencies. Polymer solution viscosity has its maximum value when it contains an optimal concentration of nanoparticles, and it, therefore, provides the maximum oil recovery. In these experiments, a suspension has been made with the stable concentrations of polymer and nanoparticle, the fluid viscosity has been measured at different temperatures, and the nano-polymer suspension has been flooded at four different temperatures and two different water salinities into a sand pack. The results showed that the use of these nanoparticles, which were modified with an organic compound, increased both efficiencies; moreover, nanopolymer suspension viscosity in the optimal nanoparticle and polymer concentrations reached to its maximum value, and, therefore, the maximum oil recovery was yielded

کلمات کلیدی:

Nanoparticle, Polymer, Enhanced-Oil-Recovery (EOR), Sand pack

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