

symoc J35J02J

Geophysical Research Abstracts, Vol. 5, 05541, 2003
© European Geophysical Society 2003



PALEOMAGNETIC STUDY OF THE MESOPROTEROZOIC AGUAPEI GROUP, WESTERN MATO GROSSO STATE, AMAZONIAN CRATON

M. S. DAgregella-Filho (1), S.-A Elming (2), I. G. Pacca (1), R. I. F. Trindade (1), M. C. Geraldes (3) and W. Teixeira (4)

(1) Institute of Astronomy, Geophysics, and Atmospheric Sciences, São Paulo University, São Paulo, SP, Brazil, (2) Technical University of Lulea, Lulea, Sweden, (3) Faculty of Geology - UERJ, Rio de Janeiro-RJ, Brazil, (4) Institute of Geosciences, São Paulo University, São Paulo, SP, Brazil. (dagrella@iag.usp.br)

The Aguapei basin from Central-Western Brazil (Amazonian Craton) has been interpreted as a NNW/SSE aulacogen associated with the development of the WNW-trending Sunsas Belt. Proterozoic reconstructions have considered the Sunsas belt as a counterpart of the Grenville belt produced during the Laurentia-Amazonia collision at the end of the Mesoproterozoic (1300-950 Ma). Samples from 51 layers of sediments from the Aguapei Group have been collected for paleomagnetic studies. Twenty five levels are sub-horizontal while the remainder have variable inclinations, and were collected for a fold test. Alternating field and thermal demagnetizations on the sub-horizontal sediments yielded a northern (southern) direction with a moderate to steep upward (downward) inclination. This magnetization is generally carried by magnetite in light to dark grey sediments, and by hematite in red sediments. Most of the grey sediments have acquired its magnetization during reverse (downward) polarity while the red ones present a normal (upward) polarity. Preliminary mean directions for normal ($Dm=339.3^\circ$, $Im=-58.4^\circ$; $a95=9.4^\circ$, $K=22.5$, $N=12$) and reverse ($Dm=205.2^\circ$, $Im=57.8^\circ$; $a95=9.3^\circ$, $K=52.8$, $N=6$) polarities yielded poles at $153.1^\circ E$, $58.1N^\circ$ ($A95=11.9^\circ$) and $263.8^\circ E$, $-57.5^\circ S$ ($A95=12.7^\circ$), respectively. They plot in-between the recently obtained 1.2 Ga Nova Floresta pole and the pole obtained for mafic rocks (sills) that cut the Aguapei sediments (DAgregella-Filho et al., this volume).

Our results suggest an Amazonia-Laurentia collision after 1.2 Ga.