

MESOTHERMAL GOLD DEPOSITS IN THE SUDETES MTS. (POLAND)

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Sudetes Mts. are situated on the northern margin of the Bohemian Massif and represent the easternmost part of the European Variscan Belt. Sudetian orogen consists of continental blocks separated by fragments of oceanic crust. Continental blocks are built of Upper Proterozoic and Paleozoic rock complexes later intruded by Variscan S and I type granites. Considered gold deposits are located within marginal zones of continental and oceanic elements and are related to Variscan granitoid intrusions. In Sudetes Mts. the auriferous deposits are characterised by typical features of mesothermal type deposits that in most cases contain also hypothermal and/or epithermal mineralization. Among mesothermal deposits the most important are: contact-metasomatic (Zloty Stok, Czarnow) and veins shear-zone hosted deposits Radomice-Klecza, Czarnow). Gold-bearing sulphide mineralization occur in different forms as skarns and replacement ore bodies, lodes, stockworks and veins. These deposits are small or medium sizes with restricted reserves. As example in Zloty Stok Au-bearing skarns are related to lenses of dolomitic marbles that have 100 m in length and 25 m in thickness. Au mineralization is connected with occurrence of As minerals, pyrrhotite, chalcopyrite, pyrite and Bi minerals. Gold occurs as submicroscopic mineralization or as micrograins or inclusions in sulphide and arsenic minerals. Hydrothermal alteration of rocks surrounded mesothermal ores are represented by zones of silicification, carbonatization, K-feldspathization, serpentinization, sericitization & propylitization. The mesothermal Au deposits in Sudetes are again interesting target for exploration.