

MODELING AND MAPPING OF STRATIGRAPHICALLY TRAPPED RESERVOIRS ON WESTERN SIBERIA AND TIMAN-PECHORA BASINS, RUSSIA

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Paleoreconstructions of depositional settings and studying the rock epigenetic changes of non-anticline and deep-seated objects in Lower Paleozoic carbonate deposits, Timan-Pechora basin, and in Cretaceous terrigenous deposits, Western Siberia, have allowed: 1. To develop the model of forming secondary capacity under the effect of syngenetic and epigenetic organic matter (OM) destruction aggressive products. To 15% of secondary porosity can be related to the action of OM decomposition aggressive products on carbonates. The secondary reservoirs of such genesis are identified in the Silurian carbonate deposits of the Varandei-Adzinskaya, Kolvinskaya, and Khoreivskaya zones, Timan-Pechora basin (TPP) (secondary porosity is about 10%). On the basis of this model the zones with the most probable development of secondary capacity have been forecasted and the maps of developing secondary reservoirs for Lower Paleozoic deposits, TPP, have been constructed; 2. To develop the model of forming highly capacity reservoirs in the Neocomian clinoform formation, Western Siberia, formed mainly by turbidity fans. Sandy bodies formed by grain flows at a sedimentation regressive stage with the subsequent changes related to along-slope currents are the most prospective in Neocomian deposits, Western Siberia. Stratigraphically trapped reservoirs in the Neocomian clinoforms, Western Siberia, are mapped on the basis of this model and geophysical data. 26 areas are considered to be the most favorable for detailed exploration; 3. To determine the factors of capacity forming (to 8%) at a depth of more than 5,000 m on the unique material of the Kolvinskaya and Tyumenskaya over-deep wells.