THE MIDDLE TIEN SHAN AS THE PART OF THE LATE PALEOZOIC CONTINENTAL MARGIN OF THE PALEOTETHIS: GEODYNAMICS AND MAGMATIC ZONATION

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Ghes M.D., Seliverstov K. V.Institute of Geology, National Academy of Sciences, Bishkek 720481, KyrghyzstanGlobal palinspastic reconstruction of L. P. Zonenshain et al. (1987) show that in the Late Paleozoic the Middle Tien Shan represented an active continental margin of the northern (present day coordinates) branch of the Paleotethis ocean (Turkestan basin). The western part of the Middle Tien Shan is taken here as an example to consider geodynamics of this margin, magmatic and metallogenic zonation caused by it as well.The geodynamic environment in the Middle Devonian-Early Carboniferous conformed to shelf conditions of the passive continental margin (Eastern Australian type) which gave way to amagmatic (non-magmatic) subduction in the end of the Early Carboniferous. The Late Paleozoic subduction of the Paleotethys beneath the northern (present day coordinates) active continental margin (Nevada, Andian and California types) was accompanied by the formation of a marginal continental volcanic-plutonic belt lateral and temporal zonation of magmatic rocks (from front to rear, from south-east to north-west): from calc-alkaline-latitic-agpaitic-plumasitic and alkaline granites and phyolites to alkaline (potassic) gabbroides and basaltoides. So there is a trend of increasing the total alkalinity from front to rear, potassium alkalinity and decreasing magmatite age.Within the volcanic-plutonic belt three metallogenic zones (from front to the rear) ofPb-Zn (Devonian to Early Permian), Cu-Pb-Zn (Middle Carboniferous to Early Permian) and Hg-As-Sb-W-Sn (Early Permian to Early Triassic) ores are established, which correlate with magmatic zonation.