

„Orzeł-Biały” Mine.

HISTORY

The beginnings of the mining in this area date back to 1136. On the other hand, the intensive exploitation of metal ores began in the mid-nineteenth century and then increased even more after the World War II.

Mining and Metallurgical Plant "Orzeł Biały" was established in 1968 as a result of a merger of several smaller plants extracting zinc and lead ores operating in the area of Bytom, Piekary Śląskie and Radzionków. Combined plant soon became the largest company extracting this type of ores in Poland.

The mining of zinc and lead ores was completed on December 31, 1989. However, some of the post-mining workings have been transformed into water intakes that supply the nearby towns.

GEOLOGY

In the geological structure the Quaternary, Jurassic (Piekary and Szarlej districts), Triassic and productive Carboniferous formations are involved. The Triassic is made up of layers of upper, middle and lower shell limestone as well as middle and lower mottled sandstone.

The tectonics of the exploited Triassic formations (ore-bearing dolomite) is related to the Alpine orogenesis which lead to the formation of faults in the direction similar to the East-West. The most recognizable dislocation is the “Radzionkowski” fault with a drop of 15 m and an dip angle of 65-70° in the E direction. Between Brzeziny Śląskie and Dąbrówka Wielka in Piekary Śląskie, four faults with discharges from 8 to 42 m and the direction from south-west to north-east lower the Triassic layers creating a tectonic ditch up to 250m wide. The tertiary erosion processes had an influence on the Triassic formations, causing five main erosive leaches, e.g. wash-out in the Bytom district of Karb, in the downtown of Bytom or between the previously mentioned Brzeziny and Dąbrówka Wielka.

MINING

The deposits were exploited in the most of the mining area in two beds of ore-bearing dolomite. The depth of extraction did not exceed 95 meters.

SINKHOLE THREAT

Exists with small exceptions in the vast majority of the mining area, which was abolished in 1995. The threats are related to the shallow exploitation of zinc, lead and brown iron ores (iron oxides and hydroxides), as well as a large number of shafts and other vertical openings with undetermined method of liquidation. The exploitation of hard coal at greater depths intensifies the adverse effects of extracted ore and has a great impact on the possibility of occurrence of the sinkholes.