

The producing zone was discovered by Union "Oakridge" 1-3 ("Simi" 17) which recovered 1,700 feet of clean 23° oil on a one-hour, 8-minute formation test from the interval 2,851 to 2,926 feet. As "Oakridge" 1-3 prospected ahead, "Oakridge" 2-10 was drilled and completed in the "Luisian" zone, pumping 390 B/D, 8% cut, 21.7°, 129 Mcf. from the interval 2,852-3,298 feet. Potential productivity of the "Luisian" sands was first indicated by oil showings cored in Union Wildcats "Simi" 10 and 15. The discovery well was located to test these showings in a higher structural position.

The generalized section is as follows: lower Mohnian shale, Luisian siltstone, Luisian sand, Topanga and Vaqueros sand, Sespe sand.

The so-called "Luisian" production comes from foraminiferous Luisian sands above an angular unconformity and from unfossiliferous marine sands below which are thought to be Topanga and Vaqueros undifferentiated. The most prolific wells are down structure near the discovery well, since the producing sands become thinner and siltier up structure to the north and west. A troublesome wedge of intermediate water sand directly underlies the unconformity, with increasing thickness north and west.

Oil accumulation is on an asymmetric, unfaulted, easterly plunging nose, with reason for closure on the west unknown, but believed to be stratigraphic. Dips on the steep north flank average 60°-70°, on the south flank 30°-35°. In the west end of the field the east plunge is gentle, becoming more abrupt on the east. This simple structure lies beneath the folded Santa Susana thrust, with a complex folded and faulted Miocene section above the fault as seen on the surface.

The field is being actively developed and 33 wells produce approximately 3,800 B/D. No dry holes have been drilled, and no definite limits proved, except at the north. A shallow low-pressure oil sand discovered in the east end of the field by Union "Oakridge" 11-3 remains for further evaluation.

12. RICHARD H. JAHNS, California Institute of Technology, Pasadena. G.S.A.—Division of Mines Volume on the Geology of Southern California, Edition of 1954.

A 3-day field trip, two 2-day trips, and three 1-day trips are being planned as parts of the program for next year's annual meeting of the Geological Society of America, scheduled for Los Angeles in November, 1954. Guidebook coverage of the usual type is in preparation for these excursions, mainly by the trip leaders and by members of the State Division of Mines. In addition, it has seemed desirable to supply more general geologic data than are included in most annotated road logs, and to this end a volume on the geology of southern California is being prepared for publication by the Division of Mines.

Organization of the book was the work of a 4-man committee, and was facilitated by advice and suggestions from numerous representatives of industry, State and Federal surveys, and academic institutions. The volume is intended to be a broad sampling of geological features and thought, as they relate to the southern California region, and its contents reflect an approach that is partly geographic and partly tropical. Emphasis has been placed on a wide variety of contributions by investigators qualified to make authoritative presentations and interpretations of data.

The major sections of the book deal with physical geography, general geology of the natural provinces, historical geology, geologic structure, geomorphology, mineralogy and petrology, hydrology, oil and gas, mineral deposits, and engineering geology. Some of the individual contributions are general in scope, and others deal with specific areas or problems; many contain information hitherto unpublished. Supplementing the main part of the book is a group of approximately thirty map-sheets of selected areas; each sheet includes a geologic map, sections, and a brief text. The entire volume comprises 108 contributions from 90 authors.

13. JOHN LOGAN, U. S. Bureau of Reclamation, Fresno. Groundwater Geochemistry in Southeastern San Joaquin Valley, California.

South of the Kern River and east of the line Bakersfield-San Emigdio Creek, groundwaters pumped for irrigation occur in several chemical and geographic types. These are: (1) Kern, (2) Caliente, (3) El Paso, (4) San Emigdian, (5) Grapevine Transition, (6) East Bakersfield, (7) Kern Mesa, (8) Saline.

The first four comprise the main water-body and underlie most of the area; they are chemically related to the recharging streams. Type 5 may represent a wide interface between 3 and 4.

The remaining types are not related to their local streams. Types 6 and 7 are complexes that can not yet be subdivided; structural controls are important to their occurrence. Type 8 represents natural contamination of the groundwater reservoir by petroleum brines.

Abnormal quantities of boron northeast of Arvin are superimposed on the Caliente type by additions of juvenile waters. Pollution by the petroleum industry is not now significant. Generally, vertical zoning of the chemical types is not pronounced. Although most of the groundwaters are eminently suitable for irrigation, some are not of desirable quality for that purpose.