

A TECTONIC FOLDS IN IRON CRUSTS

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Folds in iron crusts are described and characterized in three different study areas. Two inserted in the Tertiary São Paulo Basin, São Paulo-SP; and the third located in Pirapora do Bom Jesus-SP, Brazil. The objective of this study was to verify the folded iron crust genesis, checking the hypotheses of origin by tectonic or geochemistry process. The iron crusts present textural organization, similar chemical and mineral composition, although they are located in different rocks and in different geologic setting. They are constituted basically by iron hydroxides. Diagram trend show a geochemical evolution linking both sedimentary host-rocks and iron crusts composition, suggesting have by geochemical origin. These iron crusts were formed by remobilization and concentration processes of iron oxides and hydroxides, originated by the descending meteoric water and groundwater level oscillation, related to seasonal climatic variations and relief ascending movements. It was not possible to establish correlation between the studied areas structural data with tectonic fold or regional deformation patterns, indicating the origin of iron crusts pseudo-folded is not directly related to tectonic processes in agreement with geochemical results. In addition, fractures in Pirapora outcrop are due regional lineaments tectonic reactivation, which were conditioned by water flow, allowing iron oxides and hydroxides precipitation inside the fractures. Grieves-type structures were formed by iron oxides and hydroxides precipitation oblique to the fractures. The group formed by the juxtaposition of those grieves-type structures delineates the pattern and feature of folded iron crusts observed in this outcrop.