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Documentation of Geological and Archaelogical Featu-res Using the Lacquer-Film Method

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For eight years now, Dolmat has been the only company in the Czech Republic to produce lacquer-films, marketing them both in the domestic market and abroad. Lacquer-films usually represent attractive sedimentary formations. Our company specializes in producing films of moldavite-bearing sediments, rarely with moldavites in situ. Such films are taken immediately after a moldavite has been found in the sediment. Lacquer-films are suitable for scientific centres and museums, for decoration of offices, exhibition premises and other interiors, pleasing geologists, collectors and laymen alike. Being of a high aesthetic value, lacquer-films chequer technology-governed interiors, bringing a genuine and original touch of nature and its history to the place. The method employed makes it possible to take lacquer-films from any loose-material (unconsolidated soil, clay, sand, gravel, peat, and debris or deposits formed by erosion) profiles ranging from pits to walls to excavations. Special preservative procedures allow to move such films of outcrop to offices, outlets, classrooms or apartments, or store them as unique documentary samples in museum depositories.

The production method is quite simple. Having been smoothed, a selected section of the outcrop or profile is sprayed with diluted penetrative lacquer hardening the material without affecting its texture, colour, or mineral composition. After a while, the prepared area is hardened once more, with undiluted lacquer this time, and covered with a thin cloth. Having dried up, the cloth is carefully torn away with a thin screen of the lacquer-hardened soil preserving the natural appearance of the original with all its features. Such a sheet of several dm^2 to m^2 is then fitted to a board and framed, and can be treated as an ordinary picture hung on a wall.

Each lacquer-film is an original, a true and permanent representation of a piece of nature. Besides having indisputable scientific qualities, it can serve as a decoration. Thanks to the documentation method, which is used in archaeology, geology, sedimentology and pedology, one can admire what an artist nature is.

The Neoidic Fluorite Mineralization in the Brno Massif: Interaction between Fluid and Rock

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The Brno massif is the largest and oldest igneous massif at the eastern margin of the Bohemian Massif. From the mineralogical point of view, numerous small occurrences of fluorite are typical of this granitoid unit. Detailed mineralogical and formation conditions study allow to distinguish several types of fluorite mineralization in granitoid rocks. The youngest one is most likely a neoidic mineralization (Mesozoic?–Quaternary?). This type has been found at three sites (Tetčice near Rosice u Brna, Rakšice near Moravský Krumlov and Květnička Hill near Tišnov).

The studied hydrothermal veins containing fluorite trend NW-SE, to lesser extent NE-SW, with a steep dip. Drusy coating, inexpressive banding and breccias are typical structures of the mineralization. A mineral composition is very simple at all localities. The veins consist only of quartz, fluorite and calcite. Fine-grained quartz is minor. A light to dark violet, light green or colourless fluorite predominates. Considerable amount of calcite is present only in veins near Tetčice. Minerals precipitated in the following succession: quartz-fluorite--calcite.

Several methods were used to establish origin of the mineralization: cathodoluminescence microscopy, REE geochemistry of fluorite, fluid inclusion and stable isotope study.

Cathodoluminescence study

Fluorites often exhibit distinct growth zonation in CL microscope. Central parts of the crystals are green, margins show oscillatory zoning in blue hues. There are very interesting irregular, corroded boundaries between individual growth zones. Calcite