

LOW SALINITY WATER INJECTION WITH PURPOSE OF WETTABILITY ALTERATION FOR EOR OPERATIONS

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Abstract

Low salinity water (LSW) has been proved to be efficacious because of low cost and ability to change properties of reservoir rock and fluids and their interactions toward desired condition. These include change in capillary pressure, interfacial tension, wettability tendency, permeability and pore sizing. This enhanced oil recovery (EOR) method has been studied so far for evaluating capability of inducing recent mentioned parameters and the mechanisms of its operation and applicability in different fields. This study investigates the effect of three types of salts (including Ca^{2+} , Mg^{2+} , and SO_4^{2-}) on wettability and final oil recovery in laboratory.

Keywords: low salinity water, smart water, wettability alteration, carbonated reservoir.