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Thermal Andosils of Terceira island (the Azores)

J. Pinheiro, J. Madruga and L. Matos

Departamento de Ciências Agrárias – Universidade dos Açores, Terra Chã, 9700 Angra do Heroísmo, Portugal (jpinheiro@angra.uac.pt / Fax: +351 295 402205)

1 The volcanic nature of the Azores islands determines that hydrothermal activity occurs at surface in some localized spots, generally associated to gas emissions of varied chemical composition, and exerting a direct influence on pedogenesis. In the hydrothermal Furnas field (Terceira island) and its vicinities we studied two pedons, distant from each other not more then 50 metres, developed from the same parent material (basaltic lapilli) and showing a similar horizon sequence, being only one of them under present hydrothermal influence as observed from profile temperatures and gas emissions. The analytical results from these two pedons show some dramatic differences concerning the weathering degree as inferred from particle size distribution. The "thermal" pedon also shows drastic base depletion (aqua regia extracted) as compared to the non-thermal one. Acid oxalate extractable Al and Si also have an intense decrease in the C horizons of the "thermal" soil which, consequently, has low contents of allophonic materials.

2 Possible taxonomic implications of the hydrothermal effects are also addressed.