GEOCHEMISTRY OF PROTEROZOIC CHARNOCKITES FROM SOUTHEASTERN BRAZIL

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In the Guaxupe Massif (Sao Paulo and Minas Gerais states), the Sao Jose do Rio Pardo mangeritic suite (jotunites to hypersthene syenites with noritic and gabbroic enclaves) is part of the Pinhal batholith (with additional granitoids and migmatites) and corresponds to an alkali-calcic suite. A single-outcrop Rb/Sr isochron yielded and age of 843±34 Ma with initial $^{87}Sr/^{86}Sr$ ratio (R_0) of 0.7061±0.0004. In the Guaxupe Complex a variety of granulitic-charnockitic rocks occurs which still requires detailed field work for a better understanding of their nature. Preliminary data on the charnockitic migmatites of the Cantiere Quarry indicates they represent a mangeritic suite with basic enclaves with alkali-calcic trends and a single-outcrop Rb/Sr isochron age of 666±14 Ma (R_0=0.70708±0.00005). However, the Cantiere Quarry charnockitic migmatites may not be representative of all the charnockitic rocks of the Guaxupe Complex.

In the Paraiba belt (Sao Paulo and Rio de Janeiro states), the Ubatuba charnockites and hypersthene syenites have alkali-calcic trends and Rb/Sr ages of 546-558 Ma (R_0=0.7098-0.7117). The Bela Joana enderbites to charnockites with noritic enclaves correspond to a calc-alkaline suite with a Rb/Sr age of 603±13 Ma (R_0=0.7083-0.0005). The Itaperuna charnockitic migmatites are represented by a calc-alkaline suite of enderbites to charnockites with basic enclaves.

The Sao Jose do Rio Pardo, Ubatuba and Bela Joana charnockitic rocks appear to correspond to a CO_2-rich plutonism while the Itaperuna charnockitic migmatites are probably the result of an Upper Proterozoic charnockitization (by a CO_2 front) of older (Lower Proterozoic?) migmatized granitoids.

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