7. GEOLOGY OF BEAVER CREEK OIL AND GAS FIELD, FREMONT COUNTY, WYOMING. By C. C. STITELER, Stanolind Oil and Gas Company, Casper, Wyoming.

The Beaver Creek oil and gas field was discovered in 1938 with completion as a gas well of the Johnson No. 1 from the Lakota sand. The well was shut in until 1944, after which date eight additional gas wells were drilled, producing gas from five Frontier sands, the Muddy, and Lakota sand. Oil was discovered on a test to the Tensleep sand in 1948, at a depth of 10,450 feet. No tests have been drilled to the upper Mississippian or Madison formations, but oil production is believed possible in these deeper beds.

Total closure has not yet been established. Proved productive closure is approximately 1,200 feet.

The Beaver Creek anticline is a gentle fold in the Wind River beds at the surface, the axis trending north-south and having about 100 feet of structural closure. Subsurface data indicate more sharply folded beds from the Cretaceous through the Triassic, with the structural axis changing direction to trend slightly northwest-southeast.

Below the Triassic, the structure is less pronounced, indicating differential movement through the stratigraphic column from compression stresses. Subsurface and surface data indicate that Beaver Creek and Riverton dome, on the northwest, are on the same structural axis.

8. GEOLOGIC NOTES ON WESTERN NEBRASKA. By GEORGE R. VERONDA, Ohio Oil Company, Casper, Wyoming.

Stratigraphic and structural discussion bearing essentially on the Cretaceous system in an area of western Nebraska is attempted.

Strata between the base of the Tertiary and the top of the Upper Jurassic Morrison formation are described. Suggested correlation with similar sections in adjoining areas is attempted by means of well logs, electric logs, and limited paleontological studies.

Structural discussion is limited essentially to the data made available by operations and studies accomplished after the discovery of the first commercial oil and gas in western Nebraska.

Brief comments on the structure and stratigraphy of the Tertiary and pre-Cretaceous systems are offered.

9. RECENT DISCOVERIES OF OIL AND GAS IN NORTHEASTERN COLORADO. By HARRY L. THOMSEN, Shell Oil Company, Denver, Colorado.

The discovery of oil in Cheyenne County, Nebraska, by the Ohio Oil Company in 1949, touched off a major land and exploration play on the east flank of the Denver basin. To date, in the Colorado portion of the basin, this play has resulted in the discovery of seven new fields. The history of exploration which led to these discoveries is reviewed and the extent of present development of each field is described.

10. DISCOVERY OF OIL IN TERTIARY GREEN RIVER FORMATION OF UINTA BASIN, UTAH. By VERNE E. FARMER, JR., The Carter Oil Company, Vernal, Utah.

The surface occurrence of a variety of hydrocarbons caused the interest of a few independent operators at an early date, but intensive geological and geophysical work by the major companies did not begin until after the second World War.

Five wildcat failures between 1946 and 1949 preceded the initial discovery in the Carter-Stanolind Ute Tribal No. 1 in June, 1949. Production from the Roosevelt pool is approaching 300,000 barrels.

The oil produced from the Roosevelt pool has a gravity of 32.6° API and is extremely paraffinic as indicated by its pour-point of 90°. The reservoir consists of fractured oil shale, and has the distinction of being the first large-volume fractured shale production in the Rocky Mountain area.

Experience has indicated a number of detection problems involved in locating fracture production. No method of mechanical logging has been found which will isolate either productive or nonproductive fractures.

Four other wildcats, located roughly in the northeastern quarter of the Uinta Basin, are now drilling. Current indications offer considerable promise of additional Tertiary discoveries in the near future.

11. STATISTICS ON EXPLORATORY DRILLING IN SAN JUAN BASIN AREA. By PAUL H. UMBACH, Stanolind Oil and Gas Company, Albuquerque, New Mexico.

The number of wildcat wells drilled in the San Juan Basin during 1950 increased over the number drilled in 1949 by approximately 300 per cent, with a total footage increase of over 400 per cent.

Thirteen per cent of the wildcat wells drilled during 1949 were successful compared with fifty per cent for 1950.

Most of the successful wells were drilled on Mesaverde and Pictured Cliffs trends of porous and permeable sandstones.

12. STRATIGRAPHIC OIL AND GAS POSSIBILITIES IN SAN JUAN BASIN, NEW MEXICO AND COLORADO. By CASWELL SILVER, Consultant, Albuquerque, New Mexico.

Lateral changes in lithology of the Cretaceous, Jurassic, Pennsylvanian, and lower Paleozoic rocks indicate conditions favorable for oil and gas occurrence. Cross sections are shown which illustrate the stratigraphy. Maps are used in locating areas where the stratigraphy is significant.