

ing. On April 25, 1950, the Hancock-Mohawk-Oceanic No. 65-10 well on the Clayton lease in Sec. 10, T. 11 N., R. 28 W., was completed as a new-pool discovery pumping 75 barrels per day of 32.8° gravity oil, 1% cut, from the Morales formation (Pliocene). There are now eleven wells in a proved area of about 120 acres, producing a total of about 800 barrels per day. The limits of the field at the south and east have been established. On August 22, 1950, the Hancock Oil Company made a discovery about 2 $\frac{3}{4}$ miles northwest of the Superior well in the Hancock-Bishop No. 44-31 well in Sec. 31, T. 32 S., R. 20 E., M.D.B. & M. The well was completed, pumping 226 barrels per day of 36.6° gravity oil, 0.4% cut, 100 pounds casing pressure and 100 M.c.f. gas from a new lower Miocene sand in the interval 5,785-6,020 feet. Three wells are drilling in the area.

FRIDAY MORNING

Presiding: CHARLES M. CROSS, Honolulu Oil Corporation, San Francisco
 JOSEPH J. BRYAN, Union Oil Company of California, Bakersfield
 GRAHAM B. MOODY, Standard Oil Company of California, San Francisco

SYMPOSIUM ON POSSIBLE FUTURE OIL PROVINCES OF THE PACIFIC COAST REGION

1. FOREWORD

GRAHAM B. MOODY, Chairman, Pacific Coast Committee on Possible Future Oil Provinces, Standard Oil Company of California, San Francisco

Experience influenced the Pacific Coast committee in its decision to examine critically and report on the future petroleum possibilities not only of the most promising undeveloped and presently producing regions but also of those regions that might seem to offer little encouragement for further exploration. Eastern Washington, the Modoc Lava Plateau of California, and a part of the Northern Coast Ranges of California are considered to be of insufficient interest to merit maps. The predominance of igneous and metamorphic rock exposures in these regions seems to eliminate them, at least for the present, from favorable consideration as possible future oil provinces.

A summary of data for the regions discussed is tabulated. Some of the numbers are, of necessity, approximations but are of the right order of magnitude according to available information. This tabulation affords a ready means of comparing the different regions.

The continental shelf adjacent to Southern California is treated in some detail, but the rest of the Pacific Coast continental shelf is not discussed in separate papers. The future oil possibilities of any part of the continental shelf may be considered as similar to the possibilities of the contiguous land area. Areas involved are:

CONTINENTAL SHELF

<i>Coast of</i>	<i>Area in Square Miles</i>	
	<i>Underlying Water Having Depth</i> <i>0-10 Fathoms</i>	<i>0-100 Fathoms</i>
Washington	380	5,200
Oregon	600	7,000
California	1,400	11,700

Nothing need be said concerning the merits of the following papers—they speak for themselves and reflect great credit on the writers. Special acknowledgment should be made to those committee members whose names do not appear as authors but who contributed substantially to committee work through suggestions, criticisms, and consultations. Association with this committee, a group of forward-looking geologists, has been stimulating indeed and leaves one with the firm conviction that there is ample opportunity for successful exploratory effort within the regions considered.

2. WASHINGTON

T. J. ETHERINGTON, Standard Oil Company of California, San Francisco

The Cascade Mountains divide the state into two major climatic provinces. These mountains, while topographically a north-south range, are structurally a series of major anticlinal folds with N. 40° W. to E.-W. trends developed in Paleozoic and Mesozoic rocks which have been metamorphosed by large batholithic intrusions of granodiorite. This general pattern of folding is reflected in the Tertiary rocks throughout western Washington with the exception of the Olympic Mountains and the coastal belt.

The Tertiary rocks ranging from upper Eocene to Pliocene probably offer the best possibilities for the development of future oil and gas reserves. The Cowlitz (upper Eocene) formation is best developed in the Cowlitz-Puget Sound trough. The Oligocene is best developed in southwestern Washington and again along the Straits of Juan de Fuca and adjacent part of the Puget Sound. Miocene and Pliocene rocks are best developed in the vicinity of Gray's Harbor.

Volcanics in the form of tuffs, flows, and breccias of basic or medio-basic character are widespread