

## **THE STRATIFORM PLATINUM GROUP ELEMENT MINERALIZATION IN THE LOWER LAYERED SERIES OF THE NIQUELÂNDIA MAFIC-ULTRAMAFIC COMPLEX, CENTRAL BRAZIL**

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The Niquelândia Complex is a major layered complex located in central Brazil. The first stratiform PGE mineralization described in the large layered complexes in Brazil is presented here. The Niquelândia Complex comprises two distinct and tectonically juxtaposed magmatic systems called Lower Layered Series (LS) and Upper Layered Series (US). The LS is the older magmatic system and it is divided into a Lower Mafic Zone (LMZ), an Ultramafic Zone (UZ) and an Upper Mafic Zone (UMZ). The stratiform PGE mineralization (PGE reef) has been identified in the uppermost portion of the UMZ. The mineralization is associated to a sequence of cyclic units consisting of harzburgite, pyroxenite and gabbronorite. The circa 2 meters thick PGE reef has a Pt + Pd content of up to 1.5 ppm and is situated at the base of one cyclic unit. The reef is characterized by disseminated magmatic sulfides (pyrrhotite, chalcopyrite, pentlandite) and a strong correlation of Pt + Pd with S, Ni and Cu. Geological and petrological features observed in this PGE mineralization are similar to PGE reefs known in other layered intrusions. These features suggest the importance of new influxes of magma in the chamber and the sulfide segregation for the formation of the PGE reef in the UMZ of the Niquelândia Complex.