

**INTERNATIONAL EXPLORATIONISTS
GROUP EVENING MEETING
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JAMES M. RINE—Biographical Sketch



James M. Rine received his B.S. degree in Geology in 1969, from the University of Miami where he attended on a R.O.T.C. scholarship. After serving four years as an army cavalry officer, he returned to Miami and received his Ph.D. in 1980 from the Rosenstiel School of Marine and Atmospheric Sciences. Jim's dissertation research dealt with the sedimentology of the Holocene, muddy coastline

of Suriname, South America. The resulting paper by Dr. Rine and R. N. Ginsburg received the *Journal of Sedimentary Petrology's* Outstanding Paper Award in 1985. From 1979 to 1983, Jim was a research sedimentologist at Cities Service's research center in Tulsa. From 1983 to 1986, he was a senior research and development geologist at NL Erco in Houston. While at Erco, Dr. Rine completed regional and field studies in the Gulf of Suez and Western Desert of Egypt. Dr. Rine resides in Houston and is currently a consultant, specializing in clastic sedimentology/petrology and an adjunct assistant research professor at the Marine Sciences Research Center, SUNY at Stony Brook, Stony Brook, N.Y.

Dr. Rine has lectured and published on numerous geologic topics which include: depositional environments and reservoir characterization of sandstones in the Gulf of Suez, Egypt and in west central Alberta (Cardium Sandstone); Holocene depositional environments of sand ridges on the continental shelf off New Jersey; and depositional environments and Holocene lithostratigraphy of muddy sediments on the Guiana Coast of South America. Jim is affiliated with numerous professional organizations, treasurer for the Gulf Coast Section of SEPM and a member of the SEPM Membership Committee.

**EVOLUTION OF A MIOCENE FAN DELTA —
A GIANT OIL FIELD IN THE GULF OF SUEZ, EGYPT**

Combined sedimentologic, biostratigraphic and paleobathymetric studies indicate that sandstones making up a giant oil field in the Gulf of Suez were deposited as a series of offsetting lobes in a fan-delta complex. Stratigraphic and not structural elements determined the placement of these lobes, a mechanism which contrasts with tectonically oriented models proposed for other fan deltas (i.e. Hornelen Basin; Steel, 1976).

The Gulf of Suez fan delta was deposited during the early to middle Miocene, within a clastic-rich sequence deposited between initial rifting of the Gulf of Suez and formation of middle to late Miocene evaporites. The Miocene clastic-rich sequence is divided into three formations, the Nukhul, the Rudeis and the Kareem, and into eight biostratigraphic units. The fan delta, described in this study,

formed during four biostratigraphic units encompassing most of the Upper Rudeis Formation and the Kareem Formation. Sand isolith maps of four individual biostratigraphic units reveal that this fan delta was deposited as a series of offsetting lobes, emanating from a single location on the paleoshoreline. Although tectonism partially controlled deposition within the fan delta, paleotopographic highs created by preceding lobes were primary controls on where subsequent lobes accumulated. Based on cores in the Kareem Formation, the fan delta consists of stacked, coarsening upward sequences that range in thickness from 20 m to 50 m. Sedimentologic features indicate rapid deposition in a shallow marine setting. Micropaleontology indicates the fan delta was deposited in water depths ranging from middle neritic to marginal marine or continental. Fan delta deposition ceased within the Kareem Formation, when a relative rise in sea level or a cessation of sediment input resulted in drowning of the fan delta. Sandstones within the fan delta were capped with shales and evaporites, thus setting the stage for creation of a giant oil field.