

MEETINGS

HGS LUNCHEON MEETING— MARCH 28, 1990

MICHAEL P. PRESCOTT—Biographical Sketch



Michael P. Prescott, president of Big M Exploration Inc., received his Bachelor's degree in geophysics in 1969 and a Master's degree in engineering management in 1973 from the University of Tulsa.

During his eighteen years in the oil industry, he held positions of exploration geophysicist, Gulf Oil Corp.; exploration geophysicist, Getty Oil Co.;

and consulting geophysicist, R. Brewer and Co. In 1984, he founded Big M Exploration Inc. to concentrate on play and prospect generation. More recently he has been involved in the generation of high potential natural gas prospects in south Louisiana.

THE SOUTH LAKE ARTHUR FIELD AND THE OCCURRENCE OF BURIED STRUCTURES ALONG THE OLIGOCENE TREND OF SOUTHWESTERN LOUISIANA

Significant gas reserves have recently been discovered in the *Miogypsinoides* sands along the Oligocene trend at the South Lake Arthur field. Detailed subsurface maps and seismic data are presented to exhibit the extent and nature of this local structure and to demonstrate future opportunities along the Oligocene trend.

Since discovery in 1980, the South Lake Arthur field has been extended three miles northeast and has encountered over 200 net feet of *Miogypsinoides* pay. Estimated reserves are in order of 1500 BCFG with limits of the field still unknown. Cross sections across the field depict the trap as a buried anticline with a gas column approaching 1000 feet.

Interpretation of the origin of this local structure is that of diapiric shale with a probable salt core. Detailed subsurface maps at the *Miogypsinoides* level and the overlying *Camerina* level are presented. These maps indicate that the deeper *Miogypsinoides* is a simple faulted anticline while the overlying *Camerina* is highly faulted. The apex of the overlying *Camerina* structure is juxtaposed by almost two miles relative to the deeper *Miogypsinoides* structure.

Analysis indicates that important structural growth occurred after *Miogypsinoides* deposition with a local unconformity covering the apex of the structure. Deposition of the overlying *Camerina* section was rapid, with faulting dying with depth in the underlying shale. State-of-the-art reconnaissance seismic data clearly exhibit this prolific buried structure. Occurrences of similar juxtaposed buried structures are predicted along the Oligocene trend offering explorationists many new opportunities.