

Summary of the principal volcano-sedimentary facies types of the Madneuli copper-gold polymetallic deposit, Bolnisi district, Georgia

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The Madneuli copper-gold polymetallic deposit is a major deposit in Southern Georgia, which is still production. It is located in the Artvin-Bolnisi zone, which is part of the Late Cretaceous Tethyan metallogenic belt. Several lithofacial units were outlined in the Madneuli open pit and their depositional setting was interpreted as a submarine. To identify and characterized facial units are characterized by variations in composition and texture. Some facial units were interpreted first time in the open pit by the author. Such as hyaloclastite, peperite, columnar jointed ignimbrites... Two types of hyaloclastite are recognized at the Madneuli deposit: hyaloclastite with pillow-like forms and hyaloclastite with glassy like selvages. Silicified rhyodacitic hyaloclastite is interpreted as a result of water-rock interaction, in response to rapid chilling and quench fragmentation of lava. The presence of rhyodacitic hyaloclastites in the host rocks is one of the supporting evidence of submarine setting of depositional environment.