

Zeolitová mineralizace s thomsonitem-(Ca) z Babětína u Těchlovic v Českém středohoří (Česká republika)

Zeolite mineralization with thomsonite-Ca from Babětín near Těchlovice in the České středohoří Mts. (Czech Republic)

PETR PAULIŠ^{1,2)*}, PETR ZEMAN³⁾, VOJTĚCH ZEMAN³⁾, JIŘÍ SEJKORA²⁾, RADANA MALÍKOVÁ²⁾, LUBOŠ VRTIŠKA²⁾, ZDENĚK DOLNÍČEK²⁾, FERRY FEDIUK⁴⁾, ONDŘEJ POUR⁵⁾ A MIROSLAV RADOŇ⁶⁾

¹⁾Smíškova 564, 284 01 Kutná Hora; *e-mail petr.paulis@post.cz

²⁾Mineralogicko-petrologické oddělení, Národní muzeum, Cirkusová 1740, 193 00 Praha 9 - Horní Počernice

³⁾Nádražní 319, 407 25 Verneřice

⁴⁾Na Petřínách 1897, 162 00 Praha 6

⁵⁾Česká geologická služba, Geologická 6, 152 00 Praha 5

⁶⁾Regionální muzeum v Teplicích, Zámecké náměstí 14, 415 01 Teplice

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Abstract

A quite new occurrence of zeolite mineralization, dominated by thomsonite-Ca, has been discovered in a 130 m wide rock outcrop of olivine nephelinite volcanic body, at SW vicinity of the Babětín village, České středohoří mountains (Czech Republic). Thomsonite-Ca occurs there in several morphological forms: as lathy fan-like twins, brittle twins, hemispherical or compact aggregates. Its unit-cell parameters, refined from the powder X-ray data, are: a 13.1049(12), b 13.0559(13) c 13.2464(12) Å and V 2266.4(4) Å³. Two types of thomsonite-Ca with different Sr contents were observed during chemical study - with following empirical formulas: $\text{Ca}_{0.83}\text{Na}_{1.04}\text{Sr}_{0.39}(\text{Si}_{5.35}\text{Al}_{5.05})\text{O}_{20}\cdot 6\text{H}_2\text{O}$ and $\text{Ca}_{1.67}\text{Na}_{1.05}\text{Sr}_{0.12}(\text{Si}_{5.22}\text{Al}_{4.83})\text{O}_{20}\cdot 6\text{H}_2\text{O}$. The determined Sr contents (up to 0.40 *apfu*) are the highest among occurrences of this mineral in the Czech Republic. Analcime, natrolite, mesolite and calcite were observed in the association with thomsonite-Ca. The succession of crystallization on fissures and cavities of olivine nephelinite is following: analcime → natrolite (mesolite) → thomsonite-Ca → calcite.

Key words: thomsonite-Ca, analcime, natrolite, mesolite, olivine nephelinite, powder X-ray diffraction data, unit-cell parameters, chemical composition, Babětín near Těchlovice, Czech Republic

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