

Diatoms, Radiolarians and Silicoflagellates biostratigraphy and clay mineralogy of Cenozoic sediments from NAUTIPERC cruise (off Northern Peru, 5-11°S).

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Datings with siliceous microfossils (Diatoms, Radiolarians and Silicoflagellates) and reveal ages ranging from Miocene to Quaternary. Report of ages on a map evidences that 1) the middle slope area off Païta (5-6°S) is a wide anticline instead of a tilted block as previously proposed from SEABEAM and MCS data, 2) a post-Pliocene erosion. Microfossils generally are of south equatorial Pacific affinities but some Radiolarians clearly have a North Pacific origin.

The clay minerals investigated from soft and indurate sediments constitute a detrital association reworked from poorly-weathered South Andean mountain rocks. A slight latitudinal differentiation determined by changes in source areas is superimposed to this basic composition, southern zones (Mendana, Chimbote) being enriched in illite and chlorite, and northern zones (Chiclayo, Païta) in smectite. In addition sharp differences locally mark the clay mineral composition : 1) Most of them consist in high amounts of crystalline smectite which do not clearly depend on the presence of ash, specific age (Miocene to Pleistocene), landslides or tectonic activity, and probably result from occasional halmyrolysis or fluid migration. 2) A few hard rocks contain abundant minerals such as illite and chlorite in sandstones, shales and breccias (Chiclayo zone), smectite in limestones to sandstones (Chiclayo; Païta), or subregular illite-smectite mixed-layers and illite in siltstones (Païta); such particular assemblages characterize old rocks of Palaeozoic and younger age cropping out on the Andean continental slope.