the distribution and thickness of these strata and of possible basins of accumulation within them, are discussed. Recent developments in exploration of this area are briefly summarized.

11. OIL PROSPECTS OF NORTHEASTERN NEVADA AND NORTHWESTERN UTAH
PAUL H. DUDLEY, Consultant, Long Beach

Intensive geological field work currently is being carried out in northeastern Nevada and northwestern Utah, in the northern part of the Basin-and-Range province. The first exploratory test of recent years is being drilled on the eastern side of the Pancake Range. Sediments are primarily Paleozoic and constitute one of the most complete and thickest sections of this group in America. Showings of oil, asphaltic material, and gas are known at several points. Devonian and Carboniferous limestones and the White Pine shale (Upper (?) Mississippian) are the best source rocks. Certain facies of the so-called Diamond Peak quartzite (Lower (?) Pennsylvanian) and the Weber conglomerate (Upper Pennsylvanian), as well as the Upper Paleozoic limestones themselves, may prove suitable reservoirs. The thermal effect of volcanic and granitic rocks on sediments is generally unimportant. The structure and stratigraphy indicate that there are anticlinal, fault, and stratigraphic traps within the area. Faulting probably will be the most important risk in exploration.

12. SAN MIGUELITO OIL FIELD
HUGH MCCLELLAN, Continental Oil Company, Los Angeles
RICHARD B. HAINES, Continental Oil Company, Ventura

The San Miguelito oil field, in Ventura County, California, was discovered in November, 1931, by means of surface geology. Accumulation occurs throughout a 2,500-foot series of Pliocene sands in a closed anticline, which is on the westward continuation of the Ventura Avenue axis. The field is bounded on the north by the south-dipping Padre thrust fault, which strikes nearly parallel with the axis of the fold and has an apparent vertical displacement of approximately 3,000 feet.

To date, 81 wells have been drilled and development is continuing. No wells have been abandoned. Total cumulative production to June 30, 1950, was 21,595,000 barrels of oil.

13. IS PETROLEUM GEOLOGY GEARED FOR WAR?
FRANK A. MORGAN, Vice-President, Richfield Oil Corporation, Los Angeles

Petroleum geology has grown up. The record speaks for itself. In the United States crude-oil reserves have been discovered and are being discovered in excess of withdrawals, permitting an efficient producing rate which is comfortably above present and immediately foreseeable demands.

With a peace-time domestic production and concurrent demand exceeding 2 billion barrels of crude petroleum in a single year, the responsibility of petroleum geology as an integral part of the oil industry is greater than ever before.

There can be little doubt that there are sufficient undiscovered reserves of oil stored in the vast sedimentary basins within the United States to supply the demands of our way of life for generations. The oil industry alone can locate and develop these reserves at an efficient rate if the fine balance of organization, economics, and science required for such an operation is not undermined by thoughtless interference from various departments of government.

In addition to the immediate fruits of discovery, the over-all exploration effort constitutes, in effect, a long-term research program with the power to shape the future in oil productive capacity. Private competitive enterprise with its assured continuity of effort provides the best base for this type of research. In this environment the science of petroleum geology will continue to do the job to meet the demands of peace or war.

14. DEVELOPMENTS IN CUYAMA VALLEY—1950
ARTHUR S. HUEY, The Hancock Oil Company of California, Long Beach

The Cuyama Valley in 1950 continues to be an important area in California for the drilling of both field development wells and wildcats. More than 50,000 barrels of high-gravity oil are now produced daily from the combined fields of Cuyama. The Russell Ranch field, discovered in June, 1948, has reached a state of almost complete development and now produces 21,000 barrels of oil per day from 138 wells. The South Cuyama field, discovered in May, 1949, is incompletely developed and now produces about 29,000 barrels of oil per day from 155 wells. The geology of these proved fields is not reviewed.

Thus far in 1950, about 45 wildcat wells have been drilled in the Cuyama-Carrizo area and only the three which resulted in new discoveries in the Morales Canyon area of North Cuyama were successful. This rather low discovery ratio of 1:15 reflects the complexity of the geologic structure and the difficulty of finding new oil in Cuyama Valley. The Superior Oil Company completed "Government" No. 18-2 in Sec. 2, T. 11 N., R. 28 W., S.B.B. & M., on April 1, 1950, flowing from an undisclosed formation in the interval 5,635–6,125 feet, 500 barrels per day of 37.5° gravity oil, 2.5% cut, through ½-inch bean with 400 pounds pressure and 250 M.c.f. gas. Immediately surrounding this well, one additional pumper has been completed, three dry holes abandoned, and one well is currently drill-