

## GEOCHEMISTRY CHARACTERIZATION OF THE TIMBAÚBA COMPLEX, CENTRAL TECTONIC DOMAIN OF BORBOREMA PROVINCE, NE BRAZIL

*Ígneis de Pinho Guimarães<sup>1</sup>; Cícera Neyssi de Almeida<sup>2</sup>; Lauro César Montefalco de Lira Santos<sup>3</sup>; Lucas Henrique do Nascimento Silva<sup>4</sup>; Adejardo Francisco da Silva Filho<sup>5</sup>*

<sup>1</sup> UNIVERSIDADE FEDERAL DE PERNAMBUCO; <sup>2</sup> UNIVERSIDADE FEDERAL DO RIO DE JANEIRO; <sup>3</sup> UNIVERSIDADE FEDERAL DE PERNAMBUCO; <sup>4</sup> UNIVERSIDADE FEDERAL DE PERNAMBUCO;

<sup>5</sup> UNIVERSIDADE FEDERAL DE PERNAMBUCO

**RESUMO:** The Timbaúba complex comprises an E -W elongated intrusion of porphyritic to equigranular epidote-bearing biotite hornblende granodiorites to monzogranites, deformed under high-T conditions. Rounded to elliptical microgranular enclaves amphibole-rich clots, surrounded by coarse-grained amphibole and biotite and, quartz chunks, up to 30 cm long, were recorded. The Timbaúba complex is intruded into the Neoproterozoic metasedimentary sequence, including garnet bearing biotite gneiss and limestone both with Nd model ages in the 1.5 - 1.4 Ga range. Flat-lying foliation cut by late high-angle foliation is recorded in the complex and in their country rocks, suggest that these granitoids are related to the peak of regional metamorphism, associated with the flat-lying event. The studied granitoids have Na<sub>2</sub>O > K<sub>2</sub>O. They are metaluminous to slightly peraluminous with A/CNK 30. Trace element distribution patterns normalized to the chondrite show troughs at Sr, less pronounced Ti troughs and lower Y, Yb and Nb values, high LILE/HFSE ratios, resulting in a trace element distribution pattern characteristic of calc-alkaline arc granitoids. The Timbaúba granitoids are classified as PCOLG in the diagrams of Pearce (1996). However, as pointed out by Pearce (1996), the PCOLG are the most difficult to classify as some have subduction- like mantle sources, having many characteristics of volcanic arc granites, and others show within plate granite character. Interaction between mantle derived sources and crust tends to move the granite composition towards the volcanic arc field. In the Central Tectonic Domain of the BP, evidences for subduction of oceanic lithosphere are localized (Beurlen et al. 1992) and, the arc signature may be inherited from the source.

**PALAVRAS-CHAVE:** GRANITOIDS; BORBOREMA PROVINCE.