Review on geology, geochemistry and mineralization of Heidari abandoned copper-gold vein type, south Kajeh, Ferdows

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Abstract

Heidari abandoned mine is one of the ancient vein type deposits with artisanal mining activity in Iran. In the prospecting area, intermediate volcanic and volcanoclastic rocks intruded by subvolcanic intrusive bodies, most of them shown silicic-sericitic-chloritic alteration. Intrusive rocks are I-type, calc-alkaline, high-K to shoshonitic affinity. Mineralization forms as vein and breccia filling the faults along the contact between intrusive and volcanic rocks. Primary minerals are: pyrite, chalcopyrite, specularite, bornite and galena. Chalcocite, covellite, diginite, malachite, azurite, chrysocolla, turquoise, iron oxide and carbonate are found as secondary minerals. Minerals forms as vein, breccia and box-work textures. Geochemical exploration revealed Cu, Au, Pb, Ag, Zn, As, Mo, Co, Ba anomalies in surface and subsurface samples. Evidences supported IOCG type of mineralization in the study area.

Keyword: Cu-Au with Specularite, Taherabad, Lut block.