

ABSTRACT

The area covered by the Itabira Sheet (SE.23-Z-D-IV) in the central part of the State of Minas Gerais is subtended between the meridians 43°00'W and 43°30'W and the parallels 19°30'S and 20°00'S. This programme of systematic geological mapping forms part of the Belo Horizonte-Serro Project, integrating the *Programa Levantamentos Geológicos Básicos do Brasil – PLGB*, being carried out by the Geological Survey of Brazil – CPRM.

The main objective of the Project is to organize the available geological information into an up-to-date geological and metallogenetic map at 1:100 000 scale. The regional geological and mineral integration followed the routine procedures set out by the CPRM, including preliminary systematic geological interpretation based on conventional aerial photographs (1:60 000 scale) and Landsat images (1:100 000 scale), in addition to geophysical integration.

The study showed that this crustal segment of the São Francisco and Mantiqueira tectonic provinces (*sensu* Almeida and Hasui, 1984) underwent polycyclic evolution from the Archean to the Quaternary. The role of the Archean Rio das Velhas gran-

ite-greenstone terrane as well as the Proterozoic Espinhaço rift in relation to the evolution of the São Francisco Craton is described in detail.

The Borrachudos Suite is exposed as large batholiths intruded into the Archean rocks of the Rio das Velhas granite-greenstone terrain, and is composed of metaluminous and peraluminous granite phases showing alkaline affinities. Its chemical A-type signature suggests either a late Paleoproterozoic post-collisional, or an early Mesoproterozoic pre-Espinhaço rift-opening history. Its pervasive fine banding and mylonitic textures imply solid-state, post-magmatic deformation overprinted subsequently on its cooling history, probably during the Neoproterozoic Brasiliano event.

A major Neoproterozoic NNE-SSW low-angle shear zone affects diagonally most of the units occurring as sheets, the Fundação-Cambotas Thrust System. The belt extends also to the SW into the Quadrilátero Ferrífero (Iron Quadrangle) area, and to NE reaching the Guanhanes region. Lateral and frontal ramps, quasi-coaxial folds are the more important tectonic features of the belt.