to own an entire oil field, industry still needs the wildcatter and the independent to find the oil. This is exemplified further by the fact that, in order to find oil, one must drill wells. For several years it has been the writer's philosophy that the amount of oil discovered is directly proportional to the exposure or number of wells drilled, providing that the wells are drilled in oil country. The Bar-Mar field is a case in point.

4. GEORGE M. SPALDING, Cobra Oil and Gas Corp., Wichita Falls, Tex.

RECLASSIFICATION OF PETROLEUM SPECIALISTS

(No abstract submitted)

5. HOWARD R. GOULD, Esso Production Research Co., Houston, Tex.

SEDIMENTARY FACIES AND THEIR IMPORTANCE IN OIL FINDING

In today's search for oil, industry has become increasingly aware of its need for information that will permit more accurate prediction of porous and permeable facies. Such information is important in exploring for both structural and stratigraphic accumulations.

To obtain the data desired, research geologists have directed their efforts to modern ocean basins and contiguous land areas where both sedimentary facies and the environments that produced them can be studied in detail. Through investigations of Recent sediments in the Gulf of Mexico and elsewhere, it has been possible to define the major types of potential reservoir facies, including alluvial, deltaic, shoreline, shelf, and turbidite deposits in the deeper parts of modern basins. Each of these facies can be readily distinguished by a combination of features, including composition and lithology, sedimentary textures and structures, fauna and flora, lateral and vertical facies relations, and geometric form.

Knowledge of these characteristics, where applied to ancient rocks, provides information of value not only in recognizing facies but also in locating porous facies and in predicting their probable trends, shapes, and dimensions.

6. J. D. MUSSETT, Gulf Oil Corp., Hobbs, N.Mex.

THE MENTAL BLOCK

(No abstract submitted)

7. ROY E. FOSTER, New Mexico Inst. Mining and Technology, State Bur. Mines and Mineral Resources, Socorro, N.Mex.

GEOLOGY AND PETROLEUM POSSIBILITIES OF WEST-CENTRAL NEW MEXICO

Post-Precambrian rocks of this area include only strata of Mississippian and younger ages. Older Paleozoic rocks probably were deposited in west-central New Mexico, but were removed during various erosional cycles prior to Mississippian deposition. Thin remnants of Mississippian limestone occur in the Ladron, Lemitar, and Magdalena Mountains. Pennsylvanian sediments record a complex history of deposition and erosion, as they thin toward the west from almost 3,000 feet in the Ladron Mountains to zero over the buried ancestral Zuni Mountains. Permian evaporite, carbonate, and sandstone thicken southward from less than 1,000 feet in the Zuni Mountains to more than 2,600 feet in parts of Catron County. Triassic and Jurassic sediments also thin in this direction and are absent in southern Catron and adjacent parts of Socorro Counties. Sandstone and shale of Cretaceous age are exposed in large areas. Early Tertiary erosion caused thinning of these rocks toward the south and southwest. Thick sequences of Tertiary sediments and volcanics, rhyolitic to basaltic in composition, underlie considerable areas in Catron and Socorro Counties, and extensive Quaternary basalt flows cover large areas in central Valencia County.

The best possibility for petroleum accumulation appears to be in unconformity traps in the Pennsylvanian east of the late Paleozoic ancestral Zuni uplift. Cretaceous sandstone and Permian carbonate and sandstone are secondary objectives in this and other parts of west-central New Mexico. The possibility of helium accumulation in the upper part of the Permian is an additional incentive for exploration in this area.

8. WILLIAM H. DUNLAP, Champlin Petroleum, Co., Midland, Tex.

CHAVEROO REVISITED

The Chaveroo San Andres field is on the line separating Chaves and Roosevelt Counties, New Mexico. The field, located geologically on the south flank of the Matador arch on the Northwestern shelf, was discovered in March, 1965, with the completion of the Champlin Petroleum Company and Warren American Oil Company No. 1 Hondo State. This well was plugged back from a total depth of 9,100 feet to 4,400 feet. The field now has more than 250 wells. Production is a sour 24° A.P.I. gravity crude and the cumulative field production was 1,116,642 barrels of oil on August 1, 1966.

The discovery was made using a combination of subsurface geology and reflection-seismograph data. Oil production is from a gray to brown fine crystalline to granular anhydritic dolomite with fine vuggy intercrystalline and fracture-type porosity zones located 650 feet below the top of the San Andres of Guadalupian (Permian) age. A gross pay section of approximately 200 feet is in the field. The field structure consists primarily of a southward-plunging nose. Reservoir conditions are controlled by thin porosity zones which pinch out updip. Development in the field has slowed considerably and appears at present to be nearing completion.

Certain areas of the field have had water problems. It is hoped that different and improved completion techniques will cure these ills.

The Chaveroo field has rekindled interest and ideas about San Andres production on the Northwestern shelf. Another new field, Cato, has extended further the Levelland-Slaughter-Buckshot-Milnesand-Chaveroo trend toward the west. The future looks bright for further San Andres development in this area of New Mexico.

9. JOHN D. MOODY, Mobil Oil Company, New York, New York

RESTRAINTS ON EXPLORATION

(No abstract submitted)

10. KARL W. KLEMENT, Texas Technological College, Lubbock, Tex.

PRACTICAL CLASSIFICATION OF REEFS AND BANKS, BIOHERMS AND BIOSTROMES