

RECORD OF EXPLOSIVE VOLCANISM IN THE EARLY PERMIAN OF THE PARANÁ BASIN, PARANÁ STATE, BRAZIL

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Evidence of volcanic activity in the southwestern Gondwana paleocontinent in the Permo-Carboniferous interval has long been reported in the literature, with deposits described in basins from Argentina, Brazil, Namibia, among others. Although the age of these deposits is not exactly the same, in general their provenance is related to the orogenies that took place in the western border of the paleocontinent. In the Paraná Basin, volcanic deposits (5 to 10 cm-thick) intercalated with Itararé, Guatá and Passa Dois groups are widely known, mainly associated with coal deposits of the Rio Bonito Formation (Guatá Gr). This contribution presents new evidence of explosive volcanic activity recorded in early Permian Triunfo Member of the Rio Bonito Formation, in the Figueira locality, Paraná State, southern Brazil. In this area, the Itararé Group is capped by the postglacial Rio Bonito Formation by means of a subaerial unconformity. The Triunfo Member (lower Rio Bonito Formation) encompasses an alternation of siltstones, shales and coal beds, within which the volcanic deposit here studied occurs. It is a laterally continuous, extremely compacted bed, c. 20 cm-thick and brownish gray in color. The beds may be homogeneous with well-defined upper and lower boundary or may appear heterogeneous, when containing external material within them and the both boundaries are poorly delineated. Macroscopically, the rocks present millimeter- to centimeter-scale horizontal lamination/banding and contains flattened black material that make up about 5 to 50% of its volume, immersed in a brownish gray aphanitic matrix. Furthermore, were observed sigmoid-like shapes and small-scale folds. Preliminary microscopic characteristics of these rocks are: horizontal lamination locally displaying flow folding, flattened amygdaloidal texture, shards, fiammes, devitrification texture in the form of perlites, and finer grained matrix (altered volcanic ash). Therefore, the layered/banded arrangement can be denominated eutaxitic texture, resulting from compaction and flattening of volcanic fragments. These features allow designating the material as welded ignimbrites and infer its genesis through a pyroclastic flow followed by explosive fragmentation of silicic magma during the volcanic eruption. Future X-ray fluorescence analysis will be carried out to determine chemical magma composition and scanning electron microscope will be employed to refine the textural description.

KEYWORDS: IGNIMBRITE, PARANÁ BASIN, PERMIAN.