Research on the Occurrence of the silver in Eerdaokan Silver-Polymetallic Deposit in Heilongjiang Province, China.

GUOQING LIU[1],XIAOLEI PENG[2]

[1]College of Earth Sciences, Jilin University, China
liugq17@mails.jlu.edu.cn

[2] College of Earth Sciences, Jilin University, China
pengxl@jlu.edu.cn

The Eerdaokan silver-polymetallic deposit is located about 10 km southeast of Duobaoshan town which is located at Nenjiang county in the north-central part of Heilongjiang Province. Faults are well-developed in the mineralized district. Controlled by the explosion breccia mass, the two main ore-bodies, named with No. I and No. II, are mainly developed in the NWW-trending structural breccia belts, appearing as breccia pipe, dike and vein. The mineralizations, including strongly silicified, pyritization and limonitization appear in the middle part of the crypto-explosion breccia pipe. The average grade of the silver is 545 g/t, meanwhile it accompanied with the lead-zinc and manganese ores. With the investigated by the polarizing microscope, the scanning electron microscope and the electron microprobe, we found that the mineral assemblages of ores contain pyrite, galena, sphalerite, chalcopyrite, magnetite, hematite, silver-bearing minerals and manganese-bearing minerals (psilomelane, pyrolusite and coronadite). Silver occurred in form of minerals in the argentite, pyrargyrite and stephanite, with some other silver absorbed in the pyrolusite and coronadite. The silver minerals occur as irregular, granular and micro-fine veinlet. The irregular or granular silver was normolly wrapped by the pyrite and galena or attached within the galena with the size of 0.005 mm to 0.19 mm, while the micro-fine veinlet silver was mainly in the microfissure of gangue mineral with the size of 0.005 mm to 0.25 mm. The content of the silver, which absorbed in the pyrolusite and coronadite, ranges from 0.02% to 0.17%, with the highest can reach to 5%. Combined with the field occurrence, the characteristics of the ore fabrics and the connections among the ore minerals, we could preliminarily confirmed that the Erdaokan silver-polymetallic deposit is a subvolcanic hydrothermal deposit.