

SCIENTIFIC COMMUNICATIONS

SYN- TO LATE-TECTONIC STOCKWORK EMPLACEMENT WITHIN THE SPANISH SECTION OF THE IBERIAN PYRITE BELT: STRUCTURAL, TEXTURAL, AND MINERALOGICAL CONSTRAINTS IN THE THARSIS AND LA ZARZA AREAS

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Abstract

In deformed massive sulfide deposits, it is commonly difficult to distinguish between primary stockwork mineralization and remobilized sulfides that occupy late cleavages and deformation structures, and the mechanism of formation of the deformation veins is not always clear. An analysis of sulfide vein networks associated with two massive sulfide deposits of the Iberian Pyrite Belt is presented as an example of this complexity. Variscan deformation has affected the massive sulfide-related stockworks at La Zarza and Tharsis and led to the formation of sulfide-bearing deformation veins. The primary feeder stockwork has a complex mineralogical composition with pyrite-rich veins rimmed by narrow Co-As assemblages (e.g., cobaltite and arsenopyrite). Interstitial galena, chalcopyrite, and sphalerite minerals are also observed. The vein set developed during deformation was emplaced within cleavage and shear planes characteristic of the regional south-verging tectonics. Away from massive sulfides, the characteristic minerals of the syntectonic veins are pyrite and quartz. However, deformation veins developed in contact with primary feeder veins and massive sulfide have Co-As-rich rims and base metal sulfides similar to the primary feeder veins. The development of the complex vein paragenesis within the stockwork zones is explained in terms of regional-scale deformation models.

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