Analyses on Formation Conditions of Paleogene Stratigraphic-lithologic Reservoirs in Large Slope Area in Qikou Sag, Bohai Bay Basin

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The stratigraphic-lithologic reservoirs of Paleogene large slopes were well developed in Qikou sag, a typical continental rift basin in Bohai Bay basin. Structure, sedimentary reservoir, source rock and their couple matching relationship are the key factors on oil and gas reservoirs formation. Structure is the foundation which control kinds of large slopes formation; sedimentary reservoir is the core, which multistage sandbodies horizontally deposit and vertically superpose under the control of provenance and sedimentary cycle in the mechanism of “source providing sand, groove transporting sand and slope-break controlling sand”, and high quality reservoir develop affecting by the higher sedimentation rate, medium geothermal field, high fluid pressure, high feldspar content, the higher dissolution rate and higher hydrocarbon yield. Oil source including source rock, hydrocarbon generation and expulsion and migration is the key to control the distribution pattern of oil and gas. On the basis of single factor analysis, the ternary factors coupling pattern is proposed, that’s the target reservoir = oil source × sedimentary reservoir × trap, based on which the lithologic updip pinchout reservoir, stratigraphic overlap and unconformity barrier reservoir and structure-lithologic reservoir are identified in the study area. The Qibei and Banqiao slope zone and Chengbei fault slope zone are the favorable area for the stratigraphic-lithologic reservoir exploration and exploration results have been achieved fruitfully.

References:
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