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# Numerical method quasiconformal mapping modeling filtration processes for the effect of hydraulic fracturing cracks

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The new methodology of modelling of one- and multiphase filtration in porous and permeable difficult (shale) oil reservoirs including influence of cracks of hydraulic fracturing and numerical algorithms of solution of corresponding marginal tasks Is developed [1-4]. On the basis of which new programmatic tools of machine-assisted realization for computation of reservoir properties are created. Approach to the modelling of non-isothermal process of ousting in the elements of areal water-flooding by disturbance of filtration flow by the cracks of hydraulic fracturing in thermal mode is developed; it is built corresponding numerical algorithm, numerical computations are made, data analysis and results are calculated. It is generalized solution methodology of two-dimensional marginal tasks of monophase filtration in permeable difficult in case of spatio-deviated deposits including cracks of hydraulic fracturing and contiguous deformation processes in nearfield zone of deposit, the investigated process is described under condition of quasistationarity of filtrational flow by specially modified Darcys law in relation to the critical value of the pressure gradient.

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