Britolit-(Y): neskoromagmatický akcesorický minerál Y-REE z granitu A-typu v Stupnom pri Považskej Bystrici, Pieninské bradlové pásmo (severozápadné Slovensko)

Britholite-(Y): a late-magmatic, Y-REE-bearing accessory mineral from A-type granite in Stupné near Považská Bystrica, Pieniny Klippen Belt, north-western Slovakia

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Abstract

Accessory britholite-(Y), $(Y,REE,Ca,Th)_5(SiO_4,PO_4)_3(F,OH,O)$, forms 30 μm large inclusion in quartz from Permian A-type granite pebble in Cretaceous flysch sequence of the Pieniny Klippen Belt, Western Carpathians, Slovakia. Britholite shows compositional zoning with variable REE/Ca ratio (6 to 26 mol. % of apatite end-member) and 0.40 - 0.47 *apfu* F. $(Y,REE)SiCa_{-1}P_{-1}$ is the main substitution mechanism in the mineral. It contains 2.6 - 4.7 wt. % ThO_2 (0.07 - 0.13 *apfu* Th), the highest Th contents yet reported in naturally occurring britholite-(Y). Textural and compositional data indicate their origin by alteration and partial replacement or overgrowth of primary apatite in late-magmatic, fluid-rich conditions.

Key words: *britholite-(Y), REE, A-type granite, Pieniny Klippen Belt, Slovak Republic*