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Lithological and petrophysical characteristics oil-saturated deposits of Bobrikovsky horizon on the southern slope of the South-Tatarian arc

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Abstract

Paper studied clastic reservoir rocks of the Bobrikovsky horizon on the southern slope of the South-Tatarian arc. Analysis of core material has shown that thickness of Bobrikovsky oil reservoirs are evolve along bearing and changed from 15 to 24 m. Cross sections is presented by interstratified beds of claystones, siltstones and sandstones. Sections are marked by regularity rise of sand layers thickness with increasing of aggregate thickness of Bobrikovsky deposits. Oil-productive anticlinal structures relate to lithological-structural type. In structure of oil reservoirs marked zones of oil-water contact, oil-saturated sands intervals and cap rocks. Oil-water contact zones mostly traced along bituminous layers in siltstones. Oil-saturated zones are represented by quartz sandstones in top of Bobrikovsky horizon and separated from water saturated underlying intervals by claystones. In some cases saturation of layers is uniform in other circumstances is banded. Cap rocks of oilsaturated deposits is claystones with changed thickness from 2 to 5 m. Higher in the succession claystones grade laterally to dense limestones of Tula horizon. Analysis of core material showed that the promising interval for production is sandstone layers (inferred age C1bb-2) in head part of Bobrikovsky horizon. Oil-saturated sandstones are evolving along bearing separated from each other by dense fluid seals. Reservoir sandstones on their petrophysical properties are porous reservoir middle and high capacity.

Keywords

Bobrikovsky horizon, Claystone, Oil reservoir, Petrophysical properties, Sandstone, Siltstone