西藏尕尔穷—嘎拉勒铜金矿集区成矿规律、矿床模型与找矿方向

引用本文：唐菊兴,张志,李志军,孙燕,姚晓峰,胡正华,王红星,宋俊龙,何林.2013.西藏尕尔穷—嘎拉勒铜金矿集区成矿规律、矿床模型与找矿方向[J].地球学报,34(4):385-394.

DOI：10.3975/cagsb.2013.04.01

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基金项目:国家自然科学基金项目(编号: 41172077);国家973项目(编号: 2011CB403103);国土资源部公益性行业科研专项项目(编号: 201011013-3)

中文摘要:尕尔穷—嘎拉勒铜金矿集区位于西藏班公湖—怒江成矿带西段南缘的北冈底斯北侧,矿体类型丰富(斑岩型、矽卡岩型及铁氧化物铜金建造型),金品位较高(最高可达205 g/t),构造位置独特,研究意义重大。通过对矿集区成矿地质条件的系统总结及对前人研究资料的系统分析,查明了矿石特征,发现了大量自然金、金属互化物,总结了成矿规律,认为成矿主要与晚燕山期侵位的石英闪长岩及花岗闪长岩有关,成岩与成矿之间演化时间在1 Ma左右,区内矿化具有上铜金下钼的垂向分带特征,矿床S、Pb同位素显示成矿物质具有壳幔混合的源区特征。在准铝质-微弱过铝质钙碱性-高钾钙碱性岩浆岩的侵位、分馏演化过程中,在岩体隆起部位及其与白垩纪碳酸盐的内外接触带形成斑岩-矽卡岩型铜金(钼)矿体,在岩体边缘构造破碎带(F1断层)内形成铁氧化物铜金建造型矿体,由此建立了岩浆岩-地层-构造控制的斑岩-矽卡岩-铁氧化物铜金建造“三位一体”矿床模型。结合以上研究,提出矿集区应予以重视的找矿方向。

中文关键词:尕尔穷—嘎拉勒矿集区 成矿规律 矿床模型 斑岩-矽卡岩型矿体 班公湖—怒江成矿带

The Metallogensis, Deposit Model and Prospecting Direction of the Ga’erqiong-Galale Copper-gold Ore Field, Tibet

Abstract:Located in the south of western Bangong Co-Nujang River metallogenic belt of north Gangdise, the Ga’erqiong-Galale copper-gold ore field possesses lots of ore body types (porphyry type, skarn type and iron oxide-copper-gold type) and high gold grade (up to 205 g/t) and unique structural position, thus having great research significance. According to systematic summary of ore concentration areas and systematic analysis of data, the authors identified ore characteristics, found a large number of native gold and intermetallic compounds, and summarized the metallogensis. It is considered that metallization was mainly associated with emplacement of quartz diorite and granodiorite in the late phase of Yanshanian period, the evolution time between diagenesis and mineralization was about 1 Ma, and the mineralization in the area was characterized by the vertical zoning of copper-gold in the upper part and molybdenum in the lower part. S, Pb isotopes suggest that the metallogenic material had characteristics of crust-mantle mixing. During the emplacement and fractionation evolution of metaluminous-weak peraluminous calc-alkaline-high-K calc-alkaline magmatite, the porphyry-skarn type copper-gold-molybdenum ore bodies were formed in the area of pluton uplifting and along the contact zone between the pluton and the Cretaceous carbonate, whereas iron oxide-copper-gold type ore bodies were formed at the edge of pluton’s tectonic fracture zone (F1 fault). On such a basis, the authors have established the porphyry-skarn-iron oxide-copper-gold type “three-position” mineralization deposit model of magmatite- strata-ore-controlling structure. Based on these data, the authors indicate the prospecting direction in search for new ore bodies in the ore field.

keywords:Ga’erqiong-Galale ore field metallogensis deposit model porphyry-skarn ore body Bangong Co-Nujiang River metallogenic belt

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