

# **Investigation on fluid inclusion in Cu-Mo porphyry Complex of Sungun west of Ahar N-W of IRAN**

MEHRPARTOU, M., TARKIAN, M.

Geological survey of IRAN (GSI).labs @www.dci-co.Ir

Mineralogy & petrography institute, uni. HAMBURG

In Sungun area, only within northern part of Sungun village the magmatic rocks have been affected by advanced alteration and ore mineralization. The host rocks consist of granite and granodiorite which are characterized by Calk-alkaline, I-type granite of a continental arc geotectonic setting.

Results of fluid inclusion study from quartz vein bearing ore minerals show that the mineralization was controlled by some physico-chemical parameters such as temprature-pressure. PH, and by influx of meteoric waters. The first stage of mineralization mainly took place at tempratures between 350 – 400C, and in some cases even at more than 540C, and a second stage of mineralisation occurred at 250 – 350C. The presence of daughter crystals of halite and silvite in fluid inclusions of high salinity suggest metal transport in hydrothermal fluids enriched in chlorine complexes.

Two specific patterns of fractures and of fractures and joints were established in Sungun deposit. The first type occurred simultaneous with intrusion emplacement and especially caused concentric, radial fractures and dykes and the second type in harmonised by common fracturing pattern in Sungun area and correlates with the main lineament of the Pyrnean orogeny.