

Pegmatite-Hosted Rare Earth Element Mineralization and Supergene Copper Mineralization at Casma, Peru

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The coastal batholith of Peru crops out on the western flanks of the Andes over a strike length of more than 1,600 km. A central segment, known as the Santa Rosa superunit, hosts a complex pegmatite at Casma, in the Huaraz region. The pegmatite varies petrographically from tonalite to granite. The main pegmatite body is lenticular in shape, elongated E-W, and consists of quartz, K-feldspar, allanite, roscoelite, plagioclase, and muscovite, with variable textures. At the top of the pegmatite, rounded xenoliths mark the roof zone of the deposit. The pegmatite is surrounded by dikes with quartz, K-feldspar, and the LREE-enriched mineral allanite. A surprising feature overlying the pegmatite is a thin, near-surface domain of supergene copper mineralization, consisting of malachite and chrysocolla. The supergene copper mineralization has been worked by small-scale miners.