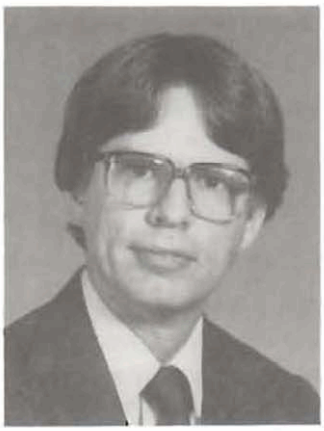
DINNER MEETING—SEPTEMBER 9, 1985

THOMAS A. JONES—Biographical Sketch



Thomas A. Jones studied mathematical statistics at Colorado State University where he received a B.S. degree in 1964 and a M.S. degree in 1967. He then studied geology at Northwestern University where he received a M.S. degree in 1968 and a Ph.D. in 1969.

Mr. Jones went to work for Exxon Production Research Company in 1969. He is currently a Senior Research Associate for Exxon and is primarily involved with program development and applications of computer mapping and 3-D geologic modeling. He served as an expert witness on computer mapping for Exxon in the Prudhoe Bay Equity Arbitration hearings in 1983-84.

Mr. Jones is a member of the International Association for Mathematical Geology, the American Statistical Association, the Mathematical Geologists of the United States, and the Society of Economic Paleontologists and Mineralogists. He was Associate Editor from 1976-80 and then Editor-in-Chief from 1980-84 of the Journal of Mathematical Geology.

He has authored thirty-five papers and abstracts and is co-author of a book on computer mapping which is currently in press.

THREE-DIMENSIONAL COMPUTER MODELING FOR EXPLORATION AND RESERVOIR ANALYSIS

Anyone who has done exploration or reservoir studies involving large numbers of logs, cores, or seismic data is aware of the great amount of manual labor required to reduce the data, to draw structure and thickness contour maps, and to make lithologic cross sections. While computers are commonly used to draw contour maps, lithologic cross sections and three-dimensional interpretations are still made by hand.

Computer programs have been developed that build and use 3-D models. These programs use data from wells to interpolate geologic properties in three dimensions between control points much as a geologist constructs cross sections, that is, by correlating between stratigraphic horizons. Modeling may be done at any scale, from large basins to individual reservoirs, and with an appropriate amount of detail. After the model is constructed it is available for calculations and displays. Cross sections and facies maps can be constructed to show the geographic extent of rock properties. Information in the model can also be used to construct contour maps, such as net pay thickness or average porosity, and to compute volumes.

Such modeling should not be done as if using a "black box." Geological interpretation must also be taken into consideration. Complete geological analyses include such factors as the data type, methods of stratigraphic correlation, calculation methods, trends, and types of boundaries between geologic units.