

## **THE CHROMITE DEPOSITS OF THE BACURI MAFIC-ULTRAMAFIC LAYERED COMPLEX, GUYANA SHIELD, AMAPÁ STATE, BRAZIL**

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The chromite deposits of the Bacuri Mafic Ultramafic Complex (BMUC) consist of 8.8 Mt. of ore grading 34% Cr<sub>2</sub>O<sub>3</sub>, representing the second largest reserves of chromite in Brazil. The BMUC is a major stratiform complex overprinted by ductile deformation and associated regional amphibolite facies metamorphism, intrusive into gneiss-migmatite terrains of the Guyana Shield. The BMUC consists of a Lower Mafic Zone, an Ultramafic Zone and an Upper Mafic Zone. Most of the chromite is concentrated in a thick single chromitite layer (average of 12 m), known as the main chromitite, located at the base of the Ultramafic Zone. Several thinner layers of massive chromitite are located within the Ultramafic Zone. Chromitites are generally massive with more than 60 vol. % of cumulus chromite. The chromite is mainly euhedral and fine-grained (average of 0.15 mm in diameter). The matrix of massive chromitite consists mainly of metamorphic silicates (serpentine, chlorite, tremolite). Chromite grains in massive chromitite have an homogeneous core and an alteration rim enriched in Cr and Fe<sup>2+</sup> and depleted in Al and Mg. Chromite exhibits significant compositional changes with stratigraphic height indicated by an upward progressive decrease in the Mg/(Mg+Fe<sup>2+</sup>) ratio, as well as by the progressive upward increase in the Cr/(Cr+Al) ratio, Fe<sup>3+</sup>/(Fe<sup>3+</sup>+Al+Cr) ratio and TiO<sub>2</sub> content. Olivine shows an equivalent trend of compositional variation. The compositional variation trends of chromite of the BMUC are similar to typical stratiform chromite deposits such as Bushveld and Great Dyke.