

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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"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.

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*"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-