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江西香炉山矽卡岩型钨矿床流体包裹体研究

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摘要:

从江西西北部至安徽南部发育一条显著的斑岩-矽卡岩型钨成矿带, 香炉山是其中一典型的矽卡岩钨矿床。矿床具有明显的矿化分带特征, 由近接触带矽卡岩和云英岩矿体和远接触带脉状石英-硫化物-白钨矿和透镜状矿体组成。通过对不同蚀变带上矿石矿物和脉石矿物的流体包裹体显微测温分析表明: 矽卡岩中的流体包裹体的均一温度范围在209~383℃, 脉状石英-白钨矿和石英-硫化物-白钨矿中流体包裹体的均一温度范围分别为163~278℃和204~284℃, 晚期方解石脉的温度最低为143~235℃; 矽卡岩中的流体包裹体的盐度范围在0.35%~5.26% NaCleqv, 脉状石英-白钨矿和石英-硫化物-白钨矿中流体包裹体的盐度范围分别为0.35%~5.86% NaCleqv和0.70%~9.21% NaCleqv, 晚期方解石脉的盐度为0.35%~2.07% NaCleqv。激光拉曼探针测试表明, 矽卡岩、石英-白钨矿脉和石英-硫化物-白钨矿脉中流体包裹体组分主要为H<sub>2</sub>O, 还含有一定量CH<sub>4</sub>和少量的N<sub>2</sub>。从早期到晚期成矿阶段表现为一个降温的过程, 指明了钨成矿温度较宽泛; 钨在流体中可能以钨酸的形式运移, 与围岩反应时, 温度降低和碱性升高, 促使白钨矿沉淀成矿。早期到晚期成矿流体温度和物质组成发生变化是成矿发生分带的重要原因。

英文摘要:

A significant porphyry-skarn tungsten metallogenic belt is located along the northwestern Jiangxi to the southern Anhui, Xianglushan tungsten deposit is one of typical skarn deposits in this belt. The Xianglushan tungsten deposit has the characteristic of mineralization and alteration zonation, consisting of proximal skarn and veined quartz-scheelite orebodies and distal veined quartz-sulfide-scheelite and lenticular orebodies. According to the microthermometry of fluid inclusions in gangue and ore minerals from various altered zonation, it shows that: the homogenization temperatures of fluid inclusions in skarn have a range of 209~383℃, the homogenization temperature ranges of fluid inclusions in the quartz-scheelite and quartz-sulfide-scheelite stages are 163~278℃ and 204~284℃, respectively, and late calcite veins have the lowest range of 143~235℃; the salinity of fluid inclusions in skarn has a range of 0.35%~5.26% NaCleqv, the salinity ranges of fluid inclusions in the quartz-scheelite and quartz-sulfide-scheelite stages are 0.35%~5.86% NaCleqv and 0.70%~9.21% NaCleqv, respectively, and late calcite veins have the range of 0.35%~2.07% NaCleqv. Raman microspectroscopic studies of the fluid inclusions of skarn, quartz-scheelite veins and quartz-sulfide-scheelite veins show that the main component of H<sub>2</sub>O, containing a certain amount of CH<sub>4</sub> and a little of N<sub>2</sub>. From the early to the late mineralization stages, the cooling processes might occur, which reflects the broad mineralization temperature of tungsten. Tungsten migrated in fluid possibly as a form of tungstic acids, through reaction with wall rocks; temperature decreasing and alkaline increasing induced the tungsten precipitation. From the early to the late stages the ore-forming temperature and material component variation caused the mineralization and alteration zonation.

关键词: [流体包裹体](#) [矽卡岩](#) [钨矿](#) [香炉山](#) [赣西北](#)

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