

HISTORICAL-GENETIC ANALYSIS OF WEST-SIBERIAN OIL- AND -GAS-BEARING BASIN

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The West-Siberian oil- and -gas-bearing basin is a good object for a historical-genetic analysis including its formalized version - Basin Modeling. A well pronounced cyclic character of a sedimentary cover composed of gradually laterally changing sand-shale deposits, moderate tectonic dislocations and subordinate role of disjunctives - all these factors are favourable for the formalized methods. On the other hand the region includes different geological situations - platform blocks of various ages, ancient and young rift zones; its cover thickness varies within a range of 10km and more and embraces different types of hydrocarbon systems in a wide stratigraphic range. Quantitative characteristics of hydrocarbon generation stages and phase zonation have been obtained from the data on both individual far spaced deepest wells and groups of wells within some fields or districts. An analysis has allowed us to estimate the effect on these parameters of the age of basement, the rate of sediment accumulation, including avalanche sedimentation, as well as some technique factors in particular the inevitable inaccuracy of data on hiatus, volume of erosion etc. It was made the estimation of basic geochemical parameters such as hydrocarbon potential of deposits and degree of organic matter catagenetic transformation. Principal intervals of oil and gas generation have been determined for different geotectonic and lithologic-facies zones. Special attention has been given to estimation of hydrocarbon potential of deep horizons - the main object of present-day exploration - with the aim of revising their contribution to the total petroleum potential of the basin.