

## **Antimony Mineralization in Relation to Alvand Granitoids(Hamedan)**

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**Abstract:** Antimony mineralization occurred in Hamedan district (Faghireh) which is related to Alvand Granitoids. The mineralization occurred as a series of veins. Thickness of veins are variable and reach up to 0.7m. The veins are emplaced along high angle faults. These faults acted as a pathway for migration of ore fluids. Veins are composed of stibnite, pyrite, realgar and orpiment with quartz as a gangue. The textures of veins are open space filling, however brecciations also occurred. Monzogranites, which formed the main part of Alvand pluton, is the host of quartz - stibnite veins. Monzogranites are composed of quartz, sodium plagioclase (oligoclase), orthoclase, biotite and sometimes muscovite.

The veins are composed of 30.5% antimony, 0.83 ppm gold and 498 ppm arsenic. Based on geochemical studies, Sb, Au, AS, Ag, Hg, Sn, Ni, Co and Cr contents of host rocks are much higher than the world's average monzogranites and have probably anomalies. Spiderdiagrams show an identical pattern for host rocks and veins, which strongly suggests that these veins are cogenetic with the intrusive rocks (monzogranite).

In summary, with all geological evidences in the region, it can be concluded that the mineralization is probably occurred in the epithermal type.