

Mobility Ratio Control in Water-flooded Reservoir with Incidence of Oilfield Scale

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Abstract

The process of precipitation and accumulation of oilfield scales around the well bore vicinity are major ongoing flow assurance problems that may result in formation damage. The phenomenon may negatively impact the success of a water-flooding project that majorly depends on mobility ratio.

A predictive model has been developed for estimating the mobility ratio of a water-flooded reservoir with possible incidence of oilfield scale. Results show that the high mobility ratio encountered after water breakthrough does not only depend on the increase in water saturation and relative permeability but on the magnitude of oilfield scale saturation around the well bore.

Keywords: [mobility ratio](#), [oilfield scale](#), [permeability damage](#), [porous media](#), [pressure drop](#), [skin factor](#)

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