

CONDITIONS OF SUPERGENE ENRICHMENT MINERALS IN SUNGUN PORPHYRY COPPER DEPOSIT, NORTHEAST IRAN.

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The Sungun Porphyry copper and molybdenum deposit is located about 100 Km northeast of Tabriz, Eastern Azarbayjan state, Iran. The Deposit is in Miocene age granodiorite to monzonite intruding Eocene volcano - sedimentary and Cretaceous carbonate rocks.

Detailed studies on polished sections and polished - thin sections reveal that the formation of secondary chalcocite and covellite are generally a thin crust around chalcopyrite grains and only in fracture zones the supergene copper minerals are relatively abundant and even in these places the thickness of the supergene zone is insignificant, and generally it forms a thin blanket over the ore body. The reasons for thin blanket supergene zone in the sungun porphyry deposit of Iran are studied in detail.

In the earlier studies some geologists found the thickness of the supergene zone to be 150 to 200 meters, while our detailed studies indicated that the thickness of this zone is very thin and apparent thick zone of supergene minerals is restricted to some deep joints.