EVENING MEETING JAN. 10, 1977

WILLIAM J. BURGESS - Biographical Sketch

Dr. William J. Burgess was born in New York City. During World War II he served in Europe with the U. S. Navy Amphibious Forces, taking part in the invasion of Normandy. On returning from service he attended St. Peter's College in Jersey City, New Jersey and received his A. B. degree *with honors* in 1949. He then attended Columbia University in New York for a year of graduate work. In 1950 he joined Sinclair Oil and Gas Company in Tulsa where he directed exploration studies throughout the Mid-Continent, Rocky Mountains, Canada, the Pacific Northwest, and the Gulf Coast. In 1965, with the encouragement and help of his wife, Rita, and their six children, he returned to Columbia University to complete work towards the doctorate and received the Ph.D. degree in 1968. Dr. Burgess rejoined Sinclair Oil and Gas Company which merged with Atlantic Richfield Company in 1969. For the past several years he has conducted exploration studies largely in the Mesozoic rocks of the Gulf Coast. His specialties have included analyses of sedimentary basins with emphasis on paleoenvironments and stratigraphic interpretation of geophysical data. His more recent interests involve studies in the relationships among stratigraphy, hydrocarbon accumulation, and the concepts that derive from the new global tectonics.

GEOLOGIC EVOLUTION OF THE MID-CONTINENT AND GULF COAST AREAS - A PLATE TECTONICS VIEW (Abstract)

by: Dr. William J. Burgess

The Gulf Coast and Mid-Continent areas of the southern United States, in the past 500 million years, are postulated to have been the scene, first, of continental approach and collision, and later of a rifting almost at the site of the suture. Spreading apart of the newly formed continents proceeded to the present. This paper presents a review of these events. A series of cross sections and maps shows an interpretation of the tectonic evolution of the region beginning in Cambrian time and extending through the Neogene.

As extensions of the open ocean, epicontinental seas of Late Cambrian through Mississippian time deposited largely carbonate rocks over a vast region in what is now the Mid-Continent area. From Pennsylvanian time to the end of the Paleozoic, as the continents closed rapidly causing great instability in the area, terrigenous deposits dominated Mid-Continent sedimentation. Collision of the continents occurred in about early Mid-Pennsylvanian time creating the Ouachita suture belt which contains the basinal rocks of the Early and Middle Paleozoic. By Triassic time the sea had withdrawn completely from the Mid-Continent area and rifting had begun south of the Ouachitas.

Plate tectonic movements have affected the distribution of hydrocarbon deposits in the Mid-Continent and the Gulf Coast areas. The location and shifting through time of a sedimentational and tectonic hingeline may have been controlled in part by plate movement. Structure and trap style, timing in trap development, and quality of trap also may have been affected by plate tectonic movement, particularly in the late stages of continental approach (for Mid-Continent) and the early stages of moving apart (for the Gulf Coast).