

8. Airborne Magnetometer Profile across Cuyama Valley, Wayne Hoylman, Fairchild Aerial Surveys, Incorporated, Los Angeles, Calif.

Several northeast-southwest airborne magnetometer profiles across the structural trends in the Cuyama Valley, Caliente Range and Carrizo Plains area, including the Russell Ranch oil field, will be shown in comparison with a geological cross section of the same areas with interpretative comments.

9. Oceanic Sand, J. H. McMasters, Honolulu Oil Corporation, Bakersfield, Calif.

The Oceanic sand was named from its discovery as an oil producing zone in the Independent Exploration Company's well Oceanic No. 1, Sec. 22, T. 29 S., R. 21 E., Cymric field, in 1945. Its stratigraphic position is in the Refugian stage of the Oligocene series, and it is correlated in general with the "Y" zone of North Belridge field and the Wagonwheel sand outcropping north and southwest of Wagonwheel Mountain in the Devils Den region. The limits of its areal distribution are rather loosely controlled except on the west, but in general they define a narrow band extending from Devils Den at least as far south as McKittrick.

The economic importance of the Oceanic sand has been established in the Belgian anticline, Cymric, Bacon Hills, and North Belridge fields, and continued exploration should develop other pools.

10. West Mountain Oil Field, Leo H. Moir, Jr., Wilshire Oil Company, Incorporated, Los Angeles, Calif.

The West Mountain oil pool is a part of the South Mountain oil field and is the most westerly dome on the anticlinal Oak Ridge uplift in Ventura County, California. Normal faulting separates this fold into three blocks, each with different productive capacities. The oldest beds outcropping on the structure are of Oligocene (?) Sespe age. Drilling has penetrated this formation which is divisible into an upper and lower part on the basis of lithology. Saturation is confined to bottom conglomeratic portion of the "upper" division and the upper 1,500 feet of the "lower" division. A peculiarity of this "lower" division is the lenticular nature of the strata and their reaction to the waters normally used in the drilling muds. The Eocene beds have been penetrated, but the contact lacks sufficient lithological or foraminiferal character to determine the exact point of contact. Sands within this gradational zone show some saturation, but are as yet untested. At present, 27 wells drilled in this pool have proved at least 325 acres and have produced to date over 425,000 barrels of oil.

11. Major Elements of Utah Geology and Current Exploration Program, J. Stewart Williams, Utah State Agricultural College, Logan, Utah.

A general discussion of the stratigraphy and structure of the sedimentary areas of that part of the Colorado Plateau and eastern Basin and Range province located in this state.

The current exploration program has already resulted in two discoveries, one by Equity Oil Company on the north limb of the Uinta basin and the other by The California Company near Escalante in the Kaiparowitz basin in the southwest part of the state.

12. Possibilities of New Stratigraphic Trap Areas in Rocky Mountain Region, Henry Carter Rea, consultant, Casper, Wyoming.

The Rocky Mountain region offers every type of structural and stratigraphic trap favorable for the accumulation of oil. The presence of many well defined surface anticlines has given the impression that this region is strictly a structural province and the stratigraphic trap has been relegated to a place of minor consideration.

Because of the profitable development of the Cretaceous sand traps along the east side of the Powder River basin of Wyoming, this type of accumulation will be elaborated on to indicate that where similar geologic conditions exist in other of the Rocky Mountain basins the same type of production can be expected.

Fundamental in this concept of sand trap accumulation is that structural considerations as we know them, do not apply. To discuss the various theories on the origin, migration and accumulation of oil to account for this type of accumulation is to beg the question. The fact has to be recognized that the Cretaceous sands of the Rocky Mountain region are extremely lenticular and are capable of forming favorable traps for the accumulation of oil due to the lensing of the sand members themselves—on structure, on regional dip, and in synclines.

To date no method, other than the drill, has been devised to isolate an oil-bearing sand lens with any degree of certainty that one will be found. This "punch-board" type of exploration and development drilling is frowned upon as being unscientific, but it has proved very profitable to many operators in the Powder River basin of Wyoming. From the economic standpoint it has several

advantages in that very little preliminary geological work is required; because geophysics are of no aid in this problem they do not have to be considered; drilling depths can be chosen to suit the operator's equipment and finances; and finally, considerable latitude is offered in choosing a well site. Since there is no relationship between depth to the sand (if present) and production, the cost of exploring a sand lens area with wells 2,000 feet in depth (or less) would be commensurate to a core drill program of similar depth.

To support the contention that accumulation of the type discussed is more dependent on reservoir media than on structural considerations the following producing areas are cited.

1. Shannon pool off north plunge of Salt Creek, and Bothwell syncline west of Salt Creek field
2. Dakota production in Big Muddy field
3. Dakota production in East Lance Creek field
4. Dakota production in North Ant Hills area
5. Newcastle sand, Dakota and Lakota production in Mule Creek field
6. Dakota production in Bridge Creek area
7. Muddy or Newcastle sand production in Mush Creek-Newcastle-Osage fields
8. Dakota production in Lodgepole area
9. Frontier production in Upton-Thornton area
10. Newcastle sand production in Moorecroft area

All of the examples are in the Powder River basin of Wyoming.

In conclusion it should be mentioned that there are many other areas in the Rocky Mountain region where production of the type discussed can be obtained. It can be further stated that in any one of the Rocky Mountain basins where Cretaceous rocks are present the possibilities for sand trap accumulation exist.

13. Recent Developments in Canada, L. M. Clark, Barnsdall Oil Company, Calgary, Canada.

Recent oil developments in Canada have been largely restricted to Alberta. Some exploratory work, including drilling, has been carried on in northeastern British Columbia, Saskatchewan, Manitoba, Ontario, and the Maritime provinces. Geophysical exploration in Alberta has reached an all time high with forty seismographs, nine gravity meters, one magnetometer and a number of core drills and stratigraphic drills operating. This work has been largely concentrated in the Central Plains, although the Southern Plains and foothills are receiving considerable attention. Recent important discoveries, in addition to the Leduc oil field which produces oil from two dolomite zones in the Upper Devonian as well as from a Lower Cretaceous sand, include the Gulf Pincher Creek Mississippian limestone gas and condensate discovery in the southern foothills, and Imperial's Redwater No. 1 well which appears to have found another Devonian oil field thirty miles northeast of Edmonton. Other recent finds include a small Lower Cretaceous sand discovery at Bantry jointly by California Standard and Imperial, several pool extensions in the Lloydminster oil field, a gas discovery in the Cretaceous Peace River sand of the Peace River district of northeastern British Columbia and northwestern Alberta by Pacific Petroleum Limited, and a small heavy oil discovery by Bata Petroleum near the Alberta-Saskatchewan boundary eighty miles south of Lloydminster in a Lower Cretaceous sand.

One hundred and thirty wells were drilled in Alberta during the first six months of 1948. Using the A.A.P.G. classification, there were 110 completions, 74 of which were field development and 36 exploratory wells. Five field development wells were dry holes. Considering the exploratory wells, 5 outpost wells were successful and 5 were dry holes. Among the new field wildcats, Imperial's Woodbend No. 1, north of Leduc, discovered what is probably a new pool. Of the approximately 165,000,000 acres comprising the Province of Alberta, approximately 41,000,000 acres are currently held under lease or reservation.

14. History of Continental Shelf of Gulf of Mexico, Paul Weaver, national president, A.A.P.G., Houston, Texas.

Some authors consider the shore line as a hinge line with the land surface uplifted and the shelf downwarped. The author shows that this is by no means the general case and especially describes the geology of the shelf in the Gulf of Mexico.

15. Jasmine Oil Field, Robert W. Casey, Pacific Oil and Gas Development Corporation, San Francisco, Calif., and Fred Sperber, consultant, Bakersfield, Calif.

This field was discovered by Pacific Oil and Gas Development Corporation, July 25, 1946, upon completion of Cantleberry No. 72-5 pumping 84 B/D of 13.5° gravity oil from the interval 2,763-2,794 feet in the lower Vedder zone. At present there are seven producing wells in the field.