

## **Peculiarities of the Structure of the Upper and Middle Jurassic Formations - Reservoirs of the Zapolyarnoye, Yamburgskoe and Tazovskoe Fields**

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The potential of the Jurassic sediments development in the northern part of West Siberia are linked with the lithological and mineralogical peculiarities of the reservoirs being the main reserve of this region taking into account the high degree of depletion of the Cenomanian gas pools. The studies of the characteristics of the interstitial space of the reservoirs and the shaly component facilitating different potential productivity is one of the pressing issues of the development of the deep (Jurassic) horizons. Thin sections were analyzed, electron-microscopic studies and X-ray structural analysis of thinly dispersed component were conducted with the aim to study the detail structure of the interstitial space of the Jurassic reservoirs. The shaly component together with the fragmentary phase of the reservoir structure defines its porosity and permeability characteristics and can have an impact on the well productivity. The studies conducted prove the proximity of the source area which is reflected in poor rounded sandstone fragmentary grains. The shaly component is represented mainly with the nonswelling or poorly swelling minerals (illite, chlorite, kaolinite) excluding J3, where mixed layered minerals were identified within its composition. The shaly-carbonate cement type is characteristic for the Jurassic sediments of the Tyumen and Vasyugan formations. In a number of cases in J1 and J2 the pyrite fromboids were observed. In a larger number of the studied samples the clusters were observed which could have a negative impact on the fluid filtration in the reservoirs. The electron-microscopic studies enabled to identify in some samples open fractures filled partially with thinly dispersed component. The trends were defined for the change of the mineral associations of the cement shaly component in the J1-J5 formations-reservoirs. High shaliness of the reservoirs in the area under consideration apart from deterioration of the porosity and permeability characteristics has a positive impact as well, as shaly minerals are absorbing heavy high molecular oil components, such as asphaltenes and tars. In the result light oils are accumulated in the pools.