

Štúdium fluidných inklúzií a chemického zloženia turmalínov z hydrotermálneho medeného ložiska Ľubietová

Fluid inclusion study and chemical composition of tourmaline from hydrothermal Cu-bearing deposit Ľubietová

JANA MICHŇOVÁ¹⁾, DANIEL OZDÍN¹⁾ A PETER BAČÍK²⁾

¹⁾ Univerzita Komenského, Prírodovedecká fakulta, Katedra mineralógie a petrológie, Mlynská dolina, 842 15 Bratislava, Slovenská republika

²⁾ Univerzita Komenského, Prírodovedecká fakulta, Katedra ložiskovej geológie, Mlynská dolina, 842 15 Bratislava, Slovenská republika

MICHŇOVÁ J., OZDÍN D., BAČÍK P. (2008): Štúdium fluidných inklúzií a chemického zloženia turmalínov z hydrotermálneho medeného ložiska Ľubietová. - *Bull. mineral.-petrol. Odd. Nár. Muz. (Praha)* **16/1**, 100-108. ISSN: 1211-0329.

Abstract

Minerals of tourmaline group in veins are described from several occurrences (Predsvätodušna, Svätodušná, and Podlipa) in the area of the Ľubietová Cu-deposit. They have hydrothermal or hydrothermal-metamorphic origin and take a part in alpine paragenesis in association with quartz, albite, muscovite, chamosite, pyrite, rutile and other accessories. The chemical composition and fluid inclusions on tourmalines were examined. Tourmalines from Ľubietová are chemically homogeneous, and they belong to the alkali group with schorl to schorl/dravite composition. The FeMg_{-1} a $\text{Na}(\text{MgFe})\square_{-1}\text{Al}_{-1}$ (foitite) substitutions have the strongest influence on the occupancy of the tourmaline structural sites X and Y. Fluid inclusions in schorl from the Podlipa deposit are formed by the aqueous solution and vapour phase. The homogenization temperatures of fluid inclusions range from 122.3 °C to 226.9 °C (183.6 °C in average). The average ice-melting temperature was -6.6 °C, and the average salinity of fluid inclusions was 10.2 hm. % NaCl eq. (calculated from the ice-melting temperature). Chemical composition of tourmaline and results of fluid inclusion study indicate metamorphic origin of fluids and intermediate temperature of the tourmaline crystallization. Very high amount of inclusions and defects, weak zoning, dull colour and the cataclastic destruction of crystals disable any gemologic application of tourmalines from the Ľubietová deposit.

Key words: *tourmaline, chemical composition, fluid inclusions, Ľubietová, Slovak Republic*