

# MEETINGS

DINNER MEETING—SEPTEMBER 8, 1986

NOEL TYLER—Biographical Sketch



Noel Tyler is a Research Scientist with the Bureau of Economic Geology, the University of Texas at Austin. Noel was born in Johannesburg, South Africa. He attended the University of the Witwatersrand in South Africa, where he received his B.S. (Honors) degree and an M.S. degree, which was awarded cum laude. Noel then attended Colorado State University, where he received his Ph.D. for the study of sedimentary controls on ore genesis in the mineral deposits of the Colorado Plateau. He joined the Bureau of Economic Geology in January 1981.

At the Bureau, he has been involved in studies of the continuity and quality of Tertiary oil reservoirs of the Texas Gulf Coast, the depositional setting and oil and gas potential of Cretaceous sandstones in the Maverick Basin, and the geological characterization of major oil reservoirs across the state. Noel is the author or co-author of over 20 publications including the "Atlas of Major Texas Oil Reservoirs."

## DEPOSITIONAL SYSTEMS AND OIL AND GAS PLAYS IN THE LATE CRETACEOUS OLMOS FORMATION, SOUTH TEXAS

The Late Cretaceous Olmos Formation of South Texas continues to be an active exploration target 60 years after oil

was first discovered in this clastic assemblage. This shallow, oil-proven formation was deposited on a broad, wave-influenced shelf. Sand accumulated in two depocenters. Initial deposition took place in a western depocenter with an early phase of wave-dominated deltaic sedimentation. Deposition of the strike-elongate delta was followed by two cycles of high-constructive deltaic deposition during which time sediments prograded beyond the Early Cretaceous shelf edge. These three deltaic complexes together compose the Catarina delta system. The focus of sedimentation then shifted eastward to the Big Foot delta system. Again, wave-dominated deltaic sedimentation was followed by two episodes of high-constructive but wave-modified delta formation. Sands not retained in the Big Foot delta system were transported alongshore to the west where they constructed a thick retrogradational coastal/interdeltaic complex for which the name Rocky Creek barrier/strandplain system is proposed.

Regional uplift with concomitant erosion removed much of the updip facies tracts of the Olmos. This truncated section was unconformably covered by Escondido shelf mudstones thereby creating conditions favorable for stratigraphic entrapment of hydrocarbons migrating updip from the deeper basin through permeable deltaic sandstones. This stratigraphic-trap play is the most prolific of the seven oil and gas plays in the Olmos Formation. Six other plays produce oil and gas from a variety of structural traps but most of the remaining oil production is from the Charlotte fault zone. Youthful shelf-edge gas, condensate, and oil plays are highly productive and together with wildcat prospects farther basinward, offer the best potential for continued high-level production from this mature province.

