

Mathematical simulation of the process of migration and formation of hydrocarbon deposits

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Mathematical calculations were carried out on the base of new mathematical method «TEKON» and computer programs that allow us to do numerical analysis of migration and formation of hydrocarbon deposits with regard to objective geometrical and lithological peculiarities of beds as well as to changes of thermobaric conditions. Calculations and theoretical ideas concerning the work of «crustal waveguide» under conditions of passive margins and rift zone as well as of subduction zone were involved in our calculations. The suggested geodynamic and fluidodynamic models may further serve as an effective tool for integrating geological and geophysical data, which help to study a sedimentary basins as a historically developing system and establish its structure, origin and stage of evolution.