PITTSBURGH REGIONAL MEETING, OCTOBER 4–9

The regional meeting of the Association at Pittsburgh, Pennsylvania (September *Bulletin*, pp. 1844–46) attracted an attendance of 250 geologists at the program sessions in the William Penn Hotel and 100 on the 4-day field trip across Pennsylvania and New York. Copies of the 121-page, profusely illustrated guidebook, prepared by the Pittsburgh Geological Society, are available at $5.00 per copy, by writing Geo. C. Grow, Jr., 545 William Penn Place, Pittsburgh 19, Pennsylvania.

ABSTRACTS OF PITTSBURGH PAPERS

1. "General Orientation: Review of Geology of Appalachian Area," *by R. E. Sherrill.*

This paper reviews the general geology of the Appalachian basin for a better understanding of the remaining papers on the program and of the field trip. Particular attention is directed to the types of accumulation now known to prevail in the older fields and to the stratigraphic and structural problems in the search for new production.

2. "Petrology and Paleogeology of Greenbrier Limestone," *by Gordon Rittenhouse.*

This paper outlines the petrology and paleogeography of the Greenbrier formation of Mississippian age, as determined from study of well samples, insoluble residues, heavy minerals, and thin sections. In the Greenbrier, clastic limestone beds composed of calcareous sand, oölites, and quartz sand alternate with beds of fine-grained limestone in which clastic texture is indistinct or can not be recognized. The clastic limestones appear to be near-shore sediments and in part probably are ancient bar, beach, channel, and dune deposits and have the shapes and trends characteristic of such deposits. About half of the production of oil and gas from the Greenbrier is from clastic limestones; about half from dolomite and dolomitic limestone.

Dolomite and dolomitic limestones are largely confined to the basal 20–30 feet of the formation. This basal zone appears to transgress both structure and time units. The dolomite clearly replaces limestone. Four methods by which magnesium-bearing waters could be introduced into the formation are suggested and the probable pattern of dolomitization resulting from each method is considered.

The quartz sand in the Greenbrier was derived from two or more different sedimentary sources on the north. Earlier Mississippian and Upper Devonian sands of West Virginia, Ohio, and Pennsylvania were not important sources of the quartz sand.

3. "Hemlock Grove Oil Field," *by R. L. Alkire.*

Two factors have seriously handicapped the presentation of this review. One is the lack of a thorough understanding of the nature of oil accumulation in the Berea sand and the other is the unavailability of sand data and production statistics within the field. Several cores have been taken but the results of their analysis have not been released. In the absence of such information this paper is confined to a historical review leading to the discovery well, the field development, and finally a limited discussion of the Berea sand.

4. "Geology of McDonald and Adjacent Oil Fields, Allegheny and Washington Counties, Pennsylvania," *by A. I. Ingham.*

The McDonald, Venice, McCurdy, and Moon Run oil fields form a producing area 15 miles long by 1–4 miles in width, located in southwest Allegheny and north Washington counties, Pennsylvania. Regionally the area is in the western part of the Appalachian foreland, and approximately 5 miles west of the axis of the Pittsburgh-Huntington synclinorium.

Development in the area took place largely during the period 1890–1900. The McDonald field, one of the largest and most prolific in the Appalachian basin, was discovered in 1891. Two wells in the field each had an initial production variously estimated at 14,000–17,000 barrels per day. In late 1891, McDonald was producing 1,800,000 barrels per month. Cumulative production of all the fields to the middle of 1909 totalled 42,135,000 barrels.

The Wildwood anticline and Mt. Nebo syncline, northeast-southwest trending structures, pass through the fields. Approximately perpendicular to these two structures, and limiting them on the south, is the Cross Creek syncline. Minor structural features are common. Regional dip is south and southeast into the Nineveh and Cross Creek synclines.

Oil is produced principally from Conewango sands of Upper Devonian age—One Hundred foot, Fifty foot, Lower Nineveh, Gordon Stray, Gordon, Fourth and Fifth sands—the last three producing most of the oil.

The fields are typical of the stratigraphic-trap type, oil accumulation in the various pools being