

## FACIES OF COTTONWOOD LIMESTONE

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## BIOFACIES AND LITHOFACIES STUDY OF EIGHT TIME-ROCK UNITS FROM SOUTH TEXAS TERTIARY

A. R. Campbell, Shell Development Co., Houston, Tex.  
SOME STRATIGRAPHIC INTERPRETATIONS FROM COCCOLITHOPHORIDS AND RELATED MICROFOSSILS (READ BY TITLE)

M. N. Bramlette, Scripps Institution of Oceanography, La Jolla, Calif.

## SEDIMENTARY PETROLOGY AND MINERALOGY

## GEOCHEMISTRY OF SURFICIAL SEDIMENTS IN GULF OF MEXICO

A. P. Pinsak, Indiana Geological Survey, Bloomington, Ind., H. H. Murray, Georgia Kaolin Company, Elizabeth, N. J.

## MINERALOGICAL FEATURES OF DEEP CLAYS, CAILLOU ISLAND, LOUISIANA

P. F. Kerr and Jonathan Barrington, Columbia University, New York, N. Y.

## CLAY MINERALOGY OF VARIOUS FACIES OF SOME CHESTER FORMATIONS

T. W. Smoot, Illinois State Geological Survey, Urbana, Ill.

## CARBONATES FROM OIL

S. R. Silverman, D. W. Levandowski, and L. C. Bonham, California Research Corp., La Habra, Calif.

GENESIS OF PRIMARY STRUCTURES IN ANHYDRITE  
C. M. Riley and J. V. Byrne, Humble Oil & Refining Co., Houston, Tex.

## PETROLOGY AND PETROGRAPHY OF CORDILLERAN UPPER PALEOZOIC CARBONATE ROCKS

H. J. Bissell, Brigham Young University, Provo, Utah

REVERSIBILITY OF CHERT-CARBONATE REPLACEMENT  
T. R. Walker, University of Colorado, Boulder, Colo.

## MARTINSBURG-REEDSVILLE PALEOCURRENTS

E. F. McBride, University of Texas, Austin, Tex.

## DEPTH SEQUENCE OF DIAGENETIC MINERALS IN DEVONIAN AND CARBONIFEROUS SEDIMENTS, TAMWORTH TROUGH, NEW SOUTH WALES

Keith A. W. Crook, University of Alberta, Edmonton, Alberta, Canada.

## DISTINCTION OF SHORELINE ENVIRONMENTS IN NEW JERSEY

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## MID-CONTINENT REGIONAL MEETING, WICHITA, KANSAS, OCTOBER 28-30, 1959

## ABSTRACTS

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## Electronic Computers Aid in Exploration Decisions and Interpretations

Electronic computers are at present being used to solve or aid in the solution of the two categories of problems which exist in exploration.

Where, when, and how much exploration is needed? Which exploration tools are desirable and in what proportion? These questions demand logical decisions based on voluminous data. Here the role of the computer is to summarize and generalize these data to permit more rigorous decisions by management. In many cases this decision may be compared with others to determine optimum selection.

Computers as interpretational aids are more wisely employed than in the first category. The reason for this is the facility with which interpretational procedures may be expressed in mathematical form. Examples of procedures already being performed on computers are: electric-log analysis, log and core correlations, seismogram synthesis, seismic velocity determination, migration charts, accurate fault location, geological and geophysical maps plotted, cross sections, bore-hole deviation calculation, regression analysis for geological parameters, gravity and magnetic interpretations, etc.

In addition to the mentioned categories many other company problems are solved which are of interest to exploration. Of these, property evaluation and inventory control of exploration tools are of importance insofar as they reduce exploration costs and therefore improve arguments for more exploration projects.

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## Isopachous and Paleogeologic Studies in Eastern Oklahoma North of Choctaw Fault

General southward thickening of pre-Desmoinesian

stratigraphic units in eastern Oklahoma suggests the existence of a geosyncline on the south during the Paleozoic era until middle Pennsylvanian time.

The Arbuckle group thickens from 500 feet in north-eastern Oklahoma to a postulated 5,000 feet in the McAlester basin. The overlying Simpson group is 700 feet thick in the basin, thins northward, and is absent north of Washington, Rogers, Mayes, and Delaware counties. The Viola-Fernvale limestone, Sylvan shale, and Hunton group in the McAlester basin have respective maximum thicknesses of 200, 70, and 255 feet. Northward truncation of Hunton and older units and overlap by the Chattanooga formation suggest strong post-Hunton southward tilting and warping. The Chattanooga averages 55 feet thick over most of the area and thickens toward the south. Post-Chattanooga Mississippian units are widespread in the area and vary locally from zero to 550 feet. The "Springer formation" occurs in a narrow belt in the McAlester basin and is estimated to be 1,600 feet thick. The Morrowan series overlaps the "Springer" and attains a postulated thickness of 2,000 feet in the basin. Post-Morrowan uplift in the Ozark area and accompanying downwarp on the south are shown by a northward truncation of the Morrowan series. The overlapping Atoka formation thins from 6,500 feet in the McAlester basin to its northern limit in Tulsa, Rogers, Mayes, and Craig counties. Post-Atokan recurrence of strong southward tilting is indicated by northward truncation of the Atokan and overlap by Desmoinesian beds.

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## Present and Future Oil and Gas Possibilities in Pennsylvanian and Permian Rocks of Southeastern Colorado

Cambro-Ordovician, Ordovician, Mississippian, Pennsylvanian, Permian, Triassic, Jurassic, Cretaceous,