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河南围山城金银成矿带铅同位素地球化学及矿床成因

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摘要：

桐柏山区的围山城金银成矿带包括破山特大型银矿、银洞坡大型金矿、银洞岭大型银多金属矿床及一些矿点，所有矿床赋存于上元古界歪头山组地层，并具有层控特征。矿石矿物的铅同位素组成为$^{206}Pb/^{204}Pb=16.753\sim17.216$，$^{207}Pb/^{204}Pb=15.417\sim15.638$，$^{208}Pb/^{204}Pb=38.251\sim39.050$；与歪头山组地层的铅同位素组成一致，而与桐柏地区的其他地层、岩体差别较大，表明成矿物质来自赋矿地层歪头山组。围山城成矿带应属于典型的层控造山型金银成矿系统，它形成于中生代扬子与华北板块的陆陆碰撞造山过程，碰撞造山期间的下插板片变质脱水诱发了矿带内流体成矿系统的发育，强烈的流体-岩石相互作用使歪头山组内的成矿物质被萃取、迁移、聚集到碳质绢云片岩层。

英文摘要：

The Weishancheng ore belt is located in Tongbai Mountains and consists of the Yindongpo large gold deposit, the Poshan and Yindongling large silver deposits and some small ore deposits or occurrences. All the ore deposits are stratabound and hosted in the Neoproterozoic Waitoushan Formation. These deposits have the very uniform lead isotope compositions, with $^{206}Pb/^{204}Pb=16.753\sim17.216$, $^{207}Pb/^{204}Pb=15.417\sim15.638$, and $^{208}Pb/^{204}Pb=38.251\sim39.050$, which are close to those of the Waitoushan Formation while far different from other lithology units or batholithes in Tongbai region. Lead isotope geochemistry suggests that the ore metals were sourced from the Waitoushan Formation through metamorphic devolatilization. The Weishancheng gold-silver ore belt could be attributed to a typical stratabound orogenic-type metallogenic system. The ore-forming process occurred during the continental collision between the Yangtze and North China Blocks. The metamorphic devolatilization of the underthrust slabs induced the development of ore-forming fluid system, subsequently the intense water-rock interaction make the metallogenic materials in Waitoushan Formation were extracted, migrated and enriched in the carbonaceous sericite schist.

关键词：铅同位素地球化学 围山城金银成矿带 层控造山型矿床 桐柏山

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