

INTEGRATED AIRBORNE GEOPHYSICAL AND GEOLOGICAL STUDIES OF THE MUNDO NOVO GREENSTONE BELT, BAHIA, BRAZIL.

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The São Francisco Craton is 700,000 km² in size and was stabilized during the Transamazonian cycle. Archean and Paleoproterozoic granite-greenstone rocks and Paleoproterozoic high to medium grade mobile belts, constitute its basement. Thick Meso and Neoproterozoic detrital and carbonate metasedimentary sequences cover a large part of its basement. Neoproterozoic metasedimentary and metavolcanic sequences enclose the craton and their foliation verges towards it. Greenstone belts are scattered throughout the craton and show evolution from the Archean to the Proterozoic. Among these sequences is placed the Mundo Novo Greenstone Belt - MNGB, in the east-central part of the Bahia State, dated with 3.2Ga, and crosscutted by intrusive transamazonian granites (1.8Ga). In 1998, CBPM surveyed 1,530 km² in the southern part of the MNGB with high-resolution airborne TEM, MAG and GAMMA methods, along E-W lines 200 m apart, in a total 8,340 km length survey. The integrated interpretation of the geophysical and geological data led to the definition of 46 base metal and gold targets. Na important massive sulfide body with high Zn content is already delineated in the area. Furthermore the airborne geophysical data allowed the definition of the regional tectonic features, and mapping of the main structural trends. It also mapped lithotypes masked by a 50 m thick overburden, especially granites, mafic-ultramafics, metasediments and iron formations. This increased the litho-tectonic-structural knowledge of this part of the MNGB and improved the definition of its extension and metallogenetic potential.