

Some tuffs and dispersed pyroclastics are found in the Sarmatian sections, and some tuffs – in the Meotian-Pontian (?) and the Pliocene ones. The tuffs are rhyodacitic and rhyolitic, and belong to the high-K calc-alkaline series. As a rule they are unevenly to strongly altered into kaolinitic clays or bentonites.

The Quaternary ash tephra is trachytic and belongs to the high-K transitional series. Five occurrences are established. Three of them are located in caves. In the Prohodon-Temnaia dupka cave system the tephra is situated between two layers containing paleolithic artifacts. About 95% of it is composed of angular ash glass shards ($N = 1,523$). According to the macropetrochemical features the Quaternary ash is very close to that established in Francheti cave (Peloponnesos, Greece). It belongs to the «Campanian ignimbrite series» and is connected to one of the paroxysmal tectomagmatic events which accompanied the formation of the Neapolitan caldera (Italy) in the time span between 38,7 and 24 ka.

MINERALOGY AND MINERAL CHEMISTRY OF SULFIDE MINERALIZATIONS WITH GOLD IN THE STANOS AREA, VERTISKOS FORMATION, CHALKIDIKI

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The present paper deals with the mineralogy, texture and mineral chemistry of sulfide mineralization from the sites Paliomilos, Chalkoma, Karabogia and Kasida located in the Stanos area, Chalkidiki Peninsula. The mineral assemblages consist mainly of pyrite, arsenopyrite, chalcopyrite and in smaller proportions of sphalerite, pyrrhotite, galena, Co-Ni sulfides, bismuthinite, sulfosalts of Bi and Cu-Ag-Sb, gold-electrum, telluride of Bi, molybdenite and Fe-Ti oxides. The mineralizations in the former three sites are deformed and metamorphosed contrary to the fourth. On the basis of arsenopyrite geothermometry and sphalerite geobarometry applied in the paragenetically first assemblage pyrite + pyrrhotite (hex) + sphalerite + arsenopyrite temperatures of 460-510°C, sulfur fugacity of $10^{-4.2} - 10^{-5.6}$ atm and pressures 5.6 ± 0.8 kb were obtained. These conditions were found to be comparable with those indicated by the silicate mineral assemblages of the host rocks, thus suggesting formation of early phase of mineralization before or during the peak of the Jurassic-Upper Cretaceous amphibolite facies regional metamorphism. The remaining assemblages of the sulfide mineralization including gold in the former three sites have been formed during the retrograde greenschist metamorphic episode and subsequently the sulfide mineralization at the Kasida site.