

Title: Petrology and Geochemistry of migmatites and granitoids of Figueira de Castelo Rodrigo sector – Águeda River: lithological and structural evolution under the Juzbado-Penalva do Castelo Shear Zone context

Abstract

Figueira de Castelo Rodrigo – Lumbrales region, located in the Central Iberian Zone autochthon, presents a complex geological context, since due to the Juzbado-Penalva do Castelo Shear Zone (JPCSZ) partial influence the Figueira de Castelo Rodrigo – Lumbrales Anatectic Complex (FCR-LAC) exhumation, superimposing it to the lower degree units. A regional evaluation of the influence and evolution of the JPCSZ, essentially along the Marofa-Ahigal de los Aceiteros syncline, was carried out during the presented thesis. Integrating that analysis with the petrographic and the geothermobarometric data, it was possible to constrain the minimal pressure and temperature conditions for the anatectic complex formation to $T = 761 \pm 50$ °C for $P = 5.0 \pm 1.0$ kbar, with the anatexis being interpreted as the result of an important decompression episode. Later on, the JPCSZ might have obliterated the previous structures, playing essentially in a *simple shear dominated transpressive* regime.

Keywords: Central Iberian Zone, JPCSZ, FCR-LAC, Marofa, geothermobarometry, *simple shear dominated transpression*