Main Directions of Exploration in the Northwest Part of the Dnieper-Donets Depression

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More than 30 oil, oil-gas, and gas condensate fields have been discovered in the northwest part of the Dnieper-Donets depression. The Yablunov and Vasil’yev fields are being delineated; the pays here are in the lower Visean-Tournaisian.

The dimensions of the traps, their closure, facies, and proximity to known fields indicate possibilities for discoveries in upper Visean-Serpukhov, Upper Carboniferous-Lower Permian, and the Devonian inter-salt sediments. Favorable zones are as follows.

**SREBNEN DOWNWARP AND ITS FRAME**

This zone has an area of about 2000 km$^2$, and Tournaisian-lower Visean reservoir rocks are found throughout it. Seals are also present. Commercial oil and gas and also direct shows have been found in upper Visean sediments in the Slobod, Trostyanets, and other areas.

Paleo-reconstructions have disclosed 20 highs, and remote-sensing and neotectonic methods indicate about 80 highs.

**LUTSENKOV-KRASNOZAVOD ZONE**

This zone is a large transverse arch or saddle 400 km$^2$ in area separating the Srebnen and Zhdanov depressions. Seismic surveys in 1978-79 disclosed two large structures, the Lutsenkov and Sviridov, with an area of about 100 km$^2$.

A gas condensate pool was discovered on the Lutsenkov structure in upper Visean horizon V-22. Reserves are small. The main play here is the Tournaisian-lower Visean complex.

The Upper Carboniferous-Lower Permian complex of this zone also offers considerable prospects. It consists of carbonates up to 100 m thick. Large low-amplitude structures are present.

**ZHDANOV DOWNWARP AND ITS FRAME**

Discovery of the Yablunov field brought interest to this zone. Seismic surveys and drilling have not been extensive here, but re-examination of the available data suggests that new anticlines will be found. The main play here also is the Tournaisian-lower Visean.

**SOFIYEV-ANASTAS’YEV ZONE**

This zone has been well studied by seismic surveys and drilling, and several oil and gas fields (Artyukhov and Anastas’yev) have been discovered. The search will now be directed toward buried uplifts and stratigraphic traps on the flanks of large arches.

**YADUTOV-KINASHEV SECTOR**

The Devonian inter-salt of this sector in the extreme northwest part of the Dnieper-Donets depression is very favorable for oil and gas. Zadon-Yeletsa clastics are the play here.

The Devonian is favorable also in the Sednev-Chervonogor, Maksakov-Borkov, and Galitsa-Malodevitsa sectors, but more seismic work is needed.