

About limit depths of differentiation hydrocarbons (HC) in oil-gas bearing basins

JAVADOV M.A., Geology Institute of Academy of Sciences, Baku, Azerbaijan

Problem of determination of limit depths of phase distribution of HC has a great importance for prospect valuation of oil-gas content of deeply - (4-6 km) and super-deeply (over 6 km) occurring horizons. But because of considerable expenses it has not been solved yet.

We determined that in large world oil and gas basins of various types with thick sedimentary cover maximum 7-18 km gas deposits are confined to the depths interval 4270-8036 m, gas-condensate - 4350-7200 m and oil fields - mainly 3650-6700 m. Following the example of the South Caspian depression (SCD) with a thick sedimentary cover to 15-25 km we determined that in oil-gas bearing basins the limit depths of distribution of phase HC can be significantly lower than the known ones; in Apsheron aquatorium of the SCD depth of intersection in interval 9-10 km of curves of dependence of liquid and gaseous HC on scheme accepted by us as limit depth of HC differentiation for this region.

In the separate parts of the SCD, possibly, in other similar oil-gas bearing basins, where the sedimentary cover is characterized by increase of clay content of deposits and thickness of clayey divisions between structural stages, the geothermal regime is moderate, and limit depth of HC differentiation - lower one.

We come to conclusion that in oil-gas bearing basins the limit depth of phase distribution of HC is not same and depends upon tectonically solid structures, firm clayey seals - water resistance and geothermal regime.