WALTER E. BLOXSOM

Biographical Review

Walter E. Bloxsom was born in Houston and educated at The University of Texas at Austin where he received his Bachelor of Science degree in Geology in 1960 and his Master of Arts degree in Geology in 1963.

He was employed as a geologist by the Shell Oil Company, Corpus Christi, in 1968. In 1968 he was promoted to Senior Geologist, Houston, and transferred to Shell Development Company. He was transferred back to Shell Oil Company, Head Office Exploration, Geological Staff in 1970. The next year he was promoted to Staff Geologist and transferred back to Shell Development Company.

ABSTRACT

A LOWER CRETACEOUS (COMANCHEAN) PROGRADING SHELF AND ASSOCIATED ENVIRONMENTS OF DEPOSITION, NORTHERN COAHUILA, MEXICO

A Cretaceous, Comanchean age shelf in northern Coahuila, Mexico, is divided into four distinct facies: the foreshelf, the platform margin, the platform bank, and the platform interior. Each facies has characteristic lithologies, primary textures, and fauna.

A rapid transgression in latest Aptian time covered shallow water carbonate sediments of the Cupido Formation within the study area. An initial depositional slope of about seven feet per mile relative to the flattened top Cupido Formation can be constructed using the first stratigraphic occurrence of Colomiella and Hedbergella. In middle Albian time, a shallow water carbonate shelf developed and began prograding into the ancestral Gulf of Mexico. A time line marking the end of Trinity/beginning of Fredericksburg deposition is established on the first stratigraphic occurrence of the foraminifer Barkerina in the shelf facies and the last stratigraphic occurrence of the tintinnid Colomiella recta in the foreshelf facies. The relief of the shelf relative to the foreshelf at this time was about 900 feet. At the culmination of shelf development, in earliest Cenomanian time, the relief of the shelf margin is estimated to have been about 1500 feet.

Marine leaching and fibrous calcite cementation, especially in caprinid shells, indicate a very early, complex diagenetic history for the platform margin and bank facies. No evidence was found that the shelf sediments in this area were subaerially exposed for any significant length of time early in their diagenetic history, except for the Las Pilas Formation. The Las Pilas is the proposed formation name for a latest Albian and earliest Cenomanian grainstone sequence that has diagenetic characteristics similar to the Pleistocene carbonates of south Florida.