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Characteristics of the ore- bearing quartz veins using fluid inclusions, Andarian, NW Iran

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Abstract: Andarian area is located north of Tabriz city, north west Iran, and tectonically is a part of Ahar-Arasbaran magmatic belt. Geology of the area includes Miocene shallow pluton, Cretaceous flysch-type sediments, metamorphic rocks (hornfels and skarn) and volcanic rocks. Mineralization occurred in two stages: primary and secondary. The primary ore minerals include Au, pyrite and stibnite. Malachite, azurite and iron-hydroxides are the main minerals of the secondary phase. Two phases of liquid-rich and gas-rich inclusions are the most common type of inclusions. The average formation temperature of quartz-gold vein deposit is 237°C with low salinity (with an average of 8.7 wt% NaCl equivalent). The pressure of entrapment for fluid inclusions is between 26 to 51 bars, which is equal to the depth of 270-550 m. Based on fluid inclusions studies, the gold bearing quartz veins formed in epithermal condition.

Keywords: *Quartz; fluid inclusion; gold mineralization; Andarian*.

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