5. CONGRESO DE MINERALOGIA Y METALOGENIA, OCTUBRE 2000
(Eds: I. Schalamuk, M. Brodtkorb y R. Etcheverry) INREMI, La Plata, Publicación 6, 331-335

PRESENCIA DE FARMACOSIDERITA EN LA SIERRA DE MAZÁN LA RIOJA

Orquídea Morello [1], Ana Fogliata [2] y Julio Avila [2]
Comisión Nacional de Energia Atómica, morello@cnea.gov.ar
[2]Facultad de Ciencias Naturales UNT-CONICET, fogliat@csnat.unt.edu.ar,
jcavila@csnat.unt.edu.ar

Abstract

This paper reports the first occurrence in Argentina of pharmacosiderite crystals (a potassium iron arsenate hydroxide hydrate), which are associated to the quartz-muscovite-tourmaline-cassiterite greisen of Mina La Descubridora. The deposit is located in the Sierra de Mazán, province of La Rioja. It is a high temperature hydrothermal deposit hosted by paleozoic granitic rocks.
The mineral was studied by petrographic, XRD and SEM-EDAX techniques.
It forms small yellow and red crystals (≤1 mm) or aggregates that occur among the greisen quartz grains and muscovite flakes. Under the microscope the mineral is transparent to translucent, weakly pleochroic (pale yellow to colorless) with anomalous birrefringence.
The idealized formula calculated for this species is: $KFe_4^{3+}(AsO_4)_3(OH)_4.6\text{-}7H_20$
The presence of P partially replacing As, as well as, small amounts of Na and Al in the K and Fe^{3+} sites, is noteworthy.
Pharmacosiderite is generally found in the oxidized zone of tin deposits, as an alteration product of arsenopyrite or arsenic minerals. It can have, also, an hydrothermal origin. The first origin seems to be more probable in this case.