2000

1776+11

An overall view on the displaced terrane arrangement of the Borborema Province, NE Brazil

[1]SANTOS, E.J.; [2]BRITO NEVES, B.B.; [3]VAN SCHMUS, W.R.; [1]OLIVEIRA, R.G. and [1]MEDEIROS, V.C. [1]Geological Survey of Brazil - CPRM, Recife, Brazil; [2]Inst. GeosciÍncias, Univ. S„o Paulo - USP, S„o Paulo, Brazil; [3]Dept. Geol., Univ. Kansas, Lawrence, USA

The Borborema Province represents the central part of a wide Pan-African/Brasiliano fold belt formed by the convergence and collision of the São Luìs-West Africa and São Francisco-Congo cratons. New U-Pb and Sm-Nd data imply a picture outlining at least three main lithotectonic domains, named Northern, Transverse (Central) and External (Southern) subprovinces. This tectonic framework can be interpreted as a collage of displaced terranes assembled initially during late Paleoproterozoic episodes of rifting and anorogenic magmatism, preserved mainly in the Northern subprovince, that acted on previous Eburnean-Transamazonian landmasses. Subsequently a dramatic episode of extension in late Mesoproterozoic formed the embryonic Meso- to Neoproterozoic belts dominant in the Transverse and External subprovinces, south of the Patos lineament. Thus, the Northern subprovince involves accretionary and reworked Paleoproterozoic terranes, late Paleoproterozoic continental sequences, and Neoproterozoic supracrustal rocks and related granites with everything affected by the Brasiliano orogeny. The Transverse and External subprovinces are characterised by Grenville-age (Cariris Velhos) belts overlapped by Brasiliano/Pan-African belts, forming composite terranes. The Cariris Velhos belts formed by convergence between 1.0 and 0.95Ga, suggesting the presence of open oceans. The Brasiliano/Pan-African belts appear to have resulted in large part from transform-transcurrent shearing with associated fertile granitic plutonism, although convergent sutures may also be present. Comparisons within the Neoproterozoic West Gondwana realm show some affinity with the western African belts, except that the 1.0Ga signature of the NE Brazilian Province is missing. This may imply that some crustal segments of the Borborema Province traveled large distances.

IGC, 31., 2000, Rio de Janeiro. Astracts volume. RJ: CPRM, 2000. 1 CD-ROM.

476