

SEG 2023 Conference: Resourcing the Green Transition

Evaluation of the Potential Intrusion Related Gold System (IRGS) of the Urcos-Sicuaní-Ayaviri Structural Corridor System in Santiago de Pupuja, Puno, Peru

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The area of study is within the strip of Sn-Cu-W deposits related to Oligocene-Miocene intrusives and epithermal Ag-Pb-Zn (Au), part of the northern continuation of the Bolivian polymetallic strip where the Kori-Kollo and Tasna deposits are found, both deposits previously studied and classified as intrusion related gold systems (IRGS).

The IRGS is a type of deposit that has been little studied and will benefit the scientific community of geologists and companies involved in mineral exploration.

The main objective was to determine the mineralization potential of IRGS using petrographic study, analysis of multi-elemental rock in encasing rock and in veinlets (where we worked with 75 elements giving relevance to the Magnetite-Ilmenite Series typical of this type of deposit); in addition, we carried out studies of spectral analysis—SWIR spectral indexes, where the zone of hydrothermal alteration was estimated giving, as a result, the predominance of white micas, 2205-2230 (Phengite to Muscovite).

Finally the study gave a result of an important mineralized target and thus part of the mineralization model of the gold systems related to intrusions, sheeted veins, and epithermal-style veins and stockwork Au, Ag, As, Sb, Pb, Hg.

The place called San Antonio de Pupuja is located near a ranch with a population of approximately 100 people, where the main activity is livestock; therefore, responsible discovery and mining in this 21st century would be relevant and important, respecting the environment as the main objective.