

particularly noxious materials such as high-level radioactive wastes.

DONALD S. MARSZALEK, Univ. Illinois, Urbana, Ill., and Inst. Marine Sci., Miami Univ., Miami, Fla., RAMIL C. WRIGHT, Beloit College, Beloit, Wisc., and WILLIAM W. HAY, Univ. Illinois, Urbana, Ill., and Inst. Marine Sci., Univ. Miami, Miami, Fla.

FUNCTION OF TEST IN FORAMINIFERA

Although the tests of foraminifers are used extensively by paleontologists as paleoecologic indicators, very little is known of the ecology of modern foraminifers, and virtually nothing is known of the function of the test.

Investigation of test-protoplasm relations have been hampered by lack of suitable techniques for making meaningful observations. Now the scanning electron microscope provides a means of examination of the test on a scale which permits understanding of spatial relations of the test and the living organism. Coupled with experiments and observations on specimens in laboratory culture, the information yielded by studies of test structure and of fixed, frozen and dried protoplasm suggests a general theory of test function.

1. The most primitive tests are constructed of arenaceous material to provide weight to counteract buoyancy of the protoplasm. The simplest arenaceous tests seem to serve only this function.

2. The test upon elaboration into a long tube or series of chambers separated by narrow openings, serves as an effective barrier to retard the effects of unfavorable changes in environmental chemistry.

3. Further specialization may adapt the test for growth under special physical conditions, such as a certain substrate, or for particular symbiotic conditions, such as the greenhouse function of the test of *Elphidium*.

The role of the test as a protective device against predation is not understood, but may account for some specialized forms.

The great variety of test form in the foraminifers suggests that many taxa are particularly well adapted for specialized ecologic niches. The fact that the foraminifers are among the hardiest of marine protozoa and almost unique in their ability to withstand changes in the environment indicates that they have developed a highly efficient means of controlling their immediate environment without encystment or metamorphosis; that means is the test.

B. B. MASON, Humble Oil & Refining Co., Houston, Tex.

POSSIBLE FUTURE PETROLEUM PROVINCES OF WESTERN GULF BASIN

A task force of industry geologists working in Region 6, Western Gulf basin, for the National Petroleum Council study, "Possible Future Petroleum Provinces of the United States," has attempted to answer whether additional significant crude oil reserves will be added in the Western Gulf basin. The potential of non-producing areas is stressed, however, possible extensions to producing trends also are analyzed from a geologic and production-controls standpoint. The thoughts and ideas from eight industry papers covering the Western Gulf basin are summarized.

J. A. MCCARTHY, Consultant, Houston, Tex.

MIOCENE TREND OF CALHOUN AND MATAGORDA COUNTIES, TEXAS

(No abstract submitted)

DONALD F. MCNAMEE, Union Texas Petroleum, Houston, Tex.

LOWER CRETACEOUS GLEN ROSE REEF COMPLEX OF EAST TEXAS AND CENTRAL LOUISIANA

The massive limestone sections of the Lower Cretaceous Glen Rose of East Texas and central Louisiana are considered to be clastic carbonate barrier reefs. A hypothesis of cause, sequence, and depositional form of a reef complex is presented and supported by examples. Basinal subsidence, a regressive pattern of deposition, and subsequent foreereef leveling during periods when the sea was restricted in front of the barrier reefs develop a typical depositional form.

At least three separate reef complexes have developed in the Lower Cretaceous of Sabine County, Texas, and Sabine Parish, Louisiana. Subsequent Tertiary regional tilting has altered original reservoir conditions but there remains great potential for hydrocarbon accumulations in stratigraphically controlled traps.

EDWARD P. MEISBURGER and DAVID B. DUANE, Geology Branch, U.S. Army Corps of Engineers, Coastal Engineering Research Center, Washington, D.C.

SHALLOW STRUCTURAL CHARACTERISTICS OF FLORIDA ATLANTIC SHELF AS REVEALED BY SEISMIC-REFLECTION PROFILES

A sand-resources survey off eastern Florida by the U.S. Army Corps of Engineers' Coastal Engineering Research Center (CERC) in 1965-1966 resulted in the collection of 2,600 mi of seismic-reflection profiles. With a penetration depth range of 0 to -500 ft MLW the profiles extend from nearshore (approximately 15-ft water depth) to 15 mi offshore.

The records show several prominent acoustic reflecting horizons at shallow depth which can be traced across large areas of the nearshore continental shelf off east Florida. These areally extensive reflectors indicate some shallow structural features beneath the shelf surface; some tentative stratigraphic correlations have been made with logged wells onshore.

In the section revealed by CERC reflection records the dominant structural feature is an almost universal eastward dip of strata. Below about -100 to -200 ft MLW broad low-relief undulations are common and appear to be of structural origin. Shallower subbottom strata are characterized by internal bedding features, erosional surfaces, and a generally gentler eastward dip than the deeper section. The records show little apparent evidence of faulting.

Subbottom acoustic horizons on the CERC records are judged to represent a stratigraphic range from Eocene to Holocene. Erosion surfaces and shallow-water bedform features in the uppermost section are interpreted as resulting from Pleistocene sea-level fluctuations.

JOHN D. MILLIMAN, Woods Hole Oceanographic Inst., Woods Hole, Mass.