

SEG 2026 Conference in Salt Lake City, United States

Geology and Mineralization of the Sacanana Epithermal Ag-Au-Cu-Pb-Zn Project, Chubut Province, Argentina

Joseph Polovina¹

¹Patagonia Exploracion S.A., Gardnerville, United States

The Sacanana project is an early-stage exploration prospect with 536 km² of exploration concessions located in the North Patagonia Massif, that is host to precious metal mineralization associated with Jurassic volcanism and crustal extension. The project is 6 km north of Pan American Silver Corp's Navidad epithermal Ag-Pb-Zn deposit with a measured and indicated mineral resource of 632 Moz Ag and 3 billion pounds Pb. The Middle Jurassic Canadon Asfalto Formation volcanic and sedimentary rocks that host ore at Navidad also host mineralization at Sacanana and other areas of mineralization are associated with rhyolitic domes. At Sacanana, epithermal mineralization associated with illite-smectite±kaolinite alteration has been identified over 132 km² and varies from quartz veins and hydrothermal breccias to chalcedonic quartz replacement of volcanic and sedimentary rocks. The property has been explored with remote sensing, geologic mapping, rock geochemistry, petrography and SWIR spectroscopy. The strongest anomalies to ore grades with up to 205 ppm Ag, 0.52 ppm Au, 0.68% Cu, 233 ppm Mo, 4.5% Pb and 0.45% Zn are in grab samples of veins and breccias in outcrop and subcrop over a 500 m NE striking zone on Cerro Sacanana, a rhyolitic dome. Petrography on grab samples with 19 to 113 ppm Ag identified trace quantities of acanthite, gold, pyrite and galena hosted in recrystallized chalcedony, often with colloform banding, which forms as a silica gel at <200°C. Calcite and white mica are common gangue minerals with occasional epidote which forms at 230°C. Quartz vein textures and gangue mineralogy implies that the mineralization formed at a shallow level in an epithermal system, which is permissive for precious and base metal grades increasing with depth. Sacanana has exploration potential for an epithermal Ag-Au-Pb-Zn ore deposit and ore grades in Cu-Mo indicate exploration potential for a Cu-Mo-Au porphyry.