

PALEOZOIC NON-FRAMEWORK REEF IN THE SOUTHEAST OF THE WEST SIBERIAN PLATE

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The several provinces with organic buildups (bioherms, biostromes, buildup-like atolls) composed of dolomitic algal limestone with dispersed small-shelly fauna and bioclasts are determined from geologic-geophysical data in Paleozoic deposits within the West Siberian Plate. At present the wells penetrated the carbonate complex with thickness about 800 meters in the southeastern part of the area. Sedimentological and geochemical research showed that the complex is represented by pure dolomites without admixture of aluminosilicatic material. The lower part of the sequence consists of porous and cavernous dolomites with lump-grumous texture of algal origin and structures of stromatactis in which isopachous cement is displayed distinctly. The interbed with upper Devonian foraminifers and algae is revealed at the base of the complex. The micritic dolomites with lump-grumous texture and fenestrae structure occur in the upper part of the section. Sr/Ca correlation in the rocks shows that dolomites were formed in the shoal environments, but complete dolomitization took place in the early and preferentially late diagenesis. The interrupted-striped distribution of differently crystalline dolomite, wide-spread lump-grumous texture of the rocks, numerous structures of bird's-eye type and stromatactis, absence of organisms forming framework, complete dolomitization of rocks, which is typical of nucleus parts of reefs, considerable thickness of deposits allow to identify exposed complex with non-framework reef. The formation of this reef took place in aphotic zone in quite hydrodynamic conditions in the marginal part of carbonate platform.