

Hydrotermální alterace a mineralizace uranového ložiska Nahošín jz. od Blatné, Česká republika

Hydrothermal alterations and mineralization of the uranium deposit Nahošín SW of Blatná, Czech Republic

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LITOCHEB J., SEJKORA J., ŠREIN V., KLAUDY S., CÍLEK V., ŽÁK K. (2009): Hydrotermální alterace a mineralizace uranového ložiska Nahošín jz. od Blatné, Česká republika. - *Bull. mineral.-petrolog. Odd. Nár. Muz. (Praha)* **17/2**, 1-22. ISSN: 1211-0239.

Abstract

Uranium deposit located near the Nahošín village, 10 km SW of Blatná (southwestern Bohemia, Czech Republic) was one of the last (1978 - 1989) explored uranium deposits in the Czech Republic. The deposit Nahošín is situated in the Chanovice part of Central Bohemian Plutonic Complex represented here by the Blatná type of granodiorite. It belongs to metasomatic uranium deposit developed in granitoids. The metasomatic uranium mineralization in granitoids is bound to strongly hydrothermally altered zone (1 to 5 m wide), represented by disseminated coffinite I in association with pyrite, calcite and sporadic galena and clausthalite. The altered granodiorite is reddish in colour, shows indications of leached quartz and the formation of hematite, chlorite, Ti - minerals, albite, K-feldspar and calcite. The increased porosity of intensively altered granodiorite is a characteristic feature. The significant extent of younger (regenerated) contrast vein uranium mineralization was also found here. The vein uranium mineralization occurred at crushed and brecciated zones of hydrothermally altered granitoids. It is represented by uraninite (usually partly replaced by coffinite II) in calcite gangue in association with pyrite and minerals of the galena - clausthalite solid solution. The $\delta^{13}\text{C}$ and $\delta^{18}\text{O}$ data of hydrothermal calcite associated with uraninite and coffinite of the younger vein mineralization indicate low temperature of deposition (<150 °C) and a presence of relatively shallow circulating fluids of meteoric provenance. Carbon was most probably derived from more sources, with participation of exogenous carbon during the youngest mineralization stages. Both types uranium mineralization at the Nahošín ore deposit are of late Variscan age probably.

Key words: uranium ore deposit, hydrothermal alterations, uranium mineralization, uraninite, coffinite, clausthalite - galena solid solutions, calcite, C and O stable isotopes, genesis, Central Bohemian Plutonic Complex, Nahošín, Czech Republic