

## **Modelling waterflooding of layered oil reservoirs at nonlinear movement law**

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### **Abstract**

The model of waterflooding of three-layer oil reservoir saturated with oil having non-Newtonian properties is presented. The paper deals with numerical model of oil displacement by water with the law of movement of oil from the limiting gradient shift. It is modeled a flow of non-Newtonian fluid in a porous medium in variables 'velocity - saturation'. There is a comparison with a case when a limiting gradient of oil shear is neglected. It is shown that the final oil recovery factor will be thus essentially predatory.

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### **Keywords**

Modeling, Non-Newtonian fluid, Porous media, Two-phase flow