Mineralogical characteristics of molybdenite from Lala IOCG deposit, Huili County, Sichuan Province, China

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Abstract: Molybdenite is extensively developed in Huili Lala IOCG deposit, Sichuan Province, China. The study of geochemical characteristics and its geological implication are significantly important. By using microscopy observation, electron probe microanalysis (EPMA), X-ray diffraction analysis, the characteristics of molybdenite, attitude characteristics and formed conditions from Lala IOCG deposit are clarified in this paper. Result indicates that Lala IOCG deposit formed in two stages of deposition of molybdenite. Molybdenite (Ⅰ) was precipitated in a high temperature matemorphic-hydrothermal stage and disseminated in biotite schist, accompanied with fluorite, chalcopyrite and magnetite. The characteristic is molybdenite 2*H* with a flaky plate-like post under the microscope. Molybdenite (Ⅱ) was formed in superimposed hydrothermal stage, filed in biotite schist with a ball-like structure, which co-deposited with calcite, biotite and chalcopyrite. The characteristic is molybdenite 2*H*+3*R* and the crystal grain size is extremely coarse produced in aggregation. The crystallographic formula is obviously different in the two stages of molybdenite, indicating that there was difference in genesis and material source.

Keywords: IOCG deposit; molybdenite; mineralogical; crystal chemical formula