Mineralogy and geochemistry of antimony-gold bearing veins in south of Nehbandan, east of Iran.

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Abstract: The study area is located south of Nehbandan, in southern Khorasan Province. There are three mineralization zones with three veins in this area which number two is antimony rich and has anomaly for Au and Hg. This zone is composed of silica-carbonate with stibnite, pyrite, chalcopyrite and Fe-hydroxide. The textures of veins are open space filling, breccia and colloidal. Mineralization occurred in Paleocene buff color conglomerate in deep seated faults. The basal part of conglomerate is composed of flysch type sediments and blocks of ophiolitic mélange. Mineralization fault zones have NW-SE trend. Young volcanic activity occurred as dacite and andesite composition. Based on field evidences, microscopic studies and analytical data, the mineralization occurred in an epithermal system. Chemical analysis show high anomalies for Sb, Au and Hg in these zones. The grades for Au vary between 1.2 to 472 ppb, for Sb 14ppm to 32.48% and for Hg 150 ppm to 1.8%.

Keywords: mineralogy, geochemistry, antimony, stibnite, ophiolitic mélange, epithermal.

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