

Analysis of the heavy oil production technology effectiveness using natural thermal convection with heat agent recirculation method in reservoirs with varying initial water saturation

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Abstract

© Published under licence by IOP Publishing Ltd. The method of natural thermal convection with heat agent recirculation (NTC HAR) in oil reservoirs is described. The analysis of the effectiveness of this method for oil reservoir heating with the values of water saturation from 0 to 0.5 units is conducted. As the test element Ashalchinskoye oil field is taken. CMG STARS software was used for calculations. Dynamics of cumulative production, recovery factor and specific energy consumption per 1 m³ of crude oil produced in the application of the heat exchanger with heat agent in cases of different initial water saturation are defined and presented as graphs.

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