

STRUCTURAL TRENDS IN THE PRECAMBRIAN FLOOR OF THE PARANÁ BASIN

MILANI, E. J. Petrobras, Rio de Janeiro, Brazil

The Paraná Basin records Late Ordovician to Late Cretaceous sedimentation and associated magmatism of western Gondwana. This vast interior sag developed over a mosaic of igneous and metamorphic complexes created by the amalgamation of Precambrian microplates during the Late Proterozoic to Early Paleozoic Brasiliano collage. The Brasiliano framework, in spite of being exposed all around the interior basin, is poorly known in subsurface. Recent integration of regional geophysical and geological informations led to a clearer picture on this issue; being large-scale vertical shear zones and sutured fold-and-thrust belts projecting from the outcropping regions, some of the most prominent features constituting the buried fabric below the Phanerozoic successions. Particularly the magnetometric data seem to reflect with a reasonable definition the major structural trends of the pre-Paleozoic basement. The tectono-sedimentary evolution of the Paraná Basin was remarkably influenced by recurrent reactivations of such crustal, deep-seated structural elements. The main set of Precambrian structures trends in a SW-NE direction; among them, the Rio Paraná mobile belt, located right in the central domain of the basin, exerted a decisive role during the inception of cratonic sedimentation in this region. Late Ordovician transtensional reactivation of this suture provided the accommodation space that hosted the initial strata of the Paraná Basin, as well as permitted the flow of the Três Lagoas basalt, a single known occurrence of intraplate Paleozoic magmatic rock in the region.