

黄世武,张连昌,李克庆,陈志广,吴华英,相鹏,张晓静. 2010. 得尔布干成矿带太平川铜钼矿床含 CH_4 流体包裹体研究. 岩石学报, 26(5): 1386-1396

得尔布干成矿带太平川铜钼矿床含 CH_4 流体包裹体研究

作者	单位	E-mail
黄世武	北京科技大学土木与环境工程学院, 北京 100083	kk9103231@qq.com
张连昌	中国科学院地质与地球物理研究所, 中国科学院矿产资源研究重点实验室, 北京 100029	lczhang@mail.igcas.ac.cn
李克庆	北京科技大学土木与环境工程学院, 北京 100083	
陈志广	中国科学院地质与地球物理研究所, 中国科学院矿产资源研究重点实验室, 北京 100029	
吴华英	中国科学院地质与地球物理研究所, 中国科学院矿产资源研究重点实验室, 北京 100029	
相鹏	中国科学院地质与地球物理研究所, 中国科学院矿产资源研究重点实验室, 北京 100029	
张晓静	中国科学院地质与地球物理研究所, 中国科学院矿产资源研究重点实验室, 北京 100029	

基金项目: 国家重点基础研究发展规划项目(2006CB403006)资助

摘要:

太平川斑岩铜钼矿床位于得尔布干断裂西北侧,成矿斑岩时代为200Ma左右。该斑岩铜钼矿可划分为3个成矿阶段:早阶段为辉钼矿-黄铁矿(黄铜矿)-石英组合,中阶段为黄铜矿-黄铁矿(辉钼矿)-石英组合,晚阶段以碳酸盐-黄铁矿-石英脉为特征。石英脉中可见含子晶三相、含子晶两相、 CH_4 - H_2O 和 NaCl - H_2O 四类包裹体,早阶段发育含子晶和 CH_4 - H_2O 包裹体,中、晚阶段以 NaCl - H_2O 类包裹体为主。成矿早、中、晚各阶段流体包裹体的均一温度分别分布在340~500℃、158.8~360.5℃和147.8~219.7℃,相应盐度为10.1%~55.8% NaCleqv、0.7%~10.9% NaCleqv和2.1%~10.9% NaCleqv。激光拉曼探针测试显示,早、中阶段包裹体含有 CH_4 和 H_2O ,晚阶段包裹体则以盐水溶液为主。早阶段多种类型包裹体共生,均一温度相近,且均一方式多样,指示早阶段流体发生过沸腾作用。本文认为早阶段成矿作用主要与高温、高盐度、含 CH_4 流体的沸腾作用有关,中-晚阶段成矿作用显示出不同来源流体的混合作用特征。成矿构造环境可能是蒙古-鄂霍茨克洋向南俯冲所形成的陆缘弧。

英文摘要:

The Taipingchuan porphyry Cu-Mo deposit is located in northwest of Derbugan fault, Inner Mongolia. The age of host porphyry is about 200 Ma. The mineralization of processes can be divided into early, middle and late three stages, which are characterized by assemblages of molybdenite-pyrite-quartz, chalcopyrite-pyrite-(molybdenite)-quartz, and carbonate-pyrite-quartz, respectively. Four types of fluid inclusions in quartz can be observed, i.e., three-phase daughter crystal-containing, two-phase daughter crystal-containing, CH_4 - H_2O , and NaCl - H_2O . The former three types were developed in early stage, the latter type is major inclusions in middle and late stages. Fluid inclusions in minerals formed in early, middle and late stages yield homogeneous temperatures of 340~500℃, 160~361℃ and 148~220℃, respectively, with salinities of 10.1%~55.8% NaCleqv, 0.7%~10.9% NaCleqv and 2.1%~11.9% NaCleqv. Laser Raman spectroscopy shows that the early and middle stage inclusions contain H_2O and CH_4 , whereas late-stage inclusions only trap H_2O . Some fluid inclusions with similar temperatures are homogenized to different ways, and different types inclusions coexist in same minerals, which strongly suggest that fluid-boiling had occurred in the early stages. Authors believe that the mineralization of early stage may be mainly related to high temperature, high salinity and boiling fluid inclusion with CH_4 , the middle-late stage mineralization mainly be resulted by the mixing of fluids from different sources. Tectonic environment maybe the continental margin arc formed by the southward subduction of Mongolia-Okhotsk Ocean.

关键词: [斑岩型铜钼矿床](#) [中生代](#) [含 \$\text{CH}_4\$ 包裹体](#) [太平川](#) [得尔布干成矿带](#)

投稿时间: 2010-03-23 最后修改时间: 2010-04-22

[HTML](#) [查看全文](#) [查看/发表评论](#) [下载PDF阅读器](#)

主办单位：中国矿物岩石地球化学学会

单位地址：北京9825信箱/北京朝阳区北土城西路19号

本系统由北京勤云科技发展有限公司设计

