

## Computation for Pressure of Condensation of Hydrocarbon Mixtures

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We study the main characteristics of gas condensate deposit considering that product extracted on the surface, gas and condensate in stratal conditions, is in quasi-single state. It is assumed that extracted gas condensate system in stratal conditions is presented as the gas phase and its pressure at stratal temperature corresponds to stratal pressure. We consider information on phase transition of gas-condensate systems taking into account pressure values of single-phase state where system properties depend on its composition. In gas condensate deposits the hydrocarbon systems are in the near critical states. The thermodynamic behaviour of their product is considered regarding phenomena of retrograde evaporation and retrograde condensation and is based on the laws of phase equilibrium of binary and multicomponent hydrocarbon systems. For development of computational method the multiform gas condensate systems have been generalized on the base of the following parameters: average molecular mass of entire system, weight-average reduced molecular mass and stratal temperature. The pressure of single-phase state is the function of given parameters. Average molecular mass of hydrocarbon system considers light and medium components, as their content is prevailing. Weight-average reduced molecular mass includes heavy components. Hydrocarbon mixture contains significant quantity of given components and considerably influences the pressure of single-phase state. Regarding the experimental data, we obtained the equation to find the pressure of initial condensation of single-phase state of hydrocarbon systems. Using this equation, we calculated the pressure of single-phase state. Offered computational method for pressure of single-phase state systems can be used for prognosis of oil gas condensate systems and for compilation of reference data on thermophysical properties of hydrocarbon mixtures of various deposits.