

## Fluid inclusion studies on the determination of mineralization environment and classification of a Red-Bed type Cu deposit in Yozgat, Turkey

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Red-wine red coloured sedimentary rocks of Oligo-Miocene in the Yozgat region (Turkey) are described as Red-bed type beds. Sedimentary rocks include volcanic conglomerates, sandstones and marls. Descloizite,  $\text{PbZn}(\text{VO}_4)(\text{OH})$ , is firstly observed in Turkey within these three lithological units (Sezerer et al., 2011). This mineral is widely observed in this region. Beside descloizite, other ore minerals are not observed in this field. This mineral is found in the matrix of sandstones and within andesite and basalt fragments.

Based on detailed petrographic and microthermometric analyses on these rocks, two types of fluid inclusion series are determined. These are  $\text{CO}_2$ -rich and water-rich fluid inclusion assemblages. Two different  $\text{CO}_2$ -rich fluid inclusion assemblages are traced, one of which has a homogenization temperature of 230 °C and as salinity of 1.8 eq mass% NaCl and the other with 320 °C and 12.6 eq mass% NaCl. Water-rich fluid inclusions comprise two separate fluid inclusion assemblages. One of these has a homogenization temperature of 150 °C and other one with a homogenization temperature of 250 °C. These two low-temperature fluid inclusions have low salinity as 3.9 eq mass% NaCl and as 25 eq mass% NaCl, respectively.

This system is generated by a deposit formed in a hydrothermal system that involved both extra-basinal, deeply sourced  $\text{CO}_2$ -rich fluid and basinal, aqueous fluid.

### REFERENCES

Sezerer Kuru G., Çiftçi E. and Sakitaş A., (2011)  
*Congress of Turkey geology*, Ankara, Turkey.