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ABSTRACTS OF PAPERS

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**THE GENESIS AND EVOLUTION CONDITIONS OF THE
PORTO TROMBETAS BAUXITE DEPOSITS IN
AMAZON BASIN, PARÁ - BRAZIL**

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The Porto Trombetas bauxites deposits, located in the Amazon Basin, have a very important reserve, estimated in more than one thousand million tons. These deposits occur on high dissected plateaux with altitudes varying between 160 and 190 m. The very homogeneous profile shows the following sequence of horizons, from the top to the bottom :

- a clay loose horizon without stratifications
- a nodular bauxite horizon with porcelain - like gibbsite
- a hematite-gibbsite ferruginous nodules horizon
- a porous and vacuolar bauxite horizon with saccharoidal gibbsite and hematite
- a base clay with aluminous and ferruginous nodules

The origin of the clay loose horizon (named "Argila de Belterra") and the bauxite parent rock are the two problems treated in this study.

- 1) According to the petrological and geochemical characteristics, the upper clay horizon would be a result of the degradation of an older bauxitic ferralitic profile with the leached alumina accumulating in the underlying nodular bauxite. The whole profile can be considered as a result of an "in situ" evolution.
- 2) The bed rock is generally considered as part of the formations of the Barreiras Serie, deposited up to the upper Tertiary. But the thickness of the bauxitic deposit, including the upper clay horizon, leads to consider a long geological history that would have started in the

Eocene. Consequently, it appears to be reasonable to consider that the bauxites were developed from the Alter to Chão Formation which age is Upper Cretaceous, may be Aptian-Turonian.

The results lead to the conclusion that the deposit is constituted by two superimposed profiles with an evolution closely related to the morphoclimatic factors affecting the Amazon Basin during a period lasting from the Upper Cretaceous up to the present.