

## Výskyt whewellitů v pelosideritech uhoľného ložiska Handlová (Slovenská republika)

The occurrence of whewellite in pelosiderites of the Handlová coal deposit (Slovak Republic)

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### Abstract

Whewellite was identified on fissures in central part of pelosiderite concretions and lenses at the Handlová coal deposit. It forms colourless to white crystalline aggregates together with vitreous lustre associated together with crystalline aggregates of quartz and fine-grained pyrite. Rarely well developed tabular to prismatic crystals (up to 1 cm) are present. Whewellite shows intense green-yellow fluorescence and phosphorescence in long-wave UV light. The unit-cell parameters of whewellite refined from powder X-ray data are:  $a = 6.2925(6) \text{ \AA}$ ,  $b = 14.5947(10) \text{ \AA}$ ,  $c = 10.1230(2) \text{ \AA}$ ,  $\beta = 109.446(8)^\circ$  and  $V = 876.64(5) \text{ \AA}^3$ . An infrared spectrum of whewellite from Handlová is given. The bands of oxalate groups as well as molecular  $\text{H}_2\text{O}$  were identified. Whewellite was formed as youngest phase in reductive environment with high activity of  $\text{Ca}^{2+}$  ions. Oxalic acid was formed by decomposition of organic matter.

**Key words:** whewellite, pelosiderites, X-ray powder data, IR absorption spectrum, Handlová, Slovak Republic