The Main Characteristics of Devonian Sedimentation in the Northern Part of the Pre-Caspian Basin

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Two main sedimentary cycles are recognized in formation of the Devonian oil-gas bearing complex in the northern part of the Pre-Caspian Basin.

The first cycle (Early Devonian-Early Fransian) began in Emsian time. The continental and the shallow-water deposits are spread locally on slopes of the Pugachev dome and in separate parts of the surrounding depressions. The Eifelian sediments accumulated in the marginal sea of transgressed the Paleo-Ural Ocean. The bioherms, the terrigenous-carbonate sediments and the lagoonal black clays are spreaded in the Buzuluk depression. The carbonate-salty deposits are known in the Kamensk-Zolotov zone. The terrigenous coastal-marine depositional predominated during Givetian to Early Fransian. There were the underwater deltaic complex in the Buzuluk depression and the alluvial complex in the Ryazano-Saratov depression. Sediment accumulation was interrupted before Middle Fransian time due to tectonic activisation.

The second cycle (Middle Fransian-Turonian) was characterized by deposition of the marine clastic sediments near the domes. The area of distribution of the reefs was displaced to the south as compared with the zone of the Eifelian bioherms. The shallow-water carbonate sediments are changed in the same direction by the deep-water carbonate-clay source deposits.

The zones of facies changes, the biogenic carbonate buildings and the terrigenous alluvial and deltaic bodies in the Devonian complex are of importance for increasing of oil production in the northern part of the Pre-Caspian Basin.