deposition was accompanied by compressive forces which folded the younger beds, but which were absorbed by the top few hundred feet of Miocene shale. This produced an upper structure which has no relationship with the structure in the lower beds. Oil-saturated sands are found in the Pliocene at structurally high positions along pinch-out lines.

9. BURDETTE A. OGLE, Wm. Ross Cabeen and Associates, Denver. Geology of the Eel River Basin, Humboldt County, California.

Eel River Basin, a westerly trending Cenozoic basin in Humboldt County, was the site of deposition of 13,000 feet of dominantly marine upper Miocene to Recent clastic sediments.

Pre-Tertiary formations in the region include the Franciscan and Yager formation (Cretaceous). Deposition of the Wildcat group on an eroded surface cut on Franciscan and Yager rocks began in Mohnian time with the basal beds of the Pullen formation (Mohnian-lower Pliocene). The Pullen, 600–1,000 feet thick, locally has a 200-foot thick basal sand, but is dominantly made up of massive diatomaceous mudstone. Overlying the Pullen disconformably is the Eel River formation (600–2,000 feet) which is characterized by glauconitic sandstones and dark gray mudstones containing a Repettian fauna. From 3,000 to 6,000 feet of middle to upper Pliocene mudstones, siltstones, and sandstones of the Rio Dell formation overlie the Eel River formation and overlap onto pre-Tertiary rocks in the northeastern part of the basin. Numerous thin, friable, permeable sands are present in the middle part of this unit; gas is produced from them in the Tompkins Hill gas field. Gradationally above the Rio Dell is the Scotia Bluffs sandstone, an upper Pliocene shallow marine to non-marine massive sandstone unit, 1,000–2,000 feet thick, noted for forming spectacular cliffs. Carlotta formation's non-marine massive conglomerates, sandstones, and claystones grade up from Scotia Bluffs sandstone. This 500–3,000-foot series of beds ranges in age from upper Pliocene to Pleistocene.

Rapid changes take place in thickness, character, and distribution of these units. Sedimentary and faunal evidence indicate deep-water deposition in the early history of the basin with gradual shallowing and eventual regression of the sea by late Pliocene.

Faulting probably aided in the early development of the depositional trough. The principal structural features of the basin are the major Eel River syncline and smaller anticlines on the north and south, and the northwest-trending Little Salmon fault.

10. OLAF P. JENKINS, California State Division of Mines, San Francisco. Status of Geological Mapping in California.

During revision of the 1938 edition of the State Geologic Map, the Division of Mines has examined and compiled available geologic mapping, published, and unpublished. Thirty topographic sheets, by the Army Map Service, are to serve as the base for the revised map. The first group of 8 of these sheets, in southern California, is in press. Geologic mapping which may be considered adequate for the 1:250,000 scale adopted for the new map covers over half (57%) of the state's area; 70% of this has been published. The most completely mapped provinces are the Sierra Nevada and the central and southern Coast Ranges. About 70% of the Sierra Nevada is covered by adequate available maps, and possibly 90% of the central and southern Coast Ranges has been adequately mapped, the latter mainly by petroleum geologists. Only 27% of the Mojave-Colorado desert is adequately mapped.

Geologic mapping in the state is progressing rapidly by the U. S. Geological Survey, the universities, the State Division of Mines, and other geologists. Approximately two-thirds of the geologic mapping in California published since 1940 has been published by the Division of Mines. The Division in September, 1953, had in press 6 quadrangle geologic maps, and field mapping has been completed in 25 additional 15-minute quadrangles. The U. S. Geological Survey, in cooperation with the Division of Mines, has been mapping mineralized areas in the state, and, in addition to the cooperative investigations, is mapping in connection with several mineral commodities, including the salines of the Mojave Desert; this last is to yield a reconnaissance geologic map of the Mojave within two years. The Survey is also reconnaissance-mapping 15,000 square miles in northwestern California. Several universities are sponsoring mapping projects, including the University of California in the high Sierra Nevada, Sierra Nevada foothills, the Salinas Valley, and Diablo Range; California Institute of Technology in the San Jacinto and Avawatz mountains; University of Southern California in the southern Coast Ranges and Peninsular Ranges; and Stanford University in the east Shasta district, Sierra Nevada foothills, and Santa Lucia and San Bernardino mountains.

The Division of Mines encourages the cooperation of geologists in furnishing information on geologic mapping in progress in the State and welcomes their inquiries.

11. EDWARD A. HALL and GERALD H. RICKELS, Union Oil Company of California, Santa Paula. Oakridge Oil Field, Ventura County, California.

The Oakridge oil field is located atop the Oakridge Mountains 2 miles east of the Torrey Canyon oil field and 3½ miles southeast of the town of Piru.