



Proceedings of the
6th Latin American Congress of Sedimentology

July 2013

University of São Paulo, Brazil

Editors

Carlos H. Grohmann, Claudio Riccomini, Dilce de Fátima Rossetti, Renato Paes de Almeida, André Oliveira Sawakuchi, Lucas V. Warren, Adilson Soares, Fernanda Quaglio, Paulo Cesar Fonseca Giannini, Thomas Rich Fairchild, Giorgio Basilici, Mario Luis Assine



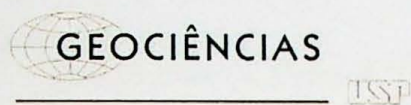
This volume was published with financial support from FAPESP
Grant #2013/09615-8 São Paulo Research Foundation (FAPESP)

“As opiniões, hipóteses e conclusões ou recomendações expressas neste material
são de responsabilidade do(s) autor(es) e não necessariamente refletem a visão da FAPESP”

Organization



Realization



Núcleo
São Paulo



Support



Secretaria de
Geologia, Mineração e
Transformação Mineral

Ministério de
Minas e Energia



Sponsors

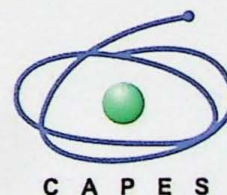
Bronze quota



Grant #2013/09615-8 São Paulo
Research Foundation (FAPESP)



Conselho Nacional de Desenvolvimento
Científico e Tecnológico



The Água Bonita Basin: an Early Paleozoic transcontinental seaway in central Brazil

Marília Pulito de Aguiar^{1,2*}, Claudio Riccomini^{1,3}, Marlei Antonio Carrari Chamani^{1,2}, Carlos Henrique Grohmann^{1,3}

¹Núcleo de Pesquisa em Geodinâmica de Bacias Sedimentares e implicações para o potencial exploratório (petróleo, gás natural e água subterrânea) - GEO-SEDEX / Instituto de Geociências, Universidade de São Paulo, Brazil.

* *marilia.aguiar@usp.br*

²Scholarship of Conselho Nacional de Desenvolvimento Científico e Tecnológico - CNPq, Brazil.

³Research fellow of CNPq, Brazil.

The Agua Bonita Basin is located in central Brazil, halfway between the large Paraná and Parnaíba intracratonic basins. With about 10 km wide and 90 km long, the basin follows the general NE-oriented trend of the Transbrasiliano Fault System (TBFS). A recent investigation of the basin has revealed facies distribution consistent with a marine incursion from northeast to southwest, an idea corroborated by paleocurrent data, which preferred orientation parallels the orientation of the basin suggesting that sediment transport followed a trough controlled by the TBFS. The sedimentary fill of the basin was divided into two units: the Agua Bonita Formation, a basal, essentially rudaceous-psammitic unit with aeolian, transitional and marine deposits, partly under glacial influence; and the overlying, pelitic, Vereda Verde Formation, with deltaic and marine deposits. In the region of the basin occurs the Araguaçu Formation, with glacial diamictites, which are also related to the new recognized occurrence of a subglacial pavement. The two units of the Água Bonita Basin were considered as correlated to the sequences of the Ordovician-Silurian cycle of the Paraná (Rio Ivaí Group) and Parnaíba (Serra Grande Group) basins, while the Araguaçu Formation as a record of the Permo-Carboniferous glaciation, as suggested by the sense of movement of the glacier. The presence of marine sediments corroborates the idea that this tectonic depression in central Brazil has been a transcontinental seaway which connected the north and south coasts of Gondwana during the Llandoveryan marine transgression, in congruence with previous models supported by paleofaunistic data.