

APLITE HOSTED REICHENSPIITZ-TYPE MOLYBDENITE MINERALIZATION IN THE CENTRAL TAUERN WINDOW, SALZBURG/TYROL)

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Molybdenite mineralization located in the Reichenspitzgruppe at the border of the provinces of Salzburg and Tyrol is hosted by Variscan I-type plutons metamorphosed into gneisses (EICHHORN et al., 2000). The gneisses show S-type affinity due to crustal contamination (FINGER et al., 1993), and are intruded by calc-alkaline aplitic A-type granites (SCHERMAIER, 1993). Mineralogy and geological setting resemble Mo mineralization at the Alpeinerscharte, Tyrol (MELCHER et al., 1996; LANGTHALER et al., 2004). Both occurrences form part of the “Molybdenum Ore District Central Gneiss Supersuite” as defined in the Interactive Raw Materials Information System (IRIS, www.geologie.ac.at/services/webapplikationen/iris-interaktives-rohstoffinformationssystem/).

The Reichenspitz mineralization is controlled by shear zones and the intrusion contacts of the aplitic granites (STEINER, 2018). Molybdenite either appears disseminated in the aplitic granite, often in the vicinity to intrusion contacts, or in sulfide-bearing quartz veins. The ore paragenesis comprises assemblages of molybdenite, pyrite and chalcopyrite, with molybdenite being by far the most abundant. The aplitic and granitic gneisses carry abundant accessory assemblages of zircon, U-Th-phases, apatite, and allanite (i.e., REE-bearing minerals) in the vicinity of the molybdenite mineralization. Strictly associated with, and often within the molybdenite is a mineralization containing Bi sulfides (bismuthinite), native bismuth, Pb-Bi-Ag sulfosalts (cosalite, lillianite, pavonite, and others) and Bi tellurides.

The Mo mineralization likely represents a low-grade low fluorine calc-alkaline molybdenum porphyry system formed during the pneumatolytic stage of the intrusion of the aplitic granites. During the Nealpine event, remobilization formed various alteration minerals including powellite, wulfenite, betpakdalite-CaCa, ichnusaite, nuragheite, sardignaitite, suseinargiuite, and ferrimolybdite. The mineralization can be compared to Su Seinargiu, Sardinia (with a very similar alteration, ORLANDI et al., 2015), and Endako, BC (SELBY et al., 2000).

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