Shallow-marine facies of the Orange Walk group, Miocene-Pliocene, northern Belize (Central America)

Shoreline facies of the informal Orange Walk group crop out at the San Pablo Town section 1 in the Orange Walk District of Belize. These calcareous sands display a vertical sequence ranging from bioturbated fine sand (at the base), to low-angle cross-laminated (pectinid-bearing) fine sands, to cross-laminated and clast-bearing fine-medium sands. A very coarse, imbricated, oyster-laden coquina unit caps these sands, and is overlain by a gypsum-bearing, grey clay layer. We interpret this sequence as a regressive barrier island succeeded upward by a lagoon containing debris beds shed from a nearby reef. Coeval strata consisting of marl and marly limestones with sparse fossils and dense marly limestones with abundant bioturbation and coral fragments crop out at numerous sections located up to 20 km north of the San Pablo Town section 1. Even farther north (~25 km north of San Pablo Town), at Ranchito Government School and airport road sections, large masses of in-situ and variously oriented intact coral masses (Montastrea?) occur within a matrix of soft white limestone. Taken together, all these stratigraphic sections provide a coeval facies transect in the upper part of the Orange Walk group extending from shoreline, to offshore carbonate shelfal lagoon, and ultimately to coralline buildup (reef). The depositional strike of this paleo-shoreline was roughly north-northwest and may represent the last major inland incursion of the Caribbean upon this low-lying platform, as there is no evidence of overlying Quaternary marine units in this inland region of the present Yucatán platform.