

SYN-ARCH STRUCTURAL ANALYSIS: A ESSENTIAL TOOL FOR MINERAL EXPLORATION IN CENTRAL EASTERN CUBA

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Several epithermal and vein gold and base metal occurrences are known within Cretaceous arch, in Central Eastern region of Cuba, a classical target of any metallic potential assessment developed in the country. However, structural and magmatic-structural factors involved in hydrothermal paleo-systems are not clearly established to realize here, effectively, such type of research. Regional tectonic setting was reinterpreted using remote-sensing, geological and geophysical information. By this way, signatures of syn-arch regional structures were detected, resulting in a 1:250.000 magmatic-structural map, which also shows major post-arch structural features. The endogenous arch mineralization is associated with late magmatism (Lower Campanian) developed at the junction of NE, WNW and N-S syn-arch tectoliteaments. The epithermal gold mineralization is associated to volcanic structures, probably calderas. Vein gold and porphyry copper deposits are related to the development of hypoabissal or subvolcanic structures. As one of the main results of this work, several new volcanic and hypoabissal structures were identified, even under Cenozoic sedimentary cover. Assuming that these structures could host similar deposits, this will represent a tenfold increase in the area presently considered for gold exploration of the territory.