

## TELKIBÁNYA FIELD TRAINING PARK – POTENTIAL FIELD PROGRAMS IN MINERALOGY, PETROGRAPHY AND GEOCHEMISTRY

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The Telkibánya mining area is located in the northern part of the Tokaj Mountains. It is one of the most important mining places in Hungary, a medieval industrial and cultural heritage, which has never been protected before and we don't know exactly its real extent and actual condition.

The area is a part of the Miocene volcanic arc stretching from Tokaj in the south to Prešov in the north and called Tokaj Mts. (southern part) and Slanské vrchy Mts. (northern part). The thickness of the volcanic mass is nearly 3000 m. There is a caldera structure between Telkibánya and Hollóháza, with intrusions of andesitic bodies, which underwent strong K-metasomatism. In the subvolcanic bodies epithermal LS-type gold-silver mineralization occurs. During the mineralization 14 veins were formed. The veins are 40-80 cm in width and a few km in length. The vein-fillings are siliceous on the top, but they are dominated by argillic then carbonate material in the deeper sections. Ore minerals can be found in the upper 300 m of the veins.

Mining in Telkibánya goes back to prehistoric times but systematic open-pit mining started in the 12-13<sup>th</sup> century. In 1341 and 1344 royal decrees declared the status of the mining town. In the 14-15<sup>th</sup> century underground mining started. The prosperity ended by a mining catastrophe in the 16<sup>th</sup> century, which was followed by a 200 years long break in mining. The re-opening resulted in a second prosperity in the 18-19<sup>th</sup> century. In the 20<sup>th</sup> century mining was ceased, but there were explorations at deeper levels, during which drifts and

drill holes were made and geophysical and geochemical data were obtained. However, the ore reserves haven't proven to be economic. The monuments of one-time mining are represented now by old adits, about 3000 pits and ruins of processing plants.

In 2005 the University of Miskolc made a study in the framework of a PHARE CBC project in co-operation with the Technical University of Košice. The following objectives were examined in the study: (a) the environmental status and impact of former mining activities, (b) research of surface and underground mining facilities and database creation, (c) safety assessment of mine facilities for future education purposes, (d) educational tools and information about geological monuments for field training centre.

As a result of the study, Telkibánya proved to be an ideal place for field training programs. It has favourable infrastructure conditions. The training centre includes several field training tools: drill core documentation, underground drift mapping, surface sampling, geophysical testing *etc.*, and offers comparisons with the earlier exploration database, maps, *etc.* Beside geotechnical and structural geological examinations, different programs can be carried out in mineralogy and petrography by studying the various types of volcanic rocks, the ore mineralization and rock alteration (surface and underground). The University of Miskolc plans to co-ordinate and organize programs at different levels on the site.