

M.) 25 miles south of the town of Avenal and lies between the Pyramid Hills and Devil's Den oil fields.

Approximately 13,000 feet of sediments, ranging in age from Pliocene to Eocene have been deposited in the area since Cretaceous time. These beds thin from east to west due to both erosion and to several important unconformities. Commercial accumulations of oil have been found in eight different zones within these beds—due both to folding and faulting.

This area, referred to by Ralph D. Reed as, "a complex group of low hills," presents a very complicated structural picture. Although the surface axis of the Alferitz anticline trends N. 25° W., the axis in the lower beds has nearly an east-west trend.

Oil is produced from both the Alferitz Anticline field and from the smaller "Hillview" area in the north part of the area. Total production is approximately 500 barrels a day and varies from 15° in the Escudo sand to 34° in the lowermost productive interval in the Point of Rocks sand. Eight productive zones have been found as follows: five zones within the Point of Rocks sand, the Tumeys shale, the Agua sand, and the Escudo sand.

6. V. L. VANDER HOOFF, Intex Oil Company, Santa Barbara. Review of Sespe Paleontology.

A review of what is known of the Sespe fauna and flora leads to the following comments.

1. The meager vertebrate fauna is not diagnostic of the climate or environment or mode of deposition. It may be stated with certainty that the Sespe contains the osseous remains of land vertebrates of late Eocene, Oligocene, and early Miocene age. But it may be said with nearly equal certainty that most, if not all, of these remains have been transported some distance from the normal geographic habitat occupied by the animals in life.

2. The absence of fresh-water invertebrates supports the suggestion that the Sespe is not fluvial or lacustrine.

3. The absence of marine animals leads to the belief that the Sespe is non-marine.

4. The absence of any flora leads to the impression that the distributive provenance was without plants.

5. The concluding comment is that the Sespe is non-marine deposit derived from deeply weathered and numerous distributive land areas of high relief. Its heterogeneity of color and sorting gives it a homogeneity for field recognition, but the real nature of its deposition may perhaps be solved by some future and ingenious multiple hypotheator.

7. ROBERT H. PASCHALL, Amerada Petroleum Corporation, Ventura. The Sespe Formation of the Santa Barbara Embayment.

The Sespe formation, composed of red, buff, and gray sandstone and conglomerate, and red and green siltstone, has a landward extent of about 1,250 square miles, and a volume of about 950 cubic miles. Its seaward extent may be greater or much less than that on land, since its presence in the Channel Islands chain is confined to Santa Rosa Island. Its maximum thickness of about 7,000 feet is found in the Simi Valley, near the formation's present east margin. In general the formation thins westward, due in part to gradation into beds of definite marine character.

The Sespe has an age range possibly as great as from upper middle Eocene to middle Miocene. The formation's vivid colors and scarcity of organic matter, especially in its eastern portion, combined with its lateral gradation into beds of undisputed marine character, are suggestive of a non-marine origin for the bulk of the formation. The Sespe does not appear to be a unique unit from the standpoint of time-lithology association. Many other sedimentary basins in Southern California possess similarly appearing rocks occupying about the same place in the geologic column. It would seem that widespread climatic and orogenic factors contrived to produce these formational cousins at about the same time.

Sespe oil production has been established over an east-west belt 90 miles long. Current production from the Sespe is about 17,000 barrels daily, 95% of which comes from fields on the 17-mile-long Oak Ridge uplift. Different zones in the Sespe formation produce from field to field, even along Oak Ridge, in a manner suggestive of varying or multiple sources for the Sespe's oil.

8. DOUGLAS WILSON, Intex Oil Company, Bakersfield. Sheep Springs Area, Cymric Oil Field, Kern County, California.

The Sheep Springs area of the Cymric oil field is located on the west side of the San Joaquin Valley approximately 40 miles due west from Bakersfield. Sheep Springs is relatively small, both in areal extent and in total oil reserves; however, it includes complex structural and stratigraphic traps which will be characteristic of probable future Westside oil fields.

Production is obtained from at least five different sands ranging in age from Pliocene to Oligocene. All but one of these sands pinch-out within one mile of the wells in which they are productive.

During the Miocene the Salt Creek anticline, with its associated normal faults, was developed. Oligocene and Miocene oil accumulated near pinch-outs of the sands and was localized by faults on the plunging nose and north flank of the anticline. After a period of erosion, Pliocene and Pleistocene