

## **New features of the Kerleutian sediments geological structure, Kerch Peninsula, Ukraine**

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Kerleutian sediments are one of important reservoir rocks to increase hydrocarbon production in the South Ukraine region. Geological structure of Kerleutian sediments that belong to middle part of the Maykop Series (and roughly correspond to Chattian stage of Oligocene) is not enough studied. The novelty of such work consists of detail subdivision and correlation of Kerleutian sediments. Such detail study is necessary to increase success ratio of hydrocarbon exploration within Kerch Peninsula and adjacent offshore. The aim of the study is to build geological model and paleogeography of reservoir rocks within the Kerleutian suite.

While studying the geological structure and hydrocarbon potential of the Kerleutian sediments it was interpreted materials of the 2D seismic surveying; development survey data; lithological and petrographic petrophysical data based on core samples from exploratory wells. Spatial distribution of fracturing was based on structural and morphometric analyses by interpreting of remotely sensed materials and SRTM data in particular.

As the result the local sections of Kerleutian sediments were subdivided and correlated. It was made a detail analysis and marked out specific facies areas of buried contour currents deposits and slope fans deposits; analyzed conditions of production horizons formation; established new parts of the succession that could be considered as prospective; shown the role of sedimentary and tectonic processes in the formation of Kerleutian reservoir rocks.

The study features the promising silty sandstones beds inside mainly shaly section. Sandstones are characterized by lens-like appearance in the section ribbon-like manifestation upon the area. It is established that Kerleutian sediments were formed at shelf, continental slope and toe environments. Silty sandstones reservoirs vary upon the area and depth. They are different in clay component hence it occurs good conditions for forming of lithological and stratigraphic traps. Therefore main type of traps here is combination one – stratigraphic traps with tectonic and lithological screening. Issuing from this study it was outlined the prospective for oil and gas areas in the region and first priority locations for exploration drilling according new map of oil and gas prospects.