Type of mineralization, geochemistry of alteration and relation of gold and associated elements in the Hizeh-jan area (NW Iran)

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Abstract: The study area is located in the Varzeghan city and in the province of the East Azerbaijan. Mineralization in the Hizeh –Jan area is gold mineralization type and associated with quartz and quartz - carbonate veins and veinlets, which is occurred in the Eocene volcanic rocks with andesite composition. The most significant alteration in this area, is developing of propylitic, argillic and silicic alterations. Based on the breccia, comb, overgrowth textures of quartz and carbonate gangue minerals of these veins, type of sulphide minerals include pyrite, galena, sphalerite, chalcopyrite, tetrahedrite, kaolinite and montmorillonite minerals that formed in argillic alteration and more focus of mineralized veins near the micro-diorite dikes demonstrator of IS epithermal gold mineralization occurred in this area and bivariate statistical analysis confirm the genesis of gold and associated elements in a different phases. In this area, alteration geochemistry studies corresponded with microscopic studies and XRD analysis.

Keywords: Hizeh-jan; Varzeghan; propylitic; argillic; mineralization; alteration; geochemistry.

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