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Some Peculiarities of the History of Geological Development of Dnieper-Donetsk Basin

Territorially Dnieper-Donetsk basin is situated within Chernigiv, Poltava, Kharkiv, and partially Kyiv, Sumy, Dnipropetrovsk, Donetsk, and Zaporizhzhya regions of Ukraine. Dnieper-Donetsk basin (DDB) appeared in Middle Devonian. The history of geological development of DDB is known and studied in more detail beginning from Middle Devonian. In late Middle Devonian second stage of DDB development begins. Serpukhov age is the beginning of sudden differentiation of tectonic relations within DDB.

The available sandstones and dolomite argillites in Middle Devonian indicate marine conditions of sediment accumulations. Water temperature was moderately warm which is seen due to the available fauna – brachiopods, ostracods, and spores.

During Frasnian Age volcanoes erupted and tuffs were accumulated. There was a regression of seas in Mississippian period. There were a lot of water holes within this territory which coals witnessed being accumulated in places.

In Mississippian period the studied area had several transgressions and regressions resulting in rhythmic interbedding of aleurites, argillites, sandstones, and limestones. In Mississippian period during Kasimovian age there was the largest elevation of the Earth's surface resulting in accumulation of lagoonal deposits; at the same time dry land can be found on some areas.

During Permian system the territory was characterized by short-time founderingings, hot climate that is why variegated and red rocks were accumulated with beds of dolomites and salts.

In Triassic period climate is tropical that is shown by fauna and flora – ostracodas, landlocked, stoneworts. Sands, sandstones, clays, aleurolites, accumulation, variegated rocks with beds of anhydrites and plaster-stones continue to be accumulated.

In the early Jurassic period the Earth's crust within DDB area elevates again a little but by the end it is replaces y slight transgression. Also it can be noted that there was a shallow sea within the studied territory.

During Cretaceous the conditions do not change. Great number of shellfish appeared. During Palaeogene and neogene there is a slight subsidence of the given territory. Climate is subtropical now that is seen due to the available gastropods, foraminifer, and ostracods.