

Lower-Middle Jurassic petroleum potential of West Siberia

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The Lower-Middle Jurassic is the lower petroleum stage of the West Siberian Province. Postrift crust downwarping and eustatic changes of boreal seas predetermined transgressive and regressive strata accumulation. As a result five petroleum complexes have been isolated: Malyshevsky, Vymsky in Middle Jurassic; Nadoyakhsky, Sherkalinsky and Zimny in Lower Jurassic. Northward tilt of the crust downwarping affected the formation of marine and essentially continental sediments in the north and south, respectively. A transitional area from continental facies to marine ones was formed in the latitudinal near-Ob region.

Permeable rock masses show porosity up to 20-30%, permeability up to 1.0-1.5 darcy in individual layers of the field. Reservoirs are porous. Seals are composed of mudstone and siltstone up to 50-60 m thick. These are primary oil source rocks. Sapropelic and humic material reaches 5-10% there. The Lower Jurassic pools are mainly anticline, the Middle Jurassic ones are anticline and non-anticline.

About 30% of the total hydrocarbon resources of the province are concentrated in the Lower-Middle Jurassic. Nowadays more than 150 fields have been discovered including Talinskoye, Tailakhskoye, Fyodorovskoye, etc. being unique in reserves.

In the XX1st century the Lower-Middle Jurassic will be one of the main targets of prospecting and exploration for high producing hydrocarbon pools in West Siberia.