

AN EXAMPLE TO THE JASPEROIDAL-TYPE EPITHERMAL MINERALIZATION FROM THE WESTERN ANATOLIA:
DEĞİRMENCİLER ANTIMONY MINERALIZATION (SİMAV, KÜTAHYA)

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ABSTRACT.- Değirmenciler antimony mineralization consists of the stibnite-bearing quartz veins emplaced within the marble lenses of the biotite-gneisses which are at the bottom of the stratigraphical sequence of the Simav region. Quartz veins formed both as the replacement of and open-space filling in the limestone cut the schistosity of the host rock and crop out in accordance with it. Limestones were decalcified before the mineralization along the faults and later, transformed to jasperoid as a consequence of the replacement of calcite by silica. Intermediate and advanced argillic alterations consisting of the montmorillonite, smectite, dickite, quartz, opaline-CT and cristobalite developed on the wall rock. Halotrichite which represents the acid leaching zone of the hydrothermal alteration presents as well. Comb, cockade and banded textures as colloform and crustiform are widespread within the silicified rock. Hydrothermal breccias with black silica matrix and partly abundant pyrite are observed at the mineralized parts. Pyrite and graphite accompany the stibnite in the veins. In addition, galena, sphalerite, molybdenite, bismuthinite, gold and silver in lesser amounts are associated with the mineralized veins. Homogenization temperatures measured from the fluid inclusions of the quartz crystals vary 200 to 310° C and signify the deeper parts of an epithermal system. The association of stibnite and molybdenite in the veins points out that the hydrothermal solutions could have gained their metal content from the magmatic emanations. Therefore, it is suggested that the ore-bearing fluids has a genetical relationship with a buried granitoid stock which is represented by the dacite porphyries cropping out near the mineralization. However, graphite, rutile and anatase which are in the content of the vein show an addition to the hydrothermal solutions during their ascension as a leaching from the wall rocks.