

Porphyry Cu-Mo-(Au) Mineralization at Paraga Area, Nakhchivan District, Azerbaijan: Evidence from Mineral Paragenesis, Hydrothermal Alteration and Geochemical Studies

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Abstract : The Paraga area is located at the extreme eastern part of Nakhchivan district at the boundary with Armenia. The field study is situated at Ordubad region placed in 9 km from Paraga village and stays at 2300-2800 m height over sea level. It lies within a region of low-grade metamorphic porphyritic volcanic and plutonic rocks. The detailed field studies revealed that this area composed mainly of metagabbro-diorite intrusive rocks with porphyritic character emplaced into meta-andesitic rocks. This complex is later intruded by unmapped olivine gabbroic rocks. The Cu-Mo-(Au) mineralization at Paraga deposit is vein-type mineralization that is essentially related to quartz veins stockwork which cut the dioritic rocks and concentrated at the eastern and northeastern parts of the area with different directions N80W, N25W, N70E and N45E. Also, this mineralization is associated with two shearing zones directed N75W and N15E. The host porphyritic rocks were affected by intense sulfidation, carbonatization, sericitization and silicification with pervasive hematitic alterations accompanied with mineralized quartz veins and quartz-carbonate veins. Sulfide minerals which are chalcopyrite, pyrite, arsenopyrite and sphalerite occurred in two cases either inside these mineralized quartz veins or disseminated in the highly altered rocks as well as molybdenite and also at the peripheries between the altered host rock and veins. Gold found as inclusion disseminated in arsenopyrite and pyrite as well as in their cracks.

Keywords : porphyry Cu-Mo-(Au), Paraga area, Nakhchivan, Azerbaijan, paragenesis, hydrothermal alteration

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