

**LA ASOCIACIÓN LARNITA, ESPURRITA Y TILLEYTA DEL BAJO DE LENZANIYEU,
PROVINCIA DE RÍO NEGRO, ARGENTINA.**

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Abstract

In Lezaniyeu area, Rio Negro Province, Argentina, a mineral association, mainly composed of larnite, spurrite and tilleyite with subordinate amounts of grossular (hydrogrossular?), perovskite and secondary minerals such as zeolite was identified. This association is here attributed to the so called Tilleyite-Spurrite zone with very high temperature and very low pressure contact-metamorphism. This association occurs near Puesto Nayibe Ferbay at the contact between Plesitocene alkaline basalts and the Upper Cretaceous calcareous rocks belonging to the Roca Formation. This mineral association develops granoblastic to porphyroblastic texture especially when garnet in samples has significant amounts. The main reactions to produce this mineralogy association are: $3 \text{ calcite} + 2 \text{ wollastonite} = 1 \text{ tilleyite} + \text{CO}_2$; $1 \text{ tilleyite} = 1 \text{ spurrite} + \text{CO}_2$; $1 \text{ spurrite} + 1 \text{ rankinite} = 4 \text{ larnite} + \text{CO}_2$. These reactions are strongly influenced by CaO:SiO₂ ratio. When this ratio is variable coexist tilleyite + spurrite or spurrite + larnite associated with calcite + rankinite and/or wollastonite. This association coexists between 850°C to 1050°C, with a pressure range from 300 bars to 500 bars and a low CO₂ ($X_{\text{CO}_2} = 1,0$) pressure (Zharikov y Shmulovich 1969).