

## **The Cristalino Copper Gold Deposit, Serra dos Carajás, Pará.**

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The Cristalino Copper-Gold Deposit is located in the southeastern portion of the Carajás Mineral Province, being 25 km to the northeast of Canaã dos Carajás city.

The Cristalino deposit is situated along N-NW trending ridge that represents a secondary strike fault named Serra do Rabo. It is hosted by dioritic bodies; massive to foliated sheared basalts, andesites and volcanoclastics rocks intercalated with oxide iron formation belonging to the Grão Pará Group. Intense hydrothermal processes are characterized by introduction of large masses of Ti-poor Fe-oxides (magnetite) with less amounts of phosphates (apatite), Cu-Fe sulfides, and sporadic Au, U, Ag, Co minerals. Potassic and sodic alterations and Fe-metassomatism are consistently linked with the Cu-Au mineralization. Late silicic and sericitic alterations are reported. Se, Y, Co, Ni, P and La are also associated to the mineralization.

Brittle structures such as stockwork, veining and breccia containing sulfide minerals are commonly identified in the deposit. Disseminated sulfides are associated with dioritic bodies.

Chalcopyrite is the main ore constituent followed by magnetite, pyrite, cobaltite, milerite, vaesite and bravoite. The Cristalino copper-gold ore resources exceeds 500 Mt with grades around 1,0% Cu and 0,3 g/t Au, drilling is under progress.

The Cristalino deposit as well as other copper gold deposits found in the Carajás Mineral Province, like Salobo, Gameleira, Pojuca, Alemão, Sossego, Alvo 118, Águas Claras, have been correlated to the world-class Fe-Cu-Au-U-REE deposits to which Olympic Dam is the best known example.