

عنوان مقاله:

A Review to Smart Water Technology

محل انتشار:

چهارمین همایش بین المللی نفت، گاز، پتروشیمی و HSE (سال: 1398)

تعداد صفحات اصل مقاله: 6

نویسندگان:

Saeed Karami; - *Petroleum Engineering Department, Faculty of Chemical Engineering, Tarbiat Modares University, Tehran, Iran*

Alireza Tajik Mansouri

Amirhossein Saeedi Dehaghani - *Dehaghani is with the Petroleum Engineering Department, Faculty of Chemical Engineering, Tarbiat Modares University, Tehran, Iran*

خلاصه مقاله:

Oil and gas reservoirs are underground porous and permeable mediums that are saturated by petroleum fluids. Production from oil reservoirs is comprised of 3 main stages. Final stage that is known as enhance oil recovery requires alteration chemiophysic of reservoir through injection of hot fluid, steam and specific chemicals. The question that why injection of sea water in to Ekofisk formation cause tremendous oil recovery was a turning point to understand smart water technology. An economic way to improve oil recovery of carbonate oil wet reservoirs or sandstone mixed ones by just adding determining ions that probably are Ca^{2+} , Mg^{2+} and SO_4^{2-} . Researchers at Stavanger University found the mechanisms and more details about its characteristics. Wettability alteration has been accepted as mechanism of production improvement but matter is much more complex in sandstone. 17 mechanism have been proposed to explain the mechanism but none of are accepted strongly. It will be discussed that why production improvement happens by increasing the concentration of mentioned determining ions and temperature. Besides, proposed condition to smart water in sandstone (low saline water) will be explained

کلمات کلیدی:

Smart water; Carbonate reservoir; Sandstone reservoir; Wettability alteration; ion exchange; Enhance oil recovery

لینک ثابت مقاله در پایگاه سیویلیکا:

<https://civilica.com/doc/985131>

