

STRUCTURE AND GROWTH OF THE CAPE TRIBULATION FRINGING REEFS  
- PRELIMINARY CONCLUSIONS

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ABSTRACT

During May and June of 1986, nine boreholes were drilled into three fringing reefs near Cape Tribulation (16°05'S, 145°28'E). Maximum depth drilled was 8.3 metres, and cores from the boreholes reveal a fluvial fan gravel foundation. Petrographic study of thin sections of core material indicates both aragonite and high-magnesian calcite cements. Samples recovered show no extensive recrystallization of aragonitic skeletal constituents. This evidence implies that the reefs have not been exposed subaerially for a significant period of time, and are probably younger than Pleistocene age. Sample recoveries range from 25 to 40 percent of total depth drilled. From top to base, the typical vertical sequence is algal veneer, coral framestone, mixed terrigenous-carbonate detritus, basal coral framestone and gravel foundation. Surveying of the reefs shows an average reef front elevation of .5 metre above Mean Low Water Springs. This data, plus the paucity of live coral growth on the reef flat in favor of ~~coralline algae~~, indicates a ~~slightly higher past~~ sea level or isostatic adjustment. \_\_\_\_\_

The project is ongoing, with chronology of reef growth to be determined by radiocarbon dating and radiographic banding study.

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