

PRESSURE RECOVERY PROCESSES IN FRACTURED FORMATIONS

V. Nustrov, E. Kuznetsova
Ural Federal University, 620083 Ekaterinburg, Lenin Ave 51, Russia

*Correspondence author: V. Nustrov Email: Vadim.Nustrov@usu.ru

Keywords: pressure recovery, nonlinear filtration, non-newtonian fluid

Section: Advanced mathematical approaches to the modelling of porous media

Pressure recovery processes are often used in oil field practice to determine or define more precisely macroscopic parameters of formations. Especially it is important for fractured formations. Many field observations testify to a strong nonlinear behavior of oil and gas fractured formations under their development. In this case linear models cannot be used to analysis of filtration processes. In this paper a nonlinear version [1] of the double porosity conception is used. Elastic-plastic regime of pressure recovery of non-newtonian fluid is considered. Results obtained can be used for interpretation of pressure-build-up curves.

References

[1] Yu.A. Buyevich, V.S. Nustrov, S.A. Plochoi, V.V. Podoplelov (2000). Unsteady flow in nonlinear fractured reservoirs, Fluid Mechanics Research, 27, 2-4, 248-269.