Ordovician Marginal Basins of Kazakhstan Paleozoids

1NIKITIN I.F., 1NIKITINA O.I., JR. K.I., 1Satpaev Institute of Geological Sciences, Almaty, Kazakhstan.

Analysis of geodynamic evolution of the modern structure of Kazakhstan and North Tien Shan Paleozoids (eastern half) indicates that in the Ordovician a system of island arcs with adjacent back-arc, inter-arc and pre-arc basins existed there as a part of West Pacific-type continental margin, presumably of Siberia continent. The following units are established: I. Kokshetau-North Tien Shan island-arc system including: 1-Ishim-Karatau-Naryn zone of pre-arc basins with cherty-clastic sedimentation in the Early -Middle Ordovician, turbidite deeps and local andesitic basalt volcanic activity in the Middle-Late Ordovician; 2-Karatau-Talas carbonate plateau; 3-Stepnyak-Betpakdala-North Tien Shan volcanic arc with andesitic basalt volcanic activity; 4-Selety-Chu Ili relict island arc with amagmatic turbidite deeps; 5-Ermentau-Buruntau inner deep-water basins with cherty sedimentation in the Early-Middle Ordovician; 6-Shiderty and South Dzhungaria back-arc basins with cherty-clastic sedimentation in the Early-Middle Ordovician and turbidite sediments in the Middle-Late Ordovician; II. Dzhungaria-Balkhash back-arc basin including: 1-Mointy-Tekeli carbonate plateau (uplift); 2-Dzhungaria-Balkhash deep-sea trough with back-arc spreading zones and cherty-basalt deposition; III. Chingis-Tarbagatai island-arc system, with andesitic basalt volcanicity and adjacent Akshatau and Arkalyk deep-water-basins with cherty-basalt deposition in the Early-Middle Ordovician; IV. Zaisan deep-water back-arc basins with back-arc spreading zones and cherty-basalt deposits; V. Gornyi Altai shelf zone of Siberia continent.
The geodynamic nature of Karatau-Naryn zone is not so clearly definite as for another ones.