

عنوان مقاله:

Investigation of Surfactant Flooding in One of Iranian Oil Field: An Experimental Approach Using Core and Glass Micromodel System

محل انتشار:

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خلاصه مقاله:

One issue with oil recovery from heterogeneous/layered reservoirs by water flooding is the heterogeneities cause diversion and loss of injected water which leads to remaining of oil in its place. Surfactant injection is an alternative to overcome this problem by means of reduction of water-oil interfacial tension and formation of emulsion and eventually, when the capillary number is big enough, it conquers capillary forces, and finally, trapped oil starts to move, therefore residual oil saturation is decreased. In this paper, a set of surfactants/water injection experiments performed on five-spot heterogen/homogen micromodels and core which are saturated with the crude oil of one of the Iranian oil field at fixed flow rate condition, and the role of local heterogeneity as well as global heterogeneity, surfactant concentration, salinity of injected water, core permeability and size of injected pore volume of surfactant on flooding efficiency have been investigated. The results showed that the oil recovery is highly affected by local heterogeneity around the injection well than global heterogeneity

کلمات کلیدی:

surfactant flooding, local heterogeneity, global heterogeneity, five-spot micromodel, core, enhanced oil recovery

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