

SOME PALEOMAGNETIC CONSTRAINTS ON THE PALEOGEOGRAPHIC AND TECTONIC EVOLUTION OF THE RIO DE LA PLATA CRATON IN VENDIAN TO CAMBRIAN TIMES

1RAPALINI, A.E., 2SANCHEZ BETTUCCI, L. and 3RAPELA, C.W. 1 Departamento de Ciencias Geológicas, F.C.E.y N., Universidad de Buenos Aires, Buenos Aires, Argentina; 2 Universidad de la República, Montevideo, Uruguay; 3 C.I.G., Universidad Nacional de La Plata, Argentina.

The assembly of Western Gondwana was apparently a complex process that involved the accretion of several cratonic nuclei. Among these, the Rio de la Plata Craton (RP) is a minor block located in southern South America. Paleomagnetic data from Late Proterozoic - Early Paleozoic rocks would be of significant impact to determine its kinematic and paleogeographic evolution. In order to determine reliable paleomagnetic poles for RP a joint research project is underway. Paleomagnetic studies have been carried out in Vendian to Cambrian rocks in Uruguay and the province of Buenos Aires, Argentina. Results from the Sierra de Animas magmatic complex (ca. 560-500 Ma) and red claystones from Sierra de los Barrientos (Las Aguilas Fm.?, Vendian?) yielded three paleomagnetic poles: SA1 (ca. 520 Ma), SA2 (ca. 560 Ma) and SB1 (Vendian?). All three poles are consistent with a single apparent polar wander path for an already assembled Gondwana, suggesting that RP was already part of this supercontinent by late Vendian times. Paleomagnetic poles from older units suggest different interpretations, but in any case point to relatively important paleogeographic changes for RP in the latest Proterozoic. Comparison of paleomagnetic data from RP with those from other neighbouring cratons has been generally hampered by low quality of the data as well as age uncertainties.