李毅,李诺,杨永飞,王玭,糜梅,张静,陈红瑾,陈衍景. 2013. 大别山北麓钼矿床地质特征和地球动力学背景. 岩石学报, 29(1): 95-106

大别山北麓钼矿床地质特征和地球动力学背景

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基金项目：本文受国家自然科学基金项目(41203029)和国家973项目(2006CB403500)联合资助.

摘要：

大别造山带北麓新发现有大、中型钼矿床(点)十余个,是继东秦岭和东北钼矿带后又一重要钼金属矿集区。本文总结了大别山北麓钼矿床的地质特征,包括时空分布、成因类型等。大别山地区的钼矿床多沿NW向区域性断裂构造带发育,集中于晓天-磨子潭断裂以北;矿床产出受NW向与NE向断裂交汇部位控制,对赋矿围岩无选择性。钼矿化与燕山期高钾花岗质斑岩体密切相关,矿体产于岩体内部和/或接触带围岩中。矿化类型以斑岩型为主,次为矽卡岩型、热液脉型及爆破角砾岩型。成矿过程普遍具有四阶段性,成矿流体以高温、高盐度、富CO_2为普遍特征。辉钼矿Re-Os同位素年龄集中于110 ~ 130Ma,且从西向东变新;钼矿床和相关花岗岩类侵入体形成于岩石圈碰撞缩短加厚之后的伸展减薄地球动力学背景。

英文摘要：

The northern Dabie Mountains in China, hosting more than ten Mo deposits, is another molybdenum belt in China besides the East Qinling Mo belt and the northeast Mo belt. In this paper, we summarize the geological features of Mo deposits in the northern Dabie Mountains, including spatial and temporal distribution, genetic classification, geological and geochemical characters. The Mo deposits mainly occur along the regional EW-trending faults, but in the north of the Xiaotian-Mozitan fault. The location of Mo deposit is controlled by NW- and NE-trending faults, without any preference to host-rocks. Mo mineralization is generally associated with the Yanshanian high-K granitic porphyries, with ore bodies being located in the porphyritic intrusions and/or host-rocks at contact zones. Genetically, four types of Mo mineralization can be recognized, i.e. porphyry, breccias, skarn and hydrothermal vein, with porphyry as the dominant. A four stage hydrothermal ore-forming process is common, and the fluids are featured by high temperature, high salinity and CO_2-rich. The majority of available molybdenite Re-Os isotopic ages are between 110Ma and 130Ma, younging eastwardly. The Mo deposits and their related granitic intrusions were formed under a geodynamic setting associated with lithosphere extension and thinning after collisional shortening and thickening.

关键词：钼矿床 矿床地质 成矿时间 地球动力学背景 大别山北麓

投稿时间： 2012-08-05 最后修改时间： 2012-11-30

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