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湖南沃溪 W-Sb-Au 矿床成因的流体包裹体证据 [点此下载全文](#)

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摘要:

系统研究了沃溪 W-Sb-Au 矿床层状矿体的流体包裹体特征, 均一温度集中在 120~180℃, 盐度变化于 2.9%~8.9% NaCl 之间, 由包裹体均一温度与盐度计算得出的流体密度介于 0.94~0.96 g/cm³。流体包裹体稀土元素地球化学组成表明, 成矿流体为一种进化的海水, 即海水在海底沉积柱循环过程中萃取矿质, 形成 120~180℃ 温度的低密度成矿流体。当其回返上升到海底后, 形成悬浮热液柱, 并与冷海水逐渐掺和, 发生化学和机械-化学沉积, 在海底形成层状矿体。流体包裹体均一温度和盐度的变化范围与很多沉积喷流 (SEDEX) 矿床极为相似, 暗示与这些矿床具有相似的成因机制。同一矿层、条带状矿石中同一条带的石英中包裹体均一温度和盐度的规律性变化, 支持沃溪 W-Sb-Au 矿床的同生热水沉积成因观点。

关键词: [流体包裹体](#) [悬浮热液柱](#) [热水沉积](#) [W-Sb-Au 矿床](#) [沃溪](#) [湖南省](#)

Fluid Inclusion Evidence for the Genesis of the Woxi W-Sb-Au Deposit, Hunan Province [Download Fulltext](#)

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Abstract:

Fluid inclusions were studied on the stratiform orebodies of the Woxi W-Sb-Au deposit. Homogenization temperatures of aqueous inclusions in the quartz from the banded ores vary between 120°C and 180°C, salinities between 2.9% and 8.9% NaCl eq. and density of the fluid between 0.94 and 0.96 g/cm³. REE geochemical compositions of the fluid inclusions indicate that the ore-forming fluids were most probably derived from evolved seawater that acquired ore-forming materials by circulating in the clastic sediment pile below the seafloor. When the ore-forming hydrothermal fluids, which had a lower density than the ambient seawater, erupted into the overlying cold water column chemical and/or chemical-mechanical precipitation occurred in the ascending buoyant plume, resulting in the formation of stratiform orebodies. The range of homogenization temperature and salinity of the Woxi deposit is similar to that of many other SEDEX-type polymetallic ore deposits, implying a similar genesis for these deposits. The regular variation of the homogenization temperatures and salinities of fluid inclusions in quartz from a single ore bed or a single band of stratiform ores supports a syngenetic model for the Woxi W-Sb-Au deposit.

Keywords: [fluid inclusions](#) [buoyant hydrothermal plume](#) [hydrothermal deposition](#) [W-Sb-Au deposit](#) [Woxi](#) [Hunan Province](#)

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