عنوان مقاله:

Experimental investigation of Nanoparticles effect on Interfacial Properties for improving Enhanced Oil Recovery

محل انتشار:

چهارمین کنفرانس بین المللی نفت،گاز،پالایش وپتروشیمی بارویکردتوسعه ارتباط دولت،دانشگاه وصنعت (سال: 1395)

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خلاصه مقاله:

Enhanced oil recovery (EOR) processes aim to recover trapped oil left in reservoirs after primary andsecondary recovery methods. New materials and additives are needed to make EOR economical inchallenging reservoirs or harsh environments. Nanoparticles have been widely studied for EOR, butnanoparticles with polymer chains grafted to the surface—known as polymercoated nanoparticles(PNPs)—are an emerging class of materials that may be superior to nanoparticles for EOR due toimproved solubility and stability, greater stabilization of foams and emulsions, and more facile transportthrough porous media. Here, we review prior research, current challenges, and future researchopportunities in the application of PNPs for EOR. We focus on studies of PNPs for improving mobilitycontrol, altering surface wettability, and for investigating their transport through porous media.Measurements were performed using Nanofluids with two different nanoparticle concentrations,5.0weight% and 0.5weight%, and with crude oil from Iranian oil fields.

کلمات کلیدی:

nano particles, enhanced oil recovery, wetabillity alteration, interfacial tention