16. C. W. Poag: Gulf Coast submarine banks as potential hydrocarbon traps
17. C. H. Bruce: Pressured shale and related sediment deformation—mechanism for development of regional contemporaneous faults
18. W. W. Tyrrell, Jr.: Denkman Sandstone Member—important Jurassic reservoir in Mississippi, Alabama, and Florida
19. G. E. Murray: Energy and the environment

FRIDAY AFTERNOON, OCTOBER 13

20. W. F. Tanner: Equatorial acceleration and continental paths
21. M. T. Halbouty: Oil is found in the minds of men
22. J. A. Patterson: Nuclear power and uranium
23. W. M. McKnight, Jr.: Review of South Texas uranium geology
24. G. W. Hinds: Gulf Coast photogeologic applications
25. J. L. Walper, C. L. Rowett: Plate tectonics and origin of Caribbean Sea and Gulf of Mexico
26. L. F. Brown, Jr.: South Texas eolian system—model of coastal eolian processes

SEPM (GCS) TECHNICAL SESSIONS

THURSDAY MORNING, OCTOBER 12

1. W. F. Tanner: Negative evidence and Pleistocene history
2. E. A. Butler, H. W. Simpson: Diversity-equitability analysis as paleoecologic tool
3. E. G. Otvos, Jr.: Pre-Sangamon beach ridges along northeastern Gulf Coast—fact or fiction?

THURSDAY AFTERNOON, OCTOBER 12

4. A. E. Weidie, J. A. Wolleben, E. F. McBride: Late Cretaceous depositional systems in northeastern Mexico
5. A. W. Niedoroda: Waves, currents, sediments, and sand bars associated with low-energy coastal environments
6. C. W. Poag: Shelf-edge submarine banks in Gulf of Mexico—their paleoecology and biostratigraphy
7. P. A. Thayer, D. A. Textoris: Petrology and diagenesis of Tertiary aquifer carbonates, North Carolina
8. F. P. C. M. Van Morkhoven: Bathymetry of recent marine Ostracoda in northwest Gulf of Mexico
9. P. Trabant, W. R. Bryant, A. H. Bouma: High-resolution subbottom profiles and sediment characteristics of Mississippi delta
10. W. P. Leutze: Stratigraphic utility of some Miocene and younger arenaceous Foraminifera
11. B. R. Sidner, C. W. Poag: Late Quaternary climates indicated by foraminifers from southwestern Gulf of Mexico
12. N. C. Hester, J. B. Risatti: Nannoplankton biostratigraphy and sedimentary petrology of a vertical facies sequence crossing the Campanian-Maestrichtian boundary in central Alabama
13. S. W. Wise, K. R. Kelts: Inferred diagenetic history of weakly silicified deep-sea chalk
14. C. M. Johnson, A. H. Bouma, W. R. Bryant: Bottom characteristics of northern Gulf of Mexico continental shelf
15. R. C. Tresslar, C. W. Poag: Living Foraminifera of West Flower Garden Bank
16. F. M. Weaver, S. W. Wise: Chertification phenomena in Antarctic and Pacific deep-sea sediments—a scanning electron microscope and X-ray diffraction study
17. H. C. Clark: Paleomagnetism of late Pleistocene-Holocene sediments, Gulf of Mexico

FRIDAY AFTERNOON, OCTOBER 13

18. B. R. Jones: Use of downhole gravity data in formation evaluation
19. A. H. Bouma: Recent and ancient turbidites and contourites
20. D. M. Fitzgerald, A. H. Bouma: Consolidation studies of deltaic sediments
21. W. E. Galloway: Significance of reservoir diagenetic alteration for petroleum exploration, Gulf of Alaska Tertiary basin
22. C. W. Holmes, E. A. Slade: Distribution and isotopic composition of uranium in a lower South Texas river and estuary
23. J. H. McGowen, L. E. Garner, B. H. Wilkinson: Significance of changes in shoreline features along Texas Gulf Coast
24. B. S. Applebaum, A. H. Bouma: Geology of upper continental slope in Alaminos Canyon region
25. G. O. Winston: Dollar Bay Formation of Early Cretaceous (Fredericksburg) age in South Florida

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Smackover Stratigraphic Traps—New Production in "Old" Areas

Until recently, most of the Smackover exploration has been essentially a search for closed structures. This initial phase of exploration has been quite successful, and many excellent fields have been found throughout the fairway. However, in mature areas, such as southern Arkansas and northern Louisiana, this quest for structure has resulted in the drilling of most of the easily definable closures, and the future promised only prospects of ever-diminishing size and economic potential.

With increasing well control, however, stratigraphy has been recognized as an important factor in the entrapment of Smackover hydrocarbons, even in fields generally considered to be essentially structural accumulations. Awareness of the importance of stratigraphic factors in entrapment has been dramatically focused by the discovery of Walker Creek and Welcome fields, Lafayette and Columbia Counties, Arkansas. Both these fields are due to stratigraphic entrapment provided by the updip termination of porous Smackover beds across gentle structural noses. Their discovery signals the beginning of the second phase of Smackover exploration—the search for combination structural-stratigraphic and wholly stratigraphic traps, and the rebirth of exploration for large reserves in a mature segment of the Smackover fairway.

The regionally regressive depositional character of the Smackover in this area afforded an excellent setting for the formation of many stratigraphic traps. Porous carbonate zones, successively higher within the Smackover section, were deposited southward across the shelf. The updip terminus of each zone abuts an impermeable seal to form an ideal stratigraphic trap. The sinuous nature of the updip terminus commonly, but not necessarily, in conjunction with low-relief structural noses or closures entraps the hydrocarbon accumulation laterally. In addition, many variations in the regional situation, due to the local depositional patterns of individual zones, tend to complicate the simple stratigraphic trap.

Lithologically, the most characteristic reservoir rock type is an oolitic-pelletal limestone with intergranular porosity. Porosity up to 30% is not unusual, but average porosity ranges from 10 to 20%. Various degrees of porosity destruction have resulted from the infilling of the primary porosity with sparry calcite cement. Where wave action was not sufficient to winnow out carbonate muds, no primary porosity was developed.

The diverse nature of the stratigraphic traps opens unlimited exploration opportunity on acreage once considered worthless because it was not located on closed structures. The stratigraphic phase of exploration now promises to be as profitable as was the structural phase in this "old" producing area.

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Geology of Upper Continental Slope in Alaminos Canyon Region

The surficial sediments of an area of the upper continental