Bearing Re in the different alteration zones in Dexing porphyry deposit

Y. Q. YANG[1], P. WEN[2], W. C. WANG[3], Y. Y. ZHAO[4] AND C. CAO[5]

[1]State Key Laboratory of Geological Processes and Mineral Resources, China University of Geosciences, Beijing, 100083, China (yangyonq@cugb.edu.cn)
[2]China University of Geosciences, Beijing, 100083, China (wenpeng@cugb.edu.cn)
[3]China University of Geosciences, Beijing, 100083, China (wangcl@cugb.edu.cn)
[4]Insitute of Mineral Resourses, CAGSciences, Beijing, 100037, China(yuanyizhao@sina.com)
[5]China University of Geosciences, Beijing, 100083, China (caochong@cugb.edu.cn)

The porphyry deposits accompany with trace elements as Re, Co, Au, Ag, except major metallogenic elements Cu and Mo. Considering low price Mo market, the comprehensive utilization of byproduct metals is great significance and environmental benefits [1]. We study Dexing porphyry Cu-Mo deposit, survey the cross section over all alteration zones, find that Re has close relationship with Mo, so is Ag with Cu, and Mo and Re exist in phyllic alteation zone. In addition to, Re is the main containing in molybdenite, also occurring in minor trace minerals in pyrite, chalcopyrite, bornite, chalcocite. This time, we find Re is also in tungsten minerals (iron and tungsten scheelite). Mo and Re are main distribution in two alteration zone of potassium and quartz sericitization. Overall, the Mo and Re are from the center outward distribution sequence: Mo(Cu,Re)→ Cu,Au→ Cu,Ag→ Co. Cu, Mo mineralization is mainly in the mineralized strong sericitization zone, then potassium alteration zone;Au,Ag mineralization and Cu mineralization have high relativity, and in low potassiumearly belt and green pan sericitization zone, their mineralization are weak. Elements zoning phenomenon is similar to Sar Cheshmeh porphyry copper molybdenum deposit in Iran [2]. This work was financially supported by grants from the Public Welfare Industry of the Ministry of Land and Resources (201311072) and the Natural Science Foundation of China (Nos.41272110, 41373068).

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