

李光明,张夏楠,秦克章,孙兴国,赵俊兴,印贤波,李金祥,袁华山. 2015. 羌塘南缘多龙矿集区荣那斑岩-高硫型浅成低温热液Cu-(Au)套合成矿:综合地质、热液蚀变及金属矿物组合证据. 岩石学报, 31(8): 2307-2324

羌塘南缘多龙矿集区荣那斑岩-高硫型浅成低温热液Cu-(Au)套合成矿:综合地质、热液蚀变及金属矿物组合证据

作者	单位
李光明	中国科学院矿产资源研究重点实验室, 中国科学院地质与地球物理研究所, 北京 100029 中国科学院青藏高原地球科学卓越创新中心, 北京 100085
张夏楠	中国科学院矿产资源研究重点实验室, 中国科学院地质与地球物理研究所, 北京 100029 中国科学院大学, 北京 100049
秦克章	中国科学院矿产资源研究重点实验室, 中国科学院地质与地球物理研究所, 北京 100029 中国科学院青藏高原地球科学卓越创新中心, 北京 100085
孙兴国	西藏金龙矿业股份有限公司, 阿里 859000
赵俊兴	中国科学院矿产资源研究重点实验室, 中国科学院地质与地球物理研究所, 北京 100029
印贤波	西藏金龙矿业股份有限公司, 阿里 859000
李金祥	中国科学院青藏高原地球科学卓越创新中心, 北京 100085 中国科学院青藏高原研究所, 北京 100085
袁华山	西藏金龙矿业股份有限公司, 阿里 859000

基金项目: 本文受青藏先导专项(B)(XDB03010303)和国家自然科学基金项目(41472074)联合资助。

摘要:

位于羌塘南缘多龙矿集区内的荣那斑岩-高硫型浅成低温热液Cu-(Au)矿床系近年来中铝西藏与西藏地质五队合作勘查取得重大找矿突破的铜矿床,控制资源量已达超大型规模,但对该矿床的成因类型仍存在争议。本文根据详细的钻孔岩芯、结合光学显微镜、扫描电镜观察、硫化物的电子探针分析,认为该矿床成矿与早白垩世花岗岩闪长斑岩有关。矿体主要产于下中侏罗统色哇组长石石英砂岩和成矿斑岩体中,矿体呈东西走向、南倾的隐伏状,延深巨大,金属矿化以铜为主,伴有金、银矿化,偶见钼矿化。热液蚀变具有两阶段蚀变:与斑岩型矿化有关的黑云母化、角闪岩化、硅化-绢云母化及硅化-伊利石-绿泥石化以上部叠加的高级泥化,蚀变分带明显。相应的该矿床具有斑岩型细脉浸染状矿化和以硫砷铜矿为特征的高硫型矿化,含铜矿物主要分为4个带,大致与蚀变分带相对应,下部主要为斑铜矿-黄铜矿;过渡带以斑铜矿-铜蓝组合为特征;中上部为蓝辉铜矿-砷黝铜矿-硫砷铜矿组合;顶部主要由辉铜矿-蓝辉铜矿组成。总体上,矿床中上部为Cu-S体系、向下转变Cu-Fe-S体系。与其它类似矿床相比,该矿床硫化物中以富Zn、贫金为特征。综上所述认为该矿床为斑岩-高硫型浅成低温热液Cu-(Au)套合成矿的典型实例,其勘查突破为羌塘南缘火山岩区及覆盖区的找矿打开了一扇窗口。

英文摘要:

Rongna telescoped porphyry-high sulfidation epithermal Cu-Au deposit within Duolong ore cluster, located at the southern margin of Qiangtang terrane, is an exploration breakthrough made by Chinalco Tibet Company and No.5 Geological Party of Tibet Bureau of Geology and Exploration in recent years. Its inferred resource has reached a superlarge scale, but the genetic type is still controversy. Based on detailed geological drills records, combined with the observation of microscope, scanning electron microscope and EPMA analysis of sulfides, it is evident that the ore-forming porphyry is granodiorite porphyry. The ore bodies mainly occur in the Lower-Middle Jurassic Sewa Formation feldspathic quartz sandstone and ore-forming porphyry. The W-E trending blind orebodies dip to the south, and are characterized by great downward extension. The metallic metal is copper, associated with mineralization of Au, Ag, and molybdenite mineralization can be seen seldomly. The hydrothermal alteration has two stages, which is biotitization, hornfelsic alteration, silicification-sericitization, silicification-illitization-chloritization, that are related with porphyry, and telescoped advanced argillic alteration in shallow part. The alteration zones are obvious and they are, respectively, veinlet disseminated mineralization formed by porphyry and the other one which is characterized by enargite induced by high sulfidation epithermal hydrotherm. Cu-Bearing mineral assemblages can be divided into 4 zones, which mainly correspond to alteration zones: Bornite-chalcocite are major ore minerals in depth, while bornite-covellite in transition area, digenite-tennantite-enargite in upper-middle part and chalcocite-digenite on top. On the whole, mineralization is Cu-S system in shallow part and Cu-Fe-S system in depth. Contrasted with other similar deposits, the characteristic of Rongna's mineralization is rich in zinc and poor in gold. As mentioned above, Rongna is a typical example of telescoped porphyry-high sulfidation epithermal Cu-Au deposit, and the exploration breakthrough supplies an important way for exploration in volcanic rock area and coverage area at southern margin of Qiangtang terrane.

关键词: 斑岩矿床 高硫型浅成低温矿床 套合成矿 热液蚀变 硫化物组合 荣那 羌塘南缘

投稿时间: 2014-12-28 **修订日期:** 2015-02-25

[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

印刷版(Print): ISSN 1000-0569 网络版 (Online) : ISSN 2095-8927

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