ies, case histories of individual fields, producing trends, and programs. Other sessions will feature world and international petroleum geology (stratigraphic and structural), delta systems, petroleum and geology of northeastern and Gulf Coast Mexico, environmental geology, sediments of the Gulf Coast province, geophysics, and general papers of interest.

This meeting will also be the 48th annual meeting of the Society of Economic Paleontologists and Mineralogists. General sessions will be held in paleontology, stratigraphy, sedimentation, sedimentary petrology and mineralogy, and geochemistry. Symposia will feature "Implications for Oceanic and Continental Evolution," and one on Bryozoa.

Field trips will include two preconvention trips—one featuring environmental geology, and a 1-day trip on "Precambrian-Paleozoic Rocks of the Central Mineral Region of Texas." Four postconvention trips, including (1) a 2-day trip to the Lower Cretaceous Edwards Group, (2) a 3-day trip to the Big Bend area, (3) a 3-day trip in south-central Texas with special emphasis on the stratigraphy, petrology, and regional facies of the Lower Cretaceous Trinity Group, and (4) a 4-day excursion to Mexico City.

Special entertainment has been planned which will include a cocktail party on the River Plaza and "A Night in Old San Antonio" staged by the San Antonio Conservation Society, with a variety of foods, beverages, strolling mariachis, an orchestra for dancing, favors, and lots of atmosphere.

General chairman of the meeting is **M. O. Turner.** Other members of the Coordinating Committee include **Frank I. Brooner,** Jr., general vice-chairman of operations; **Edgar W. Owen,** general vice-chairman; **Edward E. Schleh,** vice-chairman for SEPM; **Leonard C. Bryant,** finance chairman; and **M. L. Johnson,** technical program coordinator.

DISTINGUISHED LECTURE ABSTRACTS

AMORUSO, JOHN J., Independent Geologist, Houston, Tex.

Smackover Trend from Mexico to Florida

The Smackover trend within the United States extends approximately 1,000 mi from South Texas to western Florida. Prolific production has been obtained from this Upper Jurassic carbonate formation in East Texas, South Arkansas, North Louisiana, and eastern Mississippi. Continuing exploration currently is extending the productive areas eastward into Alabama and western Florida and promises to extend production into South Texas.

Most of the production has come from upper Smackover oolitic and pelletal limestones or their dolomitized equivalents. The three most important types of reservoir rocks are oomoldic dolomite, saccharoidal dolomite, and oolitic limestone with interoolite porosity. Reservoir porosity and permeability vary widely depending on the quality of the primary porosity, amount of secondary porosity development, and magnitude of porosity destruction.

Low-relief anticlines, with up to about 400 ft of closure, are the most important structural traps in terms of present production. These closures usually are associated with Louann Salt swells which underlie the Smackover section. Fault traps, traps associated with high relief structures, and salt piercements are of lesser importance at this time, but it is anticipated that they will provide major reserves as exploration continues.

Stratigraphic traps have become increasingly important exploration targets, particularly in the more mature areas where better well control adequately defines the potential trap. Major reserves already have been found in stratigraphic traps, and exploration for this trap type is rapidly increasing. Entrapment generally is provided by the updip termination of porous carbonate zones, commonly, but not necessarily, in conjunction with low relief structural noses or closures.

Exploration of diverse Smackover traps has resulted in prolific production over a significant part of the trend. Continued exploration promises to extend the production into sparsely drilled areas and to discover significant new reserves even in the "old" producing parts of the trend.

BRUCE, C. H., Mobil Oil Corp., Houston, Tex.

Pressured Shale and Related Sediment Deformation—Mechanism for Development of Regional Contemporaneous Faults

Regional contemporaneous faults of the Texas coastal area are formed on the seaward flanks of deeply buried linear shale masses characterized by low bulk density and high fluid pressure. From seismic data, these masses, commonly tens of miles in length, have been observed to range in size up to 25 mi in width and 10,000 ft vertically. These features, aligned subparallel with the coast, represent residual masses of undercompacted sediment between sand-shale depoaxes in which greater compaction has occurred. Most regional contemporaneous fault systems in the Texas coastal area were formed during times of shoreline regression, when periods of fault development were relatively short and where comparatively simple down-to-the-basin fault patterns were formed. In cross-sectional view, faults in these systems flatten and converge at depth to planes related to fluid pressure and form the seaward flanks of underlying shale masses. Data indicate that faults formed during times of shoreline regression were developed primarily through differential compaction of adjacent sedimentary masses. These faults die out at depth near the depoaxes of the sand-shale section.

When subsidence exceeded the rate of deposition, gravitational faults developed where basinward seafloor inclination was established in the immediate area of deposition. Some of these faults became bedding-plane type when the inclination of basinward-dipping beds equaled the critical slope angle for gravitational slide. Fault patterns developed in this manner are comparatively complex and consist of numerous antithetic faults and related rotational blocks.

Conclusions derived from these observations support the concept of regional contemporaneous fault development through sedimentary processes where thick masses of shale are present and where deep-seated tectonic effects are minimal.

HENNES, MARK E., Consulting Department, Core Laboratories, Inc., Dallas, Tex.

Depositional Anticlines of Deep Environments—Past Success and Future Exploration

As the energy quest probes deeper into the oceanic environment, enormous depositional anticlines formed by deep current action are being documented, and certain of these with favorable rock properties beckon to the explorationist.

Wind-driven surface currents, such as the Gulf Stream, can shape these anticlines at the outer edges of detrital sedimentation where such high-velocity cur-