

## **DARESTAN AU MINERALIZATION SOUTH DAMGHAN,E-IRAN(MINERALOGY, GEOCHEMISTRY AND GENESIS)**

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Darestan Au occurrence is located on the Torud-chahshirin volcano-plutonic belt,NE-SW trending horst northeast of dasht-e-Kavir.The outcrops are Middle Eocene andesite-dacite volcano-pyroclastics,interuded by granite to granodiorite bodies,in turn intersected by basic and porphyric dyke .Mineralization is Cu-Au silicic veins emplaced in the andesitic to dacitoandesitic breccia tuff associated with silicic,argillic and chloritic-porphyritic alterations. The mineral association is quartz,hematite,calcopryrite,pyrite,,gold,malachite and iron hydroxides.Gold grains commonly occur within quartz and in some places in pyrite.Electron microprobe studies display quantities of silver in gold grains.Geochemical behavior of REE content show a noticeable reduce in the silicic veins and silicic alteration zones,as well as a depletion in the argillic and chloritic-porphyritic alteration zones.Fluid inclusions studies revealed homogenization temperatures in fluid inclusion s range 252 to 495 c and salinity from 9.5 to 24.3 wt%NaCl .Field observations and laboratory studies show a close relationship between the CU-AU mineralization and the late-stage acidic solutions induced from subvolcanic intrusives with acidic to intermediate composition in darestan district.