

**PARAGÉNESIS DE TELURUROS DE MINA CAPILLITAS, CATAMARCA,
ARGENTINA**

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Abstract

Mina Capillitas (27°27'S, 66°30'W) is a high-sulfidation epithermal-type deposit, located in Catamarca province, Argentina. Vein-type mineralization, hosted by rhyolite, brecciated rhyolite and granite, is emplaced in, and around a 900 by 1500 m diatreme, which crosscuts a lower Paleozoic granite of the Pampean Ranges. Hydrothermal alteration ranges from silicification, through advanced argillic alteration, sericitization, and propylitization, but differs depending on the host lithology. Seven separate stages of mineralization were identified in the complex Cu-Au-S-As-Sb-Pb-Zn paragenesis with native elements (gold and tellurium) and telurides being concentrated in the fourth stage. Native gold occurs as small grains with an average fineness of 920, is hosted mostly by quartz, and coexists with hübnerite and Bi minerals. Native tellurium occurs locally in grains up to 10 μ m in diameter, with telurides of Au, Ag, Bi, Cu, and Ni. Tellurides include krermerite, calaverite, sylvanite, petzite, hessite, stützite, goldfieldite, melonite, tetradymite, and volynskite. Most of the grains are small (10 μ m in average) but are generally arranged in larger polycrystalline aggregates. Tellurides occur in quartz with hübnerite, pyrite, chalcopyrite, and Bi- and Sn-bearing minerals. Fluid inclusion data indicate ore formation at 250 °C, with log f S₂ of about - 13, and log f Te_e of - 10 or higher.