PACIFIC SECTION ANNUAL MEETING, LOS ANGELES, NOVEMBER 5–6, 1953
ABSTRACTS

1. GRAHAM B. MOODY, Standard Oil Company of California, San Francisco. Oil in California.

This is a discussion of the change in California's position in the national oil picture since the close of World War II. California is compared with other producing states as to exploratory effort and result. The dominant position of the thirty-three big wheels in California's oil is outlined. This paper may be considered as a sequel to one presented in November, 1946.

2. W. L. STANTON, Union Oil Company of California, Sacramento. Geology and Oil and Gas Possibilities of Western Washington.

The state of Washington is one of the few potential oil and gas provinces in the United States in which no commercial production has been developed. Market demand for oil and gas in the Northwest would make any discovery very attractive economically.

This paper deals with that portion of Washington situated west of the Cascade Mountains, approximately the western one-fourth of the state. An aggregate of over 50,000 feet of marine. Tertiary sediments of Pliocene, Miocene, Oligocene, and Eocene age are present. The stratigraphy varies greatly from one sedimentary basin to another, and up to 20,000 feet of sediments have been found in some of the basins. Volcanics varying greatly in thickness, according to their distance from their source vents, are common in the middle and lower Eocene. A few hundred feet of Miocene lavas extend part way across southwestern Washington.

Structural conditions of the area are typical of coast-range structure, except for the Olympic Peninsula area. The sediments of the western Olympic Peninsula have been folded, faulted, and crushed into one of the most complex structural conditions found anywhere in the world.

Most geologists who have worked in the area believe that commercial oil and gas discoveries will be made. Oil and gas seeps are present and in several areas sub-commercial production has been found. Source beds are abundant and permeable sands are present in all formations. Contrary to popular opinion, the lack of successful discoveries to date can be attributed more to poor structural locations of the wells drilled, rather than to lack of reservoir rocks.

Exploration is difficult, not only because of the complex structural and stratigraphic conditions, but surface exposures are limited by extensive glacial deposits and thick growth of forests and underbrush. Subsurface data are needed for intelligent exploration.

3. HAROLD H. SULLWOLD, JR., University of California at Los Angeles. Omission and Repetition by Faulting.

Misleading statements are commonly seen regarding omission and repetition of beds by faulting both in wells and in outcrop, and the speaker has been unable to find in the literature any adequate discussion of the problem. The most glaring oversight in the past has been failure to recognize the importance of ground slope on repetition and omission. While the discussion applies principally to strike faults, it would also be appropriate for oblique faults.

The problem is simple in vertical holes, for reverse faults repeat and normal faults omit section, except, where beds dip steeper than the fault, the opposite takes place.

In outcrop the effects are more complex due to the presence of ground slope. Factors influencing the results are the direction and amount of dip of (1) the fault, (2) the beds, (3) the ground slope, and (4) the kind of the fault (normal or reverse). For any fault, either repetition or omission can occur at the surface depending on the ground slope. Thus, it can not be determined from repetition or omission alone whether a fault is normal or reverse in well or outcrop.

An illustration is shown classifying the twelve possibilities based on the location of the ground surface with respect to the angle formed by the intersection of the beds with the fault. The classification fails in the case of folded and inverted beds, variations in ground slope beyond the limits of the classification, and in places in the case of absolutely vertical or horizontal beds or faults.

4. PAUL P. GOUDKOFF, Consultant, Los Angeles; A. I. Safonov, The Dow Chemical Company, Sacramento. Four Dimensional Study of Sedimentation in Sacramento Valley.

This paper is an attempt to present the stratigraphy of Sacramento Valley in space and time. Areal distribution of various formations penetrated by the drill, also their variation in thickness and facies, are demonstrated by a series of illustrations. Time of certain diastrophic movements and their effect on temporary sedimentation are discussed.

5. EVERETT W. PEASE, Consultant, Bakersfield; TENNANT J. BROOKS, Franco Western Oil Company, Bakersfield. Geology of the Alferitz Anticline Area, Kern County, California.

The Alferitz anticline area is located in northwestern Kern County (T. 25 S., R. 18 E., M.D.B. &