

covers 80,000 square miles and contains up to 30,000 feet of Late Proterozoic and Early Paleozoic marine and continental sediments. These sediments are unusual to most North American-trained geologists in that the unconformity common at the base of the Paleozoic is conspicuously absent; the Late Precambrian sediments are not metamorphosed; they contain indigenous hydrocarbons and thick salt deposits, the latter having flowed and acted as lubricating layers during a mid-Paleozoic orogeny.

The speaker discussed exploration problems encountered in the basin since 1960 by Magellan Petroleum Corporation, whom he serves as technical advisor.

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March 7, 1967

HOWARD R. GOULD

Esso Production Research Company,
Houston, Texas

*"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 relationships, and geometric form.

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

March 20, 1967

DONALD D. ANDERSON

Mesa Petroleum Company, Amarillo, Texas
"Gageby Creek Gas Field, Anadarko Basin"

Gageby Creek, in northwestern Wheeler County, Texas, is the location of what has been described as one of the biggest gas wells in the World. The Phillips Petroleum Company's Dyson A-1 was completed in 1966 for a calculated open flow potential of 1.74 billion cubic feet of gas daily from Silurian Hunton Dolomite perforations between 14,836 and 15,009 feet, and 2.45 million cfd from Simpson Dolomite perforations between 15,520 and 15,795 feet. The huge find has set off a 100 mile wave of deep Anadarko Basin drilling in the Texas Panhandle and eastward into Oklahoma.

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March 27, 1967

CLYDE G. STRACHAN

Gulf Oil Corporation, Retired

"Geologist Reforests Grand Lake Tract"

The speaker described his effort of reforestation of 20 acres on the east side of Oklahoma's Grand Lake. Using colored slides he discussed the geologic, physiographic, and economic factors involved in this experimental pine seedling plantation which is now 3 years old.

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March 30, 1967

JOHN M. HUNT

Department of Chemistry and Geology,
Woods Hole Oceanographic
Institution, Massachusetts

"Geoscience Research in the Oceans"

Modern oceanographic research involves geological, geophysical and geochemical studies of the earth's crust from the continental margins to the deep ocean floor. Geological studies of Woods Hole Oceanographic Institution have centered on the topography, structure and sedimentology of the Atlantic Coast shelf and slope from Maine to Florida. Geophysical work has been concerned with structures of deep basins, trenches, and rift zones of the Atlantic Ocean and Mediterranean and Red Seas. Geochemical research has investigated the organic compounds including hydrocarbons of marine organisms and both near shore and deep sea sediments. Inorganic studies have been concerned with the origin and nature of mineral deposits on the sea floor. Although past studies have concen-

trated on shallow punch cores, there are now cooperative programs underway that will drill deep holes from the Continental margins out into the ocean basins in order to learn more about the composition, age and history of marine sediments.

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April 18, 1967

T. F. GASKELL

The British Petroleum Company, Ltd.,
London

"Exploration in the North Sea"

The main drawback to North Sea exploration is the uncertain price situation.

There has been talk of leveling-out of North Sea gas prices at about 3 pence per therm (30 cents per thousand cubic feet). However, this is an undesirable situation because Dutch onshore gas brings about 3.6 pence, and the selling price of gas to British householders is about 25 pence. It is believed that the operators are working on a cost-plus basis without allowance for oil they don't find. North Sea drilling is expensive and this method does not appear to be the proper way to handle sales.

While only small quantities of oil have been produced in offshore exploration to date, this does not rule out the possibility of subsequent significant discoveries.

Several reasons are cited why the North Sea had not previously produced oil. These are: (1) the geology of the North Sea area has been known for many years and the rocks looked good, but onshore work yielded only small oil fields; the increased costs of offshore work just didn't look economical, (2) there has been, and still is, trouble over just who owns the minerals in the sea, and (3) the offshore production business came into being within the last twenty years, mostly through American work in the Gulf of Mexico. However, unlike the Gulf, the North Sea is a real nasty place to work. Winter lasts almost eight months and is very unpredictable. Also, big rises and falls in waves make diving operations almost impossible, and can raze the seabed from under stationary-type drilling rigs.

Despite all the minuses in North Sea exploration, the fact still remains that large quantities of gas have been located and others still remain to be found.

April 18, 1967

LLOYD E. ELKINS

Pan American Research Center, Tulsa
*"Petroleum Supplies Through the 1970's—
Summary of Department of Interior
Symposium"*

The United States Department of the Interior, Office of Oil and Gas, conducted a symposium in Washington on March 9-10, 1967. The title of this symposium was "Assessment of Factors Affecting Future Availability of U. S. Oil and Gas Supplies." Three significant papers were presented bearing directly on oil and gas. These were:

1. "The Effect of Advancing Technology—Geology," by Dean A. McGee.
2. "The Effect of Advancing Technology—Geophysics," by Milton B. Dobrin.
3. "The Possible Role of Some New Drilling and Production Technology in Maximizing Future Productive Capacity of Oil and Gas and Improving Recovery Efficiency," by Lloyd E. Elkins.

The speaker summarized these presentations and developed background and supporting information bearing on the following quotes taken from each of the three papers:

Quoting Mr. Dean A. McGee, "Now, what about the future? There are many relatively untested trends and other potential areas within the producing provinces that for various reasons have not been thoroughly prospected. There are obscure structural features lying at presently uneconomic depths in basins where the sediments are extraordinarily thick. Undoubtedly there are undiscovered stratigraphic accumulations, some of which can be large, in most of the producing basins. There are large areas on the Continental Shelf where attractive structural anomalies are known to be present, that have not been opened for leasing. The present geologic knowledge and exploration technology will continue to find many of these deposits and discoveries will continue to be made fortuitously by prospectors who encounter the unexpected.

"But there is doubt that oil and gas reserves discovered and developed with this present technology will be sufficient to meet the country's requirements through 1980. For this reason and since additional oil-bearing sedimentary basins cannot be created, the industry should be concentrat-