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Structural-Lithological Conditions of Formation of Epithermal Gold Sulphide Satellite Deposits in the North Part of Chovdar Ore Area

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Abstract : Chovdar ore area is located in the contact of Dashkesan caldera and Shamkir horst-graben uplift, which comprises the central part of Lok-Karabakh Island arcs of South Caucasus metallogenic province in terms of regional tectonics. One of the main structural features of formation of the Mereh and Aghyokhush group of low sulfidation epithermal gold deposits, locating in the north peripheric part of the ore area, is involving the crossing areas of ore-hosting and ore-forming Pan-Caucasian-direction structurally-compound faults with the meridional, rhombically shaped faults. In addition, another significant feature is the temporally two- or three-stage ore formation. In the first stage -an early phase of Upper Bathonian age, sulfides are the dominant minerals, in the second stage- late 'productive' phase of Upper Bathonian age, mainly gold mineralization is formed. Also, in the Upper Jurassic – Lower Cretaceous ages, rarely-encountered Cu-polymetallic ore formations are documented. Finally, in the last stage, the re-dislocation of ore-formation is foreseen in the previously-formed mineralization areas. The faults in the strike and dip directions formed shearing, brecciation, sulfide mineralization aureoles, and hydrothermal alteration zones in the wall rocks along with the local depression blocks. The geological-structural analysis of the area shows that multiple and various morphogenetic volcano-tectonically fault systems have developed in the area. These fault systems have played a trap role for ore-formation in the intersected parts of faults mentioned above. Thus, in the referred parts, mostly predominance of felsic volcanism and metasomatic alteration (silicification, argillitic, etc.) of wall rocks, as well as the products of this volcanism, account for the inclusion of hydrothermal ore-forming fluids along these faults. It is possible to determine temporally and lithological-structural connection between the ore-formation along with local depression blocks and faults as borders for products of felsic volcanism of Upper Cretaceous-Lesser Jurassic ages, in the results of the replacement of hydrothermal alteration zones with relatively low-temperature metasomatic alterations while moving from the felsic parts to the margins, and due to being non-ore bearing intermediate and intermediate-felsic magmatic facies.

Keywords : Aghyokhush, fault, gold deposit, Mereh
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