A REVIEW OF NANOFLUID RECOVERY MECHAMISMS AND FACTORS AFFECTING OIL RECOVERY

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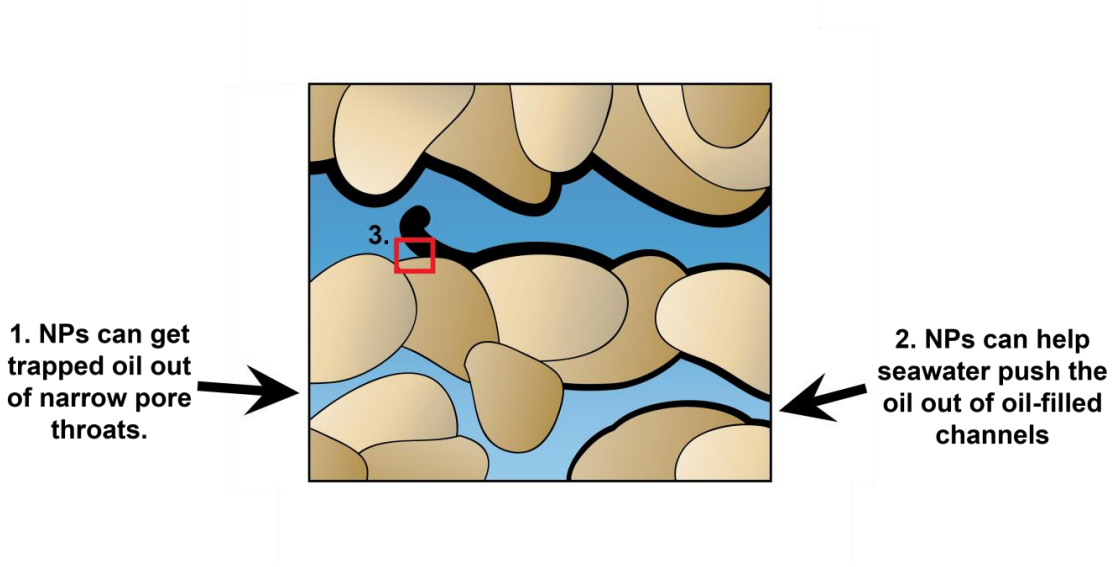
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By the end of 2030, it is expected that worldwide the consumption of energy will increase by 50% as compared to the current levels. This day by day increasing demand of energy is doubtful to be met by renewable energy resources. As a result, enhanced oil recovery (EOR) techniques are getting considerable attentions to meet the requirements of energy. The use of nanoparticles (NPs) for enhancing the oil recovery has gained a lot of attention as studies on nanoparticles have shown promising solutions to most of the problems that are related to EOR techniques. NPs are capable to tolerate high temperatures, pressures, shear and salinity in subsurface reservoir systems which makes them suitable for EOR.

This review paper presents the latest studies on enhancing the oil recovery using NPs and provides the way for researchers who are interested in solving the problems related to EOR. First of all, this review paper presents studies about the EOR mechanisms of nanoparticles that are used in the forms of nanofluids. Finally, this paper identifies the factors that affect the recovery of oil using nanoparticles and also mentions the challenges in field applications.

Keywords: Nanoparticles, Nanofluids, Enhanced oil recovery, Recovery mechanisms

Image



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Biography

Arisha Badar is currently a final year student of Petroleum & Gas Engineering. She is pursing bachelor's Degree from Dawood University of Engineering & Technology Karachi, Pakistan. Her research interests include Enhanced oil Recovery, Reservoir Engineering and Reservoir Simulation. She is a member of SPE international.

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