
Electron Microscopy and X-ray Analysis of Lacustrine Clays from the Charo Canyon, State of Michoacán, Mexico

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Abstract: In this paper we analyzed by electron microscopy and X-ray diffraction (XRD) the exposed lacustrine clay in a stratigraphic column at Charo Canyon, State of Michoacán, Mexico. Smectite, cristobalite, albite and quartz are the main mineral species in the sediments. Smectite is the most abundant and has a nanometric twinned small particle habit. The low crystallinity of the smectite detected in some of the samples seems to be associated with instability of the paleohydrological regime in which clayey material was deposited. Iron from underlying volcanic ash is apparently responsible for the iron concentration detected in the smectite structure.

Key Words: Clays • Electron Microscopy • Geology • X-Ray Analysis

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