

عنوان مقاله:

Use of Nano-Surfactants as a hydraulic Fracturing Formation damage Reducer in Tight Reservoirs- a comparison between offshore and onshore core test

محل انتشار:

پنجمین کنفرانس بین المللی مهندسی شیمی و نفت (سال: 1398)

تعداد صفحات اصل مقاله: 13

نویسندگان:

.Meysam Dehbalaei - *Petroleum University of Technology, Ahwaz Faculty of Petroleum*

.Jamshid Moghadasi - *Petroleum University of Technology, Faculty member of Petroleum*

Zahra Mirbagheri - *Shahrood University of Technology*

خلاصه مقاله:

Hydraulic fracturing has been extensively used as an efficient technique to enhance the hydrocarbon production, especially in tight formations. However, this technique can be associated with long-lasting fracturing fluid formation damage. According to Laplace equation, this fluid leak off results in a phenomenon called water blockage due to capillary forces. Recent studies have shown that surfactants can be used as an additive to fracturing fluids and they will reduce the required pressure to displace the injected fracturing fluids. In this study, the performance of two new nano-surfactants has been investigated in both of core samples from offshore and onshore in the same formation. The main differences between these two types of rock samples are salinity of saturated water in the cores because of change in salinity of drilling fluids in offshore and onshore drilling operations. Nano- surfactant mixtures were prepared at different concentrations ranging from 0.5 to 4 gpt using field mixing water. Mixing water and representative field condensate samples were used to conduct both the surface tension and contact angle measurements at temperature range of 100-300°F. The results based on this study have illustrated the effectiveness of Nano-surfactants to recover the fracturing fluid filtrate during flowback. The performance of these surfactants was investigated as a function of several parameters such as surfactant concentration and temperature.

کلمات کلیدی:

.Nano-surfactant , Formation damage, tight reservoirs, offshore and onshore

لینک ثابت مقاله در پایگاه سیویلیکا:

<https://civilica.com/doc/911266>

