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THE PORPHYRY MOLYBDENUM OCCURRENCE OF «PAGONI RACHI» (NE KIRKI) AND THE MINERALOGICAL CLASSIFICATION OF THE HYDROTHERMAL ALTERATIONS OF SUBVOLCANICS IN THE AREA OF KIRKI – ESYMI (THRACE)

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For the first time Arikas (1979) has made known a porphyry molybdenum occurrence within the area of Greece. It crops out northeasterly of Kirki (nearby Alexandroupoli) and is meanwhile (in Reports of the IGME) named after a hill called «Pagoni Rachi».

The present elaboration deals with the investigation of mineral chemistry of the hydrothermal alterations of the subvolcanic rocks occurring within the area of Kirki – Esmi. Particular considerations will be done about the mineral paragenesis of the alterations of the molybdenite occurrence of Pagoni Rachi.

The subvolcanic, dacitic andesites as well as its mesothermal alterations are, within the area of Kirki – Esmi, concerning mineralogical and chemical features very uniform. The subvolcanic rocks are mostly propylitized (neogenic minerals: chlorite + epidote + calcite + albite) and in several sites the alteration causes an entire bleaching (neogenic minerals: sericite/kaolinite + quartz + calcite + pyrite).

In Pagoni Rachi a closed zoning of the altered dacitic andesites is exhibited. Within the propylitized rocks a sericite-pronounced, bleached zone («phyllitic zone») occurs. It occupies an area of more than 2 km². In the center a deeper leveled and stronger altered zone («potassic zone») is exhibited. It contains a notable amount of molybdenum (a certain number of samples contain up to 1360 ppm Mo = 0.23% MoS₂) and relatively less chalcocopyrite (Cu up to 560 ppm). Another characteristic feature is the presence of quartz-stockworks. The mineral paragenesis can be described as follows: albite/k-felspar + biotite/phlogopite + actinolite (grammatite) + magnetite + fluorite. Thus a katathermal/pneumatolytic alteration of the subvolcanic rocks is indicated. During the decrease of temperature the formation of Mg-«sericite», Mg-chlorite and epidote took place.

The economic relevance of the mineralizations of Pagoni Rachi will be pronounced because an enlargement of the ore-bearing zone and thus an increase of molybdenum contents is expected in the deeper parts. The high contents of *rhénium* within the molybdenite (up to 2.5% Re) revalorize this occurrence in addition.

The perceptions of this examination are conclusively an important contribution to the investigation of alterations. It delivers guiding-threats about localization of mineralizations in additional zones of bleaching of dacitic andesites of Kirki – Esmi and other subvolcanic rocks in Thrace.