

**GLADITA  $PbCuBi_5S_9$ , HODRUSILITA  $Cu_8Bi_{12}S_{22}$ , KAWAZULITA  $Bi_2SeTe_2$ ,  
KRUPKAITA  $PbCuBi_3S_6$ , KURAMITA  $Cu_3SnS_4$ , MOHITA  $Cu_2SnS_3$ , VINCLENNITA  
 $Cu_6Fe_4Sn(As,Sb)S_{16}$ , NUEVOS MINERALES EN LA VETA POLIMETÁLICA DE  
JULIO VERNE, SALTA**

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**Abstract**

New minerals discovered in the polymetallic ores of Julio Verne mine, Salta province, Argentina, are described. The rare copper-tin sulfides kuramita, mohita and vinciennita lie as tiny inclusions within the tetrahedrite mineral group grains (tetrahedrite, tennantite, goldfieldite, annivite), which is also associated with chalcopyrite, enargite, famatinite, stannoidite, mawsonite, Te-canfieldite and tetradymite. The new bismuthiferous sulfosalts gladite, hodrushite, kawazulite and krupkaite are minor phases associated to the main Julio Verne bismuthiferous minerals: emplectite, aikinite and annivite, with some additional small assemblages of tetradymite, matildite, gustavite, schirmerite and wittichenite. The iron sulfides (pyrite, bravoite, marcasite, greigite, melnickovite) and the tetrahedrite group minerals are the most extensive mineral phases in the mine. The quartziferous vein occurs in a Tertiary hydrothermal subvolcanic system, of high sulfidation style or adularia-sericite type, related to Andean calc-alkaline volcanic rocks. Physical data and chemical analyses by EMPA methods of these new identified seven minerals are given.