

Petrology, Petrography and Mineralogical Studies of "Choghart Iron Ore Mine", Bafgh area, Iran

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The Choghart Iron Ore is located in Precambrian Formation of Central Iranian Plateau and their country rocks are sedimentary, volcanic, intrusive, schist, marble and gneisses. This complex is influenced by metamorphism (Contact and Burial) and metasomatism processes and has caused great variety of rocks and minerals around Choghart area. But as a whole, the complex which make the country rocks of the ore body has completely two different facies; these two facies are mostly green and light rocks which are applied generally with different names by geologists. The study of petrographical performance with respect to mineralogical study upon these two facies show that, the light rocks which are made up of high percent of quartz and feldspar have under gone a very intrusive metasomatism which is named as Cratophyer. Furthermore, these studies also show that the greatest part of the green rocks of the area, have been formed due to the low grade metamorphism of igneous rocks, and due to the mineralogical and textural composition, it is named as Greenstone.



In this manner, the study of petrographical performance upon the number of dykes indicates that the forming rocks could be mostly diabasic, or even olivine gabbros. Besides the photomicrography and the mineralography studies on the prepared polished sections of the variety of Chogart Iron ore show different textures and structures in these ores. These textures include massive up to small grain, big (coarse) grain cataclastics and martity subsequently. Thus, these studies indicate that most of the appatites (pink) with the magnetites (see Figure) are having medium grain textures which are mostly subhedral [1].

Reference

[1] Forster H. and Jafarzadeh, A. (1994) The Bafq Mining District in Central Iran—a Highly Mineralized Infracambrian Volcanic Field, *Economic Geology*, **98**, 1994.