

The geochemistry and mineralogy of North C ore body and Baghak anomaly and determination of two Pyrrhotite generations which are different in composition in Sangan mine, eastern Iran

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Abstract: Detailed studies are done in order to investigate the ore body in Sangan mine. Analyses results showed very low amount of gold in mineralized zone, (max 32 ppb). It is indicated that there is a positive relation between Au, S and As whereas there was no special relation between Au and Cu. Therefore Au can not be found along with Cu sulfides such as chalcopyrite. The LREE elements are higher than HREE in the ore body. Pyrrhotite has two generations which are distinguishable under the microscope: It might be formed either with or after magnetite formation. Careful XRD studies indicate that these two generations have different amounts of Fe and S.

Keywords: Magnetite, Pyrrhotite, Sulfide, Iron stone, Fe oxide type, Gold, Copper, Sulfur, Rare earth element (REE), XRD.