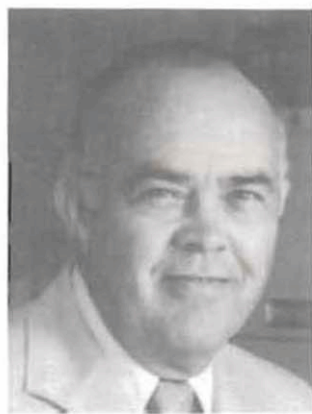


## DINNER MEETING—SEPTEMBER 12, 1988

### JAMES O. LEWIS—Biographical Sketch



James O. Lewis, with 35 years as a consulting geologist, is an honorary member of both the Houston Geological Society and the AAPG. Since becoming a member of both organizations in 1949, he has held offices in and has received the Distinguished Service Award from each society.

He has published several papers in various trade journals including *World Oil*, the *Texas Bulletin* of the South Texas Geologi-

cal Society, and the Gulf Coast Association of Geological Societies (GCAGS) *Transactions*. He placed second in the 1977 GCAGS Best Paper category and received the A.I. Levorsen Award in 1979.

#### SEISMIC SIGNATURE OF SERPENTINE PLUGS IN THE MAVERICK BASIN

Basalt necks occur on the surface in Uvalde and Kinney Counties in southwest Texas. These basalt necks are the "serpentine plugs" that produce from the Taylor section in the subsurface of Zavala County. Many plugs exist in both the surface and subsurface.

Geology of the "serpentine plugs" indicates that most of the volcanic activity occurred as post-Austin subaqueous extrusions. Formations below the volcanic material show no structural deformation. Formations above the Cretaceous seldom show evidence of the pile of volcanic material. The most significant evidence of structure and faulting is within the Taylor section.

The application of two dimensional forward lithological modeling is successful in producing a velocity model to display stratigraphic development. The use of an interactive system is an important step in the interpretative process.

Strategically placed seismic lines will give obvious evidence of the existence of a "serpentine plug".