

## **The Canindé Domain: its different gabbroic rocks**

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The Canindé Domain is part part of the so called Sergipano Fold Belt, situated in the north-eastern region of Brazil.

Three Neoproterozoic magmatic pulses of gabbroic composition have been defined. Two of these pulses are considered to be coeval with the Novo Gosto and Gentileza basaltic volcanism, and a third is considered to have occurred later. Thus from the oldest to youngest pulse, the following generations are: (i) finely banded gabbro, with cumulate texture containing olivine (frequently as pseudomorphs) and with thin zones containing iron and titanium rich-minerals, generally in addition to hercynite and corundum. These intrusives are elongate, small and deformed. They are situated at the edge of an extensive zone of ductile shearing (gabbro with low  $K_2O$  and moderately high  $TiO_2$  and  $FeO^*$ ); (ii) gabbro and gabbronorite, medium to coarse grained, rich in magnetite, and forming bodies that may be of restricted and irregular occurrence, or locally forming extensive dykes (gabbro with high values for  $K_2O$ ,  $TiO_2$  and  $FeO^*$ ); (iii) gabbro with variable grain-size and composition (gabbro, olivine gabbro, gabbronorite, olivine-gabbronorite, troctolite and pegmatitic gabbro). These are medium-sized bodies, differentiated and without deformation (gabbro with low  $K_2O$ ,  $TiO_2$  and  $FeO^*$  values).

The occurrence of three generations of gabbro intrusion was observed during the course of recent geological mapping (1:50 000 scale) carried out in the Canindé area and confirmed subsequently by petrographic and petrochemical studies. The geotectonic model involved the formation of a rift; basaltic alkaline volcanism; gabbroic and granitic plutonism; and compressive deformation.