

The Pegmatites in the Granitic Monlevade Banded Gneisses of the Area of Nova Era-Ferros (Minas Gerais, Brazil): Rb/Sr Dating of Intrusion and Metamorphism.

¹KOSTITSYN, Y., ²PREINFALK, C. and ²MORTEANI, G.

¹Institute of Mineralogy, Geochemistry and Crystal Chemistry of Rare Elements, Veresaeva str. 15, 121357 Moscow, Russia.

²Lehrstuhl für Angewandte Mineralogie und Geochemie, TU München, Lichtenbergstr. 4, 85747 Garching, Germany.

In the granitic portion of the Monlevade banded gneisses, found in a quarry on the fazenda Zé Raimundo on the road which follows the Piçarrão river from Nova Era to Sta. Maria de Itabira (Minas Gerais, Brazil) slightly zoned and foliated but discordant pegmatite veins up to 40 cm in width are very frequent.

The WR data of the granitic Monlevade banded gneiss and the pegmatite veins lie on a reference line of 1.9 Ga. This age corresponds to the major regional Transamazonian tectono-metamorphic event in which the granitic Monlevade banded gneiss got its actual texture and mineralogical composition. K-feldspar and the whole rock sample of the pegmatite veins are found on an isochron which indicates an age of only 480 ± 4 Ma [$(^{87}\text{Sr}/^{86}\text{Sr})_0 = 1.0900 \pm 3$; MSWD=0.2]. This age corresponds to the Brasiliano tectonothermal event which obliterated the Transamazonian mineral ages of the granitic Monlevade banded gneiss as well as of K-feldspar of the pegmatite veins. For the Brasiliano metamorphism temperatures between 462 and 612°C resulted from $\delta^{18}\text{O}$ thermometry on quartz/garnet/biotite. These temperatures are high enough to produce a rejuvenation of the Rb/Sr ages in feldspar.