

## **Genesis and Evaluation of Peats from Alpiarça, Portugal**

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This work entails the physico-chemical and petrographic study of peat samples drawn from "*organic rich clay levels containing organic matter*" from Paúl da Goucha (Alpiarça, Portugal). The objectives included contributing to the knowledge of lacustrine systems and the attempt to establish the characteristics of the peats in light of their potential use as soil additives. In light of the above, the petrographic study is a complement to the geochemical investigations.

The physico-chemical study entailed primarily the determination of moisture, ash, carbon, nitrogen, hydrogen, total sulphur, organic matter, phosphorus, potassium, sodium, density and pH, as well as the determination of minor and major elements. The petrographic analyses included microscopic evaluation of the degree of decomposition of the organic constituents present in the samples (established by analysis in fluorescent light).

The geochemical data permits to draw the conclusion that a "seam" of peat exists, in the center of the Paúl da Goucha basin, at a depth that varies between 4m and 9m. The fact that this "seam" is so located is explained by the fact that in this zone the currents are characterised by low hydrodynamic energy thus facilitating the deposition and accumulation of organic and clay material brought in from the margins. This system corresponds to a Low - Peatland, typically rich in minerals (as established by the ash) and which had its formation interrupted by sedimentation.

In terms of palaeoenvironments, the results indicate that the area may correspond to a milieu with high water input that would facilitate the development of a rich and diverse flora which are characteristic of humid environments.