

Influence of organic and mineral components transformation on reservoir properties of the Bazhenov formation (West Siberian basin)

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The Bazhenov formation is known as the main source rock in the West Siberian hydrocarbon bearing basin. It is an example of bituminous shales often referred as black shales. Discovery of oil in Bazhenov reservoirs made the study of oil accumulations within the Bazhenov formation one of the interesting tasks for petroleum geologists.

Prospecting criteria and distinguishing methods of reservoirs within the Bazhenov formation have not been developed yet.

The study of Bazhenov Formation is based on complex of different methods. These are lithological investigations, well-logging data, geochemical, petrophysical and other methods.

Results of the study showed that unconventional reservoirs within the Bazhenov Formation were formed during different stages of its geological history. The origin of reservoirs and their properties depend on influence of structural, lithological, tectonic and oil-generation factors.

Complex interpretation of information about rock composition, physical properties, oil-bearing capacity of rocks is necessary to identify different types of reservoirs. Reservoirs within Bazhenov rocks differ in lithological composition, origin and pore structure. Therefore methods of reservoirs identification and evaluation of their properties differ for each type of reservoir.

As a result this approach helps to forecast the development of productive zones in the source rocks of Bazhenov Formation.