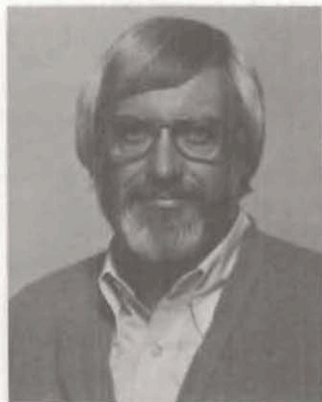


## EVENING MEETING—JANUARY 8, 1979

### RICHARD T. BUFFLER—Biographical Sketch



Dr. Richard T. Buffler came to Galveston in early 1975 after working as a geological consultant with the Alaska Division of Geological and Geophysical Surveys. Formerly he was associated with the University of Alaska. He also worked several years as a geologist and geochemist with Shell Oil Company and Shell Development Company.

Dr. Buffler holds a B.S. in geology from the University of Texas at Austin and a Ph.D. in geology from the University of California at Berkeley. A Research Scientist and a member of Galveston's multichannel seismic research team, he is responsible for work that has been done in the Southeast Georgia Embayment, the Gulf of Mexico and the Caribbean, while continuing his interests in Alaskan geology. He has participated in numerous cruises of the *R/V Ida Green*. Dr. Buffler has a long bibliography of geologic papers behind his name. He has authored or co-authored no less than 21 papers since 1967, not counting his Ph.D. thesis.

### STRUCTURE AND EARLY GEOLOGIC HISTORY OF THE DEEP CENTRAL GULF OF MEXICO BASIN (Abstract)

Multichannel seismic reflection data combined with refraction data from the deep central Gulf of Mexico show details of the deep structure and early (pre-middle Cretaceous) geologic history. A strong reflector extending from the base of the Campeche Escarpment northward up to 50 km beneath the deep Gulf is a major unconformity that truncates older (Triassic?) sedimentary layers and is overlain by Jurassic salt. This reflector possibly represents the top of an attenuated continental crust. The salt layer onlaps and pinches out against the unconformity along the base of the entire northwestern Campeche Escarpment. Deformed salt and sedimentary rocks are overlain by relatively horizontal sedimentary rocks (Upper Jurassic?-Lower Cretaceous?), indicating an early (Jurassic) period of salt deformation (probably the result of gravity sliding associated with early subsidence of the Gulf basin).

Seaward of the zone of salt tectonics the thick sedimentary section of the deep Gulf basin is underlain by an irregular reflector or acoustic basement. The seismic character plus refraction velocity data suggest that this reflector represents the top of oceanic crust, possibly formed during an early phase of rifting and seafloor spreading.

Overlying acoustic basement and onlapping and filling in above the deformed salt is a thick (Upper Jurassic?-Lower Cretaceous?) sedimentary sequence characterized by strong reflections. The upper part of this sequence probably represents the starved deep-water equivalent of the Lower Cretaceous carbonate banks that rimmed the early Gulf basin. The top of this sequence is a major regional unconformity. This unconformity represents a major change in sedimentation across the deep Gulf and probably corresponds to

the Middle Cretaceous drowning of the outer margin of the Lower Cretaceous carbonate banks. These events are tentatively correlated with a major Middle Cretaceous (Middle Cenomanian?) global sea level change.