10. Stratigraphy and Structure of the Arbuckle Limestone in the Arbuckle Anticline, by William E. Ham, geologist, Oklahoma Geological Survey, Norman, Oklahoma.

The Arbuckle limestone of upper Cambrian and lower Ordovician age is 6,700 feet thick and is divided into eight formations which in ascending order are Fort Sill, Royer, Signal Mountain, Butterly (top of Cambrian), McKenzie Hill, Cool Creek, Kindblade, and West Spring Creek. These units crop out over 100 square miles of the Arbuckle anticline in the western Arbuckle Mountains.

Principal features of Arbuckle limestone stratigraphy are:

1. The sequence is about 98 per cent carbonate rock, the remaining part being:
   (a) thin sandstone beds, and
   (b) shale, chiefly in the form of partings.
2. Limestone is the original deposit and dolomite in general is a replacement of it. The limestone types consist mostly of:
   (a) algal beds,
   (b) calcarentite or pellet limestone, grading into intraformational conglomerate,
   (c) fine-grained limestone, either laminated or massive, and
   (d) oölitic limestone.
3. Distribution of sand and chert is of value for subdivision and correlation. Sand is lacking in Cambrian strata except coarse arkose at or near the Cambrian-Ordovician boundary, whereas Simpson type sand in limestone is common in Ordovician formations. Chert is rare in Cambrian but prevalent in Ordovician strata.
4. No physical evidence for unconformity is recognized in the Arbuckle limestone.
5. Faunal zones are persistent laterally and are close approximations to true time horizons.
6. Major dolomite-limestone facies are chiefly in Cambrian beds and are regional in scope, the contacts changing progressively along strike at the rate of 5-17 feet per mile. The dolomite-limestone ratio increases eastward.

Principal features of structural history are:

1. Anticlinal folding, overturning of the north limb and locally of the south, and accompanying thrust faulting, in post-Hoxbar, upper Pennsylvanian time, coinciding with major folding of the Ardmore basin.
2. Deposition of stratified limestone conglomerate more than 2,000 feet thick in the Turner Falls area, and folding of this conglomerate as part of the Arbuckle orogeny.
3. Later elevation and high-angle faulting, accompanied by only minor folding, in latest Pennsylvanian (Vanoss) time, resulting in deposition of the younger and thinner Pontotoc conglomerate as a bordering rim on the north and west flank of the Arbuckle Mountains.

11. Fusulinid Chart for Pennsylvanian Correlations in Mid-Continent Area, by H. H. Kapner, Tulsa, Oklahoma; R. V. Hollingsworth and Harold L. Williams, Midland, Texas.

A correlation chart covering north Texas, southern Oklahoma, central Oklahoma, northern Oklahoma, and Kansas is presented. The chart uses the basic divisions as used in other recent correlations and shows continuities of formations as indicated by fusulinid determinations.

12. Geology of McAlester-Arkansas Valley Basin, by T. A. Hendricks, B. A. Curvin, and August Goldstein, Jr., Stanolind Oil and Gas Company.

The purpose of this paper is to outline the regional geologic features of the McAlester-Arkansas Valley basin. Much of the material for the paper has been consolidated from published papers of the U. S. Geological Survey, Oklahoma Geological Survey, and Bulletins of the A.A.P.G. This material has been brought up to date and data added by each author together with considerable information generously supplied by individuals and companies.

The pre-Pennsylvanian stratigraphy, based on available data from the comparatively few deep wells, is shown to be generally similar to that of the Seminole uplift, but minor differences that may be significant are pointed out. The stratigraphy of the Pennsylvanian of the flank of the basin and the thickening and lithologic changes toward the center of the basin are shown by sections and an isopachous map.

The generalized regional structure is shown by a structure contour map of the top of the Wapanucka-Morrow with the principal known faults and folds added. The distribution of producing oil and gas fields, both geographically and with regard to producing zones, is shown and discussed. A carbon ratio map based on all available coal analyses is shown and available porosity data on potential producing zones are presented. The relationship of these factors to present production and future productive possibilities is discussed.

13. Correlation Board, by B. Osborne Prescott, Shell Oil Company, Oklahoma City, Oklahoma.

The construction of geologic cross sections for illustration or record is facilitated by the use of a