



ZHUKIVSKA BLOCK

Mineral: oil, natural gas, condensate.

Type, period of subsoil use: geological study of oil and gas subsoil, including exploration and production of fields with extraction of oil and gas (industrial development of fields), 20 years.

Location: Poltava district, Poltava region. Poltava is a regional center located in 9 km to the south of the area. Petrivka, Yatsynova Slobidka, Kovankivka, Ternivshchyna and other villages are located on the block territory. Within the block there is the Sumy-Poltava highway.

Block area: 57.72 km².

Geological summary: Tectonically, Zhukivska block is located in the central part of the axial zone of the Dnieper-Donetsk rift. The geological structure of Zhukivska block is quite complex due to presence of several structural floors and intensive manifestation of salt tectogenesis.

The main tectonic element in this block is the Paleozoic Zhukiv uplift complicated by the Olepyriv salt diapir, which belongs to the type of pre-Triassic fungi. According to seismic surveys of the refracted waves correlation method, the block is located above the central part of the Landaria depression with a depth of the foundation of 11.5 - 12.0 km. According to seismic surveys s.p. 30/86 in the middle and lower Carboniferous sediments (reflective horizons Vb2, Vb13) Zhukov's structure is a brachianticlinal fold, the vaulted part of which is complicated by the body of the salt rod.

According to deposits of the Bashkir tier of the Middle Carboniferous (reflective horizon Vb2), the south-eastern periclinal structure is larger in size comparing to the underlying horizons due to reduction in the size of the salt rod leg. In lower Perm sediments the reflective horizons IVg (P1nk), IVv2, (P1sl) of the Olepyrivsky stock complicate the Zhukiv structure. In this complex, it is a Brach anticlinal fold of sub latitudinal extension. The intact parts of the periclinals have an asymmetrical structure - the north-western part is characterized by a steeper layer. In the south-west of the Zhukiv fold an extensive compensatory Krotenkiv depression is mapped.

A narrow local depression is developed to the north-east of the Olepyrivskyi stock. In the north-eastern direction, the homogenic sediments of the lower Perm dramatically change their thickness until complete wedging. In Mesozoic sediments, at the level of the reflective horizon IVb (T), the Olepyriv Brach anticlinal fold of sub latitudinal extension with a short eastern and elongated western periclinal is fixed above the salt stem. In the vault it is complicated by a longitudinal rupture, the amplitude of which increases from west to east from 20 to 80 m. According to the accepted oil and gas geological zoning, the block is located within the Hlynsko-Solokhiv oil-and-gas district. There are a number of hydrocarbon deposits (Runovshchyna and east-Runovshchyna gas, Akademik Shpak oil, Makartsiv, East-Poltava and Kopyliv gas condensate, Bayratsk oil-and-gas condensate) near the area.

Deep drilling has established industrial deposits of hydrocarbons in the Triassic, lower Perm upper and middle coal complexes. In addition, the salt stock attracts attention, around which small deposits are possible in the stock deposits of the Serpukhov and Moscow tiers (as we see near the Poltava, Novodmytrivskyi and Pischansky salt stocks).

Olepyrivsky stock belongs to the type of pre-Triassic mushroom-shaped one and occurrence of Devonian salt masses in the form of "shelters" at the level of lower Perm deposits is a reliable cover for accumulation of hydrocarbons providing optimal conditions. One can also count on central pool gas, the concentration of which is not necessarily confined to local traps. No drilling was carried out directly on Zhukivska block. But, by analogy with the neighboring areas (East-Poltava, Kopyliv, Runovshchyna and others), the geological structure of the block involves rocks of the Devonian, coal, Permian, Triassic, Jurassic, Cretaceous systems, as well as the Cenozoic century. Since the block is located in the axial part of the Dnieper-Donets Rift, all deposits are represented by their maximum thicknesses.

Probably productive horizons lie at depths of 600 – 5,500 m. Within Zhukivska block, oil-and-gas prospects occupy a wide stratigraphic range from Jurassic to Viseu lower Carboniferous deposits, which are productive at neighboring fields. =Oil-and-gas prospects in the block are associated with terrigenous, terrigenous-carbonate deposits. Hydrocarbon reservoirs are mainly sandstones, siltstones, limestones and dolomites. Hydrocarbon deposits are confined to lithologically shielded formations, tectonically shielded and combined traps.

Available geological information: Zhukivska block has been studied in different years by various geophysical and geological methods. No drilling was carried out in the area.

List of geological reports: **30593, 40075, 51133, 62105.**

Resources/reserves assessment: not estimated.

Minimum work program: Stage I (12 months) - processing and reinterpretation of 2D seismic data, Stage II (12 months) - conducting 2D or 3D seismic on 1/4 of the block area, Stage III (24 months) - drilling at least one productive well.

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