

THE PASSIRA META-ANORTHOSITIC COMPLEX AND ITS TECTONIC IMPLICATION, BORBOREMA PROVINCE, BRAZIL.

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The Passira Meta-anorthositic Complex occurs about 85 Km from Recife, The capital of Pernambuco State in Northeast Brazil. It forms part of the Rio Capibaribe Terrain in an area of the Borborema Province which is cut by the complex Paudalho and Limoeiro shear zones north of the major Pernambuco Lineament. The plutons which form the PMAC occupy a total of about 600 Km² and are hosted by gneisses and migmatites with a model Nd TDM age of 2.4 Ga and a Rb-Sr whole rock isocron age of 2.0 Ga, corresponding to the Tranzamazonian event. The age of the meta-anorthosites from a typical Proterozoic Massif has been determined by the U-Pb (zircon) method at 1.7 Ga, corresponding to the Jaguaribean event. The meta-anorthosites are cut by meta-granites dated within the interval 1.6-1.5 Ga. K-Ar (amphibole) and Sm-Nd whole rock isochron ages of mafic rocks of the complex are in the range 1.1-1.0 Ga, and may record reheating during the Cariris Velhos event, while an age of 597 Ma obtained by the U-Pb (zircon) method for the meta-intermediate rocks of the Passira Meta-anorthositic Complex along the Limoeiro shear zone records the influence of the Brasiliano event. The studied area has many of the features of the Grenville Province in which many predominantly anorthositic or gabbroic plutons host Fe-Ti-V mineralizations and are associated with granite intrusions.