

Announcement was made of the election of ELMO W. ADAMS, of the Honolulu Oil Corporation, San Francisco, as the fifth Association representative in the Pacific Coast district for the 2-year term ending at the close of the annual meeting of the A.A.P.G. in 1946.

Election of officers of the Pacific Section of the Society of Economic Paleontologists and Mineralogists resulted in the following changes. GEORGE C. KUFFEL was succeeded by STANLEY S. SIEGFUS, as president; and RUSSELL R. SIMONSON was succeeded by JOHN W. RUTH, as secretary-treasurer.

ABSTRACTS OF PAPERS ON PACIFIC SECTION PROGRAM

NORRIS JOHNSON, Symposium on Inclined Water Tables. Capillary-Gravity Equilibrium in Oil Reservoirs

The position of the water table around an oil or gas accumulation may be affected by various constraints, both geological and physical. In the complete absence of geological constraint, the table is still not likely to be horizontal, except where the average pore size in the sand is uniform all around the pool. If the average pore size is much greater at the north end of a pool, for example, than at the south end, the result of capillary forces will raise the water table at the south end with respect to the level at the north end. A simple picture of this effect is obtained by considering the following experiment. In a vessel of water, set up a ring of vertical capillary tubes of bore proportional to the mean grain size at each point along the ring representing the oil-water interface. The position of the top of the water columns in these capillaries will then represent the water table tilt to be expected around the pool. The paper gives the required mathematics and a numerical application to a California pool with known water table tilt.

MARTIN VAN COUVERING, Symposium on Inclined Water Tables. Kettleman Hills North Dome

Kettleman Hills North Dome oil field, discovered in 1928, occupies a long narrow anticline on the west side of the San Joaquin Valley, California. The oil field is about 15 miles long and 2 miles wide. The crest of the anticline has been eroded, leaving exposures of the underlying formations so obvious that the structure was recognized many years ago. However, inferences about the extent and position of the oil accumulation, prior to the development of the field, were wrong. The history of this field provides an excellent illustration of the growth of geologic knowledge, and is discussed at some length.

Effective January 31, 1931, a unit plan of operation was adopted by the various lessees of Government land in the field. In November, 1932, a map was drawn in an attempt to establish the position of the 7,000-foot subsea structural contour. The position of this contour was agreed on by the member companies and was accepted as defining the probable productive area. Subsequent events have only slightly modified the general opinion about position of the 7,000-foot contour, but the productive area has proved to be substantially different than was originally believed. Development of the field, including the drilling of unproductive outpost wells, has demonstrated that production extends below the 7,100-foot subsea contour on both the northwest plunge and the northeast flank, while on the opposite plunge and flank, it reaches only about the 6,500-foot subsea contour. The latter flank is much the steeper.

What has caused this inclination? Various reasons are suggested, some of which are not original with the author. 1. Remnants of a dissected peneplain suggest a slight warping of the structure after accumulation had occurred following the main folding in middle Pleistocene time. An inference is drawn that cementation of the sands at the oil-water interface had prevented fluid readjustment. 2. Since the southwest flank is steeper than the northeast, the strata on that flank could have been subjected to more compression and