MIDDLE AND NORTH CASPIAN AREA OIL AND GAS BEARING FRAMEWORK AND PROSPECTS

Kuantayev, N. E.; Zholtaev, G. Zh.; and Kuandykov, B. M. Chevron Overseas Petroleum Inc.

Analysis of the up-to-date geophysical data allows to identify four structural complexes: Paleozoic, Permo-Triassic, South Paleogenic and Neogene Tertiary, corresponding to the major area development stages.

The major tectonic elements determining the sea area framework include Middle Caspian and North Caspian micro-platforms with the Riphean basement and dislocation systems developed between them in the narrow band of the Bozashi late Paleozoic and Mangyshlak Permian and Triassic. Such dislocation systems were formed as a result of the rift zone inversion and are not an expression of the Hercynian phase of the geo-syncline development, which had allegedly resulted in the formation of the young Turan and Scythian platforms, as it is commonly held in the CIS countries.

The developed structural and tectonic maps on each structural complex are a solid basis for the tectonic and petroleum geology zonation of the Middle and North Caspian Sea area. Optional hydrocarbon kitchens in the South Emba, Zhilaya Kosa, Segendik; Kazakh Bay and Ukatny depressions have been identified. The most interesting of them are such oil and gas accumulation zones as Zhylyoi and numerous carbonate massifs in the Paleozoic complex, such as Kashagan, Kairan, Aktoty, Isatai, Zhambai; Bozashi with the sub-latitudinal local structures such as Kalamkas-Sea, Karkhan, Kurmangazy in the Jurassic and Paleogenic complex; Peschannomyssk, Rakushechnoye and Karanogaz zones with numerous local structures in the Triassic and Jurassic-Paleogenic complexes. A certain interest evokes the southern portion of the Middle Caspian oil and gas bearing basin with the Neogenic sediments and various developed oil and gas traps.

Comparative analysis of the sea and adjacent coastal areas having established oil and gas bearing of the identified complexes, with the major accumulations, such as Tengiz, Astrakhan, Uzen, Zhetybai, Kalamkas, allow to anticipate high rate and booming petroleum business development in the area of the world.