



U.S. Geological Survey Fact Sheet

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USGS joins Polish scientists to study copper deposit

The discovery of new mineral resources in Poland will help to improve the economy of this emerging democracy. Toward this goal, scientists of the U.S. Geological Survey (USGS) and the Polish Geological Institute have begun a cooperative study to better understand the potential copper resources of an area in southern Poland. This 3-year program is jointly funded by the U.S. Department of State and the Polish government. The study focuses on a large porphyry-type (low grade) copper deposit near the city of Myszków (fig. 1).

Mining the deposit is not yet economically feasible.

The deposit is entirely underground, covered by about 100 meters of limestone and other carbonate rocks, and can only be studied using drill core. It centers around a granodiorite pluton (fig. 2), which was formed when molten rock from the Earth's interior forced its way up into a thick sequence of sedimentary rocks about 300 million years ago, during the late Paleozoic Era. Ground water heated by the pluton



Figure 1. Map of Poland showing area with potential for porphyry copper deposits and location of Myszków deposit

collected copper atoms throughout the surrounding rocks and concentrated them in the Myszków deposit. High copper concentrations are found both in the granodiorite pluton and in the surrounding host rocks, which date from the early Paleozoic Era, more than 400 million years ago. The overlying carbonate rocks formed much later, during the Triassic Period.

Geologists from both organizations have collected core for analysis. These samples are being analyzed for their chemical and mineral contents to identify those variables that will best characterize and delineate this deposit. The results of this cooperative program will provide guidelines to assist geologists in the

search for additional copper deposits in this poorly understood geologic environment of Poland.

In addition to the joint study of this copper deposit, USGS geologists are training Polish geologists in the use of modern techniques for identifying undiscovered mineral resources in Poland. This training is occurring both in the United States and in Poland. □

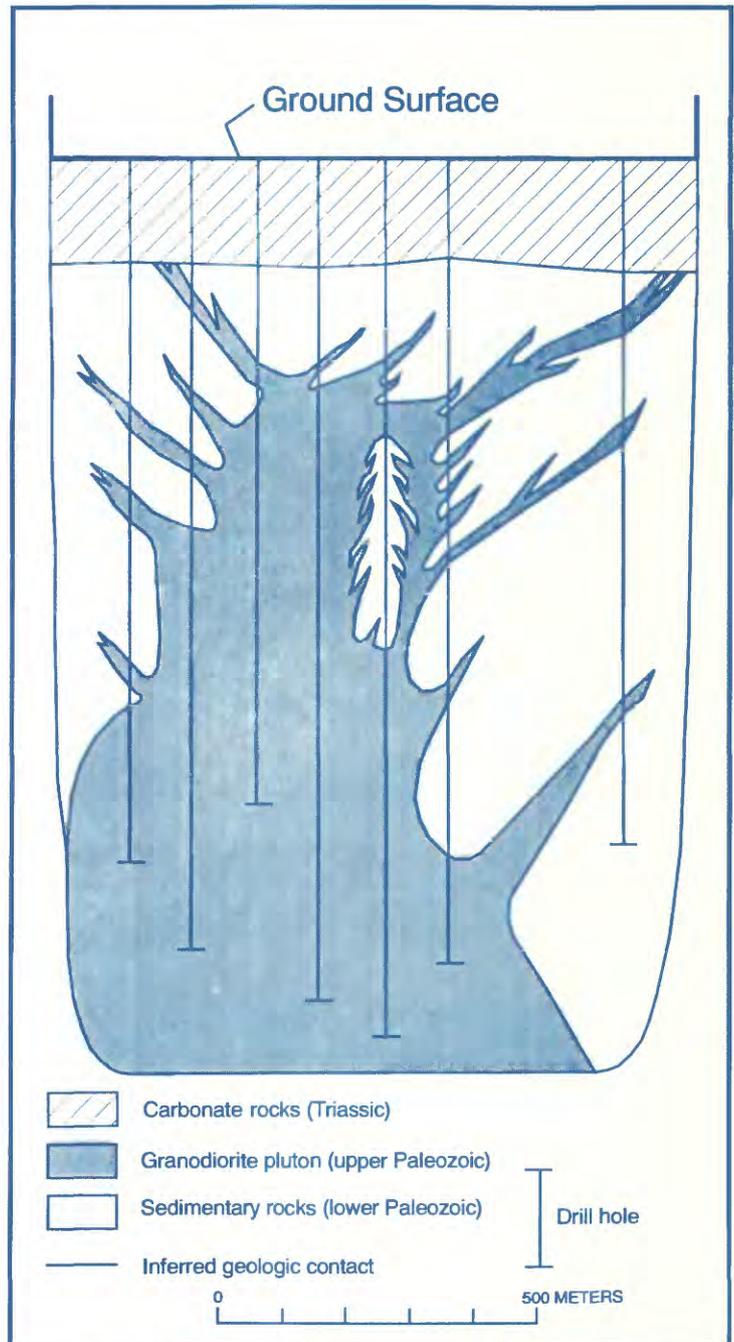


Figure 2. Geologic cross section through the area of the Myszków copper deposit

**For more information,
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