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新疆东天山地区延西铜矿床的地球化学、成矿年代学及其地质意义

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摘要：

延西铜矿床位于新疆东天山觉罗塔格地区北部的哈尔里克-大南湖岛弧带内,是延东-土屋斑岩型成矿带的西延部分。矿床的赋矿地层主要为石炭系企鹅山群,被含矿斜长花岗斑岩侵入。矿床中的主要岩石类型为安山岩、闪长玢岩以及斜长花岗斑岩,安山岩和闪长玢岩具有同源性岛弧火山岩的特点,是主要的赋矿围岩;斜长花岗斑岩具有埃达克质岩石的特征,与成矿作用直接相关,其形成晚于安山岩、闪长玢岩。本文测延西铜矿床辉钼矿Re-Os年龄为326.2±4.5Ma,可以代表其成矿年龄,与土屋-延东铜矿床322.7±2.3Ma的辉钼矿Re-Os年龄基本相同;包括延西铜矿床在内的土屋-延东斑岩型铜矿带成矿时代与成岩时代基本一致或稍晚。延西铜矿床具有斑岩型铜矿床的矿化和围岩蚀变特征,与屋-延东斑岩型铜矿带内其它矿床均为中石炭世同源岩浆演化的产物,具有相似的成矿作用过程,成矿物质均为岩浆来源,这些矿床可能为同一浆活动在不同部位发生矿化的产物。延西铜矿床以及土屋-延东斑岩型铜矿带形成于东天山觉罗塔格地区晚古生代的挤压岛弧背景,应与哈尔克-大南湖晚古生代岛弧的形成相伴,可能与康古尔塔格大洋板块向北部哈尔里克-大南湖岛弧的俯冲有关。

英文摘要：

Yanxi copper deposit is located in the west area of the Yandong-Tuwu porphyry copper belt, Harlik-Dananhu island arc. The Carboniferous Qieshan Group is the main ore-hosting stratum, which was intruded by the mineralized plagiogranite porphyry. The main lithology in the deposit contains andesite, diorite-porphyrite and plagiogranite porphyr Both of the andesite and diorite-porphyrite are the ore-hosting rocks, which are island arc volcanic rocks and forme by the same magmatism. However, the mineralized plagiogranite porphyry is adakite rock and directly responsible w h copper mineralization, which is probably different magmatism from the andesite and diorite-porphyrite. The Re-Os ochronal age of molybdenites in Yanxi deposit is 326±4.5Ma, which represents the main mineralized age of this de sit and corresponds to the 322.7±2.3Ma metallogenetic age of Tuwu-Yandong copper deposits. The metallogenetic ge of Tuwu-Yandong copper belt is coeval or litter latter with its diagenetic age. The Yanxi copper deposit has the s lar characteristics such as the mineralization and wall rock alteration with the porphyry Cu deposit, and it was form by the same Middle Carboniferous magmaitism as other deposits in the Tuwu-Yandong copper belt. These deposits ave the similar metallogenetic process, and their metallogenetic materials were come from the same magmatic sour e, all the evidences above refer that the deposits in Tuwu-Yandong copper belt maybe formed by the same magam sm and mineralized in different positions. The metallogeny of Yanxi deposit as well as Tuwu-Yandong copper belt w formed in island arc compressional environment in Jueluotage area eastern Tianshan, and concomitanced with outc me of the Harlik-Dananhu island arc, which is probably to related to the north underthrust of the Kangguer ocean p e along the Harlik-Dananhu island arc.

关键词：地球化学 H,O同位素 Re-Os定年 延西铜矿床 东天山

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