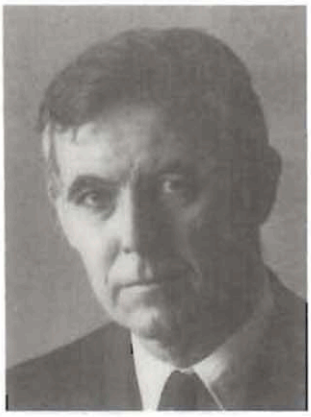
LUNCHEON AND EVENING MEETINGS — SEPTEMBER 28, 1983

DONALD R. JONES — Biographical Sketch



Donald R. Jones received a B.A. degree in Geology from U.C.L.A. in 1953 and a M.S. in Operations Research from the University of Houston in 1970. After serving two years in the U.S. Air Force as an Intelligence Officer, Mr. Jones was employed in 1955 by Marathon Oil Company as an exploration geologist in Midland, Texas, and subsequently in Corpus Christi, Texas. In 1961 he became a log analyst in the technical services group at Marathon's Research Center in Littleton, Colorado. He was employed in 1966 by Offshore Operators, Inc. (a predecessor of TransOcean Oil, Inc.) at Houston, Texas, as an evaluation engineer in their offshore Gulf of Mexico group. He remained with TransOcean until 1980, serving subsequently as a reservoir engineer and manager of reservoir engineering. He then became Vice President of Exploration and Production for American Exploration Company in Houston. Mr. Jones is a member of HGS, AAPG, SPE, and SPWLA.

RANKING SOUTH LOUISIANA TRENDS BY PROBABILITY OF ECONOMIC SUCCESS

Donald R. Jones and Michael D. Smith

Hydrocarbon exploration is by nature both an economic and probabilistic enterprise. Expecially in mature provinces, where the giant discoveries have mostly already been made, we must incorporate probability and economics into exploration if our efforts are to be successful. Not even the largest companies have the resources to be active in all the exploratory plays possible; we find ourselves concentrating on only a small number of the available plays.

This choice of where to explore should be made by defining the objective of exploration and then concentrating on those plays which have the highest probability of achieving that objective. For a limited partnership drilling fund, the objective was formulated as a 3:1 present worth return on the money risked by the investors. A trend analysis process was developed which combines the probability of making a discovery with the probability distribution of reserves found to determine the probability of obtaining a desired return.

Utilizing the Monte Carlo technique, a computer program was written to realistically simulate an "n" well exploration program. The result for each trend was a cumulative frequency distribution of the return per exploration dollar. Using the same exploratory budget for all trends allowed us to rank trends based upon the probability of achieving the desired present worth return or better. Examples are presented for trends of varying rank.

This talk was originally presented to the A.A.P.G. in Dallas, Texas, April 18, 1983.