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摘要:

岩石学、地球化学和Nd、Sr、Pb同位素研究表明, 西藏冈底斯铜矿带雄村特大型铜金矿床的容矿火山岩为一套具超浅成侵入特点的英安斑岩, SiO<sub>2</sub>含量集中在61.97%~64.31%之间, 富Na<sub>2</sub>O、低K<sub>2</sub>O, Na<sub>2</sub>O/K<sub>2</sub>O比值平均为5.25。地球化学上明显富集大离子不相容元素Rb、Ba、K、Sr、Pb, 同时高场强元素Nb、Ta、Ti处于亏损状态。Sr、Nd同位素组成变化范围小(87Sr/86Sr=0.705154~0.708267, 1Sr=0.704299~0.705357; 143Nd/144Nd=0.512730~0.512931), 具有富集地幔特征; Pb同位素组成显示出地幔铅与造山带铅的双重特性(206Pb/204Pb=18.170~18.432, 207Pb/204Pb=15.485~15.546, 208Pb/207Pb=37.993~38.392)。研究指出它们是早侏罗世(195Ma)由雅鲁藏布江洋壳向欧亚大陆之下俯冲形成的岛弧火山岩, 岩浆源区具有EM1型原始地幔富集特征, 同时有一定数量的俯冲沉积物加入了地幔源区的部分熔融。根据雄村矿床的成矿时代和矿化特征, 笔者认为该矿床的成因类型与胶东焦家式金矿一致, 为破碎带蚀变岩型。且狮庭组容矿火山岩对成矿的贡献在于作为矿源层为矿床提供了成矿金属元素。

关键词: [岩石成因](#) [容矿火山岩](#) [雄村铜金矿床](#) [冈底斯铜矿带](#) [西藏](#)

Petrogenesis of the Ore-Hosting Volcanic Rocks and Their Contribution to Mineralization in Xiongcu Superlarge Cu-Au Deposit, Tibet [Download Fulltext](#)

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Abstract:

Petrological, geochemical and Nd, Sr, Pb isotopic studies indicate that the ore-hosting volcanic rocks of Xiongcu superlarge copper-gold deposit in the Gangdese copper belt, Tibet belong to dacite porphyry with ultra-shallow emplacement. Their SiO<sub>2</sub> contents vary in a narrow range of 61.97% to 64.31% and Na<sub>2</sub>O is high relative to low K<sub>2</sub>O with a mean Na<sub>2</sub>O/K<sub>2</sub>O ratio of 5.25. Geochemically they are notably rich in large-ion incompatible elements (LILE) Rb, Ba, K, Sr, Pb. Meanwhile their high field strength elements (HFSE) are in depletion state. Sr and Nd isotopic compositions yield a small variation range (87Sr/86Sr=0.705154~0.708267, 1Sr=0.704299~0.705357; 143Nd/144Nd=0.512730~0.512931). Further study indicates that they were arc volcanics originated from subduction of Yalozangpo oceanic crust beneath the Euroasian continent. The magma source had EM1-type primary mantle enrichment, and some subducted sediments were involved in partial melting of the mantle source. Based on the ore-forming age and mineralization characteristics of the deposit, the paper points out that the genetic type of the deposit is the same as that of the Jiaojia-type gold deposit of Shandong and belongs to fracture-controlled altered rock type.

Keywords: [petrogenesis](#) [ore-hosting volcanic rocks](#) [Xiongcu Cu-Au deposit](#) [Gangdese copper belt](#) [Tibet](#)

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