

王可勇,卿敏,孙丰月,万多,王力,李向文. 2010. 吉林小西南岔金-铜矿床成矿流体地球化学特征及矿床成因研究. 岩石学报, 26(12): 3727-3734

吉林小西南岔金-铜矿床成矿流体地球化学特征及矿床成因研究

作者	单位
王可勇	吉林大学地球科学学院, 长春 130061
卿敏	武警黄金地质研究所, 廊坊 065000
孙丰月	吉林大学地球科学学院, 长春 130061
万多	吉林大学地球科学学院, 长春 130061
王力	吉林大学地球科学学院, 长春 130061
李向文	吉林大学地球科学学院, 长春 130061 ; 武警黄金部队三支队, 哈尔滨 150086

基金项目: 本文受武警黄金指挥部地质科研项目(WHY08-8)及国家自然科学基金项目(40572117)联合资助。

摘要:

小西南岔金-铜矿床产于海西期花岗闪长岩-石英闪长岩体之中,其矿化类型以石英大脉及石英细脉带型金-铜矿化为主,局部地段叠加发育有石英脉型辉钼矿化。流体包裹体研究表明,矿区金-铜矿脉及辉钼矿脉石英中均主要发育含NaCl子矿物三相、气相-富气相及气液两相三种类型的原生流体包裹体,同类包裹体均一温度、盐度等参数相近,显示两类矿化成矿流体具有相似的地球化学性质,氢-氧同位素研究结果反映它们均主要来源于岩浆热液。辉钼矿Re-Os同位素定年研究表明区内辉钼矿化主要发生于 $109\text{Ma} \pm$,而金-铜矿脉石英的 ^{40}Ar - ^{39}Ar 同位素定年结果表明金-铜矿化则主要发生于 $123.35 \pm 0.8\text{Ma}$ 。结合矿区已有的岩浆岩年代学研究成果,提出小西南岔矿区金-铜矿化主要与燕山晚期细粒(花岗)闪长岩活动有关,而辉钼矿化则与其后侵位的隐伏花岗斑岩活动有关的认识。

英文摘要:

Xiaoxinancha gold-copper deposit occurred in granodiorite-quartz diorite intrusions of Hercynian epoch. The mineralization of it mainly composed of large quartz vein type and fine quartz veinlet type, with molybdenite-quartz veins superimposed only locally. Fluid inclusion study shows that quartz in both of gold-copper ore veins and in molybdenite-quartz veins contain the same kinds of fluid inclusions, which include NaCl daughter mineral-bearing, gaseous and gas-rich as well as aqueous two-phase fluid inclusions. The similarity of homogenization temperature and salinity of the same kind of fluid inclusions reveals that the geochemical nature of ore-forming solutions of gold-copper and molybdenum mineralization have much in common. Hydrogen-oxygen isotopes of fluid inclusions imply they both came from magmatic fluids. Re-Os isotopic dating of molybdenite shows that molybdenum mineralization happened in ca. 109Ma , whereas ^{40}Ar - ^{39}Ar isotopic dating of quartz in gold-copper veins reveals that gold-copper mineralization happened in $123.35 \pm 0.8\text{Ma}$. Combined with the results of chronological study of magmatic intrusions in the mining area, the conclusion were made that the origin of gold-copper mineralization mainly related with fine grained granodiorite intrusion of late phase of Yanshan, while the origin of molybdenum mineralization mainly related with granite porphyry of late phase of Yanshan, which successively emplaced after fine grained granodiorite intrusion in the mining area.

关键词: [成矿流体](#) [地球化学特征](#) [矿床成因](#) [小西南岔金-铜矿床](#) [吉林](#)

投稿时间: 2010-09-15 最后修改时间: 2010-11-01

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

黔ICP备07002071号-2

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

linezing.com