

clastics allowing the classic formational breakdown of this region. On the south and west, the section is almost entirely limestone. The area of study is a convenient avenue for correlation between these two areas.

The Cretaceous of west-central Texas consists of a basal quartz sand, the Antlers Sand, and an overlying carbonate sequence. The Antlers is laterally equivalent to both Fredericksburg and Trinity sequences at the northeast. The southern limit of the usefulness of the term is at the latitude of the Brady Mountains, Menard County. The carbonate sequence above the Antlers can be divided into two geologically distinct areas; a northern area, generally coincident with the Callahan Divide, and a southern area underlain by the northern Edwards Plateau.

The carbonate sequence on the Callahan Divide may be broken into two units: (1) a basal, nodular, marly unit, and (2) an overlying massive, rudistid-bearing limestone. The basal unit has characteristics of, and is laterally equivalent to, the Walnut and Comanche Peak Formations of central Texas. These units cannot be recognized and the sequence is termed the Walnut-Comanche Peak undifferentiated. The overlying massive rudistid-bearing limestone is continuous with the Edwards of north-central Texas and the term Edwards is used across the Callahan Divide.

South of the northern Edwards Plateau, the Edwards Limestone replaces the Walnut-Comanche Peak by facies change to occupy the entire Fredericksburg interval. The term "Edwards" should include the beds which extend southward into the Edwards Plateau proper until they are lost at the position of the Devils River Limestone in Edwards and Val Verde Counties. The top of the Edwards is an unconformity from Edwards and Val Verde Counties northward to an east-west line running through central Irion, Tom Green, and Concho Counties. North of this line the contact appears to be conformable. The base of the unit lying above the Edwards (unnamed upper formation of Lozo and Smith) is termed the "Dr. Burt ammonite beds." This stratigraphic datum can be extended northward from the Edwards Plateau to the Callahan Divide south of Abilene in Nolan County.

JOHN C. MYERS, Consultant, Houston, Tex.

#### IMBALANCE OF SULFUR SUPPLY AND DEMAND, AND FUTURE RESOURCES

(No abstract submitted)

LAWRENCE J. O'CONNOR, Member, Federal Power Commission, Washington, D.C.

#### ROLE OF FEDERAL GOVERNMENT IN CHANGING ENERGY PICTURE

(No abstract submitted)

WOODSON R. OGLESBY, Florida Geol. Survey, Tallahassee

#### GRAVITY PROFILE OF SOUTH FLORIDA SHELF

A gravity profile from La Belle, Hendry County, to Miles City, Collier County, reveals positive anomalies at Felda and Sunniland fields—the only two fields where oil now is produced in Florida.

Sunniland field is probably a compactional anticline, with approximately 80 ft of closure and 180 ft of structural relief. The gravity anomaly overlying it is about 20 gravity units. Felda field is probably a hydrodynamic trap over a nose. Structural relief of the nose is approximately 50 ft.

Poor results which have reportedly been obtained by seismic surveys in the South Florida basin indicate gravity may be the more reliable indirect method currently available for use in the area.

M. L. OXLEY, Lone Star Producing Co., Jackson, Miss., ED. D. MINIHAN, E. L. Erickson, Jackson, Miss., AND J. M. RIDGWAY, First Natl. Bank, Jackson, Miss.

#### JURASSIC SEDIMENTS OF MISSISSIPPI AND ALABAMA

The writers present a regional isopachous, lithofacies, and stratigraphic study of the Jurassic sediments in the potential producing trend of Mississippi and Alabama. Jurassic deposition in the study area was affected by three major tectonic factors: a southwestward subsurface extension of the folded Appalachians, regional ancestral faulting, and salt uplift. These factors are manifested in the distribution of the sediments and in facies variations.

The middle and lower Smackover is characterized by dense argillaceous carbonate deposits. Locally, a littoral facies with good sandstone porosity is present. Upper Smackover carbonate sediments are zoned into a porous sandy facies, a dense dolomitic facies, and a porous oölitic facies. Tectonic influences are first evidenced in upper Smackover sediments and appear to culminate during younger Cotton Valley deposition.

Haynesville deposits (above the Smackover) include a basal Buckner Anhydrite Member and an overlying anhydritic carbonate section which grades shoreward into a porous sandy facies. Excellent reservoir rocks have been found in the transitional zone between the restricted shelf and littoral environments.

The youngest Jurassic unit, the Cotton Valley, has been subdivided into the Schuler and Dorcheat facies. The Schuler facies is predominantly a coarse-grained redbed section representing a paralic environment. The Dorcheat facies is a fine-grained, open-neritic shelf deposit with grain size increasing toward the shoreline. Excellent reservoir properties are present in all Cotton Valley sandstones.

JAMES G. PALACAS, U. S. Geol. Survey, Denver, Colo.

#### ORGANIC MATTER IN BOTTOM SEDIMENTS, CHOCTAWHATCHEE BAY, FLORIDA

Choctawhatchee Bay, in the panhandle of north-west Florida, is one of many estuaries that border the northern Gulf of Mexico. A geochemical study of the organic matter of this modern environment was begun as part of a broader research program to obtain a better understanding of the nature of organic materials in ancient environments. In addition to the brackish-water by itself, other contiguous depositional environments were sampled for comparative purposes, namely, bayou, barrier island, marsh, river, and fresh-water lake. The following analyses were made: organic and mineral carbon, total nitrogen, total sulfur, elemental (free) sulfur, bitumens, and alkaline-soluble humic matter.

Preliminary studies have shown that the sediments of the bay are predominantly detrital in origin, ranging from fine- to medium-grained, relatively pure quartz sand, in the shallower marginal parts of the bay to finer grained, commonly pelletoid, silty-clayey sediment in the deeper parts.

Organic content is highest in the finer grained sediments of the bay and lowest in the nearshore sandy sediments. The finer grained sediment or muds are characterized by average contents of 3.5 percent or-