

MAGNETOSTRATIGRAPHY OF PASSA DOIS GROUP AND PIRAMBOIA FORMATION PARANÁ BASIN, BRAZIL

Aragão, M. 1; Scardia, G. 1

1 Universidade Estadual Paulista

ABSTRACT: The Paraná Basin is a wide intracratonic basin located in the central and southern Brazil, and in portions of Argentina, Paraguay and Uruguay. Its thick volcanic-sedimentary filling documents the evolution of Western Gondwana during Paleozoic and Mesozoic. The Passa Dois Group, part of the so-called Gondwana I supersequence, represents a complete transgressive-regressive cycle in the basin. The Piramboia Fm maintains the regressive tendency, although it had been formally positioned in a different group (São Bento Group). Rio do Rasto and Piramboia formations probably register the Permian-Triassic boundary in the basin, which represents the most massive extinction event in the Phanerozoic. However, available datings for the top of Rio do Rasto and Piramboia are divergent and do not allow a precise chronostratigraphic attribution. The Passa Dois Group units are constrained by local (or more rarely, global) biozones, especially of palynomorphs, plants and bivalves. Biozones are correlated to radiometric U-Pb dating of volcanic and detrital zircons from Irati Formation (278.4 ± 2.2 My), which lies at the base of the group and has wide and homogeneous distribution over the basin. Such features allow considering the Irati Fm a regional datum for stratigraphic correlations. It is important to remark that the units delimitation in Passa Dois and São Bento Group is based on lithostratigraphic criteria only, and when other aspects are taken into consideration (e.g. biostratigraphy, sequence stratigraphy), the interpretations among authors may differ. Paleomagnetism is then presented here as an alternative method to provide robust chronologic constraints for Upper Permian and Early Triassic succession of the Paraná basin. Samples from a core (FP-12-SP) drilled into the Gondwana I supersequence in the surroundings of Anhembi (SP) have been analyzed in order to build a magnetostratigraphic framework for the ultimate continentalization of the basin. This framework integrates paleomagnetism, biostratigraphy and absolute dating. As the bedding attitude in the core is sub-horizontal, only the inclination value of the characteristic magnetization could be used to outline the magnetostratigraphy. Results of this study will be discussed in terms of chronostratigraphy and paleolatitude variation for the Passa Dois Group and Piramboia Formation, highlighting the N-S lateral facies variation among the various stratigraphic units.

KEYWORDS: PARANÁ BASIN, PERMO-TRIASSIC BOUNDARY, MAGNETOSTRATIGRAPHY