

Major Alpine ore districts at the territory of the Republic of Macedonia

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In accordance to the basic principles and major factors of the metallogenic analysis (structural-morphostructural, magmatic and mineralizing), at the territory of the Republic of Macedonia were determined few major Alpine ore districts: Kratovo-Zletovo, Damjan-Buchim-Borov Dol, Sasa-Toranica, Pehcevo-Ograzden and Kozuf. All of them are enclosed within the Serbo-Macedonian metallogenetic province defined by Jankovic (1967), or more precisely, in metallogenetic zones Lece-Chalkidiki and Besna Kobila-Osogovo-Tasos defined by Serafimovski (1990, 1993).

All defined Alpine ore districts at the territory of the Republic of Macedonia are characterized by polymetallic mineralization related to the Tertiary magmatism and representative structural-morphostructural forms. Scale of the defined Alpine ore districts at the territory of the Republic of Macedonia are in function of surface manifestations of Tertiary magmatism. Very often in those ore districts has been determined zonal distribution of ore mineralization, laterally and vertically.

From up to date studies it was determined that the biggest ore district is Kratovo-Zletovo that occupies an area of approximately 400 km², which has been determined in the most eastern parts of the well-known Kratovo-Zletovo volcanic area, whose surface manifestations defined an area of around 1200 km². Lead-zinc mineralizations are the main Alpine ores in this ore district mainly localized at sub-volcanic levels within the famous Zletovo Pb-Zn deposit. There the Pb-Zn mineralization is of vein type. Along these mineralizations within this ore district were determined porphyry Cu-Au mineralizations in the Plavica deposit, localized in old, partially deformed volcanic calderas. Morphostructural studies in this region have shown that there are typical collapse calderas in central parts while "parasite" volcanic centers dominate on the peripheral parts. On the peripheral parts were determined uranium mineralizations localized in hydrothermally altered and brecciated volcanics in Zletovska Reka deposit.

Ore district Buchim-Damjan-Borov Dol occupies an area of around 150 km² and it is characterized by skarn iron mineralizations in its central parts as well as with productive copper and gold mineralization in its peripheral parts (Buchim and Borov Dol deposits). At the most peripheral parts in this ore district were registered even narrow Pb-Zn veins. The well-known porphyry copper deposit Buchim is localized in the northern parts of this ore district, within the Precambrian metamorphic complex intruded by andesite-latite dykes (27.5-24 Ma), around which has been localized porphyry copper mineralization.

Kozuf ore district has been localized in the southern parts of the territory of the Republic of Macedonia close to the national border with Republic of Greece. Opposite to the other ore districts its determination was based on surface manifestations of Pliocene magmatism (6-1.8 Ma) and representative Sb-As-Tl-Au-Cu-Pb-Zn mineral associations. Two deposits are of special interest there, the Alshar and the Dudica deposits. The famous Alshar deposit is divided in three particular parts: northern part where dominates thallium mineralization, central part with prevailing Sb-As mineralizations with interesting gold contents and southern parts that was defined as characteristic Carlin gold type of mineralization. At the Dudica deposit prevails copper mineralization ± gold and Pb-Zn.

In eastern parts of the Republic of Macedonia, or more precisely, within the Besna Kobila-Osogovo-Tasos metallogenetic zone are located Sasa-Toranica ore district, where prevail lead-zinc mineralizations in Sasa deposit and Toranica deposit, and Pehcevo-Ograzden ore district where prevail copper or copper-gold mineralization, as it is case with the Ilovitza deposit. These ore districts are characterized by specific structural-morphostructural composition, which has direct reflection to the genesis and distribution of polymetallic mineralizations in these areas.

References:

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