

ENVIRONMENTAL AND CLIMATE CHANGES OF CENTRAL ASIA –NEW DATA FROM 600 M DRILLING CORES (BDP-98) FROM LAKE BAIKAL SEDIMENTS

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The results of drilling 600m borehole are presented. It was drilled on the Academician Ridge dividing the Northern and Central deep depressions. It penetrated continuous sedimentary cross-section which consists of alternated diatom silt and terrigenous clay dated as 10.3 Ma. The change of physical properties and composition of sediments, distribution of diatom frustules, composition of clay minerals through sedimentary cross-section were used to interpret the paleoclimatic record covering the interval 10 Ma. It was possible to define the age of principal seismostratigraphic units. The history of formation of the Northern part of the Baikal rift basin was considerably specified. At the drill site in the Upper Miocene the sedimentary sequence formed on the slope of the basin, initially under the influence of the river material transfer. Since 6.6 Ma the paleo-basin acquired recent outlines.

The interpreted paleoclimatic record shows that in Central Asia up to the Upper Miocene the warm and cold periods alternated. This was due to the change of orbital parameters of the Earth. In the Miocene, which is characterized by subtropical climate, the amplitudes of fluctuations of climatic markers were markedly smaller as compared to later time. Sharp cooling occurred at the interval 2.8-2.5 Ma. At that time there was an intense growth of mountains in the Baikal surroundings, on which glaciers were formed and reached the Baikal coast.