

A major wedge-belt of porosity in the Cretaceous rocks is divisible into an upper part containing large accumulations of gas and a lower part relatively untested. Jurassic rocks have three stratigraphic possibilities for oil and gas. Source beds for oil and gas in the Jurassic rocks may be in the overlying marine Cretaceous rocks, the included Wanakah formation, and the locally truncated and overlapped marine Paleozoic sediments. Meager outcrops and well data suggest repeated overlap relations in beds of Pennsylvanian age. These marine units contain coarse clastic facies, which were deposited marginal to positive elements on the north and east sides of the basin. Mississippian and Devonian beds which lie locally above the pre-Cambrian show both primary and secondary features favorable to accumulation.

13. SUMMARY OF REGIONAL GEOLOGY IN SOUTHWEST WYOMING COVERED BY FIFTH ANNUAL FIELD CONFERENCE, WYOMING GEOLOGICAL ASSOCIATION. By W. W. RUBEY, U. S. Geological Survey, Washington, D. C.

The area of southwest Wyoming covered by the Field Conference lies west of the Rock Springs uplift, southwest of the Wind River range, north of the Uinta Mountains and south of the Gros Ventre range. It is underlain at the eastern edge, the Rock Springs uplift, by shelf sediments of Paleozoic, Mesozoic, and Cenozoic age. The western portion is made up of the same age beds of much greater thickness and with considerable stratigraphic variation from the shelf sediments. Because thrust faults are the basic structural feature of the western area, a well exposed section of any considerable orderly thickness is virtually impossible to find. This area of thick sediments and thrust faulting extends into eastern Utah and eastern Idaho although the Conference did not get into these areas. Irregular exposures in the mountains and absence of any data on the transition zone eastward until the Rock Springs uplift is encountered, have made correlation problems particularly difficult.

14. FIRST FIELD CONFERENCE OF BILLINGS GEOLOGICAL SOCIETY. By L. S. GARDNER, U. S. Geological Survey, Billings, Montana.

The first field conference of the Billings Geological Society was held on September 15, 16, and 17, 1950. The conference featured a three-day trip into the beautiful mountainous region of southwestern Montana where early American geologists first studied and named many of the rock formations now recognized in the northern Rocky Mountains. The travel route led westward from the structurally simple plains region of central Montana up the Yellowstone River valley between thick piles of volcanic rocks resting on pre-Cambrian and Paleozoic formations in the Yellowstone Plateau and Beartooth Mountains on the south and the dike- and sill-riddled Cretaceous rocks that form the Crazy Mountains on the north. Thence the route crossed the zone of complexly faulted and folded mountains and valleys at the eastern edge of the Rocky Mountains province and approached the crumpled eastern margin of the old Cordilleran geosyncline where Paleozoic and lower Mesozoic rock formations from the plains region begin to thicken greatly and change in lithology.

In this region of rough topography and complex geology, distances between points of geologic interest are relatively short. Stops were made at excellent exposures of rocks belonging to every period of geologic time, except the Silurian, from pre-Cambrian to Cretaceous, and lecturers called attention to the principal geologic features and compared them with features seen at other stops.

A compact well illustrated and clearly printed guidebook furnished road logs for each day's travel as well as interesting comments on geologic and historic points that could be seen between the stops. The guidebook also contained nine short informative articles by "men who know Montana geology best" on stratigraphy, oil geology, mining geology, and engineering geology.

15. REGIONAL GEOLOGY OF UINTAH BASIN COVERED BY 1950 FIELD CONFERENCE OF INTER-MOUNTAIN ASSOCIATION OF PETROLEUM GEOLOGISTS. BY ORLO E. CHILDS, Phillips Petroleum Company, Salt Lake City, Utah.

16. DISTINGUISHED LECTURE—DEVELOPMENT OF THE OCEAN AND THE ATMOSPHERE. BY W. W. RUBEY, U. S. Geological Survey, Washington, D. C.

17. DEVONIAN CORRELATIONS IN WYOMING-MONTANA-ALBERTA-SASKATCHEWAN. By L. L. SLOSS and JOHN M. ANDRICHUK, Department of Geology, Northwestern University, Evanston, Illinois.

Regional correlations in the Devonian have been obscured by diversity of treatment and the erection of numerous names for local lithologic developments. Broad-scale studies suggest that four operational rock units can be carried over much of the area and that these form a rational basis for analysis of the complex stratigraphic problems involved. Four units are recognized.

(1) A basal unit including the "Basal Devonian unit" and "Dc" unit of Montana. Ghost River formation of the Alberta mountain front, and Elk Point and equivalent units in the Alberta-Saskatchewan subsurface.

(2) A lower limestone unit including the limestone member of the Jefferson formation, the Fairholme formation (minus uppermost beds), and lithologic equivalents in the subsurface.

(3) A dolomite-evaporite unit including the dolomite member of the Jefferson (plus evaporite-breccia zones in the lower part of the Three Forks), the lower part of the Darby formation of Wyoming, the Potlatch anhydrite, Morro member of the Palliser and Alexo silt of the Fairholme, and lithologically equivalent subsurface units.

(4) An upper post-evaporite unit including the upper part of the Three Forks formation, the