Characteristics of Bayern fluid inclusions

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We studied some fluid inclusion samples collected from Bayern, and the results are as follows.

The samples in the first stage were mainly from quartz veins. A total of 74 inclusions were tested in this stage. The inclusions are mostly liquid-rich inclusions and three-phase CO_2 inclusions. The shape of the inclusions is irregular, oval. The long axis is concentrated at 5-20μm, and the gas phase fraction is generally 5%-20%. Uniform temperature range:181-361℃, salinity range:0.41-15.00%, density range: 0.71-1.11 g / cm^3.

The samples in the second stage mainly also came from quartz veins. 118 inclusions were analyzed at this stage, which are gas-liquid two-phase inclusions. Most of the inclusions are irregular and long, and the size varies from 6 to 10μm. The gas phase fraction is generally between 2%-20%.Uniform temperature range:124-321℃, salinity range:1.39-8.13%, density range:0.75-0.96 g / cm^3.

The samples in the third stage mainly came from the symbiotic quartz veins of Galena. In this stage, We studied 38 samples, which were gas-liquid two-phase inclusions. The inclusions were mostly irregular and elliptical, with the long axis concentrated at 7-23μm, gas phase fraction is generally 2%-15%.Uniform temperature range:150 -293 ℃, salinity range:1.39-6.58%, density range:0.76-0.94 g / cm^3.

The samples in the fourth stage were mainly from the rich liquid inclusions of fluorite. A total of 73 samples were tested in this stage. The inclusions are mostly oval and irregular, with the long axis concentrated at 7-40μm, and the gas phase fraction is generally 2%-20%.Uniform temperature range:113-246℃, salinity range:1.05 -7.58%, density range:0.85-0.96 g / cm^3.

The conclusion is that we think of Bayern as a mesothermal hydrothermal deposit.