

68. R. W. SHERMAN, The British-American Oil Producing Company, Los Angeles, California  
*Del Valle Oil Field, Los Angeles County, California*

The Del Valle field, located about 40 miles northwest of Los Angeles, California, was discovered by R. E. Havenstrite, operator, September 8, 1940. Production is 33 gravity oil from 300 feet of sand in two zones in the upper 1,200 feet of the Modelo (Miocene). The structure is a southeasterly plunging anticline closed against a fault to the west and probably also by San Gabriel fault which parallels its north flank. It is estimated that the field will produce 75,000 barrels per acre and exceed 500 acres in extent.

69. ALEX CLARK, Shell Oil Company, Inc., Los Angeles, California  
*Pre-Miocene Stratigraphy of Bakersfield Area, California*

In the past 3 years exploratory wells drilled on the floor of the San Joaquin Valley near Bakersfield have penetrated the basement complex of pre-Cretaceous crystalline rocks at depths ranging from 9,280 to 13,970 feet. These wells have encountered a succession of Oligocene and Eocene marine sands and shales lying between the previously well known Miocene marine beds and the basement. A basal non-marine member of uncertain age lies below the marine Eocene and directly upon the basement.

The discovery of this succession of rocks is of considerable scientific and economic interest because no such rocks are present in the outcrops 15-20 miles east of the wells. There, marine Miocene beds with a basal non-marine member rest directly on the basement complex. Marine Oligocene beds are absent in the outcrops everywhere along the east side of the San Joaquin Valley. Marine Eocene beds are absent for a distance of 140 miles along the east side of the valley from the vicinity of Pastoria Creek at the south end and northward to the San Joaquin River over 100 miles north of Bakersfield. Commercial quantities of oil or gas have not as yet been found in the pre-Miocene rocks in the Bakersfield area.

70. A. F. WOODWARD, Stanley & Stolz, Los Angeles, California  
*Recently Discovered Middle Miocene Production in Inglewood Oil Field*

Miocene production has been extensively developed in almost every oil field in the Los Angeles Basin. The fact that the Inglewood field was one of the principal exceptions prompted the drilling of a deep test on the south flank of the Inglewood fold.

The test found the top of the Miocene at about 7,350 feet. The upper Miocene (Modelo) sediments consisted of shale, silty sand, and phosphatic nodular shale. A volcanic-sedimentary series encountered between 8,358-8,420 was believed to be of middle Miocene age. Middle Miocene (Topanga) silty sandstones and shales were found from 8,420 to 8,760 feet.

Production is coming from the lower part of the Modelo formation (upper Miocene) and also from the upper part of the Topanga formation (middle Miocene). This is believed to be the first middle Miocene production discovered in the Los Angeles Basin.

71. WILLIAM W. PORTER, II, consulting geologist, Los Angeles, California  
PAUL P. GOUDKOFF, consulting geologist, Los Angeles, California  
*Age of Shale in Amoura-Uscari Area, Costa Rica*

In Talamanca province on the Caribbean side of Costa Rica, microfauna in strata from the Amoura River a few meters from the mouth of Uscari Creek are lower Miocene in age, and are older than the Uscari formation as it is known from the publications of Olsson and Woodring. Some qualification is suggested as to future correlations with the Uscari formation because of the difference in age between strata of the Uscari-Amoura area in the field (not listed by Olsson or Woodring), and strata in other localities ascribed to the Uscari formation in the literature. The microfauna has a confusing similarity to pre-Miocene forms, but can be correlated with the lower Miocene of California.

72. EUGENE C. REED, assistant State geologist, University of Nebraska, Lincoln, Nebraska  
*Geologic Phases of Recent Oil Development in Southeastern Nebraska*

73. GLENN G. BARTLE, University of Kansas City, Kansas City, Missouri  
*Effective Porosity of Gas Fields in Jackson County, Missouri*

A study of four gas fields near Kansas City, Missouri, shows a production per acre varying between 400,000 and 2,000,000 cubic feet. Calculations of the space required