

Cateté Intrusive Suite: an important target for exploration of Platinum Group Elements (PGE) in the eastern portions of the Brazilian Amazon

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The Cateté Intrusive Suite consists of a group of bodies (Onça, Puma, Jacaré, Jacarezinho, Carapanã, etc.) located in the south-western region of the Carajás Mineral Province. They are elongate bodies, some 10 to 25km long, striking N-S and E-W, following the regional structural trends. The bodies are roughly displayed around an ellipse, the longest axis of which is about 150km. The bodies are mafic-ultramafic, layered, anorogenic, intraplate, and intruded by Archaean rocks of the Xingu Complex and the Plaquê Granite. In general they consist, from base to top, of serpentinite, serpentinitized dunite, peridotite, pyroxenite, and gabbro (the most abundant). They are cumulate rocks, originating from the fractional crystallization of tholeiitic magma, not showing any evidence for metamorphism and deformation. Geochronological studies (Sm/Nd) carried out on samples from the Serra da Onça showed an age of 2.4Ma. Some of the several bodies studied showed anomalous geochemical values for PGE, which locally form PGE compounds containing Pt, Pd, Ir, Os, Cu and Fe. Chromite was found in several bodies disseminated in serpentinite and in chromitite. Sulphide mineralization (Ni-Cu-Fe) was observed in gabbro and serpentinite. The studies permitted the litho-stratigraphic and metallogenetic correlation between the Cateté Intrusive Suite to other layered intrusions, having deposits of PGE, such as the Bushveld Complex (Republic of South Africa) and Stillwater Complex (United States of America).