

## **Estimation of sandstone reservoir properties using X-ray CT studies in Ashalchinskoye oil field**

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### **Abstract**

X-ray computed microtomography investigated filtration-capacitive characteristics of core sand Ashalchinsk reservoirs series. To simulate the flow of a viscous fluid in the pore scale we use a mathematical model, which consists of the continuity equation and stationary Navier - Stokes equations. It was shown that Kozeny - Carman formula gives curtailed values of permeability coefficients, compared with filtration characteristics calculated using the Navier - Stokes equations. It was revealed that the reservoir properties of cores, calculated on the basis of microtomography data can be extrapolated to the samples of porous media with larger scale.

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### **Keywords**

Kozeny - carman formula, Modeling, Navier - stokes equations, X-ray CT