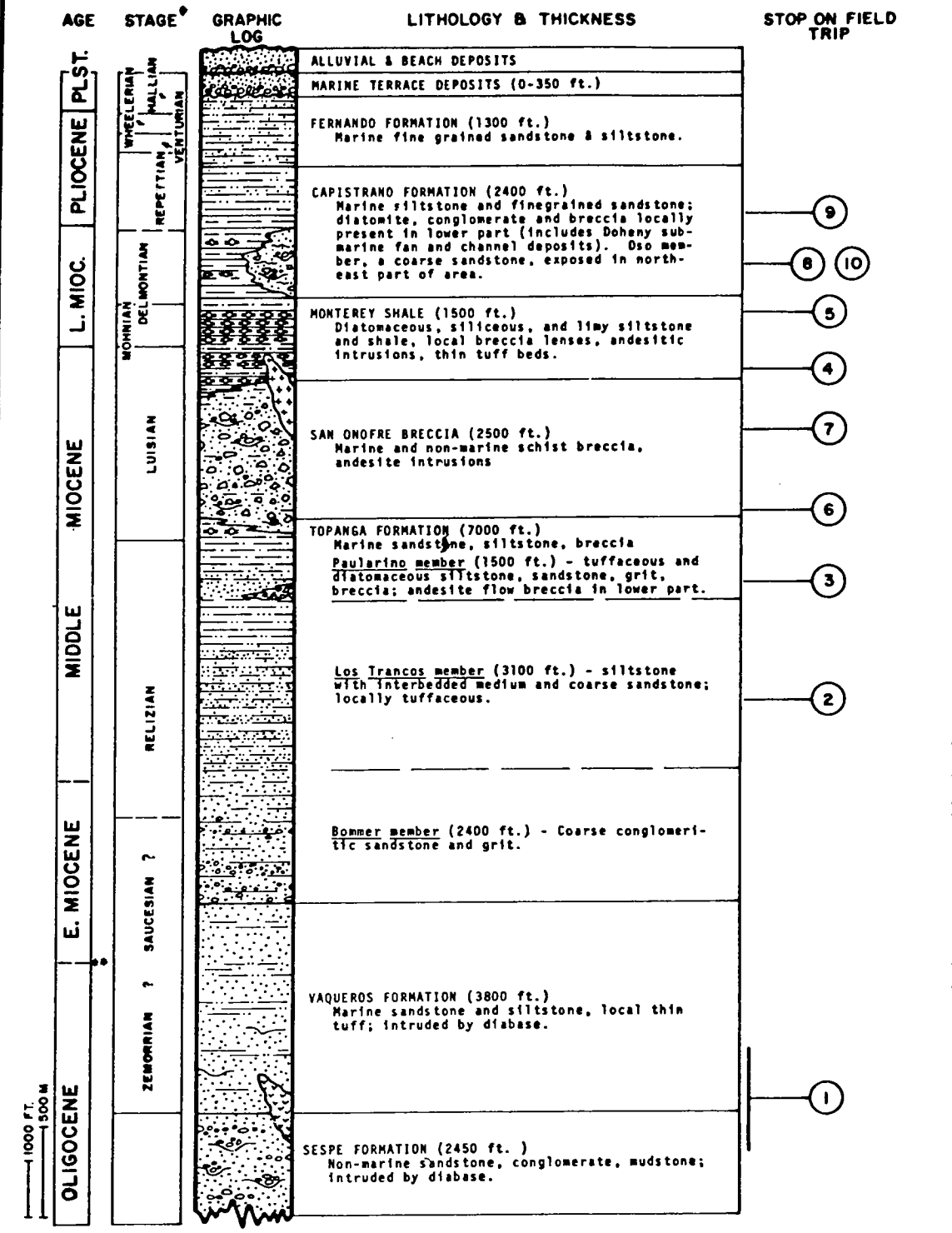


NEOGENE STRATIGRAPHIC COLUMN SAN JOAQUIN HILLS AREA, ORANGE COUNTY, CALIFORNIA



* STAGES OF KLEINPELL (1930) AND NATLAND (1952,1957)
 ** SOME AUTHORS PLACE THE BASE OF THE MIOCENE AT THE BASE OF THE ZEMORRIAN

FIGURE 2 - NEOGENE STRATIGRAPHIC COLUMN FOR THE SAN JOAQUIN HILLS AREA, ORANGE COUNTY, CALIFORNIA. COMPILED AND MODIFIED FROM DATA IN YERKES, McCULLOCH, SCHOELLHAMER, AND VEDDER (1965).

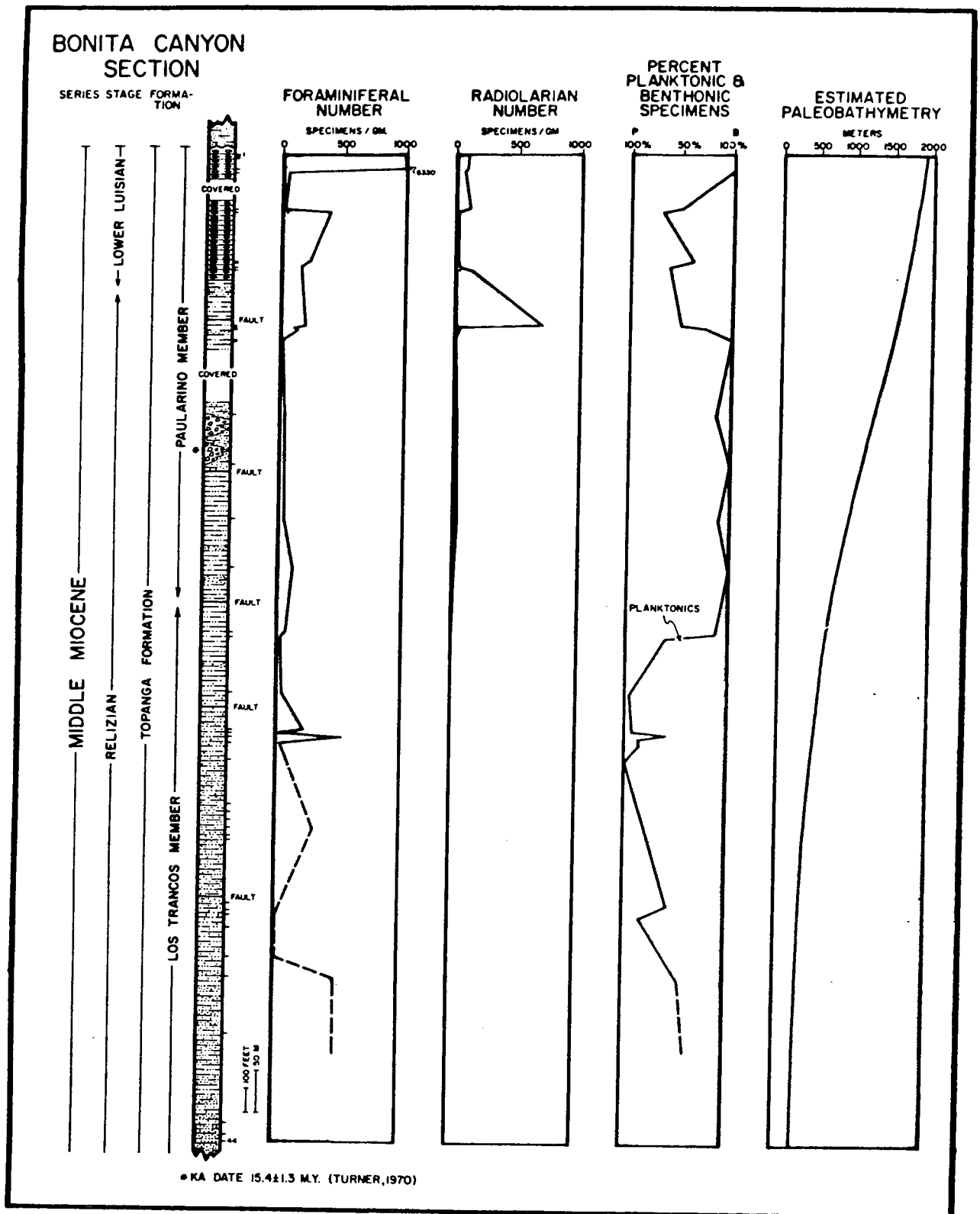
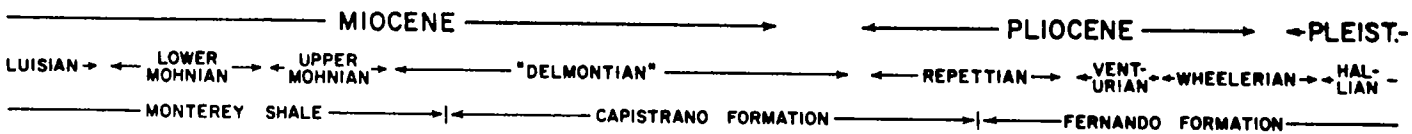


FIGURE 6 - Gross foraminiferal and radiolarian trends and estimated paleobathymetry within the Topanga Formation exposed in Bonita Canyon, Orange County, California. Solution and/or recrystallization of foraminiferal tests is extensive in major portions of this section, consequently trends illustrated should be viewed as best estimates.

NEWPORT BAY SECTION

SERIES STAGE FORMATION

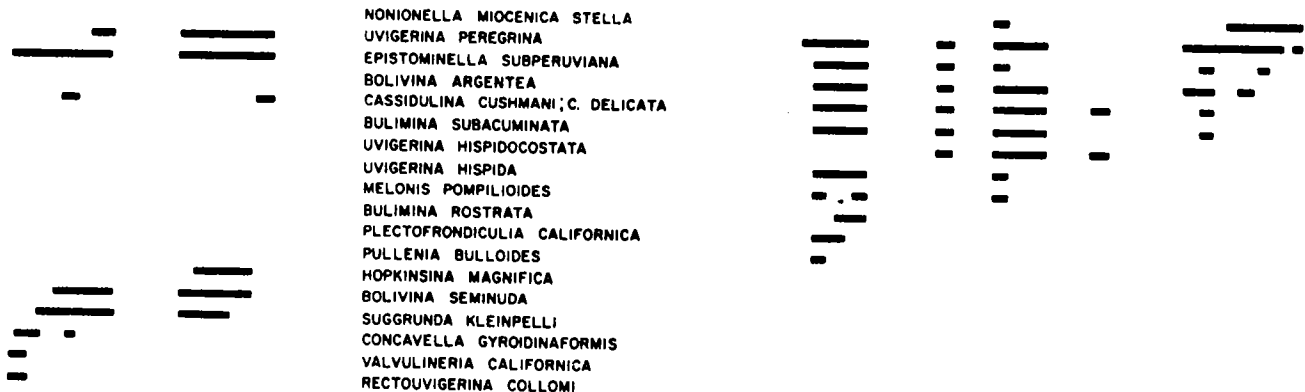
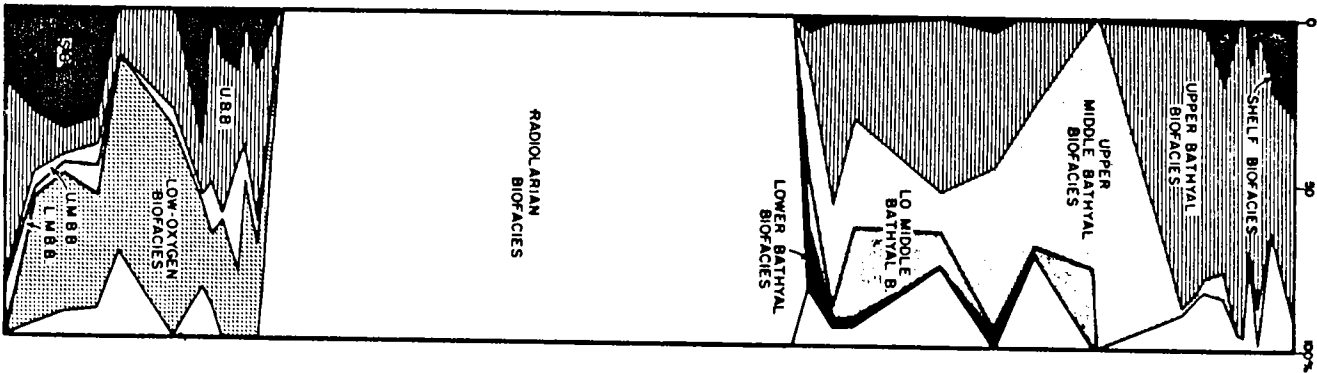


100 FT
50 M.



BENTHONIC FORAMINIFERAL BIOFACIES

CUMULATIVE PERCENT



ESTIMATED PALEOBATHYMETRY

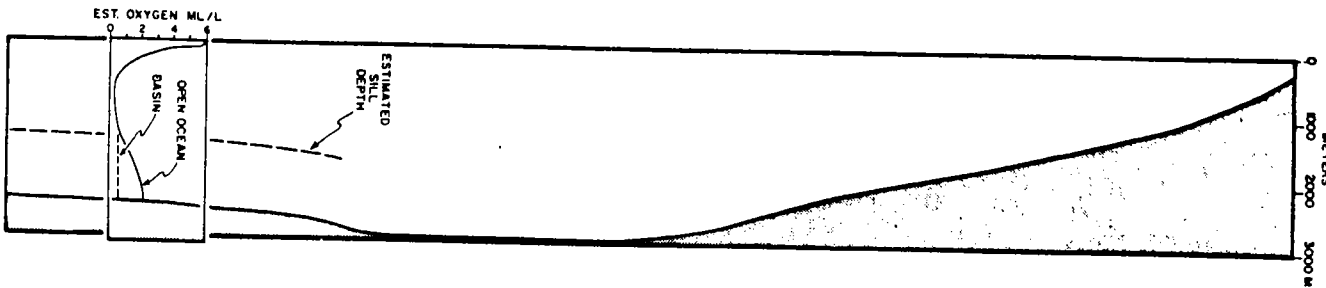


Figure 9 — Stratigraphic variation of benthonic foraminiferal biofacies, absolute ranges of selected species of benthonic foraminifera, and estimated paleobathymetry within the Newport Bay section, Orange County, California.

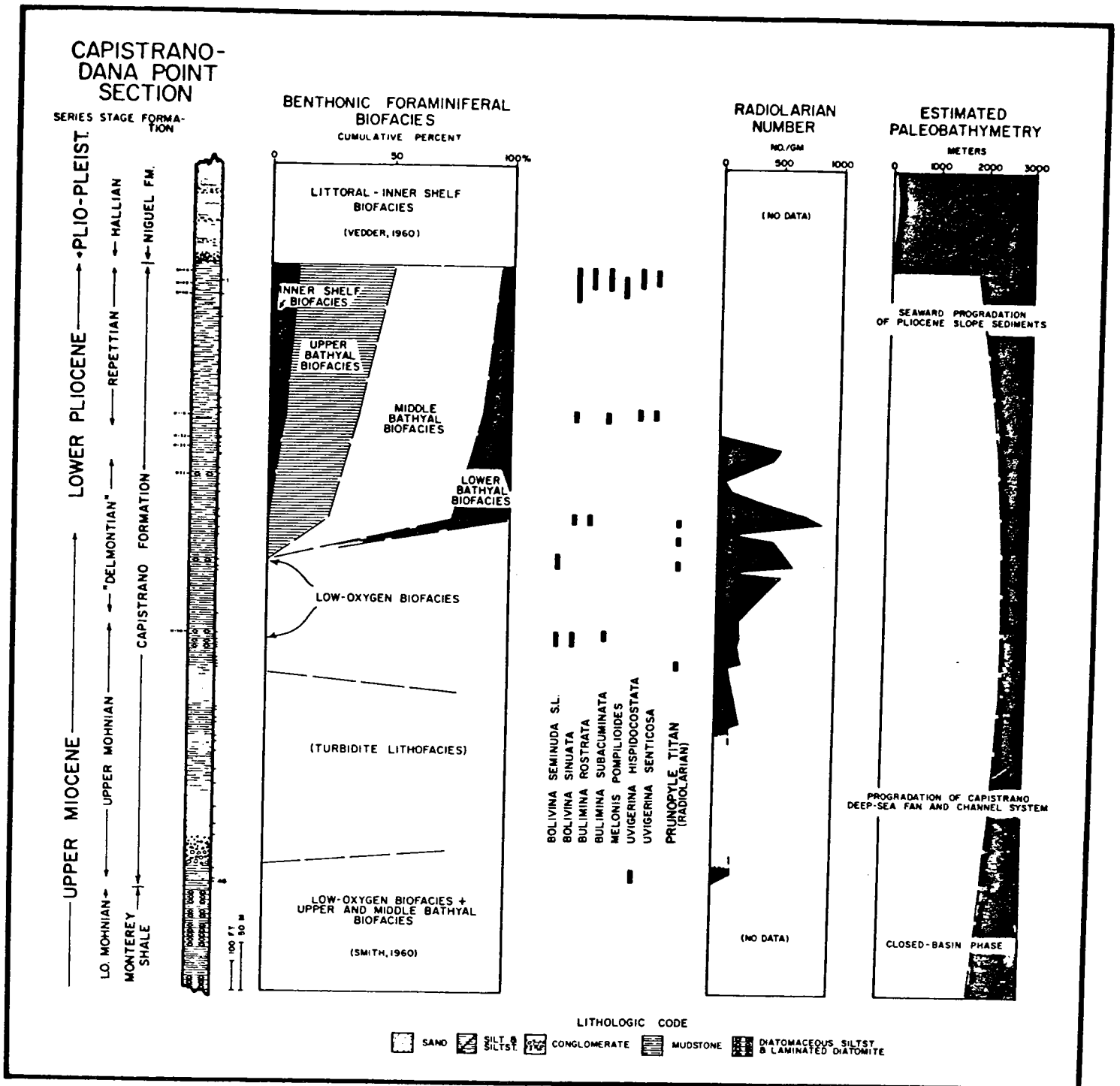


Figure 11 — Stratigraphic variation of benthonic foraminiferal biofacies, ranges of selected species of benthonic foraminifera and the radiolarian *Prunopyle titan*, variation of radiolarian number, and estimated paleobathymetry within the Capistrano - Dana Point section, Orange County, California. Microfossil samples collected during this study are marked on the right side of the stratigraphic column whereas selected samples reported by White (1956) are marked on the left side of the column. See tables 1 and 2 for details of microfossil occurrence and abundance.

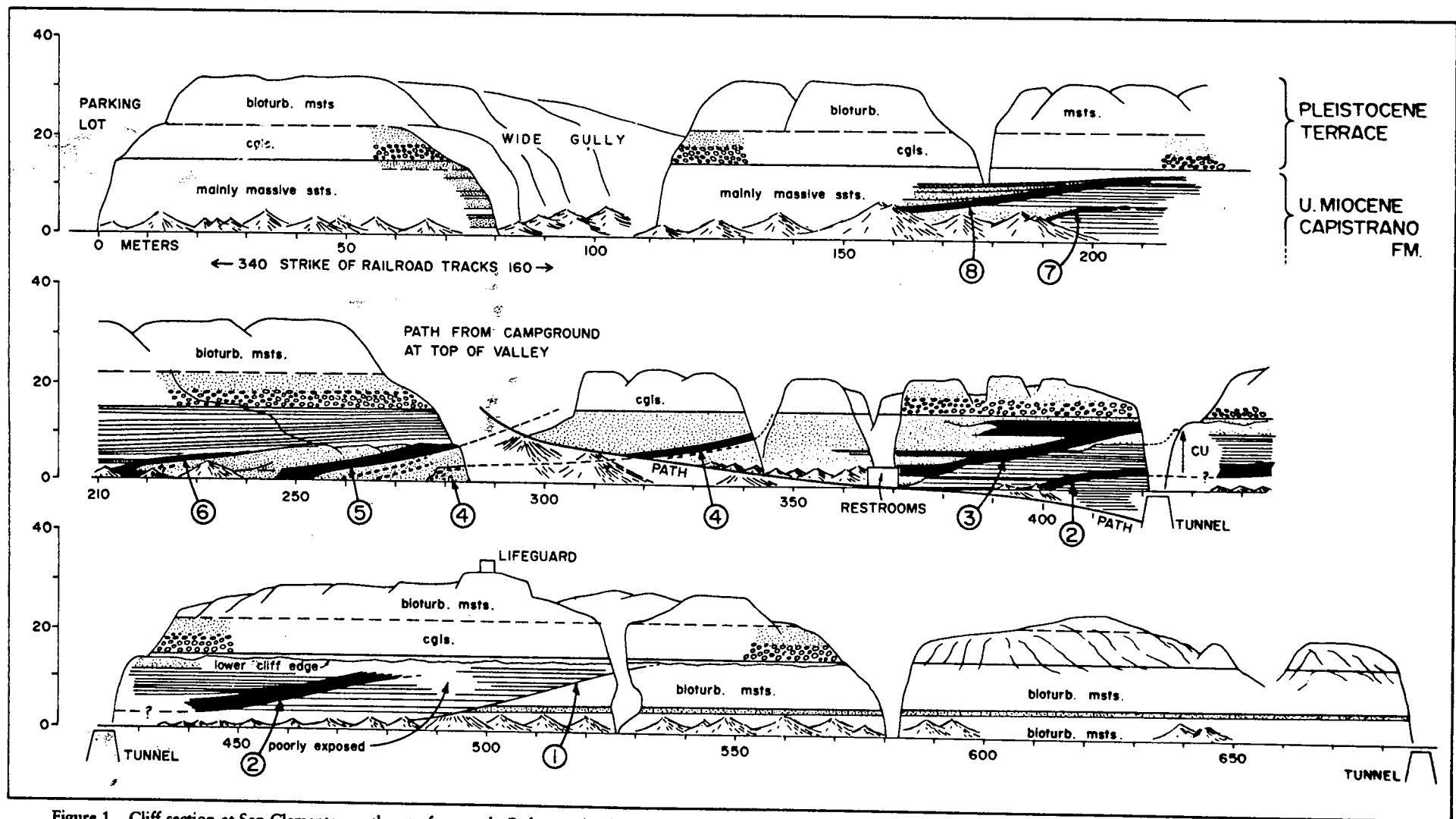


Figure 1. Cliff section at San Clemente, southeast of car park. Reference level is railroad track, which strikes 340° to 160° . Circled numbers indicate individual channels (discussed in text).