Qin Kezhang, Sun Shu, Li Jiliang, Xiao Wenjiao, Hao Jie. 2002. Division of six tectonic stages of major metallic deposits in northern Xinjiang and its implications. Mineral Deposits, 22 (supp.): 203～206 (in Chinese).

Song Biao, Zhang Yuhai, Wan Yusheng, Jian Ping. 2002. Mount making and procedure of the SHRIMP dating. Geological Review, 48 (Supp.): 26～31 (in Chinese with English abstract).

Tu Guangchi, Zhao Zhenhua. 1983. On the diversity of minerogentetic processes of the Yanshanian period. Geological Review, 29 (1): 57～65 (in Chinese with English abstract).

Wang Denghong, Chen Yuchuan, Zou Tianren, Xu Zhigang, Li Huaqin, Chen Wen, Chen Fuwen, Tian Feng. 2000. $^{40}Ar/^{39}Ar$ dating for the Azubai rare metal-gem deposit in Altay, Xinjiang——new evidence for Yanshanian mineralization of rare metals. Geological Review, 46 (3): 307～311 (in Chinese with English abstract).

Zhou Jiyuan, Zhang Bin, Zhang Chaowen, et al. 1996. Geology of the Silver, Rhenium-Molybdenum, Gold and Copper Deposits in the Eastern Tianshan and Its Adjacent Regions. Beijing: Geological Publishing House (in Chinese with English abstract).

Isotopic Chronological Evidence for Yanshanian Diagenetic Mineralization in Baishan Rhenium-Molybdenum Mine, E. Tianshan Mountains

LI Huaqin[1)], WU Hua[2,3)], CHEN Fuwen[1)], DENG Gang[3)], YANG Hongmei[1)], YANG Zaifeng[3)], MEI Yuping[1)], GUO Jing[1)]

1) *Yichang Institute of Geology and Mineral Resources, CGS, Hubei*, 443003

2) *China University of Geosciences, Beijing*, 100037

3) *No. 6 Geological Bridge of Xinjiang Bureau of Geology and Mineral Resources, Urumqi*, 830000

Abstract

Chronological research of recent years shows that nonferrous and precious metallic mineralization in E. Tianshan Mountains mainly happened during Hercynian～Indosinian Period with Late Carboniferous and Early Permian to be mineralization peak. Systematical chronologic dating shows that biotite plagiogranite body 1.2km southwestern to the Baishan Rhenium-Molybdenum Mine has a zircon SHRIMP U-Pb age of 181±3Ma (n=13, MSWD=1.10) and ore-bearing quartz veins in the orefield have a Rb-Sr isochron age of 187±7Ma (95% confidence; MSWD=3.52) and a ^{40}Ar-^{39}Ar plateau age of 182±1.6Ma. The fact that three ages are in accordance within dating errors indicates that there exists Yanshanian diagenetic mineralization events in E. Tianshan area and the mineralization might be related to magmatism of the biotite plagiogranite body outcropped in the orefield.

Key words: Baishan rhenium-molybdenum deposit; Yanshanian diagenetic mineralization; isotopic chronological evidence; E. Tianshan Mountains

巴音沟蛇绿岩岩石成因演化: 天山早石炭世"红海型"洋盆的地质记录

夏林圻, 李向民, 徐学义, 夏祖春, 马中平, 王利社

中国地质调查局西安地质矿产研究所, 710054

巴音沟蛇绿岩岩片是北天山早石炭世蛇绿岩带的组成部分, 是天山石炭—二叠纪裂谷系北缘的早石炭世"红海型"洋盆的地质记录。早石炭世晚期的巴音沟蛇绿岩套被侵位于早石炭世浅海—陆相裂谷火山-沉积岩系(火山岩单元)之中。该蛇绿岩套由超镁铁岩、辉长岩(具共生斜长花岗岩脉)、闪长岩、辉绿岩、枕状玄武岩和块状熔岩组成。早石炭世裂谷化和北天山洋盆的开启产生了拉斑玄武质岩浆及少量演化岩浆。微量元素和Nd、Sr、Pb同位素成分揭示, 存在两种幔源: ①火山岩单元的早石炭世裂谷镁铁质熔岩产生于软流圈OIB型板内源的较低度部分熔融; ②较年青(早石炭世晚期: 距今324.8Ma前)的蛇绿岩单元的镁铁质熔岩派生于一种位于软流圈最上部相对亏损的似MORB幔源, 尔后逐渐与软流圈似OIB地幔源熔体混合。软流圈源岩浆在上升至地表过程中与岩石圈地幔发生轻度相互作用。蛇绿岩组合的最亏损的镁铁质熔岩受到上地壳组分(海水或碳酸盐壳)的混染。

© 1994-2011 China Academic Journal Electronic Publishing House. All rights reserved. http://www.cnki.net