

A STUDY OF OCCURRENCES OF Ag IN Pb-Zn, Cu ORE DEPOSITS IN CHINA

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A systematic study of species on occurrence of silver in 156 Pb-Zn, Cu ore deposits indicate that silver existence nonferrous metal ore deposits mainly as association and paragenesis states. It mainly occurs as the independent minerals in nature and occasionally as ion absorption in mineral, isomorph or amorphous.

Nearly 190 silver minerals have been discovered in China. Shape, constituent, texture, grain size, embedded type, distribution pattern, minerals assemblage and metallizing series of silver minerals, suggests that these characters are closely related to geneses of deposits and dependent on ore-forming conditions. The kinds of some typomorphic silver mineral are closely related to ore genesis. For examples, selenium-silver minerals are exogenic; tellurium-silver minerals have a deep source and are meso-to-hypothermal; and silver halides always occur in oxidized or secondary enrichment zone of endogenic deposit and are criteria of epigenetic or secondary mineralization. The grain size and embedded features are related to the origin of ore deposits. The embedded type of silver mineral is dependent on genetic type of deposit. For examples, the hydrothermal vein deposit of silver minerals occur mainly in fracture alteration type deposits, and enclosure type in sedimentary deposits.

Pb, Zn and Cu sulfides are the main carrier minerals of silver. The partition of silver in ores is controlled by mineralization intensity, grain size and embedded form of silver minerals and mineral assemblage.