

THE ROLE OF THE AKITKANIAN BREAK IN THE EARTH'S HISTORY

1LEBEDEV B. A., 2PINSKY E.M. 1 VNIGRI, St-Petersburg, Russia; 2VSEGEI, St.-Petersburg, Russia

The period from the Late Karelian (Aphebian) to the early Riphean (1,9-1,65 Ga) was named the Akitkanian by L.I.Salop, the Russian investigator of the Precambrian. A geological setting of this time interval is characterized by a lot of unique features which represent one of the most essential reconstructions in the Earth's history. By the Riphean about 75% of the continental crust had already formed. The crust transformation in the Akitkanian was mainly due to unusually prolonged (to 200-250 Ma) global continental riftogenesis. As a result, platforms of modern size formed within the Pangea (Megagea, according to H.Stille). Screening large areas by sedimentary basins resulted in essential redistribution of heat flows. By this time, about 70% of primary heat energy reserves had been spent that resulted in the decrease in intensity of mantle magmatism, extinction of komatiites, cessation of the formation of granite-greenstone belts. Reomorphic granites-rapakivi came into existence in place of autochthonous granites. The atmospheric and hydrospheric compositions altered, oxygen content rose steeply. Mechanisms of epigenetic deposits formation changed. The Archean had been characterized by chiefly convective mechanism of ore-bearing solutions transportation. In the Akitkanian it gives way to the compression mechanism beneath the screen of regional fluid impediments. In general, the style of tectonics, magmatism, sedimentation and conditions of ore deposits formation changed from very specific in the Early Precambrian to relatively close to the modern ones.