

support an evolution of the rocks by fractional crystallization. The relatively flat HREE patterns and the enrichment in LREE and other LILE are compatible with an "enriched" upper mantle source region. The evolution of the rocks is related to the subduction of the African plate under the European plate. Partial melts and/or hydrous fluids contributed to the enrichment of the mantle during the process of the subduction.

## **FRAMBOIDAL PYRITE IN THE Fe-Cu-(Zn-Pb-Au) DEPOSITS OF THE XYLAGANI AREA, RHODOPE COUNTY (THRACE).**

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Research carried out in the Metavolcanosedimentary Series of Xylagani area (Thrace) revealed the presence of framboidal pyrite. This special form of pyrite is found in the chlorite schists of the Metavolcanosedimentary Series coexisting with pyrite, chalcopyrite, limonite, covellite, chalcocite, sphalerite, tetrahedrite, galena, pyrrhotite and gold. The framboids are spherical in form and their size ranges from 4 to 37.5  $\mu\text{m}$ . The dominant size of the constituent pyrite microcrysts is less than 2  $\mu\text{m}$ .

The studied framboids are found within silica material and usually appear as individuals and to a lesser extent as colonies. The presence of framboidal clusters, dispersed framboids and clouds of single pyrite microcrysts is also observed. More than 70% of the framboids of the Xylagani area are tightly-packed resulting in an almost homogeneous mass. The homogenisation is observed at the core and extends towards the periphery of the framboids and in most cases has obliterated the internal structure of the constituent pyrite microcrysts. However, on rare occasions a concentric structure may be distinguished.

The formation of the studied pyrite framboids is attributed to the interaction of  $\text{H}_2\text{S}$  with Fe, both of them being of volcanic origin. The framboids are interpreted as early diagenetic formation and they were formed under reduction conditions with neutral to alkaline pH values. Silica material plays a key role in their preservation protecting them from dispersion, recrystallization and deformation.

The homogenisation that has been observed in the framboids is attributed either to a later addition of new pyrite in an infilling process or to recrystallization.