

# **Results of geologic studies on the South Caspian depression with reference to Arctic**

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Usage of results of geologic studies of well-studied oil-gas bearing basins, in particular, the South Caspian depression (SCD), for search for hydrocarbon (HC) deposits in Arctic basin (AB) has a great importance.

Following the example of typical parts of SCD we had determined that main factors determining optimal geologic-tectonic base for search for HC deposits are: presence of thick series of sedimentary formations, favourable structural-tectonic conditions, rocks-reservoirs, able to contain industrial accumulations of oil and gas and clayey divisions - seals to prevent the deposits from destruction. From these viewpoints we had examined the geology of AB. Formation of AB possibly had begun in the Paleozoic as a result of disintegration of Laurasia massive and systems of rift depressions and grabens had been formed by spreading. The last one is probably caused by convective process or, possibly, large meteorite or asteroid strike. It is explained by our analysis of data in the Paleozoic-Pre-Cambrian time. On the base of available data we determined that in Arctic the rift grabens, bathimetric uplifts, depressions in the marginal shelf zones, and also the deltaic zones of large rivers can be favourable geologic areas of oil-gas accumulation. Sedimentary series with thickness to 10 km consist, mainly, of terrigenous-clayey materials, able to form the reservoirs. Role of seals reservoirs, containing HC can be played by the Late Neogene (Miocene) deposits.

We come to conclusion that in the separate regions of Arctic there are geologic-tectonic conditions for search for HC deposits, meeting the criteria of the SCD.