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GeoDay Abstract

Geology, geochemistry, geophysics and economic mineralization potential of Lascano area, Eastern Uruguay

The *Lascano* geophysical anomaly is located in the northeast part of the Jura -Cretaceous *SaLAM* (Santa Lucia –Aiguá – Merín) corridor basin (*Merín Basin*) related to the opening of southern Atlantic Ocean. The study area lies on a large and intense gravity anomaly that is coincident with a magnetic anomaly. The geophysical survey shows a positive gravimetric anomaly over 100 *mGal*, ellipsoidal in shape, more than 80 km long by 40 km wide, with the long axis in an east to northeast trend. In agreement with preliminary observations the area of Lascano consists of an upper volcanic sequence (basalts, rhyolites and ignimbrites) intruded by a thick zoned intrusion of granodioritic granophyre and gabbro. Fine-grained gabbros and porphyritic rhyolites dykes cut most of the intrusive and volcanic rocks. The Lascano drilling by Uruguay Mineral Exploration INC. has encountered hydrothermal altered rocks (chlorite-sericite-kaolinite-carbonate-gypsum-potassium feldspar-chalcedony) and disseminated and vein ore minerals (magnetite-hematite-pyrite-chalcopyrite-fluorite) in zones that maybe part of a larger porphyry copper, Iron Oxide Copper-Gold, epithermal or other hydrothermal ore system associated with bimodal magmas including some alkaline intrusions. These types of ore systems may have generated economic gold-copper deposits that remain concealed at depth. This investigation will try to clarify if this system has the potential to host an economic mineral deposit and, if so, what type of deposit it could be. The principal goal of this study is to produce an improved geological description and database for the Lascano area and drill cores, and to propose a geological hypothesis for the nature and origin of Cu-Au ore occurrences.