Tectonic Features and Oil-Gas Prospects of the Orenburg-Aktyubinsk Part of the Zone of Foreland Folds

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A favorable area for oil-gas exploration in the Orenburg-Aktyubinsk Near-Ural area is the eastern border of the Cis-Ural downwarp. Present here are Carboniferous and Permian sediments, which are oil-gas-bearing in adjacent regions of Bashkiria.

The Cis-Ural foreland downwarp in the Orenburg-Aktyubinsk area is divided into two parts: the Bel’sk depression on the north and the Uralo-Ilek on the south. Along the inner border of the downwarp is a zone of foreland folds, which are a raised part of the downwarp that has been thrust onto a subsided part. The contact here is a large overthrust.

The zone of foreland folds is composed of Carboniferous-Permian sediments of flysch and molasse, which have been deformed intensively. It is complicated by overthrusts of north-south trend, both regional and local, which piled slivers one upon the other by movements from east to west. See Fig. 1.

The foreland folds are surface structures that form the upper structural stage and are allochthonous. Beneath the overthrust are Paleozoic platformal sediments; these compose the lower structural stage and are characterized by structures of the platform type. The latter are possibly oil-gas-bearing.

Carboniferous and Devonian sediments of the pre-orogenic structural stage are present on two large buried uplifts - the Sakmaro-Iksk and the Kiin. See Fig. 1. These uplifts are considered to be favorable because reefs are present within them. Lithologic and structural traps are possible here also.

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