MINERALOGY - GEOCHEMISTRY - GENESIS AND METALLOGENETIC SIGNIFICANCE OF LAMPROPHYRES FROM THE STRATONI - OLYMPIAS AREA. KERDILIA FORMATION, EASTERN CHALKIDIKI

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Thin grayish green, dark green to grayish black porphyritic, phlogopite dominant dykes, occur in the eastern Chalkidiki and crosscut the Paleozoic or older metamorphics of the Kerdilia Formation of the Servo-Macedonian Massif as well as the 30 Ma Stratoni granodiorite. On the basis of form, texture, mineralogy, mineral chemistry and geochemistry they can be classified as lamprophyres and more specifically as minettes. Tha chondrite normalized rare-earth element and primordial mantle normalized HYG element patterns, for the lamprophyres and the Stratoni granodiorite, suggest a common origin and processes of formetion. Mg - values and certain incompatible trace element ratios (e.g. Zr/Hf, Y/Ta) indicate that a mantle component has participated in their genesis, whereas the LFS (e.g. Rb, K, Ba, Th etc.) and a number of the HFS (e.g. Zr/Ce, Ce/Ta etc.) element abundances and ratios suggest contamination by crustal rocks most likely through mantle-crust magma interaction. The La/Ta ratios, the decoupling of LFS from HFS elements and the Ta-Nb trough in the primordial mantle normalized HYG element plot, point to an arc environment for the formation of the lamprophyres. In addition, the hydrothermal alteration of the lamprophyres suggest their participation in the Pb-Zn (Au, Ag) sulfide ore formation.

GEOCHEMICAL AND THERMOBAROMETRIC CHARACTERISTICS OF FLUIDS ASSOCIATED WITH QUARTZ-SCHEELITE VEINS OF METAGGITSI-SALONIKIO, E. CHALKIDIKI PENINSULA

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Quartz-scheelite vein systems of the Pyrgadikia-Metaggitsi-Salonikio area are hosted by two-mica gneisses, and schists of the Paleozoic or older Vertiskos Formation, in the E. Chalkidiki Peninsula, N. Greece. Host rocks have been affected by regional amphibolite facies metamorphism spanning from Jurassic to Upper Cretaceous, followed by retrogression to the greenschist facies. Individual quartz veins strike from NE to E, have variable widths up to 1 m, sharp contacts, and measure up to 1 Km length. Scheelite in the veins is accompanied by traces of powellite, stolzite, arsenopyrite, molybdenite and goethite.