

REE IN FLUORITES FROM PUERTO SAN ANTONIO DEPOSIT (RÍO NEGRO, ARGENTINA)

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This vetiform deposit presents several stages of fluoritic - silicic mineralization, some of them associated with calcite and barite, filling a fracture where the mineral cements breccias with numerous reopenings and interferences during the mineralización. This is related with acid volcanic rocks of triassic-jurassic age. The chondrite-normalized REE spiders show similar shapes, small negative Sm and Yb anomalies. The fluorites are enriched in LREE respect HREE with a La/Yb ratio of 18,4, and are highly enriched in Y relative a total REE. Y shows positive correlation with light and heavy REE . The hosted rocks show similar pattern but higher REE. This is interpreted as a result of very quick precipitation that did not allow differential separation of the REE. A decrease is observed in the total content of REE from the early fluorite to the last which could be related to the mechanism of transport by hydrothermal solutions. The REE are sensitive to the presence of fluorine in the solutions and the stability of REE-fluoro complexes increases from La to Yb. The REE values confirm that fluorite deposition was multistage and that composition of sequential pulses of hidrothermal fluids changed with a decrease of fluorine activity.