

Structural Constraints In The Emplacement Of The Rio Doce Region Pegmatites, Minas Gerais State, Brazil.

¹NALINI JR., H.A., ¹ENDO, I. and ²MACHADO, R.
¹DEGEO/Universidade Federal de Ouro Preto, Ouro Preto, Brazil; ²IG/Universidade de São Paulo, São Paulo, Brazil.

The pegmatite bodies of the Rio Doce region is generally tabulate, with centimetric to decametric thickness and the main bodies show a good mineralogical zoning. The pegmatites are intruded parallel to the plane of the regional tectonic foliation (between N20°W/80°NE and N10°E/80°NW). This foliation was observed mainly in the biotite-quartz schist of the São Tomé formation and in the neoproterozoic granitoids of the Galiléia and Urucum suites. Several pegmatitic bodies are folded, boudinated and faulted. The isoclinal folded pegmatites (the less differentiated) possess a general Z geometry with fold axis around S80°E/50°. Cinematic studies suggest that such pegmatites was affected by dextral strike-slip movements characterizing the main deformation phase of the area. The boudinated pegmatites exhibit axis which are oriented sub-parallel to the foliation direction and dipping up to 20°. Some pegmatites intruded in the granitoids show an emplacement conditioned by ruptil-ductile normal faults. These structures characterize a later extensional deformation phase.

In conclusion, the main pegmatites of the region show structural characteristics compatible with those of the metasedimentary host rocks, suggesting a sin to late-cinematic emplacement. The emplacement of these bodies was conditioned by the activation of dextral strike-slip shear zones, with associated normal components, at the end of the sin-collisional peraluminous magmatism (between 584 and 570Ma) of the Brasiliano cycle.