Oklahoma
Geological
Survey
1981

Special Publication 81-5

Combined Bibliographies of Oklahoma Geology

Vol. 1: 1955–1970

Compiled by Elizabeth A. Ham and
Christine D. Gay

Special Publication 81-5
ISSN 0275-0929

Combined Bibliographies of Oklahoma Geology

Vol. 1: 1955-1970

Compiled by
Elizabeth A. Ham and Christine Gay

Oklahoma Geological Survey
Charles J. Mankin, Director
Special Publication 81-5
1981

SPECIAL PUBLICATION SERIES

The Oklahoma Geological Survey's Special Publication series is designed to bring new geologic information to the public in a manner efficient in both time and cost. The material undergoes a minimum of editing and is published for the most part as a final author-prepared report.

Each publication is numbered according to the year in which it was published and the order of its publication within that year. Gaps in the series occur when a publication has gone out of print or when no applicable publications were issued in that year.

This publication is issued and printed by the Oklahoma Geological Survey as authorized by Title 70, Oklahoma Statutes, 1971, Section 3310, and Title 74, Oklahoma Statutes, 1971, Sections 231-238. 1,000 copies of this 2-volume set have been prepared for distribution at a cost to the taxpayers of the State of Oklahoma of $6,370.

Contents

Introduction

Since 1955, a bibliography of references to Oklahoma geology has been published annually in the Oklahoma Geological Survey's periodical publication, Oklahoma Geology Notes, and in its predecessor, The Hopper. The listings, annotated since 1958, are compiled from material published for the most part during the year preceding the year of compilation. Included are journal articles, theses, abstracts, books, maps, open-file reports, and symposium articles. These represent both published and unpublished items. Some entries are marginal but are included as an aid to the reader seeking information on any phase of the discipline as it pertains to Oklahoma.

The present bibliography is a year-by year compilation of these previously published lists. For the sake of making this information available without delay to the reader, no attempt has been made to integrate the entries or the indexes.

Beginning with the listings for 1980, the annual bibliography will be issued as a separate volume in the Survey's Special Publication series rather than being incorporated into Oklahoma Geology Notes, as was the case in the past.

A Word About Oklahoma Geology Notes and The Hopper

The Hopper was issued monthly from July 1941 through December 1955; publication was continued thereafter as Oklahoma Geology Notes, with volume numbers successive. From volume 16 through volume 27, Oklahoma Geology Notes was published monthly; since 1968, publication has been bimonthly. All issues of The Hopper are now out of print.

In addition to the annual bibliography of Oklahoma geology, these periodicals have contained short scientific and technical articles, mineral and petroleum statistics, the Director's annual reports, news items, and abstracts.

1955

Vol. 16, nos. 5 & 6, May–June 1956

PUBLISHED PAPERS ON OKLAHOMA GEOLOGY IN THE YEAR 1955

Compiled by Francis Taaffe

Allen, F. W., Weatherford water. Okla. Acad. Science, Proc. for 1953, vol. 34, Jan., 1955, pp. 139-143, 2 figs. A report on the groundwater levels and potentialities of the Rush Springs sandstone of the Weatherford, Oklahoma, area.

Amsden, Thomas W., Lithofacies map of Lower Silurian deposits in central and eastern United States and Canada. Amer. Assoc. Petroleum Geologists, Bull., vol. 39, no. 1, pp. 60-74, 3 figs., Jan., 1955. The relationships of the Chimneyhill formation (Hunton group, south central Oklahoma) on a regional facies map of the Lower Silurian.

Arbenz, Kaspar, Restless forces within the earth. Shale Shaker, vol. 5, no. 9, May, 1955, pp. 28-30. A brief discussion of the forces responsible for the deformation of the earth's crustal shell.

Bradfield, H. H., Geology and oil development of Grayson County, Texas. Tulsa Geol. Society Digest, vol. 23, pp. 58-69, 6 figs. The Muenster Arch, Marietta Basin, Ouachita facies and extensive faulting comprise the complex geology of the Grayson County region.

Branson, Carl C., Burwell, A. L., and Chase, G. W., Uranium in Oklahoma, 1955. Okla. Geol. Survey, Mineral Report 27, 22 pp., 2 maps. Advice to uranium seekers, discussion of known radioactive occurrences.

Branson, Carl C., Notes on some Oklahoma formation names. Hopper, vol. 15, nos. 10-11, Oct.-Nov., 1955, pp. 126, 129, 131. Names and descriptions of six formations omitted from original preliminary list (1954).

Branson, Carl C., Oklahoma stratigraphic names of recent date. Hopper, vol. 15, no. 12, Dec., 1955, pp. 135-138. Names and recent information on eleven Oklahoma formations and members.

Branson, Carl C., Present status of geologic mapping in Oklahoma. Tulsa Geol. Society, Digest, vol. 23, 1955, pp. 170-172, map. A brief report of geologic mapping in the state to the present. Outlines Oklahoma Geological Survey's current program of mapping.

Brichta, L. C., and Perkens, E. T., Catalog of recorded exploration drilling and mine workings in the Tri-State zinc-lead district, Missouri, Kansas, and Oklahoma — interim report. U. S. Bureau of Mines, Information circular 7713, 24 pp., 7 figs. (1955). Designed to provide a continuing record of available drill-hole logs and maps of mine development in the Tri-State zinc-lead district.

Burwell, A. L., and Branson, Carl C., Occurrence of buff-burning ceramic clay in Kay County. Hopper, vol. 15, nos. 10-11, Oct.-Nov., 1955, pp. 122-125, 128, 130, map, 4 tables. Ceramic tests show material promising for manufacture of buff brick. Report on reconnaissance survey of reserves.

Burwell, Albert L., An investigation of industrial possibilities of Oklahoma gypsum and anhydrite. Okla. Geol. Survey, Mineral Report 29, 1955, 21 pp., index map. A description of seven areas in Oklahoma where commercial development of gypsum and anhydrite are practical. Suggests new industrial uses.

Burwell, Albert L., The Henryhouse marlstone in the Lawrence uplift, Pontotoc County, Oklahoma, and its commercial possibilities. Okla. Geol. Survey, Mineral Report 28, 1955, 21 pp., 5 tables, map, columnar section. A detailed study of an impure limestone and a discussion of its commercial possibilities. General geology by W. E. Ham.

Busch, Daniel A., Deltas significant in subsurface exploration. World Oil, vol. 140, no. 1, January, 1955, pp. 82, 84, 86, 4 figs. Many lenticular sand bodies are of deltaic origin and logically follow deltaic distributory patterns. Isopotential maps are shown to lend great assistance in tracing channel directions.

Cary, L. W., The subsurface geology of the Garber area, Garfield County, Oklahoma. Shale Shaker, vol. 5, no. 6, February, 1955, pp. 5-11, 14-24, 29, 3 figs., 10 pls., 2 tables. Shale Shaker Digest, 1955, pp. 384-403, 3 figs., 2 tables, 10 pls.

Clark, Roscoe C., Jr., and Loper, Raymond G., The application of basin geology to production stimulation. Proc. Fourth Subsurface Geological Symposium, 1955, pp. 1-4, 2 figs. Data from hydraulic fracturing operations in Oklahoma may provide production stimulus for Anadarko Basin.

Clayton, Neal, and Pohly, Richard A., New techniques being used to find stratigraphic traps. World Oil, vol. 140, no. 5, pp. 116-118, 129, April, 1955. A report on how progress is being made in finding stratigraphic traps with both seismograph and gravity meter.

Cooper, Margaret, Bibliography and index of literature on uranium and thorium and radioactive occurrences in the United States, Part 4. Geol. Soc. Amer., Bull., vol. 66, pp. 257-328, March, 1955.

Culp, Eugene F., Branson, Carl C., and Brewster, Eugene B., Highway geology of Oklahoma. Okla. City Geol. Soc. 1955, 172 pp., index map. Road logs of the major highways of the state, with notations on Oklahoma's historic sites.

Dapples, E. C., General lithofacies relationship of St. Peter sandstone and Simpson group. Amer. Assoc. Petroleum Geologists, Bull., vol. 39, no. 4, April, 1955, pp. 444-467, 9 figs. The St. Peter sandstone of the Middle-west and the Simpson group of Oklahoma (lower Paleozoic) are studied and compared.

Davis, L. V., Geology and ground-water resources of Grady and northern Stephens Counties, Oklahoma. Okla. Geol. Survey, Bull. 73, 1955, 184 pp., 15 tables, 14 figs., map. Stratigraphy of surface rocks, measurement of ground water and data on availability and quality.

Decker, Charles E., A new Devonian species of **Dictyonema** from Oklahoma. Jour. Paleontology, vol. 29, no. 4, July, 1955, pp. 699-701, 3 figs. A new species from the Haragan formation (Hunton group) of southern Oklahoma is described and illustrated.

Dickey, Parke A., and Rohn, Richard E., Facies control of oil occurrence. Amer. Assoc. Petroleum Geologists, Bull., vol 39, no. 11, November, 1955, pp. 2306-2320, 9 figs. Areas in Oklahoma show what oil occurs in several different rock associations, but tends to follow particular facies subdivisions within each type. Tulsa Geol. Soc., Digest, vol. 23, 1955, pp. 227-232, 2 figs.

Dietrich, Ray Francis, Jr., The Simpson group along the north flank of the Anadarko Basin. Shale Shaker, vol. 5, no. 5, January, 1955, pp. 5-12, 14-16, 17, 18, 21, 7 figs., 4 pls. Stratigraphic and correlation studies of the Simpson group of Oklahoma show its manner of thinning to the north and west. Shale Shaker Digest, 1955, pp. 373-384, 7 figs, 4 pls.

Disney, Ralph W., and Cronenwett, Charles E., The Simpson group along the east flank of the Anadarko Basin. Proc. Fourth Subsurface Geological Symposium, 1955, pp. 107-115, 7 figs. A general lithologic study of the Simpson group of Oklahoma and its correlation from the Arbuckle Mountains to northeastern Oklahoma.

Dover, T. B., and Geurin, J. W., Summary of annual records of chemical quality of water of the Arkansas River in Oklahoma and Arkansas, 1945-52. U. S. Geol. Survey, Circular 361, 1955, 20 pp., 5 figs.

Dunham, R. J., and Trumbull, J. V. A., Geology and coal resources of the Henryetta mining district, Okmulgee County, Oklahoma. U. S. Geol. Survey, Bull. 1015-F. pp. 183-225, pls. 21-24, figs. 29-32, 1955. Coal resources and description of the geology in an area of about 168 square miles in east-central Oklahoma.

Dunham, Robert J., Pennsylvanian conglomerates, structure, and orogenic history of Lake Classen area, Arbuckle Mountains, Oklahoma. Amer. Assoc. Petroleum Geologists, Bull., vol. 39, pp. 1-30, map., Jan., 1955.

Eakin, J. L., Recent developments in water flooding in Nowata County, Okla., oil fields, 1954-55. U. S. Bureau of Mines Rept. Invest., 5134, 49 pp., 20 figs., 1955.

Earlougher, R. C., "Early Nowata, and Olympic (Okla.)". The Oil and Gas Compact Bull., vol. 14, no. 1, June 1955, pp. 65-70. Two outstanding examples of successful waterflood projects in Oklahoma are discussed.

Eisner, Stephan M., The lithology of the "Marchand" conglomerate. Shale Shaker, vol. 6, no. 4, December, 1955, pp. 9-10, 13-20, 22-25, 27. Comprehensive study of cores from Cement area shows the "Marchand" conglomerate to consist of a variety of clastics laid down by a stream of changeable regimen.

Faucette, James Robert, The geology of the Marmaton group of southern Nowata County, Oklahoma. Tulsa Geol. Society, Digest, vol. 23, 1955, pp. 239-259, 1 fig., 1 pl.

Finnerty, Lucy, Theses, University of Oklahoma, geology and geological engineering, 1904-1955. Shale Shaker Digest, 1955, pp. XI-XVIII. A bibliography of theses on geology and geological engineering listed alphabetically by author.

Galloway, Harry M., Gray, Fenton, and Murphy, H. F., Soils of Wagoner County, Oklahoma. U. S. Dept. Agri. misc. publ., M P-42, Feb., 1955, 12 pp., 4 figs., 3 tables, map. Map and report which delineates and describes the naturally occurring associations of soils in Wagoner County.

Gardner, Frank J., Oklahoma still springs pleasant surprises. Oil and Gas Journal, vol. 54, no. 28, November 14, 1955, pp. 261, Speakers at a meeting of the Mid-Continent Section of the A.A.P.G. conclude that Oklahoma still offers many a geological mystery to the oil hunter.

Gibbon, Anthony, McAlester Basin promises new pools. World Oil, vol. 140, no. 6, pp. 104-105, map, May, 1955. Developments in the Northwest Oktaha pool in southern Muskogee County, Oklahoma, loom as forerunners for a major oil discovery along the north rim of the McAlester Basin.

Goldstein, August, Jr., Ouachita facies of Texas and Oklahoma. Tulsa Geol. Society, Digest, vol. 23, 1955, pp. 107-115, 3 figs. A comprehensive report on the stratigraphy, tectonics, and metamorphism of the Ouachita rocks of Texas and Oklahoma. Lithologic comparison of the Ouachita facies to the normal (Arbuckle) facies.

Gouin, Frank, Geologists are "working those hills." World Oil, vol. 140, no. 5, April, 1955, pp. 112-114. Discussion on the present importance of surface field work by the geologists in the search for oil.

Grandone, Peter, Johnston, K. H., Boos, C. M., and Walker, C. J., Oil, gas, and asphalt in the Washita River sub-basin, Oklahoma. Arkansas-White-Red Basins Inter-agency committee. Minerals and geology work group, 125 pp. (mimeo), Not for sale.

Graves, John Milton, Subsurface geology of a portion of Lincoln and Payne Counties, Oklahoma. Shale Shaker, vol. 6, no. 1, Sept., 1955, pp. 6-10, 13-14, 17-25, 27-29, 35-38, 2 figs, 7 pls.

Gussaw, William Carruthers, Time of migration of oil and gas. Amer. Assoc. Petroleum Geologists, Bull., vol. 39, no. 5, pp. 547-573, 4 figs., May, 1955. The Oklahoma City field serves as an example to demonstrate that the capacity of traps to hold gas is a criterion for time of accumulation.

Hall, Alvin E., Boost oil recovery 100 percent. Oil and Gas Journal, vol. 54, no. 11, July 18, 1955, pp. 99-102, 4 figs. Describes how utilized operation and pressure maintenance have more than doubled the expected oil and gas recovery in the West Cement Medrano Unit. Includes a description of the lithology and structure of the Medrano sand.

Ham, W. E., Field conference on geology of the Arbuckle Mountain Region. Okla. Geol. Survey, Guide Book III, 1955, 61 pp., 21 figs., colored geologic map of Arbuckle Mountains. Part 1—Geology of the Arbuckle and Timbered Hills groups; Part 2—Regional stratigraphy and structure of the Arbuckle Mountain Region (Oklahoma).

Ham, William E., Origin of dolomite in the Arbuckle group, Arbuckle Mountains, Oklahoma. Proc. Fourth Subsurface Geological Symposium, 1955, pp. 67-73, 8 figs. Carbonate rocks of Cambro-Ordovician age are shown to contain dolomites of three types, each of which originated at different times under different environments.

Ham, W. E., and McKinley, M. C., Geologic map and sections of Arbuckle Mountains (Oklahoma), Okla. Geol. Survey, Map A-2, 1955, colored, scale 0.88 inch equals 1 mile.

Hoot, Carl, Discovery going deeper. Oil and Gas Journal, vol. 53, no. 48, April 4, 1955, p. 115. Plans call for testing the Reagan sand in southern Oklahoma after discovery of thick Viola pay zones.

Huang, W. T., Occurrences of leucogranogabbro and associated igneous rocks in the Wichita Mountains, Oklahoma. Amer. Jour. Sci., vol. 253, no. 6, June, 1955, pp. 341-357, 2 figs., 2 plates, 3 tables. A detailed discussion of the mineralogy, petrography, and related characteristics of a narrow intermediate zone between gabbro and granophyre of Pre-cambrian age.

Huffman, George G., The lake system of northeastern Oklahoma. Hopper, vol. 15, no. 9, Sept., 1955, pp. 107-120, 3 figs. A general description and geologic setting of the northeastern lakes and the surrounding terrain.

Ingalls, Phillip C., Petroleum provinces . . . in the United States and Canada. Oil and Gas Journal, vol. 53, no. 48, April 4, 1955, pp. 122-128, 9 figs. The Anadarko Basin is included as one of the areas in North America offering possible oil-and gas-bearing rocks which have not been tested sufficiently to establish their producing capacities.

Ireland, H. A., Pre-Cambrian surface in northeastern Oklahoma and parts of adjacent states. Amer. Assoc. Petroleum Geologists, Bull. vol. 39, no. 4, April, 1955, pp. 468-483, 2 figs. A discussion on topography of the pre-Cambrian surface in northeastern Oklahoma prior to deposition of the Paleozoic sediments.

Jeffords, Russell M., Septal arrangement and ontogeny in the propitid corals. Kansas Univ., Paleontological Contributions, Coelenterata, Article 2, no. 15, June, 1955, pp. 1-16, 3 pls. 4 figs. A species of **Gymnophyllum** from the Wewoka formation in northeastern Oklahoma is illustrated and described.

Kimberlin, Za Grant, Jr., The subsurface geology of Canadian County, Oklahoma. Shale Shaker, vol. 5, no. 8, April, 1955, pp. 5-12, 14-21, 11 figs. Shale Shaker Digest, 1955, pp. 419-433.

King, R. R., et al. Bibliography of North American geology, 1951. U. S. Geol. Survey, Bull. 1025, 378 pp.

Krumbein, W. C., Statistical analysis of facies map. Jour. Geol., vol. 63, no. 5, Sept. 1955, pp. 452-470, 5 figs. Data from areas in Oklahoma and Kansas serve to illustrate methods of simple-factor and two-factor analysis of variance design.

Law, Louis L., Development in Texas and Oklahoma Panhandles in 1954. Amer. Assoc. Petroleum Geologists, Bull., vol. 39, no. 6, June 1955, pp. 903-912, 1 fig. The Oklahoma Panhandle had 40 exploratory wells drilled in 1954 as compared with 48 the previous year. Of these, 12 were discoveries or extensions.

Lee, Wallace, Thickness maps can reveal Mid-continent structures. World Oil, vol. 141, no. 2, August, 1955, pp. 77-80, 82, 10 figs. Isopachous maps showing great thicknesses of rocks have revealed structural movements in Rocky Mountain region. They also can reveal milder structural warpings of Mid-continent, where rock sequences are thinner and deformation is of lower order.

Levorsen, A. I., Where is tomorrow's oil coming from? Oil and Gas Journal, vol. 53, no. 48, April 4, 1955, pp. 129-133, 4 figs. An "educated guess," based on geological evidence, as to where we will be producing our oil in 1975-1980.

Love, S. K., et al. Quality of surface waters of the United States 1951, parts 7-8, lower Mississippi River basin and western Gulf of Mexico basins. U. S. Geol. Survey, Water-supply Paper 1199, 490 pp.

Love, S. K., et al. Quality of surface waters for irrigation, Western United States, 1952, U. S. Geol. Survey, Water-supply paper 1362, 179 pp., 1 plate.

Lucas, E. L., Oil shale distillation techniques on Oklahoma shales. Okla. Acad. Science, Proc. for 1953, vol. 34, January, 1955, pp. 143-146, 1 fig. A discussion of various methods of oil shale distillation. Suggests best method to follow based on analysis of shale samples from Woodford chert of southern Oklahoma.

Lyons, Paul L., Future of geophysics, Amer. Assoc. Petroleum Geologists, Bull., vol. 39, no. 7, July, 1955, pp. 1202-1213. 9 figs. Changing and improving geophysics will occupy an important place in the world petroleum economy, with at least 450 billion barrels of oil yet to be found.

McCaslin, John C., Deep, successful, pre-Permian. Oil and Gas Journal, vol 53, no. 39, January 31, 1955, pp. 232-234. A description of the exploratory and development activities in the Hugoton Embayment and in Oklahoma in 1954.

McCaslin, John C., Here's where you'll be drilling tomorrow. Oil and Gas Journal, vol. 54, no. 27, November 7, 1955, pp. 175-177. Southern Oklahoma and southeastern Beaver County are among a number of areas named in which important development and confirmation work is expected to increase in the next few months.

McCaslin, John C., Hugoton embayment play extends through three counties. Oil and Gas Journal, vol. 54, no. 31, December 5, 1955, pp. 183-184, 1 fig. Southeastern and southwestern Beaver County, Oklahoma, show exploration promise after busy year in the Hugoton Embayment of the Anadarko Basin.

McCaslin, John C., March "busted out all over." Oil and Gas Journal, vol. 53, no. 51, April 25, 1955, pp. 170-171. The Lone Grove and Marietta areas of southern Oklahoma and the Hugoton Embayment showed impressive deep exploration results during March, 1955.

McCaslin, John C., New Sooner trend stretches 30 miles. Oil and Gas Journal, vol. 54, no. 33, December 19, 1955, p. 127. Basal Pennsylvanian sand oil and gas-distillate reservoir nucleus of exploratory interest in northeastern Anadarko Basin region of Oklahoma.

McCaslin, John C., Oklahoma embarks on year of promise. Oil and Gas Journal, vol. 53, no. 37, January 17, 1955, p. 153. A brief synopsis of areas in Oklahoma which show great exploratory and development promise for 1955.

McCaslin, John C., Two areas share October limelight. Oil and Gas Journal, vol. 54, no. 30, November 28, 1955, pp. 148-150. West Short Junction field in Cleveland County and recent strike in Greenville area, Love County, are current focal points of Oklahoma development interest.

McCracken, Earl, Correlation of insoluble residue zones of upper Arbuckle of Missouri and southern Kansas. Amer. Assoc. Petroleum Geologists, Bull., vol. 39, no. 1, January, 1955, pp. 47-59, 3 figs. The standard pre-St. Peter geologic column of Missouri, based on residue zones, may be used in Kansas as well as in other Mid-Continent states.

McHugh, Jerome P., 112,000 extra barrels of oil in 11 months . . . by fracturing water-flood producers. Oil and Gas Journal, vol. 53, no. 44, March 7, 1955, pp. 104-109. The procedures and results of water-flooding the Bartlesville sand in the Weber pool of Washington County, Oklahoma. A description of Bartlesville sand is included.

McKelvey, V. E., Search for uranium in the United States. U. S. Geol. Survey, Bull. 1030-A, pp. 1-64 (Oklahoma, see p. 15, 30, 31,34,35,38,39), 5 index maps. A discussion of the characteristics and geographical occurrences of the various types of uranium deposits. Section on methods for prospecting.

Maher, John C., Geologic cross sections sponsored by geological societies affiliated or cooperating with the American Association of Petroleum Geologists, 1931-1955. Amer. Assoc. Petroleum Geologists, Bull., vol. 39, no. 7, July, 1955, pp. 1405-1416. An index of geologic cross sections sponsored by geological societies released prior to Jan. 1, 1955.

Malloy, John M., Forty-seventh annual report of mines and mining of Oklahoma. Dept. of Chief Mine Inspector, fiscal year ending June 30, 1955, 26 pp. Production reports, location, and

occurrence of coal, lead and zinc ore, gypsum, and rock asphalt in Oklahoma.

Maravich, Milan D., Developments in Oklahoma in 1954. Amer. Assoc. Petroleum Geologists, Bull., vol. 39, no. 6, June, 1955, pp. 891-902, 2 figs. Exploratory drilling, as well as development drilling, increased slightly in Oklahoma during 1954.

Melton, Frank A., Photo-geology in "flatland" regions of low dip. Shale Shaker, vol. 6, no. 3, November, 1955, pp. 5-8, 11-12, 15-20, 39, 15 pls. Basic assumptions of structural control of drainage patterns and superposition of drainage are shown to underlie successful geological interpretation of aerial photographs.

Merritt, John W., How to avoid costly errors in gamma ray surveying. World Oil, vol. 141, no. 2, August, 1955, pp. 84, 87-88, 90, 2 figs. Radiation equipment can be used successfully in the search for oil, but the operator must use suitable instruments, proper surveying methods, and professional interpretation. (Geological cross-section of area in Kay County).

Miller, A. K., and Furnish, W. M., The Carboniferous guide fossil, **Tylonautilus,** in America, Jour. Paleontology, vol. 29, no. 3, May, 1955, pp. 462-464. A well preserved specimen from the Upper Mississippian Fayetteville formation of northeastern Oklahoma is illustrated and described. It is referable to **Tylonautilus nodosocarinatus** (Roemer) of lower Namurian in the British Isles, Belgium, and Germany.

Miller, C. R., Jr., and Evans, C. B., Porosity determination from microlog and side wall cores. Proc. Fourth Subsurface Geological Symposium, 1955, pp. 41-48, 6 figs., 2 charts. Oklahoma formations are used to compare porosity from side wall cores and porosity computed from micrologs.

Minerals yearbook, vol. 1, metals and minerals (except fuels), 1952. Prepared by the staff of the Bureau of Mines, Minerals Division, Paul Zinner, Chief, Charles W. Merrill, Assistant Chief, 1955. 1218 pp.

Moore, Carl A., and Finnerty, Lucy, Shale Shaker Index, vol. 5, nos. 1-10, Sept. 1954-June, 1955. Shale Shaker, vol. 5, no. 10, June, 1955, pp. 44-46.

Morgan, James Leland, Spores of McAlester coal. Okla. Geol. Survey, Circ. 36, 1955, 54 pp., 3 figs., 3 pls., 1 table, map. A comprehensive study of the spores of the McAlester-Stigler coal with a discussion of the correlations made possible. Outlines procedures of spore studies.

Morrisey, Norman S., 1947—424 days: 1955—144 days . . . that's how companies have reduced drilling time at Eola. Oil and Gas Journal, vol. 53, no. 44, March 7, 1955, pp. 115-117. A discussion of the complications involved in drilling at Eola, Garvin County, Oklahoma and how complex geology is the answer in explaining many of the difficulties.

Morrisey, Norman S., Acid fracturing puts this field in the black. Oil and Gas Journal, vol. 54, no. 32, December 12, 1955, pp. 82-84, 4 figs., 2 tables. Improvement of drilling and comple-

tion techniques enables the West Short Junction field to be a profitable limestone producer in Oklahoma.

Morrisey, Norman S., **Ellenburger** . . . It's a magic world in West Texas. Oil and Gas Journal, vol. 53, no. 35, January 3, 1955, pp. 78-87, Discussion of the oil potential and lithology of the Ellenburger group of West Texas. Compares and correlates Texas and Oklahoma pre-Permian rocks.

Morrisey, Norman S., New pay zone for southern Oklahoma. Oil and Gas Journal, vol. 54. no. 5, June 6, 1955, p. 171. Thick porous dolomite zones in the Arbuckle group of southern Oklahoma are untested but potential producers.

Morrisey, Norman S., The third time is a charm. Oil and Gas Journal, vol. 53, no. 46, March 21, 1955, p. 327. A brief discussion of the similarity between the complex producing trends of southern Oklahoma and those of Grayson County in north Texas.

Morrisey, Norman S., and McCaslin, John C., This year should be good for Oklahoma . . . unless new state laws curb deep drilling. Oil and Gas Journal, vol. 53, no. 42, February 21, 1955, pp. 80-81. An outline of the probable areas of deep drilling emphasis in the future if state legislation does not reverse the present trend to deeper drilling in Oklahoma.

Morrisey, Norman S., and Walper, Jack L., Fault prospects in horizontally compressed areas. Tulsa Geol. Society, Digest, vol. 23, 1955, pp. 182-191, 9 figs. Reprinted from Oil and Gas Journal, May 16, 1955, vol. 54, no. 2, "Tight folds should harbor more than one oil trap."

Morrisey, Norman S., and Walper, Jack L., Tight folds should harbor more than one oil trap. Oil and Gas Journal, vol. 54, no. 2, May 16, 1955, pp. 192-195, 9 figs. A geological study shows that reverse faults due to horizontal compression can develop from opposite directions. (Eola pool in Garvin County, Oklahoma).

Morrisey, Norman S., and Walper, Jack L., Why subthrust production is promising. Oil and Gas Journal, vol 54, no. 10, July 11, 1955, pp. 116-118, 4 figs. Outlines the geological data compiled from the Gotebo area and the Eola field, which indicate that the complex trends, along which these others produce, offer many more fields than those already discovered.

Murray, A. N., Growing vegetation identifies formations. World Oil, vol. 141, no. 1, July, 1955, pp. 102-104. Field geologists can be aided by recognizing the relationship between plants and the formations on which they grow.

Notes on April panel in Oklahoma City, Hugoton Embayment, Exploration highlights, Oil and Gas Journal, vol. 54, no. 3, May 23, 1955. pp. 174, 177-178. A panel discussion of April 20, 1955 in Oklahoma City sponsored by the Oklahoma City, Amarillo, and Liberal Geological Societies brings to light the growing interest in the western Anadarko basin's potentialities.

Oakes, Malcolm C., The upper limit of the Seminole formation in Oklahoma. Okla. Acad. Science, Proc. for 1953, vol. 34, January, 1955, pp. 148-149. The upper limit of the Seminole formation in the south is shown to be the base of the DeNay limestone, in the north, the base of the Checkerboard; however, the Checkerboard and DeNay are not continuous, but occupy virtually the same stratigraphic position.

Oliphant, Charles W., and Fullerton, Paul, How computers facilitate stratigraphic correlations. World Oil, vol. 140, no. 5, April, 1955, pp. 132, 134, 136, 138, 3 figs. New technique of making stratigraphic correlations employs punch card calculations or specially-designed computing machines.

Olson, Everett C., Parallelism in the evolution of the Permian reptilian faunas of the old and new worlds. Fieldiana: Zoology, vol. 37, Publication of Chicago Natural History Museum, June 19, 1955. A discussion of the distribution and evolution of Permian Reptilia, which includes the early and middle Permian genus **Cotylorhynchus** of the Hennessey formation of Oklahoma.

Page, Kenneth C., The subsurface geology of southern Noble County, Oklahoma. Shale Shaker, vol. 5, no. 10, June, 1955, pp. 5-16, 18-21, 24-25, 34, 4 figs., 7 pls. 1 table. Shale Shaker Digest, 1955, pp. 448-466, 4 figs., 7 pls., 1 table.

Pitt, William D., Geology of the core of the Ouachita Mountains, Oklahoma. Okla. Geol. Survey, Circ. 34, 1955, 34 pp., 15 figs., map. A detailed study of the stratigraphy and structure of pre-Big Fork formations. Illustrates and discusses evidence for domal structure rather than fenster.

Potter, Paul Edwin, and Siever, Raymond, Regional crossbedding and petrology as source area indicators. Science, vol. 122, no. 3178, November 25, 1955, pp. 1021-1022, 1 fig. Studies of basal Pennsylvanian sediments from the Mid-Continent (basins) and other regions reveal source areas.

Reed, E. W., and Schoff, S. L., Geology and ground-water resources of Ottawa County, Oklahoma. Okla. Geol. Survey, Bull. 72, 1955, 203 pp., 14 tables, 14 figs., map. Study of ground-water availability and usage, chapter on stratigraphy.

Ries, Richard Edward, Geology and mineral resources of Okfuskee County, Oklahoma. Okla. Geol. Survey, Bull. 71, 1955, 120 pp., 25 figs., map. A detailed study of the surface geology, Senora to Vanoss formations.

Ross, Clarence S., Provenience of pyroclastic materials. Geol. Soc. Amer., Bull., vol. 66, April, 1955, pp. 427-434, 1 fig. Recent studies of rhyolitic and pyroclastic materials and in particular of welded tuffs and bentonites show that they occur over wide areas and in volumes which greatly exceed earlier evaluations.

Roth, Robert, Paleogeology of Panhandle of Texas. Amer. Assoc. Petroleum Geologists, Bull., vol. 39, no. 4, April, 1955, pp. 422-443, 17 figs. Lithologic character and orogenic environment of each time stratigraphic unit are described and

correlated with units in adjacent Oklahoma. The tectonics and sedimentation are also discussed.

Rutledge, Richard B., The Velma oil field, Stephens County, Oklahoma. Proc. Fourth Subsurface Geological Symposium, 1955, pp. 49-66, 7 pls. A comprehensive study of the subsurface geology, orogenic history, and development of the Velma oil field in southern Oklahoma.

Schoff, S. L., Map of ground-water reservoirs of Oklahoma. Okla. Geol. Survey, Map 72-2, 1955, colored, scale 1 to 720,000.

Schoff, Stuart L., Triassic rocks on Goff Creek, Texas County, Oklahoma. Okla. Acad. Science, Proc. for 1953, vol. 34, January, 1955, pp. 149-152, 1 fig. A report on the red beds which crop out along Goff Creek in central Texas County, Oklahoma.

Shaw, Richard F., Jr., A new look at the central Ardmore Basin. World Oil, vol. 141, no. 1, July, 1955, pp. 108-112, 114, 6 figs. A detailed study of the subsurface geology of Township 2 South, Range 3 West, Carter County, Oklahoma.

Slocum, R. C., Post-Boone outliers of northeastern Oklahoma. Okla. Geol. Survey, Circ. 35, 1955, 44 pp., 3 figs., 8 colored maps. A detailed geologic study along the southwestern flank of the Ozark Dome with measured sections. Identification of characteristic faunules.

Sloss, L. L., Facies studies . . . an important tool in oil finding. Oil and Gas Journal, vol. 54, no. 19, Sept. 12, 1955, pp. 111-114, 5 figs. Pennsylvanian sands of Oklahoma are included in a facies study of several rock systems throughout the United States.

Smith, Earl W., Subsurface geology of eastern Kay County, Oklahoma; and southern Cowley County, Kansas. Shale Shaker, vol. 5, no. 9, May, 1955, pp. 5-12, 14-17, 19-21, 24, 11 figs. 1 table. Shale Shaker Digest 1955, pp. 434-448, 11 figs. 1 table.

Stirton, R. A., Two new species of the equid genus **Neohipparion** from the middle Paleozoic Chihuahua, Mexico. Jour. Paleontology, vol. 29, no. 5, Sept. 1955, pp. 886-902, 7 text-figs. Two new closely related species of the equid, genus **Neohipparion, N. floresi, N.** sp., and **N. arellanoi, N.** sp., from the middle Pliocene are described. These species show relationship to **Neohipparion eurystyle** (Cope) from the panhandle of Texas and Oklahoma.

Swain, Paul, Natural-gas storage booming. Oil and Gas Journal, vol. 54, no. 2, May 16, 1955, pp. 118-121. Several depleted pools in Oklahoma are among 170 throughout the nation being used for surplus natural gas storage.

Tanner, William F., Paleogeographic reconstructions from cross-bedding studies. Amer. Assoc. Petroleum Geologists, Bull., vol. 39, no. 12, December, 1955, pp. 2471-2483, 7 figs. Oriented data obtained from late Paleozoic sandstones of east-central Oklahoma facilitate differentiation between channel (river) and littoral currents.

Tanner, William F., Pediments in areas of falling base-level. Shale Shaker, vol. 6, no. 2, Oct. 1955, pp. 7-10, 13, 16-18. "Open basin" pediments found in Kiowa County, Oklahoma are illustrated and discussed.

Tarr, Russell S., Paleogeologic map at base of Woodford and Hunton isopachous map of Oklahoma. Amer. Assoc. Petroleum Geologists, Bull., vol. 39, no. 9, Sept., 1955, pp. 1851-1858, 2 figs. This paper discusses the extent of pre-Woodford post-Hunton folding and erosion in Oklahoma.

Taylor, Dwight W., and Hibbard, Claude W., A new Pleistocene fauna from Harper County, Oklahoma. Okla. Geol. Survey, Circ. 37, 1955, 23 pp., text fig. Thirty-seven species of snails and two kinds of clams of late Pleistocene age are listed. Preserved parts of rare armadillo are illustrated and discussed.

Tihen, Joe A., A new Pliocene species of **Ambystoma,** with remarks on other fossil Ambystomids. Contributions from the museum of paleontology, Univ. of Mich., vol. 12, no. 11, Oct. 7, 1955, pp. 229-244, 1 pl., 1 fig. An unknown species of the Buis Ranch fauna is found in Beaver County, Oklahoma.

Tomlinson, C. W., and Pitt, W. D., Recent studies in the Ouachita Mountains. Tulsa Geol. Society, Digest, vol. 23, 1955, pp. 89-97, 2 figs. Structural and correlation problems of the pre-Big Fork chert and the formations therein are discussed.

Tuttle, R. C., Deeper zones offer promise in northeastern Oklahoma. Oil and Gas Journal, vol. 54, No. 7, June 20, 1955, pp. 152-153, 2 figs. A brief production history of northeastern Oklahoma and an analysis of its future possibilities for pre-Mississippian production.

U. S. Geological Survey, Water-Supply Paper 1224, Water levels and artesian pressures in observation wells in the United States in 1952, part 4, South Central States. 1954 (1955), 228 pp., 41 figs. This report gives records of ground-water levels and artesian pressures in Arkansas, Louisiana, Texas, and Oklahoma.

Uhrig, L. F., and Van Melle, F. A., Velocity anisotropy in stratified media. Geophysics, vol. 20, no. 4, October, 1955, pp. 774-779, 2 figs. The phenomenon of velocity anisotropy in stratified rocks has been observed in surface outcrops of Arbuckle limestone by Weatherby (1934).

Van Fossan, N. E., Where U. S. salt deposits are located. Oil and Gas Journal, vol. 54, no. 19, Sept. 12, 1955, p. 145, 1 fig. A brief discussion on the general characteristics of U. S. salt deposits. Map showing areas classified for subsurface storage.

Wagner, Richard C., Oklahoma's Keyes field may cover 85,000 acres. Oil and Gas Journal, vol. 53, no. 46, March 21, 1955, pp. 328, 331-332, 334. A discussion on the stratigraphy, structure, and producing zones of the Keyes gas field in the Oklahoma Panhandle.

Wallace, P. A., Chickasha: A tired gas field yields oil. Oil and Gas Journal, vol. 53, no. 37, January 17, 1955, pp. 154-155. An

account of the circumstances surrounding the current oil production from shallow Permian sands in the old Chickasha gas field.

Ware, Herbert E., Jr., Surface and shallow-subsurface investigation of the Senora formation of northeastern Oklahoma. Shale Shaker, vol. 5, no. 7, March, 1955, pp. 5-12, 14-22, 24, 30, 3 figs., 9 pls. A study of and surface-to-subsurface correlation of the Senora members. Shale Shaker Digest, 1955, pp. 403-419, 3 figs., 9 pls.

Warren, John H., Mineral map of Oklahoma. Okla. Geol. Survey, Map 72-1, 1955, colored, scale 1 to 720,000.

Waters, J. A., McFarland, P. W., and Lea, J. W., Geologic framework of Gulf Coastal Plain of Texas. Amer. Assoc. Petroleum Geologists, Bull., vol. 39, no. 9, September, 1955, pp. 1821-1850, 23 figs. An orogenic history and detailed systematic stratigraphy of the Gulf Coastal Plain of Texas.

Wayland, John Rex, and Ham, W. E., General and economic geology of the Baum limestone, Ravia-Mannsville area, Oklahoma. Okla. Geol. Survey, Circ. 33, 1955, 44 pp., 9 pls., map. Detailed study of a limestone of high-calcium content and discussion of its reserves and possible commercial uses.

Weaver, O. D., Jr., Geology and mineral resources of Hughes County, Oklahoma. Okla. Geol. Survey. Bull. 70, 1955, 150 pp., 13 figs., 6 tables, map. A detailed study of the surface geology, Boggy to Coffeyville formations.

Weirich, T. E., Regional diagnosis of oil accumulation. World Oil, vol. 140, no. 7, June, 1955, pp. 180-182, 4 figs. Study of geologic units in eastern Kansas and eastern Oklahoma indicates oil accumulation is restricted to a sedimentary shelf. Concept offers basis for judging regions where no tests have been drilled.

Wheeler, Robert R., Origin and oil possibilities of the Anadarko Basin. Shale Shaker Digest, 1955, pp. 22-32, 6 figs. A comprehensive orogenic and sedimentation history of the Anadarko Basin. Review of its major exploratory programs.

Whittington, Harry B., Additional new Ordovician graptolites and a chitinozoan from Oklahoma. Jour. Paleont., vol. 29, no. 5, Sept., 1955, pp. 837-851, 2 pls., 19 text-figs. Two new genera from the Viola limestone, **Pipiograptus** and **Phormograptus,** are described. Remains of chitinozoan are noted and figured.

Winland, Hubert Dale, Insoluble residue study and correlation of the Arbuckle group in southern Oklahoma. Tulsa Geol. Society, Digest, vol. 23, 1955, pp. 260-288, 9 figs., 2 pls.

A survey by the Structural Clay Products Institute reveals that thirty-three percent of the one-family houses being built today have brick walls, representing an increase of 14% over last year's figures (Ceramic Age, Dec. 1955). It is hard to beat a good brick home. Twelve brick and tile plants are located in Oklahoma, operating in Creek, Custer, Garfield, Greer, Oklahoma, Pittsburg, Pontotoc, Seminole, and Tulsa Counties. A.L.B.

1956

Vol. 17, no. 4, April 1957

PUBLISHED PAPERS ON OKLAHOMA GEOLOGY IN THE YEAR 1956

Compiled by Neville M. Curtis, Jr.

Adams, L. J., Oil and gas field development in United States and Canada 1955. Nat. Oil Scouts and Landmen's Assoc., Vol. XXVI, Year Book 1956, pp. 605-687, 1193-1207, 4 maps, correlation chart east-central Oklahoma, general geologic section of Oklahoma. Discoveries, geophysical and core drill prospecting, and oil, gas, and gas condensate fields in Oklahoma.

Amsden, T. W., Additional fossils from the Hunton group, Oklahoma. Okla. Geology Notes, vol. 16, no. 12 (Dec., 1956), pp. 138-139. Five fossil names should be added to Catalog of Hunton fossils, Okla. Geol. Survey, Circ. 33.

Amsden, T. W., Notes on **Parmorthis brownsportensis** and **Isorthis arcuaria** from the Henryhouse and Brownsport formations. Okla. Geology Notes, vol. 16, no. 8 (Aug., 1956), pp. 78-85, 3 figs., 2 tables. **Levenea subcarinata** (Hall) from the Haragan formation is distinguished from **Parmorthis brownsportensis** and **Isorthis arcuaria** found in the Henryhouse and Brownsport formations.

Amsden, T. W., Catalog of fossils from the Hunton group. Okla. Geol. Survey, Circ. 38 (June 23, 1956), pp. 1-63.

Andress, B. O., Southwest Velma stepout scores. Oil and Gas Jour., vol. 54, no. 46 (March 19, 1956), pp. 322, 324-326, 4 figs. New discovery possibilities are increased by new evidence of thrust-faulting west of Southwest Velma oil field, Stephens County, Oklahoma.

Arbenz, J. K., Tectonic map of Oklahoma, Okla. Geol. Survey, Map GM-3 (1956), colored, scale 1:750,000.

Aresco, S. J., Haller, C. P., and Abernethy, R. F., Analyses of tipple and delivered samples of coal (collected during the fiscal year 1955). U. S. Dept. Interior, Bur. Mines, Rept. Investigations 5270 (Oct., 1956), p. 26. Table lists chemical and physical data of coal samples from Latimer and McIntosh Counties, Oklahoma.

Armbrust, B. F., Jr. and Kuroda, P. K., On the isotopic constitution of radium (Ra - 224/Ra - 226 and Ra - 228/Ra - 226) in petroleum brines. Trans. Amer. Geophysical Union, vol. 37, no. 2 (April, 1956), pp. 216-220, 1 fig., 3 tables. Radium isotope measurements are listed for brine samples from 5 areas in Oklahoma.

Baker, V. R., Notes on post Wellington faulting in the North Garber field, Garfield County, Oklahoma. Okla. Acad. Sci. Proc., vol. 35 (1956), pp. 96-98. A post-Wellington, normal fault, striking N. 7° E., and dipping approximately 50 degrees east is traced through the North Garber field.

Barby, B. G., Subsurface geology of the Pennsylvanian and Upper Mississippian of Beaver County, Oklahoma. Shale Shaker, vol. 6, no. 10 (June, 1956), pp. 9-32, 13 figs. Stratigraphic and low-relief structural traps affect Ordovician to Tertiary in the Panhandle.

Barclay, H. G., The effects of variation of wind direction and velocity in Oklahoma sand dunes. (Abstract). Tulsa Geol. Soc. Digest, vol. 24 (1956), pp. 109-110. Variations in shape, surface features, and movement of sand dunes in relation to seasons of the year.

Bass, N. W., Comparison of modern shorelines with oil-bearing sand lenses in Mid-Continent and Denver Basin, with consideration of evidence for oil migration from crude oil composition. (Abstract). Panhandle Geo-News, vol. 3, no. 3 (June, 1956), p. 37. Present sand bodies of Atlantic and Gulf coasts compared with Pennsylvanian sand lenses in Kansas and Oklahoma.

Beasley, R. L., Santa Fe field. Amer. Assoc. Petroleum Geologists, Petroleum Geology of Southern Oklahoma (1956), pp. 234-243, 4 figs. Stratigraphic and structural study of oil field adjoining Southwest Velma field, Stephens County, Oklahoma.

Bennison, A. P., Springer and related rocks of Oklahoma. (Abstract). Tulsa Geol. Soc. Digest, vol. 24 (1956), pp. 111-115, 1 table, 1 map. Stratigraphy and sedimentation of Springer and related rocks.

Beroni, E. P., Recent uranium discoveries in western Oklahoma. The Mines Magazine, Vol. XLVI, no. 3 (March, 1956), pp. 68-71, 9 figs.

Billingsley, H. R.. Sholom Alechem oil field. Stephens and Carter Counties, Oklahoma. Amer. Assoc. Petroleum Geologists. Petroleum Geology of Southern Oklahoma (1956), pp. 294-310, 5 figs., 2 tables. Description of structure, stratigraphy, and producing zones.

Blumenthal, Morris, Subsurface geology of the Prague-Paden area Lincoln and Okfuskee Counties, Oklahoma. Shale Shaker, vol. 7, no. 1 (Sept. 1956), pp. 9-32, 5 plates, 4 figs.

Boeckman, C. H., A subsurface study of the lower Pennsylvanian sediments of northern Grady and Caddo Counties. Oklahoma. Shale Shaker, vol. 6, no. 8 (April, 1956), pp. 7-10, 13-26, 10 plates.

Branson, C. C., A little-known Oklahoma fossil. Okla. Geology Notes, vol. 16. no. 11 (Nov., 1956). pp. 126-128. 7 figs. Description of **Conocardium snideri** from Union Valley sandstone near Ada, Oklahoma.

Branson, C. C., Cyclic formations or mappable units. Okla. Geology Notes, vol. 16, no. 11 (Nov., 1956), pp. 122-126, 1 fig. Correlation chart lists "The Kansas Rock Column" (1951) and new simplified nomenclature of Pennsylvanian and early Permian rocks in Kansas and Oklahoma.

Branson, C. C., Hartshorne formation, early Desmoinesian, Oklahoma. Okla. Geology Notes, vol. 16, no. 9 (Sept., 1956), pp. 93-99, 3 figs., 1 table. It is proposed that beds from base of

Des Moines series (top of Atoka formation where present) to top of Upper Hartshorne coal be referred to as the Hartshorne formation.

Branson, C. C., New stratigraphic names for Oklahoma rock units. Okla. Geology Notes, vol. 16, no. 9 (Sept., 1956), pp. 102-103. Original reference and type locality given for 10 rock units in Oklahoma.

Branson, C. C., Coal beds of Oklahoma Virgilian and Wolfcampian rocks. Okla. Geology Notes, vol. 16, no. 8 (Aug., 1956), pp. 85-86, 1 table. Table lists coal seams of Virgilian and Wolfcampian rocks in Oklahoma.

Branson, C. C., Preview of Northeast Turnpike geology. Okla. Geology Notes, vol. 16, no. 7 (July, 1956), pp. 66-71. Geologic column and descriptions of outcrops along Northeast Turnpike, Oklahoma.

Branson, C. C., General geologic section of Oklahoma oil-producing areas. Oklahoma Geological Survey. Chart prepared for National Oil Scouts & Landmen's Association Yearbook, Vol. XXVI, 1956.

Branson, C. C., Pennsylvanian history of northeastern Oklahoma. Tulsa Geol. Soc. Digest, vol. 24 (1956), pp. 83-86, 1 table. Stratigraphy and depositional history of Pennsylvanian rocks in northeastern Oklahoma.

Burton, L. C., Water levels and artesian pressures in observation wells in the United States 1954, Part 4. South-central states. U. S. Geol. Survey Water-supply Paper 1324 (1956), pp. 83-125, 6 figs. Well descriptions and water-level measurements from 30 Oklahoma counties.

Burwell, A. L., Basic magnesium carbonate from dolomite. Okla. Geology Notes, vol. 16, no. 9 (Sept., 1956), pp. 91-92. Royer dolomite (Arbuckle Mountain area) and dolomites from McKenzie Hill formation (Comanche County) may be used as raw material for the Pattison process.

Burwell, A. L., Shales and clays. Okla. Geology Notes, vol. 16, no. 8 (Aug., 1956), pp. 75-77, 1 table. Physical and chemical properties and economic uses of clays.

Burwell, A. L., Potash agstone in Oklahoma. Okla. Geology Notes, vol. 16, no. 2 (Feb., 1956), pp. 12-23, 5 tables. Possibility of using potash agstone for replenishing potassium in depleted soils.

Burwell, A. L., Bloating properties of shale in the Hilltop formation in Seminole County. Okla. Acad. Sci. Proc., vol. 35 (1956), pp. 98-102, 1 fig., 1 table. Testing procedure used in study of bloating properties of Hilltop shale.

Busch, Walter, Oklahoma zircon locality. Rocks and Minerals, vol. 31, nos. 3-4 (March-April, 1956), pp. 118-119. Description of zircon mine in Comanche County, Oklahoma.

Butler, Roy, McCloud, S. D., and Marshall, Jack. Northeast Butterly pool—case history. Jour. Petroleum Tech., vol. 8, no. 2 (Feb., 1956), pp. 23-26, 5 figs. Production methods used in

exploiting reservoir which could have been abandoned as non commercial.

Campbell, F. F., The Fort Cobb anticline of Caddo County, Oklahoma, a geophysical case history. Geophysical Case Histories, vol. 2 (1956), pp. 406-424, 14 figs. A geophysical success but a commercial failure.

Caylor, J. W., Subsurface geology of western Garfield County, Oklahoma. Shale Shaker, vol. 7, no. 4 (Dec., 1956), pp. 8-12, 15-26, 29-31, 8 figs., 5 maps, 2 cross sections.

Chase, G. W., Frederickson, E. A., and Ham, W. E., Resume of the geology of the Wichita Mountains, Oklahoma. Amer. Assoc. Petroleum Geologists, Petroleum Geology of Southern Oklahoma (1956), pp. 36-55, 1 fig., 2 tables. Detailed description of Precambrian rocks in Wichita Mountains and discussion of latest significant orogenic movement as indicated by early Permian conglomerates in area.

Christian, H. E., Recent developments in the Turner Turnpike area. Okla. Geology Notes, vol. 16, no. 7 (July, 1956), pp. 61-64. A report of recent oil discoveries along 10 mile strip on either side of the Turner Turnpike.

Christy, R. F., Geophysical case history of Elk City field. Geophysical Case Histories, Vol. II (1956), pp. 398-405, 9 figs. History of geophysical exploration leading to discovery of the Elk City field, Beckham County, Oklahoma.

Cipriani, Donato, Jr., Southwest Randlett field, Cotton County, Oklahoma. Amer. Assoc. Petroleum Geologists, Petroleum Geology of Southern Oklahoma (1956), pp. 311-318, 2 figs. Description of subsurface stratigraphy, orogenic history, producing zones, and reservoir conditions.

Clark, W. E., Forecasting the dry-weather flow of Pond Creek, Oklahoma; a progress report. Trans. Amer. Geophysical Union, vol. 37, no. 4 (Aug., 1956), pp. 442-450. 8 figs. Method for forecasting factors indicative of evapotranspiration and water level expected in well during dry weather.

Clarke, S. S., The Eagle-Picher Company. Explosives Eng., vol. 34, no. 1 (Jan.-Feb., 1956), pp. 8-15, 26, 1 fig., 8 plates. History and development of lead-zinc industry in the Oklahoma area of Tri-State district.

Cline, L. M. and Moretti, Frank, Two measured sections of Jackfork group in southeastern Oklahoma. Okla. Geol. Survey, Circ. 41 (Aug., 1956), pp. 1-20, 1 fig. Description and correlation of two stratigraphic sections from late Paleozoic Jackfork sandstone in the Kiamichi Mountain Range.

Cline, L. M., Some stratigraphic studies of the Mississippian and Pennsylvanian rocks of the Ouachita Mountains, Oklahoma. Tulsa Geol. Soc. Digest, vol. 24 (1956), pp. 100-106, 1 fig. Stratigraphy of Ouachita Mountains and evidence used in concluding that lower portion of Johns Valley shale and underlying Jackfork group are Mississippian.

Cole, J. A., Subsurface geology of east-central Lincoln County, Oklahoma. Shale Shaker, vol. 6, no. 7 (March, 1956), pp.

7-33, 2 figs., 7 plates, 2 tables.
Cook, K. L., Regional gravity survey in northeastern Oklahoma and southeastern Kansas. Geophysics, vol. 21, no. 1 (Jan., 1956), pp. 88-106, 3 figs. Results of U.S.G.S. and U.S.C.G.S. gravity survey made in 1948 of northeast Oklahoma and southeast Kansas.
Crane, H. R., University of Michigan radiocarbon dates I. Science, vol. 124, no. 3224 (Oct. 12, 1956), pp. 664-672. Juniper log from Spiro mound dated 2286± 200 years. Wood from Craig burial mound, Spiro site, Le Flore County, Oklahoma, dated at 640± 250 years.
Cronenwett, C. C., A subsurface study of the Simpson group in east-central Oklahoma. Shale Shaker, vol. 7, no. 2 (Oct., 1956), pp. 8-29, 34, 9 figs. Simpson subsurface strata of east central Oklahoma correlated with Simpson exposures in the Arbuckle Mountains.
Curtis, N. M., Jr., Bromine in brines of the Red Fork-Earlsboro sands (Pennsylvanian) in the Seminole area, Oklahoma. Okla. Geology Notes, vol. 16. no. 12 (Dec., 1956), pp. 131-135, 2 figs., 2 tables. Bromine content is listed for brines from 21 oil wells. None of the brines considered a commercial source of bromine.
Curtis, N. M., Jr., Some facts about Oklahoma uranium. Okla. Geology Notes, vol. 16, no. 10 (Oct., 1956), pp. 106-120, 4 figs., 2 tables. Recent discoveries in Oklahoma, services available to people searching for uranium, and regulations affecting uranium search and development.
Dellwig, L. F., The Barber County earthquake of January 6, 1956. Kansas, State Geol. Survey, Bull. 119, Part 5 (Aug. 1, 1956), pp. 175-185, 1 fig. Attained a maximum intensity of V in Barber County, Kansas. Intensity of I in northeast corner of Blaine County, Oklahoma.
Dille, A. C. F., Paleotopography of the Precambrian surface of northeastern Oklahoma. (Abstract). Tulsa Geol. Soc. Digest, vol. 24 (1956), pp. 122-126, 1 fig. Stratigraphy of area and relation of paleotopography of Precambrian to oil and gas prospects.
Disney, R. W. and Cronenwett, C. C., The Simpson group . . . along east flank of the Anadarko Basin. World Oil, vol. 143, no. 4 (Sept., 1956), pp. 118-128, 7 figs. Discussion of regional concept, depositional history, and correlation of Simpson group.
Dobervich, George, Some aspects of Pennsylvanian stratigraphy in the Panhandle of Oklahoma. Panhandle Geo-News, vol. 3, no. 3 (June, 1956), pp. 11-14, 3 figs. Discussion of Atoka-Morrow contact, Permian-Pennsylvanian contact, and top of the Missourian series.
Dunning, H. N., Johansen, R. T., Walker, C. J., Powell, J. P., and Watkins, H. W., Have you tried water-flood detergent? World Oil, vol. 143, no. 4 (Sept., 1956), pp. 196-204, 5 figs., 1 table. Field tests prove value of detergents in water-flooding project in Hoyt Oil Company Grover flood, Washington County, Oklahoma.
Edinger, W. M., Five-spot water-flood unit ups production 38,000 barrels. Oil and Gas Jour., vol. 54, no. 69 (Aug. 27, 1956), pp. 82-85, 1 fig., 1 map, 4 tables. Northwest Tryon field in Lincoln County has 23 input wells, 17 producers, and one water-supply well.
Elias, M. K., Upper Mississippian and Lower Pennsylvanian formations of south-central Oklahoma. Amer. Assoc. Petroleum Geologists, Petroleum Geology of Southern Oklahoma (1956), pp. 56-134, 2 figs., 5 tables, 6 plates. Progress report regarding the predominantly shaly formations (originally Caney shale) in northern and southern Arbuckle Mountains. Discussion of conodonts in these shales.
Enright, R. J., Wildcatting success secret: play it big. Oil and Gas Jour., vol. 54, no. 59 (June 18, 1956), pp. 130-132, 5 figs. The British American No. 2 Harrison well, in Grady County, is deepest producer in Oklahoma.
Finch, W. A., Uranium in terrestrial sedimentary rocks in the United States exclusive of the Colorado Plateau. U. S. Geol. Survey, Prof. Paper 300 (1956), pp. 321-327. One paragraph devoted to report of uranium in the Garber sandstone of Oklahoma.
Flawn, P. T., Basement rocks of Texas and southwest New Mexico. Bur. Econ. Geology, Univ. Texas, no. 5605 (March 1, 1956), 2 figs., 3 plates, 12 tables, 10 photomicrographs. Tentative correlation chart of Precambrian rocks and discussion of structural events in Texas, southern Oklahoma, and southwest New Mexico. Igneous rocks of Arbuckle and Wichita Mountains are discussed.
Frederickson, E. A., Rare fossil chiton from Ada, Oklahoma. Okla. Geology Notes, vol. 16, no. 7 (July, 1956), p. 65. 1 fig. A new species of **Helminthochiton** reported from the Francis formation.
Gardner, F. J., Want to find oil? Try the three G's. Oil and Gas Jour., vol. 54, no. 85 (Dec. 17, 1956), p. 177. "Geology, geometry, and guts" find textbook stratigraphic trap in the Morrow, Woodward County, Oklahoma.
Gardner, F. J., Two strikes in McAlester-Arkansas lend wildcatters hopes. Oil and Gas Jour., vol. 54, no. 48 (April 2, 1956), p. 179. Two important gas discoveries indicate good possibilities for oil in pre-Pennsylvanian rocks in McAlester Basin.
Gibbon, Anthony, Old Faithful flows again. World Oil, vol. 143, no. 5 (Oct., 1956), pp. 108-109. The well that started the Cushing oil boom in Oklahoma flows 648 barrels of oil per day.
Gibbon, Anthony, Uranium from oil flood waters. World Oil, vol. 142, no. 6 (May, 1956), pp. 62-63. Research in technique of extracting uranium from repressuring waters and filtration sands. Project in Nowata area of northeastern Oklahoma.
Godfrey, J. M., The subsurface geology of the Mannsville-Madill

anticline. Shale Shaker, vol. 6, no. 9 (May, 1956), pp. 7-30, 4 figs., 5 plates, 2 tables.

Gouin, Frank, Surface criteria of southern Oklahoma oil fields. Amer. Assoc. Petroleum Geologists, Petroleum Geology of Southern Oklahoma (1956), pp. 14-35, 3 figs. Development of southern Oklahoma oil fields related to surface criteria. Surface stratigraphy and regional orogenic history is described.

Gusson, W. G., Migration of oil. World Oil, vol. 143, no. 2 (Aug. 1, 1956), pp. 79-83, 5 figs. Discussion of factors involved in primary migration. McAlester Basin used as example of gas flushing.

Hail, W. J., Jr., Myers, A. T., and Harr, C. A., Uranium in asphalt bearing rocks of the Western United States. U. S. Geol. Survey, Prof. Paper 300 (1956), pp. 521-526, 1 fig., 1 table. Report of average U in ash from asphalt-bearing rocks in Oklahoma.

Ham, W. E., Netzeband, F. F., and Tribble, P. E., The mineral industries of Oklahoma in 1954 and 1955. Okla. Geology Notes, vol. 16, nos. 3-4 (March-April, 1956), pp. 27-39, 3 tables. Quantity and value of mineral fuels, nonmetallic and metallic minerals given for 1954. Preliminary annual summary of mineral production in Oklahoma for 1955.

Ham, W. E., Asphaltite in the Ouachita Mountains. Okla. Geol. Survey, Mineral Rept. 30 (1956), pp. 1-12, 1 fig., 3 tables. Properties, production, use, and location of grahamite and impsonite deposits in Oklahoma.

Hamilton, W. B., Precambrian rocks of Wichita and Arbuckle Mountains, Oklahoma. Geol. Soc. America, Bull., vol. 67, no. 10 (Oct., 1956), pp. 1319-1330, 3 figs., 2 plates. Igneous complex of Wichita Mountains is upper part of late Precambrian (Keweenawan) lopolith. Granitic rocks of Arbuckle Mountains belong to an older Precambrian batholithic complex.

Harlton, B. H., The Harrisburg trough, Stephens and Carter Counties, Oklahoma. Amer. Assoc. Petroleum Geologists, Petroleum Geology of Southern Oklahoma (1956), pp. 135-143, 3 figs. Stratigraphy and structural history of a segment of the extreme southwestern flank of Ardmore Basin.

Harlton, B. H., West Velma oil field. Amer. Assoc. Petroleum Geologists, Petroleum Geology of Southern Oklahoma (1956), pp. 221-233, 7 figs., 1 table. Stratigraphy and geologic history of the West Velma structure in southeastern Stephens County, Oklahoma.

Harper, H. J. and Gray, Fenton, A fourth report on the accumulation of recent alluvium in Deep Fork of the North Canadian River valley in Lincoln County, Oklahoma. Okla. Acad. Sci. Proc., vol. 35 (1956), pp. 91-93. An account of harmful effect of recent alluvium on tree development and crop production.

Harper, H. J., Silt deposition at Ardmore, Oklahoma, from dust storms in 1954. Okla. Acad. Sci. Proc., vol. 35 (1956), p. 88. An account of dust or silt deposited in Ardmore as a result of dust storms in 1954.

Harris, D. G., Meramec and Lower Chester strata of northeastern Oklahoma, southwestern Missouri, and northwestern Arkansas. The Compass, vol. 33, no. 3 (March, 1956), pp. 228-272, 7 figs., 6 tables, 24 measured sections. A study of the paleontology, sedimentation, and stratigraphy of Meramec and Lower Chester strata in area.

Harris, R. W. and Jobe, T. C., Chester Foraminifera and Ostracoda from the Ringwood pool of Oklahoma. Okla. Geol. Survey, Circ. 39 (July, 1956), pp. 1-41, 4 plates. Three Foraminifera and twenty-seven ostracods are described from the "Manning" horizon of the Ringwood pool, Major County, Oklahoma.

Hayes, J. A., Jr., Mississippian production in the Osage. World Oil, vol. 142, no. 2 (Feb., 1956), pp. 85-86, 88, 2 figs. Important quantities of oil in Mississippian chats and limestones is nucleus of new interest in Osage County, Oklahoma.

Heald, M. T., Cementation of Simpson and St. Peter sandstones in parts of Oklahoma, Arkansas, and Missouri. Jour. Geology, vol. 64, no. 1 (Jan., 1956) pp. 16-30, 3 figs., 3 plates, 2 tables. Variation in cementation of Simpson sandstone in Arbuckle Mountain region, Oklahoma, and of St. Peter sandstone, north-central Arkansas and east-central Missouri.

Hicks, I. C., Geology of the Southwest Velma field, Stephens County, Oklahoma. Amer. Assoc. Petroleum Geologists, Petroleum Geology of Southern Oklahoma (1956), pp. 244-259, 8 figs. History, structure, surface geology, and subsurface stratigraphy.

Hicks, I. C., Pauls Valley field, Garvin County, Oklahoma. Amer. Assoc. Petroleum Geologists, Petroleum Geology of Southern Oklahoma (1956), pp. 337-354, 6 figs. Subsurface stratigraphic study of the Pauls Valley structure. Structural history and discussion of production practices.

Hill, J. R., Geophysical history of the Golden Trend of Oklahoma. Geophysical Case Histories, vol. 2 (1956), pp. 563-574, 8 figs. Isopachous maps were made from geophysical data and pinch out zones were tested in Garvin County Golden Trend area.

Hoard, J. L., Tussy section of the Tatums field, Carter and Garvin Counties, Oklahoma. Amer. Assoc. Petroleum Geologists, Petroleum Geology of Southern Oklahoma (1956), pp. 186-206, 6 figs. Stratigraphy, structural history, and discussion of the four non-productive upper Springer sands in the Tatums field.

Howe, W. B., Stratigraphy of pre-Marmaton Desmoinesian (Cherokee) rocks in southeastern Kansas. Kansas, State Geol. Survey, Bull. 123 (Oct., 1956), pp. 1-132, 8 figs., 10 plates. Six stratigraphic sections in Oklahoma and detailed sections of lower Cabaniss and upper Cabaniss in southeastern Kansas and equivalent units in northern Oklahoma. Discussion of many equivalent units in Oklahoma.

Huang, W. T., Novacekite from the Wichita Mountains, Oklahoma. Amer. Mineralogist, vol. 41, no. 1-2 (Jan.-Feb., 1956), pp. 152-153. Specimen from Permian red beds described and compared with description of novacekite from Schneeberg, Saxony.

Hunt, J. M. and Jamieson, G. W., Oil and organic matter in source rocks of petroleum. Amer. Assoc. Petroleum Geologists, Bull., vol. 40, no. 3 (March, 1956), pp. 477-488, 4 figs. Samples from several Oklahoma formations are included in analyses for hydrocarbon, asphalt, and kerogen content.

Hunter, Z. Z., 8½ million extra barrels in 6 years. Oil and Gas Jour., vol. 54, no. 69 (August 27, 1956), pp. 86-89, 4 figs. Account of water-flood method used in the North Burbank unit of Osage County, Oklahoma.

Kinney, G. T., L.P.G. storage keeps growing. Oil and Gas Jour., vol. 54, no. 63 (July 16, 1956), pp. 58-60, 1 table. Lists companies in Oklahoma storing L.P.G. underground, where, and how much.

Kornfeld, J. A., Significant lower Paleozoic finds in Anadarko Basin. World Oil, vol. 143, no. 6 (Nov., 1956), pp. 107-112, 1 fig., 4 tables. An account of procedure used and subsurface geology encountered in oil wells producing from the Ordovician and Pennsylvanian in deeper portions of the Anadarko Basin.

Krumbein, W. C., Regional and local components in facies maps. Amer. Assoc. Petroleum Geologists, Bull., vol. 40, no. 9 (Sept., 1956), pp. 2163-2194, 10 figs. Reynolds zone of lower Deese in West Brock area, Carter County, Oklahoma, used as example. Method of separating regional effects from local effects on facies map.

Lasky, B. H., Earth temperatures, alteration studies reflect subsurface structure. World Oil, vol. 143, no. 7 (Dec., 1956), pp. 116-121, 1 fig. Discusses surface mineralization or alteration studies as a means of mapping subsurface structure. Ramsey field area, Payne County, Oklahoma, used as an example.

Logan, D. M., Outline of talk given. Tulsa Geol. Soc. Digest, vol. 24 (1956), pp. 74-77, 1 map, 1 plate. Brief description of surface and subsurface geology for part of "Okmulgee District."

Lukert, L. H., Notes on the stratigraphy along the Turner Turnpike. Okla. Geology Notes, vol. 16, no. 7 (June, 1956), pp. 59-61. Aspects of subsurface correlation along Turner Turnpike.

McBee, William, Jr. and Vaughan, L. G., Oil fields of the central Muenster-Waurika arch, Jefferson County, Oklahoma, and Montague County, Texas. Amer. Assoc. Petroleum Geologists, Petroleum Geology of Southern Oklahoma (1956), pp. 355-372, 8 figs., 2 tables. Structure and sedimentation in oil fields producing from middle Pennsylvanian sediments along the Muenster-Waurika arch in south-central Oklahoma. Field descriptions and statistics.

McCaslin, J. C., New exploratory era on northern shelf. Oil and Gas Jour., vol. 54, no. 50 (April 16, 1956), pp. 286-290, 1 fig. Regional importance of shelf sediments indicated by Ordovician discoveries in southwestern Kansas and northwestern Oklahoma.

Malloy, J. M., Forty-eighth annual report of mines and mining of Oklahoma. Dept. of Chief Mine Inspector (June, 1956), pp. 1-25, 23 tables. Production of coal, rock asphalt, lead, zinc, and gypsum listed by counties.

Maravich, M. D. and Morrisey, N. S., Developments in Oklahoma in 1955. Amer. Assoc. Petroleum Geologists, Bull., vol. 40, no. 6 (June, 1956), pp. 1152-1161, 2 figs., 9 tables. Exploratory drilling decreased in Oklahoma in 1955 but development drilling was up 6 percent.

Merriam, D. F., Hugoton embayment commands fresh look. Oil and Gas Jour., vol. 54, no. 44 (March 5, 1956), pp. 82-86. First Arbuckle production west of the Central Kansas uplift brightens Embayment's oil future.

Miller, H. J., The Oklahoma earthquake of April 9, 1952. Seismol. Soc. America, Bull., vol. 46, no. 4 (Oct., 1956), pp. 269-279, 7 figs., 1 table. Multiplicity of phases, depth of focus, and determination of velocities of waves characteristic of epicentral region.

Miller, H. W., Jr., The index value of Silurian Foraminifera and some new forms from wells in Kansas. Jour. Paleontology, vol. 30, no. 6 (Nov., 1956), pp. 1350-1359, 1 fig. Stratigraphic and geographic range of all species of Silurian Foraminifera in North America. Oklahoma is included.

Miller, R. W., Panhandle and Hugoton areas. Panhandle Geo-News, vol. 3, no. 2 (Feb., 1956), pp. 8-21, 3 tables, 1 fig. Name, age, and depth of producing formations and oil and gas production figures for 1954 in Panhandle and Hugoton area.

Moody, J. D. and Hill, M. J., Wrench-fault tectonics. Geol. Soc. America, Bull., vol. 67, no. 9 (Sept., 1956), pp. 1207-1246, 25 figs. Brief discussion of faulting in Wichita and Ouachita Mountains.

Moore, R. C. and Mudge, M. R., Reclassification of some Lower Permian and Upper Pennsylvanian strata in northern Mid Continent. Amer. Assoc. Petroleum Geologists, Bull., vol. 40, no. 9 (Sept., 1956), pp. 2271-2278, 1 fig. New or reintroduced names of formations and members in Kansas and equivalent units in Oklahoma.

Morrisey, N. S., Here's where tools are turning to the right. Oil and Gas Jour., vol. 54, no. 75 (Oct. 8, 1956), pp. 213-225. Geological data, footage prices, costs, etc. reported for most active oil fields in Oklahoma.

Morrisey, N. S., Has Sinclair found another Apache? Oil and Gas Jour., vol. 54, no. 69 (Aug. 27, 1956), p. 157. Sinclair discovery in Bromide sand six miles northwest of Apache field, Caddo County, Oklahoma.

Morrisey, N. S., Gas reserves increase in new Harper County field. Oil and Gas Jour., vol. 54, no. 61 (July 2, 1956), p. 166, 2 figs. Four separate pay zones discovered south and east of Laverne, Harper County, Oklahoma.

Morrisey, N. S., Cherokee trend stretches out 30 miles. Oil and Gas Jour., vol. 54, no. 53 (May 7, 1956), pp. 176-177, 2 figs., 2 tables. Pay zones and drilling procedures described for recent stratigraphic production in Alfalfa and Grant Counties, Oklahoma.

Morrisey, N. S., Why North Madill is so perplexing. Oil and Gas Jour., vol. 54, no. 38 (Jan. 23, 1956), pp. 134-138, 5 figs. A preliminary analysis of the complex faulting that controls production.

Mullen, W. L., The Hewitt oil field of Carter County, Oklahoma. Amer. Assoc. Petroleum Geologists, Petroleum Geology of Southern Oklahoma (1956), pp. 154-161, 4 figs. Study of the structure and stratigraphy of this southwestern Carter County oil field.

Murphy, L. M. and Cloud, W. K., United States earthquakes 1954. U. S. Dept. Commerce, Coast and Geodetic Survey, serial no. 793 (1956), pp. 9, 69, 1 table. Four tremors reported with about the same intensities on three successive days (April 11, 12, and 13) in 1954 at Holdenville, Oklahoma.

Norville, G. C., North Alma field. Amer. Assoc. Petroleum Geologists, Petroleum Geology of Southern Oklahoma (1956), pp. 282-293, 6 figs. Stratigraphy, structure, and producing formations in northeastern Stephens County oil field.

Oakes, M. C., The Hogshooter formation in Creek County, Oklahoma. Okla. Acad. Sci. Proc., vol. 35 (1956), p. 90. Earlier mapping of Hogshooter formation in Creek County is substantially correct and unit may be correlated with the Hogshooter in Okfuskee County, Oklahoma.

Oklahoma Geological Survey, Geology along the Turner Turnpike. Guide Book IV (April, 1956), pp. 1-76, 3 figs., 7 plates, 2 stratigraphic subsurface sections. Contains road log and strip map (3 inches to mile), Tulsa to Oklahoma City, topographic and geologic profile, historical sites, and oil and gas fields.

Parker, E. C., Camp field, Carter County, Oklahoma. Amer. Assoc. Petroleum Geologists, Petroleum Geology of Southern Oklahoma (1956), pp. 174-185, 3 figs. Stratigraphy and structural history of this south-central Oklahoma oil field.

Patton, R. R., North-central Oklahoma offers good possibilities. World Oil, vol. 142, no. 1 (Jan., 1956), pp. 86, 89-90, 91. North central Oklahoma counties hold great promise of new oil reserves if latest oil finding tools are applied. Outline of stratigraphy and producing reservoirs.

Putman, D. M., The West Duncan field. Amer. Assoc. Petroleum Geologists, Petroleum Geology of Southern Oklahoma (1956), pp. 319-326, 2 figs. Stratigraphy and production of the West Duncan oil field, west-central Stephens County, Oklahoma.

Reedy, H. J. and Becker, R. M., The Carter-Knox oil field, Grady County, Oklahoma. Amer. Assoc. Petroleum Geologists, Petroleum Geology of Southern Oklahoma (1956), pp. 327-336, 5 figs. Stratigraphy and structural history of the Carter Knox structure, southeastern Anadarko Basin.

Rutledge, R. B., The Velma oil field, Stephens County, Oklahoma. Amer. Assoc. Petroleum Geologists, Petroleum Geology of Southern Oklahoma (1956), pp. 260-281, 7 figs. A comprehensive study of the stratigraphy and structure of the Velma field. Production history and reservoir conditions.

Ryan, J. P., Reconnaissance of phosphate-rock deposits in Arkansas, Kansas, Oklahoma, and Texas. U. S. Bur. Mines, Rept. Invest. 5222 (April, 1956), pp. 1-8, 1 table. P_2O_5, U_3O_8, and eU content listed for 10 phosphate-rock samples from eastern Oklahoma.

Schoff, S. L., Laverne formation. Okla. Geology Notes, vol. 16, no. 1 (Jan., 1956), pp. 3-5. Surface distribution, thickness, and lithology of the Laverne formation in Oklahoma and Kansas.

Schoff, S. L., Pliocene and Pleistocene fossils from Beaver County, Oklahoma. Okla. Acad. Sci. Proc., vol. 35 (1956), p. 94. Report of discovery of tooth of mastodont **Serridentinus** cf. **S. meadensis** Hibbard.

Schweers, F. P., The Milroy field of Stephens and Carter Counties, Oklahoma. (Abstract). Tulsa Geol. Soc. Digest, vol. 24 (1956), pp. 118-119, 1 map. History and structure of Milroy field.

Skarda, Everett, Oklahoma's fractured Viola limestone reservoir. Oil and Gas Jour., vol. 54, no. 43 (Feb. 27, 1956), pp. 109-112, 5 figs. Discussion of problems encountered in a complex carbonate fracture system in southern Oklahoma.

Sohn, I. G., The transformation of opaque calcium carbonate to translucent calcium fluoride in fossil Ostracoda. Jour. Paleontology, vol. 30, no. 1 (Jan., 1956), pp. 113-114, 1 fig., 1 plate. Laboratory procedure includes treatment with hydrofluoric acid. **Bairdia whitesidei** from Devils Kitchen member of Deese formation in Love County, Oklahoma, used as example.

Sowers, J. C., Jr., Developments in Texas and Oklahoma Panhandle in 1955. Amer. Assoc. Petroleum Geologists, Bull., vol. 40, no. 6 (June, 1956), pp. 1162-1174, 1 fig. Exploratory activity increased in Oklahoma Panhandle during 1955.

Stair, Ralph, Tektites and the lost planet. Sci. Monthly, vol. 83, no. 1 (July, 1956), pp. 3-12, 12 figs., 1 table. Tektites (glassy meteorites) may aid in a better understanding of earth's origin. One specimen is from Delhi, Beckham County, Oklahoma.

Starrett, Andrew, Pleistocene mammals of the Berends fauna of Oklahoma. Jour. Paleontology, vol. 30, no. 5 (Sept., 1956), pp. 1187-1192, 1 fig. Pleistocene climate and recent additions to mammalian fauna, Gate area, Beaver County.

Stieff, L. R., Stern, T. W., and Sherwood, A. M., Coffinite, a uranous silicate with hydroxyl substitution: a new mineral. Amer. Mineralogist, vol. 41, nos. 9-10 (Sept.-Oct., 1956), pp. 675-688, 1 plate, 4 tables, 1 fig. New mineral described from Garber formation in Kiowa County, Oklahoma.

Stoever, E. C., Jr., New quarries supplying Northeast Turnpike needs. Okla. Geology Notes, vol. 16, no. 12 (Dec., 1956), pp. 136-137, 1 table. An account of quarrying operations, quarry locations, tonnage, and formations supplying crushed rock for Northeast Turnpike construction.

Stoever, E. C., Jr., Oil seepages near Adair, Oklahoma. Okla. Geology Notes, vol. 16, no. 12 (Dec., 1956), p. 139. Eight and one-half feet of massive crinoidal limestone, heavily saturated with petroleum, in the Hindsville limestone.

Strimple, H. L. and Koenig, J. W., Mississippian microcrinoids from Oklahoma and New Mexico. Jour. Paleontology, vol. 30, no. 5 (Sept., 1956), pp. 1225-1247, 4 figs. Descriptions and illustrations of 6 species from St. Joe limestone near Tahlequah and 5 species from the shale under Welden limestone near Ada, Oklahoma.

Suffield, H. F., Anadarko Basin yields deep production. Oil and Gas Jour., vol. 54, no. 83 (Dec. 3, 1956), pp. 172-182, 2 figs., 1 table. Oklahoma's deepest completion, from Third Bromide sand below 15,040 feet. Structure and deep prospects in Anadarko Basin, cost, drilling methods, and deep well spacing.

Swineford, Ada, Frye, J. C., and Leonard, A. B., Petrography and genesis of the Ogallala "algal limestone" in Kansas and adjacent states. (Abstract). Jour. Sedimentary Petrology, vol. 26, no. 2 (June, 1956), p. 186. Thirty-four samples indicate that the rock sampled was formed by soil-forming processes acting upon sands and silts of the uppermost Ogallala.

Taaffe, Francis, Published papers on Oklahoma geology in the year 1955. Okla. Geology Notes, vol. 16, nos. 5-6 (May-June, 1956), pp. 43-55. Annotated bibliography.

Tanner, W. F., New method for mapping old shorelines. World Oil, vol. 142, no. 5 (April, 1956), pp. 123-126, 6 figs. Cross-bedding and truncation determine possible ancient shorelines. The Permo-Pennsylvanian of east-central Oklahoma used as example.

Tanner, W. F., Superposed streams of the Arbuckle Mountains. Shale Shaker, vol. 6, no. 6 (Feb., 1956), pp. 14-15, 1 fig. Radial stream pattern in the Arbuckle Mountains of southern Oklahoma suggests that the uplift was formerly covered by a thick blanket of sediments, perhaps Cretaceous.

Tanner, W. F., Geology of northeastern Osage County, Oklahoma. Okla. Geol. Survey, Circ. 40 (1956), pp. 1-76, 17 figs., 4 plates.

Tanner, W. F., Geology of Seminole County, Oklahoma. Okla. Geol. Survey, Bull. 74 (1956), pp. 1-175, 6 tables, 20 figs., 9 plates.

Thomas, G. F., Regional geology of the Hugoton Embayment. (Abstract). Tulsa Geol. Soc. Digest, vol. 24 (1956), pp. 120-121, 1 map. Structure and general stratigraphy of area.

Thomas, N. O. and Harbeck, G. E., Jr., U.S. Geol. Survey, Water supply Paper 1360-A (1956), pp. 1-99, 3 figs., 2 tables, 1 map. Descriptive data: reservoirs in Oklahoma with capacity of 5,000 acre-feet or more of water; natural lakes with usable capacity of 5,000 acre-feet or more; reservoirs and lakes completed as of January 1, 1954; reservoirs under construction.

Thompson, M. L., Verville, G. J., and Lokke, D. H., Fusulinids of the Desmoinesian-Missourian contact. Jour. Paleontology, vol. 30, no. 4 (July, 1956), 17 pp., 1 fig., 5 plates. A new species, **Oketaella lenensis,** described from Lenapah limestone of Oklahoma.

Totten, R. B., General geology and historical development, Texas and Oklahoma Panhandles. Amer. Assoc. Petroleum Geologists, Bull., vol. 40, no. 8 (Aug., 1956), pp. 1945-1967, 9 figs. History of development, stratigraphy, producing formations, and tectonics of area.

Totten, R. B., Exploratory well activity in the Amarillo district, 1955. Panhandle Geo-News, vol. 3, no. 2 (Feb., 1956), pp. 4-7. Lists new oil and gas discoveries of Cimarron, Texas, and Beaver Counties, Oklahoma.

Tribble, P. E., Netzeband, F. F., and Ham, W. E., The mineral industries of Oklahoma in 1954 and 1955. Okla. Geol. Survey, Mineral Rept. 31 (March, 1956), pp. 1-13, 3 tables. Part 1. The mineral industries of Oklahoma in 1954, final advance summary. Part 2. The mineral industries of Oklahoma in 1955, preliminary annual summary.

Umpleby, S. S., Faulting, accumulation, and fluid distribution in Ramsey pool, Payne County, Oklahoma. Amer. Assoc. Petroleum Geologists, Bull., vol. 40, no. 1 (Jan., 1956), pp. 123-139, 13 figs. North-central Oklahoma oil pool shows effect of faulting on migration of oil. Evidence on the time of migration relative to the stages of structural growth.

Walker, K. F., North Wildcat Jim field, Carter County, Oklahoma. Amer. Assoc. Petroleum Geologists, Petroleum Geology of Southern Oklahoma (1956), pp. 207-220, 6 figs., 2 tables. Stratigraphy and structure of an oil field located on the southwestern flank of the Arbuckle Mountains.

Wanless, H. R., Problems of the Pennsylvanian of the United States. Tulsa Geol. Soc. Digest, vol. 24 (1956), pp. 56-61, 1 fig., 1 table. Distribution of Pennsylvanian rock types, various environments during deposition of Pennsylvanian sediments, and cyclic sedimentation.

Wells, J. V. B., Peterson, B. J., et al., Surface water supply of the United States 1953, Part 7, lower Mississippi River Basin. U. S. Geol. Survey, Water-supply Paper 1281 (1953), pp. 1-522. Report presenting measurements of stage, discharge, and content of streams, lakes, and reservoirs.

Westby, G. H., The discovery by reflection seismograph of a small producing structure in Okmulgee County, Oklahoma. Geophysical Case Histories, Vol. II (1956), pp. 425-438, 9 figs. Refined geophysical methods were needed to find geologic structure having less than 50 feet of closure.

Westheimer, J. M., The Goddard formation. Amer. Assoc. Petroleum Geologists, Petroleum Geology of Southern Oklahoma (1956), pp. 392-396, 1 fig. Lithologic description of the Goddard formation (pre-Springer Pennsylvanian) of south-central Oklahoma. Discussion of its dating and nomenclature.

Westheimer, J. M. and Schweers, F. P., Southwest Lone Grove field, Carter County, Oklahoma. Amer. Assoc. Petroleum Geologists, Petroleum Geology of Southern Oklahoma (1956), pp. 144-153, 7 figs. Structure and stratigraphy of oil field located on the Wichita Mountains-Criner Hills anticlinorium. Correlation of outcrops with subsurface.

White, J. M., Jr., The Brushy Mountain structure, Sequoyah and Adair Counties, Oklahoma. Shale Shaker, vol. 7, no. 3 (Nov., 1956), pp. 5-24, 11 figs., 4 plates. A discussion of the structure and stratigraphy of area.

Wilson, L. R. and Hoffmeister, W. S., Plant microfossils of the Croweburg coal. Okla. Geol. Survey, Circ. 32 (1956), pp. 1-56, 4 figs., 3 tables, 5 plates. Fossil spores and leaf cuticles from nine localities in northeastern Oklahoma are described and statistically treated for stratigraphic correlation.

Winland, H. D., Insoluble residue study and correlation of the Arbuckle group in southern Oklahoma. Shale Shaker, vol. 6, no. 5 (Jan., 1956), pp. 7-29, 8 figs. Section of Arbuckle group in Murray and Carter Counties measured and correlated with section of Arbuckle group in northeastern Kiowa County. Correlation based on insoluble residue and differential thermal analyses.

Womack, J. L., Aylesworth field. Amer. Assoc. Petroleum Geologists, Petroleum Geology of Southern Oklahoma (1956), pp. 373-391, 8 figs. Stratigraphy and structural history of Aylesworth oil field, eastern Marshall and western Bryan Counties, Oklahoma. Producing zones, production, and reservoir statistics.

Yochelson, E. L., Permian Gastropoda of the Southwestern United States. 1. **Euomphalacea, Trochonematacea, Pseudophoracea, Anomphalacea, Craspedostomatacea,** and **Platyceratacea.** Amer. Mus. Nat. Hist., Bull., vol. 110, art. 3 (June, 1956), pp. 173-276, 4 text figs., 16 plates, 35 tables. Description of **Omphalotrochus wolfcampensis** Yochelson, a new species, found in Red Eagle limestone, Osage County, Oklahoma.

ADDITIONS TO BIBLIOGRAPHY OF OKLAHOMA GEOLOGY, 1956

ANONYMOUS PUBLICATIONS

Anadarko Basin Structure Map (Oklahoma and Kansas). Austin Map Co., 410 Majestic Building, Fort Worth, Texas. Shows sub-surface contours, drilling and well information.

Anonymous, New Oklahoma meteorite. Okla. Geology Notes, vol. 16, no. 1 (Jan., 1956), p. 5. Describes newly reported meteorite found near Chickasha, Oklahoma.

Anonymous, Oklahoma fossil jellyfish. Okla. Geology Notes, vol. 16, no. 2 (Feb., 1956), p. 23. Two jellyfish specimens collected north of Stroud, Oklahoma.

Panhandle Area Reference Book. Rinehart Oil News Co., P. O. Box 1208, Dallas, Texas, (1956), pp. 1-300.

Anonymous, Second shot for Hogshooter, The Link (Nov.-Dec., 1956), pp. 6-8. History of Frank Burke, Carter Oil Co. veteran, and waterflood program in Hogshooter pool near Bartlesville, Oklahoma.

Anonymous, Seismological notes. Seismol. Soc. of America, Bull., vol. 46, no. 3 (July, 1956), p. 220. Report of earth tremor from Oklahoma City, Oklahoma, February 16, 1956.

Anonymous, Seismological notes. Seismol. Soc. of America, Bull., vol. 46, no. 3 (July, 1956), p. 228. Report of earthquake at Antlers, Oklahoma, April 2, 1956.

Anonymous, Seismological notes. Seismol. Soc. of America, Bull., vol. 46, no. 2 (April, 1956), p. 154. Report of earthquake that shook northwest Oklahoma and southwest Kansas January 6, 1956.

Anonymous, Sohio's waterflood gives new life to Bald Hill pool. Petroleum Week, vol. 3, no. 24 (Dec. 14, 1956), pp. 26-27. Five-spot pattern used with injection wells on corners. Production from shallow Booch zone.

Southern Oklahoma cross sections, A, B, C, and D. Ardmore Geol. Soc. (1956). A-A′: T. 8 S., R. 3 W. to T. 3 S., R. 2 E., Carter Co., B-B′: T. 6 S., R. 6 W. to T. 2 N.-R. 4 W., Jefferson and Stephens Counties, C-C′: T. 2 S., R. 8 W. to T. 8 N., R. 7 W., Stephens and Grady Counties, D-D′: T. 2 N., R. 8 W. to T. 3 S., R. 1 E., Stephens and Carter Counties.

Anonymous, Susie confirmed a conviction. Oil and Gas Jour., vol. 54, no. 3 (Sept. 24, 1956), pp. 88-89, 1 fig. Sinclair No. 1 Susie, 6 miles northwest of Apache field, Caddo County, Oklahoma, produces from Bromide.

Anonymous, That big boom at Richards Spur. Du Pont Magazine, vol. 50, no. 6 (Dec., 1956-Jan., 1957), pp. 34-35, 3 photos. Dolese Brothers Co. used more than 500,000 pounds of "Nitramon" to blast 1¼ million tons of rock.

Anonymous, World news on mineral occurrences. Rocks and Minerals, vol. 31, nos. 1-2, whole no. 250 (Jan.-Feb., 1956), pp. 15-27. Describes locality near Spavinaw, Mayes County, Oklahoma, where crystals of marcasite, pyrite, and quartz may be found.

1957

Vol. 18, no. 3, March 1958

PUBLISHED PAPERS ON OKLAHOMA GEOLOGY IN THE YEAR 1957

Compiled by NEVILLE M. CURTIS, JR.

(1) Adams, Ernestine, 150 deep wells cost $100,000,000 in 1956. Petroleum Engineer, vol. 29, no. 3 (March, 1957), pp. B21-B30. New field (Carter-Knox) in Oklahoma, has production below 15,000 feet. Lists wells in United States drilled 15,000 feet or deeper.

(2) Adams, J. H., Air/gas drilling cuts costs 22% in the McAlester Basin. Petroleum Engineer, vol. 29, no. 5 (May, 1957), pp. 30-34. Description of drilling operations in five wells (eastern Oklahoma and western Arkansas).

(3) Adams, J. H., Air and gas drilling gain prestige. Oil and Gas Jour., vol. 55, no. 32 (Aug. 12, 1957), pp. 123-127, 7 figs. Review of Carter Oil Co.'s experience in drilling five wells with air or gas in McAlester Basin.

(4) Affleck, James, Geologic interpretation of aero-magnetic surveys. (Abstract). Geophysical Soc. Tulsa, Proc., 10th Anniversary Number, vol. 4 (1956-1957), pp. 74-75. Generalized magnetic profiles across Wichita Mountains and Anadarko Basin and Arbuckle Mountains and McAlester Basin shown at meeting of Geophysical Society of Tulsa.

(5) Amsden, T. W., Catalog of Middle and Upper Ordovician fossils. Okla. Geol. Survey, Circ. 43 (1957), pp. 1-41. List of described and/or illustrated Middle and Upper Ordovician fossils from Oklahoma, author of original description, and bibliography (Oklahoma specimens).

(6) Amsden, T. W., Stratigraphy and paleontology of the Hunton group in the Arbuckle Mountain region. Part I. Introduction to stratigraphy. Okla. Geol. Survey, Circ. 44 (1957), pp. 1-57, 6 figs., 3 plates. Outline stratigraphic divisions recognized, brief description of each formation and member, brief account of their relationship to each other.

(7) Ardmore Geological Society, Criner Hills field conference, Lake Murray area, southern Oklahoma. Guidebook Sept. 12-14 (1957), pp. 1-77, 1 fig., 2 tables, 11 cross sections, 20 maps, 8 photos. Stratigraphy and structure of southern Ardmore Basin and oil fields in area.

(8) Ballard, W. W., Subsurface study of Morrow and Atoka series in part of Arkansas Valley of western Arkansas. Amer. Assoc. Petroleum Geologists, Bull., vol. 41, no. 2 (Feb., 1957), pp. 263-277, 4 figs. Distribution, lithology, thickness, stratigraphic relationship, and environments of deposition for Morrow and Atoka series, and oil, gas, and uranium possibilities in Tps. 5-14 N., Rs. 25-27 E., Oklahoma.

(9) Barrett, Ed and Culp, E. F., Accumulation of oil and gas in the Bois d'Arc member of the Hunton group in central Oklahoma. Fifth Bienn. Symposium of Subsurface Geology. University of Oklahoma (March, 1957), pp. 133-167, 8 figs., 3 tables, 8 photomicrographs. Published in two parts in Oil and Gas Jour., vol. 55, nos. 22 and 23 (1957).

(10) Barrett, Ed and Culp, E. F., Bois d'Arc pay spurs limestone exploration. Part I. Oil and Gas Jour., vol. 55, no. 22 (June 3, 1957), pp. 169-173, 5 figs. Account of stratigraphic and structural history of the Bois d'Arc formation, Hunton group, in central Oklahoma.

(11) Barrett, Ed and Culp, E. F., Bois d'Arc pay spurs limestone exploration. Part 2. Oil and Gas Jour., vol. 55, no. 23 (June 10, 1957), pp. 172-177, 2 figs., 3 tables, 8 plates. Fields with Bois d'Arc limestone production divided into 3 classes dependent on location relative to line of regional truncation. Data for fields: areal extent, discovery well and data, type trap, etc.

(12) Bennett, R. F., From the bottom up. Amer. Assoc. Petroleum Geologists, Bull., vol. 41, no. 7 (July, 1957), pp. 1409-1415, 7 figs. Two time sections from the North Healdton area, Oklahoma, used in geophysical study. Corrected record sections make possible an integrated interpretation of entire sedimentary section producing reflected events.

(13) Benoit, E. L., The Desmoinesian series, Edmond area, central Oklahoma. Shale Shaker, vol. 8, no. 3 (Nov., 1957), pp. 15-29, 2 figs., 4 maps, 3 cross sections. Subsurface study of stratigraphy and structure of Desmoinesian series in T. 14 N., R. 5, 4, 3 W., Oklahoma.

(14) Bhardwaj, D. C., The spore flora of Velener Schichten (Lower Westphalian D) in the Ruhr coal measures. Palaeontographica, Band. 102, Abt. B, Lief. 4-6 (Sept., 1957), pp. 110-138, 4 plates, 9 text-figs., 3 tables. Emendation of the genus *Vestispora* described by Wilson and Hoffmeister (1956) from the Croweburg coal of Oklahoma.

(15) Bizal, R. B., L. P. G. industry is ready for winter. Oil and Gas Jour., vol. 55, no. 41 (Oct. 14, 1957), p. 103. Lists companies having L. P. G. stored underground, types of storage, present amount in storage, and ultimate capacity of storage.

(16) Branson, C. C., E. L. DeGolyer, 1886-1956. Okla. Geology Notes, vol. 17, no. 2 (Feb., 1957), pp. 11-21. Biography of E. L. DeGolyer. Includes list of memberships, honors, and geological writings.

(17) Branson, C. C., Oldest conodonts found in Oklahoma. Okla. Geology Notes, vol. 17, no. 2 (Feb., 1957), p. 21. Brief review of "Taxonomy, nomenclature, orientation, and stratigraphic evaluation of conodonts," Jour. Paleontology, vol. 30, pp. 1324-1340 (Nov., 1956). Review refers to Butterly dolomite, Fort Sill limestone, Royer dolomite, Honey Creek limestone, and Signal Mountain formation.

(18) Branson, C. C., Carbonate reservoirs—an introduction. Fifth Bienn. Symposium on Subsurface Geology. University of Oklahoma (March, 1957), pp. 3-9, 1 table. Carbonate reservoir types and examples. Three classifications of carbonate reservoirs based on (1) rock type, (2) porosity type, (3) type of trap.

(19) Branson, C. C., Pennsylvanian problems in eastern Oklahoma. World Oil, vol. 145, no. 1 (July, 1957), pp. 87-90, 3 figs., 1 table. Sandstone types and source areas and overlaps and unconformities in Pennsylvanian strata east of Tulsa County and north of Choctaw fault.

(20) Branson, C. C., Oklahoma facies of Kansas formations. Kansas Geol. Soc. and State Geol. Survey of Kansas, Guidebook, Twenty-First Field Conf., Sept. 19, 20, and 21, 1957, pp. 92-104, 8 tables. Discussion of facies changes and similarities near Kansas-Oklahoma state line.

(21) Branson, C. C., Census of Oklahoma geologists. Okla. Geology Notes, vol. 17, no. 9 (Sept., 1957), p. 83. Membership distribution of Oklahoma geologists relative to geological societies and cities in Oklahoma.

(22) Branson, C. C., Pelecypods of Oklahoma Late Mississippian. Okla. Geology Notes, vol. 17, no. 9 (Sept., 1957), p. 86. A review of M. K. Elias' paper "Late Mississippian fauna from the Redoak Hollow formation of southern Oklahoma. Part 3. Pelecypoda," Jour. Paleontology, vol. 31, no. 4 (1957).

(23) Branson, C. C., Petroleum notes from the Twenties. Okla. Geology Notes, vol. 17, no. 10 (Oct., 1957), pp. 93-94. List of 34 fields, year of discovery, and geologist responsible. Fields discovered 1904 through 1925.

(24) Branson, C. C., Some regional features of Mississippian and Early Pennsylvanian rocks in the Mid-Continent. Abilene and Ft. Worth Geol. Soc., Guide Book, Oct. 25-26, 1957, pp. 79-83, 3 figs. Stratigraphic relationship of Mississippian and Early Pennsylvanian units.

(25) Branson, C. C., Old stratigraphic names made available. Okla. Geology Notes, vol. 17, no. 11 (Nov., 1957), pp. 99-103. List of stratigraphic names to be abandoned and made available for use as stratigraphic names. Reference given for original description.

(26) Branson, C. C., Paleontologists add to historical record. Okla. Geology Notes, vol. 17, no. 11 (Nov., 1957), p. 105, 1 fig. Millstone from France -- determination based on identification of charophytes, from Tertiary of the Paris Basin, contained in millstone.

(27) Branson, C. C., Rejected Oklahoma stratigraphic names. Okla. Geology Notes, vol. 17, no. 11 (Nov., 1957), pp. 106-108. List of Oklahoma units which have been given names already used elsewhere and replacement name in cases where such replacements have been made.

(28) Branson, C. C., Study of a Kansas nodular bed. Okla. Geology Notes, vol. 17, no. 11 (Nov., 1957), pp. 109-110. Review of "Paleoecology of nodulose zone at top of Haskell limestone (Upper Pennsylvanian) in Kansas," Amer. Assoc. Petroleum Geologists, Bull., vol. 41, pp. 2012-2036 (September 1957). Paper written by H. W. Miller and Ada Swineford.

(29) Branson, C. C., Late Pennsylvanian facies of north-central Oklahoma. (Abstract). Geol. Soc. America, Bull., vol. 68, no. 12, Pt. 2 (Dec., 1957), p. 1889. Sequence and lithology of Virgilian rocks in north-central Oklahoma.

(30) Brandt, R. A., Eastern Oklahoma field trip. Tulsa Geol. Soc. and Amer. Assoc. Petroleum Geologists Mid-continent regional meeting (Nov. 2, 1957), pp. 1-13, 4 figs. Area traversed by route located in T. 16-20 N., R. 13-23 E. Road log traverses Holdenville shale (Pennsylvanian) down into the Boone formation (Mississippian).

(31) Breck, H. R., Schoellhorn, S. W., and Baum, R. B., Velocity logging and its geological and geophysical applications. Amer. Assoc. Petroleum Geologists, Bull., vol. 41, no. 8 (Aug., 1957), pp. 1667-1682, 20 figs. Continuous velocity logs illustrated for wells in central and southern Oklahoma.

(32) Burton, L. C., Water levels and artesian pressures in observation wells in the United States, 1955. Part 4. South-Central States. U. S. Geol. Survey Water-supply Paper 1407 (1957), pp. 79-117, 6 figs., 162 tables. Data relative to water levels and artesian pressure (listed by counties).

(33) Burwell, A. L., Ingenious uses of mineral materials. Okla. Geology Notes, vol. 17, no. 1 (Jan., 1957), pp. 4-5. Brief description of 3 new uses of mineral materials (1) Ytong: lightweight structural material, (2) soluble plant supplement, and (3) building blocks of lightweight aggregate without use of cement or lime.

(34) Burwell, A. L., Can a commercial use be found for Oklahoma grahamite and impsonite? Okla. Geology Notes, vol. 17, no. 1 (Jan., 1957), pp. 6-7. Discusses possibility of using grahamite in place of gilsonite.

(35) Burwell, A. L., Industrial water. Okla. Geology Notes, vol. 17, no. 2 (Feb., 1957), pp. 22-24. An account of quantity of water used by industry and factors relative to quality of water.

(36) Burwell, A. L., Industrial water (con't. from Okla. Geology Notes, vol. 17, no. 2, p. 24). Okla. Geology Notes, vol. 17, no. 3 (March, 1957), pp. 26-28. Brief description of water quality factors and treatment of water for industry.

(37) Burwell, A. L., What about lightweight aggregate? Okla. Geology Notes, vol. 17, no. 3 (March, 1957), pp. 29-32. Methods used in producing lightweight aggregate and advantages in use for construction. Areas in Oklahoma where clays and shales have been tested for bloating properties and results.

(38) Burwell, A. L., Conversion of anhydrite to gypsum. Okla. Geology Notes, vol 17, no. 8 (August, 1957), p. 75. Brief account of commercial process used in converting anhydrite to gypsum.

(39) Burwell, A. L., The weathering process. Okla. Geology Notes, vol. 17, no. 10 (Oct., 1957), pp. 91-92. Brief discussion of processes and products of weathering.

(40) Burwell, A. L., Geochemical prospecting. Okla. Geology Notes, vol. 17, no. 11 (Nov., 1957), p. 104. Brief discussion of the definition of geochemistry and geochemical prospecting.

(41) Caswell, C. A., Arbuckle region offers good possibilities. Oil and Gas Jour., vol. 55, no. 29 (July 22, 1957), pp. 158-161, 7 figs. Discussion of possible oil production in Arbuckle region.

(42) Clinton, R. P., The geology of the Osage Country. Shale Shaker, vol. 8, no. 2 (Oct., 1957), pp. 8-21, 10 figs. Stratigraphy, geological history and structure, and oil and gas possibilities in Osage County, Oklahoma.

(43) Clinton, R. P., The geology of the Osage country. Tulsa Geol. Soc. Digest, vol. 25 (1957), pp. 126-131. Discussion of the stratigraphy, Precambrian paleogeography, and tectonic history of Osage County with respect to oil production.

(44) Cloud, P. E., Jr., Barnes, V. E., and Hass, W. H., Devonian-Mississippian transition in central Texas. Bur. Econ. Geology, University Texas, Rept. Investigations—no. 31, (July, 1957), pp. 807-816, 1 fig., 5 plates. Reprinted from Geol. Soc. America, Bull., vol. 68, no. 7 (July, 1957), pp. 807-816, 1 fig., 5 plates. Conodonts recognized in the Houy formation of central Texas also found in the Chattanooga shale and Woodford shale of Oklahoma.

(45) Coldwell, A. E., Importance of channel erosion as a source of sediment. Amer. Geophysical Union, Trans., vol. 38, no. 6 (Dec., (1957), pp. 908-912, 2 figs. Gaging stations near Pauls Valley and Durwood, Washita River, Oklahoma used to illustrate channel erosion as a source of sediment.

(46) Culp, Eugene and Barrett, Ed, Accumulation of oil and gas in Bois d'Arc member of Hunton group, central Oklahoma. Tulsa Geol. Soc. Digest, vol. 25 (1957), pp. 135-138. Résumé of two-part article which first appeared in the June 3rd, 1957 issue of Oil and Gas Journal. See Barrett, Ed.

(47) Curtis, N. M., Jr., Published papers on Oklahoma geology in the year 1956. Okla. Geology Notes, vol. 17, no. 4 (April, 1957), pp. 34-48. Annotated bibliography.

(48) Curtis, N. M., and Ham, W. E., Physiographic map of Oklahoma. Okla. Geol. Survey, Educational Series Map 4 (1957), colored, scale 1:2,000,000.

(49) Damon, P. E. and Kulp, J. L., Determination of radiogenic helium in zircon by stable isotope dilution technique. Amer. Geophysical Union, Trans., vol. 38, no. 6 (Dec., 1957), pp. 945-953, 3 figs., 5 tables. Apparent age for several Oklahoma zircons. Exact location not given but samples are probably from the Wichita Mountains.

(50) Davis, R. E., Magnesium resources of the United States—a geologic summary and annotated bibliography to 1953. U. S. Geol. Survey, Bull. 1019-E (1957), pp. 373-515. Six papers with reference to Oklahoma are annotated.

(51) Decker, C. E. and Gold, I. B., Bithecae, gonothecae, and nematothecae on Graptoloidea. Jour. Paleontology, vol. 31, no. 6 (Nov., 1957), pp. 1154-1158, 4 plates. Gonothecae and nematothecae are present on dendroid graptolites in Ordovician, Devonian, and Mississippian species.

(52) Dickey, J. W., Theses, University of Oklahoma, Geology and Geological Engineering, 1955-1957. Shale Shaker, vol. 8, no. 3 (Nov., 1957), pp. 12-14. Indexed alphabetically by author and area.

(53) Dickey, J. W., Theses, University of Oklahoma, Geology and Geological Engineering, additions and corrections. Tulsa Geol. Soc. Digest, vol. 25 (1957), pp. 141-144. Additions and corrections for 1955-1957.

(54) Dover, T. B., Horton, John, and Leonard, A. R., A look at the water resources of Oklahoma. Shale Shaker, vol. 7, no. 10 (June, 1957), pp. 18-32, 13 figs., 2 tables. Discussion of quantity and quality of surface water and ground water, sandstone and limestone aquifers, ground-water levels, and storage of water in Oklahoma.

(55) Elias, M. K., Late Mississippian fauna from the Redoak Hollow formation of southern Oklahoma, Part I. Jour. Paleontology, vol. 31, no. 2 (March, 1957), pp. 370-427, 11 plates. Description of invertebrates, mostly bryozoans and assorted boring organisms from Redoak Hollow formation, Chesterian age, from the Ardmore Basin. Two new genera, one subgenus, and twenty-six new species and varieties of bryozoans are introduced.

(56) Elias, M. K., Late Mississippian fauna from the Redoak Hollow formation of southern Oklahoma. Part 2. Jour. Paleontology, vol. 31, no. 3 (May, 1957), pp. 487-527, 24 text-figs., 8 plates, 5 tables. Descriptions of thirty species and varieties of corneous and calcareous brachiopods (twelve new). Status of genus *Diaphragmus* and its generotype is analyzed.

(57) Elias, M. K., Late Mississippian fauna from the Redoak Hollow formation of southern Oklahoma. Part 3. Pelecypoda. Jour. Paleontology, vol. 31, no. 4 (July, 1957), pp. 737-784, 1 text-fig., 9 plates, 6 tables. New genus *Eopleurophorus* and new subgenus *Springeria* are introduced, and 37 species and subspecies are described, 17 of which are new. Morphology and taxonomic status of 15 genera are discussed.

(58) Forgotson, J. M., Jr., Stratigraphy of Comanchean Cretaceous Trinity group. Amer. Assoc. Petroleum Geologists, Bull., vol. 41, no. 10 (Oct., 1957), pp. 2328-2363, 9 figs. Author considers that there is no Paluxy in Oklahoma and that the Walnut formation in Oklahoma is the lateral equivalent of Paluxy formation in Texas.

(59) Frederickson, E. A., Pennsylvanian history of the Criner Hills area, Oklahoma. (Abstract). Geol. Soc. America, Bull., vol. 68, no. 12, Pt. 2 (Dec., 1957), p. 1891. Two periods of movement during Pennsylvanian period. First the Criner-Wichita orogeny in early Morrow time and second the Arbuckle orogeny in late Pennsylvanian time.

(60) Frederickson, E. A., Geologic map of the Criner Hills, Oklahoma. Okla. Geol. Survey, Map GM-4 (1957), colored, scale 1:20,000.

(61) Frye, J. C. and Leonard, A. B., Ecological interpretations of Pliocene and Pleistocene stratigraphy in the Great Plains Region. Amer. Jour. Science, vol. 225, no. 1 (Jan., 1957), pp. 1-11, 3 figs. Discussion of gross environmental condition in Great Plains area from central-western Texas northward across Oklahoma, Kansas, Nebraska to southern limit of South Dakota. Brief description of stratigraphy.

(62) Gaither, V. U., Index of wells shot for velocity (Fifth Supplement). Geophysics, Vol. XXII, no. 1 (Jan., 1957), pp. 120-135. List of wells by county, location, survey depth, and lease.

(63) Gardner, F. J., Dozen areas share in '56 exploration excitement. Oil and Gas Jour., vol. 55, no. 4 (Jan. 28, 1957), pp. 222-223, 2 figs. Brief review of discoveries in Hugoton embayment and Anadarko Basin and what these discoveries mean.

(64) Gardner, F. J., Oklahoma's Woodward trend stretches 100 miles. Oil and Gas Jour., vol. 55, no. 34 (Aug. 26, 1957), p. 161, 1 fig. Account of wells drilled in Woodward trend (Harper to Kingfisher County).

(65) Gardner, F. J., Oklahoma probes its deepest trough. Oil and Gas Jour., vol. 55, no. 49 (Dec. 9, 1957), p. 189, 1 fig. New producing depth record for state (British-American Oil Producing Company No. 1 Kreiger in T. 2 N., R. 5 W.); Magnolia Petroleum Co. et al. No. 1 Sterba with drilling depth record at 20,426; and possible new world's depth record of 24,000 with the Howell, Holloway & Howell No. 1 Anadarko Basin well drilling on the Fort Cobb anticline.

(66) Gibbon, Anthony, Injected liquid propane boots oil production. World Oil, vol. 144, no. 6 (May, 1957), pp. 92-93, 1 fig. Production increased from 15 to 160 barrels per day by solvent extraction secondary recovery method used in small fields in Seminole area, Oklahoma.

(67) Glymph, L. M., Jr., Importance of sheet erosion as a source of sediment. Amer. Geophysical Union, Trans., vol. 38, no. 6 (Dec., 1957), pp. 903-907, 1 table. Data relative to sheet, gully, and stream channel erosion for areas in Washita and Roger Mills Counties.

(68) Grandone, Peter and Ham, W. E., The mineral industries of Oklahoma in 1955 and 1956. Okla. Geology Notes, vol. 17, nos. 5-6 (May-June, 1957), pp. 51-63, 3 tables. Okla. Geol. Survey, Mineral Report 31 (May, 1957), pp. 1-13, 3 tables. Quantity and value of mineral fuels and nonmetallic and metallic minerals for 1955. Preliminary annual summary of mineral production in Oklahoma for 1956.

(69) Hager, G. G., South Overbrook field. Criner Hills field conference, Lake Murray area, southern Oklahoma, 1957, Ardmore Geol. Soc., pp. 30-31, 1 fig. Résumé of development, production and geology.

(70) Hail, W. J., Jr., Reconnaissance for uranium in asphalt-bearing rocks in the Western United States. U. S. Geol. Survey, Bull. 1046-E (1957), pp. 55-85, 2 figs., 10 tables. Results of field investigations and laboratory analyses of asphalt-bearing rocks (Permian, Pennsylvanian, and Ordovician). Average U in ash of extracted oil ranged from 0.001 to 0.54 percent. Thirty-nine samples analyzed.

(71) Hale, C. G., Southwest Ardmore field. Criner Hills field conference, Lake Murray area, southern Oklahoma, 1957. Ardmore Geol. Soc., pp. 27-29, 1 fig., 1 table. Brief résumé of geology of field and data on thickness of Bromide and Tulip Creek formations.

(72) Ham, W. E., New age determination of Precambrian granite in the Arbuckle Mountains. Okla. Geology Notes, vol. 17, no. 1 (Jan., 1957), p. 5. Brief account of age determination method and age of igneous rock in Arbuckle Mountains and Wichita Mountains. Single locality from each area.

(73) Ham, W. E., Pennsylvanian conglomerates and tectonic history of the Arbuckle Mountain region, Oklahoma. (Abstract). Geol. Soc. America, Bull., vol. 68, no. 12, Pt. 2 (Dec., 1957), p. 1892. Structural evolution deduced from age and distribution of three mountain-derived conglomerate sequences.

(74) Ham, W. E., Merritt, C. A., and Frederickson, E. A., Field conference on geology of the Wichita Mountain region. Okla. Geol. Survey, Guide Book V (1957), pp. 1-58, 14 figs., 1 table, 1 map. Precambrian, Cambrian, Ordovician, and Permian strata described with respect to lithology, thickness, origin, and structure.

(75) Harbaugh, J. W., Mississippian bioherms in northeast Oklahoma. Amer. Assoc. Petroleum Geologists, Bull., vol. 41, no. 11 (Nov., 1957), pp. 2530-2544, 14 figs. Environmental study of bioherms in the Mississippian Boone formation. Bioherms composed of fragmental crinoid stems.

(76) Harris, R. W., Ostracoda of the Simpson group of Oklahoma. Okla. Geol. Survey, Bull. 75 (June 1, 1957), pp. 1-333, 19 figs., 10 plates, 5 range charts, type section of Corbin Ranch formation. Ostracods described, illustrated, and ranges given for four Simpson sections in the Arbuckle Mountains and Criner Hills of Oklahoma. Corbin Ranch (new unit) proposed and discussed.

(77) Hill, J. W., Uranium-bearing carbonaceous nodules of southwestern Oklahoma. Okla. Geol. Survey, Mineral Rept. 33 (1957), pp. 1-6, 2 figs., 1 table. Description of uranium-bearing carbonaceous nodules along north flank of Wichita uplift in southwestern Oklahoma. Chemical and spectrographic analyses of ashes.

(78) Hodgson, G. W. and Baker, B. L., Vanadium, nickel, and porphyrins in thermal geochemistry of petroleum. Amer. Assoc. Petroleum Geologists, Bull., vol. 41, no. 11 (Nov., 1957), pp. 2413-2426, 3 figs., 7 tables. Vanadium and nickel content in crude oil from 2 Oklahoma samples.

(79) Hoover, F. M., A review of the N. E. Hobart pool. Shale Shaker, vol. 7, no. 5 (Jan., 1957), pp. 3-7, 4 figs. Résumé of discovery and development of stratigraphic type oil pool on truncated syncline.

(80) Huang, W. T., Titanclinohumite from the Wichita Mountains, Oklahoma. Amer. Mineralogist, vol. 42, nos. 9 & 10 (Sept.-Oct., 1957), pp. 686-688, 1 table. Mineralogy and textural features described for hand specimens containing titanclinohumite grains.

(81) Huffman, G. G., Mississippian stratigraphy and tectonics of the Oklahoma Ozark area. Geol. Soc. America, Bull., vol. 68, no. 12, Pt. 2 (Dec., 1957), p. 1894. (Abstract).

(82) Hurley, P. M. and Fairbairn, H. W., Abundance and distribution of uranium and thorium in zircon, sphene, apatite, epidote, and monazite in granitic rocks. Amer. Geophysical Union, Trans., vol. 38, no. 6 (Dec., 1957), pp. 939-944, 2 figs., 9 tables. Uranium and thorium content of coarse crystals of zircon from Oklahoma pegmatite. No location.

(83) James, G. T., An edentate from the Pleistocene of Texas. Jour. Paleontology, vol. 31, no. 4 (July, 1957), pp. 796-808, 2 plates, 9 tables, 4 text-figs. One dermal scute from *Chlamytherium septentrionale* found at Hydro, Caddo County, Oklahoma.

(84) Jaster, M. C., Selected annotated bibliography of high-grade silica of the United States and Canada, through December 1954. U. S. Geol. Survey, Bull. 1019-H (1957), pp. 609-673. Annotated papers with reference to chert, novaculite, quartzite, and sand in Oklahoma.

(85) Jenks, L. H., Campbell, J. B., and Binder, G. G., Jr., A field test of the gas-driven liquid propane method of oil recovery. Jour. Petroleum Technology, vol. 9, no. 2 (Feb., 1957), pp. 34-39. Recovery rates, using gas-driven propane method in C-2 Block of the Seminole City pool, have averaged nine times the final primary rate.

(86) Johnson, J. H., Bibliography of fossil algae: 1942-1955. Colorado School of Mines, Quarterly, vol. 52, no. 2 (April, 1957), pp. 10, 66. Reference to nodular limestone in "Ogallala" formation (Stovall, J. W., Okla. Geol. Survey, Bull. 64) and reference to possibility of algae in some limestones in the Blaine and Dog Creek (Clifton, R. L., Amer. Assoc. Petroleum Geologists, Bull., vol. 28, p. 1017).

(87) Jordan, Louise, Oil and gas discoveries in Woods and Alfalfa Counties. Okla. Geology Notes, vol. 17, no. 1 (Jan., 1957), pp. 3-4. History of oil and gas discoveries in Woods and Alfalfa Counties, Oklahoma.

(88) Jordan, Louise, Olympic pool, Hughes and Okfuskee Counties. Okla. Geology Notes, vol. 17, no. 7 (July, 1957), p. 67. Review of "Olympic pool water flood," W. E. Stiles, Jour. Petroleum Technology, vol. IX, no. 2 (Feb., 1957), pp. 29-35, 4 figs. See Stiles, W. E.

(89) Jordan, Louise, Rosenwald pool, Okfuskee County. Okla. Geology Notes, vol. 17, nos. 5-6 (May-June, 1957), p. 50. A review of "Performance of a solution gas drive reservoir, Rosenwald pool, Oklahoma," Jour. Petroleum Technology, vol. IX, no. 1 (Jan., 1957), pp. 25-29.

(90) Jordan, Louise, Short Junction field secondary recovery project. Okla. Geology Notes, vol. 17, no. 9 (Sept., 1957), p. 87. Continental Oil Company will use LPG in secondary recovery project. Brief history of Short Junction field.

(91) Jordan, Louise, Subsurface stratigraphic names of Oklahoma. Okla. Geol. Survey, Guide Book VI (1957), pp. 1-220. Contains: surface names, obsolete names, subsurface names in good regional usage, author and page reference, description and stratigraphic position, and 212 electric logs showing the unit in the type well or nearby well deep enough to show markers above and below stratigraphic unit.

(92) Kershisnik, D. T., Mississippian production in the Fox field Township 2 South, Range 3 West, Carter County, Oklahoma. Fifth Bienn. Symposium of Subsurface Geology. University of Oklahoma (March, 1957), pp. 111-132, 9 figs., 1 table. Lithology, thickness, controlling factors of porosity and permeability, and nature of the Sycamore formation in the Fox field. Subsurface structural contour maps and cross sections of Fox field.

(93) Kesling, R. V. and Rogers, K. J., Size, lobation, velate structures, and ornamentation in some beyrichiid ostracods. Jour. Paleontology, vol. 31, no. 5 (Sept., 1957), pp. 997-1009, 4 plates, 1 table. Description and photograph of *Velibeyrichia fittsi* (Roth). Specimen from Middle Haragan marl, SW NE sec. 28, T. 3 N., R. 6 E., Pontotoc County, Oklahoma.

(94) Kesling, R. V., Origin of beyrichiid ostracods. Michigan, Univ., Museum Paleontology Contrib., vol. 14, no. 6 (Oct. 25, 1957), pp. 57-80, 5 figs., 7 plates. Description and illustration of *Beyrichia fittsi* Roth from Haragan shale, Oklahoma.

(95) King, R. R., et al., Bibliography of North American geology, 1940-1949. Part 1. Bibliography. U. S. Geol. Survey, Bull. 1049 (1957), pp. 1-1033.

(96) King, R. R., et al., Bibliography of North American geology, 1940-1949. Part 2. Index. U. S. Geol. Survey, Bull. 1049 (1957), pp. 1035-2205.

(97) King, R. R., et al., Bibliography of North American geology, 1954. U. S. Geol. Survey, Bull. 1054 (1957), pp. 1-484. Bibliography and index.

(98) Kirk, M. S., A subsurface section from Osage County to Okfuskee County, Oklahoma. Shale Shaker, vol. 7, no. 6 (Feb., 1957), pp. 2-4 and 9-21, 1 fig., 4 cross sections. Forty-five wells used in making north-south and east-west cross sections. Correlation of Pennsylvanian surface outcrops with subsurface.

(99) Kitts, D. B., A Pliocene vertebrate fauna from Ellis County, Oklahoma. Okla. Geol. Survey, Circ. 45 (Aug., 1957), pp. 1-27, 2 figs., 1 plate. Description of mammalian fauna from Ogallala group.

(100) Klepper, M. R. and Wyant, D. G., Notes on the geology of uranium. U. S. Geol. Survey, Bull. 1046-F (1957), pp. 120, 131-132. Content of 28 samples of asphaltite from Panhandle field, Texas and Oklahoma, ranges between 0.1 and 10.0 percent uranium.

(101) Lang, R. C., III, The Criner Hills: a key to the geologic history of southern Oklahoma. Criner Hills field conference, Lake Murray area, southern Oklahoma, 1957, Ardmore Geol. Soc., pp. 18-25, 2 figs. Résumé of the stratigraphy, structure, and geologic history of the Criner Hills.

(102) Levorsen, A. I., The Mid Continent region. Symposium Sobre Yacimientos de Petroleo y Gas. XX Congreso Geologico Internacional, Tomo III, America del Norte, Mexico (1956), pp. 221-233, 9 figs. Résumé of stratigraphy, structure, and oil and gas fields.

(103) Logan, D. M., Geology of the Okmulgee District. Okmulgee Geol. and Engineering Soc. (Jan., 1957), pp. 1-8, 10 maps, 8 plates. Area includes Townships 10 N. to 17 N. inclusive and Ranges 9 E. to 16 E. inclusive.

(104) Lyons, P. L., Geology and geophysics of the Gulf of Mexico. Tulsa Geol. Soc., Digest, vol. 25 (1957), p. 66, 2 figs. Brief discussion of the Ouachita Mountains in southeastern Oklahoma. These mountains form the most prominent gravity minimum on the North American continent.

(105) McCaslin, J. C., Hugoton pre-Permian drive taps new deep reservoirs. Oil and Gas Jour., vol. 55, no. 8 (Feb. 25, 1957), pp. 211, 214, 1 fig. Review of drilling activity in 1957 in Oklahoma Panhandle and northwest Oklahoma.

(106) McCaslin, J. C., Sooner wildcatters sight Anadarko's deep sands. Oil and Gas Jour., vol. 55, no. 20 (May 20, 1957), p. 250, 1 fig. Review of deep wells to be drilled into the Ordovician in Anadarko Basin.

(107) McCaslin, J. C., Oklahoma sees big wildcat surge. Oil and Gas Jour., vol. 55, no. 38 (Sept. 23, 1957), pp. 183-184, 6 figs. Brief account of some important Oklahoma wildcats.

(108) McCaslin, J. C., Springer tries again. Oil and Gas Jour., vol. 55, no. 40 (Oct. 7, 1957), p. 227, 1 fig. Account of Springer production from stratigraphic trap at North Carter in Beckham County, Oklahoma.

(109) McGonagill, F. E., Jr., Where does Oklahoma get her oil? Oil and Gas Jour., vol. 55, no. 18 (May 6, 1957), pp. 179-181, 2 tables. Principal producing formations, cumulative production through 1954, year of field discovery, and additional statistics relative to oil production in Oklahoma.

(110) MacKichan, K. A., Estimated use of water in the United States, 1955. U. S. Geol. Survey, Circ. 398 (1957), pp. 1-18, 6 figs., 12 tables. Data relative to state water withdrawal in the following classification: public supplies, rural, irrigation, self-supplied industrial including sewage, and water power.

(111) Masters, K. E., Geology of the Prague area, Lincoln and Pottawatomie Counties, Oklahoma. Shale Shaker, vol. 7, no. 5 (Jan., 1957), pp. 10-20, 7 figs., 1 geologic map. Outcropping formations in Prague area correlated with formations north of Prague area.

(112) Merritt, C. A., Geologic map of the Lake Altus area, Oklahoma. Okla. Geol. Survey (1957), colored, scale 1:31,680.

(113) Miller, C. R. and Evans, C. B., Logs and cores indicate porosity. World Oil, vol. 144, no. 1 (Jan., 1957), pp. 115-119, 6 figs., 2 charts. Data showing close agreement for porosities obtained by contact logging and sidewall coring where they have been used conjunctively.

(114) Misch, Peter and Oles, K. F., Interpretation of Ouachita Mountains of Oklahoma as autochthonous folded belt: preliminary report. Amer. Assoc. Petroleum Geologists, Bull., vol. 41, no. 8 (Aug., 1957), pp. 1899-1905, 1 fig. Discussion as to whether the Ouachita Mountains is an allochthonous or autochthonous folded belt. Evidence is given to prove the autochthonous concept.

(115) Moore, C. A., Pinpointing Panhandle possibilities. World Oil, vol. 145, no. 4 (Sept., 1957), pp. 83-88, 2 figs., 1 table. Résumé of subsurface provinces in Oklahoma being explored for oil.

(116) Moore, J. W. and Dunning, H. N., Metal-porphyrin complexes in an asphaltic Midcontinent crude oil. U. S. Dept. Interior, Bur. Mines, Rept. Investigations 5370 (Nov., 1957), pp. 1-24, 14 figs., 8 tables. Crude-oil sample from Deese sand (Pennsylvanian) in Tatums field, Carter County, Oklahoma. Effect of propane deasphalting on crude-oil properties of this sample.

(117) Morrisey, N. S., Drilling perks up in central Oklahoma. Oil and Gas Jour., vol. 55, no. 3 (Jan. 21, 1957), pp. 152-153, 3 figs. Wilcox production from small fields 3 to 8 miles east of Norman, Oklahoma.

(118) Morrisey, N. S., New logging technique spots Oklahoma oil. Oil and Gas Jour., vol. 55, no. 7 (Feb. 18, 1957), pp. 218-220, 3 figs. Earlsboro sand in North Remus field and Simpson sand section in Northeast Payne field used to illustrate value of combination induction-electric log in logging formations having low and medium resistivities.

(119) Morrisey, N. S., Five-year drilling program for Carter-Knox. Oil and Gas Jour., vol. 55, no. 9 (March 4, 1957), pp. 110-111, 2 figs. Development plan for deep Simpson production on flank of Carter-Knox field. Data point to major gas-condensate reservoir.

(120) Morrisey, N. S., Seismic-survey maps help in development. Oil and Gas Jour., vol. 55, no. 9 (March 4, 1957), pp. 158-159, 3 figs. Coordinates geologic data with recent seismic survey to map stratigraphic trap on south end of Lucien anticline, South Lucien field, Logan County, Oklahoma.

(121) Morrisey, N. S., Secondary recovery at Eola goes deep, comes high. Oil and Gas Jour., vol. 55, no. 11 (March 8, 1957), pp. 124, 126, 3 figs. Field in Garvin County, Oklahoma will have a simultaneous gas-injection and water-flood program. Bromide sand at 10,200 feet is reservoir unit.

(122) Morrisey, N. S., Oklahoma's Golden Trend yields deep pays. Oil and Gas Jour., vol. 55, no. 11 (March 18, 1957), pp. 204-205, 2 figs. Deep Simpson discoveries in McClain County uncover new fault trend north of Golden Trend. Brief account of drilling time and pay zones.

(123) Morrisey, N. S. and Maravich, M. D., Developments in Oklahoma in 1956. Amer. Assoc. Petroleum Geologists, Bull., vol. 41, no. 6 (June, 1957), pp. 1089-1107, 2 figs., 14 tables. Data relative to important wildcats and development wells of 1956.

(124) Morrisey, N. S., Will Northeast Alden rival Apache? Oil and Gas Jour., vol. 55, no. 28 (July 15, 1957), pp. 170-172, 5 figs. Comparison of Northeast Alden and Apache field. Data given for both fields.

(125) Morrisey, N. S., Active fields report drilling data. Oil and Gas Jour., vol. 55, no. 41 (Oct. 14, 1957), pp. 172-174. Data on contract drilling costs, casing programs, bit requirements, pay zones, completion practices, total days required to drill an average field well, etc.

(126) Morrisey, N. S., A.A.P.G. schedules Morrow symposium for meeting. Oil and Gas Jour., vol. 55, no. 42 (Oct. 21, 1957), pp. 217-218, 1 fig. Announcement of three papers to be presented at the Mid-Continent regional meeting of the A.A.P.G.

(127) Murray, G. E., The Gulf Coastal Province . . . how and where its oil and gas occur. Oil and Gas Jour., vol. 55, no. 44 (Nov. 4, 1957), pp. 109-116, 14 figs. Generalized maps showing areal geology, structural features, thickness and facies of Upper Jurassic, Lower and Upper Cretaceous, and Eocene, and approximate limits of Upper Jurassic, Cretaceous, and Early-Late Tertiary production.

(128) Oelrich, T. M., The status of the Upper Pliocene turtle, *Testudo turgida* Cope. Jour. Paleontology, vol. 31, no. 1 (Jan., 1957), pp. 228-241, 6 text-fig. Type specimens redescribed and illustrated, brief description of specimens collected in Beaver County, Oklahoma, from the Buis Ranch locality. Genus considered *Gopherus* by Williams in 1950.

(129) O'Heran, W. B., Notes on the Southwest Enville field, T. 7 S., R. 3 E., Love County, Oklahoma. Criner Hills field conference, Lake Murray area, southern Oklahoma, 1957, Ardmore Geol. Soc., pp. 40-41, 1 fig. Résumé of geology and development of field.

(130) Oklahoma Geological Survey, Fuels map of Oklahoma. Okla. Geol. Survey, Educational Series Map 2 (1957), colored, scale 1:2,000,000.

(131) Oklahoma Geological Survey, Mineral Map of Oklahoma (Exclusive of fuels) adapted from Oklahoma Geological Survey Map 72-1, 1955. Okla. Geol. Survey, Educational Series Map 3 (1957), colored, scale 1:2,000,000.

(132) Oklahoma Geological Survey, Geologic map of Oklahoma, modified from geologic map of Oklahoma, 1954. Okla. Geol. Survey, Educational Series Map 1 (1957), colored, scale 1:2,000,000.

(133) Oklahoma Geological Survey, Ground-water reservoirs of Oklahoma, modified from Oklahoma Geological Survey Map 72-2, 1956. Okla. Geol. Survey, Educational Series Map 5 (1957), colored, scale 1:3,500,000.

(134) Pearson, W. C., Well completions in limestone reservoirs. Fifth Bienn. Symposium of Subsurface Geology. University of Oklahoma (March, 1957), pp. 57-64, 2 figs. Well completion methods and best method for certain Oklahoma stratigraphic units.

(135) Powell, J. P., Some recent developments in waterflooding in Washington County, Oklahoma, 1956-1957. U. S. Dept. Interior, Bur. Mines, Information Circ. 7787 (May, 1957), pp. 1-35, 16 figs., 5 tables. Discussion of 4 waterflooding projects in the Bartlesville-Dewey field and 1 in the Hogshooter field. Oil production in Washington County increased from 990,000 barrels in 1945 to 4,000,000 barrels in 1956 due primarily to water injection.

(136) Powers, Sidney, Brock (Crinerville) oil field, Carter County, Oklahoma. (Abstract). Criner Hills field conference, Lake Murray area, southern Oklahoma, 1957, Ardmore Geol. Soc., pp. 38-39, 1 fig. Résumé of field.

(137) Prestridge, J. D., A stratigraphic analysis of the Sycamore formation in the Ardmore Basin. Fifth Bienn. Symposium of Subsurface Geology. University of Oklahoma (March, 1957), pp. 95-110, 7 figs. Lithologic variations described and author considers possibility of an upper, middle, and lower unit.

(138) Ramay, C. L., Clarification of Desmoinesian stratigraphy in the Pleasant Hill syncline of the Criner Hills. (Abstract). Criner Hills field conference, Lake Murray area, southern Oklahoma, 1957, Ardmore Geol. Soc., p. 45. Conclusions concerning structural history and stratigraphy.

(139) Reeside, J. B., et al., Correlation of the Triassic formations of North America, exclusive of Canada. Geol. Soc. America, Bull., vol. 68, no. 11 (Nov., 1957), pp. 1451-1514, 6 figs., 1 plate. Triassic in western Oklahoma appears to be extension of Dockum group in New Mexico. Chart shows stratigraphic occurrence of vertebrate fossils.

(140) Rezak, Richard, *Girvanella* not a guide to the Cambrian. Geol. Soc. America, Bull., vol. 68, no. 10 (Oct., 1957), pp. 1411-1412, 1 plate. Photograph of *Girvanella* sp. from the Bromide formation, Bromide, Oklahoma.

(141) Riggs, R. M., Thrust faulting along the Wichita Mountain front. Shale Shaker, vol. 8, no. 4 (Dec., 1957), pp. 7-11, 10 figs. Tectonic history of the Wichita Mountains and effect on geologic history of the Anadarko Basin.

(142) Rinehart Oil News Company, Yearbook 1957, vol. 1, 20 pp., 8 figs. Oklahoma drilling summary for 1956 by counties, list of operators and wells completed by each, discoveries and extensions by counties, and drilling and production data.

(143) Robinson, T. H., Oil and gas field development in the United States and Canada, Yearbook 1957 (Review of 1956). Nat. Oil Scouts and Landmen's Assoc., Vol. XXVII (1957), pp. 611-726, 4 figs., 1 table. Discovery and exploratory wells, new fields, pays, extensions, geology and production data, and geophysical and core-drill prospecting data.

(144) Roth, R. L., Texas Panhandle paleogeology. World Oil, vol. 144, no. 2 (Feb. 1, 1957), pp. 82-86, 6 figs. Brief description of time-stratigraphic units (Mississippian-Precambrian) in regard to lithology and orogenic environment and isopachous maps of six units in the Panhandle and along western edge of Oklahoma.

(145) Roth, R. I., Texas Panhandle paleogeology. World Oil, vol. 144, no. 4 (March, 1957), pp. 94-98, 9 figs. Brief description of time-stratigraphic units (Pennsylvanian-post Jurassic) in regard to lithology and orogenic environment and isopachous maps of nine units in the Panhandle and along western edge of Oklahoma.

(146) Sanmann, F. M., Mississippi Lime development problems. World Oil, vol. 145, no. 7 (Dec., 1957), pp. 107-109, 2 figs. History of producing wells and production methods used in drilling Mississippi Lime, Osage County, Oklahoma. Production data for Betts pool.

(147) Schacht, D. W., Lithologic variations in the Devil's Kitchen member of the "Deese" formation in the Ardmore Basin (Abstract). Criner Hills field conference, Lake Murray area, southern Oklahoma, 1957, Ardmore Geol. Soc., p. 43. Résumé of depositional history as indicated by lithologic variations.

(148) Schweers, F. P., Southern Oklahoma—a complex geological puzzle. World Oil, vol. 144, no. 6 (May, 1957), pp. 156-159, 3 figs. Discussion of the tectonic history in western Carter and eastern Stephens Counties with respect to structural and stratigraphic traps.

(149) Scott, G. L., Jr. and Ham, W. E., Geology and gypsum resources of the Carter area, Oklahoma. Okla. Geol. Survey, Circ. 42 (1957), pp. 1-64, 5 figs., 2 tables, 8 plates. Stratigraphy (exposed bedrock is in the Guadalupe and Leonard series of Middle Permian age) and economic geology (large-tonnage reserves of high-purity white gypsum in the Blaine formation).

(150) Searight, W. V. and Palmer, E. J., Burgner formation, pre-Desmoinesian Pennsylvanian deposit in southwestern Missouri. Amer. Assoc. Petroleum Geologists, vol. 41, no. 9 (Sept., 1957), pp. 2127-2131, 2 figs. *Fusulinella clarki*, *Fusulinella searighti*, and *Millerella* suggest a nearly contemporaneous age relationship with deposits in southern Oklahoma of Atokan age.

(151) Smith, M. R. and Henderson, J. H., Performance of a solution gas drive reservoir, Rosenwald Pool, Oklahoma. Jour. Petroleum Technology, vol. IX, no. 1 (Jan., 1957), pp. 25-29, 7 figs., 1 table. Reservoir performance, rock and fluid characteristics, and geology and development described for Union Valley limestone

and Cromwell sand (both Pennsylvanian) in Rosenwald Pool, Okfuskee County.

(152) Stearns, G. M., Oklahoma's deepest production. Petroleum Engineer, vol. 29, no. 4 (April, 1957), pp. B61-B66. History of Reed No. 1, Carter-Knox field, Grady County. Gas and condensate from Third Bromide sand.

(153) Stiles, W. E., Olympic pool water flood. Jour. Petroleum Technology, vol. IX, no. 2 (Feb., 1957), pp. 29-35, 4 figs. Primary development and production history, pilot flood development and performance, and brief note on geology.

(154) Stoever, E. C., Jr., Significant uranium deposit at Cement, Caddo County, Oklahoma. Okla. Geology Notes, vol. 17, no. 8 (August, 1957), pp. 77-78. Review of United States Geol. Survey, Atomic Energy Commission, Trace Elements Invest., No. 640, pp. 208-216. Discusses occurrence and origin of uranium ore at Cement, Oklahoma.

(155) Storseth, B. J., Radioactivity logging in carbonate reservoirs. Fifth Bienn. Symposium of Subsurface Geology. University of Oklahoma (March, 1957), pp. 39-40, 6 figs. Bois d'Arc section of Hunton limestone from well in Short Junction field used to illustrate application of radioactivity logs in evaluating fundamental reservoir data.

(156) Stringer, C. P., Jr., Subsurface geology of western Payne County, Oklahoma. Shale Shaker, vol. 7, no. 8 (April, 1957), pp. 3-20, 5 structure contour maps, 1 isochore map, and 2 cross sections.

(157) Thompson, M. L., Northern Midcontinent Missourian fusulinids. Jour. Paleontology, vol. 31, no. 2 (March, 1957), pp. 289-328, 2 text-figs., 10 plates, 15 tables. Description and discussion of Missourian fusulinids in Iowa, Kansas, Missouri, Nebraska, and Oklahoma. Includes one sample location in Osage County where *Kansanella (Kansanella) osagensis* is abundant.

(158) Tilton, G. R., Davis, G. L., Wetherill, G. W., and Aldrich, L. T., Isotopic ages of zircon from granites and pegmatites. Amer. Geophysical Union, Trans., vol. 38, no. 3 (June, 1957), pp. 360-371, 5 tables. Procedure used in isotopic age determination of zircon. Discussion and comparison of other methods used for age determination. Age of 2 samples from the Wichita Mountains in Oklahoma is listed.

(159) Trumbull, J. V. A., Coal resources of Oklahoma. U. S. Geol. Survey, Bull. 1042-J (1957), pp. 307-382, 7 figs., 2 plates, 3 tables. Averages of analyses of Oklahoma coal by county and bed and production of coal by county from 1873 to 1952. Coal beds are at least 14 inches in thickness, within 3,000 feet of surface, and Pennsylvanian in age.

(160) Van Cleave, R. F., High resolution seismic exploration northeastern and north-central Oklahoma. Geophysical Soc. Tulsa, Proc., 10th Anniversary Number, vol. 4 (1956-1957), pp. 48-53, 3 figs. High frequency seismic work useful in mapping small low relief structures at relatively shallow depths. Area studied is in southeastern Tulsa County.

(161) Walker, K. F. and Markley, L. C., Northeast Greenville field, Love County, Oklahoma. Criner Hills field conference, Lake Murray area, southern Oklahoma, 1957, Ardmore Geol. Soc., pp. 32-36,

3 figs. Résumé of stratigraphy, structure, and development of Northeast Greenville field.

(162) Wilson, Druid, Sando, W. J., and Kopf, R. W., Geologic names of North America introduced in 1936-1955. U. S. Geol. Survey, Bull. 1056-A (1957), pp. 1-405.

(163) Withrow, P. C., Subsurface geology of the Maysville area, Garvin County, Oklahoma. Shale Shaker, vol. 8, no. 4 (Dec., 1957), pp. 13-27, 13 figs., 1 table.

(164) Wright, Jack, Pearson, Cynthia, Kurt, E. T., and Watkins, J. W., Analyses of brines from oil-productive formations in Oklahoma. U. S. Dept. Interior, Bur. Mines, Rept. Investigations 5326 (April, 1957), pp. 1-71, 1 fig., 4 tables. Sample location, field, formation, depth to formation, elevation of well, resistivity (ohmmeters), and chemical analysis for 923 oil-field brine samples.

(165) Wyrick, J. E., Sand fracturing in Nowata County, Oklahoma. Producers Monthly, vol. 21, no. 5 (March, 1957), pp. 36-39, 11 figs. Case history of typical fracturing treatment for three water-flood producers.

(166) Anonymous, Anadarko deep play spreads. Petroleum Week, vol. 4, no. 23 (June 7, 1957), p. 24, 1 fig. Account of drilling activity in the Knox anticline and Ft. Cobb anticline area of Anadarko Basin.

(167) Anonymous, Authors of "Oil and gas in Oklahoma." Okla. Geology Notes, vol. 17, no. 10 (Oct., 1957), pp. 94-96. List of geologists who contributed to Oklahoma Geological Survey Bulletin 40.

(168) Anonymous, Big new structure? Oil and Gas Jour., vol. 55, no. 24 (June 17, 1957), p. 118, 1 fig. Possibility of anticline with 2,000 feet of relief in Southwest Enville field, Love County, Oklahoma.

(169) Anonymous, Bright spots dot Sooner state map as recent wildcat strikes spur activity. Oil and Gas Jour., vol. 55, no. 47 (Nov. 25, 1957), pp. 155-156. Brief report giving data for wildcat wells in Cimarron, Texas, Beaver, Woods, Major, Woodward, Caddo, Love, Garvin, Stephens, and area where Okmulgee, Okfuskee, and McIntosh Counties join.

(170) Anonymous, Conoco moves into atomic research, Oil and Gas Jour., vol. 55, no. 38 (Sept. 23, 1957), p. 82. Description of Continental Oil Co.'s research atomic-radiation laboratory in Ponca City, Oklahoma.

(171) Anonymous, Conoco readies first L.P.G. flood. Oil and Gas Jour., vol. 55, no. 29 (July 22, 1957), p. 50. Continental Oil Co. to pump 100,000 barrels of propane and butane into Hunton limestone in effort to boost ultimate recovery in Short Junction field.

(172) Anonymous, Drilling perks up in central Oklahoma. Oil and Gas Jour., vol. 55, no. 3 (Jan. 21, 1957), pp. 152-153. A review of recent drilling in central Oklahoma with emphasis on the Norman area.

(173) Anonymous, Gas to jump Sims sand output. Oil and Gas Jour., vol. 55, no. 51 (Dec. 23, 1957), p. 40, 1 fig. Velma field recovery may be boosted by more than 240,000,000 barrels in huge secondary-recovery project.

(174) Anonymous, Good year-end strikes recorded in four Oklahoma sectors. Oil and Gas Jour., vol. 55, no. 51 (Dec. 23, 1957), pp. 110-111, 5 figs. Production data for recent completions in Panhandle,

northwest (Ellis and Woodward Counties), southwest (East Cement and New Hope fields), and south (Love County).

(175) Anonymous, How to treat sour brine for flooding. Oil and Gas Jour., vol. 55, no. 28 (July 15, 1957), pp. 102-104, 6 figs. Describes and contains schematic layouts for four water-flooding projects in Bartlesville-Dewey field and one in Hogshooter field, Washington County, Oklahoma.

(176) Anonymous, New deep play in Oklahoma. Petroleum Week, vol. 4, no. 12 (March 22, 1957), pp. 27-28, 1 fig. New activity in southeast corner of Grady County and in Stephens County. Production in Grady County from Second and Third Bromide sands (Ordovician).

(177) Anonymous, Northwest Oklahoma is getting hot. Petroleum Week, vol. 4, no. 5 (Feb. 1, 1957), pp. 18-19, 1 fig. New producing area opened up by Union and Sinclair strikes in Woodward and Dewey Counties, Oklahoma.

(178) Anonymous, Oklahoma area perks up. Petroleum Week, vol. 5, no. 8 (Aug. 23, 1957), pp. 22-23, 1 fig. Brief account of Southwest Enville pool, South Overbrook pool, and North Greenville pool in Love County and Aylesworth field and North Aylesworth pool in Marshall County.

(179) Anonymous, Oklahoma hole hits a cost barrier. Petroleum Week, vol. 5, no. 15 (Oct. 11, 1957), pp. 30, 32. Description of rig and drilling operation at Magnolia's No. 1 Sterba-Ordovician well, Caddo County. Formation tops listed.

(180) Anonymous, Oklahoma operators dive into second half with high hopes. Oil and Gas Jour., vol. 55, no. 33 (Aug. 19, 1957), pp. 305-306. Brief account of recent discoveries in Oklahoma (southwest, northwest, and southcentral counties).

(181) Anonymous, Oklahoma records shaky. Oil and Gas Jour., vol. 55, no. 27 (July 8, 1957), p. 78, 1 fig. Account of drilling Magnolia Petroleum Co.'s No. 1 Sterba-Ordovician in Caddo County.

(182) Anonymous, Oklahoma's deep test halted. Oil and Gas Jour., vol. 55, no. 39 (Sept. 30, 1957), p. 68. Brief account of Magnolia Petroleum Company's deep well, No. 1 Sterba-Ordovician, in Caddo County.

(183) Anonymous, Sterba may go to 24,000 feet. Oil and Gas Jour., vol. 55, no. 36 (Sept. 9, 1957), p. 60. Account of Magnolia Petroleum Co.'s No. 1 Sterba-Ordovician well.

(184) Anonymous, Teamwork solves the case of the vanishing fault. The Link, vol. 22, no. 6 (Nov.-Dec., 1957), pp. 3-4, 1 fig. Interpretation that Keokuk fault might not reach surface but end just below the Earlsboro sand pays off in Keokuk field. Eleven wells drilled —ten are producers.

(185) Anonymous, Well of the month. Shale Shaker, vol. 8, no. 3 (Nov., 1957), p. 3. History of Magnolia, et al. No. 1 Sterba-Ordovician Unit, section 35, T. 6 N., R. 10 W. Total depth: 20,426 feet.

(186) Anonymous, Wildcat heads for 20,000 feet. Oil and Gas Jour., vol. 55, no. 33 (Aug. 19, 1957), p. 107. Report on Magnolia Petroleum Co.'s No. 1 Sterba-Ordovician in Caddo County, Oklahoma.

INDEX

PUBLISHED PAPERS ON OKLAHOMA GEOLOGY IN THE YEAR 1957

Prepared by NEVILLE M. CURTIS, JR.

[*The numbers refer to entries in the bibliography.**]

1958

Vol. 19, no. 3, March 1959

PUBLISHED PAPERS ON OKLAHOMA GEOLOGY IN THE YEAR 1958

Compiled by NEVILLE M. CURTIS, JR.

Aldrich, L. T., et al., 1958, Radioactive ages of micas from granitic rocks by Rb-Sr and K-A methods: Amer. Geophysical Union, Trans., vol. 39, no. 6, p. 1124-1134, 1 fig., 9 tables. Gives ages for granite in the Wichita Mountains as 460 to 550 million years based on zircon and biotite.

Amsden, T. W., 1958a, Additions to the catalog of Ordovician fossils: Okla. Geology Notes, vol. 18, no. 1, p. 13. *Climacoconus bromidus* Sinclair and *Girvanella* sp. Rezak added to catalog.

——— 1958b, Recently published illustrations of the Haragan ostracod *Beyrichia fittsi* Roth 1929: Okla. Geology Notes, vol. 18, no. 1, p. 14. Brief review of "Size, lobation, velate structures and ornamentation in some beyrichiid ostracods": Jour. Paleontology, vol. 31, p. 997-1009, pls. 127-130.

——— 1958c, Geologic range of *Dictyonella* in the Hunton group: Okla. Geology Notes, vol. 18, no. 2, p. 31-32. *Dictyonella* may not occur in the Haragan formation in Oklahoma.

——— 1958d, Addition to the catalog of Ordovician fossils: Okla. Geology Notes, vol. 18, no. 3, p. 34. Cephalopod species *Nybyoceras ulrichi* Foerste and Teichert 1930 in McLish formation to be added to catalog.

——— 1958e, Recently published illustrations of the Haragan brachiopod, "*Delthyris perlamellosa*": Okla. Geology Notes, vol. 18, nos. 6 and 7, p. 123. Taxonomic discussion.

——— 1958f, Two unusual Oklahoma crinoids described by Harrell Strimple: Okla. Geology Notes, vol. 18, nos. 6 and 7, p. 128. Review of H. L. Strimple's paper in the November issue of the Journal of the Washington Academy of Sciences (vol. 47, p. 369, 1957). Reference to *Laudonocrinus* sp. and *Phanocrinus alexanderi* Strimple.

——— 1958g, White Mound: Okla. Geology Notes, vol. 18, nos. 8 and 9, p. 131-135, 5 figs. History of White Mound (famous fossil locality for Lower Devonian material) and composite Hunton section from area described.

——— 1958h, Stratigraphy and paleontology of the Hunton group in the Arbuckle Mountain region. Part V—Bois d'Arc articulate brachiopods: Okla. Geol. Survey, Bull. 82, p. 1-110, 18 figs., 5 pls., 2 tables. Discussion and distribution of brachiopods, range of brachiopods through Henryhouse-Haragan-Bois d'Arc, paleoecology, and age and correlation.

——— and Boucot, A. J., 1958, Stratigraphy and paleontology of the Hunton group in the Arbuckle Mountain region: Okla. Geol. Survey, Bull. 78, p. 1-199, 42 figs., 14 pls., 17 tables. Presented in three parts. Part 2. Haragan articulate brachiopods; Part 3. Supplement to the Henryhouse brachiopods; and Part 4. New genera of brachiopods. Primarily description of brachiopods.

——— and Huffman, G. G., 1958, Frisco brachiopod from a Hunton core, Pottawatomie County: Okla. Geology Notes, vol. 18, no. 4, p. 73-76, 2 figs. Description of the first fossil (a brachiopod) from the Frisco formation in the subsurface and a brief discussion on the stratigraphic relations of the Frisco and Bois d'Arc formations.

Bado, John, 1958, East Pond Creek field, Grant County, Oklahoma: Shale Shaker, vol. 8, No. 10, p. 13-14, 3 figs., 1 table. Shake Shaker, Digest II, vols. 6-8 (1950-1958), p. 449-450, 3 figs., 1 table. Discovery and production history, reservoir conditions, and brief account of stratigraphy.

Barby, B. G., 1958, Subsurface geology of the Pennsylvanian and Upper Mississippian of Beaver County, Oklahoma: Shale Shaker, Digest II, vols. 6-8 (1955-1958), p. 133-154, 13 figs.

Benoit, E. L., 1958, The Desmoinesian series, Edmond area, central Oklahoma: Shale Shaker, Digest II, vols. 6-8 (1955-1958), p. 338-350, 9 figs.

Bizal, Robert, 1958, Growing storage to help L P G pricing: Oil and Gas Jour., vol. 56, no. 39, p. 40-43, 2 tables. Location by county of underground L P G storage in Oklahoma. Type of storage, capacity in barrels, and company using underground storage.

Blaik, W. M., 1958, Important wells in Oklahoma: Shale Shaker, vol. 8, no. 5, p. 8. Brief account of production and geology in the An-Son Petroleum Corporation et al. No. 1 Laverty, Harper County, Oklahoma.

Bleakley, W. B., 1958, 24,002 ft. to become world's second-deepest well: Oil and Gas Jour., vol. 56, no. 49, p. 77-79, 1 fig. Drilling method used in drilling Shell Oil Co.'s No. 5 Rumberger in Beckham County, Oklahoma.

Blumenthal, Morris, 1958, Subsurface geology of the Prague-Paden area, Lincoln and Okfuskee Counties, Oklahoma: Shale Shaker, Digest II, vols. 6-8 (1955-1958), p. 155-170, 4 figs., 4 pls.

Boeckman, C. H., 1958, A subsurface study of the Lower Pennsylvanian sediments of northern Grady and Caddo Counties, Oklahoma: Shale Shaker, Digest II, vol. 6-8 (1955-1958), p. 97-114, 10 pls.

Bohart, P. H., Jr., 1958, Subsurface geology of the Purdy oil field, Garvin County, Oklahoma: Shale Shaker, vol. 9, no. 1, p. 2-17, 2 figs., 9 pls. Stratigraphy, structure, geologic history, and field development.

Branson, C. C., 1958a, No Paluxy in Oklahoma?: Okla. Geology Notes, vol. 18, no. 1, p. 15, 1 fig. Review of paper by J. M. Forgotson in which the Paluxy sand formation in Oklahoma is placed in doubt.

——— 1958b, Mesozoic rocks of Kansas subsurface: Okla. Geology Notes, vol. 18, no. 1, p. 16. A review.

——— 1958c, Oklahoma Academy of Science meets at Phillips University: Okla. Geology Notes, vol. 18, no. 1, p. 12-13. List of geologic papers given at meeting.

——— 1958d, New topographic mapping in Oklahoma: Okla. Geology Notes, vol. 18, no. 4, p. 71-72. Scheduled topographic maps of Oklahoma.

——— 1958e, New names for Pennsylvanian mollusks: Okla. Geology Notes, vol. 18, no. 4, p. 72. New names for several Oklahoma Paleozoic clams.

——— 1958f, Final chapter of Redoak Hollow fauna: Okla. Geology Notes, vol. 18, no. 4, p. 76. Tables list number of genera, new genera,

species, and new species, and 1956 nude names and how treated in 1958.

——— 1958g, Coal resources of Oklahoma: Okla. Geology Notes, vol. 18, no. 4, p. 79-80. Review of "Coal resources of Oklahoma" by James V. A. Trumbull.

——— 1958h, Two Oklahoma Foraminifera: Okla. Geology Notes, vol. 18, no. 4, p. 80. Two species from the Cretaceous of Oklahoma.

——— 1958i, Some Oklahoma underclays: Okla. Geology Notes, vol. 18, nos. 6 and 7, p. 123-124. A review of L. G. Schultz's paper "Petrology of underclays", Geol. Soc. America, Bull., vol. 69, p. 363-402, April, 1958. See Schultz, L. G.

——— 1958j, Ancient fossil stump at El Reno: Okla. Geology Notes, vol. 18, nos. 6 and 7, p. 125. Historical account of *Cordaites* (Pennsylvanian seed-bearing plant) specimen at El Reno, Oklahoma.

——— 1958k, Permian snails, and some Oklahoma forms: Okla. Geology Notes, vol. 18, nos. 6 and 7, p. 127-128. A review of several papers written by Batten, R. L. (1956 and 1958) and Yochelson, E. L. (1956 and 1958). A few Oklahoma specimens are mentioned in the papers.

——— 1958l, Two Mississippian species of *Conocardium*: Okla. Geology Notes, vol. 18, nos. 8 and 9, p. 137-142, 1 pl. Figures and describes *Conocardium peculiare* Girty and another species of the above genus. A specimen of *C. peculiare* has been found in the Pitkin limestone, Cherokee County, Oklahoma.

——— 1958m, Marine clam in fresh-water sediments: Okla. Geology Notes, vol. 18, no. 10, p. 146. Report of *Pterinopectinella* cf. *P. welleri* from plant-bearing bed in Wagoner County, Oklahoma.

——— 1958n, Notes on a rare cystoid from Oklahoma: Okla. Geology Notes, vol. 18, no. 11, p. 178-179, 1 fig. Brief note on occurrence of *Eumorphocystis multiporata* in Bromide formation in Pontotoc County.

——— 1958o, Earliest description of an Oklahoma fossil: Okla. Geology Notes, vol. 18, no. 11, p. 180-181. Localities given from first three papers describing fossils in Oklahoma.

——— 1958p, New Oklahoma sea urchin: Okla. Geology notes, vol. 18, no. 11, p. 182. Announcement of description of *Archaeocidaris immanis* new species (Smithsonian Miscellaneous Collections, vol. 135, no. 9, August 4, 1958.

——— 1958q, Some Oklahoma cephalopods: Okla. Geology Notes, vol. 18, no. 11, p. 183-184. Review of the paper "Middle Pennsylvanian Schistoceratidae (Ammonoidea)", by A. K. Miller and W. M. Furnish, Journal of Paleontology, 1958.

——— and Amsden, T. W., 1958, Conocardium from the Hunton group: Okla. Geology Notes, vol. 18, no. 10, p. 147-149, 1 pl. Description of *Conocardium* cf. *C. inceptum* and *Conocardium* sp.

Burwell, A. L., 1958a, The use of natural pozzolans in Oklahoma: Okla. Geology Notes, vol. 18, no. 3, p. 64. Volcanic ash used as a pozzolan in construction of concrete dam at Lake Altus. Volcanic ash deposit located in Oklahoma.

——— 1958b, Feldspars in the Quanah granite: Okla. Geology Notes, vol. 18, no. 10, p. 159-160. Analysis of feldspar fraction in granite from Comanche County, Oklahoma.

——— 1958c, The question of priority: Okla. Geology Notes, vol. 18, no. 11, p. 170-171. A reminder that exploration data are needed in order to attract industry to Oklahoma.

——— 1958d, Delayed expansion in lightweight concrete: Okla. Geology Notes, vol. 18, no. 12, p. 188. Rehydration of aggregate in lightweight concrete is cause of delayed expansion.

Caplan, W. M., 1958, Arkansas Valley region develops new gas reserves: World Oil, vol. 146, no. 6, p. 101, 103-107, 113, 4 figs. Stratigraphy, structural geology, and petroleum possibilities in the Arkansas Valley, Arkansas.

Carpenter, Everett, 1958, The East Watchorn Field: Shale Shaker, vol. 8, no. 10, p. 7-11, 8 figs., 1 table. Shake Shaker, Digest II, vols. 6-8 (1955-1958), p. 444-448, 8 figs., 1 table. History, stratigraphy, structure, and production data for field in northwestern Pawnee County and southwestern Osage County, Oklahoma.

Caylor, J. W., 1958, Subsurface geology of western Garfield County, Oklahoma: Shale Shaker, Digest II, vols. 6-8 (1955-1958), p. 202-221, 16 figs.

Clinton, R. P., 1958, The geology of the Osage Country: Shale Shaker, Digest II, vols. 6-8 (1955-1958), p. 325-337, 11 figs.

Cole, J. A., 1958, Subsurface geology of east central Lincoln County, Oklahoma: Shale Shaker, Digest II, vols. 6-8 (1955-1958), p. 79-96, 4 figs., 2 tables, 7 pls.

Cronenwett, C. E., 1958, A subsurface study of the Simpson group in east-central Oklahoma: Shale Shaker, Digest II, vols. 6-8 (1955-1958), p. 171-187, 10 figs.

Curtis, N. M., Jr., 1958, Published papers on Oklahoma geology in the year 1957: Okla. Geology Notes, vol. 18, no. 3, p. 35-51; Index, p. 52-57.

Dapples, E. C. and Sloss, L. L., 1958, Facies patterns and oil accumulation in Pennsylvanian of southern Oklahoma. (Abstract): Amer. Assoc. Petroleum Geologists, Bull., vol. 42, no. 1, p. 211. Résumé of classification of stratigraphic units having trapping characteristics.

Davis, L. V., 1958a, Ground water in the Arbuckle and Simpson groups in the Arbuckle Mountains, Oklahoma: Okla. Geology Notes, vol. 18, no. 10, p. 152-157, 1 fig. Description of ground-water in the Arbuckle and Simpson groups and present and potential sources of several cities in Garvin, Murray, and Carter Counties.

——— 1958b, Oklahoma's underground water: Okla. Geology Notes, vol. 18, no. 12, p. 189-202, 7 figs. Aquifers grouped into five classes and each class discussed and shown on state map.

DeVore, S. F. and Wright, F. F., 1958, A retrospective look at a profitable water flood: Jour. Petroleum Technology, vol. 10, no. 4, p. 21-24, 8 figs., 2 tables. History and water-flood development and performance in Alluwe pool, Nowata County, Oklahoma.

Dickey, J. W., 1958, Theses, University of Oklahoma, Geology and Geological Engineering, 1955-1958: Shale Shaker, Digest II, vols. 6-8 (1955-1958), p. XI-XIV.

Dickey, P. A., 1958, Oil is found with ideas: Oil and Gas Jour., vol. 56, no. 37, p. 284-291, 5 figs. Brief history of oil discoveries as new ideas and methods evolved in geology and geophysics.

Dover, T. B., et al., 1958, A look at the water resources of Oklahoma: Shale Shaker, Digest II, vols. 6-8 (1955-1958), p. 283-296, 14 figs., 2 tables.

Edwards, A. R., 1958, Facies changes in Pennsylvanian rocks along north flank of Wichita Mountains. (Abstract): Amer. Assoc. Petroleum Geologists, Bull., vol. 42, no. 1, p. 211. Area of investigation from the Cement field to Oklahoma-Texas boundary.

Eisner, S. M., 1958, The lithology of the "Marchand" conglomerate: Shale Shaker, Digest II, vols. 6-8 (1955-1958), p. 44-58.

Elias, M. K., 1958. Late Mississippian fauna from the Redoak Hollow formation of southern Oklahoma. Pt. 4: Gastropoda, Scaphopoda, Cephalopoda, Ostracoda, Thoracica, and Problematica: Jour. Paleontology, vol. 32, no. 1, p. 1-57, 45 figs., 4 tables, 4 pls. Descriptions are given: (1) twenty-one species and varieties of gastropods, (2) five species of cephalopods, (3) twenty-three species and varieties of ostracods, (4) etc. Correlation is made with European species.

Fay, R. O., 1958a, A key to conodont genera and subgenera-addenda: Okla. Geology Notes, vol. 18, no. 11, p. 178.

——— 1958b, A key to conodont genera and subgenera: Okla. Geology Notes, vol. 18, nos. 6 and 7, p. 103-120, 132 figs. Key to identification of conodont genera and subgenera.

——— 1958c, A recent sink hole in central Blaine County, Oklahoma: Okla. Geology Notes, vol. 18, no. 3, p. 58-64, 8 figs. Description and origin of sink-holes developed in Blaine County, Oklahoma.

——— 1958d, Permian stratigraphy of Blaine County, Oklahoma—a preliminary report: Okla. Acad. Sci., Proc., vol. 38, p. 82-86, 1 fig. Lithology, thickness, and stratigraphic relationship of Permian strata.

Flawn, P. T., 1958, Subsurface Ouachita structural belt: World Oil, vol. 137, no. 6, p. 141-142, 174, 1 fig. Brief description of the lithologies and structure of the subsurface Ouachita structural belt.

Gahring, R. R., 1958, History and development of North Madill field, Marshall County, Oklahoma. (Abstract): Amer. Assoc. Petroleum Geologists, Bull., vol. 42, no. 1, p. 213.

Gardner, F. J., 1958a, Wildcatters move into northeastern Oklahoma: Oil and Gas Jour., vol. 56, no. 51, p. 93, 1 fig. Stratigraphic traps may contain oil in Craig and Mayes Counties.

——— 1958b, Two-gun approach hits multiple bull's-eye: Oil and Gas Jour., vol. 56, no. 35, p. 213. Geologic and production data for new five-pay field in McClain County. Discovery well is the Kirby Petroleum Co.'s No. 1 Weeden, Jr.

——— 1958c, Nothing settles dust better than oil: Oil and Gas Jour., vol. 56, no. 26, p. 125. Résumé of new production in western Oklahoma during last two weeks (June 16-June 30).

——— 1958d, Panhandle wildcats jump the hump: Oil and Gas Jour., vol. 56, no. 14, p. 229, 1 fig. Report of new production in the Hollis Basin, Jackson County, Oklahoma.

——— 1958e, The Oklahoma story: deeper pays and multiple pays: Oil and Gas Jour., vol. 56, no. 2, p. 143, 1 fig. Geology and production in Gulf Oil Corp. No. 1 Beard. Simpson production in McClain Co.

Glidden, C. H. and Borg, W. M., 1958, Morrow formation of northwestern Oklahoma. (Abstract): Amer. Assoc. Petroleum Geologists, Bull., vol. 42, no. 1, p. 214.

Godfrey, J. M., 1958, The subsurface geology of the Mannsville-Madill-Aylesworth anticline: Shale Shaker, Digest II, vols. 6-8 (1955-1958), p. 115-132, 4 figs., 6 pls., 2 tables.

Goldstein, August, Jr., and Flawn, P. T., 1958, Oil and gas possibilities of Ouachita structural belt in Texas and Oklahoma: Amer. Assoc. Petroleum Geologists, Bull., vol. 42, no. 4, p. 876-881. Discussion involves rocks of Ouachita facies and rocks of foreland facies underlying or adjacent to Ouachita structural belt.

Grandone, Peter and Ham, W. E., 1958a, The mineral industries of Oklahoma in 1956 and 1957: Okla. Geol. Survey, Mineral Rept. No. 34, p. 3-24, 13 tables. Quantity and value of mineral fuels and metallic and nonmetallic minerals for 1956. Preliminary annual summary of mineral production in Oklahoma for 1957.

——— 1958b, The mineral industries of Oklahoma in 1956 and 1957: Okla. Geology Notes, vol. 18, no. 5, p. 82-95, 3 tables. Quantity and value of mineral fuels and nonmetallic and metallic minerals for 1956. Values given by county. Preliminary data for mineral fuels, metallic and nonmetallic minerals for 1957.

Graves, J. M., 1958, Subsurface geology of a portion of Lincoln and Payne Counties, Oklahoma: Shale Shaker, Digest II, vols. 6-8 (1955-1958), p. 1-22, 2 figs., 7 pls.

Ham, W. E., 1958a, New portland cement plant at Tulsa: Okla. Geology Notes, vol. 18, no. 11, p. 179-180. Announcement and brief description of proposed plant.

——— 1958b, New helium plant in Oklahoma Panhandle: Okla. Geology Notes, vol. 18, no. 11, p. 181-182. Announcement and brief description of plant to be built in the Keyes natural gas field, Cimarron County.

——— 1958c, Southern Oklahoma: Golden province for oil finders: Oil and Gas Jour., vol. 56, no. 50, p. 152-156, 7 figs. Stratigraphy and lithology of the Arbuckle group and structural traps encountered in Arbuckle production. Table on pages 104-105, Oil and Gas Jour., vol. 56, no. 51.

——— 1958d, World's longest conveyor belt under construction at Ada: Okla. Geology Notes, vol. 18, no. 12, p. 208. Announcement and description of 5½-mile conveyor belt.

——— 1958e, Stratigraphy of the Blaine formation in Beckham County, Oklahoma: Okla. Acad. Sci., Proc., vol. 38, p. 88-93, 2 figs. Gives earlier classification of the Blaine formation and the present classification (members and thickness).

——— and Curtis, N. M., Jr., 1958, Gypsum in the Weatherford-Clinton district, Oklahoma: Okla. Geol. Survey, Mineral Rept. 35, p. 1-32, 2 figs., 5 pls., 4 tables. Economic geology of the gypsum in the Cloud Chief formation (Permian) in Custer County.

——— et al., 1958, A new occurrence of probertite in Oklahoma: Okla. Geology Notes, vol. 18, no. 2, p. 24-27, 1 pl., 2 tables. Description and chemical analysis of probertite from the Cloud Chief formation (Permian).

Hammond, J. W. and Hawkins, J. E., 1958, Getting the most out of present seismic instruments: Geophysics, vol. 23, no. 4, p. 795-822, 20 figs. Contains seismic cross-section of Polo field in Noble County.

Hass, W. H., 1958, Upper Devonian conodonts of New York, Pennsylvania, and Interior States: Jour. Paleontology, vol. 32, no. 4, p. 765-769, 1 table. Contains list of significant conodonts from the Woodford shale and the Chattanooga shale in Oklahoma.

Henbest, L. G., 1958. Ecology and life association of fossil algae and Foraminifera in a Pennsylvanian limestone, McAlester, Oklahoma: Cushman Found. Foram. Research, Contribs., vol. 9, pt. 4, p. 104-111, 1 table, 1 pl. Fossiliferous limestone nodules and calcareous coal balls used in determining environmental conditions in area. Limestone is caprock of Secor coal.

Hendricks, T. A., 1958, Discussion-Interpretation of Ouachita Mountains of Oklahoma as autochthonous folded belt: preliminary report: Amer. Assoc. Petroleum Geologists, Bull., vol. 42, no. 11, p. 2757-2765, (reply by Peter Misch and K. F. Oles, p. 2765-2783). Discussion of difference of opinions.

Herrington, H. B. and Taylor, D. W., 1958, Pliocene and Pleistocene Sphaeriidae (Pelecypoda) from the central United States: Univ. Michigan, Mus. Zoology, Occasional Papers, no. 596, p. 1-29, 2 tables, 1 pl. Study of Sphaeriidae from localities in Beaver and Harper Counties, Oklahoma.

Hoover, F. M., 1958, A review of the N. E. Hobart Pool: Shale Shaker, Digest II, vols. 6-8 (1955-1958), p. 222-226, 4 figs.

Howell, C. L., 1958, Geophysical case history of the Northwest Sulphur pool, Murray County, Oklahoma: Shale Shaker, vol. 8, no. 8, p. 25-28, 4 figs. Shale Shaker, Digest II, vols. 6-8 (1955-1958), p. 424-427, 4 figs. Brief account of the structure, stratigraphy, and geophysical procedure used in discovery of Northwest Sulphur pool in Garvin County, Oklahoma.

Huang, W. T., 1958a, Occurrences of boron minerals in the Wichita Mountains, Oklahoma: Texas Jour. Sci., vol. 10, no. 2, Occurrence and description of sassolite and boracite.

——— 1958b, Prehnitization of gabbro: Texas Jour. Sci., vol. 10, no. 3, p. 282-292, 3 figs., 1 table. Detailed account of the petrochemical and mineralogical characters of prehnitization, mode of occurrence, and related alteration of gabbro in the Wichita Mountains, Oklahoma.

——— 1958c, Riebeckite granite in the Wichita Mountains, Oklahoma: Geol. Soc. America, Bull., vol. 69, p. 1191-1192, 1 pl. Description and mineral composition.

Huffman, G. G., 1958a, Geology of the flanks of the Ozark Uplift, northeastern Oklahoma: Okla. Geol. Survey, Bull. 77, p. 1-281, 22 figs., 16 tables, 6 maps. Comprehensive paper with emphasis on the stratigraphy of the areas.

——— 1958b, Memorial Charles E. Decker (1868-1958): Okla. Geology Notes, vol. 18, no. 11, p. 162-170. Includes bibliography compiled by C. C. Branson.

Johansen, R. T., et al., 1958, Detergent and citric acid aid input rates: World Oil, vol. 146, no. 1, p. 160-165, 9 figs. Method used in waterflood test on Bonaventura Oil Corporation Wayside Flood No. 1, Washington County, Oklahoma.

Johnson, R. K., 1958, Subsurface geology of northeast Cleveland County, Oklahoma: Shale Shaker, vol. 9, no. 2, p. 4-19, 1 fig., 9 pls. Stratigraphy, structure, geologic history, and oil and gas fields in area.

Jordan, Louise, 1958a, Oklahoma's deepest hole in the Cement Field: Okla. Geology Notes, vol. 18, no. 1, p. 8-10. Production, drilling data, and geology of Magnolia Petroleum Co. et al, No. 1 Sterba-Ordovician. Development history of Cement Field, Caddo County, Oklahoma.

——— 1958b, Keokuk Field, Seminole County: Okla. Geology Notes, vol. 18, no. 1, p. 11-12. A review of "Teamwork solves the case of the vanishing fault", published in "The Link", vol. 22, no. 6, p. 3. Development history and production of Keokuk Field, Seminole County, Oklahoma.

——— 1958c, Water-flood projects in Oklahoma: Okla. Geology Notes, vol. 18, nos. 6 and 7, p. 121-122. Lists name of oil pay, number of acres under flood, number of active oil wells, and average daily oil production per project according to ages of named productive pays.

——— 1958d, Water floods in Oklahoma: Okla. Geology Notes, vol. 18, nos. 8 and 9, p. 136. A review of several articles concerning waterfloods in Oklahoma. Data given for each article.

——— 1958e, Deep tests of interest: Okla. Geology Notes, vol. 18, nos. 8 and 9, p. 142-143. Depth, drilling data, and geologic data given for Shell Oil Company's No. 5 Rumberger and Howell, Ellison et al No. 1 Anadarko Basin. Beckham and Caddo Counties respectively.

——— 1958f, How much does it cost to find oil?: Okla. Geology Notes, vol. 18, no. 10, p. 151-152. A review of article by R. E. Megiel in Oil and Gas Journal, May 12, 1958. Summary of cost data.

——— 1958g, Sample trap collects air or gas-drilled samples: Okla. Geol. Notes, vol. 18, no. 11, p. 182. Announcement and reference for the "Baby-Giant" sample trap.

——— 1958h, New list of subsurface stratigraphic names of Oklahoma: Okla. Acad. Sci., Proc., vol. 38, p. 80-82. Review of Guidebook VI of the Oklahoma Geological Survey, "Subsurface stratigraphic names of Oklahoma".

Kellett, C. R., 1958, Subsurface geology of the Purcell area, Cleveland and McClain Counties, Oklahoma: Shale Shaker, vol. 9, no. 3, p. 5-22, 2 figs., 11 pls.

Kelsey, M. C., 1958, Careful groundwork pays off in Cooke and Grayson Counties: Oil and Gas Jour., vol. 56, no. 5, p. 142-145, 3 figs. Résumé of requirements involved in the successful seismic survey in Cooke and Grayson Counties, Texas. Subsurface structure map on Ellenburger and Viola for Love and Marshall County, Oklahoma.

Kier, P. M., 1958, New American Paleozoic echinoids: Smithsonian Misc. Collns., Pub. 4337, vol. 135, no. 9, p. 1-34, 22 figs., 8 pls. Description of *Archaeocidaris immanis* new species from the Dewey limestone in Osage County.

Kirk, M. S., 1958, A subsurface section from Osage County to Okfuskee County, Oklahoma: Shale Shaker, Digest II, vols. 6-8 (1955-1958), p. 235-249, 4 pls.

Kitts, D. B., 1958a, A saber-tooth cat, *Smilodon californicus* Bovard, from Logan County, Oklahoma: Okla. Geol. Notes, vol. 18, no. 2, p. 19-23, 3 figs., 1 table. Description of skull parts.

——— 1958b, North American Pleistocene mammalian faunas, a review: Okla. Geology Notes, vol. 18, nos. 6 and 7, p. 102. Review of "Summary of North American Pleistocene mammalian local faunas", Michigan Acad. Sciences, Arts and Letters, Papers, vol. 43, p. 3-32, 1958.

——— 1958c, *Nimravides*, a new genus of Felidae from the Pliocene of California, Texas, and Oklahoma: Jour. Mammalogy, vol. 39, no. 3, p. 368-375, 2 figs., 1 pl., 1 table. Description of new genus.

——— 1958d. Cenozoic stratigraphy of Roger Mills County, Oklahoma—a preliminary report: Okla. Acad. Sci., Proc., vol. 38, p. 87. Ages based on occurrence of *Biorbia* (seed) and vertebrate fossils (*Merychippus* and *Neohipparion*).

Laporte, W. D., 1958, The subsurface geology of the Pauls Valley area, Townships 3 and 4 North, Ranges 1 East and 1 West, Garvin County, Oklahoma: Shale Shaker, vol. 8, no. 9, p. 7-19, 23-25, 4 figs., 6 pls., 1 table. Shale Shaker, Digest II, vols. 6-8 (1955-1958), p. 428-443, 4 figs., 6 pls., 1 table. Structure, stratigraphy, geologic history, and oil and gas.

Laudon, R. B., 1958, Chesterian and Morrowan rocks in the McAlester Basin of Oklahoma: Okla. Geol. Survey, Circ. 46, p. 1-30, 14 figs. Tectonics and stratigraphy (physical), surface and near surface study.

Levin, F. K. and Lynn, R. D., 1958, Deep-hole geophone studies: Geophysics, vol. 23, p. 639-664, 21 figs., 3 tables. Data given for 3 wells in Oklahoma. Two in Texas County and one in Garvin County.

Levorsen, A. I., 1958a, Land of geological opportunity. (Abstract): Amer. Assoc. Petroleum Geologists, Bull., vol. 42, no. 1, p. 207. Résumé of advantages of being a youthful petroleum geologist in the Mid-Continent region.

——— 1958b, The Mid-Continent a land of geological opportunity: World Oil, vol. 147, no. 4, p. 101-104, 115, 9 figs. Brief review of the possibilities of finding oil in Oklahoma. These possibilities make Oklahoma an excellent training ground for young petroleum geologists.

Lilly, R. M., 1958, Developments in Texas and Oklahoma Panhandles in 1957: Amer. Assoc. Petroleum Geologists, Bull., vol. 42, no. 6, p. 1234-1247, 1 fig., 4 tables. Data relative to important discovery and development wells in 1957.

Long, C. A., 1958, A geological excursion to the Arbuckle Mountains, April 1903: Okla. Geology Notes, vol. 18, no. 10, p. 157-159, 1 pl. Account of early field trip by the Pick and Hammer Club, University of Oklahoma.

McCaslin, J. C., 1958a, Oklahoma drilling rebounds: Oil and Gas Jour., vol. 56, no. 11, p. 245-246. Résumé of new production in the northwest, west, south, south-central, and south in Oklahoma.

——— 1958b, Oklahoma reopens Arbuckle hunt: Oil and Gas Jour., vol. 56, No. 27, p. 194. Production data for Sinclair Oil and Gas Co., No. 1 Holcomb in Harper County, Oklahoma.

McKinney, C. M. and Garton, E. J., 1957, Analysis of crude oils from 470 important oilfields in the United States: U. S. Bur. Mines, Rept. Inv. 5376, 276 p., 2 figs., 3 tables, (1958). Contains data relative to geologic source of samples, general characteristics of crude oil samples, and analytical and computed data determined from the analyses.

Maner, S. B., 1958, Factors affecting sediment delivery rates in the Red Hills physiographic area: Amer. Geophysical Union, Trans., vol. 39, no. 4, p. 669-675, 3 figs., 4 tables. Results of studies of a group of reservoirs and their watersheds in the western part of Oklahoma.

Mann, Wallace, 1958, Subsurface geology of the Franks Graben, Pontotoc and Coal Counties, Oklahoma: Shale Shaker, vol. 8, no. 5, p. 11-28, 7 figs., 5 pls., 2 tables. Shale Shaker, Digest II, vols. 6-8 (1955-1958), p. 371-387, 7 figs., 5 pls., 2 tables. Structural and stratigraphic relationships and geologic history of the Franks Graben area. Cross-sections and structure maps on various stratigraphic units figured.

Masters, K. E., 1958. Geology of the Prague area, Lincoln and Pottawatomie Counties, Oklahoma: Shale Shaker, Digest II, vols. 6-8 (1955-1958), p. 227-234, 8 figs.

Maxwell, R. W., 1958, Post-Hunton unconformity and its effect on pre-Mississippian distribution in southern Oklahoma. (Abstract): Amer. Assoc. Petroleum Geologists, Bull., vol. 42, no. 1, p. 213-214. Pre-Pennsylvanian paleogeologic map and a pre-Woodford distribution map (not figured) suggests a tectonic framework for dividing southern Oklahoma into six geologic provinces.

Megill, R. E., 1958, How much does it cost to find oil?: Oil and Gas Jour., vol. 56, no. 19, p. 189, 192, 196, 198, 6 figs. Cost of exploration in Oklahoma and Kansas since 1942.

Melton, F. A., 1958, Photo-geology in "flatland" regions of low dip: Shale Shaker, Digest II, vols. 6-8 (1955-1958), p. 31-43, 15 plates.

Merritt, C. A., 1958, Igneous geology of the Lake Altus area, Oklahoma: Okla. Geol. Survey, Bull. 76, p. 1-70, 1 fig., 6 pls., 10 tables. Primarily the geology and petrography of igneous rocks in westernmost part of Wichita Mountains but also includes account of Permian sediments and a summary of historical geology for the area.

Miller, A. K. and Furnish, W. M., 1958, Middle Pennsylvanian Schistoceratidae (Ammonoidea): Jour. Paleontology, vol. 32, no. 2, p. 253-268, 9 figs., 2 pls., 1 table. Phylogenetic study includes several representatives collected in Oklahoma. Dimensions and proportions given in table.

Miller, B. W., 1958, Geology of McAlester-Arkansas coal basin. (Abstract): Amer. Assoc. Petroleum Geologists, Bull., vol. 42, no. 1, p. 212.

Misch, Peter and Oles, K. F., 1958, Interpretation of Ouachita Mountains of Oklahoma as authochthonous folded belt. (Abstract): Amer. Assoc. Petroleum Geologists, Bull., vol. 42, no. 1, p. 212-213. Résumé giving evidence for autochthonous folding in the Ouachita Mountains.

Morrisey, N. S., 1958a, Exploration steps up in the Arkansas Valley: Oil and Gas Jour., vol. 56, no. 3, 2 figs., 2 tables. Primarily concerned with Arkansas but geology extends into Oklahoma. Table gives stratigraphy of Arkansas Valley.

——— 1958b, Will shaly sands respond to water flooding?: Oil and Gas Jour., vol. 56, no. 14, p. 168-169, 3 figs. Water flooding method used and geology in the Deep Fork unit in Creek County, Oklahoma.

——— 1958c, Wildcatters turn to the Ordovician: Oil and Gas Jour., vol. 56, no. 20, p. 270, 272-274, 277, 3 figs. Production data for 3 wildcat discoveries in the Simpson in Stephens, Love. and Bryan Counties, Oklahoma.

——— 1958d, Planning a 24,000-ft. test: Oil and Gas Jour., vol. 56, no. 24, p. 108-112. Drilling method to be used on Howell and Howell Anadarko Basin No. 1 to test the Fort Cobb anticline, Caddo County, Oklahoma.

——— 1958e, Water-flood project is fully automatic: Oil and Gas Jour., vol. 56, no. 27, p. 135-136, 138, 2 figs. Description of flood project in the Iron Post field, Creek County, Oklahoma.

——— 1958f, Water flooding reaches deeper: Oil and Gas Jour., vol. 56, no. 32, p. 116-117. Brief account of water-flood operation in Creek County, Oklahoma.

Myers, A. J., 1958a, Geologic map of Cenozoic rocks in Harper County: Okla. Geol. Survey, in color, scale one inch equals one mile.

——— 1958b, Geologic map of pre-Tertiary rocks in Harper County: Okla. Geol. Survey, in color, scale one inch equals one mile.

Nelson, H. A., 1958, Flooding of gas cap in Norfolk Garr Sand Unit: Jour. Petroleum Technology, vol. X, no. 10, p. 11-17, 5 figs., 1 table. Description of water-flood treatment of a gas-cap. Project indicates no adverse effects and more oil recovery.

Netzeband, W. F., 1958, Mining methods and costs at the Rialto mine, Nellie B division, American Zinc, Lead and Smelting Co., Ottawa County, Oklahoma: U. S. Bur. Mines, Inf. Circ. 7823, 23 p., 11 figs., 11 tables.

Oakes, M. C., 1958, Geologic map of Creek County: Okla. Geol. Survey, in color, scale one inch equals one mile.

Oil and Gas Journal, 1958, Oil and gas pool map of Oklahoma: Oil and Gas Jour., vol. 56, no. 11, p. 111-112, 2 figs. Two maps, no text.

Oksa, D. R., 1958, An empirical velocity determination in southern Oklahoma: Geophysics, vol. 23, no. 4, p. 823-837, 11 figs. Methods used may overcome lack of adequate velocity data by the proper co-ordination of seismic and geologic factors.

Pate, J. D., 1958, Stratigraphic traps along northern shelf of Anadarko Basin. (Abstract): Amer. Assoc. Petroleum Geologists, Bull., vol. 42, no. 1, p. 214. Most of the stratigraphic traps are due to truncation and onlap, and interruption in deposition of sands and "reef" type limestone.

Pray, L. C., 1958, Fenestrate bryozoan core facies, Mississippian bioherms, southwestern United States: Jour. Sedimentary Petrology, vol. 28, no. 3, p. 261-273, 4 figs. Brief discussion of the crinoidal bioherms in northeastern Oklahoma. May compare with core facies found in New Mexico.

Querry, J. L., 1958, Subsurface geology of south central Kay County, Oklahoma: Shale Shaker, vol. 8, no. 7, p. 10-29, 10 figs., 1 table. Shale Shaker, Digest II, vols. 6-8 (1955-1958), p. 388-408, 12 figs., 1 table. A study of the stratigraphy, structure, geologic history, oil field development, and future oil possibilities of the area.

Reedy, H. J., 1958a, How to make profit below 15,000 feet: Oil and Gas Jour., vol. 56, no. 15, p. 166-171, 3 figs. Résumé of geology, thickness of producing zones, reservoir and reserve data, and drilling and completion for deep wells at Carter-Knox field, Oklahoma.

——— 1958b, Drilling controls discarded in steeply dipping formation: World Oil, vol. 147, no. 6, p. 115-118, 172, 174, 3 figs., 1 table. Description of "uncontrolled directional drilling" as used in the drilling of the British-American Oil Producing Co.'s Harrison No. 2 in the Carter-Knox field, Oklahoma.

Reynolds, B. M., 1958, Titanium program in Oklahoma: Okla. Geology Notes, vol. 18, no. 1, p. 3. Brief account of exploration and drilling program in Kiowa and Tillman Counties, Oklahoma, and TiO_2 content data for samples.

Riggs, C. H., et al., 1958, History and potentialities of the Cushing oilfield, Creek County, Oklahoma: U. S. Bur. Mines, Rept. Inv. 5415, 109 p., 47 figs., 38 tables. Includes a description of the geology, review of production history, and estimates of oil reserves available by secondary-recovery.

Riggs, R. M., 1958, Thrust faulting along Wichita Mountain front. (Abstract): Amer. Assoc. Petroleum Geologists, Bull., vol. 42, no. 1, p. 213. Shale Shaker, Digest II, vols. 6-8 (1955-1958), p. 351-355, 11 figs. Structural history of the Wichita Mountains.

Roady, R. R., 1958, Discovery well of the Eola field: Shale Shaker, vol. 8, no. 6, p. 16. Production and geology of the Sohio Petroleum Co.'s Howard 1-A in Garvin County, Oklahoma.

Roberts, M. C., 1958, Developments in Oklahoma in 1957: Amer. Assoc. Petroleum Geologists, Bull., vol. 42, no. 6, p. 1220-1233, 2 figs., 15 tables. Data relative to important wildcats and development wells of 1957.

Ross, G. B., et al., 1958, Oil and gas field development in United States and Canada, Year Book 1958 (Review of 1957): Nat. Oil Scouts and Landmen's Assoc., vol. XXVIII, p. 555-646. List of discovery and exploratory wells, new fields, pays, extensions, geology and production data, and geophysical and core-drill prospecting data.

Russell, D. T., 1958, Guide to Robbers Cave State Park and Camp Tom Hale: Okla. Geol. Survey, Guide Book VII, p. 1-23, 12 figs., 2 plates. An account of the geology, botany, zoology, and history of the area.

Schleicher, J. A., 1958, The use of the emission spectrograph in the geochemistry laboratory: Okla. Geology Notes, vol. 18, no. 12, p. 187-188. Use and accuracy of emission spectrograph compared with conventional chemical analysis.

Schultz, L. G., 1958, Petrology of underclays: Geol. Soc. America, Bull., vol. 6, no. 4, p. 363-402. 14 figs. Clay mineral analyses, shown by pie diagrams, for 18 samples from Oklahoma. A study of underclays in the Appalachian, Illinois, and Mid-Continent basins to see how the underclays vary regionally, stratigraphically, and within the underclay profile.

Schweers, F. P., 1958, Ordovician pay zones attractive lure in Oklahoma: Oil and Gas Jour., vol. 56, no. 11, p. 126-131, 3 figs. Review of pre-Atokan production and its possibilities on the flanking anticlines along the Wichita Mountains-Criner Hills axis.

Smith, C. L., 1958, Additional Pleistocene fishes from Kansas and Oklahoma: Copeia, no. 3, p. 176-180, 3 figs., 1 table. Additional material from the Doby Springs local fauna in Harper County, Oklahoma, and comparison of the Berends and Butler Springs fish fauna with the Doby Springs fauna.

Stringer, C. P., Jr., 1958, Subsurface geology of western Payne County, Oklahoma: Shale Shaker, Digest II, vols. 6-8 (1955-1958), p. 258-273, 1 table, 9 pls.

Swearingen, W. E. and Hayden, A. C., 1958, Operators in the Anadarko hit nearly one out of two: Oil and Gas Jour., vol. 56, no. 16, p. 230-233, 6 figs., 1 table. Résumé of geology, drilling costs, profit, and forecast in the Hugoton embayment, northwestern Oklahoma.

Tanaka, H. H., 1958, Changes in ground-water levels in Oklahoma during 1957: Okla. Geology Notes, vol. 18, no. 3, p. 57. Résumé of increased water levels in various counties and areas throughout the state.

Tanner, W. F., 1958a, An occurrence of flat-topped ripple marks: Jour. Sedimentary Petrology, vol. 28, no. 1, p. 95-96, 2 figs. Recently formed ripple marks compared with ripple marks of the Wewoka formation in Okmulgee County, Oklahoma.

——— 1958b, Pediments in areas of falling base-level: Shale Shaker, Digest II, vols. 6-8 (1955-1958), p. 23-30, 11 figs., 1 table.

——— 1958c, Superposed streams of the Arbuckle Mountains, Oklahoma: Shale Shaker, Digest II, vols. 6-8 (1955-1958), p. 77-78, 1 fig.

True, H. W., 1958, Induction-electrical logging in Oklahoma: Shale Shaker, vol. 8, no. 8, p. 18-23, 6 figs. Shale Shaker, Digest II, vols. 6-8 (1955-1958), p. 418-423, 6 figs. Reprint from World Oil, March, 1958. Description of induction logging and examples of logs obtained in a portion of the Pennsylvanian section in Oklahoma.

Trumbull, E. J., 1958, Shumard's type specimens of Tertiary mollusks from Oregon and other types formerly at Washington University, St. Louis: Jour. Paleontology, vol. 32, no. 5, p. 893-906, 3 pls., 1 table. Lists several specimens from Fort Washita, Bryan County, Oklahoma.

Tuttle, R. C., Oklahoma "Wilcox"—an aid in finding deeper structures: World Oil, vol. 147, no. 2, p. 71-73, 3 figs. Discussion of reservoir possibilities below the "Wilcox" and description of various zones in the Simpson group.

U. S. Geological Survey, 1958a, Quality of surface waters of the United States, 1953. Pts. 7-8. Lower Mississippi River Basin and Western Gulf of Mexico Basins: U. S. Geol. Survey Water-Supply Paper 1292, 524 p., 1 fig., tables. Presents measurements of suspended sediment, temperature, and chemical analysis of surface waters in Oklahoma.

——— 1958b, Surface water supply of the United States, 1955. Pt. 7. Lower Mississippi River Basin: U. S. Geol. Survey Water-Supply Paper 1391, 483 p., 3 figs., tables. Presents measurements of stage, discharge, and content of streams, lake, and reservoirs in Oklahoma.

——— 1958c, Surface water supply of the United States, 1956. Pt. 7. Lower Mississippi River Basin: U. S. Geol. Survey Water-Supply Paper 1441, 503 p., 3 figs., tables. Presents measurements of stage, discharge, and content of streams, lake, and reservoirs in Oklahoma.

Vaughn, P. P., 1958a, A pelycosaur with subsphenoidal teeth from the lower Permian of Oklahoma: Washington Acad. Sci., Jour., vol. 48, no. 2, p. 44-47, 1 fig. Description of specimen collected near Fort Sill, Oklahoma.

——— 1958b, On a new pelycosaur from the lower Permian of Oklahoma, and on the origin of the family Caseidae: Jour. Paleontology, vol. 32, no. 5, p. 981, 991, 1 fig. Description of *Colobomycter* n. gen. from Permian near Fort Sill, Oklahoma.

Veroda, V. J., 1958, Morrow rocks of western Kansas and Panhandle counties of Oklahoma. (Abstract). Amer. Assoc. Petroleum Geologists, Bull., vol. 42, no. 1, p. 214-215. Average production data for wells in area.

Vosburg, D. L., 1958, A record of *Psaronius* in the Wolfcampian of Oklahoma: Okla. Geology Notes, vol. 18, no. 4, p. 77-79. Description of specimen from sandstone facies of Foraker limestone in Osage County.

Wallace, J. C., 1958, Interesting wells of Oklahoma: Shale Shaker, vol. 8, no. 7, p. 9. Account of the No. 1 Marvin Price well, discovery well of the Southeast Stockholm field, Harper County, Oklahoma.

Walters, R. F., 1958. Differential entrapment of oil and gas in Arbuckle dolomite of central Kansas: Amer. Assoc. Petroleum Geologists, Bull., vol. 42, no. 9, p. 2133-2173, 21 figs. Contains regional structure map contoured on top of Arbuckle group in Oklahoma and Kansas.

Weaver, C. E., 1958, Geologic interpretation of argillaceous sediments. Part 2. Clay petrology of upper Mississippian-Lower Pennsylvanian sediments of Central United States: Amer. Assoc. Petroleum Geologists, Bull., vol. 42, no. 2, p. 272-309, 18 figs., 3 tables. Identification and distribution of several distinct clay mineral zones in Oklahoma. Zones are in the Upper Mississippian-Lower Pennsylvanian sediments (Atoka-Caney). Areas of study: McAlester, Ardmore, and Anadarko Basins, and Ouachita Mountains.

White, J. M., Jr., 1958, The Brushy Mountain structure, Sequoyah and Adair Counties, Oklahoma: Shale Shaker, Digest II, vols. 6-8 (1955-1958), p. 189-201, 15 figs.

Wilson, L. R., 1958a, A chitinozoan faunule from the Sylvan shale of Oklahoma: Okla. Geology Notes, vol. 18, no. 4, p. 67-71, 1 pl. Résumé of literature, method of study, and photomicrographs of chitinozoans.

——— 1958b, Oklahoma's oldest fossil trees: Okla. Geology Notes, vol. 18, no. 11, p. 172-177, 4 pls. Recent discovery of *Callixylon whiteanum* in the Woodford formation southeast of Wapanucka, Atoka County.

——— and Hoffmeister, W. S., 1958, Plant microfossils in the Cabaniss coals of Oklahoma and Kansas: Okla. Geology Notes, vol. 18, no. 2, p. 27-30, 1 table. Discussion of stratigraphic value and range of spore genera found in the Cabaniss group, Pennsylvanian System.

Winland, H. D., 1958, Insoluble residue study and correlation of the Arbuckle group in southern Oklahoma: Shale Shaker, Digest II, vols. 6-8 (1955-1958), p. 59-76, 22 figs.

Withrow, P. C., 1958, Subsurface geology of the Maysville area, Garvin County, Oklahoma: Shale Shaker, Digest II, vols. 6-8 (1955-1958), p. 356-370, 14 figs.

Yochelson, E. L. and Bridge, Josiah, 1957, The Lower Ordovician gastropod *Ceratopea:* U. S. Geol. Prof. Paper 294-H, p. 281-304, 3 figs., 4 pls., 3 tables, (1958). Stratigraphic occurrence and geographic distribution of *Ceratopea* species in Oklahoma (Arbuckle and Wichita Mts.)

(1) Anonymous, 1958, A new depth record for Oklahoma: Petroleum Week, vol. 6, no. 22, p. 22, 23. Drilling method used in Shell Oil Co.'s No. 5 Rumberger, Elk City field, Beckham County, Oklahoma.

(2) Anonymous, 1958, Costly wildcat story is told: Oil and Gas Jour., vol. 56, no. 7, p. 74. Cost breakdown for Magnolia Petroleum Co. No. 1 Sterba-Ordovician.

(3) Anonymous, 1958, Don't overlook gas-drive LPG floods: Petroleum Week, vol. 6, no. 13, p. 26. Results and method used in LPG flooding of Seminole City pool, Seminole County, Oklahoma.

(4) Anonymous, 1958, Drillers dip lightly—and come up with oil: Oil and Gas Jour., vol. 56, no. 27, p. 190-191, 2 figs. Hunton production at less than 1,000 feet in Kiowa County, Oklahoma. Production data.

(5) Anonymous, 1958, Golden trend shines in Oklahoma: Petroleum Week, vol. 6, no. 25, p. 26, 28. Résumé of recent discoveries in Golden Trend, Garvin County, Oklahoma.

(6) Anonymous, 1958, Knox test hits 17,000 feet: Oil and Gas Jour., vol. 56, no. 14, p. 177. Drilling history of British-American Oil Producing Co.'s No. 1 Teter, Knox field, Oklahoma.

(7) Anonymous, 1958, McClain County highlights Oklahoma: Petroleum Week, vol. 7, no. 11, p. 21, 1 fig. Résumé of discoveries and drilling activity in McClain County since August, 1957.

(8) Anonymous, 1958, More Arbuckle oil: Oil and Gas Jour., vol. 56, no. 25, p. 83. Production data for Arbuckle discovery in Harper County, Oklahoma. Sinclair Oil and Gas Co.'s No. 1 Holcomb.

(9) Anonymous, 1958, Oklahoma pushes shallow play: Oil and Gas Jour., vol. 56, no. 6, p. 187. Résumé of production in Komalty area, Kiowa County and counties in northwestern Oklahoma.

(10) Anonymous, 1958, Oklahoma topographic map series: Okla. Geology Notes, vol. 18, nos. 8 and 9, p. 143-144. Area included and list of Army Map Service topographic maps of Oklahoma. Complete coverage of Oklahoma.

(11) Anonymous, 1958, Oklahoma wildcats pay off: Oil and Gas Jour., vol. 56, no. 19, p. 77. Report of wildcat record for Sinclair Oil and Gas Company. Five holes drilled, all discoveries. Wells drilled in Harper, Woodward, Garvin, Love, and Bryan Counties. Production data given.

(12) Anonymous, 1958, Oklahoma's deep dig pays off: Oil and Gas Jour., vol. 56, no. 18, p. 178. Production data for Gulf Oil Corp.'s No. 1 McKinney, Knox field, Oklahoma.

(13) Anonymous, 1958, Oklahoma's new Arbuckle pay: Petroleum Week, vol. 7, no. 3, p. 28, 30. Production data for Sinclair Oil and Gas Co.'s No. 1 Holcomb, Harper County, Oklahoma.

(14) Anonymous, 1958, Oklahoma's new gas success: Oil and Gas Jour., vol. 56, no. 10, p. 92, 1 fig. Seventh pre-Permian field (Northeast Woodward) produces in Woodward County, Oklahoma.

(15) Anonymous, 1958, Orco launches unusual flood: Oil and Gas Jour., vol. 56, no. 16, p. 104. Account of first full-scale carbon dioxide flood in nation. Bartlesville sand in Bartlesville-Dewey field, Oklahoma.

(16) Anonymous, 1958, Osage County is on its way up: Petroleum Week, vol. 6, no. 26, p. 29. Brief history of drilling in Osage County, Oklahoma.

(17) Anonymous, 1958, Record casing string is cemented: Oil and Gas Jour., vol. 56, no. 6, p. 74-75. Cementing job on Anadarko Basin No. 1.

(18) Anonymous, 1958, 5 Rumberger hits 22,609 feet: Oil and Gas Jour., vol. 56, no. 35, p. 104.

(19) Anonymous, 1958, Shallow pays brighten Oklahoma: Petroleum Week, vol. 7, no. 2, p. 36. Recent drilling and production in the Komalty area, Kiowa County, Oklahoma.

(20) Anonymous, 1958, Shell drills toward new Oklahoma depth record: World Oil, vol. 146, no. 7, p. 91. Account of drilling Shell Oil Co.'s Rumberger No. 5, Elk City field, Beckham County, Oklahoma.

(21) Anonymous, 1958, Sooner wildcat sets record: Oil and Gas Jour., vol. 56, no. 24, p. 65. Report of production from Shell Oil Co.'s No. 5 Rumberger in Elk City field, Beckham County, Oklahoma.

(22) Anonymous, 1958, Southeast Hobart field—scene of vigorous shallow depth play: World Oil, vol. 146, no. 7, p. 84-86. Development history, geology, and drilling data for field in Kiowa County, Oklahoma.

(23) Anonymous, 1958, The McAlester Basin is stirring: Petroleum Week, vol. 6, no. 18, p. 19, 20. Résumé of recent discoveries in the McAlester Basin, Oklahoma.

(24) Anonymous, 1958, Today's focus is on five deep tests: Petroleum Week, vol. 7, no. 14, p. 40-42, 47. Brief account of Shell Oil Co. No. 5 Rumberger in Beckham County and Howell and Howell et al. No. 1 Anadarko Basin, Caddo County.

(25) Anonymous, 1958, Wildcat hits gas-distillate pay: Oil and Gas Jour., vol. 56, no. 24, p. 79. Report of production from the No. 1 Grummer in Kingfisher County, Oklahoma.

(26) Anonymous, 1958, Wildcatters set hot pace in Oklahoma: Oil and Gas Jour., vol. 56, no. 29, p. 58-60. Résumé of significant discoveries throughout the state during first six months of 1958.

(27) Anonymous, 1958, Woodward trend leaps: Oil and Gas Jour., vol. 56, no. 26, p. 129. Possible Morrow-Pennsylvanian production in Blaine County, Oklahoma.

INDEX
PUBLISHED PAPERS ON OKLAHOMA GEOLOGY IN THE YEAR 1958

Prepared by NEVILLE M. CURTIS, JR.

1959

Vol. 20, no. 3, January 1960

PUBLISHED PAPERS ON OKLAHOMA GEOLOGY IN THE YEAR 1959

Compiled by Neville M. Curtis, Jr.

Abels, T. A., 1959, A subsurface lithofacies study of the Morrowan series in the northern Anadarko basin: Shale Shaker, vol. 9, no. 7, p. 5-21, 3 figs., 6 pls. Includes parts of Kansas and Texas, and Texas, Beaver, Harper, Ellis, Woodward, Major, Dewey, and Roger Mills Counties in Oklahoma. Sedimentation, stratigraphy, and geologic history of area, oil and gas résumé.

Amsden, T. W., 1959a, *Chilidiopsis* Boucot: A recently described brachiopod genus, with some remarks on the Hunton Orthotetacea: Okla. Geology Notes, vol. 19, no. 4, p. 74-77, 1 fig., 1 pl. Taxonomic discussion.

..... 1959b, Stratigraphy and paleontology of the Hunton group in the Arbuckle Mountain region: Part V—Bois d'Arc articulate brachiopods: Okla. Geol. Survey, Bull. 82, 110 p., 18 figs., 5 pls., 2 tables. Contains descriptions of 40 species referable to 32 genera. Stratigraphic and faunal evidence indicate that the Cravatt member and Fittstown member of the Bois d'Arc formation are facies of one another and that the Bois d'Arc is a facies of the Haragan formation.

..... and Ham, W. E., 1959, A remarkable specimen of the trilobite *Isotelus* from the Viola limestone: Okla. Geology Notes, vol. 19, no. 2, p. 18-19, 1 fig. Record of find and brief description of *Isotelus* (large specimen).

Amsden, T. W., see: Branson, and others.

Amsden, T. W., see: Sutherland, P. K.

Aresco, S. J., and others, 1959, Analyses of tipple and delivered samples of coal (collected during the fiscal year 1958): U. S. Bur. Mines, Rept. Inv. 5489, 54 p., 1 table. Data for Latimer and McIntosh Counties.

Atkinson, W. E., 1959, South Palacine field, Stephens County, Oklahoma: Amer. Assoc. Petroleum Geologists, Petroleum Geology of Southern Oklahoma, vol. 2, p. 187-197, 5 figs.

Bado, J. T., 1959, Are we missing carbonate pools?: Oil and Gas Jour., vol. 57, no. 8, p. 208-212, 5 figs., 1 table. North McWillie field in Alfalfa County discussed as a carbonate-type field.

Barby, B. G., 1959, Reserves study of Morrow sand, Light field, Oklahoma: Oil and Gas Jour., vol. 57, no. 38, p. 94-98, 5 figs., 2 tables. Petroleum geology and production with emphasis on the Purdy zone.

Barnes, V. E., and others, 1959, Stratigraphy of the pre-Simpson Paleozoic subsurface rocks of Texas and southeast New Mexico: Texas, Univ. Bur. Econ. Geology, Pub. 5924, vol. 1, 293 p. 35 figs., 65 pls., 14 tables. Several isopach maps extended into Oklahoma.

Beebe, B. W., 1959, Characteristics of Mississippian production in the northwestern Anadarko basin: Tulsa Geol. Soc., Digest, vol. 27, p. 190-205, 7 figs. Stratigraphy, structure, and Mississippian production are reviewed.

Bercutt, Henry, 1959, Isopachous and paleogeologic studies in eastern Oklahoma north of the Choctaw fault: Shale Shaker, vol. 9, no. 6, p. 5-20, 3 figs., 14 pls. Maps show thickness of pre-Desmoinesian strata and pre-Chattanooga and pre-Desmoinesian paleogeology from the Kansas state line south to the Choctaw fault.

Bike, P. B., 1959, The Simpson rewards oil hunters: Oil and Gas Jour., vol. 57, no. 9, p. 184-186, 2 figs. History of development of production in the Simpson group in southern Oklahoma. Includes list of successful wildcats in Simpson.

Bike, P. B., see: Rose, W. A.

Black, C. C., see: Kitts, D. B., and Black, C. C.

Blade, O. C., 1959, Bibliography of reports containing analyses of crude oils by the Bureau of Mines routine method: U. S. Bur. Mines, Inv. Circ. 7921, 181 p., 3 tables. Short abstract given for each reference. Oklahoma fields listed by name.

Bleakley, W. B., 1959, Oklahoma's Laverne field active: Oil and Gas Jour., vol. 57, no. 12, p. 164-167, 5 figs., 1 table. Résumé of geology and production in Laverne field, Harper and Beaver Counties. Isopach maps of the Hoover sand, Tonkawa sand, Marrow sand, Chester zone.

Blythe, J. G., 1959, Atoka formation on the north side of the McAlester basin: Okla. Geol. Survey, Circ. 47, 74 p., 24 figs. Stratigraphy, petrography, depositional history, structure, and paleontology of the Atoka formation in Wagoner and Mayes Counties.

Boler, M. E., 1959a, An isopachous and paleogeologic study of pre-Desmoinesian rocks in northwestern Oklahoma: Okla. Acad. Sci., Proc., vol. 39, p. 114.

..... 1959b, Pre-Desmoinesian isopach and paleogeologic study of northwestern Oklahoma: Shale Shaker, vol. 9, no. 10, p. 6-18, 3 figs., 15 pls. Isopach, structure, and paleogeologic maps of area, with discussion of stratigraphy and geologic history.

Bowles, J. P. F., Jr., 1959, Subsurface geology of Woods County, Oklahoma: Shale Shaker, vol. 10, no. 4, p. 2-8, 10-20, 22-23, 1 fig., 11 pls. Subsurface geology, oil and gas production by fields, and future oil and gas possibilities. Isopachous, paleogeologic, structure, and lithofacies maps.

Branson, C. C., 1959a, A stratigraphic leak: Okla. Geology Notes, vol. 19, no. 7, p. 138-140. Taxonomic discussion of *Globigerina seminolensis* and its problable stratigraphic position.

..... 1959b, An unusual snail from the Excello shale: Okla. Geology Notes, vol. 19, no. 3, p. 71-72, 1 photo. Brief description of part of a snail which closely resembles *Echinocirrus* Ryckholt, 1860.

..... 1959c, Generic assignment of some fossil clams: Okla. Geology Notes, vol. 19, no. 4, p. 94-95. Concerned primarily with the transfer of some species from the genera *Allorisma*, *Caneyella*, and *Posidonia*.

..... 1959d, Geologic signs along Highway 77: Okla. Geology Notes, vol. 19, no. 7, p. 130. History of signs along the right of way.

..... 1959e, Location of some Oklahoma type specimens: Okla. Geology Notes, vol. 19, no. 3, p. 43. Mention that the Department of Geology, Washington University (St. Louis), has deposited four type fossil specimens from Fort Washita, Bryan County, Oklahoma, in the U. S. National Museum.

..... 1959f, Memorial to Charles Elijah Decker (1868-1958): Geol. Soc. America, Proc., for 1958, p. 123-126, 1 pl. Biography and selected bibliography of Charles Decker.

..... 1959g, Mississippian boundaries and subdivisions in Mid-Continent: Tulsa Geol. Soc., Digest, vol. 27, p. 85-89: Sixth Bienn. Geol. Symposium, Univ. Oklahoma, p. 3-7. Discussion of problems involved in classification and correlation of Mississippian units.

..... 1959h, Oklahoma's first fossil: Okla. Hist. Soc., Chronicles of Okla., vol. 37, no. 2, p. 238-239, 2 figs. Original locality for *Goniatites choctawensis* re-located and described.

..... 1959i, Permian sea-scorpion from Oklahoma: Okla. Geology Notes, vol. 19, no. 5, p. 111-112. Note that Oklahoma specimen described as *Eurypterus oklahomensis* belongs to *Adelophthalmus sellardsi*.

..... 1959j, Published work of Charles Newton Gould (1868-1949): Okla. Geology Notes, vol. 19, no. 12, p. 239-252. Biography and bibliography.

..... 1959k, Some problematical fossils: Okla. Geology Notes, vol. 19, no. 4, p. 82-87, 6 figs. Taxonomy and synonymy of conical fluted bodies which have generally been referred to the genus *Conostichus*.

..... 1959l, Type locality of earliest known Oklahoma fossil: Okla. Geology Notes, vol. 19, no. 5, p. 101-102. Gives evidence that the type locality for *Goniatites choctawensis* Shumard is in southeastern Pittsburg County or southwestern Latimer County.

..... and others, 1959, Type of *Goniatites choctawensis*: Okla. Geology Notes, vol. 19, no. 8, p. 157-164, 5 figs. Taxonomy and designation of neoholotype.

Branson, C. C., see: Elias M. K., and Branson, C. C.

Braun, J. C., 1959, A stratigraphic study of the Sycamore and related formations in the southeastern Anadarko basin: Shale Shaker, vol. 10. no. 1, p. 6-23, 3 figs., 2 pls. A discussion of the stratigraphic relationships of the Sycamore formation and their influence on the accumulation of petroleum in portions of Stephens, Carter, Murray, Garvin. Grady, and McClain Counties.

Braun, J. C., see: Chenoweth, P. A., and others.

Buchanan, R. S., 1959, New activity in southwest Kansas-Okla. Panhandle: World Oil, vol. 149, no. 6, 113-116, 1 fig. Résumé of exploration, geology, and development in Oklahoma Panhandle in 1959.

Burwell, A. L., 1959a, Changing times: Okla. Geology Notes, vol. 19, no 7. p. 146-147. Note that "chat" from the zinc-mining area and novaculite from the Ouachita Mountains might be considered for railroad ballast.

..... 1959b, Grain size in silica sand for glass manufacture: Okla. Geology Notes, vol. 19, no. 4, p. 81. Information from the August. 1958 issue of Glass Industry points out that a smaller particle size (such as is found in Oklahoma) has merit in making well-refined glass.

..... 1959c, Gypsum as an oxidizing agent: Okla. Geology Notes, vol. 19, no. 5, p. 107-108. Discusses how gypsum is used as an oxidizing agent in glass manufacture.

..... 1959d, Quicksand: Okla. Geology Notes, vol. 19, no. 5, p. 111. Use of soil-solidification chemicals stabilizes sand. Brief résumé of Joosten process.

..... 1959e, Rates of chemical reactions in nature: Okla. Geology Notes, vol. 19, no. 4, p. 78-79.

..... 1959f, Reversible chemical reactions: Okla. Geology Notes, vol. 19, no. 2, p. 31-32. Reaction of connate water containing barium chloride with another water containing a sulfate. Method outlined for removal of formed barium sulfate.

..... 1959g, Rock for portland cement manufacture: Okla. Geology Notes, vol. 19, no. 5, p. 109. Brief discussion of lack of uniformity in portland cement from one cement mill obtaining rock from one quarry.

..... 1959h, The continuing search for commercially acceptable shales and clays. Re: Duck Creek shale, Marshall County: Okla. Geology Notes, vol. 19, no. 11, p. 223-226, 3 tables. Chemical and physical properties of shales.

Busch, D. A., 1959, Prospecting for stratigraphic traps: Amer. Assoc. Petroleum Geologists, Bull., vol. 43, no. 12, p. 2829-2843. 13 figs. Discussion of four types of stratigraphic traps: (1) "strike valley" sand, (2) offshore bar, (3) channel type sandstone, and (4) shoreline beach sand. Examples are from the Pennsylvanian of the Mid-Continent region.

Carr, M. S., and Dutton, C. E., 1959, Iron-ore resources of the United States including Alaska and Puerto Rico, 1955: U. S. Geol. Survey Bull. 1082-C, 134 p., 1 fig., 1 pl., 6 tables. Includes approximate iron content (%) and estimated resources of crude ore for four areas in Oklahoma.

Champlin, S. C. 1959. The problem of the Welden, Sycamore, and lower Caney in the eastern Arbuckle Mountains: Okla. Acad. Science, Proc., vol. 39, p. 120-124, 1 fig. Comparison of the Mississippian section in the northern Arbuckle Mountains with that on the south flank. Concludes that the Welden formation on the south flank can be recognized.

Champlin, S. C., see: Chenoweth, P. A., and others.

Champlin, S. C., see: Curtis, D. M.

Chandler, P. P., 1959, New rock crusher in Kay County: Okla. Geology Notes, vol. 19, no. 6, p. 127-128, 2 photos. Brief description of temporary quarry operations using portable rock crusher.

Chasteen, Kenneth, 1959, Another boom for the Panhandle: Oil and Gas Jour., vol. 57, no. 40, p. 144-145, 2 figs. Tubb sand and Council Grove (Permian) production reviewed.

Chenoweth, P. A., 1959a, An outlier on the Muenster-Waurika arch: Okla. Geology Notes, vol. 19, no. 9, p. 192-194, 1 fig. Outlier of Simpson and Viola encountered in oil well in southern Jefferson County.

..... 1959b, An unusual type of ripple mark: Okla. Geology Notes, vol. 19, no. 8, p. 154-156, 4 figs. Brief discussion and description of ripple marks which have formed parallel to the direction of current flow.

..... 1959c, Is there oil and gas in the Ouachita Mountains?: Okla. Geology Notes, vol. 19, no. 10, p. 198-208, 1 fig. Discusses the six reasons given by geologists for condemning the area as a future oil-producing province and concludes that commercial deposits are present. Includes annotated list of wells in area.

..... 1959d, Late Paleozoic Llanorian rivers in Oklahoma: Okla. Geology Notes, vol. 19, no. 11, p. 232-235, 2 figs. Discussion of the Duncan Delta and another delta (represented by upper portion of Garber-Wellington formation) indicates two rivers flowed across southern Oklahoma from the southeast.

..... 1959e, Recumbent folding in the Velma area: Okla. Geology Notes, vol. 19, no. 10, p. 219-220, 1 fig. Shows folding of the County Line lime (Missourian) encountered in the Skelly No. 1 Leonard, sec. 6, T. 2 S., R. 4 W.

..... 1959f, Source of the Vamoosa quartzite pebbles: Okla. Geology Notes, p. 229-232, 1 fig. Discusses the five possible source areas and concludes that high source area lay south of the Red River in north-central Texas, east Texas, and Louisiana.

..... and others, 1959, Sycamore and related formations of southern Oklahoma: Tulsa Geol. Soc., Digest, vol. 27, p. 113-123, 7 figs.; Sixth Bienn. Geol. Symposium, Univ. Oklahoma, p. 81-95, 5 figs. Sycamore formation of the southern Arbuckle Mountains and Ardmore basin divided into three units (in ascending order): Welden formation, pre-Sycamore formation, and the Sycamore limestone.

Christenson, M. C., 1959, Developments in Texas and Oklahoma Panhandles in 1958: Amer. Assoc. Petroleum Geologists, Bull., vol. 43, no. 6. p. 1235-1247, 1 fig., 4 tables. Statistics relative to exploration (oil and gas).

Clinton, R. P., 1959, History of petroleum development of Mississippian oil and gas. Tulsa Geol. Soc., Digest, vol. 27, p. 159-165; Sixth Bienn. Geol. Symposium, Univ. Oklahoma, p. 11-20, 2 figs. Brief discussion of production and possible future production from Mississippian rocks in Oklahoma.

Cullinan, T. A., see: Reeves, C. C., and others, Southwest Enville—a development headache.

Cullinan, T. A., see: Reeves, C. C., Jr., and others, Southwest Enville: every well's a wildcat.

Curtis, D. M., and Champlin, S. C., 1959, Depositional environments of Mississippian limestones of Oklahoma: Tulsa, Geol. Soc., Digest, vol. 27, p. 90-103, 7 figs.; Sixth Bienn. Geol. Symposium, Univ. Oklahoma, p. 23-38, 7 figs. Interpretation of the depositional environments of the Mississippian limestones of Oklahoma.

Curtis, N. M., Jr., 1959a, Caves in the Arbuckle Mountain area, Oklahoma: Okla. Geology Notes, vol. 19, no. 2, p. 20-31, 14 figs. Maps and descriptions of eleven caves with remarks on geology and folklore.

..... 1959b, Cottonwood Cave, Sequoyah County, Oklahoma: Okla. Geology Notes, vol. 19, no. 7, p. 142. Description and map.

..... 1959c, Guano deposits in caves of Oklahoma: Okla. Geology Notes, vol. 19, no. 7, p. 142. Résumé of caves in Oklahoma containing deposits of bat guano.

..... 1959d, Nomenclature of the Washita group (Cretaceous) in the Red River area, Oklahoma and Texas: Okla. Geology Notes, vol. 19, no. 12, p. 257-264, 3 figs. Development and relationship of the subdivisions of the Washita group and lithology and thickness of group in area.

..... 1959e, Published papers on Oklahoma geology in the year 1958: Okla. Geology Notes, vol. 19, no. 3, p. 51-71. Annotated and indexed.

Denison, R. E., 1959, The rhyolites of Oklahoma: Okla. Acad. Science, Proc., vol. 39, p. 124-126. Brief discussion of the origin and correlation, relative age, and mineralogy and textures of the Colbert porphyry and the Carlton and Saddle Mountain rhyolites.

Duck, J. H., Jr., 1959, The Northwest Bunter pool area, Seminole County, Oklahoma: Shale Shaker, vol. 9, no. 5, p. 5-21, 9 figs., 4 pls. Geological and petroleum engineering study of the Senora sandstone. Includes subsurface stratigraphy and brief history of several other fields in area.

Edwards, A. R., 1959, Facies changes in Pennsylvanian rocks along north flank of Wichita Mountains: Amer. Assoc. Petroleum Geologists, Petroleum Geology of Southern Oklahoma, vol. 2, p. 142-155, 14 figs. Describes briefly the lateral facies changes in the area brought about by changes in the source area.

Elias, M. K., 1959, Fusulinid genera *Protriticites*, *Pseudotriticites*, and *Putrella*: Okla. Geology Notes, vol. 19, no. 8, p. 165-178, 4 figs., 4 tables. Taxonomy and descriptions.

..... and Branson, C. C., 1959, Type section of the Caney shale: Okla. Geol. Survey, Circ. 52, 24 p., 2 figs., 4 tables. Original type locality abandoned except as the source of the name and a type section in the Arbuckle Mountain region is designated and described. Type sections of three members are established west of Viola townsite.

Elias, M. K., see: Branson, and others.

Elizondo, J. B., 1959, Mining methods and costs at the Piokee mining unit and the Piokee experimental mining project, the Eagle-Picher Co. (Tri-State Mines), Ottawa County, Okla: U. S. Bur. Mines, Inf. Circ. 7930, 26 p., 13 figs., 9 tables. Descriptions of mining methods and practices.

Fay, R. O., 1959a, Guide to Roman Nose State Park: Okla. Geol. Survey, Guide Book 9, 31 p., 9 figs., 4 pls. History, geology, botany, and zoology of Roman Nose State Park, Blaine County, Oklahoma.

..... 1959b, Pleistocene course of the South Canadian River in central western Oklahoma: Okla. Geology Notes, vol. 19, no. 1, p. 3-12, 5 figs. Geology along course of the South Canadian River in area.

..... 1959c, Robert T. Hill, an anecdote: Okla. Geology Notes, vol. 19, no. 4, p. 79-81. Brief biography of Hill and several interesting stories about his travels.

Felix, C. J., and Parks, Patricia, 1959, An American occurrence of *Spencerisporites*: Micropaleontology, vol. 5, no. 3, p. 359-364, 2 pls. Taxonomy, synonymy and descriptions of *Spencerisporites radiatus* (Ibrahim) from upper Morrow in Beaver County, Oklahoma.

Finney, F. F., Sr., 1959, The Indian Territory Illuminating Oil Company: Okla. Hist. Soc., Chronicles of Okla., vol. 37, no. 2, p. 149-161. History of and part played by the Indian Territory Illuminating Oil Company in the development of the oil industry in Oklahoma (mainly around Bartlesville and in the Osage country).

Fix, C. E., 1959, Selected annotated bibliography of the geology and occurrence of uranium-bearing marine black shales in the United States: U. S. Geol. Survey Bull. 1059-F, p. 263-325. Data in annotations indexed according to author, geographic area, stratigraphic units, and subject. There are twenty references for Oklahoma.

Flawn, P. T., 1959, Ouachita belt and Arbuckle element: interpretation: Amer. Assoc. Petroleum Geologists, Bull., vol. 43, no. 8, p. 2012-2015, 1 fig. Interpretation of tectonics involved in Ouachita belt at the Ouachita-Arbuckle "junction".

Frezon, S. E., and Glick, E. E., 1959, Pre-Atoka rocks of northern Arkansas: U. S. Geol. Survey, Prof. Paper 314-H, p. 171-189, 1 fig., 12 pls. Thickness, lithofacies, and geologic history of oil and gas producing rocks of Paleozoic age. Area includes parts of the Ouachita Mountains, Arkansas Valley, and Ozark Region along the Arkansas-Oklahoma boundary.

Gahring, R. R., 1959, History and development of North Madill field, Marshall County, Oklahoma: Amer. Assoc. Petroleum Geologists, Petroleum Geology of Southern Oklahoma, vol. 2, p. 274-286, 7 figs.

Gardner, F. J., 1959a, Deep Hunton strike arouses wide Anadarko interest: Oil and Gas Jour., vol. 57, no. 17, p. 169, 1 fig. Brief account of the Magnolia Petroleum Co. 1 Miller in Custer County.

..... 1959b, Deep wildcat highlights western McAlester basin: Oil and Gas Jour., vol. 57, no. 33, p. 143, 1 fig. Drilling and production data for the Midwest Oil Corp. and Frankfort Oil Co. No. 1 Orr in Latimer County.

..... 1959c, Oklahomans eye Anadarko wildcat as key test: Oil and Gas Jour., vol. 57, no. 30, p. 137, 1 fig. Production and drilling data for the Magnolia No. 1 Young in Roger Mills County.

..... 1959d, Panhandle operators reap a second crop: Oil and Gas Jour., vol. 57, no. 37, p. 255. Brief account of history of production from Council Grove (Permian) in Beaver County.

Glick, E. E., see: Frezon, S. E.

Goldstein, August, Jr., 1959a, Cherts and novaculites of Ouachita facies: Soc. Econ. Paleontologists and Mineralogists, Spec. Pub. no. 7, p. 135-149, 15 figs. Brief description of the lithology and petrography of the cherts and novaculites which crop out in the Ouachita Mountains. Includes brief discussion of the origin of the cherts and novaculites.

..... 1959b, Paleogeology of Ouachita geosyncline, Oklahoma and Texas (abs.): Tulsa Geol. Soc., Digest, vol. 27, p. 75.

Gould, C. N., 1959a, Covered wagon geologist: University of Oklahoma Press, Norman, Oklahoma, 282 p., 16 illus., 2 maps. Autobiography of Charles N. Gould; describes the development of geology in Oklahoma and the birth of the Oklahoma Geological Survey.

..... 1959b, Early days of the Geology Library: Okla. Geology Notes, (1959), p. 98-101, 1 pl. An original record of the first years of the University of Oklahoma, the Oklahoma Geological Survey, and the Geology Library.

..... 1959c, The Oklahoma mineral exhibit at the St. Louis Worlds Fair: Okla. Geology Notes (1959), vol. 19, no. 7, p. 147-150. Account of Oklahoma's display in the mineral building and how the display was brought about.

Gottfried, David, see: Jaffee, H. W., and others.

Govett, Ray, 1959, The geology of the Cabaniss-Arpelar area, Pittsburg County, Oklahoma: The Compass, vol. 36, no. 3, p. 138-151, 3 figs.

Grandone, Peter, and others, 1959, The mineral industries of Oklahoma in 1957 and 1958: Okla. Geol. Survey, Mineral Rept. 36, 24 p., 13 tables. Statistics of mineral production in 1957. Preliminary summary for 1958.

Greig, P. B., 1959, Geology of Pawnee County, Oklahoma: Okla. Geol. Survey, Bull. 83, 188 p., 37 figs., 4 pls., 7 tables.

Gunter, C. E., 1959, Subsurface study of the Deese group, western Garvin County, Oklahoma: Shale Shaker, vol. 10, no. 2, p. 6-19, 4 figs., 8 pls.

Hale, C. C., 1959, Southwest Ardmore field: Amer. Assoc. Petroleum Geologists, Petroleum Geology of Southern Oklahoma, vol. 2, p. 262-273, 7 figs.

Ham, W. E., 1959, Nonmetallic mineral producers in Oklahoma, 1958: Okla. Geology Notes, vol. 19, no. 7, p. 131-138. Name and address (city) of nonmetallic mineral producers arranged by product.

Ham, W. E., see: Amsden, T. W.

Ham, W. E., see: Grandone, Peter, and others.

Hamilton, Warren, 1959, Chemistry of granophyres from Wichita lopolith, Oklahoma: Geol. Soc. America, Bull., vol. 70, no. 8, p. 1119-1126, 2 figs. Petrographic, chemical, and mineralogic composition of four samples.

Harbaugh, J. W., 1959, Small scale cross-lamination in limestones: Jour. Sedimentary Petrology, vol. 29, no. 1, p. 30-37, 6 figs. Examples of cross-lamination occurring in the West Spring Creek formation of the Arbuckle group are used in discussing small scale cross-lamination.

Hayden, A. C., 1959, The northern shelf of the Anadarko Basin (abs.): Tulsa Geol. Soc., Digest, vol. 27, p. 43. Areas and horizons of oil production.

Hendricks, T. A., 1959, Structure of the frontal belt of the Ouachita Mountains (abs.): Tulsa Geol. Soc., Digest, vol. 29, p. 71.

Holley, L. M., see: Pickhardt, H. E.

Huffman, G. G., 1959a, Memorial—Charles E. Decker (1868-1958): The Compass, vol. 36, no. 3, p. 240-243, 2 photos.

..... 1959b, Mississippian stratigraphy and tectonics of the Oklahoma Ozark area: Tulsa Geol. Soc., Digest, vol. 27, p. 104-112, 5 figs.; Sixth Bienn. Geol. Symposium, Univ. Oklahoma, p. 53-61, 5 figs.

..... 1959c, Pre-Desmoinesian isopachous and paleogeologic studies in central Mid-Continent region: Amer. Assoc. Petroleum Geologists, Bull., vol. 43, no. 11, p. 2541-2574, 12 figs.; Tulsa Geol. Soc., Digest (abs.), vol. 27, p. 74. Major tectonic features outlined and their relationship to present thickness and distribution of pre-Desmoinesian strata discussed.

..... 1959d, Preliminary isopachous and paleogeologic studies, central Mid-Continent area: Shale Shaker, vol. 9, no. 8, p. 5-21, 12 figs. Isopach maps of the Arbuckle group, Simpson group, Viola-Fernvale limestone, Sylvan shale, Hunton group, Chattanooga-Woodford shale, Mississippian system, Springer-Goddard, Morrow series, Atoka series, and paleogeologic map on base of Mississippian. Résumé of major tectonic features and stratigraphy.

Jacobsen, Lynn, 1959a, Petrology of Pennsylvanian sandstones and conglomerates of the Ardmore Basin: Okla. Geol. Survey, Bull. 79, 144 p., 44 figs., 17 tables. Petrographic evidence for a better understanding of late Paleozoic geography. Petrography of coarse clastics and sandstones, sedimentation in area, and oil reservoir petrology of the Springer sandstones.

..... 1959b, Sedimentation of some Springer sandstone (Mississippian-Pennsylvanian) reservoirs, southern Oklahoma: Amer. Assoc. Petroleum Geologists, Bull., vol. 43, no. 11, p. 2575-2591, 10 figs. General stratigraphy, petrography of reservoirs, distribution of reservoirs, and relation of reservoir to structure are discussed.

Jaffee, H. W., and others, 1959, Lead-alpha age determinations of accessory minerals of igneous rocks (1953-1957): U. S. Geol. Survey, Bull. 1097-B, p. 65-148. Shows mean lead-alpha age (Oklahoma zircon) intrusive into Quanah granite, Wichita Mountains, to be 619 millions of years and granites in Arbuckle Mountains to be 922 and 845 millions of years in age.

Johnson, R. H., Jr., 1959, Geology of Medicine Springs area, Pushmataha County, Oklahoma: Amer. Assoc. Petroleum Geologists, Petroleum Geology of Southern Oklahoma, vol. 2, p. 287-301, 6 figs.

Johnston, K. H., see: Riggs, C. H., and others.

Jordan, Louise, 1959a, Arkoma basin: Okla. Geology Notes, vol. 19, no. 11, p. 235-236. Discusses reasons for calling the McAlester basin and the Arkansas basin (both make up a single geologic province) the Arkoma basin.

Jordan, Louise, 1959b, First production in Custer County, Oklahoma: Okla. Geology Notes, vol. 19, no. 5, p. 108. Production data for Magnolia Petroleum Company's No. 1 Miller producing from the Hunton limestone.

..... 1959c, Gas in Custer County, Oklahoma: Okla. Geology Notes, vol. 19, no. 11, p. 226-229, 1 fig., 1 table. History and discovery of gas in Custer County. Stratigraphy of area, production data.

..... 1959d, Let's call it Arkoma: Oil and Gas Jour., vol. 57, no. 46, p. 219. Justification of the name "Arkoma" for that area north of the Ouachita Mountains (Oklahoma and Arkansas) where the Pennsylvanian geosyncline originated at the beginning of Atokan time.

..... 1959e, Natural gas storage in Oklahoma: Okla. Geology Notes, vol. 19, no. 9, p. 182-191, 4 figs., 2 tables. Description (area, cost, geology) of underground natural gas storage in 6 areas in Oklahoma.

..... 1959f, 1958 statistics of the petroleum industry in Oklahoma: Okla. Geology Notes, vol. 19, no. 7, p. 140-141. Data on drilling, production, and reserves of crude oil, natural gas, and natural-gas liquids.

..... 1959g, Oil and gas in Creek County, Oklahoma: Okla. Geol. Survey, Bull. 81, p. 61-103, 8 figs., 1 panel, 7 tables. Contains history of petroleum development in Creek County, petroleum production statistics and stratigraphy of area relative to petroleum.

..... 1959h, Oil and gas in Dewey County, Oklahoma: Okla. Geology Notes, vol. 19, no. 12, p. 253-256, 1 fig. History of oil and gas development.

..... 1959i, Oil and gas in Ellis County: Okla. Geology Notes, vol. 19, no. 10, p. 208-212, 1 fig., 2 tables. Petroleum history.

..... 1959j, Propane storage in shale, Seminole County, Oklahoma: Okla. Geology Notes, vol. 19, no. 5, p. 102-105, 2 figs. Brief account of the room-and-pillar mine and geology of the site picked for the storage mine.

..... 1959k, Second deepest hole in the world in Elk City field, Beckham County: Okla. Geology Notes, vol. 19, no. 4, p. 88-89. Brief account of drilling Shell Oil Company's No. 5 Rumberger and rocks penetrated by the bit.

..... 1959l, Underground storage in salt, Elk City field: Okla. Geology Notes, vol. 19, no. 2, p. 32-34, 1 fig. Account of borehole drilled for underground storage of propane. Lithology shown for lower part of hole and storage cavity.

Jordan, Louise, and Rowland, T. L., 1959, Mississippian rocks in northern Oklahoma: Tulsa Geol. Soc., Digest, vol. 27, p. 124-136, 7 figs.; Sixth Bienn. Geol. Symposium, Univ. Oklahoma, p. 125-139, 7 figs. Preliminary report on Mississippian rocks in the subsurface.

Jordan, Louise, and others, 1959, Geology of Harper County—petroleum geology: Okla. Geol. Survey, Bull. 80, p. 69-92, 7 figs., 1 pl., 1 panel, 2 tables. History of oil and gas exploration and stratigraphy and productive reservoirs in Harper County.

King, R. R., and others, 1959, Bibliography of North American geology, 1956: U. S. Geol. Survey, Bull. 1075, 554 p. Bibliography and index.

Kitts, D. B., 1959a, Cenozoic of Roger Mills County: Okla. Geol. Survey, Circ. 48, p. 1-26, 2 figs., 1 map. Description of Ogallala sediments and three terrace levels. Faunal lists and age determinations of deposits.

..... 1959b, Two new vertebrates from the Permian Fort Sill locality (a review): Okla. Geology Notes, vol. 19, no. 3, p. 72. Review of an article by Vaughn in which is described a new reptile, *Colobomycter pholeter*, and a review of an article in which Vaughn describes *Basicranodon fortsillensis*.

..... and Black, C. C., 1959, A Pliocene vertebrate local fauna from Roger Mills County, Oklahoma: Okla. Geol. Survey, Circ. 48, p. 27-47, 9 figs., 1 pl., 4 tables. Description and age of fauna from the Ogallala group.

..... and Myers, A. J., 1959, A Pliocene badger *Pliotaxidea nevadensis* (Butterworth) from Harper County, Oklahoma: Okla. Geology Notes, vol. 19, no. 7, p. 143-146, 2 figs. Taxonomy and description of specimen.

Kornfeld, J. A., 1959, Geology of North Buffalo oil and gas field, Harper County, Oklahoma (abs.): Tulsa Geol. Soc., Digest, vol. 27, p. 67-68. Oil production and development history.

Lucas, E. L., 1959, Some relations of the shape of quartz sand grains to their crystallographic orientation: Okla. Acad. Science, Proc., vol. 39, p. 130-133, 2 figs. Many quartz grains tend to be longer and harder in the direction of the optic axis, which supports the idea of unequal wear.

Lynch, B. W., 1959, Subsurface stratigraphy of Mississippian system in McAlester basin: Sixth Bienn. Geol. Symposium, Univ. Oklahoma, p. 65-75, 5 figs. Two cross-sections and three isopach maps.

McBee, William, Jr., see: Tomlinson, C. W.

McCaslin, J. C., 1959, Try Oklahoma for size in '59: Oil and Gas Jour., vol. 57, no. 4, p. 291, 1 fig. Forecast of increased production in the northwest and west, south, and east.

McDaniel, G. A., 1959, Isopachous and paleogeologic studies of southwest Oklahoma: Shale Shaker, vol. 10, no. 3, 5 figs., 13 pls. Approximately 15,000 square miles included in study area. Includes 10 isopachous maps, 2 paleogeologic maps, and one structural map.

McDuffie, R. H., 1959, Lithologic basis for correlation of Mississippian rocks in the subsurface between Kansas and north central Oklahoma: Okla. Acad. Science, Proc., vol. 39, p. 133-135. Descriptions and correlation.

MacEachern, J. P., and Seaman, Al, 1959, Oil-base mud passed test in deep, hot hole: Oil and Gas Jour., vol. 57, no. 37, p. 201-203, 2 figs. Describes use of oil-base mud in Shell Oil Co.'s No. 5 Rumberger in Beckham County.

Maher, J. C., 1959, Logging drill cuttings: Okla. Geol. Survey, Guide Book 8, p. 1-48, 14 figs., 1 pl., 6 tables. A reference manual including a set of descriptive standards used in subsurface investigations in the Mid-Continent region.

Malloy, J. M., 1959, Fifty-first annual report of mines and mining of Oklahoma: State of Okla., Dept. Chief Mine Inspector. Statistics relative to coal, limestone, gypsum, lead and zinc and description of mining operations for several coal, gypsum, and limestone mines and quarries.

Markley, L. C., 1959, West Frederick field, Tillman County, Oklahoma: Amer. Assoc. Petroleum Geologists, Petroleum Geology of Southern Oklahoma, vol. 2, p. 180-186, 3 figs.

Maxwell, R. W., 1959, Post-Hunton pre-Woodford unconformity in southern Oklahoma: Amer. Assoc. Petroleum Geologists, Petroleum Geology of Southern Oklahoma, vol. 2, p. 101-126, 12 figs. Tectonic study of area with data as to thickness, lithology, and facies changes.

Maxwell, R. W., see: Ryniker, Charles, and others.

Melton, F. A., 1959, Aerial photographs and structural geomorphology: Jour. Geology, vol. 67, no. 4, p. 351-370, 18 figs., 1 pl., 1 table. The Pawhuska peneplain of central and southwestern central United States is described in an attempt to show the correlation between drainage and tectonic anomalies in elevated dissected bedrock benches of erosional origin.

Monnett, V. E., 1959, Photograph of geologists of 1911: Okla. Geology Notes, vol. 19, no. 1, p. 15, 1 photograph.

Mueller, K. J., 1959, Kambrische conodonten (Cambrian conodonts): Deutsche geol. Gesellschaft. Zeitschr., vol. 111, pt. 2, p. 434-485, 11 figs., 5 pls., 3 tables. Describes two new species from the Arbuckle Mountains of Oklahoma.

Myers, A. J., 1959, Geology of Harper County: Okla. Geol. Survey, Bull. 80, p. 1-69, 98-101, 13 figs., 2 pls., 2 tables. Stratigraphy, geologic history, and nonmetallic minerals in Harper County, includes section on petroleum geology by Louise Jordan, J. D. Pate, and S. R. Williamson.

Myers, A. J., see: Kitts, D. B., and Myers, A. J.

National Oil Scouts and Landmen's Association, 1959, Oil and gas field development in the United States and Canada, Year Book 1959 (Review of 1958): Nat. Oil Scouts and Landmen's Assoc., vol. 29, p. 564-570, 1048-1129. List of discovery and exploratory wells, new fields, pays, extensions, geology and production data, and geophysical and core-drill prospecting data.

Oakes, M. C., 1959, Geology and mineral resources of Creek County, Oklahoma: Okla. Geol. Survey, Bull. 81, p. 1-60, 104-134, 12 figs., 2 pls., 3 tables. Includes section on oil and gas by Louise Jordan.

Oil and Gas Journal, 1959a, Beaver County fills in blank spots: Oil and Gas Jour., vol. 57, no. 26, p. 152. Production data for five new wells in southern Beaver County, Okla.

..... 1959b, '58 find develops quickly: Oil and Gas Jour., vol. 57, no. 24, p. 250. Discovery data for 4 new wells in the North Buffalo field, Harper County.

.....1959c, Good Arbuckle production for Oklahoma's Comanche: Oil and Gas Jour., vol. 57, no. 37, p. 260, 1 fig. Report of first Arbuckle production in Comanche County, includes production data.

..... 1959d, Hunton moves into Dewey County: Oil and Gas Jour., vol. 57, no. 48, p. 132. Résumé of petroleum development in Dewey County.

..... 1959e, Oklahoma area has top success story: Oil and Gas Jour., vol. 57, no. 19, p. 68-69, 1 fig. Résumé of production data for new discoveries in Beaver, Major, Custer, Harper, Ellis, Texas, and Cimarron Counties.

..... 1959f, Panhandle map is second in series: Oil and Gas Jour., vol. 57, no. 37, p. 279. Announcement of geological pay-formation map.

.....1959g, Sooner part of Arkoma due for action: Oil and Gas Jour., vol. 57, no. 51, p. 126, 1 fig. Report that Republic Natural Gas Co. has bought 100,000 acres in the area. Production data given for six wells.

Oxley, M. L., 1959, Bois d'Arc—key to Hunton oil?: Oil and Gas Jour., vol. 57, no. 20, p. 162-166, 5 figs. Résumé of Hunton production in northwestern Oklahoma portion of Anadarko Basin. Hunton stratigraphy and regional structural relationships described.

Parker, E. C., 1959, Structure and lithology of the Springer in southeast Velma-Camp area: Amer. Assoc. Petroleum Geologists, Petroleum Geology of Southern Oklahoma, vol. 2, p. 227-248, 21 figs. Comprehensive set of electric-log cross sections showing the position and character of sand bodies in the Springer.

Parks, Patricia, see: Felix, C. J.

Pate, J. D., 1959, Stratigraphic traps along north shelf of Anadarko basin, Oklahoma: Amer. Assoc. Petroleum Geologists, Bull., vol. 43, no. 1, p. 39-59, 19 figs. Discusses petroleum geology in all or part of eleven northwestern Oklahoma counties and Beaver County in the Panhandle. Discussion and maps of future possibilities of stratigraphic traps in area.

Pate, J. D., see: Jordan, Louise, and others.

Peterson, E. T., 1959, Ralph Allen Brant (1899-1958): Okla. Geology Notes, vol. 19, no. 1, p. 13-14. Biography.

Petroleum Week, 1959a, Deep drilling sparks Dewey County: Petroleum Week, vol. 9, no. 22, p. 22. Résumé of drilling play (includes production and discovery data).

..... 1959b, Gas play builds up in two-state basin: Petroleum Week, vol. 9, no. 26, p. 22, 26. Brief account of drilling the Frankfort Oil Co.'s No. 1 Orr, which encountered five different gas pays in the Atoka (Pennsylvanian). Data on three other wells in McAlester basin area.

..... 1959c, Large gas province is shaping up: Petroleum Week, vol. 8, no. 6, p. 21-22, 1 fig. Résumé of drilling and production and future of McAlester Basin.

..... 1959d, New pay lifts northwest Oklahoma play: Petroleum Week, vol. 8, no. 21, p. 18-21, 1 fig. Résumé of Hunton (Devonian) discoveries in Custer and Major Counties.

Pickhardt, H. E., and Holley, L. M., 1959, Sonic log proves valuable tool: World Oil, vol. 149, no. 4, p. 65-68, 6 figs. Technique of using sonic log with illustrated example from the Golden Trend area and the Simpson sand of southern Oklahoma.

Powell, J. P., 1959, Four waterflooding projects in Washington and Nowata Counties, Oklahoma: U. S. Bur. Mines, Inf. Circ. 7896, 34 p., 12 figs., 4 tables. Information on early history, source and treatment of water used for flooding, oil-production-decline cruves, typical core and water analyses, and results of waterflooding on each of the four waterflooding projects.

Prestridge, J. D., 1959, Subdivisions of Sycamore formation: Amer. Assoc. Petroleum Geologists, Petroleum Geology of Southern Oklahoma, vol. 2, p. 156-164, 2 figs., 2 tables. Describes two new members (Cornell Ranch and Worthey) of the Sycamore formation in the Ardmore basin.

Prestridge, J. D., see: Chenoweth, P. A., and others.

Probrandt, W. T., see: Reeves, C. C., Jr., and others, Southwest Enville—a development headache.

Probrandt, W. T., see: Reeves, C. C., Jr., and others, Southwest Enville: every well's a wildcat.

Reed, B. K., 1959, Pre-Atokan unconformity of portions of Love and Carter Counties, Oklahoma: Amer. Assoc. Petroleum Geologists, Petroleum Geology of Southern Oklahoma, vol. 2, p. 127-141, 5 figs.

Reedy, H. J., and Sykes, H. A., 1959, Carter-Knox oil field, Grady and Stephens County, Oklahoma: Amer. Assoc. Petroleum Geologists, Petroleum Geology of Southern Oklahoma, vol. 2, p. 198-219, 8 figs.

Reeves, C. C., Jr., and others, 1959a, Southwest Enville—a development headache: Oil and Gas Jour., vol. 57, no. 36, p. 110-113, 2 figs. Résumé of history of discovery, geologic history, and reservoir characteristics of the Southwest Enville field.

..... and others, 1959b, Southwest Enville: every well's a wildcat: Oil and Gas Jour., vol. 57, no. 37, p. 256-260, 4 figs. Describes the structural complexities in the subsurface.

Riggs, C. H., 1959a, The Cushing oil field (abs.): Tulsa Geol. Soc., Digest, vol. 27, p. 57. Production review.

..... and others, 1959, Petroleum-engineering study of Muskogee oilfield, Muskogee County, Oklahoma: U. S. Dept. Interior, Bur. Mines, Rept. Inv. 5448, p. 1-40, 15 figs., 7 tables. Describes the geology and reviews the oil-production history of the Dutcher sands of Pennsylvanian age in the field. Sand conditions are interpreted and an estimate made of the secondary-recovery potential of the field.

Rinehart Oil News Company, 1959, Ira Rinehart's Yearbook, 1959: vol. 1, p. 1-18, 9 fig. Well information for discoveries and extensions listed by counties.

Roberts, M. C., 1959, Developments in Oklahoma in 1958: Amer. Assoc. Petroleum Geologists, Bull., vol. 43, no. 6, p. 1221-1234, 2 figs., 15 tables. Statistics relative to exploration (oil and gas) in Oklahoma in 1958.

Robertson, Forbes, 1959, Perthite formed by reorganization of albite from plagioclase during potash feldspar metasomatism: Amer. Mineralogist, vol. 44, nos. 5-6, p. 603-619, 12 figs. Note of occurrence of orthoclase microperthite in Wichita Mountains.

Rose, W. A., and Bike, P. B., 1959, Arkoma slated for big drilling action: Oil and Gas Jour,, vol. 57, no. 50, p. 196-201, 3 figs., 1 table. Brief account of petroleum geology in Arkoma basin in western Arkansas. The Arkoma basin extends into Oklahoma.

Rowland, T. L., see: Jordan, Louise.

Ryniker, Charles, and others, 1959, Altus field, Jackson County, Oklahoma: Amer. Assoc. Petroleum Geologists, Petroleum Geology of Southern Oklahoma, vol. 2, p. 165-179, 6 figs., 4 tables.

Scholten, Robert, 1959, Synchronous highs: preferential habitat of oil?: Amer. Assoc. Petroleum Geologists, Bull., vol. 43, no. 8, p. 1793-1834, 30 figs. Synchonous highs (hills on sea floor during sedimentation) tend to create conditions favorable to all three stages in the history of petroleum (origin, migration, and accumulation). Several examples are used from Oklahoma (West Edmond field, Garber field, and Devils Kitchen zone in Carter County).

Schreiber, J. F., Jr., 1959, Sedimentation survey of Lake Carl Blackwell, Payne and Noble Counties, Oklahoma: Okla. State Univ., Research Foundation, State Proj. No. 99, 21 p., 7 figs., 4 tables. A study of the amount and rate of sedimentation and the distribution of sediment in the lake.

Schweers, F. P., 1959, Milroy field, Stephens and Carter Counties, Oklahoma: Amer. Assoc. Petroleum Geologists, Petroleum Geology of Southern Oklahoma, vol. 2, p. 220-226, 6 figs.

Seaman, Al, see: MacEachern, J. P.

Seltin, R. J., 1959, A review of the family *Captorhinidae*: Chicago Nat. History Mus., Fieldiana, Geology, vol. 10, no. 34, 15 figs., 8 tables. Includes description of *Labidosaurus oklahomensis*, new species, from the Wellington formation and *Labidosaurikos* from the Hennessey shale in Oklahoma.

Shortridge, C. G., see: Ryniker, Charles, and others.

Stearns, S. N., 1959, Shallow hole air drilling technique proves successful: World Oil, vol. 148, no. 1, p. 224-226, 1 table. Technique used in Hogshooter field, Washington County.

Strimple, H. L., 1959a, A notation on Pennsylvanian Conularia: Okla. Geology Notes, vol. 19, no. 11, p. 222. Locality (corrected spelling) of holotype and five paratypes of *Calloconularia strimplei*.

..... 1959b, Crinoids from the Missourian near Bartlesville, Oklahoma: Okla. Geology Notes, vol. 19, no. 6, p. 115-127, 2 text-figs., 2 pls. Description of seven species.

..... 1959c, The occurrence of *Galateacrinus allisoni* in Oklahoma: Okla. Geology Notes, vol. 19, no. 9, p. 195-196. Description of specimen from the Wann formation, Ochelata group, Missouri series, in Washington County.

Sutherland, P. K., and Amsden, T. W., 1959, A re-illustration of the trilobite *Lonchodomas mcgeheei* Decker from the Bromide formation (Ordovician) of southern Oklahoma: Okla. Geology Notes, vol. 19, no. 10, p. 212-219, 3 figs., 2 pls., 1 table. Locality and specimen re-described.

Sykes, H. A., see: Reedy, H. J.

Tanner, W. F., 1959a, Permo-Pennsylvanian paleogeography of part of Oklahoma: Jour. Sedimentary Petrology, vol. 29, no. 3, p. 326-335, 5 figs. Shoreline positions and poleogeography of central Oklahoma. Interpretations based on facies changes, fossils, cross-bedding, and other features.

..... 1959b, The importance of modes in cross-bedding data: Jour. Sedimentary Petrology, vol. 29, no. 2, p. 221-226, 6 figs. The Verden sandstone and Doe Creek sandstone are discussed with respect to their position relative to the shoreline at the time of their deposition.

Tasch, Paul, and Zimmerman, J. R., 1959, New Permian insects discovered in Kansas and Oklahoma: Science, vol. 130, no. 3389, p. 1653. Correlation of the Wellington of Oklahoma and Kansas can be demonstrated on the basis of a newly discovered insect bed and the Midco insect bed.

Taylor, G. L., see: Widess, M. B.

Tomlinson, C. W., 1959, Best exposures of various strata in Ardmore Basin, 1957: Amer. Assoc. Petroleum Geologists, Petroleum Geology of South-

ern Oklahoma, vol. 2, p. 302-334, 1 fig. List with location of 280 outcrops of 106 different stratigraphic units or rock types.

..... and McBee, William, Jr., 1959, Pennsylvanian sediments and orogenies of Ardmore district, Oklahoma: Amer. Assoc. Petroleum Geologists, Petroleum Geology of Southern Oklahoma, vol. 2, p. 3-52, 11 figs.

Tynan, E. J., 1959, Occurrence of *Cordaites michiganensis* in Oklahoma: Okla. Geology Notes, vol. 19, no. 3, p. 43-46, 1 pl. A comparison of the Oklahoma specimen with the type from Michigan.

United States Geological Survey, 1959a, Quality of surface waters for irrigation Western United States 1955: U. S. Geol. Survey Water-Supply Paper 1465. Statistics for three stations in Oklahoma. Chemical analyses.

..... 1959b, Surface water supply of the United States 1957: Pt. 7. Lower Mississippi Basin: U. S. Geol. Survey, Water-Supply Paper 1511. Presents measurements of stage, discharge, and content of streams, lakes, and reservoirs in the United States during the water year ending September 30, 1957.

Walker, K. F., 1959,, West Brock oil field, Carter County, Oklahoma: Amer. Assoc. Petroleum Geologists, Petroleum Geology of Southern Oklahoma, vol. 2, p. 249-261, 9 figs. Primarily concerned with Pennsylvanian geology in field.

Waring, C. L., see: Jaffee, H. W., and others.

Wheeler, R. R., 1959, Will drilling increase in western Anadarko border area?: World Oil, vol. 148, no. 4, p. 94-97, 3 figs.

Widess, M. B., and Taylor, G. L., 1959, Seismic reflections from layering within the pre-Cambrian basement complex: Geophysics, vol. 24, no. 3, p. 417-425, 5 figs. Demonstrates that the igneous rocks in the Wichita Mts. exhibit the seismic ingredients generally associated with sedimentary sections.

Wier, C. E., 1959, Coal stratigraphy and resources studies, 1949-1957: Econ. Geology, vol. 54, p. 629-665, 1 fig., 2 tables. A summary of the literature on the stratigraphy of coals and adjacent rocks and on coal reserve studies in the United States.

Williamson, S. R., see: Jordan, Louise, and others.

Wilson, Druid, and others, 1959, Geologic names of North America introduced in 1936-1955: U. S. Geol. Survey Bull. 1056-A, p. 1-406. Index: U. S. Geol. Survey Bull. 1056-B, p. 407-622.

Wilson, L. R., 1959a, A method of determining a useful microfossil assemblage for correlation: Okla. Geology Notes, vol. 19, no. 4, p. 91-93, 1 fig. Discussion of the species-stratum curve and its use in the analysis of a sample.

..... 1959b, A water-miscible mountant for palynology: Okla. Geology Notes, vol. 19, no. 5, p. 110-111. Describes use of Clearcol.

..... 1959c, Genotype of *Densosporites* Berry, 1937: Okla. Geology Notes, vol. 19, no. 3, p. 47-50, 1 pl. Discussion of *Densosporites* and recommendation that the species in the Pennington coal be re-examined and a neotype be chosen to replace the discarded holotype.

..... 1959d, Geological history of the Gnetales: Okla. Geology Notes, vol. 19, no. 2, p. 35-40, 1 pl. History of fossil and modern gnetalean pollen.

..... 1959e, The use of fossil spores in the resolution of Mississippian stratigraphic problems: Tulsa Geol. Soc., Digest, vol. 27, p. 166-171, 1 pl.; Sixth Bienn. Geol. Symposium, Univ. Oklahoma, p. 41-49, 1 fig., 1 pl. A review of the principles and objectives of palynology, its method of investigation, and the status of Mississippian palynological studies in North America and Oklahoma.

Woodburne, M. O., 1959, A fossil alligator from the lower Pliocene of Oklahoma and its climatic significance: Mich. Acad. Science, Arts and Letters, Papers, vol. 44, p. 47-51, 1 fig., 1 pl. Fossil alligator fragments from the Laverne formation indicate climate.

Worden, J. A., 1959a, Amarillo—Hugoton: fast growing giant: Oil and Gas Jour., vol. 57, no. 44, p. 128-130, 4 figs. Tectonic features and contour maps of top of Precambrian and base of Pennsylvanian.

..... 1959b, A subsurface look at the Amarillo-Hugoton area: Oil and Gas Jour., vol. 57, no. 45, p. 124-126, 2 figs. Subsurface conditions of area and three cross-sections and an isopachous map of the Morrow-Pennsylvanian.

Worthing, H. W., see: Jaffee, H. W., and others.

Zimmerman, J. R., see: Tasch, Paul.

INDEX

PUBLISHED PAPERS ON OKLAHOMA GEOLOGY IN THE YEAR 1959

Prepared by Neville M. Curtis, Jr.

OKLAHOMA GEOLOGY NOTES

VOLUME 20, NUMBER 4

APRIL, 1960

ADDENDA TO PUBLISHED PAPERS ON OKLAHOMA GEOLOGY IN THE YEAR 1959

(Published in Oklahoma Geology Notes, vol. 20, no. 3, p. 55-73)

Compiled by NEVILLE M. CURTIS, JR.

Branson, C. C., 1959, Regional relationships of Ouachita Mississippian and Pennsylvanian rocks: Geology of the Ouachita Mountains, Symposium: Dallas and Ardmore Geol. Societies, p. 118-121, 1 correlation chart. Discussion of the clastic, abnormally thick Mississippian and Morrowan section exposed in the Ouachita Mountain area.

Cline, L. M., and Shelburne, O. B., 1959, Late Mississippian-Early Pennsylvanian stratigraphy of the Ouachita Mountains, Oklahoma: Geology of the Ouachita Mountains, Symposium: Dallas and Ardmore Geol. Societies, p. 175-208, 18 figs., 2 tables.

Decker, C. E., 1956, Correlation of Lower Paleozoic formations of the Arbuckle and Ouachita areas as indicated by graptolite zones: Geology of the Ouachita Mountains, Symposium: Dallas and Ardmore Geol. Societies, p. 92-96, 1 table.

Elias, M. K., 1959, Some Mississippian conodonts from the Ouachita Mountains: Geology of the Ouachita Mountains, Symposium: Dallas and Ardmore Geol. Societies, p. 141-165, 2 pls. Systematic description of conodonts from Kiamichi Mountains and Potato Hills.

Flawn, P. T., 1959, The Ouachita structural belt: Geology of the Ouachita Mountains, Symposium: Dallas and Ardmore Geol. Societies, p. 20-29, 1 map. Discusses tectonics, foreland elements, development of geosyncline, age of deformation, and comparison with Appalachian system.

Goldstein, August, Jr., 1959, Petrography of Paleozoic sandstones from the Ouachita Mountains of Oklahoma and Arkansas: Geology of the Ouachita Mountains, Symposium: Dallas and Ardmore Geol. Societies, p. 97-116, 1 fig., 3 pls.

Ham, W. E., 1959, Correlation of pre-Stanley strata in the Arbuckle-Ouachita Mountain Regions: Geology of the Ouachita Mountains, Symposium: Dallas and Ardmore Geol. Societies, p. 71-86, 1 fig., 1 table. Correlation of pre-Stanley stratigraphic units (based on review of literature), geosynclinal aspects of Arbuckle and Ouachita regions, and depth to Precambrian in McCurtain County, Oklahoma.

Harlton, B. H., 1959, Age classification of the upper Pushmataha series in the Ouachita Mountains: Geology of the Ouachita Mountains, Symposium: Dallas and Ardmore Geol. Societies, p. 130-139, 4 figs. Particularly concerned with the age assignment of the Johns Valley shale and discussion of various "bouldery" shales.

Hendricks, T. A., 1959, Structure of the frontal belt of the Ouachita Mountains: Geology of the Ouachita Mountains, Symposium: Dallas and Ardmore Geol. Societies, p. 44-56, 2 figs. Discussion of faults.

Howell, J. V. and Lyons, P. L., 1959, Oil and gas possibilities of the Ouachita province: Geology of the Ouachita Mountains, Symposium: Dallas and Ardmore Geol. Societies, p. 57-61, 2 tables. Location and stratigraphic level of asphalt deposits.

Laudon, R. B., 1959, Some age relationships of Chesterian and Morrowan rocks in eastern Oklahoma: Geology of the Ouachita Mountains, Symposium: Dallas and Ardmore Geol. Societies, p. 122-129, 6 figs. McAlester basin is area of study. Three electric-log cross sections.

Miser, H. D., 1959, Structure and vein quartz of the Ouachita Mountains of Oklahoma and Arkansas: Geology of the Ouachita Mountains, Symposium: Dallas and Ardmore Geol. Societies, p. 30-43, 3 figs.

Morrison, J. D., 1959, The Choctaw Nation: Geology of the Ouachita Mountains, Symposium: Dallas and Ardmore Geol. Societies, p. xvii-xxii. Geographic description of area in Oklahoma.

Pitt, W. D., 1959, Summary discussion of the geology of the core areas of the Ouachita Mountains, Arkansas and Oklahoma: Geology of the Ouachita Mountains, Symposium: Dallas and Ardmore Geol. Societies, p. 87-91. Discussion of field evidence for believing that the core area of the Choctaw anticlinorium of southeastern Oklahoma is anticlinal in structure, rather than a fenster.

Scull, B. J., 1959, The age of mineralization in the Ouachita Mountains of Arkansas and Oklahoma: Geology of the Ouachita Mountains, Symposium: Dallas and Ardmore Geol. Societies, p. 62-70, 1 map. Discusses diamonds, cinnabar, antimony, lead-zinc-copper, manganese, titanium and barite.

....., Glover, G. D., and Planalp, Roger, 1959, The Atoka of the McAlester Basin-Arkansas Valley region: Geology of the Ouachita Mountains, Symposium: Dallas and Ardmore Geol. Societies, p. 166-174, 2 figs. Brief discussion of environments of deposition and tectonic setting.

Tomlinson, C. W., 1959, Ouachita problems: Geology of the Ouachita Mountains, Symposium: Dallas and Ardmore Geol. Societies, p. 1-19, 4 figs. Discussion of the extent of low-angle thrust faulting and the source and mode of emplacement of the exotic boulders which occur in the Johns Valley shale. Related questions discussed.

1960

Vol. 21, no. 3, January 1961

Annotated Bibliography and Index of Oklahoma Geology 1960

Prepared by Neville M. Curtis, Jr.

Bibliography—pages 55-72
Index—pages 72-81

BIBLIOGRAPHY

Abernethy, R. F., and Cochrane, E. M., 1960, Fusibility of ash of United States coals: U. S. Bur. Mines, Inf. Circ. 7923, 363 p., 3 tables. Data relative to coals in Oklahoma (by county). Includes percent ash and sulfur in sample.

Adams, Ernestine, 1960, Deep drilling finds deep production: Petroleum Engineer, vol. 32, no. 3, p. B-19-B-30, 8 tables. Statistics for wells drilled deeper than 15,000 feet.

Adkison, W. L., 1960, Subsurface cross section of Paleozoic rocks from Barber County, Kansas, to Caddo County, Oklahoma: U. S. Geol. Survey, Oil and Gas Inv. Chart OC-61, 2 sheets. Shows correlation, lithology, thickness, and facies changes.

Amsden, T. W., 1960a, *Lissatrypoidea concentrica* (Hall), emend Boucot and Amsden: Illustrations of the lectotype: Okla. Geology Notes, vol. 20, no. 6, p. 138-139, 1 fig. Specimen is re-illustrated in five different views.

———— 1960b, Silurian and Devonian strata in Marble City area, Sequoyah County, Oklahoma: Kansas Geol. Soc., Guidebook 25th Field Conf., North-eastern Oklahoma, p. 110-112, 2 figs. Stratigraphic description of Sallisaw, Frisco, and St. Clair.

———— 1960c, Stratigraphy and paleontology of the Hunton group in the Arbuckle Mountain region. Pt. 6, Hunton stratigraphy: Okla. Geol. Survey, Bull. 84, 311 p., 56 figs., 17 pls., 3 panels. Comprehensive study of subject including detailed lithologic descriptions and measured sections.

Ausburn, Brian, *see* Reid, G. W., and others.

Baker, D. R., and Ferguson, W. S., 1960, Organic geochemistry of Cherokee group in southeastern Kansas and northeastern Oklahoma [abs.]: Amer. Assoc. Petroleum Geologists, Bull., vol. 44, no. 7, p. 1245. Organic composition shows extreme vertical variability and migration of fluids through shales during compaction have not created compositional (C) gradients.

Baker, D. R., and Trimble, J. K., 1960, Cyclic deposition of the Cherokee group in the subsurface of southeastern Kansas and northeastern Oklahoma [abs.]: Geol. Soc. America, Program 1960 Ann. Mtgs., p. 51-52.

Barby, B. G., 1960, Gas reserve study of the Morrow sand, Light field, Beaver County, Oklahoma: Shale Shaker, vol. 10, no. 10, p. 9-16, 6 figs., 2 tables. Production and geology of Purdy sand.

Barrabé, L. C., 1960, Bassins sedimentaires et provinces pétrolifères, *in* Regional and structural problems in oil geology: Internat. Geol. Cong., 21st, Norden 1960, Pt. 11, p. 113-123, 1 fig. Mention of development of sedimentary basins in the Ouachita and Wichita Mts. area.

Barrett, Edward, 1960, Mississippian or Pennsylvanian: that is the question: Shale Shaker, vol. 11, no. 2, p. 14-17. Discussion of Mississippian and Pennsylvanian correlation problems and general aspects of the two periods.

Bennison, Allan, *see* Tomlinson, C. W.

Bercutt, Henry, 1960, Isopachous and paleogeologic studies in eastern Oklahoma north of Choctaw fault [abs.]: Amer. Assoc. Petroleum Geologists, Bull., vol. 44, no. 1, p. 125.

Berry, W. B. N., 1960, Early Ludlow graptolites from the Ashland area, Maine: Jour. Paleontology, vol. 34, no. 6, p. 1158-1163, 2 figs. *Monograptus nilssoni* occurrence in Henryhouse shale permits correlation of graptolite zone with the North American standard Silurian section.

Bike, Peter, 1960, Independents can play the deep country, too: Oil & Gas Jour., vol. 58, no. 44, p. 195, 1 fig. Résumé of production from exploratory Ordovician strike in Grady County, Oklahoma.

Blythe, J. G., 1960, Atoka formation in northeastern Oklahoma: Kansas Geol. Soc. Guidebook 25th Field Conf., North-eastern Oklahoma, p. 72-81, 6 figs. Distribution, lithologic description, overlap relationships, paleontology, and historical geology and source areas.

———— *see* Strimple and Blythe

Branan, C. B., Jr., 1960, Discussion of Frank S. Webb's master's thesis: Shale Shaker, vol. 10, no. 8, p. 14. Discussion of "Surface geology of the Eufaula-Texanna area, McIntosh and Pittsburg Counties, Oklahoma" by F. S. Webb.

Branan, C. B., Jr., and Jordan, Louise, 1960a, Recent exploration in the Arkoma basin and Ouachita province, southeastern Oklahoma: Okla. Geology Notes, vol. 20, no. 6, p. 140-147, 1 fig. History of petroleum production in area.

———— 1960b, Southeast Oklahoma reawakens as potential gas giant: Oil & Gas Jour., vol. 58, no. 32, p. 120-122, 1 fig. Résumé of petroleum exploration in the Ouachita Mountains and Arkoma basin.

Brann, D. C., and Kent, L. S., 1960, Catalogue of the type and figured specimens in the Paleontological Institute: Bull. Amer. Paleontology, vol. 40, no. 184, p. 993. Lists split of unpicked original material from the Wetumka, Wewoka, and Holdenville formations.

Branson, C. C., 1960a, A restricted biofacies: Okla. Geology Notes, vol. 20, no. 10, p. 259-260. *Desmoinesia muricatina* makes up 80 percent of faunule collected from the Perry Farm shale, Nowata County, Oklahoma.

———— 1960b, Carboniferous problems of the Mid-Continent area: Kansas Geol. Soc. Guidebook 25th Field Conf., North-eastern Oklahoma, p. 44-47, 2 tables. Acceptance of lithofacies and biofacies variations concept may help solve some problems and additional sections solve others.

———— 1960c, Beyond the Panhandle: Okla. Geology Notes, vol. 20,

no. 8, p. 186. Review of New Mexico Bureau of Mines and Mineral Resources Bulletin 62. Exposed rocks are Triassic, Jurassic, Cretaceous, Pliocene, and Quaternary ages. Area of report is adjacent to Cimarron County, Oklahoma.

———— 1960d, Biblographic citations: Okla. Geology Notes, vol. 20, no. 1, p. 18-19. Copy of letter from Professor Knut Faegri stating objections to Oklahoma Geological Survey system of citation for literature references.

———— 1960e, *Conostichus*: Okla. Geology Notes, vol. 20, no. 8, p. 195-207, 4 pls. Description of formation of *Conostichus* and description of specimens from Oklahoma with their stratigraphic occurrence.

———— 1960f, *Gastrioceras* in Red Eagle limestone: Okla. Geology Notes, vol. 20, no. 2, p. 22. Note on occurrence of cephalopod in Osage County, Oklahoma.

———— 1960g, Index to geologic names of Oklahoma: Okla. Geology Notes, vol. 20, no. 2, p. 42-43. Review of U. S. G. S. Bull. 1056-B and list of Oklahoma names omitted.

———— 1960h, Local fossil assemblage in the Seminole formation: Okla. Geology Notes, vol. 20, no. 1, p. 16-17. Faunal list and number of specimens from sample collected in Tulsa County, Oklahoma.

———— 1960i, More Oklahoma Permian insects: Okla. Geology Notes, vol. 20, no. 2, p. 28. Brief review of "New Permian insects discovered in Kansas and Oklahoma."

———— 1960j, New data on graptolites: Okla. Geology Notes, vol. 20, no. 5, p. 119. Review of W. B. N. Berry's "Graptolite faunas of the Marathon region, West Texas." Several zones in the Marathon region are correlated with parts of the Oklahoma Ordovician section.

———— 1960k, Permian ophiuroid occurrences: Okla. Geology Notes, vol. 20, no. 2, p. 22. Note on occurrences of star-fish in the Cottonwood limestone, Osage County.

———— 1960l, Proposed American standard of early Permian (?) rocks, a century old controversy: Okla. Geology Notes, vol. 20, no. 9, p. 229-235, 2 figs., 1 table. Includes history of the development of Permian in Oklahoma.

———— 1960m, Reclassification of an Oklahoma foraminifer: Okla. Geology Notes, vol. 20, no. 6, p. 139. Genus *Tuberitina* from Carter County placed in the Family Parathuramminidae.

———— 1960n, Some Oklahoma Carboniferous cephalopods: Okla. Geology Notes, vol. 20, no. 5, p. 128. Cephalopods of importance in Oklahoma geology are discussed in an article by Mackenzie Gordon, Jr., "Some American Midcontinent Carboniferous cephalopods."

———— 1960o, 1957 bibliography: Okla. Geology Notes, vol. 20, no. 6, p. 156. Brief review of "Bibliography of North American Geology, 1957" (U. S. G. S. Bull. 1095).

Bross, G. L., 1960, Distribution of Layton sandstone (Pennsylvanian) Logan County, Oklahoma: Shale Shaker, vol. 11, no. 2, p. 2-11, 9 pls., 1 table. Subsurface study (stratigraphy, structure, oil and gas development).

Brush, B. M., and others, 1960a, Oklahoma, *in* Internat. Oil and Gas Development; Year Book 1960 (review of 1959): Internat. Oil Scouts Assoc. and Soc. Petroleum Engineers AIME, vol. 30, pt. 1, p. 377-400. Review of discoveries, exploratory well record, and undeveloped acreage under lease.

Burwell, A. L., 1960a, A new use for pumicite: Okla. Geology Notes, vol. 20, no. 7, p. 175. Colorado pumicite to be used in making room deodorizers. Oklahoma deposits and use described briefly.

———— 1960b, Rock wool from volcanic ash: Okla. Geology Notes, vol. 20, no. 8, p. 207. Note of article by Dr. M. P. Bauleke in the June 1960 issue of Rock Products. Kansas volcanic ash is similar to Oklahoma volcanic ash.

Cassidy, M. M., and Mankin, C. J., 1960, Chlorox used in preparation of black shale for clay mineral analysis: Okla. Geology Notes, vol. 20, no. 11, p. 275-281, 4 figs. Method used on the Excello member, Senora formation (Pennsylvanian) in Oklahoma. Process removes organic matter from sample.

Chasteen, Kenneth, 1960a, Big Mocane, Laverne fields linked up: Oil & Gas Jour., vol. 58, no. 18, p. 218-220, 2 figs. Résumé of development in two fields (Beaver and Harper Counties).

———— 1960b, Discovery of world's largest gas field is prelude to a chain of new strikes for the Panhandle: Oil & Gas Jour., vol. 38, no. 4, p. 327-328. Review of 1959 activity and prospects for 1960.

———— 1960c, 1960's will be Hugoton's decade: Oil & Gas Jour., vol. 58, no. 14, p. 162, 164. Résumé of North Buffalo field in Harper County.

Chenoweth, P. A., 1960a, Ouachita Mountains do have oil and gas potential: World Oil, vol. 151, no. 2, p. 94-100, 2 figs. The six reasons cited by many geologists for reluctance to explore the area for oil and gas are refuted by Dr. Chenoweth.

———— 1960b, A Canyon reef in southern Oklahoma: Okla. Geology Notes, vol. 20, no. 1, p. 3-6, 2 figs. Description of limestone reef in Jefferson County, Oklahoma.

———— 1960c, Starfish impressions from the Hilltop shale: Okla. Geology Notes, vol. 20, p. 35-36, 2 figs. Report of occurrence of starfish impression in Seminole County.

Clarke, R. T., *see* Wilson and Clarke (a) (b)

Cline, L. M., 1960, Late Paleozoic rocks of the Ouachita Mountains: Okla. Geol. Survey, Bull. 85, 113 p., 45 figs., 2 pls. Stratigraphic features of the Ouachita geosyncline of Oklahoma during Late Mississippian and Early Pennsylvanian.

Clinton, R. P., 1960, History of petroleum development of Mississippian oil and gas [abs.]: Amer. Assoc. Petroleum Geologists, Bull., vol. 44, no. 1, p. 127. Recent play in Osage County shows how the land attitude will influence a play.

Cochrane, E. M., *see* Abernethy, R. F.

Cocke, J. M., *see* Sutherland, P. K.

Conant, G. D., *see* King, R. R.

Cronoble, W. R., 1960, An occurrence of *Ulocrinus buttsi* Miller and Gurley in Oklahoma: Okla. Geology Notes, vol. 20, no. 4, p. 96-99, 3 figs., 1 table. Description of dorsal cup from the Hogshooter

formation in Nowata County, Oklahoma.

Curtis, N. M., Jr., 1960a, Addenda to published papers on Oklahoma geology in the year 1959: Okla. Geology Notes, vol. 20, no. 4, p. 102-103. Annotated bibliography.

———— 1960b, Lignite in the Red Branch member, Woodbine formation, Oklahoma: Okla. Geology Notes, vol. 20, no. 9, p. 240-244, 1 fig. Occurrence and description of sections in Bryan County, Oklahoma.

———— 1960c, Published papers on Oklahoma geology in the year 1959: Okla. Geology Notes, vol. 20, no. 3, p. 55-68, Index, p. 68-73. Annotated bibliography.

———— *see* Ham and Curtis.

Davis, L. V., 1960, Geology and ground-water resources of southern McCurtain County, Oklahoma: Okla. Geol. Survey, Bull. 86, 108 p., 19 figs., 8 tables, 1 plate. Surface strata are Cretaceous and bulletin is primarily a ground-water report.

Dean, B. G., 1960, Selected annotated bibliography of the geology of uranium-bearing veins in the United States: U. S. Geol. Survey, Bull. 1059-G, 440 p. Annotates—McKay, E. J., and Hyden, H. J., 1956, "Permian of north Texas and southern Oklahoma." Data relative to uranium in the vein-type deposit at Cement in Caddo County, Oklahoma.

Denison, R. E., 1960, Rock slide on Mount Scott: Okla. Geology Notes, vol. 20, no. 6, p. 130-131, 1 fig. Description of rocksilde and petrography of rock involved, Wichita Mountains, Comanche County, Oklahoma.

———— *see* Ham, W. E., and others (a)

Doll, H. G., and others, 1960, Application of wire-line well logging to subsurface geology: Internat. Geol. Cong., 21st, Norden, 1960, pt. 2, p. 121-136, 13 figs. Laverne District used as example and includes electric-log cross section.

Dott, R. H., 1960, Lieutenant Simpson's California Road across Oklahoma: The Chronicles of Oklahoma, vol. 38, no. 2, 2 pls. Remarks on the geology encountered along the route which traversed Oklahoma from Ft. Smith, Arkansas, along the south side of the Canadian River to the Oklahoma-Texas line in Roger Mills County, Oklahoma.

Dunbar, C. O., and others, 1960, Correlation of the Permian formations of North America: Geol. Soc. Amer., Bull., vol. 71, no. 12, p. 1763-1806, 2 figs., 1 pl. Discussion and bibliography.

Edwards, A. R., 1960, Facies changes in Pennsylvanian rocks along the north flank of the Wichita Mountains [abs.]: Tulsa Geol. Soc. Digest, vol. 28, p. 83. Area from Cement field northwestward to Oklahoma-Texas boundary. Best reservoir development in western part.

Eng, Harvard, *see* Rollman, H. E.

Etheridge, Richard, 1960, The slender glass lizard, *Ophisaurus attenuatus*, from the Pleistocene (Illinoian Glacial) of Oklahoma: Copeia, no. 1, p. 46-47. Description of specimen recovered from the Doby Springs lake beds, Harper County, Oklahoma.

Faxon, R. D., 1960, Geological review of waterflood prospects: Tulsa Geol. Soc. Digest, vol. 28, p. 33-42, 9 figs. A 30-acre lease in Washington County, Oklahoma, is used as an example.

Ferguson, W. S., *see* Baker and Ferguson.

Fine, M. M., *see* Hahn, A. D.

Fowler, G. M., 1960, Structural deformation and ore deposits: Eng. and Mining Jour., vol. 161, no. 6, p. 183-188, 5 figs. Discussion of structural features and their relationship to ore deposits in the Oklahoma-Kansas field of the Tri-State District.

Frankel, Larry, 1960, Geographic distribution of *Planorbula vulcanata* Leonard in Nebraska: Jour. Paleontology, vol. 34, no. 3, p. 591-592, 1 fig. *Planorbula vulcanata* found in Beaver County, Oklahoma.

Frederickson, E. A., 1960, New evidence concerning *Dalmanites oklahomae*: Okla. Geology Notes, vol. 20, no. 3, p. 53-54, 2 figs. Evidence given to revise the name *Dalmanites oklahomae* Richardson to *Neoprobolium oklahomae* (Richardson).

Frederickson, E. A., and Waddell, D. E., 1960, An unusual crinoid from the Pennsylvanian of Oklahoma: Okla. Geology Notes, vol. 20, no. 7, p. 172-173, 2 figs. Description of specimen from the Pumpkin Creek limestone 11 miles southeast of Ardmore, Oklahoma.

Galloway, H. M., and others, 1960, Soil survey of Logan County, Oklahoma: U. S. Dept. Agriculture, Soil Conserv. Service, ser. 1948, no. 7, 60 p., 17 figs., 17 tables, 68 aerial photos. Description of soils and soil map.

Gelphman, N. R., 1960, West Sentinel oil field, Washita County, Oklahoma: sedimentology of the "granite wash" and structural geology: Shale Shaker, vol. 10, no. 6, p. 2-16, 11 figs., 1 table. A sedimentation study relative to the "granite wash" in the field.

Gilley, E. R., *see* Brush, B. M.

Gordon, Mackenzie, Jr., 1960, Some American Midcontinent Carboniferous cephalopods: Jour. Paleontology, vol. 34, no. 1, p. 133-151, 2 pls., 3 figs. Description of *Axinolobus modulus* n. sp. from Morrow series in Muskogee County, Oklahoma and other species that occur in Oklahoma.

Gorrod, H. M., 1960, Developments in Texas and Oklahoma Panhandles in 1959: Amer. Assoc. Petroleum Geologists, Bull., vol. 44, no. 6, p. 765-773, 1 fig., 4 tables. Petroleum exploration and production data.

Grandone, Peter, and Ham, W. E., 1960, The mineral industries of Oklahoma in 1959 (Preliminary Report): Okla. Geology Notes, vol. 20, no. 3, p. 46-49, 1 table. Preliminary production in Oklahoma for 1959 and résumé of production of mineral fuels, nonmetals, and metals.

Greenkorn, R. A., *see* Johnson, C. R.

Gussow, W. C., 1960, The pre-Devonian unconformity in North America: Internat. Geol. Cong., 21st, Norden, 1960, pt. 19, p. 158-163, 1 fig. Mention of unconformity within the Hunton group in Oklahoma.

Gutschick, R. C., 1960a, Early Mississippian foraminifera of the United States [abs.]: Geol. Soc. America, Program 1960 Ann. Mtgs., p. 108-109. Welden limestone of Oklahoma formed in cool shallow aerated water of open-marine-shelf.

———— 1960b, Early Mississippian (Lower Carboniferous-Tournaisian) micropaleontology in the United States: Internat. Geol. Cong., 21st, Norden, 1960, pt. 6, p. 114-134, 2 figs. Review of status

of micropaleontology in the United States and includes Chouteau fauna from the Welden of Oklahoma.

Hahn, A. D., and Fine, M. M., 1960, Examination of ilmenite-bearing sands in Otter Creek Valley, Kiowa and Tillman Counties, Okla: U. S. Bur. Mines Rept. Invest. 5577, 24 figs., 9 tables. Mineralogic studies and mineral-dressing tests data on recovery of ilmenite plus graphic logs of drill holes.

Ham, W. E., 1960a, Glassy pebbles in southwestern Oklahoma—obsidian vs. tektite: Okla. Geology Notes, vol. 20, no. 4, p. 92-95, 3 figs., 1 table. Black glassy pebble from Kiowa County found to be obsidian and not a tektite. The Delhi tektite is discredited and it is concluded that no tektite has been described from Oklahoma.

———— 1960b, Middle Permian evaporites in southwestern Oklahoma: Internat. Geol. Cong., 21st, Norden, 1960, pt. 12, p. 138-150, 7 figs. [abs.] Internat. Geol. Cong., 21st, Norden, 1960, Abstracts, p. 99. Stratigraphy, origin, and distribution of the Blaine and Cloud Chief formations in Oklahoma.

Ham, W. E., and Curtis, N. M., Jr., 1960, Common minerals, rocks, and fossils of Oklahoma: Okla. Geol. Survey, Guide Book 10, 28 p., 27 photos., 2 tables, 1 map. Description of nine minerals, eight rocks, and three fossils, and a brief account of the geologic history of Oklahoma.

Ham, W. E., and others, 1960a, Basement rocks of southern Oklahoma [abs.]: Geol. Soc. America, Program 1960 Ann. Mtgs., p. 110. Basement rocks of Precambrian and Middle or Early Cambrian (?) in south-central and southwestern Oklahoma. Age and petrography.

———— 1960b, Borate minerals in Permian gypsum of western Oklahoma [abs.]: Geol. Soc. America, Program 1960 Ann. Mtgs., p. 110-111. Occurrence of probertite, ulexite, and priceite in Cloud Chief gypsum and the Blaine formation.

Ham, W. E., *see* Grandone, Peter

———— *see* Howery, S. D.

Harlton, B. H., 1960, Stratigraphy of Cement pool and adjacent area, Caddo and Grady Counties, Oklahoma: Amer. Assoc. Petroleum Geologists, Bull., vol. 44, no. 2, p. 210-226, 9 figs. Pennsylvanian subsurface stratigraphy with boundaries of the Cisco, Missouri, Des Moines and Atoka established on basis of fusulinid determinations.

Harris, R. W., 1960a, An index ostracode from the Arbuckle limestone, Oklahoma: Okla. Geology Notes, vol. 20, no. 9, p. 211-216, 1 fig., 1 pl. Description of new genus *Ceratoleperditia* and genotype *Ceratoleperditia arbucklensis* from outcrop on south side of Arbuckle Mountains.

———— 1960b, Review of systematics and recent research of primitiopsid Ostracoda: Okla. Geology Notes, vol. 20, no. 7, p. 176-182, 1 fig. Brief review and chronological résumé of primitiopsid ostracods.

Hendricks, T. A., *see* Miser, H. D.

Hibbard, C. W., 1960, An interpretation of Pliocene and Pleistocene climates in North America: Mich. Acad. Sci., President's Address, p. 5-30, 2 figs., 1 pl. Climatic interpretations in the High Plains region based on vertebrate remains.

Hibbard, C. W., and Taylor, D. W., 1960, Two Late Pleistocene faunas from southwestern Kansas: Mich. Univ., Contrib. Mus. Paleontology, vol. 16, no. 1, 233 p., 18 figs., 16 pls. Includes summary of faunas (Doby Springs, Berends, and Bar M) in northwestern Oklahoma.

High Plains Gas and Oil Scouts Association, 1960, Oklahoma Panhandle, *in* Internat. Oil and Gas Development; Year Book 1960 (review of 1959): Internat. Oil Scouts Assoc. and Soc. Petroleum Engineers AIME, vol. 30, Pt. 1, p. 402-406. Review of exploratory well record, total completions, discoveries, and undeveloped acreage under lease.

Hiss, W. L., and Hunter, H. E., 1960, Magnetite-pyroxene textures in basic rocks from the Wichita Mountains: Okla. Geology Notes, vol. 20, no. 10, p. 254-255, 1 pl. Four photomicrographs showing textures.

Howery, S. D., and others, 1960, Authigenic apatite and magnesium clay from Caddo County, Oklahoma: Okla. Geology Notes, vol. 20, no. 8, p. 187-190, 3 figs. X-ray, chemical and optical data, and stratigraphic occurrence of specimens from the Marlow formation and Rush Springs sandstone.

Huffman, G. G., 1960a, Geology of the Oklahoma Ozark region: Kansas Geol. Soc. Guidebook 25th Field Conf., North-eastern Oklahoma, p. 82-109, 5 figs. Review of stratigraphy, paleontology, and structure in the Ozark region.

———— 1960b, Oklahoma Cement Company opens new plant near Pryor: Okla. Geology Notes, vol. 20, no. 11, p. 282-286, 2 figs. Stratigraphy and chemical analyses of strata in the Pryor area, Mayes County, Oklahoma.

———— 1960c, Pre-Desmoinesian isopachous and paleogeologic studies in Central Mid-Continent region [abs.]: Amer. Assoc. Petroleum Geologists, Bull., vol. 44, no. 1, p. 128. Tectonics, distribution, and thickness of strata.

———— 1960d, Regional relations of pre-Desmoinesian rocks, central Mid-Continent region: Kansas Geol. Soc. Guidebook 25th Field Conf., North-eastern Oklahoma, p. 48-71, 12 figs. Isopachous and paleogeologic maps are used to study the major tectonic features and pre-Desmoinesian stratigraphy and isopachous relations.

———— 1960e, Relationship of Paleozoic boundaries to marine transgressions and orogenic movements: Okla. Geology Notes, vol. 20, no. 5, p. 116-119, 1 fig. Discussion of regional tectonics and effect on transgressive-regressive cycles with respect to boundaries.

———— 1960f, The lakes of northeastern Oklahoma: Kansas Geol. Soc. Guidebook 25th Field Conf., North-eastern Oklahoma, p. 118-122. Description of five lakes in area.

Huffman, G. G., and Starke, J. M., Jr., 1960a, A Chazyan faunule from the lower Tyner, northeastern Oklahoma: Okla. Geology Notes, vol. 20, no. 10, p. 268-271, 1 pl. Character, thickness, paleontology, and age and correlation.

———— 1960b, A new fossil plant locality in the Sylamore member, Chattanooga formation, northeastern Cherokee County, Oklahoma: Okla. Geology Notes, vol. 20, no. 4, p. 89-91, 2 figs. Molds of *Cordaites* (?) reported and lithology of enclosing formation.

———— 1960c, Noel shale in northeastern Oklahoma: Okla. Geology

Notes, vol. 20, no. 7, p. 159-163, 2 figs. Résumé of lithology, paleontology, and distribution of Noel shale.

———— 1960d, *Spirifer grimesi* from the St. Joe limestone near Tahlequah, Oklahoma: Okla. Geology Notes, vol. 20, no. 3, p. 50-52, 2 figs. Description of St. Joe limestone and *Spirifer grimesi* in Cherokee County, Oklahoma.

Hunter, H. E., 1960, Topographic control by primary igneous structures in the Raggedy Mountains, southwestern Oklahoma: Okla. Geology Notes, vol. 20, no. 5, p. 112-115, 5 figs. Difference in susceptibility to weathering of different igneous rocks results in characteristic topographic features. The gross topographic features in area appear to be a result of preferred orientation of plagioclase and layered character of intrusive body.

———— *see* Hiss, W. L.

Imbrie, John, 1960, Beattie limestone facies and their bearing on cyclic sedimentation theory [abs.]: Amer. Assoc. Petroleum Geologists, Bull., vol. 44, no. 1, p. 128. Three members of Beattie limestone (Cottonwood limestone, Florena shale, Morril limestone) crop out along a line diagonally across Wolfcampian seaway in northeastern Oklahoma.

Jaster, M. C., *see* Withington, C. F.

Johnson, C. R., and Greenkorn, R. A., 1960, Comparison of core analysis and drawdown test results from a water-bearing Upper Pennsylvanian sandstone of central Oklahoma [abs.]: Geol. Soc. America, Program 1960 Ann. Mtgs., p. 130. Comparison shows quantative agreement between the two methods.

Jones, C. L., 1960, An isopach, structural, and paleogeologic study of pre-Desmoinesian units in north central Oklahoma: Shale Shaker, vol. 10, no. 5, p. 2-4, 6-19, 19 figs. Regional study.

Jordan, Louise, 1960a, Cost of wells in Oklahoma: Okla. Geology Notes, vol. 20, no. 1, p. 19. Lists cost of 13 oil wells (producer or dry hole) including depth and pay zone.

———— 1960b, Helium plant completed at Keyes: Okla. Geology Notes, vol. 20, no. 1, p. 15. Description of opening ceremony, production of plant, and processes used.

———— 1960c, Interpretation of air-drilled samples: Okla. Geology Notes, vol. 20, no. 3, p. 74. Review of article in *The Petroleum Engineer* relative to lithology encountered in the Arkoma basin area.

———— 1960d, Mississippian rocks in northern Oklahoma [abs.]: Amer. Assoc. Petroleum Geologists, Bull., vol. 44, no. 1, p. 129.

———— 1960e, Oil and gas in Kingfisher County: Okla. Geology Notes, vol. 20, no. 12, p. 303-314, 4 figs., 1 table. Geology, history of exploration, and petroleum production for discoveries 1956-1959.

———— 1960f, Permian salt beds in Laverne gas area, Harper County, Oklahoma: Okla. Geology Notes, vol. 20, no. 2, p. 23-28, 3 figs. Discussion of 4 salt beds, their physical properties as measured by different types of logs, and the possible economic use of the salt beds for gas storage.

———— 1960g, Petroleum facts and figures (a review): Okla. Geology Notes, vol. 20, no. 7, p. 169, Review of the Centennial Edition of *Petroleum Facts and Figures.*

———— 1960h, Seventy counties in Oklahoma produce hydrocarbons: Okla. Geology Notes, vol. 20, no. 3, p. 54. Review of *Oil and Gas Journal* article presenting statistics relative to production of hydrocarbons in Oklahoma.

———— 1960i, SPWLA, first annual meeting: Okla. Geology Notes, vol. 20, no. 7, p. 174-175. Announcement of first meeting of the Society of Professional Well Log Analysis in Tulsa, Oklahoma.

———— 1960j, U. S. G. S. publishes cross section through central Oklahoma (a review): Okla. Geology Notes, vol. 20, no. 7, p. 183-184. Review of "Subsurface cross section of Paleozoic rocks from Barber County, Kansas, to Caddo County, Oklahoma," by W. L. Adkison, Oil and Gas Investigations, Chart OC 61, two sheets.

———— 1960k, Woodward County's gas fields: Okla. Geology Notes, vol. 20, no. 4, p. 83-89, 3 figs., 1 table. History of petroleum development and résumé of geology in Woodward County, Oklahoma.

———— 1960l, XXI International Geological Congress: Okla. Geology Notes, vol. 20, no. 12, p. 318-320. Résumé, list of sections and of papers on Oklahoma geology.

———— 1960m, 1959 statistics of Oklahoma's petroleum industry: Okla. Geology Notes, vol. 20, no. 5, p. 120-122, 1 table. Contains data on: drilling activity in Oklahoma in 1959, hydrocarbon production in Oklahoma in 1958-1959, estimated proved reserves in Oklahoma, and number of miles of crude-oil and refined-products pipelines in Oklahoma in 1956 and 1959.

Jordan, Louise, *see* Branan and Jordan (a) (b)

Jussen, V. M., *see* King, R. R.

Kent, L. S., *see* Brann, D. C.

King, R. R., and others, 1960, Bibliography of North American geology, 1957: U. S. Geol. Survey, Bull. 1095, 531 p. Includes index.

Kornfeld, J. A., 1960a, How to choose eastern Oklahoma datum planes: World Oil, vol. 151, no. 1, p. 124-131, 4 figs. Discussion of six key marker datum planes in eastern Oklahoma. Includes electric-log cross sections for the Southeast Cushing, Blackdog, and Greasy Creek fields.

———— 1960b, Las Animas arch—promising oil and gas frontier: World Oil, vol. 151, no. 4, p. 87-92, 3 figs., 1 table. Includes subsurface geologic map contoured on top of Mississippian in the Oklahoma Panhandle.

Kulp, J. L., 1960, The geologic time scale: Internat. Geol. Cong., 21st, Norden, 1960, Pt. 3, p. 18-27, 1 fig. Internat. Geol. Congress, 21st, Norden, 1960, Abstracts, p. 26. Pre-Upper Cambrian rock in the Wichita Mountains, Oklahoma, is 520±20 million years old.

Landis, E. R., 1960, Uranium content of ground and surface waters in a part of the central Great Plains: U. S. Geol. Survey, Bull. 1087-G, p. 223-258, 1 fig., 1 pl., 4 tables. Data for Cimarron and Texas Counties, Oklahoma.

Lang, R. C., 1960, Western limits of Oil Creek sand in southern Oklahoma and northern Texas [abs.]: Amer. Assoc. Petroleum Geologists, Bull., vol. 44, no. 1, p. 129. Western limit along a line from Stephens County, Oklahoma, to Grayson County, Texas. In Oklahoma, the limit is a result of facies change.

Laughbaum, L. R., 1960, A paleoecologic study of the upper Denton formation, Tarrant, Denton, and Cooke Counties, Texas: Jour. Paleontology, vol. 34, no. 6, p. 1183-1197, 3 figs. Environmental interpretations can be applied to southern Oklahoma along the Red River.

Lawson, G. K., and others, 1960, International oil and gas development, Year Book 1960 (review of 1959); Internat. Oil Scouts Assoc. and Soc. Petroleum Engineers AIME, vol. 30, Pt. 2, p. 906-952. Well and production data and geology (formation, thickness, top, total depth) of fields by county.

Link, The, 1960, $250,000 strait jacket for salt water: The Link, vol. 25, no. 5, p. 10-11, 1 fig., 4 photos. Salt water disposal system in the Greater Seminole (Oklahoma) oil fields is described.

Loud, E. S., *see* King, R. R.

Lovett, F. D., and others, 1960, Authigenic apatite and clay minerals from Roger Mills County, Oklahoma: Okla. Geology Notes, vol. 20, no. 8, p. 190-194, 3 figs. X-ray, chemical, and optical data, and stratigraphic occurrence of specimens from the Cloud Chief formation.

Malloy, J. M., 1960, Fifty-second annual report of mines and mining of Oklahoma: Dept. Chief Mine Inspector, 41 p. Statistics of Production by county.

Mankin, C. J., *see* Cassidy, M. M.

_____ *see* Ham, W. E., and others (b)

_____ *see* Howery, S. D.

Manley, Frederick, Jr., and Murphy, Naomi, 1960, Directory of Oklahoma geologists and geophysicists: Okla. Geol. Survey, 116 p. Lists name, address, and society membership.

Martinsson, Anders, 1960, The Primitiopsid ostracodes from the Ordovician of Oklahoma and the systematics of the Family Primitiopsidae: Uppsala Univ., Geol. Institutions, Bull., vol. 38, p. 139-154, 3 figs., 3 pls. New genus, *Anisocyamus*, and new subfamily, Anisocyaminae, established.

McCaslin, J. C., 1960a, Drillers show new regard for Panhandle Permian: Oil & Gas Jour., vol. 58, no. 23, p. 180-181. Review of drilling and production and future possibilities.

_____ 1960b, Oklahoma's Kingfisher blossoms with success: Oil & Gas Jour., vol. 58, no. 27, p. 159, 1 fig. Résumé of exploration and production (petroleum) in Kingfisher County.

_____ 1960c, Oklahoma's Kingfisher County looms as 1960 hot spot: Oil & Gas Jour., vol. 58, no. 5, p. 153. Exploration review and future prospects for county.

_____ 1960d, Sooner gas frontiers widen scope: Oil & Gas Jour., vol. 58, no. 17, p. 256-257. Current drilling in Anadarko and Arkoma basins.

_____ 1960e, Sooner eyes focusing on Arkoma basin: Oil & Gas Jour., vol. 58, no. 31, p. 214, 1 fig. History of petroleum exploration in the Arkoma basin.

Merritt, C. A., 1960, Petrography of the Spavinaw granite: Okla. Geology Notes, vol. 20, no. 9, p. 224-228, 2 figs., 1 table. Detailed chemical and mineralogical study of Spavinaw granite from Mayes County, Oklahoma.

_____ *see* Ham, W. E., and others (a)

Millard, F. S., 1960a, Resistivity-velocity log evaluation of the Morrow sand in western Oklahoma: Prof. Well Log Analysts, Soc. Preprints from the Society, P. O. Box 4713, Tulsa 24, Oklahoma.

_____ 1960b, Sonic log evaluates Morrow sand: Petroleum Engineer, vol. 32, no. 9, p. B-29-B-34, 11 figs. Wells in western Oklahoma used to illustrate technique.

Miser, H. D., and Hendricks, T. A., 1960, Age of John Valley shale, Jackfork sandstone, and Stanley shale: Amer. Assoc. Petroleum Geologists, Bull., vol. 44, no. 11, p. 1829-1834. Review of nomenclature and conclusion that the Johns Valley shale should be assigned to the Pennsylvanian and Mississippian systems and the Jackfork sandstone and Stanley shale to the Mississippian system.

Mogg, J. L., and others, 1960, Ground water resources of Canadian County, Oklahoma: Okla. Geol. Survey Bull. 87, 112 p., 3 figs., 9 tables, 2 plates. Water-bearing characteristics and hydrology of Permian rocks in area.

Mount, J. R., *see* Reeves and Mount.

Murphy, Naomi, *see* Manley, Frederick, Jr.

Murphy, R. S., and others, 1960, Soil survey of Cimarron County, Oklahoma: U. S. Dept. Agriculture, Soil Conserv. Service, ser. 1956, no. 11, 53 p., 21 figs., 13 tables, 108 aerial photos. Description of soils and soil map.

Myers, A. J., 1960a, Alabaster Caverns: Okla. Geology Notes, vol. 20, no. 6, p. 132-137, 5 figs. Description of cavern and geology encountered in tour.

_____ 1960b, An area of gypsum karst topography in Oklahoma: Okla. Geology Notes, vol. 20, no. 1, p. 10-14, 3 figs. Description of geomorphic solution features in Permian gypsum, Woodward County, Oklahoma.

Nance, E. C., and others, 1960, Soil survey of Harper County, Oklahoma: U. S. Dept. Agriculture, Soil Conservation Service, ser. 1956, no. 8, 59 p., 20 figs., 12 tables, 120 aerial photos. Description of soils and soil map.

Nance, R. L., 1960, Caddo oil field, Carter County, Oklahoma: Shale Shaker, vol. 10, no. 7, p. 2-13, 8 figs., 1 table. Study of the Caddo field relative to structure, stratigrahy, and petroleum production.

Nicholson, Alexander, *see* Wilson and Nicholson

Oakes, M. C., and others, Soil survey of Creek County, Oklahoma: U. S. Dept. Agriculture, Soil Conservation Service, 43 p., 85 aerial photos.

Oil and Gas Journal, 1960a, Drill uncovers more Sooner secrets: Oil & Gas Jour., vol. 58, no. 10, p. 162-164. History of Sinclair Oil & Gas Co.'s No. 1 A. H. Reneau in Latimer County in the Arkoma basin.

_____ 1960b, Panhandle-Hugoton busiest U. S. area: Oil & Gas Jour., vol. 58, no. 17, p. 148-150, 153-154. Production and discovery data by county.

_____ 1960c, Rigs busy in northwest Oklahoma play: Oil & Gas Jour., vol. 58, no. 11, p. 100-101. Résumé of oil and gas in 1959 and 1960.

_____ 1960d, Sooner state buzzes with drilling action: Oil & Gas

Jour., vol. 58, no. 47, p. 267-270. Résumé of recent oil activity by county.

_____ 1960e, Texas County jumps into Hugoton lead: Oil & Gas Jour., vol. 58, no. 15, p. 186-188. A tally of discoveries (oil-gas) in northwestern Oklahoma.

Oklahoma Geological Survey, 1960a, Bear Creek and Cowskin Creek: Okla. Geology Notes, vol. 20, no. 9, p. 239. Decision List No. 5904, April 1960, of the United States Board on Geographic Names defines two creeks in Pawnee County, Oklahoma.

_____ 1960b, Biblography of North American Geology, 1956: Okla. Geology Notes, vol. 20, no. 1, p. 20. Review.

_____ 1960c, Museum of the Great Plains: Okla. Geology Notes, vol. 20, no. 7, p. 158. Announcement of museum in Lawton, Comanche County, Oklahoma.

_____ 1960d, Northeastern Oklahoma field conference: Okla. Geology Notes, vol. 20, no. 10, p. 272. Résumé of field trip.

_____ 1960e, Paleobotanical field trip: Okla. Geology Notes, vol. 20, no. 7, p. 158. Announcement and itinerary of trip.

_____ 1960f, Paleobotanists visit Oklahoma: Okla. Geology Notes, vol. 20, no. 10, p. 246. Photograph and identification of members on field trip.

_____ 1960g, Petrochemical plants in Oklahoma: Okla. Geology Notes, vol. 20, no. 1, p. 9. List of four plants giving location, raw material, and principal product.

_____ 1960h, Red River tributaries named: Okla. Geology Notes, vol. 20, no. 7, p. 171, 1 fig. Decisions of the United States Board of Geographic Names relative to the Red River in southwestern Oklahoma.

Petroleum Week, 1960a, Activity moves into high gear at Northeast Purdy waterflood: Petroleum Week, vol. 11, no. 17, p. 24-26, 5 photos. Estimated that 85 million bbl of oil will be unlocked due to waterflood. Includes depths to tops of various oil zones.

_____ 1960b, County gets ten new fields in a year: Petroleum Week, vol. 10, no. 3, p. 35, 1 fig. Review of petroleum developments in Kingfisher County, Oklahoma.

_____ 1960c, Manning trend play enlivens Oklahoma: Petroleum Week, vol. 11, no. 4, p. 22-23, 1 fig. Developments in Major and Kingfisher Counties indicate multipay possibilities from stratigraphic traps.

Pitt, W. D., 1960a, Dig deeper for Ouachita reserves: Oil & Gas Jour., vol. 58, no. 46, p. 214-217, 2 figs. Oil and gas potential for four areas is discussed. Includes brief review of structure and stratigraphy.

_____ 1960b, What lies beneath the Lukfata sandstone?: Okla. Geology Notes, vol. 20, no. 11, p. 290-291. Discussion as to thickness, character, and oil potential of strata below the Lukfata sandstone in the core of the Ouachita Mountains.

Powell, J. P., 1960, Orco process used on K and S project: Mines Magazine, vol. 50, no. 12, p. 9-12. Reprint from U. S. Bur. Mines Infor. Circ. No. 7896 describing waterflood on three leases in T. 27 N., R. 13 E., Washington County, Oklahoma.

Quinn, J. H., 1960, Correlation of Pennsylvanian strata on the basis of northwestern Arkansas goniatites [abs.]: Geol. Soc. America, Program 1960 Ann. Mtgs., p. 183. Winslow formation is not equivalent to the Atoka but is older and the southeastern Oklahoma Morrowan appears to fit between the Brentwood and Kessler members of the Bloyd formation. Hale formation and Caney shale also discussed.

Rascoe, Bailey, Jr., 1960, Pennsylvanian and Permian regional stratigraphy of western mid-continent [abs.]: Amer. Assoc. Petroleum Geologists, Bull., vol. 44, no. 1, p. 130. Résumé of development of the Anadarko basin.

Reed, E. W., *see* Mogg, J. L.

Reeves, C. C., Jr., 1960a, A closer look at Love County: Oil & Gas Jour., vol. 58, no. 1, p. 116-121, 1 table, 3 figs. History of petroleum development and structure in county.

_____ 1960b, Love County: Oil & Gas Jour., vol. 58, no. 2, p. 124-130, 3 figs., 1 table. Data relative to individual oil fields and future prospects.

Reeves, C. C., Jr., and Mount, J. R., 1960, Possibility of hydrocarbon accumulations along northern flank of Marietta syncline, Love County, Oklahoma: Amer. Assoc. Petroleum Geologists, Bull., vol. 44, no. 1, p. 72-82, 4 figs. Many Pennsylvanian sands, unconformities, etc. indicate possible production in Pennsylvanian strata.

Reid, G. W., and others, 1960, Deep subsurface disposal of natural and man-made brines in the Arkansas and Red River Basins: Bur. Water Resources Reseach, Univ. Okla., 111 p., 23 figs. Subsurface geologic studies of potential brine disposal reservoirs in western Oklahoma.

Research Oil Reports, 1960, Analysis of available data on secondary recovery in Oklahoma: Research Oil Reports, 238 p. Pool, operator, formation, depth, number of input wells, oil production, and water injected reported.

Respess, M. C., 1960, Mid-Continent hot spot owes success to modern well-stimulation techniques: Oil & Gas Jour., vol. 58, no. 37, p. 93-96, 3 figs., 3 tables. Résumé of production and fracture treatments required for various producing zones.

Roberts, M. C., 1960, Developments in Oklahoma in 1959: Amer. Assoc. Petroleum Geologists, Bull., vol. 44, no. 6, p. 752-764, 2 figs., 16 tables. Petroleum exploration and production data.

Rollman, H. E., and Eng, Harvard, 1960, Sources of refractory raw materials and refractories markets in south central United States: U. S. Bur. Mines, Info. Circ. 7950. Novaculite in Ouachita Mountains presents best potential refractory material in the State.

Rouget, E. G., Jr., 1960, Review of Richard L. Nance thesis: Shale Shaker, vol. 10, no. 7, p. 13-14. Review of *Caddo oil field, Carter County, Oklahoma* by R. L. Nance.

Roy, Mihir, *see* Reid, G. W., and others

Russell, D. T., 1960, Geology of northern Latimer County, Oklahoma: Okla. Geol. Survey, Circ. 50, 57 p., 12 figs., 1 plate. Stratigraphy and structure of the Pennsylvanian rocks in area.

Sadlick, Walter, 1960, New name for *Spirifer occidentalis* (Girty) and its geologic history: Jour. Paleontology, vol. 34, no. 6, p. 1210-1214, Relates to *Spirifer matheri* and *Spirifer leidyi* in Oklahoma.

Schlaikjer, E. M., 1960, Environment of oil and gas: Internat. Geol. Cong., 21st, Norden, 1960, Pt. 11, Regional and structural problems in oil geology, p. 101-112, 8 figs. Morrow formation in Anadarko basin used as example of effect of shifting environment.

Schleicher, J. A., 1960, A study of the temperature necessary to determine the purity of gypsum by dehydration: Okla. Geology Notes, vol. 20, no. 2, p. 37-41, 4 figs. Sample of selenite from Southard, Oklahoma, had an average purity of 99.997 percent $CaSO_4 \cdot 2H_2O$.

_____ *see* Ham, W. E., and others (b)

Schoff, S. L., *see* Mogg, J. L.

Shaw, C. A., 1960, Better double check the Cimarron: Oil & Gas Jour., vol. 58, no. 50, p. 164-167, 5 figs. Résumé of development and production in the Keyes and Griggs fields. Seventeen pay zones at less than 5,000 feet.

Shelburne, O. B., Jr., 1960, Geology of the Boktukola syncline, southeastern Oklahoma: Okla. Geol. Survey, Bull. 88, 84 p., 18 figs., 1 pl. Stratigraphy, structure, sedimentary structures, and geologic history of area in the central Ouachita Mountains in McCurtain, Pushmataha, and Le Flore Counties.

Skevington, D., 1960, A new variety of *Orthoretiolites hami* Whittington: Paleontology, vol. 2, pt. 2, p. 226-235, 4 figs., 2 pls. Discussion of specimens from the Viola limestone six miles southwest of Ardmore.

Starke, J. M., Jr., *see* Huffman, G. G., and Starke (a) (b) (c) (d)

Stephens, J. J., 1960, Stratigraphy and paleontology of a late Pleistocene basin, Harper County, Oklahoma: Geol. Soc. Amer., Bull., vol. 71, p. 1675-1702, 9 figs., 1 pl. Formation of basin in Doby Springs area, climatic interpretation, and systematic description of fossil mammalia.

Strachan, C. G., 1960, The structural and stratigraphic history of the Chandler area of Lincoln County, Oklahoma [abs.]: Tulsa Geol. Soc. Digest, vol. 28, p. 89.

Strimple, H. L., 1960a, Regressive evolution among erisocrinids. Okla. Geology Notes, vol. 20, no. 6, p. 151-155, 2 figs. *Endelocrinus* and *Delocrinus* are used in study to show regressive evolution; also used is *Paradelocrinus*.

_____ 1960b, The genus *Paragassizocrinus* in Oklahoma: Okla. Geol. Survey, Circ. 55, pt. 1, p. 5-24, 1 fig., 3 pls. Systematic descriptions of seven new species from the Pennsylvanian.

_____ 1960c, The posterior interradius of Carboniferous inadunate crinoids of Oklahoma: Okla. Geology Notes, vol. 20, no. 10, p. 247-253, 3 figs. Mississippian and Pennsylvanian crinoids which are known to occur in Oklahoma are used in this study.

Strimple, H. L., and Blythe, J. G., 1960, *Paragassizocrinus* in the Atoka of northeastern Oklahoma: Okla. Geol. Survey, Circ. 55, pt. 2, p. 25-30, 1 fig., 3 pls. Systematic description of new species.

Sutherland, P. K., and Cocke, J. M., 1960, A solitary rugose coral of exceptional size from the Middle Pennsylvanian of Oklahoma: Okla. Geology Notes, vol. 20, no. 4, p. 78-82, 2 pls. Report of occurrence and description of *Pseudozaphrentoides* sp. from the Oologah formation, Rogers County, Oklahoma.

Swanson, V. E., 1960, Oil yield and uranium content of black shales: U. S. Geol. Survey, Prof. Paper 356-A, p. 1-44, 21 figs., 1 table. Contains data relative to oil and uranium in Woodford shale, Murray County, and Chattanooga shale in Cherokee County.

Taylor, D. W., 1960, Late Cenozoic molluscan faunas from the High Plains: U. S. Geol. Survey, Prof. Paper 337, p. 1-94, 2 figs., 4 pls., 19 tables. List and discussion of Buis Ranch local fauna in the Ogallala formation, Beaver County, Oklahoma.

_____ *see* Hibbard and Taylor

Thompson, Robert, *see* Reid, G. W., and others

Thrift, L. S., Jr., *see* Brush, B. M.

Tomlinson, C. W., and Bennison, Allan, 1960, Tiff member of Goddard formation: Okla. Geology Notes, vol. 20, no. 5, p. 123-124. History of nomenclature, lithology, and list of conodonts in the Tiff member.

Trimble, J. K., *see* Baker, D. R.

United States Geological Survey, 1960a, Quality of surface waters for irrigation Western United States 1957: U. S. Geol. Survey, Water-supply Paper 1524, 183 p. Chemical analyses from four stations (Red, Canadian, Cimarron, and Arkansas Rivers) in Oklahoma.

_____ 1960b, Quality of surface waters for irrigation Western United States 1956: U. S. Geol. Survey, Water-supply Paper 1485, 185 p. Chemical analyses from four stations (Red, Canadian, Cimarron, and Arkansas Rivers) in Oklahoma.

_____ 1960c, Surface water supply of the United States, 1958. Part 7. Lower Mississippi River basin: U. S. Geol. Survey, Water-supply Paper 1561, 553 p. Statistics.

Vanderpool, R. E., 1960, Geology of the Featherston area, Pittsburg County, Oklahoma: Okla. Geol. Survey, Circ. 53, 36 p., 10 figs., 1 plate. Stratigraphy of the McAlester, Savanna, and Boggy formations and local structural features.

Waddell, D. E., *see* Frederickson, E. A.

Ward, P. E., 1960, Relation of mineral springs to Permian salt [abs.]: Geol. Soc. America, Program 1960 Ann. Mtgs., p. 231. Line of salt springs in western Oklahoma is interrupted by the trough of the Anadarko syncline. Source of salt is halite in middle and upper Permian rocks.

Weaver, C. E., 1960, Possible uses of clay minerals in search for oil: Amer. Assoc. Petroleum Geologists, Bull., vol. 44, no. 9, p. 1505-1518, 7 figs., 3 tables. Major clay mineral facies reflect the source areas and tectonic activity in the Upper Mississippian-Lower Pennsylvanian shales of southern Oklahoma. Area used to show correlation and environmental interpretations that can be made.

Webb, F. S., 1960, Surface geology of the Eufaula-Texanna area, McIntosh and Pittsburg Counties, Oklahoma: Shale Shaker, vol. 10, no. 8, p. 2-14, 10 figs. Surface study of geology in east-central Oklahoma.

Webb, P. K., 1960, Geology of the Cavanal syncline: Okla. Geol. Survey, Circ. 51, 65 p., 1 fig., 1 plate. Stratigraphy and structure of the Savanna and Boggy formations in area.

Wessman, H. G., 1960, Discussion of Gerald L. Bross's master's thesis: Shale Shaker, vol. 11, no. 2, p. 12. Relative to the "Distribution of Layton sandstone (Pennsylvanian) Logan County, Oklahoma" by G. L. Bross.

West, A. E., 1960, Geology of northeastern Lincoln County, Oklahoma: Shale Shaker, vol. 11, no. 3, p. 2-12, 7 figs., 3 pls. Late Pennsylvanian and early Permian stratigraphy and faunal lists for various units.

Wheeler, H. E., 1960, Early Paleooic tecto-stratigraphic patterns in the United States: Internat. Geol. Cong., 21st., Norden, 1960, pt. 8, p. 47-56, 2 figs. Fence diagram includes generalized section for the Arbuckle Mountains.

Whittington, H. B., 1960, *Cordania* and other trilobites from the Lower and Middle Devonian: Jour. Paleontology, vol. 34, no. 3, p. 405-420, 1 fig., 4 pls. Description of *Cordania falcata* n. sp. from Haragan formation, White Mound, Oklahoma.

Wilshire, L. M., 1960, Valley-Grove (southeast) field, Okfuskee County, Oklahoma: Shale Shaker, vol. 10, no. 7, p. 16-18, 1 fig., 1 table. Résumé of stratigraphy and structure and producing horizons.

Wilson, L. R., 1960a, A Permian hystrichosphaerid from Oklahoma: Okla. Geology Notes, vol. 20, no. 7, p. 170, 1 fig. Description and photograph of specimen from the Flowerpot shale, Greer County, Oklahoma.

———— 1960b, Cover fossils: Okla. Geology Notes, vol. 20, no. 1, p. 2. Identification of plant and animal microfossils illustrated on cover of Oklahoma Geology Notes.

———— 1960c, Cover microfossils: Okla. Geology Notes, vol. 20, no. 4, p. 99-100. Brief comment about the nature, occurrence, use, preparation and study of microfossils illustrated on cover of Oklahoma Geology Notes.

———— 1960d, Development of paleobotany in Oklahoma: Okla. Geology Notes, vol. 20, no. 9, p. 217-223. History and biblography of Oklahoma's paleobotanical literature.

Wilson, L. R., and Clarke, R. T., 1960a, A Mississippian chitinozoan from Oklahoma: Okla. Geology Notes, vol. 20, no. 6, p. 148-150, 4 figs. Description of one specimen from the Goddard shale in Johnston County, Oklahoma.

———— 1960b, Siliceous spherules in tracheids of cordaitean wood: Okla. Geology Notes, vol. 20, no. 5, p. 106-110, 7 figs. Observations on specimen found near Ada, Pontotoc County.

Wilson, L. R., and Nicholson, Alexander, 1960, Guidebook for paleobotanical field trip August 26-27, 1960: Paleobotanical Section of the Botanical Society of America, 18 p., 3 figs., 1 map. Geologic road log.

Withington, C. F., and Jaster, M. C., 1960, Selected annotated bibliography of gypsum and anhydrite in the United States and Puerto Rico: U. S. Geol. Survey, Bull. 1105, 126 p. Fifteen articles relative to Oklahoma.

Wood-Muir, Helen, and Cooper, G. A., 1960, Morphology, classification, and life habits of the Productoidea (Brachiopoda): Geol. Soc. Amer., Mem. 81, 447 p., 8 figs., 135 pls. Species from Oklahoma included.

Worden, J. A., 1960, Pre-Desmoinesian isopachous and paleogeologic studies of the Amarillo-Hugoton area: Shale Shaker, vol. 10, no. 9, p. 2-28, 21 figs. Includes isopachous maps of the Arbuckle group, Simpson group, Viola-Fernvale limestone, Sylvan shale, Hunton group, undifferentiated Mississippian system, Morrowan series, and Atokan series; contour maps on various tops and three electrical log cross sections. Discussion of the stratigraphy and producing horizons. Discussion of paper by John Janovy and W. E. McMurty.

Wynn, L. L., 1960, Simpson group of south-central Kansas [abs.]: Amer. Assoc. Petroleum Geologists, Bull., vol. 44, no. 1, p. 131. Study indicates that Simpson has a normal sequence of deposition and that anomalous or erratic characteristics northward are a result of tectonic movements.

INDEX

1961

Vol. 22, no. 2, February 1962

Bibliography and Index of Oklahoma Geology 1961

Prepared by Kenneth S. Johnson

Bibliography—pages 57-69
Index—pages 69-78

Bibliography

Amsden, T. W., 1961, Stratigraphy of the Frisco and Sallisaw Formations (Devonian) of Oklahoma: Okla. Geol. Survey, Bull. 90, 121 p., 26 figs., 13 pls. Surface study in Sequoyah County and Arbuckle Mountains region.

Arkansas Geological and Conservation Commission, *see* University of Oklahoma, School of Geology, and others.

Ash, S. R., 1961, Bibliography and index of conodonts, 1949-1958: Micropaleontology, vol. 7, p. 213-244, 1 fig., 1 table.

Atkins, R. L., 1961, Oklahoma, *in* International Oil and Gas Development; Year Book 1961 (review of 1960): Internat. Oil Scouts Assoc. and Soc. Petroleum Engineers AIME, vol. 31, pt. 1, p. 232-255. Discovery and exploratory well records.

Bado, J. T., 1961a, Geology of the Southwest Dover Field, Kingfisher County, Oklahoma: Okla. Geol. Survey, Okla. Geology Notes, vol. 21, p. 166-171, 3 figs., 1 table.

———— 1961b, North Okarche Field, Kingfisher County, Oklahoma: Okla. Geol. Survey, Okla. Geology Notes, vol. 21, p. 113-117, 2 figs., 1 table.

Bailey, O. F., and Graft, R. D., 1961, Soil survey of Jackson County, Oklahoma: U. S. Dept. Agriculture, Soil Conserv. Service, series 1958, no. 4, 67 p., 24 figs., 10 tables, 54 aerial photos.

Barby, B. E., 1961a, Panhandle gas hunt sets hot pace: Oil and Gas Jour., vol. 59, no. 22 (May 29), p. 210-217 incl. ads, 4 figs., 1 table.

———— 1961b, Reserves may spell success for the Panhandle: Oil and Gas Jour., vol. 59, no. 23 (June 5), p. 128-130, 2 figs.

Beghtel, F. W., *see* Furnish, W. M., and Beghtel, F. W.

Bell, R. J., 1961, Pre-Pennsylvanian subsurface geology of the East Lindsay area, Garvin County, Oklahoma: Okla. City Geol. Soc., Shale Shaker, vol. 11, no. 7 (Mar.), p. 2-16, 11 figs.

Bell, Walton, 1961, Surface geology of the Muskogee area, Muskogee County, Oklahoma: Okla. City Geol. Soc., Shale Shaker, vol. 12, no. 3 (Nov.), p. 2-21 incl. ads, 3 figs. Pennsylvanian stratigraphy and surface structure.

Berryhill, R. A., 1961, Subsurface geology of south-central Pawnee County, Oklahoma: Okla. City Geol. Soc., Shale Shaker, vol. 12, no. 4 (Dec.), p. 2-18 incl. ads, 8 figs., 1 table.

Bike, P. B., 1961, Watchful waiting in Ouachitas may end—pending outcome of key test: Oil and Gas Jour., vol. 59, no. 14 (Apr. 3), p. 266-268, 3 figs. Pushmataha County.

Bowman, G. A., 1961, Some drilling programs and problems in the Arkoma basin, *in* The Arkoma basin: Okla., Univ., Bienn. Geol. Symposium, 7th, Proc., p. 223-234, 6 figs.

Branan, C. B., Jr., 1961, Tectonics of the Ouachita Mountains of Oklahoma and Arkansas, *in* The Arkoma basin: Okla., Univ., Bienn. Geol. Symposium, 7th, Proc., p. 3-28, 20 figs.

Branson, C. C., 1961a, Arkoma basin, a Middle Pennsylvanian geosyncline, *in* Arkoma basin and north-central Ouachita Mountains of Oklahoma: Tulsa Geol. Soc. and Fort Smith Geol. Soc., Guidebook, Field Conf., Apr. 14-15, 1961, p. 76-78, 3 figs.

———— 1961b, Code of stratigraphic nomenclature: Okla. Geol. Survey, Okla. Geology Notes, vol. 21, p. 317-322. Review of code published by American Commission on Stratigraphic Nomenclature.

———— 1961c, New records of the scyphomedusan *Conostichus*: Okla. Geol. Survey, Okla. Geology Notes, vol. 21, p. 130-138, 1 fig., 3 pls. Pennsylvanian jellyfish in Midcontinent region.

———— 1961d, Pennsylvanian System of the Arkoma basin and of the Midcontinent platform, *in* The Arkoma basin: Okla., Univ., Bienn. Geol. Symposium, 7th, Proc., p. 177-194, 11 figs.

———— 1961e, Productoidea in Oklahoma: Okla. Geol. Survey, Okla. Geology Notes, vol. 21, p. 161-164. Review of Geol. Soc. America, Mem. 81, by Muir-Wood and Cooper.

———— 1961f, *Reticulatia* in the Belle City Limestone: Okla. Geol. Survey, Okla. Geology Notes, vol. 21, p. 128, 1 fig. Pennsylvanian productid from Seminole County.

———— 1961g, Trilobite from the Francis Shale near Ada: Okla. Geol. Survey, Okla. Geology Notes, vol. 21, p. 179-180, 2 figs. Pennsylvanian *Ameura sangamonensis* from Pontotoc County.

———— 1961h, Two new brachiopod genera from Oklahoma: Okla. Geol. Survey, Okla. Geology Notes, vol. 21, p. 232. *Gacina* from the Moorefield Formation (Mississippian), Cherokee County, and *Pakistania* from the Marlow Formation (Permian), Woods County.

Branson, C. C., and Jordan, Louise, 1961, Index to geologic mapping in Oklahoma: Okla. Geol. Survey. Map I, Surface Mapping, 1901-1960; Maps II-V, Subsurface Mapping, 1940-1960. Bibliography and index.

Brazelton, W. F., *see* Reeves, C. C., Jr., and Brazelton, W. F.

Burbridge, P. P., *see* Felix, C. J., and Burbridge, P. P.

Burwell, A. L., 1961, A somewhat different clay: Okla. Geol. Survey, Okla. Geology Notes, vol. 21, p. 189-190, 2 tables. Properties of clay in Batesville Sandstone (Mississippian), Ottawa County.

Busch, D. A., 1961, Make the most of those electrical logs if you want to find strat traps: Oil and Gas Jour., vol. 59; no. 28 (July 10), p. 162-163, 166-167, 4 figs. East-west cross section; T. 7 N., Rs. 6 to 15 E., Savanna Formation (Pennsylvanian) to Caney Shale (Mississippian).

Castagno, J. L., *see* Johnston, K. H., and Castagno, J. L.
Chandler, P. P., 1961, Limestone-dolomite facies of the Upper Wolfcampian of north-central Oklahoma: Okla. Acad. Science, Proc., 1960, vol. 41, p. 108-109. Surface study in Noble, Payne, and Pawnee Counties.
Cobban, W. A., *see* Gill, J. R., and Cobban, W. A.
Cronoble, W. R., 1961, Wreford Limestone, Kay County, Oklahoma: Okla. Geol. Survey, Okla. Geology Notes, vol. 21, p. 255-259, 1 pl. Petrography of Permian limestone being mined to allow LPG storage.
Culp, C. K., Jr., 1961, Stratigraphic relations of the Sycamore Limestone (Mississippian) in southern Oklahoma: Okla. City Geol. Soc., Shale Shaker, vol. 11, no. 10 (June), p. 7-18, 8 figs. Hollis basin and southern part of Anadarko basin.
Cunningham, B. J., 1961, Stratigraphy Oklahoma-Texas Panhandles, *in* Oil and gas fields of the Texas and Oklahoma Panhandles: Panhandle Geol. Soc., p. 45-60, 2 figs. Precambrian through Quaternary.
Curtis, N. M., Jr., 1961, Annotated bibliography and index of Oklahoma geology 1960: Okla. Geol. Survey, Okla. Geology Notes, vol. 21, p. 55-81.
Dahlgren, E. G., 1961, 10 'million-dollar' tests in Anadarko basin: Oil, vol. 21, no. 7 (July), p. 21.
Deaton, W. M., and Haynes, R. D., 1961, Helium production at the Bureau of Mines, Okla., plant: U. S. Bur. Mines, Info. Circ. 8018, 16 p., 9 figs., 4 tables. Keyes plant, Cimarron County.
Diggs, W. E., 1961, Structural framework of the Arkoma basin, *in* Arkoma basin and north-central Ouachita Mountains of Oklahoma: Tulsa Geol. Soc. and Fort Smith Geol. Soc., Guidebook, Field Conf., Apr. 14-15, 1961, p. 62-65, 3 figs.
Dodd, C. G., *see* Ham, W. E., Dodd, C. G., and Ray, Satyabrata.
Doerr, A. H., 1961, Coal mining and landscape modification in Oklahoma: Okla. Geol. Survey, Circ. 54, 48 p., 13 figs.
Dowds, J. P., 1961, Mathematical probability is an oil-search tool: World Oil, vol. 153, no. 4 (Sept.), p. 99-102, 105-106, 9 figs., 1 table. Fields in Beaver, Cimarron, and Harper Counties are used as examples.
Duane, D. B., 1961, Heavy-mineral segregation in Springer sandstones in Anadarko and Ardmore basins, Oklahoma: Amer. Assoc. Petroleum Geologists, Bull., vol. 45, p. 556-560, 3 figs. 1 table. A barrier confined topaz to the Anadarko basin and staurolite to the Ardmore basin during part of the Pennsylvanian Period.
Eddleman, M. W., 1961, Tectonics and geologic history of the Texas and Oklahoma Panhandles, *in* Oil and gas fields of the Texas and Oklahoma Panhandles: Panhandle Geol. Soc., p. 61-68, 2 figs.
Ellzey, R. T., Jr., 1961, Mississippian rocks on the western flank of the Oklahoma City uplift, Oklahoma: Okla. City Geol. Soc., Shale Shaker, vol. 11, no. 8 (Apr.), p. 2-15, 9 figs.
England, R. L., 1961a, Subsurface study of the Hunton Group (Silurian-Devonian) in the Oklahoma portion of the Arkoma basin: Okla. City Geol. Soc., Shale Shaker, vol. 12, no. 2 (Oct.), p. 2-20 incl. ads, 8 figs., 1 table.
———— 1961b, The Hunton Group of the Oklahoma portion of the Arkoma basin, *in* The Arkoma basin: Okla., Univ., Bienn. Geol. Symposium, 7th, Proc., p. 79-100, 3 figs., 5 pls., 1 table. Subsurface study of Silurian-Devonian strata.
Enright, R. J., 1961, Marietta basin dazzles gas hunters: Oil and Gas Jour., vol. 59, no. 6 (Feb. 6), p. 82-84. Southeast Marietta Field, Love County.
Fay, R. O., 1961a, *Agmoblastus*, a new Pennsylvanian blastoid from Oklahoma: Okla. Geol. Survey, Okla. Geology Notes, vol. 21, p. 278-280, 1 pl. *A. dotti* from the Hogshooter Limestone, Washington County.
———— 1961b, Bibliography and index of conodonts, 1949-1958, a review: Okla. Geol. Survey, Okla. Geology Notes, vol. 21, p. 202-203. Conodonts in Oklahoma.
———— 1961c, Geologic map of Blaine County, Oklahoma. Advance publication of geologic map to accompany Okla. Geol. Survey, Bull. 89, in press.
Fay, R. O., *see* Reimann, I. G., and Fay, R. O.
Felix, C. J., and Burbridge, P. P., 1961, *Pteroretis*, a new Mississippian spore genus: Micropaleontology, vol. 7, p. 491-495, 4 figs., 1 pl., 1 table. *Acanthotriletes uncinatus* from the Chester, Beaver County.
Fischer, A. G., 1961, Stratigraphic record of transgressing seas in light of sedimentation on Atlantic Coast of New Jersey: Amer. Assoc. Petroleum Geologists, vol. 45, p. 1656-1666, 5 figs., 1 table. Compared with Cherokee (Pennsylvanian) cyclothems of northeastern Oklahoma.
Fort Smith Geol. Soc., *see* Tulsa Geol. Soc. and Fort Smith Geol. Soc.
Fraser, C. D., *see* Pirson, S. J., and Fraser, C. D.
Frezon, S. E., 1961, Correlation of pre-Des Moines rocks from the Arbuckle Mountains [Okla.] to western Arkansas, *in* The Arkoma basin: Okla., Univ., Bienn. Geol. Symposium, 7th, Proc., p. 39-59, 3 figs. Stratigraphy of Oil Creek (Ordovician) through Atoka (Pennsylvanian) strata.
Frezon, S. E., and Schultz, L. G., 1961, Possible bentonite beds in the Atoka Formation in Arkansas and Oklahoma, *in* Geological Survey research 1961: U. S. Geol. Survey, Prof. Paper 424-C, p. 82-84, 1 fig., 3 tables.
Furnish, W. M., and Beghtel, F. W., 1961, A new Desmoinesian ammonoid genus from Oklahoma: Okla. Geol. Survey, Okla. Geology Notes, vol. 21, p. 289-293, 1 fig. Classification of *Gastrioceras venatum* Girty, 1911, as new genus *Wewokites* Furnish and Beghtel. Fossils from the Wewoka Formation.
Gill, J. R., and Cobban, W. A., 1961, Stratigraphy of lower and middle parts of the Pierre Shale, northern Great Plains, *in* Geological Survey research 1961: U. S. Geol. Survey, Prof. Paper 424-D, p. 185-191, 4 figs., 1 table. Includes paleogeographic maps showing pre-erosion distribution of lower and middle Pierre Shale equivalents (Late Cretaceous) in Oklahoma.

Graft, R. D., *see* Bailey, O. F., and Graft, R. D.
Grandone, Peter, *see* McDougal, R. B., and Grandone, Peter.
————, *see* McDougal, R. B., Grandone, Peter, and Ham, W. E.
Guerrero, E. T., and Stewart, F. M., 1961, How to find original oil in place by the volumetric method: Oil and Gas Jour., vol. 59, no. 7 (Feb. 13), p. 89-91, 3 figs., 4 tables. Example used is Northwest Triume Field, Tillman County.
Guest, M. E., *see* Wilson, L. R., and Guest, M. E.
Gutschick, R. C., Weiner, J. L., and Young, Leighton, 1961, Lower Mississippian arenaceous Foraminifera from Oklahoma, Texas, and Montana: Jour. Paleontology, vol. 35, p. 1193-1221, 5 figs., 4 pls., 1 table. Fossils from the Welden Limestone, Pontotoc County.
Ham, W. E., 1961a, Andesite tuff and dacite basement rocks of northeastern Oklahoma: Okla. Geol. Survey, Okla. Geology Notes, vol. 21, p. 139-149, 2 figs., 2 pls., 1 table. Petrography of pre-Upper Cambrian extrusive igneous rocks, Craig County.
———— 1961b, Correlation of pre-Stanley strata in the Arbuckle-Ouachita Mountain region: Okla. Geol. Survey, Okla. Geology Notes, vol. 21, p. 204-224, 1 fig., 1 table.
———— 1961c, New gypsum plant to open soon: Okla. Geol. Survey, Okla. Geology Notes, vol. 21, p. 193. Plant will quarry Cloud Chief gypsum (Permian) near Weatherford, Custer County.
———— 1960d, Oklahoma, *in* Gillson, J. L., and others, The carbonate rocks, *in* Industrial minerals and rocks: New York, Amer. Inst. Mining Metall. Engineers, p. 178-180, 1 fig. Industrial uses of limestone and dolomite in Oklahoma.
———— 1961e, Oklahoma Bryozoa under study: Okla. Geol. Survey, Okla. Geology Notes, vol. 21, p. 334. Bryozoans from the Oil Creek Formation (Ordovician) in the Arbuckle Mountains are being studied.
Ham, W. E., and Jordan, Louise, 1961, A Permian stratigraphic section in west-central Oklahoma: Okla. Geol. Survey, Okla. Geology Notes, vol. 21, p. 4-9, 1 fig. Composite section of Flowerpot Shale through Quartermaster Formation.
Ham, W. E., Dodd, C. G., and Ray, Satyabrata, 1961, Field trip to Wichita Mountain area, Oklahoma, *in* Clays and clay minerals: National conf. on clays and clay minerals, 8th, Proc., vol. 8, p. 1-10, 4 figs. Field descriptions and lab analyses of clays derived by alteration of igneous rocks.
Ham, W. E., Mankin, C. J., and Schleicher, J. A., 1961, Borate minerals in Permian gypsum of west-central Oklahoma: Okla. Geol. Survey, Bull. 92, 77 p., 20 figs., 3 pls., 8 tables. Probertite, ulexite, and priceite are replacement nodules in the Blaine and Cloud Chief Formations, Custer and Blaine Counties.
Ham, W. E., *see* McDougal, R. B., Grandone, Peter, and Ham, W. E.
Hamric, B. E., 1961, Hoffman gas area, Okmulgee and McIntosh Counties, Oklahoma: Okla. City Geol. Soc., Shale Shaker, vol. 11, no. 9 (May), p. 2-15, 10 figs.
Hart, D. L., Jr., 1961a, Fluctuations of water levels in wells: Okla. Geol. Survey, Okla. Geology Notes, vol. 21, p. 41-47, 8 figs. Examples cited are in Oklahoma.

———— 1961b, Ground water in the alluvium of Beaver Creek basin, Oklahoma: U. S. Geol. Survey open-file report, 13 p., 1 fig.
Harvey, R. L., 1961, Subsurface geology of a portion of southern [central] Hughes County, Okla.: Okla. City Geol. Soc., Shale Shaker, vol. 11, no. 5 (Jan.), p. 2-18 incl. ads, 10 figs., 2 tables.
Haynes, R. D., *see* Deaton, W. M., and Haynes, R. D.
Hendricks, T. A., 1961, Abnormal bedding in the Savanna Sandstone and Boggy Shale in southeastern Oklahoma, *in* Geological Survey Research 1961: U. S. Geol. Survey, Prof. Paper 424-B, p. 114-117, 2 figs. Surface study of Pennsylvanian strata in Pittsburg County.
Herrmann, L. A., 1961, Structural geology of Cement-Chickasha area, Caddo and Grady Counties, Oklahoma: Amer. Assoc. Petroleum Geologists, Bull., vol. 45, p. 1971-1993, 17 figs., 3 tables.
Hills, J. M., 1961, Correlation of Permian formations of North America: Amer. Assoc. Petroleum Geologists, Bull., vol. 45, p. 1412-1414. Comments on correlations by Dunbar and others, 1960 (Geol. Soc. America, Bull., vol. 71, p. 1763-1806), including some reference to Oklahoma formations.
Hyden, H. J., 1961, Distribution of uranium and other metals in crude oils, *in* Uranium and other metals in crude oils, pt. B: U. S. Geol. Survey, Bull. 1100, p. 17-99, 39 figs., 3 pls., 8 tables. Includes 11 analyses of oil from northeastern and central Oklahoma.
Ireland, H. A., 1961, New phosphatic brachiopods from the Silurian of Oklahoma: Jour. Paleontology, vol. 35, p. 1137-1142. *Artiotreta parva* and *Acrotretella siluriana* from the Chimneyhill Limestone, Murray and Carter Counties.
Jenny, W. P., 1961, Many old, updated magnetic prospects prove to be valid: World Oil, vol. 153, no. 6 (Nov.), p. 124-127, 130, 9 figs. Includes magnetic survey map of the Cumberland Field, Marshall and Bryan Counties.
Joensuu, Oiva, *see* Marshall, R. R., and Joensuu, Oiva.
Johnston, K. H., and Castagno, J. L., 1961, Developments in waterflooding and pressure maintenance in Osage County, Oklahoma, oilfields, 1961: U. S. Bur. Mines, Info. Circ. 8038, 38 p., 17 figs., 5 tables. Statistics and several electric logs.
Jordan, Louise, 1961a, Helium from Keyes gas area, Cimarron County, Oklahoma: Okla. Geol. Survey, Okla. Geology Notes, vol. 21, p. 183-184. Statistics.
———— 1961b, LPG cavern in Wreford Limestone, Kay County, Oklahoma: Okla. Geol. Survey, Okla. Geology Notes, vol. 21, p. 250-255, 5 figs. Storage in Permian limestone; includes electric and lithologic logs.
———— 1961c, LPG storage in Flowerpot salt, Beaver County, Oklahoma: Okla. Geol. Survey, Okla. Geology Notes, vol. 21, p. 34-35, 1 fig. Includes gamma ray and lithologic logs of Flowerpot and Blaine Formations (Permian).
———— 1961d, Natural gas in Oklahoma, 1959: Okla. Geol. Survey, Okla. Geology Notes, vol. 21, p. 22. Statistics.
———— 1961e, Natural gas in Pushmataha County, Oklahoma: Okla. Geol. Survey, Okla. Geology Notes, vol. 21, p. 323-326, 1 fig. History of development.

———— 1961f, 1960 statistics of Oklahoma's petroleum industry: Okla. Geol. Survey, Okla. Geology Notes, vol. 21, p. 198-201, 4 tables.
———— 1961g, Oil and gas in Kingfisher County, Oklahoma: Kansas-Oklahoma Oil Reporter, vol. 3, no. 10 (Jan.), p. 38-43 incl. ads, 4 figs. Development and geology.
———— 1961h, Salt in Wellington Formation, Grant County, Oklahoma: Okla. Geol. Survey, Okla. Geology Notes, vol. 21, p. 272-274, 2 figs. Permian formation contains salt in the subsurface.
———— 1961i, Underground LPG storage in Oklahoma: Okla. Geol. Survey, Okla. Geology Notes, vol. 21, p. 95-96, 2 tables. Statistics.
Jordan, Louise, *see* Branson, C. C., and Jordan, Louise.
————, *see* Ham, W. E., and Jordan, Louise.
Kornfeld, J. A., 1961, Deeper gas pays spur Arkoma basin activity: World Oil, vol. 153, no. 2 (Aug. 1), p. 94-96, 2 figs.
Lahoud, J. A., 1961, Cartersville gas field [Le Flore Co., Okla.], *in* Arkoma basin and north-central Ouachita Mountains of Oklahoma: Tulsa Geol. Soc. and Fort Smith Geol. Soc., Guidebook, Field Conf., Apr. 14-15, 1961, p. 51-53, 2 figs.
Laudon, R. B., 1961, Carboniferous stratigraphy of the Ouachita Mountains, *in* Arkoma basin and north-central Ouachita Mountains of Oklahoma: Tulsa Geol. Soc. and Fort Smith Geol. Soc., Guidebook, Field Conf., Apr. 14-15, 1961, p. 72-75, 2 figs.
Leonard, A. R., 1960, Ground water in Oklahoma: Oklahoma Water Resources Board, 12 p., 6 figs.
Leonard, A. R., *see* Ward, P. E., and Leonard, A. R.
Levinson, S. A., 1961, New species and genera of Bromide (Middle Ordovician) ostracodes of Oklahoma: Micropaleontology, vol. 7, p. 359-364, 1 pl., 1 table. Ostracodes from Carter County.
Lucas, E. L., 1961, Tourmaline in Pennsylvanian sediments of the Ardmore basin: Okla. Acad. Science, Proc. 1960, vol. 41, p. 118-121, 6 figs.
Mackey, F. L., 1961, Developments in Oklahoma in 1960: Amer. Assoc. Petroleum Geologists, Bull., vol. 45, p. 802-815, 4 figs., 13 tables. Statistics.
Madeley, H. M., *see* Pitt, W. D., Madeley, H. M., and Robertson, J. R.
Mairs, Tom, 1961, Subsurface study of the Fernvale-Viola in the Oklahoma portion of the Arkoma basin, *in* The Arkoma basin: Okla., Univ., Bienn. Geol. Symposium, 7th, Proc., p. 67-77, 3 figs.
Malloy, J. M., 1961, Fifty-third annual report of mines and mining of Oklahoma: Dept. Chief Mine Inspector, 41 p. Statistics.
Mankin, C. J., *see* Ham, W. E., Mankin, C. J., and Schleicher, J. A.
————, *see* Young, L. M., and Mankin, C. J.
Marshall, R. R., and Joensuu, Oiva, 1961, Crystal habit and trace element content of some galenas: Economic Geology, vol. 56, p. 758-771, 2 figs., 3 tables. Includes analyses of galena collected in the Picher district, Ottawa County.
McClain, K. M., and Planalp, R. N., 1961, General geology of the Red Oak Gas Area, Latimer and Le Flore Counties, Oklahoma, *in* Arkoma basin and north-central Ouachita Mountains of Oklahoma: Tulsa Geol. Soc. and Fort Smith Geol. Soc., Guidebook, Field Conf., Apr. 14-15, 1961, p. 45-50, 4 figs., 1 table.
McDaniel, Gary, 1961, Surface stratigraphy of the Hartshorne Formation, Le Flore, Latimer and Pittsburg Counties, Oklahoma, *in* Arkoma basin and north-central Ouachita Mountains of Oklahoma: Tulsa Geol. Soc. and Fort Smith Geol. Soc., Guidebook, Field Conf., Apr. 14-15, 1961, p. 66-71, 3 figs.
McDougal, R. B., and Grandone, Peter, 1961, The mineral industry of Oklahoma in 1960: Okla. Geol. Survey, Okla. Geology Notes, vol. 21, p. 282-285, 1 table. Production figures on metals, nonmetals, and mineral fuels.
McDougal, R. B., Grandone, Peter, and Ham, W. E., 1961, The mineral industry of Oklahoma: U. S. Bur. Mines, Minerals Yearbook 1960, p. 803-828, 3 figs., 21 tables. Production figures on metals, nonmetals, and mineral fuels.
McElroy, M. N., 1961, Isopach and lithofacies study of the Desmoinesian Series of north-central Oklahoma: Okla. City Geol. Soc., Shale Shaker, vol. 12, no. 1 (Sept.), p. 2-22 incl. ads, 15 figs. Subsurface stratigraphy.
Meinders, H. C., and others, 1961, Soil survey of Texas County, Oklahoma: U. S. Dept. Agriculture, Soil Conserv. Service, ser. 1958, no. 6, 60 p., 21 figs., 11 tables, 120 aerial photos.
Moses, P. L., 1961, Geothermal gradients now known in greater detail: World Oil, vol. 152, no. 6 (May), p. 79-82, 1 fig., 1 table. Includes map of Oklahoma with contours in degrees per 100 feet.
Murphey, J. J., *see* Pate, C. O., Murphey, J. J., and Orth, R. P.
Myers, A. J., 1961, The Upper Room of Alabaster Cavern, Woodward County, Oklahoma: Okla. Geol. Survey, Okla. Geology Notes, vol. 21, p. 26-32, 6 figs. Cave in the Blaine Formation (Permian).
National Petroleum Bibliography, 1961a, Geological maps—Oklahoma, oil and gas: National Petroleum Bibliography, Amarillo, Texas, 329 p. Subsurface structure and isopach maps of oil and gas fields in Oklahoma submitted to the Oil and Gas Division, Oklahoma Corporation Commission (1955-1961 hearings).
National Petroleum Bibliography, 1961b, Hugoton embayment-Anadarko basin yearbook: National Petroleum Bibliography, Amarillo, Texas, 250 p. Maps and statistics of selected oil and gas fields in Panhandle and extreme western Oklahoma.
Nicholson, Alex., 1961, Chimney Rock, a Permian outcrop: Okla. Geol. Survey, Okla. Geology Notes, vol. 21, p. 2-3, 1 fig. Flowerpot Shale, Woodward County.
Norden, J. A. E., 1961, Intercontinental detection of underground nuclear explosions in Oklahoma: Okla. Geol. Survey, Okla. Geology Notes, vol. 21, p. 261-271, 3 figs. Description of Wichita Mountains Seismological Observatory, Comanche County.
Oakes, M. C., 1961, Geologic map of Okmulgee County, Oklahoma. Advance publication of geologic map to accompany Okla. Geol. Survey, Bull. 91, in press.
Oil and Gas Journal, 1961, Deep drilling marks Oklahoma's Anadarko: Oil and Gas Jour., vol. 59, no. 50 (Dec. 11), p. 135-136, 141, 1 fig.

Orth, R. P., *see* Pate, C. O., Murphey, J. J., and Orth, R. P.

Panhandle Geological Society, 1961, Oil and gas fields of the Texas and Oklahoma Panhandles: Panhandle Geol. Soc., 264 p. Papers on Panhandle geology. Includes maps and statistics of selected fields in Oklahoma Panhandle.

Pate, C. O., Murphey, J. J., and Orth, R. P., 1961, Chemical character of surface waters of Oklahoma 1956-1957: Okla. Water Resources Board, Bull. 18, 140 p. Chemical analyses from stations on rivers and creeks in Oklahoma.

Patterson, J. R., 1961, Ordovician stratigraphy and correlations in North America: Amer. Assoc. Petroleum Geologists, Bull., vol. 45, p. 1364-1377, 12 figs. Includes Ordovician strata in Oklahoma.

Pirson, S. J., and Fraser, C. D., 1961, Revised method interprets electric logs in oil-wet rocks: The Petroleum Engineer, vol. 33, no. 7 (July), p. B 32-37, 3 figs., 3 tables. Electric logs of Springer sands (Pennsylvanian) in southern Oklahoma used as examples.

Pitt, W. D., Madeley, H. M., and Robertson, J. R., 1961, Concretionary stream bar deposits: Okla. Geol. Survey, Okla. Geology Notes, vol. 21, p. 301-306, 1 fig., 1 pl., 1 table. Drainage area with high percentage of calcium favors formation of concretions around organic material in small stream in Cleveland County.

Planalp, R. N., 1961, High drilling costs, varied geology fail to slow Arkoma basin growth: Oil and Gas Jour., vol. 59, no. 1 (Jan. 2), p. 124-126, 128-129, 2 figs. Cross section of Morrow and Atoka Formations (Pennsylvanian).

Planalp, R. N., *see* McClain, K. M., and Planalp, R. N.

Pollack, J. M., 1961, Significance of compositional and textural properties of South Canadian River channel sands, New Mexico, Texas and Oklahoma: Jour. Sed. Petrology, vol. 31, p. 15-37, 15 figs., 6 tables.

Ray, Satyabrata, *see* Ham, W. E., Dodd, C. G., and Ray, Satyabrata.

Reeves, C. C., Jr., 1961a, Cross-sections show Marietta basin's Pennsylvanian strata: World Oil, vol. 153, no. 6 (Nov), p. 120-121, 3 figs. (Augments Reeves, C. C., Jr., 1961b.)

———— 1961b, Facies changes are key to Marietta basin's oil future: World Oil, vol. 153, no. 5 (Oct.), p. 137-143, 3 figs. (Augmented by Reeves, C. C., Jr., 1961a.)

Reeves, C. C., Jr., and Brazelton, W. F., 1961, The Stockton Field—key to the Marietta basin?: Okla. Geol. Survey, Okla. Geology Notes, vol. 21, p. 118-127, 7 figs. Field is in Love County.

Reimann, I. G., and Fay, R. O., 1961, *Polydeltoideus* a new Silurian blastoid from Oklahoma: Okla. Geol. Survey, Okla. Geology Notes, vol. 21, p. 86-89, 1 pl. Blastoid from Henryhouse Shale, Pontotoc County.

Robertson, J. R., *see* Pitt, W. D., Madeley, H. M., and Robertson, J. R.

Rogatz, Henry, 1961, Shallow oil and gas fields of the Texas Panhandle and Hugoton, *in* Oil and gas fields of the Texas and Oklahoma Panhandles: Panhandle Geol. Soc., p. 8-37, 6 figs.

Rogers, R. G., and Tinsley, J. D., 1961, Developments in Texas and Oklahoma Panhandles in 1960: Amer. Assoc. Petroleum Geologists, Bull., vol. 45, p. 816-824, 1 fig., 4 tables. Statistics.

Rose, W. A., 1961, Significant fields and prolific recent discoveries in and near field trip area, *in* Arkoma basin and north-central Ouachita Mountains of Oklahoma: Tulsa Geol. Soc. and Fort Smith Geol. Soc., Guidebook, Field Conf., Apr. 14-15, 1961, p. 58-61, 1 fig., 2 tables.

Schleicher, J. A., *see* Ham, W. E., Mankin, C. J., and Schleicher, J. A.

Schreiber, J. F., Jr., 1961, Sedimentation survey of Lake Carl Blackwell, Payne and Noble Counties, Oklahoma: Okla. City Geol. Soc., Shale Shaker, vol. 11, no. 6 (Feb.), p. 11-17, 7 figs., 4 tables.

Schultz, L. G., *see* Frezon, S. E., and Schultz, L. G.

Scull, B. J., 1961, A comparison of Plio-Miocene sedimentation of the Gulf Coast with the Atoka sedimentation of the Arkoma basin, *in* The Arkoma basin: Okla., Univ., Bienn. Geol. Symposium, 7th, Proc., p. 127-175, 14 figs.

Shreveport Geological Society, 1961, Cretaceous of southwest Arkansas and southeast Oklahoma: Guidebook, spring field trip, March 24-25, 1961, Shreveport, Louisiana.

Sohn, I. G., 1960 [1961], Paleozoic species of *Bairdia* and related genera: U. S. Geol. Survey, Prof. Paper 330-A, 119 p., 15 figs., 6 pls. Includes ostracodes from Oklahoma.

Sowers, D. L., and others, 1961, Oklahoma, *in* International Oil and Gas Development; Year Book 1961 (review of 1960): Internat. Oil Scouts Assoc. and Soc. Petroleum Engineers AIME, vol. 31, pt. 2, p. 311-360. Statistics.

Starke, J. M., Jr., 1961, Geology of northeastern Cherokee County, Oklahoma: Okla. Geol. Survey, Circ. 57, 62 p., 16 figs., 1 pl. Surface study of Cotter Formation (Ordovician) through Hindsville Formation (Mississippian).

Stehli, F. G., 1961, New genera of upper Paleozoic terebratuloids: Jour. Paleontology, vol. 35, p. 457-466, 8 figs., 1 pl. *Gacina moorefieldensis* from the Moorefield Formation (Mississippian), Cherokee County, and *Pakistania schucherti* from the Marlow Formation (Permian), Woods County.

Stewart, F. M., *see* Guerrero, E. T., and Stewart, F. M.

Strimple, H. L., 1961a, Additional notes concerning *Paragassizocrinus*: Okla. Geol. Survey, Okla. Geology Notes, vol. 21, p. 294-298, 1 pl. Pennsylvanian crinoid.

———— 1961b, An unusual *Agassizocrinus*: Okla. Geol. Survey, Okla. Geology Notes, vol. 21, p. 158-161, 5 figs. Crinoid from the Goddard Formation (Mississippian), Johnston County.

———— 1961c, Late Desmoinesian crinoid faunule from Oklahoma: Okla. Geol. Survey, Bull. 93, 189 p., 23 figs., 19 pls. Crinoid crowns from the Holdenville Formation (Pennsylvanian), Okmulgee County.

———— 1961d, Morrowan *Hydriocrinus*: Okla. Geol. Survey, Okla. Geology Notes, vol. 21, p. 306-307. *H. rosei*: crinoid from the Hale Formation (Pennsylvanian), Muskogee County.

———— 1961e, New *Paradelocrinus* from Oklahoma: Okla. Geol.

Survey, Okla. Geology Notes, vol. 21, p. 225-229, 1 pl. Description of Pennsylvanian crinoids: *P. wapanucka* from the Wapanucka Limestone, Pontotoc County; *P. johnstonensis* from the Pumpkin Creek Limestone, Johnston County; and *P. atoka* from the Atoka Formation, Coal County.

———— 1961f, New species of *Bronaughocrinus* and *Stuartwellercrinus* from the Carboniferous of Oklahoma: Okla. Geol. Survey, Okla. Geology Notes, vol. 21, p. 186-189, 1 pl. Description of crinoids: *B. cherokeensis* from the Hindsville Formation (Mississippian), Cherokee County; and *S. praedecta* from the Wapanucka Formation (Pennsylvanian), Pontotoc County.

———— 1961g, Notes on two Chester crinoids: Okla. Geol. Survey, Okla. Geology Notes, vol. 21, p. 23-25, 3 figs. Mississippian crinoids, *Mantikosocrinus castus* and *Bronaughocrinus figuratus,* collected in the Cookson Hills.

———— 1961h, On *Myeinocystites* Strimple: Okla. Geol. Survey, Okla. Geology Notes, vol. 21, p. 184-185, 1 fig. *M. natus,* Ordovician carpoid from the Bromide Formation, Carter County.

Strimple, H. L., and Watkins, W. T., 1961, On *Synbathocrinus ? antiquus*: Okla. Geol. Survey, Okla. Geology Notes, vol. 21, p. 48-49, 2 figs. Silurian crinoid from the Henryhouse Shale, Pontotoc County.

Tasch, Paul, 1961a, Data on some new Leonardian conchostracans with observations on the taxonomy of the family Vertexiidae: Jour. Paleontology, vol. 35, p. 1121-1129, 2 pls., 3 tables. Including *Pemphicyclus laminatus* from the Wellington Shale (Permian), Noble County.

———— 1961b, Valve injury and repair in living and fossil Conchostracans: Kansas Acad. Sci., Trans., vol. 64, no. 2, p. 144-149, 5 figs. Including *Cyzicus (Lioestheria)* from the Wellington Shale (Permian), Noble County.

Tinsley, J. D., *see* Rogers, R. G., and Tinsley, J. D.

Totten, R. B., 1961, Review of exploration and development of oil and gas for the Texas and Oklahoma Panhandle area, *in* Oil and gas fields of the Texas and Oklahoma Panhandles: Panhandle Geol. Soc., p. 69-74.

Tulsa Geological Society and Fort Smith Geological Society, 1961, Arkoma basin and north-central Ouachita Mountains of Oklahoma: Guidebook, Field Conf., Apr. 14-15, 1961, Tulsa, Oklahoma, 90 p.

United States Geological Survey, 1961a, Geological Survey research 1961: U. S. Geol. Survey, Prof. Paper 424-A, p. 22-23, 131. Abstracts of papers being presented in U. S. Geol. Survey, Prof. Papers 424-B, C, and D.

———— 1961b, Quality of surface waters of the United States, 1957. Parts 7-8. Lower Mississippi River basin and western Gulf of Mexico basins: U. S. Geol. Survey, Water-supply Paper 1522, 499 p., 1 fig. Chemical analyses from stations on rivers and creeks in Oklahoma.

———— 1960 [1961]c, Surface water supply of the United States, 1959. Part 7. Lower Mississippi River basin: U. S. Geol. Survey, Water-supply Paper 1631, 557 p., 2 figs. Statistics

———— 1960 [1961]d, Surface water supply of the United States, 1959. Part 8. Western Gulf of Mexico basins: U. S. Geol. Survey, Water-supply Paper 1632, 529 p., 2 figs. Statistics.

University of Oklahoma, Department of Business and Industrial Services, Extension Division, *see* University of Oklahoma, School of Geology, and others.

University of Oklahoma, School of Geology, and others, 1961, The Arkoma basin: Okla., Univ., Bienn. Geol. Symposium, 7th, Proc., 234 p.

Unklesbay, A. G., 1961, A large Pennsylvanian orthocone from Oklahoma: Okla. Geol. Survey, Okla. Geology Notes, vol. 21, p. 108-110, 1 fig. Description of cephalopod *(Mooreoceras normale)* from the Fort Scott Limestone, east of Tulsa.

Ward, P. E., 1961a, Salt springs in Oklahoma: Okla. Geol. Survey, Okla. Geology Notes, vol. 21, p. 82-85, 4 figs., 1 table.

———— 1961b, Shallow halite deposits in northern Woodward and southern Woods Counties, Oklahoma: Okla. Geol. Survey, Okla. Geology Notes, vol. 21, p. 275-277, 2 figs. Removal of salt in the subsurface by ground water.

Ward, P. E., and Leonard, A. R., 1961, Hypothetical circulation of ground water around salt springs in western Oklahoma, Texas, and Kansas, *in* Geological Survey research 1961: U. S. Geol. Survey, Prof. Paper 424-D, p. 150-151, 2 figs.

Warren, J. W., 1961, The basicranial articulation of the Early Permian cotylosaur, *Captorhinus*: Jour. Paleontology, vol. 35, p. 561-563, 2 figs. *C.* sp. from Comanche County used as example.

Watkins, W. T., *see* Strimple, H. L., and Watkins, W. T.

Weiner, J. L., *see* Gutschick, R. C., Weiner, J. L., and Young, Leighton.

Westheimer, J. M., 1961, Notes on the Hartshorne Sandstone: Okla. Geol. Survey, Okla. Geology Notes, vol. 21, p. 50-51. Lithologic means of identifying the Hartshorne (Pennsylvanian) on the surface north of the Arbuckle Mountains, and in the subsurface in the Ardmore basin.

Wheeler, R. R., 1960, The structural map of the Midcontinent from Denver to the east Texas Gulf Coast: Robert R. Wheeler, Dallas, Texas. Scale: 1 inch=6 miles. Central Series (consisting of 3 Sheets) covers Oklahoma from T. 24 N., southward into north Texas: Eastern Sheet extends from Oklahoma-Arkansas state line to R. 7 W.; Center Sheet extends from R. 8 W. to R. 11 ECM.; Western Sheet includes T. 1 N., Rs. 1 to 10 ECM.

Wilson, L. R., 1961, Palynological fossil response to low-grade metamorphism in the Arkoma basin, *in* The Arkoma basin: Okla., Univ., Bienn. Geol. Symposium, 7th, Proc., p. 195-210, 1 fig., 7 tables.

Wilson, L. R., and Guest, M. E., 1961, Travertine formation associated with mosses at Turner Falls and Prices Falls, Oklahoma: Okla. Geol. Survey, Okla. Geology Notes, vol. 21, p. 310-316, 3 figs., 1 pl. Pleistocene deposits in Murray County.

Woncik, John, 1961a, Kingfisher County—hottest oil play in U. S.: World Oil, vol. 153, no. 5 (Oct.), p. 173-175, 177, 3 figs.
———— 1961b, The geology of the Kinta gas district [Haskell Co., Okla.], *in* Arkoma basin and north-central Ouachita Mountains of Oklahoma: Tulsa Geol. Soc. and Fort Smith Geol. Soc., Guidebook, Field Conf., Apr. 14-15, 1961, p. 55-57, 2 figs., 1 table.
Young, Leighton, *see* Gutschick, R. C., Weiner, J. L., and Young, Leighton.
Young, L. M., and Mankin, C. J., 1961, Dimensional grain-orientation studies of recent Canadian River sands: Okla. Geol. Survey, Okla. Geology Notes, vol. 21, p. 99-107, 4 figs. Stream deposits and sedimentary structures studied in Cleveland County.

INDEX

1962

Vol. 23, no. 3, March 1963

Bibliography and Index of Oklahoma Geology

1962

Prepared by Kenneth S. Johnson

Bibliography—pages 51-65

Index—pages 65-74

Bibliography

Adams, J. W., *see* Olson, J. C., and Adams, J. W.

Allgood, F. P., and others, 1962, Soil survey of Beaver County, Oklahoma: U. S. Dept. Agriculture, Soil Conserv. Service, ser. 1959, no. 11, 80 p., 39 figs., 11 tables, 153 aerial photos.

Amsden, T. W., 1962a, Additional fossils from the Bois d'Arc Formation in the southeastern part of the Arbuckle Mountains region: Okla. Geol. Survey, Okla. Geology Notes, vol. 22, p. 212-216, 4 figs. Devonian brachiopods from Johnston County.

———— 1962b, Silurian and Early Devonian carbonate rocks of Oklahoma: Amer. Assoc. Petroleum Geologists, Bull., vol. 46, p. 1502-1509, 10 figs. Surface stratigraphy in Arbuckle Mountains, Criner Hills, and Sequoyah County.

Atkins, R. L., 1962, Oklahoma, *in* International oil and gas development; year book 1962 (review of 1961): Internat. Oil Scouts Assoc. and Soc. Petroleum Engineers AIME, vol. 32, pt. 1, p. 235-261. Discovery and exploratory well statistics.

Averitt, Paul, 1961, Coal reserves of the United States—a progress report, January 1, 1960: U. S. Geol. Survey, Bull. 1136, 116 p., 10 figs., 6 tables. Includes statistics on Oklahoma coal reserves.

Bado, J. T., 1962, Geology of the Southeast Dover Field, Kingfisher County, Oklahoma: Okla. Geol. Survey, Okla. Geology Notes, vol. 22, p. 97-103, 2 figs., 1 table.

Bado, J. T., and Jordan, Louise, 1962, Petroleum geology of Blaine County, *in* Oklahoma Geological Survey, Geology and mineral resources of Blaine County, Oklahoma: Okla. Geol. Survey, Bull. 89, p. 11, 152-188, 9 figs., 1 pl., 5 tables.

Baker, D. R., 1962, Organic geochemistry of Cherokee Group in southeastern Kansas and northeastern Oklahoma: Amer. Assoc. Petroleum Geologists, Bull., vol. 46, p. 1621-1642, 9 figs., 7 tables. Study of Pennsylvanian strata from the Burbank field, Osage County.

Barghusen, Herbert, *see* Olson, E. C., and Barghusen, Herbert.

Barker, F. B., *see* Scott, R. C., and Barker, F. B.

Bell, K. G., 1960 [1961], Uranium and other trace elements in petroleums and rock asphalts: U. S. Geol. Survey, Prof. Paper 356-B, p. 45-65, 1 fig., 3 tables. Includes 37 analyses of petroleum and 45 analyses of rock asphalt from Oklahoma.

Bell, W. C., and Ellinwood, H. L., 1962, Upper Franconian and lower Trempealeauan Cambrian trilobites and brachiopods, Wilberns Formation, central Texas: Jour. Paleontology, vol. 36, p. 385-423, 1 fig., 14 pls. Includes placement in synonymy of three Oklahoma trilobite genera; *Meeria, Bernia,* and *Bemaspis.*

Benson, R. H., *see* Gutentag, E. D., and Benson, R. H.

Boone, R. L., *see* Pitt, W. D., and Boone, R. L.

Boucot, A. J., 1962, Hunton Group (Silurian and Devonian) and related strata in Oklahoma, Discussion: Amer. Assoc. Petroleum Geologists, Bull., vol. 46, p. 1528-1530. Discussion of Shannon, J. P., Jr., 1962a.

Bozion, C. N., *see* Heyl, A. V., Jr., and Bozion, C. N.

Branson, B. A., Taylor, John, and Taylor, Constance, 1962, A Pleistocene local fauna from Caddo and Canadian Counties, Oklahoma: Okla. Geol. Survey, Okla. Geology Notes, vol. 22, p. 280-295, 3 figs., 1 table. The name Caddo Local Fauna is proposed for the collection of pelecypods and gastropods.

Branson, C. C., 1962a, Additional illustrations of some Oklahoma crinoids: Okla. Geol. Survey, Okla. Geology Notes, vol. 22, p. 162-163, 4 figs. Four paratypes from the Holdenville Formation (Pennsylvanian) in Okmulgee County.

———— 1962b, A taxonomic and grammatical dilemma: Okla. Geol. Survey, Okla. Geology Notes, vol. 22, p. 9. Problems of determining gender of specific name in *Wewokites venatus;* Pennsylvanian cephalopod from the Wewoka Formation.

———— 1962c, *Echinaria* in the Foraker Limestone of Osage County: Okla. Geol. Survey, Okla. Geology Notes, vol. 22, p. 130-131, 3 figs. *E. moorei;* Permian brachiopod.

———— [ed.] 1962d, Pennsylvanian System in the United States, a symposium: Tulsa, Amer. Assoc. Petroleum Geologists, 508 p., illus. Contains papers on Oklahoma geology by C. C. Branson, August Goldstein, Jr., T. A. Hendricks, C. W. Tomlinson, and William McBee, Jr.

———— 1962e, Pennsylvanian System of the Mid-Continent, *in* Branson, C. C. [ed.], Pennsylvanian System in the United States, a symposium: Tulsa, Amer. Assoc. Petroleum Geologists, p. 431-460, 10 figs., 8 tables.

———— 1962f, *Schizodus insignis* Drake, 1897: Okla. Geol. Survey, Okla. Geology Notes, vol. 22, p. 234-235, 2 figs. Plastoholotype of unidentifiable pelecypod genus and species from the Wewoka Formation (Pennsylvanian), Okfuskee County.

———— 1962g, Type specimens of two Oklahoma Mississippian brachiopods: Okla. Geol. Survey, Okla. Geology Notes, vol. 22, p. 240-244, 1 pl. Type specimens of *Marginifera adairensis* and *Productus cherokeensis* belong to the genera *Kozlowskia* and *Inflatia,* respectively. Collected from Fayetteville Shale and Hindsville Limestone in Mayes County.

Burditt, M. R., and Leach, G. W., 1962, Developments in Texas and Oklahoma Panhandles, 1961: Amer. Assoc. Petroleum Geologists, Bull., vol. 46, p. 871-878, 1 fig., 4 tables. Statistics on oil and gas exploration.

Butler, A. P., Jr., Finch, W. I., and Twenhofel, W. S., 1962, Epigenetic

uranium deposits in the United States (exclusive of Alaska and Hawaii): U. S. Geol. Survey, Mineral Inv. Res. Map MR-21, scale 1:3,168,000 (50 miles to the inch), with 42 pages of text. Eleven deposits in Oklahoma are included.

Carini, G. F., 1962, A new genus of holothurian sclerite from the Wewoka shale of Oklahoma: Micropaleontology, vol. 8, p. 391-395, 7 figs., 1 pl. *Thalattocanthus consonus;* echinoderm from Pennsylvanian beds, Okmulgee County.

Cohee, G. V. [chm.], and others, 1961 [1962], Tectonic map of the United States, exclusive of Alaska and Hawaii: U. S. Geol. Survey and Amer. Assoc. Petroleum Geologists, scale 1:2,500,000 (approximately 1 inch to 40 miles), 2 sheets.

Conklin, D. R., *see* Soister, P. E., and Conklin, D. R.

Crane, H. R., and Griffin, J. B., 1959a, University of Michigan radiocarbon dates IV: Amer. Jour. Science Radiocarbon Supplement, vol. 1, p. 173-198. Conch shell fragments (*Busycon?*) from Spiro site, Le Flore County, are 480±200 years old.

_____ 1960b, University of Michigan radiocarbon dates V: Amer. Jour. Science Radiocarbon Supplement, vol. 2, p. 31-48. Charcoals from Le Flore, Muskogee, Wagoner, Delaware, and Garvin Counties are 800 to 1170 years old.

Crittenden, M. D., and Pavlides, Louis, 1962, Manganese in the United States (exclusive of Alaska and Hawaii): U. S. Geol. Survey, Mineral Inv. Res. Map MR-23, scale 1:3,168,000 (50 miles to the inch), with 8 pages of text. Map includes deposits in McCurtain, Coal, and Johnston Counties.

Danilchik, Walter, *see* Hyden, H. J., and Danilchik, Walter.

Dapples, E. C., *see* Sloss, L. L., Dapples, E. C., and Krumbein, W. C.

Davis, G. L., *see* Tilton, G. R., Wetherill, G. W., and Davis, G. L.

Desjardins, Louis, 1961 [1962], Contributions of photogeology in the Arkoma basin, *in* Tulsa Geological Society, Symposium on the Arkoma basin: Tulsa Geol. Soc., Digest, vol. 29, p. 88-94, 4 figs.

Durham, C. A., Jr., 1962, Petroleum geology of Southeast Lincoln oil field, Kingfisher County, Oklahoma: Okla. City Geol. Soc., Shale Shaker, vol. 13, no. 2 (Oct.), p. 2-10 incl. ads, 7 figs.

Ellinwood, H. L., *see* Bell, W. C., and Ellinwood, H. L.

Faust, L. Y., 1962, Case history of geological-geophysical cooperation: Amer. Assoc. Petroleum Geologists, Bull., vol. 46, p. 1058-1062, 5 figs. Example used is the Cement field, Caddo County.

Fay, R. O., 1962, Stratigraphy and general geology of Blaine County, *in* Okla. Geological Survey, Geology and mineral resources of Blaine County, Oklahoma: Okla. Geol. Survey, Bull. 89, p. 9-10, 12-99, 194-247, 34 figs., 4 pls., 3 tables. Surface study of Permian and Pleistocene strata.

Fay, R. O., and Reimann, I. G., 1962a, Some brachiolar and ambulacral structures of blastoids: Okla. Geol. Survey, Okla. Geology Notes, vol. 22, p. 30-49, 4 figs., 4 pls. Includes *Pentremites rusticus* from the Brentwood Limestone (Pennsylvanian) in Muskogee County.

_____ 1962b, The paradeltoid plates of *Polydeltoideus*: Okla. Geol. Survey, Okla. Geology Notes, vol. 22, p. 50-52, 1 pl. *P. enodatus;* blastoid from the Henryhouse Shale (Silurian) in Pontotoc County.

Finch, W. I., Parrish, I. S., and Walker, G. W., 1959, Epigenetic uranium deposits in the United States: U. S. Geol. Survey, Misc. Geol. Inv. Map I-299, 3 maps, scale 1:5,000,000.

Finch, W. I., *see* Butler, A. P., Jr., Finch, W. I., and Twenhofel, W. S.

Fischer, R. P., 1962, Vanadium in the United States (exclusive of Alaska and Hawaii): U. S. Geol. Survey, Mineral Inv. Res. Map MR-16, scale 1:3,168,000 (50 miles to the inch), with 8 pages of text. Includes deposit at Page, Le Flore County.

Fisher, C. F., and others, 1962, Soil survey of Kingfisher County, Oklahoma: U. S. Dept. Agriculture, Soil Conserv. Service, ser. 1959, no. 12, 63 p., 23 figs., 8 tables, 77 aerial photos.

Flawn, P. T., 1961 [1962]a, Foreland basin and shelf rocks north and west of the Ouachita structural belt, *in* Flawn, P. T., and others, The Ouachita system: Texas, Univ., Pub. 6120, p. 129-146. Includes McAlester (Arkoma) basin, Muenster arch, and the Ozark and Arbuckle uplifts in Oklahoma.

_____ 1961 [1962]b, Igneous rocks and vein rocks in the Ouachita belt, *in* Flawn, P. T., and others, The Ouachita system: Texas, Univ., Pub. 6120, p. 107-119, 2 tables.

_____ 1961 [1962]c, Introduction, *in* Flawn, P. T., and others, The Ouachita system: Texas, Univ., Pub. 6120, p. 5-20, 1 table.

_____ 1961 [1962]d, Metamorphism in the Ouachita belt, *in* Flawn, P. T., and others, The Ouachita system: Texas, Univ., Pub. 6120, p. 121-124.

_____ 1961 [1962]e, Tectonics, *in* Flawn, P. T., and others, The Ouachita system: Texas, Univ., Pub. 6120, p. 163-173, 1 fig.

_____ 1961 [1962]f, The subsurface Ouachita structural belt in Texas and southeast Oklahoma, *in* Flawn, P. T., and others, The Ouachita system: Texas, Univ., Pub. 6120, p. 65-81, 1 table. Stratigraphy.

Flawn, P. T., and others, 1961 [1962], The Ouachita system: Texas Univ., Pub. 6120, 401 p., 13 figs., 15 pls., 7 tables. Interpretation of stratigraphy, tectonics, and history of the geosyncline and deformed belt from Mexico to Mississippi. Of the 15 articles, 10 of them, written by Flawn, August Goldstein, Jr., P. B. King, and C. E. Weaver, pertain to Oklahoma.

Flawn, P. T., *see* Goldstein, August, Jr., and Flawn, P. T.

Fleischer, Michael, 1962, Fluoride content of ground water in the conterminous United States (maximum reported value for each county): U. S. Geol. Survey, Misc. Geol. Inv. Map I-387, scale 1:5,000,000.

Flower, R. H., 1961 [1962], The phragmocone of *Ecdyceras*: N. Mex. Bur. Mines and Mineral Res., Mem. 9, 29 p., 5 figs., 4 pls. Includes description and holotype of *E. expansum,* new species of cephalopod from Viola Limestone (Ordovician), Johnston County.

Fox, Jeannette, and Sheldon, M. G., 1957, Index map of central Mid-

continent region giving lines of sections that show detailed lithology of Paleozoic and Mesozoic rocks: U. S. Geol. Survey, Oil and Gas Inv. Map OM-184, scale 1:250,000. Bibliography includes cross section in northeast Oklahoma, and several in Panhandle and Ellis County.

Frederickson, E. A., 1962a, Extent of the Dolman Member of the Hoxbar Formation: Okla. Geol. Survey, Okla. Geology Notes, vol. 22, p. 295-297, 2 figs. Pennsylvanian limestone in Carter County.

———— 1962b, *Helminthochiton* from the Pennsylvanian of Oklahoma: Okla. Geol. Survey, Okla. Geology Notes, vol. 22, p. 298-302, 3 figs. *H. riddlei;* new species of chiton from the Francis Formation, Pontotoc County.

———— 1962c, Report of *Syringopora multattenuata* in Oklahoma: Okla. Geol. Survey, Okla. Geology Notes, vol. 22, p. 6-7, 1 pl. Corals found in the Confederate Limestone (Pennsylvanian), Carter County.

Frezon, S. E., 1962, Correlation of Paleozoic rocks from Coal County, Oklahoma, to Sebastian County, Arkansas: Okla. Geol. Survey, Circ. 58, 53 p., 1 fig., 2 pls., 1 table. Sample logs of 17 wells in the Arkoma basin of Oklahoma and Arkansas. Stratigraphy of rocks that range from Ordovician through Pennsylvanian in age.

Furnish, W. M., Glenister, B. F., and Hansman, R. H., 1962, Brachycycloceratidae, *novum,* deciduous Pennsylvanian nautiloids: Jour. Paleontology, vol. 36, p. 1341-1356, 3 figs., 2 pls. Cephalopods from Texas locality compared with some Oklahoma fossils.

Galloway, H. M., 1959, Soil survey of Pawnee County, Oklahoma: U. S. Dept. Agriculture, Soil Conserv. Service, ser. 1952, no. 4, 71 p., 14 figs., 17 tables, 59 aerial photos.

Gibbons, K. E., 1962, Pennsylvanian of the north flank of the Anadarko basin: Okla. City Geol. Soc., Shale Shaker, vol. 12, no. 5 (Jan.), p. 2-19 incl. ads, 2 figs., 9 pls., 2 panels (4 maps on each). Subsurface stratigraphy of Mississippian and Pennsylvanian strata.

Glenister, B. F., *see* Furnish, W. M., Glenister, B. F., and Hansman, R. H.

Goldstein, August, Jr., 1961 [1962], The Ouachita Mountains of Oklahoma and Arkansas, *in* Flawn, P. T., and others, The Ouachita system: Texas, Univ., Pub. 6120, p. 21-48, 1 fig., 1 table. Stratigraphy and structure.

Goldstein, August, Jr., and Flawn, P. T., 1961 [1962], Economic possibilities, *in* Flawn, P. T., and others, The Ouachita system: Texas, Univ., Pub. 6120, p. 191-195.

Goldstein, August, Jr., and Hendricks, T. A., 1962, Late Mississippian and Pennsylvanian sediments of Ouachita facies, Oklahoma, Texas, and Arkansas, *in* Branson, C. C. [ed.], Pennsylvanian System in the United States, a symposium: Tulsa, Amer. Assoc. Petroleum Geologists, p. 385-430, 15 figs., 3 tables.

Gordon, Mackenzie, Jr., 1962, Species of *Goniatites* in the Caney Shale of Oklahoma: Jour. Paleontology, vol. 36, p. 355-357, 1 fig. *G. multiliratus;* new species of Mississippian cephalopod from Murray County.

Griffin, J. B., *see* Crane, H. R., and Griffin, J. B.

Gutentag, E. D., and Benson, R. H., 1962, Neogene (Plio-Pleistocene) fresh-water ostracodes from the central High Plains, *in* 1962 reports of studies: Kans. State Geol. Survey, Bull. 157, pt. 4, 60 p., 15 figs., 2 pls., 1 table. Includes one Pleistocene collecting locality in each of Beaver and Harper Counties, Oklahoma.

Haley, J. D., *see* Halloran, A. F., and Haley, J. D.

Halloran, A. F., and Haley, J. D., 1962, A bibliography of the Wichita Mountains of Oklahoma: Great Plains Jour., vol. 1, no. 2 (spring), p. 1-26. Includes listing of geologic publications on Wichita Mountains.

Ham, W. E., 1962, Economic geology and petrology of gypsum and anhydrite in Blaine County, *in* Oklahoma Geological Survey, Geology and mineral resources of Blaine County, Oklahoma: Okla. Geol. Survey, Bull. 89, p. 10-11, 100-151, 18 figs., 4 pls., 6 tables. Gypsum and anhydrite beds of the Blaine Formation.

Ham, W. E., *see* McDougal, R. B., and Ham, W. E.

Hansman, R. H., *see* Furnish, W. M., Glenister, B. F., and Hansman, R. H.

Harris, R. W., 1962, New conodonts from Joins (Ordovician) Formation of Oklahoma: Okla. Geol. Survey, Okla. Geology Notes, vol. 22, p. 199-211, 2 figs., 1 pl. Four new genera and seven new species from Carter County.

Hedlund, R. W., *see* Wilson, L. R., and Hedlund, R. W.

Hellman, J. D., 1962, Subsurface study of the Joiner City Field, Carter County, Oklahoma: Okla. City Geol. Soc., Shale Shaker, vol. 13, no. 4 (Dec.), p. 2-19 incl. ads, 10 figs., 2 pls., 2 tables.

Hendricks, T. A., *see* Goldstein, August, Jr., and Hendricks, T. A.

Heyl, A. V., Jr., and Bozion, C. N., 1962, Oxidized zinc deposits of the United States. Part 1. General geology: U. S. Geol. Survey, Bull. 1135-A, p. A-1-52, 10 figs., 1 pl., 3 tables. Includes Davis district, Murray County, and Tri-State area.

Heyl, A. V., Jr., *see* McKnight, E. T., Newman, W. L., and Heyl, A. V., Jr.

Hyden, H. J., and Danilchik, Walter, 1962, Uranium in some rocks of Pennsylvanian age in Oklahoma, Kansas, and Missouri: U. S. Geol. Survey, Bull. 1147-B, p. B-1-82, 8 figs., 5 pls., 12 tables. Analyses of samples from Des Moines rocks in northeastern Oklahoma.

Jaster, M. C., *see* Rogers, C. L., and Jaster, M. C.

Jizba, K. M. M., 1962, Late Paleozoic bisaccate pollen from the United States Midcontinent area: Jour. Paleontology, vol. 36, p. 871-887, 4 pls. The following pollen reported from Wolfcampian (Permian) strata in Noble County: *Complexisporites polymorphus,* new genus, new species; *Alisporites plicatus,* new species; *Platysaccus saarensis* and *Striatites richteri,* new combinations.

Johnson, K. S., 1962, Bibliography and index of Oklahoma geology 1961: Okla. Geol. Survey, Okla. Geology Notes, vol. 22, p. 57-78.

Jordan, Louise, 1962a, First production in Roger Mills County, Okla-

homa: Okla. Geol. Survey, Okla. Geology Notes, vol. 22, p. 82-84, 1 fig. Discovery well in West Reydon field.

_____ 1962b, Geologic map and section of pre-Pennsylvanian rocks in Oklahoma, showing surface and subsurface distribution: Okla. Geol. Survey, Map GM-5, scale 1:750,000.

_____ 1962c, LPG storage in Cimarron salt, Beaver County, Oklahoma: Okla. Geol. Survey, Okla. Geology Notes, vol. 22, p. 23-26, 1 fig. Includes lithologic and mechanical logs of Cimarron evaporites (Permian).

_____ 1962d, Oklahoma's deepest production: Okla. Geol. Survey, Okla. Geology Notes, vol. 22, p. 113-115, 1 fig., 1 table. Gas-condensate well in the Chitwood field, Grady County, and list of recent deep tests in Anadarko basin.

_____ 1962e, Oklahoma's Kingfisher and Blaine Counties keep drillers interested: Oil and Gas Jour., vol. 60, no. 25 (June 18), p. 154-158, 4 figs., 2 tables.

_____ 1962f, Statistics of Oklahoma's petroleum industry, 1961: Okla. Geol. Survey, Okla. Geology Notes, vol. 22, p. 124-130, 1 fig., 5 tables.

_____ 1962g, Underground storage of natural gas in Oklahoma: Okla. Geol. Survey, Okla. Geology Notes, vol. 22, p. 175-182, 4 figs., 1 table. *Reprinted with revisions from* Underground storage of natural gas in the United States: Oklahoma City, Interstate Oil Compact Commission, p. 163-169, 1962. Geologic conditions, storage facilities, and statistics.

Jordan, Louise, *see* Bado, J. T., and Jordan, Louise.

Kammerer, J. C., *see* MacKichan, K. A., and Kammerer, J. C.

King, J. E., *see* Norden, J. A. E., and King, J. E.

_____ *see* Norden, J. A. E., King, J. E., and McDaniel, G. O., Jr.

King, P. B., 1961 [1962], History of the Ouachita system, *in* Flawn, P. T., and others, The Ouachita system: Texas, Univ., Pub. 6120, p. 175-190. Tectonics.

King, R. R., and others, 1961 [1962], Bibliography of North American geology, 1959: U. S. Geol. Survey, Bull. 1145, 605 pages. Bibliography and index.

Krivanek, C. M., 1962, Aerial geology of Lane NE quadrangle, Pushmataha and Atoka Counties, Oklahoma: Okla. City Geol. Soc., Shale Shaker, vol. 12, no. 7 (Mar.), p. 2-21 incl. ads, 3 figs., 1 pl. Mississippian-Pennsylvanian stratigraphy and surface structure in the Ouachita Mountains.

Krumbein, W. C., *see* Sloss, L. L., Dapples, E. C., and Krumbein, W. C.

Landis, E. R., 1962, Uranium and other trace elements in Devonian and Mississippian black shales in the central Midcontinent area: U. S. Geol. Survey, Bull. 1107-E, p. 289-336, 10 figs., 3 pls., 10 tables. In Oklahoma, 24 samples from the Woodford, Chattanooga, and Arkansas Novaculite Formations were examined.

Laporte, L. F., 1962, Paleoecology of the Cottonwood Limestone (Permian), northern Mid-Continent: Geol. Soc. America, Bull., vol. 73, p. 521-544, 5 figs., 4 pls., 4 tables. Regional study from Nebraska to north-central Oklahoma.

Leach, G. W., *see* Burditt, M. R., and Leach, G. W.

Leonard, A. R., and Ward, P. E., 1962, Use of Na/Cl ratios to distinguish oil-field from salt-spring brines in western Oklahoma, *in* Geological Survey research 1962: U. S. Geol. Survey, Prof. Paper 450-B, p. B-126-127, 1 fig.

Levinson, S. A., 1962, Bibliography and index to new genera and species of Ostrocoda for 1958-1959: Micropaleontology, vol. 8, p. 77-105, 3 figs. Includes several fossils from Oklahoma.

Levorsen, A. I., 1960, Paleogeologic maps: San Francisco, W. H. Freeman and Co., 174 p., 106 figs. Includes numerous examples from Oklahoma.

Lyons, P. L., 1961 [1962], Geophysical background of Arkoma basin tectonics, *in* Tulsa Geological Society, Symposium on the Arkoma basin: Tulsa Geol. Soc., Digest, vol. 29, p. 94-104, 5 figs. Gravity and magnetic study of Arkoma basin and Ouachita Mountains.

Mackey, F. L., 1962, Developments in Oklahoma in 1961: Amer. Assoc. Petroleum Geologists, Bull., vol. 46, p. 852-870, 5 figs., 21 tables. Statistics on oil and gas exploration.

MacKichan, K. A., and Kammerer, J. C., 1961 [1962], Estimated use of water in the United States, 1960: U. S. Geol. Survey, Circ. 456, 44 p., 10 figs., 18 tables. Includes statistics on ground and surface water used in Oklahoma.

Mairs, Tom, 1962, A subsurface study of the Fernvale and Viola Formations in the Oklahoma portion of the Arkoma basin: Okla. City Geol. Soc., Shale Shaker, vol. 13, no. 1 (Sept.), p. 2-17 incl. ads, 5 figs., 4 pls., 1 table. Study of Ordovician beds.

Mamay, S. H., and Yochelson, E. L., 1962, Occurrence and significance of marine animal remains in American coal balls: U. S. Geol. Survey, Prof. Paper 354-I, p. 193-224, 4 figs., 9 pls., 3 tables. Many animal and some plant fossils found in coal balls from the Secor coal (Pennsylvanian), Pittsburg County.

Mankin, C. J., 1962, Thenardite efflorescence in Permian gypsum, western Oklahoma: Okla. Geol. Survey, Okla. Geology Notes, vol. 22, p. 230-234, 4 figs.

Mankin, C. J. *see* Norden, J. A. E., and Mankin, C. J.

Marine, I. W., and Schoff, S. L., 1962, Ground-water resources of Beaver County, Oklahoma: Okla. Geol. Survey, Bull. 97, 74 p., 12 figs., 2 pls., 11 tables. Geology of, and ground water in, Permian, Triassic, Tertiary, and Quaternary strata.

McBee, William, Jr., *see* Tomlinson, C. W., and McBee, William, Jr.

McCaleb, J. A., *see* Quinn, J. H., McCaleb, J. A., and Webb, J. H

McDaniel, G. O., Jr., *see* Norden, J. A. E., King, J. E., and McDaniel, G. O., Jr.

McDougal, R. B., 1962a, The mineral industry of Oklahoma in 1961 (preliminary): Okla. Geol. Survey, Okla. Geology Notes, vol. 22, p. 79-82, 1 table. Production figures on metals, nonmetals, and mineral fuels.

_____ 1962b, The mineral industry of Oklahoma in 1961 (advance summary of final figures): Okla. Geol. Survey, Okla. Geology Notes, vol. 22, p. 256-259, 1 table. Production figures on metals, nonmetals, and mineral fuels.

McDougal, R. B., and Ham, W. E., 1962, The mineral industry of Oklahoma: U. S. Bur. Mines, Minerals Yearbook 1961, vol. 3, Area Repts., p. 821-852, 4 figs., 23 tables. Production figures on metals, nonmetals, and mineral fuels.

McDuffie, R. H., 1962, Mississippian rocks in the subsurface of Garfield and western Noble Counties, Oklahoma: Okla. City Geol. Soc., Shale Shaker, vol. 12, no. 9 (May), p. 4-20, 4 figs., 3 pls., 1 panel (4 pls.).

McKnight, E. T., Newman, W. L., and Heyl, A. V., Jr., 1962a, Lead in the United States (exclusive of Alaska and Hawaii): U. S. Geol. Survey, Mineral Inv. Res. Map MR-15, scale 1:3,168,000 (50 miles to the inch), with 22 pages of text. Location of deposits containing more than 1,000 short tons; includes Picher and Peoria fields in Ottawa County.

———— 1962b, Zinc in the United States (exclusive of Alaska and Hawaii): U. S. Geol. Survey, Mineral Inv. Res. Map MR-19, scale 1:3,168,000 (50 miles to the inch), with 18 pages of text. Location of districts containing more than 1,000 short tons; includes Picher and Peoria fields in Ottawa County and Davis area in Murray County.

Meyers, J. S., 1962, Evaporation from the 17 western states: U. S. Geol. Survey, Prof. Paper 272-D, p. 71-100, 5 figs., 1 pl., 9 tables. Tables and graphs presenting total water-surface area and annual evaporation rates in Oklahoma.

Myers, A. J., 1962a, A fossil sinkhole: Okla. Geol. Survey, Okla. Geology Notes, vol. 22, p. 13-15, 3 figs. Sinkholes preserved in Doxey Formation (Permian), Roger Mills County.

———— 1962b, A middle Pleistocene stream channel: Okla. Geol. Survey, Okla. Geology Notes, vol. 22, p. 224-229, 8 figs. Northwestern Oklahoma.

Newman, W. L., *see* McKnight, E. T., Newman, W. L., and Heyl, A. V., Jr.

Norden, J. A. E., and King, J. E., 1962, Geophysical detection of faulting, South Sparks area, Lincoln County, Oklahoma: Okla. Geol. Survey, Okla. Geology Notes, vol. 22, p. 219-223, 1 fig.

Norden, J. A. E., and Mankin, C. J., 1962, Variation of magnetic susceptibility in the Blaine Formation (Permian), northern Blaine County, Oklahoma: Okla. Geol. Survey, Okla. Geology Notes, vol. 22, p. 275-279, 2 figs., 1 table.

Norden, J. A. E., King, J. E., and McDaniel, G. O., Jr., 1962, Geophysical delineation of fault zones, South Norman area, Cleveland County, Oklahoma: Okla. Geol. Survey, Okla. Geology Notes, vol. 22, p. 260-266, 3 figs.

North Texas Geological Society, 1962, North-south cross section, Knox County, Texas, to Harmon County, Oklahoma: North Texas Geol. Soc., 1 sheet. Electric-log correlation of Precambrian through Permian rocks in the eastern Palo Duro basin.

Oklahoma Geological Survey, 1962a, Geology and mineral resources of Blaine County, Oklahoma; Part I, Stratigraphy and general geology of Blaine County, by R. O. Fay; Part II, Economic geology and petrology of gypsum and anhydrite in Blaine County, by W. E. Ham; Part III, Petroleum geology of Blaine County, by J. T. Bado and Louise Jordan: Okla. Geol. Survey, Bull. 89, 258 p., 61 figs., 9 pls., 14 tables.

———— 1962b, Permian vertebrates from Oklahoma and Texas; Part I, Vertebrates from the Flowerpot Formation, Permian of Oklahoma, by E. C. Olson and Herbert Barghusen; Part II, The osteology of *Captorhinikos chozaensis* Olson, by E. C. Olson: Okla. Geol. Survey, Circ. 59, 68 p., 15 figs., 3 pls., 7 tables. Fossils from the Flowerpot Formation, Kingfisher County, and the Hennessey Formation, Cleveland County.

———— 1962c, Résumé of new nomenclature published in Oklahoma Geology Notes, September 1960 through January 1962: Okla. Geol. Survey, Okla. Geology Notes, vol. 22, p. 8-9, 1 table. List of new taxa.

Olson, E. C., 1961a, The food chain and the origin of mammals, *in* International colloquium on the evolution of lower and nonspecialized mammals: Belgie, Koninklijke Vlaamse Academie voor Wetenschappen, Letteren en Schone Kunsten, Brussels, 1961, pt. 1, p. 97-116, 6 figs., 1 table. Some phases of the evolution of mammals from primitive reptiles are related to changing food habits. Several examples cited are from the Permian of Oklahoma.

———— 1962b, Late Permian terrestrial vertebrates, U. S. A. and U. S. S. R.: Amer. Philos. Soc., Trans., vol. 52, pt. 2, 224 p., 69 figs., 21 pls., 51 tables. Includes fauna from western Oklahoma.

———— 1962c, The osteology of *Captorhinikos chozaensis* Olson, *in* Oklahoma Geological Survey, Permian vertebrates from Oklahoma and Texas: Okla. Geol. Survey, Circ. 59, p. 49-67, 6 figs., 3 tables. Specimens found in Hennessey Formation, Cleveland County.

Olson, E. C., and Barghusen, Herbert, 1962, Vertebrates from the Flowerpot Formation, Permian of Oklahoma, *in* Oklahoma Geological Survey, Permian vertebrates from Oklahoma and Texas: Okla. Geol. Survey, Circ. 59, p. 4-48, 9 figs., 3 pls., 4 tables. Oklahoma's youngest Permian vertebrate fauna, from Kingfisher County, comprises four genera and four species. One genus and three species are new.

Olson, J. C., and Adams, J. W., 1962, Thorium and rare earths in the United States (exclusive of Alaska and Hawaii): U. S. Geol. Survey, Mineral Inv. Res. Map MR-28, scale 1:3,168,000 (50 miles to the inch), with 16 pages of text. Includes zoned zircon crystals and thorium from Comanche County.

Parrish, I. S., *see* Finch, W. I., Parrish, I. S., and Walker, G. W.

Pavlides, Louis, *see* Crittenden, M. D., and Pavlides, Louis.

Pierce, W. G., and Rich, E. I., 1962, Summary of rock-salt deposits in the United States as possible storage sites for radioactive waste materials: U. S. Geol. Survey, Bull. 1148, 91 p., 28 figs., 6 pls., 3 tables. Includes Permian salt strata of western Oklahoma.

Pitt, W. D., and Boone, R. L., 1962a, Maroon shale in lower part of Atoka Formation: Okla. Geol. Survey, Okla. Geology Notes, vol. 22, p. 10-11, 1 fig. Distinctive maroon-colored shale in Pennsylvanian beds of the Ouachita Mountains, Atoka County.

_____ 1962b, Siliceous shale in lower part of Tenmile Creek Formation, Atoka County, Oklahoma: Okla. Geol. Survey, Okla. Geology Notes, vol. 22, p. 246-248, 1 fig., 1 table. Mississippian siliceous shale in Ouachita Mountains.

Quinn, J. H., 1962a, Age of Union Valley cephalopod fauna: Okla. Geol. Survey, Okla. Geology Notes, vol. 22, p. 116-120, 2 figs. Goniatites from Morrowan (Pennsylvanian) rocks in Arkansas are compared with Union Valley faunule in Pontotoc County.

_____ 1962b, Note on age of Union Valley cephalopod fauna: Okla. Geol. Survey, Okla. Geology Notes, vol. 22, p. 304. Correction of Quinn, J. H., 1962a.

Quinn, J. H., McCaleb, J. A., and Webb, J. H., 1962, A Pennsylvanian *Eumorphoceras* from Arkansas: Jour. Paleontology, vol. 36, p. 112-114, 1 pl. One specimen of *E. relictum,* new species of cephalopod from the Hale Formation, found in Muskogee County.

Rascoe, Bailey, Jr., 1962, Regional stratigraphic analysis of Pennsylvanian and Permian rocks in western Mid-Continent, Colorado, Kansas, Oklahoma, Texas: Amer. Assoc. Petroleum Geologists, Bull., vol. 46, p. 1345-1370, 21 figs.

Reimann, I. G., *see* Fay, R. O., and Reimann, I. G.

Rich, E. I., *see* Pierce, W. G., and Rich, E. I.

Riggs, H. C., 1962, Annotated bibliography on hydrology and sedimentation, United States and Canada, 1955-58: U. S. Geol. Survey, Water-supply Paper 1546, 236 p. Includes articles on hydrology in Oklahoma.

Robb, G. L., *see* Thralls, H. M., Robb, G. L., and Schisler, A. J.

Rogers, C. L., and Jaster, M. C., 1962, Titanium in the United States (exclusive of Alaska and Hawaii): U. S. Geol. Survey, Mineral Inv. Res. Map MR-29, scale 1:3,168,000 (50 miles to the inch), with 18 pages of text. Includes three deposits in Wichita Mountain area, Kiowa and Comanche Counties.

Ross, A. R., 1962, The Washita River, a preliminary report: Okla. Acad. Science, Proc. 1961, vol. 42, p. 159-163, 1 table. Geologic conditions and geomorphology in Washita River watershed.

Rowland, T. L., 1962, Mississippian rocks in the subsurface of the Kingfisher-Guthrie area, Oklahoma: Okla. City Geol. Soc., Shale Shaker, vol. 12, no. 10 (June), p. 8-25, 3 figs., 3 pls., 1 panel (3 pls.). Kingfisher and Logan Counties.

Schisler, A. J., *see* Thralls, H. M., Robb, G. L., and Schisler, A. J.

Schmidt, R. A., 1962, Temperatures of mineral formation in the Miami-Picher district as indicated by liquid inclusions: Econ. Geology, vol. 57, p. 1-20, 9 figs., 8 tables. Liquid-inclusion geothermometry of minerals in Mississippian strata, Ottawa County.

Schnabel, R. W., 1955, The uranium deposits of the United States: U. S. Geol. Survey, Mineral Inv. Res. Appraisals Map MR-2, scale 1:5,000,000. Includes uranium in black shale in the Woodford Chert (Devonian-Mississippian).

Schoff, S. L., *see* Marine, I. W., and Schoff, S. L.

Scott, R. C., and Barker, F. B., 1962, Data on uranium and radium in ground water in the United States, 1954 to 1957: U. S. Geol. Survey, Prof. Paper 426, 115 p., 7 figs., 2 pls., 2 tables. Includes analyses of 13 samples from Oklahoma.

Shannon, J. P., Jr., 1962a, Hunton Group (Silurian-Devonian) and related strata in Oklahoma: Amer. Assoc. Petroleum Geologists, Bull., vol. 46, p. 1-29, 17 figs. Surface and subsurface study throughout Oklahoma.

_____ 1962b, Hunton Group (Silurian and Devonian) and related strata in Oklahoma, Reply: Amer. Assoc. Petroleum Geologists, Bull., vol. 46, p. 1530-1532. Reply to Boucot, A. J., 1962.

Sheldon, M. G., *see* Fox, Jeannette, and Sheldon, M. G.

Slate, H. L., 1962, Petroleum geology of the Taloga-Custer City area, Dewey and Custer Counties, Oklahoma: Okla. City Geol. Soc., Shale Shaker, vol. 13, no. 3 (Nov.), p. 2-19 incl. ads, 9 figs., 4 pls.

Sloss, L. L., Dapples, E. C., and Krumbein, W. C., 1960, Lithofacies maps, an atlas of the United States and southern Canada: New York, John Wiley and Sons, Inc., 108 p., 5 figs., 153 maps, 1 table.

Sohn, I. G., 1961 [1962]a, *Aechminella, Amphissites, Kirkbyella,* and related genera: U. S. Geol. Survey, Prof. Paper 330-B, p. 107-160, 16 figs., 6 pls. Revision of some Paleozoic ostracode genera, including some from Oklahoma.

_____ 1962b, Stratigraphic significance of the Paleozoic ostracode genus *Coryellina* Bradfield, 1935: Jour. Paleontology, vol. 36, p. 1201-1213, 3 figs., 1 pl., 2 tables. Includes following Pennsylvanian species: *C. capax,* holotype from Deese Formation, Love County; and *C. intermedia,* new species, holotype and paratypes from Hoxbar Formation, Love and Carter Counties.

Soister, P. E., and Conklin, D. R., 1959, Bibliography of U. S. Geological Survey reports on uranium and thorium, 1942 through May 1958: U. S. Geol. Survey, Bull. 1107-A, p. 1-167. Includes reports covering Oklahoma.

Sowers, D. L., and others, 1962, Oklahoma, *in* International oil and gas development; year book 1962 (review of 1961): Internat. Oil Scouts Assoc. and Soc. Petroleum Engineers AIME, vol. 32, pt. 2, p. 200-245. Statistics.

Stipp, J. J., and others, 1962, University of Texas radiocarbon dates I: Radiocarbon, vol. 4, p. 43-50. Wood from Spiro site, Le Flore County, is 1144±165 years old.

Strimple, H. L., 1962a, Associated *Cryphiocrinus* and *Agassizocrinus*: Okla. Geol. Survey, Okla. Geology Notes, vol. 22, p. 183-188, 13 figs. *C. bowsheri* and *A. globosus;* crinoids from the Hindsville Formation (Mississippian), Craig County.

_____ 1962b, Crinoids from the Oologah Formation (Pennsylvanian), Tulsa County, Oklahoma: Okla. Geol. Survey, Circ. 60, 75 p., 9 pls. Fauna comprises 16 families, 33 genera, and 45 species, including one new genus and 16 new species.

_____ 1962c, Crinoids of the Brownville Formation: Okla. Geol. Survey, Okla. Geology Notes, vol. 22, p. 109-110. *Delocrinus ponderosus* and *D. brownvillensis* from the Pennsylvanian, Osage County.

_____ 1962d, *Endelocrinus bransoni,* a new species from the Lena-

pah Limestone: Okla. Geol. Survey, Okla. Geology Notes, vol. 22, p. 28-29, 3 figs. Pennsylvanian crinoid from Nowata County.

———— 1962e, *Graphiocrinus stantonensis* in Oklahoma: Okla. Geol. Survey, Okla. Geology Notes, vol. 22, p. 137-140, 3 figs. Crinoids found in the Wann Formation (Pennsylvanian) in Washington County.

———— 1962f, Microcrinoids of the St. Joe Group: Okla. Geol. Survey, Okla. Geology Notes, vol. 22, p. 245-246. Mississippian microcrinoids from Cherokee County.

———— 1962g, Platycrinitid columnals from the Pumpkin Creek Limestone: Okla. Geol. Survey, Okla. Geology Notes, vol. 22, p. 3-5, 7 figs. New sections of *Columnal quadrangulatus* and *C. ellipticus;* crinoids from the Pennsylvanian, Love County.

———— 1962h, Suppression of *Ethelocrinus texasensis*: Okla. Geol. Survey, Okla. Geology Notes, vol. 22, p. 270-272. Pennsylvanian crinoid *E. texasensis* is synonymous with *Metacromyocrinus oklahomensis.*

———— 1962i, *Tarachiocrinus* and *Tholiacrinus*: Okla. Geol. Survey, Okla. Geology Notes, vol. 22, p. 135-136. New generic names to replace crinoid homonyms *Ataxiacrinus* and *Corythocrinus,* respectively.

———— 1962j, *Zeacrinites* in Oklahoma: Okla. Geol. Survey, Okla. Geology Notes, vol. 22, p. 307-316, 7 figs., 1 pl. Holotypes of *Z. peculiaris* illustrated; crinoids from Fayetteville Formation (Mississippian), Craig County.

Swanson, V. E., 1961, Geology and geochemistry of uranium in marine black shales, a review: U. S. Geol. Survey, Prof. Paper 356-C, p. 67-112, 5 figs., 3 tables. Includes reference to several black shales in Oklahoma.

Tait, D. B., and others, 1962, Artesia Group of New Mexico and west Texas: Amer. Assoc. Petroleum Geologists, Bull., vol. 46, p. 504-517, 4 figs. The Artesia Group is correlated with the Whitehorse Group (Permian) of western Oklahoma.

Tasch, Paul, 1962, Taxonomic and evolutionary significance of two new conchostracan genera from the Midcontinent Wellington Formation: Jour. Paleontology, vol. 36, p. 817-821, 1 pl. *Limnadiopsileaia noblensis;* new Permian genus and species from Noble County, and its relationship to *Paleolimnadiopsis carpenteri.*

Tasch, Paul, and Zimmerman, J. R., 1962, The *Asthenohymen-Delopterum* bed—a new Leonardian insect horizon in the Wellington of Kansas and Oklahoma: Jour. Paleontology, vol. 36, p. 1319-1333, 22 figs., 1 table. Thirteen insect orders, including one new genus and seven new species, from Permian strata in Noble and Kay Counties.

Taylor, Constance, *see* Branson, B. A., Taylor, John, and Taylor, Constance.

Taylor, John, *see* Branson, B. A., Taylor, John, and Taylor, Constance.

Thornton, W. D., 1962, Mississippian rocks in the subsurface of Alfalfa and parts of Woods and Grant Counties, northwestern Oklahoma: Okla. City Geol. Soc., Shale Shaker, vol. 12, no. 8 (Apr.), p. 2-13, 3 figs., 3 pls., 1 panel (4 pls.).

Thralls, H. M., Robb, G. L., and Schisler, A. J., 1962, Geology, geophysics work well together in Arkoma basin: Oil and Gas Jour., vol. 60, no. 44 (Oct. 29), p. 204-208, 6 figs.

Tilton, G. R., Wetherill, G. W., and Davis, G. L., 1962, Mineral ages from the Wichita and Arbuckle Mountains, Oklahoma, and the St. Francis Mountains, Missouri: Jour. Geophys. Research, vol. 67, p. 4011-4019, 2 figs., 3 tables. Isotopic age determinations of intrusive igneous rocks in Wichita and Arbuckle Mountains.

Tomlinson, C. W., and McBee, William, Jr., 1962, Pennsylvanian sediments and orogenies of Ardmore district, Oklahoma, *in* Branson, C. C. [ed.], Pennsylvanian System in the United States, a symposium: Tulsa, Amer. Assoc. Petroleum Geologists, p. 461-500, 11 figs. *Reprinted with revisions from* Ardmore Geol. Soc., 1959, Petroleum geology of southern Oklahoma—a symposium, vol. 2: Tulsa, Amer. Assoc. Petroleum Geologists.

Tulsa Geological Society, 1961 [1962]a, Stratigraphy of the Arkoma basin, *in* Tulsa Geological Society, Symposium on the Arkoma basin: Tulsa Geol. Soc., Digest, vol. 29, p. 55-88, 25 pls. (in separate pocket), 3 tables. Stratigraphy of Ordovician through Pennsylvanian strata in Arkoma basin and Ouachita Mountains.

———— 1961 [1962]b, Symposium on the Arkoma basin: Tulsa Geol. Soc., Digest, vol. 29, p. 54-104, 9 figs., 25 pls. (in separate pocket), 3 tables. Articles on stratigraphy, photogeology, and tectonics were contributed by Louis Desjardins, P. L. Lyons, and a committee of society members.

Twenhofel, W. S., *see* Butler., A. P., Jr., Finch, W. I., and Twenhofel, W. S.

United States Geological Survey, 1961 [1962]a, Quality of surface waters for irrigation, western United States, 1958: U. S. Geol. Survey, Water-supply Paper 1575, 177 p., 1 pl. Chemical analyses from several stations in Oklahoma.

———— 1962b, Surface water supply of the United States, 1960. Part 7. Lower Mississippi River basin: U. S. Geol. Survey, Water-supply Paper 1711, 594 p., 2 figs. Statistics.

Unklesbay, A. G., 1962, Pennsylvanian cephalopods of Oklahoma: Okla. Geol. Survey, Bull. 96, 150 p., 16 figs., 19 pls., 2 tables. Oklahoma fauna comprises 15 genera and 28 species of nautiloids and 29 genera and 52 species of ammonoids, including three new nautiloid species and three new ammonoid species.

Vine, J. D., 1962, Geology of uranium in coaly carbonaceous rocks: U. S. Geol. Survey, Prof. Paper 356-D, p. 113-170, 10 figs., 1 pl., 18 tables. Includes one locality in Pennsylvanian beds in Nowata County.

Walker, G. W., *see* Finch, W. I., Parrish, I. S., and Walker, G. W.

Ward, P. E., *see* Leonard, A. R., and Ward, P. E.

Weaver, C. E., 1961 [1962], Clay minerals of the Ouachita structural belt and adjacent foreland, *in* Flawn, P. T., and others, The Ouachita system: Texas, Univ., Pub. 6120, p. 147-162, 7 figs.

Webb, J. H., *see* Quinn, J. H., McCaleb, J. A., and Webb, J. H.

Wetherill, G. W., *see* Tilton, G. R., Wetherill, G. W., and Davis, G. L.

Wilson, L. R., 1962a, A Permian fungus spore type from the Flowerpot

Formation of Oklahoma: Okla. Geol. Survey, Okla. Geology Notes, vol. 22, p. 91-96, 1 pl. *Reduviasporonites catenulatus,* new genus and new species from Greer County.

———— 1961 [1962]b, Geological history of Oklahoma's vegetation [abs.]: Tulsa Geol. Soc., Digest, vol. 29, p. 122-123, 1 table. Chart showing vegetation in Oklahoma by geologic periods.

———— 1961 [1962]c, Palynological fossil response to low-grade metamorphism in the Arkoma basin: Tulsa Geol. Soc., Digest, vol. 29, p. 131-140, 1 fig., 7 tables.

———— 1962d, Permian plant microfossils from the Flowerpot Formation, Greer County, Oklahoma: Okla. Geol. Survey, Circ. 49, 50 p., 2 figs., 3 pls., 1 table. Description of 23 genera and 27 species of spores and pollen, of which 9 genera and 22 species are new.

Wilson, L. R., and Hedlund, R. W., 1962, Acid-resistant microfossils of the Sylvan Shale (Ordovician) of Oklahoma [abs.]: Museum National d'Histoire Naturelle [France], Pollen et Spores, vol. 4, p. 388.

Withington, C. F., 1962, Gypsum and anhydrite in the United States (exclusive of Alaska and Hawaii): U. S. Geol. Survey, Mineral Inv. Res. Map MR-33, scale 1:3,168,000 (50 miles to the inch), with 18 pages of text. Includes deposits in western Oklahoma.

Yochelson, E. L., *see* Mamay, S. H., and Yochelson, E. L.

Young, R. T., 1962, Petroleum geology of East Pauls Valley area, Garvin County, Oklahoma: Okla. City Geol. Soc., Shale Shaker, vol. 12, no. 6 (Feb.), p. 2-12, 3 figs., 4 pls., 1 table.

Zimmerman, J. R., *see* Tasch, Paul, and Zimmerman, J. R.

Index

1963

Vol. 24, no. 3, March 1964

Bibliography and Index of Oklahoma Geology

1963

Prepared by Kenneth S. Johnson

Bibliography—39-52
Index—52-60

Bibliography

Adkison, W. L., and Sheldon, M. G., 1963, Sample descriptions and correlations for wells on a cross section from Barber County, Kansas, to Caddo County, Oklahoma: Okla. Geol. Survey, Guide Book 13, 139 p., 2 figs., 1 table. Description of samples from wells previously shown on a cross section by Adkison (1960): U. S. Geol. Survey, Oil and Gas Inv. Chart OC-61.

Agterberg, F. P., and Briggs, Garrett, 1963, Statistical analysis of ripple marks in Atokan and Desmoinesian rocks in the Arkoma basin of east-central Oklahoma: Jour. Sed. Petrology, vol. 33, p. 393-410, 6 figs., 3 tables.

Amsden, T. W., 1963a, Articulate brachiopods of the Sallisaw Formation (Devonian), *Part II of* Oklahoma Geological Survey, Early Devonian brachiopods of Oklahoma: Okla. Geol. Survey, Bull. 94, p. 8, 141-192, 8 figs., 8 pls., 3 tables. Description of eleven species (one new) from Sequoyah County.

———— 1963b, Silurian stratigraphic relations in the central part of the Arbuckle Mountains, Oklahoma: Geol. Soc. America, Bull., vol. 74, p. 631-636, 2 figs., 2 pls. Study of the Henryhouse and Chimneyhill Formations, Hunton Group, at Prices Falls.

———— 1963c, Supplement to the Haragan (Devonian) brachiopods, *Part III of* Oklahoma Geological Survey, Early Devonian brachiopods of Oklahoma: Okla. Geol. Survey, Bull. 94, p. 8, 193-205, 1 fig., 1 pl., 1 table. Description of four species (one new) from Arbuckle Mountains.

Amsden, T. W., and Ventress, W. P. S., 1963, Articulate brachiopods of the Frisco Formation (Devonian), *Part I of* Oklahoma Geological Survey, Early Devonian brachiopods of Oklahoma: Okla. Geol. Survey, Bull. 94, p. 8-140, 42 figs., 12 pls., 6 tables. Description of 29 genera and 32 species (one new) from Arbuckle Mountains and Sequoyah County.

Andreasen, G. E., and Bromery, R. W., 1963, Total-intensity aeromagnetic profiles over northeastern Oklahoma: U. S. Geol. Survey, open-file report (available at Okla. Geol. Survey), scale 1:250,000.

Atkins, R. L., 1963, Oklahoma, *in* International oil and gas development; year book 1963 (review of 1962): Internat. Oil Scouts Assoc., vol. 33, pt. 1, p. 248-269. Statistics on discovery and exploratory wells.

Barby, B. G., 1962 [1963], Reserve study of Cottage Grove, Northeast Waynoka field, Woods County, Oklahoma, *in* Tulsa Geological Society, Symposium on natural gas in Oklahoma: Tulsa Geol. Soc., Digest, vol. 30, p. 82-88, 4 figs., 1 table.

Barrett, Ed, 1963, The geologic history of Oklahoma—an outline, *in* Cramer, R. D., and others [eds.], Oil and gas fields of Oklahoma—reference report, vol. I: Okla. City Geol. Soc., p. 1-32, 7 pls.

Bergman, D. L., and Sullivan, C. W., 1963, Channel changes on Sandstone Creek near Cheyenne, Oklahoma, *in* Geological Survey research 1963: U. S. Geol. Survey, Prof. Paper 475-C, p. C-145-148, 6 figs. Creek in Roger Mills County has changed from rectangular to V-shaped cross section.

Bowles, J. P. F., Jr., *see* Mackey, F. L., and Bowles, J. P. F., Jr.

Bozion, C. N., *see* Heyl, A. V., and Bozion, C. N.

Brandt, Robert, *see* McGinness, Douglas, and Brandt, Robert.

Branson, C. C., 1963a, Chonetid brachiopods in Oklahoma: Okla. Geol. Survey, Okla. Geology Notes, vol. 23, p. 194-195.

———— 1963b, Ninth volume of Russian paleontological treatise: Okla. Geol. Survey, Okla. Geology Notes, vol. 23, p. 248-252. A list of the new arthropod taxa given in Russian treatise. Some of the new taxa affect Oklahoma taxonomy.

———— 1963c, Notes on conodont literature: Okla. Geol. Survey, Okla. Geology Notes, vol. 23, p. 224-226. Includes references on conodonts in Oklahoma.

———— 1963d, Type species of *Edestus* Leidy: Okla. Geol. Survey, Okla. Geology Notes, vol. 23, p. 275-280, 3 figs. *E. vorax,* fragment of Pennsylvanian shark originally believed to have been found at a Muskogee County locality, now thought to be from Illinois.

Branson, C. C., and Merritt, C. A., 1963, An igneous cobble in an Oklahoma coal bed: Okla. Geol. Survey, Okla. Geology Notes, vol. 23, p. 235-241, 2 figs. Cobble from the Lower Hartshorne coal bed (Pennsylvanian) in Le Flore County.

Briggs, Garrett, *see* Agterberg, F. P., and Briggs, Garrett.

Bromery, R. W., *see* Andreasen, G. E., and Bromery, R. W.

Brooks, R. P., Jr., 1963, Ira Rinehart's reference book, Arkoma basin exploration [vol. 2], Oklahoma: Dallas, Rinehart Oil News Company, 275+ p., illus. Geological, production, and exploration data concerning Arkoma basin developments. Sections on geology and production were not issued initially, but are forthcoming.

Buck, K. L., *see* Cannon, R. S., Jr., Buck, K. L., and Pierce, A. P.

Burgess, D. L., Nichols, J. D., and Henson, O. G., 1963, Soil survey of Roger Mills County, Oklahoma: U. S. Dept. Agriculture, Soil Conserv. Service, ser. 1959, no. 29, 69 p., 18 figs., 14 tables, 102 aerial photos.

Cannon, R. S., Jr., Buck, K. L., and Pierce, A. P., 1963, Sampling a zoned galena crystal for lead isotope study, *in* Geological Survey research 1962: U. S. Geol. Survey, Prof. Paper 450-E, p. E-73-77, 1 fig. Galena used is from Ottawa County.

Cathey, T. A., *see* Huffman, G. G., Cathey, T. A., and Humphrey, J. E.

Chandler, J. B., Kinningham, Russell, and Massey, D. S., 1963, Texas bio-nuclear radiocarbon measurements I: Radiocarbon, vol. 5, p. 56-61. Pleistocene mammoth tusk from Caddo County is 4,952±304 years old.

Clare, P. H., 1963, Petroleum geology of Pawnee County, Oklahoma: Okla. Geol. Survey, Circ. 62, 62 p., 4 figs., 2 pls., 10 tables.

Clark, W. E., 1963, Evapotranspiration and the relation of ground water to surface water in the Pond Creek basin, Oklahoma, *in* Geological Survey research 1962: U. S. Geol. Survey, Prof. Paper 450-E, p. E-142-145, 2 figs. Data from observation well in Caddo County.

Cook, K. L., Hoskinson, A. J., and Shelton, G. R., 1963, Principal facts for a gravity survey made in northeastern Oklahoma and southeastern Kansas during 1948: U. S. Geol. Survey, open-file report (available at Okla. Geol. Survey), 23 p. Data used in preparation of paper by Cook, K. L., 1956, Regional gravity survey of northeastern Oklahoma and southeastern Kansas: Geophysics, vol. 21, p. 88-106.

Cramer, H. R., 1962 [1963], Bibliography of natural gas in Oklahoma, *in* Tulsa Geological Society, Symposium on natural gas in Oklahoma: Tulsa Geol. Soc., Digest, vol. 30, p. 178-195. Includes an index by counties.

Cramer, R. D., Gatlin, Leroy, and Wessman, H. G. [eds.], 1963, Oil and gas fields of Oklahoma—reference report, vol. I: Okla. City Geol. Soc., 194 p., illus. Geological and production data on 50 fields in the Anadarko basin and 20 fields in the Arkoma basin. Included is an outline of the geological history of Oklahoma by Ed Barrett.

Crane, H. R., and Griffin, J. B., 1963, University of Michigan radiocarbon dates VIII: Radiocarbon, vol. 5, p. 228-253. Conch shell fragments from Spiro site, Le Flore County, are 580±75 years old; charcoals from three levels at Harlan site, Cherokee County, range from 610 to 820 years old.

Cronoble, W. R., 1962, Facies relationships in and adjacent to limestone buildups of the Coffeyville and Hogshooter Formations (Missourian), Washington and Nowata Counties, Oklahoma, *in* Geoeconomics of the Pennsylvanian marine banks in southeast Kansas: Kans. Geol. Soc. and Kans., State Geol. Survey, Field Conf., Sept. 13-14, 1962, p. 116-123, 6 figs.

Cronoble, W. R., and Mankin, C. J., 1963, Genetic significance of variations in the limestones of the Coffeyville and Hogshooter Formations (Missourian), northeastern Oklahoma: Jour. Sed. Petrology, vol. 33, p. 73-86, 8 figs., 2 tables. Surface study of Pennsylvanian rocks in Washington and Nowata Counties.

Davis, L. V., *see* Tanaka, H. H., and Davis, L. V.

Dodd, C. G., *see* Mankin, C. J., and Dodd, C. G.

Dunlap, I. R., 1963a, Factors controlling the orientation and direction of hydraulic fractures: Jour. Institute Petroleum (London), vol. 49, p. 282-288, 6 figs. Example used shows fracture-treatment log of well in Carter County.

———— 1963b, Fracture orientation and rock stresses in the Springer and Hart Formations, Oklahoma: Jour. Institute Petroleum (London), vol. 49, p. 289-294, 1 fig., 3 tables. Subsurface study of Springer Formation (Mississippian) and Hart sand (Pennsylvanian) in the Southeast Bradley and Purdy fields of Grady and Garvin Counties.

Eisenack, Alfred, 1962, Mitteilungen über Leiosphären und über das Pylom bei Hystrichosphären: Neues Jahrbuch Geologie und Paläontologie, Abhandlungen, vol. 114, no. 1, p. 58-80, 2 figs., pls. 2-4. Includes description of *Tasmanites noremi*, new species; hystrichosphaerid from the Mississippian Woodford Formation in Pontotoc County.

Ellison, S. P., Jr., 1962, Annotated bibliography, and index, of conodonts: Texas, Univ., Bur. Econ. Geology, Pub. 6210, 128 p., 6 charts. Includes articles on conodonts in Oklahoma.

Epperson, C. M., and Little, C. B., 1962, Beaver County, Oklahoma, *in* Pre-Permian handbook of the Hugoton embayment: Liberal Geol. Soc. [Kans.], p. 203-258. Tabulation of production and producing formations for wells drilled into pre-Permian rocks in Beaver County.

Fambrough, J. W., 1963, Isopach and lithofacies study of Virgilian and Missourian Series of north-central Oklahoma: Okla. City Geol. Soc., Shale Shaker, vol. 13, no. 5 (Jan.), p. 2-26 incl. ads, 5 figs., 11 pls. Subsurface study of Pennsylvanian rocks.

Forgotson, J. M., Jr., 1963, Depositional history and paleotectonic framework of Comanchean Cretaceous Trinity Stage, Gulf Coast area: Amer. Assoc. Petroleum Geologists, Bull., vol. 47, p. 69-103, 11 figs. Study includes part of southern Oklahoma.

Fort Smith Geological Society, 1963, Southeastern Arkansas Valley and the Ouachita and frontal Ouachita Mountains, Arkansas: Ft. Smith Geol. Soc., Field Conference, 2nd, Guidebook, May 2-4, 1963, 44 p., illus. Papers on Oklahoma geology by H. D. Miser and C. H. Unruh are listed separately in this bibliography.

Frye, J. C., and Leonard, A. B., 1963, Pleistocene geology of Red River basin in Texas: Texas, Univ., Bur. Econ. Geology, Rept. Inv. 49, 48 p., 3 figs., 3 pls. Study includes some information from Oklahoma.

Gatlin, Leroy, 1963, Case history Lenora Field: Okla. City Geol. Soc., Shale Shaker, vol. 14, no. 2 (Oct.), p. 22-24, 6 figs. Oil and gas field in Dewey County, Anadarko basin.

Gatlin, Leroy, *see* Cramer, R. D., Gatlin, Leroy, and Wessman, H. G. [eds.].

Gilmore, E. L., 1963, A rockhound's guide to the gems and minerals of Oklahoma: Tulsa, Oklahoma, E. L. Gilmore, 77 p., 5 figs. List of 675 localities for minerals in State. Includes county and mineral-species indexes.

Glass, J. J., *see* Roy, S. K., Glass, J. J., and Henderson, E. P.

Gray, Fenton, Reed, L. W., and Molthan, H. D., 1963, Clay formation and accumulation in selected Oklahoma soils, *in* Clays and clay minerals: Natl. Conf. on Clays and Clay Minerals, 11th, Proc.,

vol. 11, p. 211-224, 6 tables. Study of 11 soil profiles developed on Pennsylvanian and Permian strata in eastern and central Oklahoma.

Griffin, J. B., *see* Crane, H. R., and Griffin, J. B.

Ham, W. E., leader, 1963a, Basement rocks and structural evolution of southern Oklahoma: Ardmore Geol. Soc. (Field Conference Guidebook), Oct. 3-5, 1963, Ardmore, Okla., 51 p., 16 figs., 5 pls., 2 tables.

———— 1963b, Millions of years on edge: Earth Science, vol. 16, p. 66-70, 4 figs. Popularized account of geologic history of the Arbuckle Mountains.

Ham, W. E., *see* McDougal, R. B., and Ham, W. E.

Hancock, J. M., Jr., *see* Norden, J. A. E., Langton, J. M., and Hancock, J. M., Jr.

Harlton, B. H., 1963, Frontal Wichita fault system of southwestern Oklahoma: Amer. Assoc. Petroleum Geologists, Bull., vol. 47, p. 1552-1580, 14 figs., 1 table. Structural element separating Wichitas from Anadarko basin.

Hart, D. L., Jr., 1962a, Oklahoma, *in* Ground-water levels in the United States, 1956-59, south-central states: U. S. Geol. Survey, Water-supply Paper 1549, p. 71-89, 5 figs. Statistics.

———— 1963b, Ground-water levels in observation wells in Oklahoma, 1956-60: U. S. Geol. Survey and Okla. Water Resources Board, 196 p., 14 figs., 2 tables. Report of water-level records of wells in 31 counties.

Hart, O. D., 1963, Geology of the eastern part of Winding Stair Range, Le Flore County, Oklahoma: Okla. Geol. Survey, Bull. 103, 87 p., 15 figs., 1 pl. Structure and stratigraphy of Mississippian and Pennsylvanian rocks in the Ouachita Mountains.

Helton, John, 1963, Petroleum production in the Trimue-Frederick area, Tillman County, Oklahoma, *in* Western Oklahoma and adjacent Texas: Okla., Univ., Bienn. Geol. Symposium, 8th, Proc., p. 133-148, 10 figs., 6 tables.

Henderson, E. P., *see* Roy, S. K., Glass, J. J., and Henderson, E. P.

Henderson, J. R., *see* Keller, Fred, Jr., and Henderson, J. R.

Henson, O. G., *see* Burgess, D. L., Nichols, J. D., and Henson, O. G.

Hessler, R. R., 1963, Lower Mississippian trilobites of the family Proetidae in the United States, Part I: Jour. Paleontology, vol. 37, p. 543-563, 4 pls., 1 table. Includes *Proetus (Pudoproetus) chappelensis,* new species, from the Welden Limestone in Pontotoc County.

Heyl, A. V., and Bozion, C. N., 1962, Oxidized zinc deposits of the United States. Part 1. General geology: U. S. Geol. Survey, Bull. 1135-A, p. A-1-52, 10 figs., 1 pl., 3 tables. Includes information on Tri-State area.

Hibbard, C. W., 1963, *Tanupolama vera* (Matthew) from the Late Hemphillian of Beaver County, Oklahoma: Kans. Acad. Science, Trans., vol. 66, p. 267-269, 1 fig., 1 table. Tertiary camel from the Ogallala Formation.

Hoskinson, A. J., *see* Cook, K. L., Hoskinson, A. J., and Shelton, G. R.

Huang, W. T., leader, 1962, Precambrian igneous rocks of the Wichita Mountains, Oklahoma: Texas Christian Univ. and Baylor Geol. Soc. (Field Trip Guidebook), Mar. 3-4, 1962, Waco, Texas, 27 p., 4 figs., 1 pl., 3 tables.

Huffman, G. G., Cathey, T. A., and Humphrey, J. E., 1963, A guide to the state parks and scenic areas in the Oklahoma Ozarks: Okla. Geol. Survey, Guide Book 12, 95 p., 56 figs. History, geology, and plant and animal life.

Humphrey, J. E., *see* Huffman, G. G., Cathey, T. A., and Humphrey J. E.

Hurley, P. J., 1963, Petroleum geology of the North Dover area, Kingfisher County, Oklahoma: Okla. Geol. Survey, Okla. Geology Notes, vol. 23, p. 4-16, 8 figs., 1 table.

Irvin, B. F., 1962 [1963], Logging and interpretation technique in the Arkoma basin, *in* Tulsa Geological Society, Symposium on natural gas in Oklahoma: Tulsa Geol. Soc., Digest, vol. 30, p. 129-137, 7 figs. Discussion of mechanical-logging techniques.

Johnson, K. S., 1963a, Bibliography and index of Oklahoma geology, 1962: Okla. Geol. Survey, Okla. Geology Notes, vol. 23, p. 51-74.

———— 1963b, Brine-well production of Permian salt at Sayre, Beckham County, Oklahoma: Okla. Geol. Survey, Okla. Geology Notes, vol. 23, p. 83-93, 3 figs., 2 tables. Production from Upper Cimarron salt.

———— 1963c, Salt in the El Reno Group (Permian), Elk City area, Beckham and Washita Counties, Oklahoma, *in* Western Oklahoma and adjacent Texas: Okla., Univ., Bienn. Geol. Symposium, 8th, Proc., p. 79-92, 9 figs.

Jordan, Louise, 1963, Statistics of Oklahoma's petroleum industry, 1962: Okla. Geol. Survey, Okla. Geology Notes, vol. 23, p. 135-140, 6 tables.

Jordan, Louise, and Vosburg, D. L., 1963, Permian salt and associated evaporites in the Anadarko basin of the western Oklahoma-Texas Panhandle region: Okla. Geol. Survey, Bull. 102, 76 p., 15 figs., 3 pls., 1 table.

Keenan, C. M., 1963, Historical documentation of major coal-mine disasters in the United States not classified as explosions of gas or dust, 1846-1962: U. S. Bur. Mines, Bull. 616, 90 p., 6 tables. Includes five disasters in Oklahoma.

Keller, Fred, Jr., and Henderson, J. R., 1963, Aeromagnetic map of part of the Tri-State mining district, Kansas, Missouri, and Oklahoma: U. S. Geol. Survey, Geophysical Inv. Map GP-427, scale 1:125,000 (about 2 miles to the inch). Map includes northeastern part of Ottawa County.

Keller, W. D., and Reesman, A. L., 1963, Dissolved products of artificially pulverized silicate minerals and rocks; Part II: Jour. Sed. Petrology, vol. 33, p. 426-437, 4 figs., 3 tables. Ten samples of igneous rock from Oklahoma used as part of study.

Kinningham, Russell, *see* Chandler, J. B., Kinningham, Russell, and Massey, D. S.

Lacer, O. G., 1963, Developments in Texas and Oklahoma Panhandles, 1962: Amer. Assoc. Petroleum Geologists, Bull., vol. 47, p. 1035-1040, 1 fig., 4 tables. Statistics on oil and gas exploration.

Lahee, F. H., 1962, Statistics of exploratory drilling in the United States, 1945-1960: Tulsa, Amer. Assoc. Petroleum Geologists, 135 p., 8 tables.

Laing, W. E., 1963a, Geoseismic problems and producing profiles, eastern Palo Duro basin, southwestern Oklahoma, *in* Western Oklahoma and adjacent Texas: Okla., Univ., Bienn. Geol. Symposium, 8th, Proc., p. 17-69, 29 figs.

_____ 1963b, The Meramec trend—it points to SW Oklahoma: Oil and Gas Jour., vol. 61, no. 30 (July 29), p. 210-216 incl. ads, 5 figs. Review of eastern Palo Duro basin.

Langton, J. M., *see* Norden, J. A. E., and Langton, J. M., *also* Norden, J. A. E., Langton, J. M., and Hancock, J. M., Jr.

Leonard, A. B., *see* Frye, J. C., and Leonard, A. B.

Leonard, A. R., 1963, Oklahoma, *in* The role of ground water in the national water situation: U. S. Geol. Survey, Water-supply Paper 1800, p. 671-698. Summary of State water resources.

Little, C. B., *see* Sharp, W. R., and Little, C. B., *also* Epperson, C. M., and Little, C. B.

Lundin, Robert, and Scott, H. W., 1963, Morphology and ontogeny of *Phanassymetria* Roth: Jour. Paleontology, vol. 37, p. 1272-1283, 4 figs., 2 pls., 2 tables. Description of the ostracodes *P. triserrata* and *P. quadrupla,* from the Devonian Haragan Formation of Murray County.

Lynn, R. D., *see* Roark, J. J.

Mackey, F. L., and Bowles, J. P. F., Jr., 1963, Oil and gas exploration developments in Oklahoma during 1962: Amer. Assoc. Petroleum Geologists, Bull., vol. 47, p. 1013-1034, 7 figs., 12 tables. Statistics.

Malloy, J. M., *see* Padgett, Ward, and Malloy, J. M.

Mankin, C. J., and Dodd, C. G., 1963, Proposed reference illite from the Ouachita Mountains of southeastern Oklahoma, *in* Clays and clay minerals: Natl. Conf. on Clays and Clay Minerals, 10th, Proc., vol. 10, p. 372-379, 3 figs., 3 tables. Illite from the Silurian Blaylock Formation in McCurtain County.

Mankin, C. J., *see* Cronoble, W. R., and Mankin, C. J.

Marine, I. W., 1963, Correlation of water-level fluctuations with climatic cycles in the Oklahoma Panhandle: U. S. Geol. Survey, Water-supply Paper 1669-K, p. K-1-10, 3 figs., 1 pl.

Mark, H. R., 1963, High-alumina kaolinitic clay in the United States (exclusive of Alaska and Hawaii): U. S. Geol. Survey, Mineral Inv. Res. Map MR-37, scale 1:3,168,000 (50 miles to the inch), with 22 pages of text. A bibliography which includes deposits in the Wichita Mountains, Kiowa, and Comanche Counties.

Maslakova, N. I., 1963, To the systematics of the genus *Hedbergella*: Paleontologichiskii Zhurnal, 1963, no. 4, p. 112-116, 2 figs., 1 table. Illustrates the foraminifer *Globigerina seminolensis* from the Cretaceous (?) of southern Oklahoma. Article in Russian.

Massey, D. S., *see* Chandler, J. B., Kinningham, Russell, and Massey, D. S.

Matthews, T. A., 1963, The South Burbank unit—a comparison of oil recoveries by various type drives: Jour. Petroleum Technology, vol. 15, no. 11 (Nov.), p. 1180-1182, 4 figs. Gas injection and water flooding have both been used to develop reservoir in Osage County.

McCracken, M. H., 1963, Insoluble residues: Okla. City Geol. Soc., Shale Shaker, vol. 13, no. 10 (June), p. 6-19 incl. ads, 6 figs., 3 pls. Includes reference to insoluble-residue work done in Oklahoma, and a bibliography of residue studies in Oklahoma and adjacent states.

McDaniel, G. O., Jr., 1963, Parameters of subsurface structural reconnaissance in the Simpson Group (Ordovician), South Norman area, Oklahoma: Okla. City Geol. Soc., Shale Shaker, vol. 13, no. 7 (Mar.), p. 6-21 incl. ads, 2 figs., 8 pls. Study in parts of Cleveland and McClain Counties.

McDougal, R. B., 1963a, The mineral industry of Oklahoma in 1962 (preliminary): Okla. Geol. Survey, Okla. Geology Notes, vol. 23, p. 23-25, 1 table. Production figures on metals, nonmetals, and mineral fuels.

_____ 1963b, The mineral industry of Oklahoma in 1962 (advance summary): Okla. Geol. Survey, Okla. Geology Notes, vol. 23, p. 255-258, 1 table. Production figures on metals, nonmetals, and mineral fuels.

McDougal, R. B., and Ham, W. E., 1963, The mineral industry of Oklahoma: U. S. Bur. Mines, Minerals Yearbook 1962, vol. 3, Area Repts., p. 841-870, 4 figs., 22 tables. Production figures on metals, nonmetals, and mineral fuels.

McGinness, Douglas, and Brandt, Robert, 1962, Cimarron County, Oklahoma, *in* Pre-Permian handbook of the Hugoton embayment: Liberal Geol. Soc. [Kans.], p. 259-276. Tabulation of production and producing formations for wells drilled into pre-Permian rocks in Cimarron County.

McLernon, G. J., Jr., 1962 [1963], Arkoma basin drilling problems, *in* Tulsa Geological Society, Symposium on natural gas in Oklahoma: Tulsa Geol. Soc., Digest, vol. 30, p. 121-128, 5 figs.

Merrill, G. K., 1963, *Polygnathodella* Harlton, 1933, or *Idiognathoides* Harris & Hollingsworth, 1933?: Jour. Paleontology, vol. 37, p. 504-505. The Pennsylvanian conodont *Idiognathoides* is a junior synonym of *Cavusgnathus,* not of *Polygnathodella* as has been previously assumed.

Merritt, C. A., *see* Branson, C. C., and Merritt, C. A.

Miller, R. D., *see* Munnerlyn, R. D., and Miller, R. D.

Miser, H. D., 1963, Structure and vein quartz of the Ouachita Mountains of Oklahoma and Arkansas, *in* Fort Smith Geological Society, Southeastern Arkansas valley and the Ouachita and frontal Ouachita Mountains, Arkansas: Ft. Smith Geol. Soc., Field Conference, 2nd, Guidebook, May 2-4, 1963, p. 17-26, 3 figs. *Reprinted from* The geology of the Ouachita Mountains—a symposium: Dallas Geol. Soc. and Ardmore Geol. Soc., 1959.

Mogharabi, Ataolah, 1963, Petroleum geology of T. 19 N., R. 6 W., Hennessey area, Kingfisher County, Oklahoma: Okla. City Geol.

Soc., Shale Shaker, vol. 14, no. 4 (Dec.), p. 2-15, 8 pls., 1 table.

Molthan, H. D., *see* Gray, Fenton, Reed, L. W., and Molthan, H. D.

Moore, L. E., 1962 [1963], Natural gas in Oklahoma, *in* Tulsa Geological Society, Symposium on natural gas in Oklahoma: Tulsa Geol. Soc., Digest, vol. 30, p. 116-120, 2 figs., 2 tables. Includes statistics.

Motts, W. S., 1963, Water resources of Okmulgee County, *Part II of* Oklahoma Geological Survey, Geology and water resources of Okmulgee County, Oklahoma: Okla. Geol. Survey, Bull. 91, p. 5-6, 81-123, 9 figs., 1 table.

Munnerlyn, R. D., and Miller, R. D., 1963, Helium-bearing natural gases of the United States: analyses. Second supplement to Bulletin 486: U. S. Bur. Mines, Bull. 617, 93 p., 1 fig., 3 tables. Includes analyses of 314 samples from Oklahoma.

Muir-Wood, H. M., 1962, On the morphology and classification of the brachiopod suborder Chonetoidea: British Museum (Natural History), 132 p., 24 figs., 16 pls. Includes chonetids from Oklahoma.

Myers, A. J., 1963, Oklahoma—a geological sketch: Earth Science, vol. 16, no. 3., p. 126-130, 5 figs. Popularized account of geologic history of Oklahoma.

National Petroleum Bibliography, 1963, Geological maps—Oklahoma oil & gas, vol. II: Amarillo, Texas, Natl. Petroleum Bibliography, 216 p. Maps of selected oil and gas fields throughout Oklahoma.

Nichols, J. D., *see* Burgess, D. L., Nichols, J. D., and Henson, O. G.

Norden, J. A. E., and Langton, J. M., 1963a, Magnetic delineation of the basement surface, Christie-Westville area, Adair County, Oklahoma: Okla. Geol. Survey, Okla. Geology Notes, vol. 23, p. 241-248, 3 figs., 1 table.

_____ 1963b, Magnetic profile control of basement configuration, northern Cherokee County, Oklahoma: Okla. Geol. Survey, Okla. Geology Notes, vol. 23, p. 261-266, 2 figs., 1 table.

Norden, J. A. E., Langton, J. M., and Hancock, J. M., Jr., 1963, Magnetic profile across the Watts reef, Adair County, Oklahoma: Okla. Geol. Survey, Okla. Geology Notes, vol. 23, p. 221-223, 2 figs. Investigation of bioherm in St. Joe Group (Mississippian).

Oakes, M. C., 1963, Geology of Okmulgee County, *Part I of* Oklahoma Geological Survey, Geology and water resources of Okmulgee County, Oklahoma: Okla. Geol. Survey, Bull. 91, p. 4-5, 7-80, 129-160, 10 figs., 2 pls., 6 tables. Surface study of Pennsylvanian strata.

Oklahoma City Geological Society, 1962, The Shale Shaker digest III: 457 p. A compilation of unaltered geologic papers from the Shale Shaker, vols. 9-11, 1958-1961.

Oklahoma Geological Survey, 1963a, Early Devonian brachiopods of Oklahoma; Part I, Articulate brachiopods of the Frisco Formation (Devonian), by T. W. Amsden and W. P. S. Ventress; Part II, Articulate brachiopods of the Sallisaw Formation (Devonian), by T. W. Amsden; Part III, Supplement to the Haragan (Devonian) brachiopods, by T. W. Amsden: Okla. Geol. Survey, Bull. 94, 238 p., 51 figs., 21 pls., 10 tables.

_____ 1963b, Geology and water resources of Okmulgee County, Oklahoma; Part I, Geology of Okmulgee County, by M. C. Oakes; Part II, Water resources of Okmulgee County, by W. S. Motts: Okla. Geol. Survey, Bull. 91, 164 p., 19 figs., 2 pls., 7 tables.

_____ 1963c, Résumé of new nomenclature published in Oklahoma Geology Notes, February 1962 through December 1963: Okla. Geol. Survey, Okla. Geology Notes, vol. 23, p. 281-282. List of new taxa.

Padgett, Ward, and Malloy, J. M., 1962 [1963], Fifty-fourth annual report of mines and mining of Oklahoma: Dept. Chief Mine Inspector, 47 p. Statistics.

Pate, J. D., 1962 [1963], Laverne gas area—four story stratigraphic trap, Beaver and Harper Counties, Oklahoma, *in* Tulsa Geological Society, Symposium on natural gas in Oklahoma: Tulsa Geol. Soc., Digest, vol. 30, p. 65-81.

Pendery, E. C., III, 1963, Stratigraphy of Blaine Formation (Permian), north-central Texas: Amer. Assoc. Petroleum Geologists, Bull., vol. 47, p. 1828-1839, 3 figs. Includes surface information from southwestern Oklahoma.

Pierce, A. P., *see* Cannon, R. S., Jr., Buck, K. L., and Pierce, A. P.

Pitt, W. D., 1963, Thickness variation in Mazarn-Womble Shales of the Choctaw anticlinorium, Oklahoma: Okla. Geol. Survey, Okla. Geology Notes, vol. 23, p. 171-173, 1 fig. Ordovician shales in Ouachita Mountains, McCurtain County.

Pitt, W. D., and others, 1963, Guide to Beavers Bend State Park: Okla. Geol. Survey, Guide Book 11, 46 p., 15 figs. History, geology, and plant and animal life of area in Ouachita Mountains, McCurtain County.

Potter, D. E. (*as* D. R. Potter), 1963, An emendation of the sporomorph *Arcellites* Miner, 1935: Okla. Geol. Survey, Okla. Geology Notes, vol. 23, p. 227-230, 1 pl. Illustrated are specimens of *A. hexapartitus* from the Cretaceous Omadi Formation, Cimarron County.

Reed, L. W., *see* Gray, Fenton, Reed, L. W., and Molthan, H. D.

Reedy, H. J., and Sykes, H. A., 1962 [1963], Carter-Knox oil field, Grady and Stephens Counties, Oklahoma, *in* Tulsa Geological Society, Symposium on natural gas in Oklahoma: Tulsa Geol. Soc., Digest, vol. 30, p. 89-107, 8 figs. *Reprinted from* Ardmore Geol. Soc., 1959, Petroleum geology of southern Oklahoma—a symposium, vol. 2: Tulsa, Amer. Assoc. Petroleum Geologists.

Reesman, A. L., *see* Keller, W. D., and Reesman, A. L.

Riggs, H. C., 1962, Annotated bibliography on hydrology and sedimentation, United States and Canada, 1955-58: U. S. Geol. Survey, Water-supply Paper 1546, 236 p. Includes entries on hydrology in Oklahoma.

Roark, J. J. [*paper presented by* R. D. Lynn], 1962 [?], Earth crust measurements by seismograph in Oklahoma—an interim report: Geophys. Soc. Tulsa, Proc., vol. 7, p. 34-40, 9 figs. Additional information on paper by P. M. Tucker and J. A. Westphal, 1962 [?].

Rowett, C. L., 1963, Wapanucka-Atoka contact in the eastern and northeastern Arbuckle Mountains, Oklahoma: Okla. Geol. Survey,

Okla. Geology Notes, vol. 23, p. 30-48, 8 figs., 3 tables. Surface study of Pennsylvanian strata.

Roy, S. K., Glass, J. J., and Henderson, E. P., 1962, The Walters meteorite: Fieldiana Geology, vol. 10, no. 37, p. 539-550. Petrographic description and chemical composition of meteorite from Cotton County.

Schramm, M. W., Jr., 1963, Oölites and algal aggregates of the West Spring Creek Formation (Ordovician), Arbuckle Mountains, Oklahoma: Okla. Geol. Survey, Okla. Geology Notes, vol. 23, p. 152-162, 1 fig., 4 pls. Petrographic study.

Scott, H. W., *see* Lundin, Robert, and Scott, H. W.

Seely, D, R., 1963, Structure and stratigraphy of the Rich Mountain area, Oklahoma and Arkansas: Okla. Geol. Survey, Bull. 101, 173 p., 57 figs., 2 pls., 1 table. Mississippian and Pennsylvanian rocks of the Ouachita Mountains in Le Flore County.

Seilacher, Adolf, 1963, Umlagerung und Rolltransport von Cephalopoden-Gehäusen: Neues Jahrbuch Geologie und Paläontologie, Monatshefte, no. 11, p. 593-615, 9 figs. Includes discussion of impact marks left in Johns Valley Shale (Ouachita Mountains) by corroded goniatite shells carried in turbidity currents.

Sharp, W. R., and Little, C. B., 1962, Texas County, Oklahoma, *in* Pre-Permian handbook of the Hugoton embayment: Liberal Geol. Soc. [Kans.], p. 277-306. Tabulation of production and producing formations for wells drilled into pre-Permian rocks in Texas County.

Sheldon, M. G., *see* Adkison, W. L., and Sheldon, M. G.

Shelton, G. R., *see* Cook, K. L., Hoskinson, A. J., and Shelton, G. R.

Six, D. A., 1962 [1963], Pennsylvanian-Atoka producing sands, Red Oak-Norris gas field, Brazil anticline, Latimer and Le Flore Counties, Oklahoma, *in* Tulsa Geological Society, Symposium on natural gas in Oklahoma: Tulsa Geol. Soc., Digest, vol. 30, p. 43-55, 5 figs.

Sloss, L. L., 1963, Sequences in the cratonic interior of North America: Geol. Soc. America, Bull., vol. 74, p. 93-114, 6 figs. Six major rock-stratigraphic units of North American craton are separated by unconformities. Those units present in Oklahoma are illustrated.

Sowers, D. L., and others, 1963, Oklahoma, *in* International Oil and gas development; year book 1963 (review of 1962): Internat. Oil Scouts Assoc., vol. 33, pt. 2, p. 213-279. Statistics of oil and gas production.

Stacy, B. L., *see* Wood, P. R., and Stacy, B. L.

Strimple, H. L., 1963a, A new species of *Graphiocrinus*: Okla. Geol. Survey, Okla. Geology Notes, vol. 23, p. 191-194, 3 figs. *G. lineatus*; Pennsylvanian crinoid from Wann Formation, Osage County.

_____ 1963b, Crinoids of the Hunton Group (Devonian-Silurian) of Oklahoma: Okla. Geol. Survey, Bull. 100, 169 p., 30 figs., 12 pls. Fauna comprises 38 genera and 52 species, including 6 new genera and 21 new species.

_____ 1963c, *Dasciocrinus* in Oklahoma: Okla. Geol. Survey, Okla. Geology Notes, vol. 23, p. 101-107, 4 figs., 1 pl. *D. aulicus*; new crinoid species from Mississippian Fayetteville Formation, Craig County.

Sullivan, C. W., *see* Bergman, D. L., and Sullivan, C. W.

Sykes, H. A., *see* Reedy, H. J., and Sykes, H. A.

Tanaka, H. H., and Davis, L. V., 1963, Ground-water resources of the Rush Springs Sandstone in the Caddo County area, Oklahoma: Okla. Geol. Survey, Circ. 61, 63 p., 11 figs., 2 pls., 10 tables. Principal Permian aquifer in area.

Tanner, W. F., 1963a, Pennsylvanian sandstone trends in eastern Oklahoma: Okla. City Geol. Soc., Shale Shaker, vol. 13, no. 6 (Feb.), p. 19. Discussion of origin of linear sandstone trends (Bartlesville and Booch sands).

_____ 1963b, Tectonic patterns in the Appalachian-Ouachita-Oklahoma mountain complex: Okla. City Geol. Soc., Shale Shaker, vol. 14, no. 3, (Nov.), p. 2-6, 3 figs. Conclusions concerning major tectonic elements in Oklahoma are based on model studies.

Templeton, J S., and Willman, H. B., 1963, Champlainian Series (Middle Ordovician) in Illinois: Ill. State Geol. Survey, Bull. 89, 260 p., 41 figs. Simpson Group and Viola-Fernvale Limestones in the Arbuckle Mountains are correlated with Champlainian Series in Illinois.

Tucker, P. M., and Westphal, J. A., 1962 [?], Earth crustal measurements by seismograph in Oklahoma—a preliminary report: Geophys. Soc. Tulsa, Proc., vol. 7, p. 25-33, 8 figs. Profiles recorded in vicinity of Tulsa.

Tulsa Geological Society, 1962 [1963], Symposium on natural gas in Oklahoma: Tulsa Geol. Soc., Digest, vol. 30, p. 41-149, 178-195, illus. Consists of 12 articles. Nine articles by B. G. Barby, H. R. Cramer, B. F. Irvin, G. J. McLernon, Jr., L. E. Moore, J. D. Pate, H. J. Reedy and H. A. Sykes, D. A. Six, and John Woncik are listed separately in this bibliography.

United States Geological Survey, 1963, Quality of surface waters of the United States, 1958. Parts 7 and 8. Lower Mississippi River basin and western Gulf of Mexico basins: U. S. Geol. Survey, Water-supply Paper 1573, 588 p., 1 fig. Chemical analyses from stations on rivers and creeks in Oklahoma.

University of Oklahoma, School of Geology, and others, 1963, Western Oklahoma and adjacent Texas: Okla., Univ., Bienn. Geol. Symposium, 8th, Proc., 174 p. Comprises 9 papers and 4 abstracts. Three papers, by W. E. Laing, K. S. Johnson, and John Helton, are listed separately in this bibliography.

Unruh, C. H., 1963, Sinclair #1 Reneau and the Potato Hills anticlinorium, *in* Fort Smith Geological Society, Southeastern Arkansas Valley and the Ouachita and frontal Ouachita Mountains, Arkansas: Ft. Smith Geol. Soc., Field Conference, 2nd, Guidebook, May 2-4, 1963, p. 41-44. Includes electric log and formation tops of Cambrian through Mississippian strata penetrated in well drilled in Latimer County.

Urban, J. B., *see* Wilson, L. R., and Urban, J. B.

Venkatachala, B. S., *see* Wilson, L. R., and Venkatachala, B. S.

Ventress, W. P. S., *see* Amsden, T. W., and Ventress, W. P. S.

Vosburg, D. L., *see* Jordan, Louise, and Vosburg, D. L.,

Wallace, N. G., 1963, West Edmond Storage, a natural-gas storage facility, Logan and Kingfisher Counties, Oklahoma: Okla. Geol. Survey, Okla. Geology Notes, vol. 23, p. 119-123, 3 figs. Storage in Pennsylvanian Bartlesville sand of West Edmond field.

Wanless, H. R., and others, 1963, Mapping sedimentary environments of Pennsylvanian cycles: Geol. Soc. America, Bull., vol. 74, p. 437-486, 17 figs., 1 table. Regional study of cyclothems in Midcontinent.

Ward, P. E., 1963, Shallow halite deposits in the Flowerpot Shale in southwestern Oklahoma, *in* Geological Survey research 1962: U. S. Geol. Survey, Prof. Paper 450-E, p. E-40-42, 4 figs. Permian salt in Harmon County.

Wessman, H. G., *see* Cramer, R. D., Gatlin, Leroy, and Wessman, H. G. [eds.].

Westphal, J. A., *see* Tucker, P. M., and Westphal, J. A.

Willman, H. B., *see* Templeton, J. S., and Willman, H. B.

Wilson, L. R., 1963a, A geological history of Oklahoma's vegetation: Okla. City Geol. Soc., Shale Shaker, vol. 13, no. 9 (May), p. 4-20 incl. ads, 1 fig., 6 pls., 1 table.

_____ 1963b, A new species of *Dadoxylon* from the Seminole Formation (Pennsylvanian) of Oklahoma: Okla. Geol. Survey, Okla. Geology Notes, vol. 23, p. 215-220, 3 figs. *D. adaense*; silicified log from Pontotoc County.

Wilson, L. R., and Urban, J. B., 1963, An Incertae sedis palynomorph from the Devonian of Oklahoma: Okla. Geol. Survey, Okla. Geology Notes, vol. 23, p. 16-19, 1 pl. *Quisquilites buckhornensis*, new genus and new species, from Woodford Formation in Murray County.

Wilson, L. R., and Venkatachala, B. S., 1963a, A morphologic study and emendation of *Vesicaspora* Schemel, 1951: Okla. Geol. Survey, Okla. Geology Notes, vol. 23, p. 142-149, 1 fig., 2 pls. Paleozoic pollen including those from Pennsylvanian coals of Oklahoma.

_____ 1963b, An emendation of *Vestispora* Wilson and Hoffmeister, 1956: Okla. Geol. Survey, Okla. Geology Notes, vol. 23, p. 94-100, 1 pl. Eight new combinations; description of *V. laevigata*, new species, from Pennsylvanian Croweburg coal in Rogers County.

_____ 1963c, Morphological variation of *Thymospora pseudothiessenii* (Kosanke) Wilson and Venkatachala, 1963: Okla. Geol. Survey, Okla. Geology Notes, vol. 23, p. 125-132, 2 pls. Pennsylvanian spores from Dawson coal, Tulsa County.

Winter, J. A., 1963, Computer geology uncovers secrets of Oklahoma's Endicott sand: Oil and Gas Jour., vol. 61, no. 29 (July 22), p. 96-99, 101, 7 figs., 2 tables. Subsurface study of Pennsylvanian beds in Anadarko basin, Ellis County.

Woncik, John, 1962 [1963], Kinta gas field, Haskell County, Oklahoma, *in* Tulsa Geological Society, Symposium on natural gas in Oklahoma: Tulsa Geol. Soc., Digest, vol. 30, p. 56-64, 6 figs.

Wood, P. R., and Stacy, B. L., 1963, Preliminary report on the geology and ground-water resources of Woodward County, Oklahoma: Okla. Water Resources Board, 45 p., 3 figs., 2 pls., 1 table. Prepared in cooperation with U. S. Geol. Survey.

INDEX

1964

Vol. 25, no. 3, March 1965

Bibliography and Index of Oklahoma Geology
1964

Prepared by Kenneth S. Johnson

Bibliography

Adams, W. L., 1964, Diagenetic aspects of Lower Morrowan, Pennsylvanian, sandstones, northwestern Oklahoma: Amer. Assoc. Petroleum Geologists, Bull., vol. 48, p. 1568-1580, 6 figs., 2 pls., 1 table.

Amsden, T. W., 1964, Brachial plate structure in the brachiopod family Pentameridae: Palaeontology, vol. 7, p. 220-239, 5 figs., 4 pls. Silurian forms from Oklahoma are illustrated.

Amsden, T. W., *see* Boucot, A. J., and Amsden, T. W.

Andreasen, G. E., Bromery, R. W., and Gilbert, F. P., 1964a, Aeromagnetic map of the Glencoe-Ripley area, Payne County, Oklahoma: U. S. Geol. Survey, Geophys. Inv. Map GP-469, scale 1:62,500.

_____ 1964b, Aeromagnetic map of the Hominy area, Osage County, Oklahoma: U. S. Geol. Survey, Geophys. Inv. Map GP-470, scale 1:62,500.

Atkins, R. L., and Miller, J. H., 1964, Oklahoma, *in* International oil and gas development, review 1963: Internat. Oil Scouts Assoc., vol. 34, pt. 1, p. 242-269. Statistics on discovery and exploratory wells.

Ballard, Norval, 1964, Thickness of Hogshooter Limestone, *in* Variations in limestone deposits: Okla. City Geol. Soc. and Okla. Geol. Survey, Guidebook, Field Conf., 1964, map (scale 1:125,000) in pocket. Map showing thickness of Pennsylvanian unit in Washington and Nowata Counties.

Barclay, J. E., *see* Steele, C. E., and Barclay, J. E.

Barrett, L. W., II, 1964, Subsurface study of Morrowan rocks in central and southern Beaver County, Oklahoma: Okla. City Geol. Soc., Shale Shaker, vol. 14, no. 9 (May), p. 2-20, 1 fig., 10 pls. Stratigraphy, structure, and petroleum possibilities of Pennsylvanian rocks.

Blazenko, E. J., 1964, Geology of the South Erick gas area, Beckham and Greer Counties, Oklahoma: Okla. City Geol. Soc., Shale Shaker, vol. 15, p. 53-78, 8 figs., 9 pls. Stratigraphy of Permian strata.

Boucot, A. J., 1963, The Eospiriferidae: Palaeontology, vol. 5, p. 682-711, 4 figs., 8 pls. Synopsis and revision of brachiopod family that includes one form from Silurian of Oklahoma.

Boucot, A. J., and Amsden, T. W., 1964, *Chonostrophiella*, a new genus of chonostrophid brachiopod: Jour. Paleontology, vol. 38, p. 881-884, 1 pl. Devonian genus includes Oklahoma forms.

Boucot, A. J., and Johnson, J. G., 1964, Additional occurrences of eospiriferid brachiopods: Jour. Paleontology, vol. 38, p. 605-606. Includes Devonian brachiopod from Oklahoma.

Branan, C. B., Jr., *see* Taylor, J. A., and Branan, C. B., Jr.

Branson, C. C., 1964a, Barnacle burrows in shells of Oklahoma fossils: Okla. Geol. Survey, Okla. Geology Notes, vol. 24, p. 98-99, 2 figs. Burrows in shells of Pennsylvanian and Permian fossils considered to be borings of acrothoracic barnacles.

_____ 1964b, Borings in a Lenapah fossil: Okla. Geol. Survey, Okla. Geology Notes, vol. 24, p. 243-244, 1 fig. Sponges have presumably made pits found on Pennsylvanian crinoid remains from Nowata County.

_____ 1964c, False color pattern on an Oklahoma goniatite: Okla. Geol. Survey, Okla. Geology Notes, vol. 24, p. 160, 2 figs. Specimen of *Goniatites choctawensis;* Mississippian cephalopod from Caney Shale in Coal County.

_____ 1964d, Large specimen of *Goniatites*: Okla. Geol. Survey, Okla. Geology Notes, vol. 24, p. 287-288, 2 figs. Specimen of *G. choctawensis;* Mississippian cephalopod from Caney Shale in Pontotoc County.

_____ 1964e, Marmaton and Missouri limestones of northeastern Oklahoma, *in* Variations in limestone deposits: Okla. City Geol. Soc. and Okla. Geol. Survey, Guidebook, Field Conf., 1964, p. 42-47, 3 figs.

_____ 1964f, *Neochonetes oklahomensis* (Snider): Okla. Geol. Survey, Okla. Geology Notes, vol. 24, p. 95-97, 7 figs. Mississippian brachiopod *Chonetes oklahomensis* is referred to *Neochonetes.*

_____ 1964g, Record of *Edestus* in Oklahoma: Okla. Geol. Survey, Okla. Geology Notes, vol. 24, p. 210, 1 fig. Portion of shark's dorsal spine, *E. vorax*?, recovered from Pennsylvanian beds in Carter County.

_____ 1964h, *Reticulatia* and *Squamaria* in Gearyan rocks of Oklahoma: Okla. Geol. Survey, Okla. Geology Notes, vol. 24, p. 272-276, 2 pls. Lower Permian forms of these brachiopod genera are *R. americana* and *S. moorei.*

_____ 1964i, Sclerites? from Bromide Formation: Okla. Geol. Survey, Okla. Geology Notes, vol. 24, p. 106-107, 1 fig. Specimens described as sclerites are fragments of Ordovician trilobite moults.

_____ 1964j, Sessile Foraminifera in the Pennsylvanian of Oklahoma: Okla. Geol. Survey, Okla. Geology Notes, vol. 24, p. 188-190, 1 fig. Previously described worm tubes, *Serpulopsis,* now thought to be Foraminifera *Minammodytes.*

_____ 1964k, Sole trails on an Atoka siltstone: Okla. Geol. Survey, Okla. Geology Notes, vol. 24, p. 180-184, 7 figs. Included are illustrations of sole trails from Oklahoma.

_____ 1964l, Traces of a shell-boring organism: Okla. Geol. Survey, Okla. Geology Notes, vol. 24, p. 166-167, 1 fig. Sponges have presumably made pits found on Pennsylvanian crinoid remains from Hughes County.

———— 1964m, Unusual Oklahoma structure: Okla. Geol. Survey, Okla. Geology Notes, vol. 24, p. 119-120, 2 figs. Aerial photograph and map of complicated structure in Ouachita Mountains, Pittsburg County.

Branson, C. C., and Jordan, Louise, 1964, Index to geologic mapping in Oklahoma, supplement 1: Okla. Geol. Survey. Map IA, Surface Mapping, 1901-1963; Map VI, Subsurface Mapping, 1961-1963. Bibliography and index.

Branson, C. C., and Mankin, C. J., 1964, Composition of conodonts: Okla. Geol. Survey, Okla. Geology Notes, vol. 24, p. 296-302, 3 tables. X-ray study of seven specimens, including one from Pennsylvanian rocks of Nowata County, shows conodonts are composed of apatite-group mineral.

Branson, C. C., and Schmitz, Richard, 1964, Baum Limestone Lentil of Antlers Sand: Okla. Geol. Survey, Okla. Geology Notes, vol. 24, p. 269-271. Lentil of fresh-water limestone and clays in the Cretaceous of southern Oklahoma.

Bromery, R. W., *see* Andreasen, G. E., Bromery, R. W., and Gilbert, F. P.

Brown, D. P., 1964, Putnam pool, *in* Variations in limestone deposits: Okla. City Geol. Soc. and Okla. Geol. Survey, Guidebook, Field Conf., 1964, p. 4-6, 1 fig. Oil and gas field in Dewey County.

Buck, Paul, 1964, Relationships of the woody vegetation of the Wichita Mountains Wildlife Refuge to geological formations and soil types: Ecology, vol. 45, p. 336-344, 7 figs., 6 tables.

Cassidy, M. M., 1964, Comments on the Excello Shale and reefing in the Breezy Hill Limestone, *in* Variations in limestone deposits: Okla. City Geol. Soc. and Okla. Geol. Survey, Guidebook, Field Conf., 1964, p. 48-51. Pennsylvanian units of northeastern Oklahoma.

Chenoweth, P. A., and Hansen, D. L., 1964, Oil and gas exploration developments in Oklahoma during 1963: Amer. Assoc. Petroleum Geologists, Bull., vol. 48, p. 852-874, 7 figs., 9 tables. Statistics.

Clarke, J. W., and others, 1964, Bibliography of North American geology, 1960: U. S. Geol. Survey, Bull. 1196, 777 p. Bibliography and index.

Crockett, J. J., 1964, Influence of soils and parent materials on grasslands of the Wichita Mountains Wildlife Refuge, Oklahoma: Ecology, vol. 45, p. 326-335, 6 tables. Relationships between vegetation and rock type are recognized.

Cronoble, W. R., 1964, Coffeyville and Hogshooter Limestones, Washington and Nowata Counties, Oklahoma, *in* Variations in limestone deposits: Okla. City Geol. Soc. and Okla. Geol. Survey, Guidebook, Field Conf., 1964, p. 52-60, 2 figs. Study of facies in these Pennsylvanian units.

Cummings, T. R., 1963a, Chemical character of surface waters of Oklahoma 1957-1958: Okla. Water Resources Board, Bull. 19, 165 p.

———— 1964b, Chemical character of surface waters of Oklahoma 1958-1959: Okla. Water Resources Board, Bull. 20, 133 p.

Degens, E. T., Hunt, J. M., Reuter, J. H., and Reed, W. E., 1964, Data on the distribution of amino acids and oxygen isotopes in petroleum brine waters of various geologic ages: Sedimentology, vol. 3, p. 199-225, 12 figs., 6 tables. Includes 23 analyses from Paleozoic rocks in five central and northeastern Oklahoma counties.

Denison, R. E., *see* Ham, W. E., Denison, R. E., and Merritt, C. A.

Dolly, E. D., *see* Wilson, L. R., and Dolly, E. D.

Esker, G. C., III, 1964, New species of trilobites from the Bromide Formation (Pooleville Member) of Oklahoma: Okla. Geol. Survey, Okla. Geology Notes, vol. 24, p. 195-209, 3 pls. Description of four new species and one new subgenus from Ordovician rocks in Carter County.

Fay, R. O., 1964, The Blaine and related formations of northwestern Oklahoma and southern Kansas: Okla. Geol. Survey, Bull. 98, 238 p., 3 figs., 24 pls. Surface study of stratigraphy of Permian rocks.

Felix, C. J., and Paden, Patricia, 1964, A new Lower Pennsylvanian spore genus: Micropaleontology, vol. 10, p. 330-332, 7 figs. *Trinidulus diamphidios;* new genus, new species from Morrowan rocks of western Oklahoma and the Texas Panhandle.

Fellows, L. D., 1964, Geology of the western part of Winding Stair Range, Latimer and Le Flore Counties, Oklahoma: Okla. Geol. Survey, Circ. 65, 102 p., 29 figs., 1 pl. Structure and stratigraphy of Devonian through Pennsylvanian rocks in the Ouachita Mountains.

Ferguson, D. B., 1964, Subsurface geology of northern Lincoln County, Oklahoma: Okla. City Geol. Soc., Shale Shaker, vol. 14, no. 10 (June), p. 4-18, 2 figs., 6 pls., 1 table. Stratigraphy of Ordovician through Pennsylvanian strata.

Folk, R. L., *see* Shoji, Rikii, and Folk, R. L.

Frederickson, E. A., 1964, Two Ordovician trilobites from southern Oklahoma: Okla. Geol. Survey, Okla. Geology Notes, vol. 24, p. 71-75, 1 pl. New species: *Encrinuroides capitonis* from Bromide Formation in Carter County, and *Calliops divaricatus* from Bromide in Pontotoc County.

Furlow, Bruce, 1964, Subsurface geology of the Kellyville district, Creek County, Oklahoma: Okla. City Geol. Soc., Shale Shaker, vol. 15, p. 32-51, 13 pls. Stratigraphy of Ordovician through Pennsylvanian strata.

Furnish, W. M., Quinn, J. H., and McCaleb, J. A., 1964, The Upper Mississippian ammonoid *Delepinoceras* in North America: Palaeontology, vol. 7, p. 173-180, 2 figs., 1 pl. Specimens from Pontotoc County.

Furnish, W. M., *see* McCaleb, J. A., and Furnish, W. M., *also* McCaleb, J. A., Quinn, J. H., and Furnish, W. M.

Gilbert, F. P., *see* Andreasen, G. E., Bromery, R. W., and Gilbert, F. P.

Glaser, G. C., *see* Norden, J. A. E., Kotila, D. A., and Glaser, G. C.

Gott, G. B., *see* Pierce, A. P., Gott, G. B., and Mytton, J. W.

Graffham, A. A., 1964, Lake Murray meteorite and its probable age: Okla. Geol. Survey, Okla. Geology Notes, vol. 24, p. 214-216, 1 fig. Meteorite found in Carter County fell during Cretaceous Period.

Grandjean, J., Grégoire, Ch., and Lutts, A., 1964, On the mineral components and remnants of organic structures in shells of fossil molluscs: Académie royale de Belgique, Bull., Classe des Sciences, ser. 5, vol. 50, p. 562-595, 7 pls. Cephalopod shells from Pennsylvanian Buckhorn asphalt deposit (Murray County) were studied and are illustrated in electron micrographs.

Grawe, O. R., *see* Hagni, R. D., and Grawe, O. R.

Grégoire, Ch., *see* Grandjean, J., Grégoire, Ch., and Lutts, A.

Grigsby, R. D., *see* Maslakova, N. I.

Hagni, R. D., and Grawe, O. R., 1964, Mineral paragenesis in the Tri-State district Missouri, Kansas, Oklahoma: Econ. Geology, vol. 59, p. 449-457, 1 fig. Seven periods of mineralization are recognized.

Ham, W. E., Denison, R. E., and Merritt, C. A., 1964, Basement rocks and structural evolution of southern Oklahoma: Okla. Geol. Survey, Bull. 95, 302 p., 19 figs., 16 pls., 18 tables.

Ham, W. E., and Johnson, K. S., 1964, Copper in the Flowerpot Shale (Permian) of the Creta area, Jackson County, Oklahoma: Okla. Geol. Survey, Circ. 64, 32 p., 10 figs., 2 pls., 3 tables.

Ham, W. E., *see* McDougal, R. B., and Ham, W. E.

Hansen, D. L., *see* Chenoweth, P. A., and Hansen, D. L.

Harlton, B. H., 1964, Tectonic framework of Eola and Southeast Hoover oil fields and West Timbered Hills area, Garvin and Murray Counties, Oklahoma: Amer. Assoc. Petroleum Geologists, Bull., vol. 48, p. 1555-1567, 8 figs.

Harrell, B. E., 1960, Notes on fossil birds from the Pleistocene of Kansas and Oklahoma: S. Dak. Acad. Science, Proc., 1959, vol. 38, p. 103-106.

Harris, R. W., 1964a, Emendation of ostracode ranges in Simpson Group (Ordovician) of Oklahoma: Okla. Geol. Survey, Okla. Geology Notes, vol. 24, p. 136-137, 1 table.

_____ 1964b, Erismodid conodonts in Simpson (Ordovician) of Oklahoma: Okla. Geol. Survey, Okla. Geology Notes, vol. 24, p. 171-177, 1 fig., 1 pl.

_____ 1964c, Subgenera of the conodont genus *Multioistodus* in Simpson-Burgen (Ordovician) of Oklahoma: Okla. Geol. Survey, Okla. Geology Notes, vol. 24, p. 108-118, 1 pl.

Harris, R. W., Jr., 1964, *Ceratoleperditia arbucklensis* in Criner Hills of Oklahoma: Okla. Geol. Survey, Okla. Geology Notes, vol. 24, p. 93-95, 1 fig. Ordovician ostracode from Carter County.

Hedlund, R. W., *see* Wilson, L. R., and Hedlund, R. W.

Heinzelmann, G. M., Jr., 1964, Mississippian rocks in the Stillwater-Chandler area: Okla. City Geol. Soc., Shale Shaker, vol. 15, p. 18-30, 5 figs., 2 pls.

Hoffman, E. A., Jr., 1964, Pre-Chester Mississippian rocks of northwestern Oklahoma: Okla. City Geol. Soc., Shale Shaker, vol. 14, no. 5 (Jan.), p. 2-17, 1 fig., 8 pls.

Hoffmeister, W. S., *see* Wilson, L. R., and Hoffmeister, W. S.

Horn, P. H., *see* Totten, R. B., and Horn, P. H.

Hower, John, *see* Velde, Bruce, and Hower, John.

Huddle, J. W., 1964, *Cavusgnathus, Idiognathoides* and *Polygnathodella*: a conodont nomenclatural and biologic problem: Jour. Paleontology, vol. 38, p. 400-401. Pennsylvanian conodont.

Huffman, G. G., leader, 1964, North-eastern Oklahoma: Kans. Geol. Soc., Okla. Geol. Survey, and Okla., Univ., School of Geology, Guidebook, Field Conf., 28th, Oct. 1964, 78 p., 57 figs. Stratigraphy and structure of the Oklahoma Ozark Mountains area.

Hunt, J. M., *see* Degens, E. T., Hunt, J. M., Reuter, J. H., and Reed, W. E.

Hutchison, V. V., 1964, Selected list of Bureau of Mines publications on petroleum and natural gas, 1910-62: U. S. Bur. Mines, Info. Circ. 8240, 98 p. Bibliography and index contains references to 40 Oklahoma fields.

Ingels, J. J. C., *see* Toomey, D. F., and Ingels, J. J. C.

Jacobsen, Peter, Jr., *see* Lyons, P. L., Jones, V. L., and Jacobsen, Peter, Jr.

Johnson, J. G., *see* Boucot, A. J., and Johnson, J. G.

Johnson, K. S., 1964a, Bibliography and index of Oklahoma geology 1963: Okla. Geol. Survey, Okla. Geology Notes, vol. 24, p. 39-60.

_____ 1964b, New gypsum plant to open at Duke, Jackson County, Oklahoma: Okla. Geol. Survey, Okla. Geology Notes, vol. 24, p. 3-8, 3 figs. Quarry to be in Permian Blaine Formation.

Johnson, K. S., *see* Ham, W. E., and Johnson, K. S.

Jones, V. L., 1964, Vertical-intensity magnetic map of Oklahoma: Geophys. Soc. Tulsa, Proc., vol. 8, p. 43-51, 1 fig., 1 pl. Magnetic map in pocket is same as Okla. Geol. Survey Map GM-6.

Jones, V. L., and Lyons, P. L., 1964, Vertical-intensity magnetic map of Oklahoma: Okla. Geol. Survey, Map GM-6, scale 1:750,000. Accompanying text by P. L. Lyons, V. L. Jones, and Peter Jacobsen, Jr. Map is same as issued in Geophys. Soc. Tulsa, Proc., vol. 8.

Jones, V. L., *see* Lyons, P. L., Jones, V. L., and Jacobsen, Peter, Jr.

Jordan, Louise, 1964a, Analyses of natural gases in Oklahoma, a review: Okla. Geol. Survey, Okla. Geology Notes, vol. 24, p. 177-179, 1 table. *Review of* Miller, R. D., and Norrell, G. P., 1964, Analyses of natural gases of the United States, 1961: U. S. Bur. Mines, Info. Circ. 8221. Total of 39 analyses of natural gases in Oklahoma.

_____ 1964b, Basement tests in areas of recent aeromagnetic mapping, Payne and Osage Counties, Oklahoma: Okla. Geol. Survey, Okla. Geology Notes, vol. 24, p. 294-295, 1 table.

_____ 1964c, Geology of Oklahoma—a summary: Geophys. Soc. Tulsa, Proc., vol. 8, p. 27-41, 6 figs.

_____ 1964d, Hunton (Silurian) production in Le Flore County, Oklahoma: Okla. Geol. Survey, Okla. Geology Notes, vol. 24, p. 211-212. First Hunton production in Oklahoma portion of Arkoma basin.

———— 1964e, Petroleum-impregnated rocks and asphaltite deposits in Oklahoma: Okla. Geol. Survey, Map GM-8, scale 1:750,000, with 16 pages of text. Includes bibliography.

———— 1964f, Statistics of Oklahoma's petroleum industry, 1963: Okla. Geol. Survey, Okla. Geology Notes, vol. 24, p. 123-129, 9 tables.

Jordan, Louise, *see* Branson, C. C., and Jordan, Louise.

Kitts, D. B., 1964, *Aelurodon*, an addition to the Durham local fauna, Roger Mills County, Oklahoma: Okla. Geol. Survey, Okla. Geology Notes, vol. 24, p. 76-78, 1 fig., 1 table. Jawbone of Pliocene dog.

Kotila, D. A., *see* Norden, J. A. E., Kotila, D. A., and Glaser, G. C.

Kurash, G. E., Jr., 1964, Subsurface geology of west-central Lincoln County, Oklahoma: Okla. City Geol. Soc., Shale Shaker, vol. 14, no. 6 (Feb.), p. 2-26, 6 figs., 7 pls., 1 table. Ordovician through Pennsylvanian stratigraphy.

Laing, W. E., 1964, Southwestern Oklahoma—a geophysical case history of a basin: Geophysics, vol. 29, p. 968-984, 12 figs. Seismic study of eastern Palo Duro basin.

Lamar, O. W., *see* Ringwald, W. J., and Lamar, O. W.

Levorsen, A. I., 1964, Big geology for big needs: Amer. Assoc. Petroleum Geologists, Bull., vol. 48, p. 141-156, 20 figs. Includes review of several oil fields and oil provinces in Oklahoma.

Lindsly, R. R., and others, 1964, Oklahoma, *in* International oil and gas development; year book 1964 (review of 1963): Internat. Oil Scouts Assoc., vol. 34, pt. 2, p. 246-315. Statistics of oil and gas production.

Lundin, R. F., 1964, Dimorphism in the thlipsurid ostracode *Thlipsuroides striatopunctatus* (Roth): Jour. Paleontology, vol. 38, p. 1099-1102, 2 figs. Specimens are from Silurian Henryhouse Formation in Pontotoc County.

Lutts, A., *see*, Grandjean, J., Grégoire, Ch., and Lutts, A.

Lyons, P. L., 1964a, Bouguer gravity-anomaly map of Oklahoma: Okla. Geol. Survey, Map GM-7, scale 1:750,000. Accompanying text by P. L. Lyons, V. L. Jones, and Peter Jacobsen, Jr. Map is same as issued in Geophys. Soc. Tulsa, Proc., vol. 8.

———— 1964b, Gravity map of Oklahoma: Geophys. Soc. Tulsa, Proc., vol. 8, p. 53-63, 1 pl. Bouguer gravity-anomaly map in pocket is same as Okla. Geol. Survey Map GM-7.

Lyons, P. L., Jones, V. L., and Jacobsen, Peter, Jr., 1964, Vertical-intensity magnetic map and Bouguer gravity-anomaly map of Oklahoma (text to accompany [Okla. Geol. Survey] Map GM-6 and Map GM-7): Okla. Geol. Survey, 15 p.

Lyons, P. L., *see* Jones, V. L., and Lyons, P. L.

Mamay, S. H., *see* Read, C. B., and Mamay, S. H.

Mankin, C. J., 1964, Carbonate petrology and clay mineralogy, *in* Variations in limestone deposits: Okla. City Geol. Soc. and Okla. Geol. Survey, Guidebook, Field Conf., 1964, p. 62-63, 1 fig. General statements concerning rock descriptions (given in accompanying road log) of Pennsylvanian beds of northeastern Oklahoma.

Mankin, C. J., *see* Branson, C. C., and Mankin, C. J.

Maslakova, N. I., 1963, On the classification of the genus *Hedbergella, translated by* Grigsby, R. D., 1964, [*under the title*] *Hedbergella,* an Oklahoma genus of Foraminifera: Okla. Geol. Survey, Okla. Geology Notes, vol. 24, p. 130-136, 1 fig., 1 table. (*Translated from* Akademia Nauk S. S. S. R., Paleontologicheskii Zhurnal, 1963, no. 4, p. 112-116, 2 figs., 1 table, in Russian.)

McCaleb, J. A., and Furnish, W. M., 1964, The Lower Pennsylvanian ammonoid genus *Axinolobus* in the southern Midcontinent: Jour. Paleontology, vol. 38, p. 249-255, 3 figs., 1 pl. Includes specimens from Johnston and Carter Counties.

McCaleb, J. A., Quinn, J. H., and Furnish, W. M., 1964, The ammonoid family Girtyoceratidae in the southern Midcontinent: Okla. Geol. Survey, Circ. 67, 41 p., 8 figs., 4 pls. Description of four genera, two new, and seven species, two new, from Mississippian and Pennsylvanian strata.

McCaleb, J. A., *see* Furnish, W. M., Quinn, J. H., and McCaleb, J. A.

McCrone, A. W., 1963, Paleoecology and biostratigraphy of the Red Eagle cyclothem (Lower Permian) in Kansas: Kans., State Geol. Survey, Bull. 164, 114 p., 23 figs., 7 pls., 7 tables. Outcrop study extends into Osage County, Oklahoma.

McDougal, R. B., 1964a, The mineral industry of Oklahoma in 1963 (preliminary): Okla. Geol. Survey, Okla. Geology Notes, vol. 24, p. 19-21, 1 table. Production figures on nonmetals, metals, and mineral fuels.

———— 1964b, The mineral industry of Oklahoma in 1963 (advance summary): Okla. Geol. Survey, Okla. Geology Notes, vol. 24, p. 219-223, 2 tables. Production figures on nonmetals, metals, and mineral fuels.

McDougal, R. B., and Ham, W. E., 1964, The mineral industry of Oklahoma: U. S. Bur. Mines, Minerals Yearbook 1963, vol. 3, Area Repts., p. 861-890, 27 tables. Production figures on metals, nonmetals, and mineral fuels.

McGuinness, C. L., 1964, Generalized map showing annual runoff and productive aquifers in the conterminous United States: U. S. Geol. Survey, Hydrol. Inv. Atlas HA-194, scale 1:5,000,000.

Merritt, C. A., *see* Ham, W. E., Denison, R. E., and Merritt, C. A.

Miller, J. H., *see* Atkins, R. L., and Miller, J. H.

Miller, R. D., and Norrell, G. P., 1964a, Analyses of natural gases of the United States, 1961: U. S. Bur. Mines, Info. Circ. 8221, 148 p., 1 fig., 2 tables. Includes analyses of 39 samples from Oklahoma.

———— 1964b, Analyses of natural gases of the United States, 1962: U. S. Bur. Mines, Info. Circ. 8239, 120 p., 1 fig., 2 tables. Includes analyses of 36 samples from Oklahoma.

Moeller, M. D., *see* Wood, P. R., and Moeller, M. D.

Mogharabi, Ataolah, 1964, Dolomite in the DeNay Limestone, Seminole County: Okla. Geol. Survey, Okla. Geology Notes, vol. 24, p. 12-14, 1 fig. Member of Pennsylvanian Coffeyville Formation.

Mook, C. C., 1964, New species of *Goniopholis* from the Morrison of Oklahoma: Okla. Geol. Survey, Okla. Geology Notes, vol. 24, p.

283-287, 2 figs. *G. stovalli;* crocodile skull from Jurassic rocks of Cimarron County.

Musgrove, C. D., 1964, Petroleum geology of the Bryant area, Okmulgee, Okfuskee, and McIntosh Counties, Oklahoma: Okla. City Geol. Soc., Shale Shaker, vol. 15, p. 2-16, 5 figs., 5 pls. Stratigraphy of Ordovician through Pennsylvanian strata.

Mytton, J. W., *see* Pierce, A. P., Gott, G. B., and Mytton, J. W.

Nance, E. C., and others, 1963, Soil survey of Woodward County, Oklahoma: U. S. Dept. Agriculture, Soil Conserv. Service, ser. 1960, no. 6, 69 p., 28 figs., 10 tables, 108 aerial photos.

Norden, J. A. E., 1964, Magnetic field study of basement relief and susceptibility variation in the Muskogee-Tahlequah area, Oklahoma: Okla. Geol. Survey, Okla. Geology Notes, vol. 24, p. 147-158, 6 figs., 1 table. Study in parts of Cherokee, Muskogee, and Wagoner Counties.

Norden, J. A. E., Kotila, D. A., and Glaser, G. C., 1964a, Gravimetric, magnetic, seismic, and earth-current-potential profile study of Webbers Falls reef, Muskogee County, Oklahoma: Okla. Geol. Survey, Okla. Geology Notes, vol. 24, p. 261-268, 4 figs. Geophysical study of shallow-subsurface limits of Pennsylvanian reef.

_____ 1964b, Magnetic delineation of the basement surface at Greenleaf Lake, Muskogee County, Oklahoma: Okla. Geol. Survey, Okla. Geology Notes, vol. 24, p. 61-66, 4 figs.

Norrell, G. P., *see* Miller, R. D., and Norrell, G. P.

Oklahoma City Geological Society and Oklahoma Geological Survey, 1964, Variations in limestone deposits: Guidebook, Field Conf., 1964, 92 p., illus. Pennsylvanian rocks of northeastern Oklahoma. Seven articles by D. P. Brown, C. C. Branson, M. M. Cassidy, W. R. Cronoble, C. J. Mankin, Norval Ballard, and J. A. Taylor and C. B. Branan, Jr. are listed separately in this bibliography.

Oklahoma Geological Survey, *see* Oklahoma City Geological Society and Oklahoma Geological Survey.

Paden, Patricia, *see* Felix, C. J., and Paden, Patricia.

Padgett, Ward, 1964, Fifty-fifth annual report of mines and mining of Oklahoma: [Okla.] Dept. Chief Mine Inspector, 37 p. Statistics.

Patterson, J. L., 1964, Magnitude and frequency of floods in the United States. Part 7. Lower Mississippi River basin: U. S. Geol. Survey, Water-supply Paper 1681, 636 p., 20 figs., 1 pl., 3 tables. Includes data from gaging stations throughout Oklahoma.

Penfound, W. T., *see* Shed, J. S., and Penfound, W. T.

Pierce, A. P., Gott, G. B., and Mytton, J. W., 1964, Uranium and helium in the Panhandle gas field, Texas, and adjacent areas: U. S. Geol. Survey, Prof. Paper 454-G, p. G-1-57, 21 figs., 3 pls., 17 tables. Includes information on Oklahoma Panhandle.

Pitt, W. D., and Spradlin, C. B., 1964, Silurian-Ordovician age of the Blaylock Sandstone: Okla. Geol. Survey, Okla. Geology Notes, vol. 24, p. 11. Graptolites in lower part of Blaylock in McCurtain County are Ordovician forms.

Pybas, G. W., 1964, Petroleum geology of southwestern Pottawatomie County, Oklahoma: Okla. City Geol. Soc., Shale Shaker, vol. 14, no. 7 (Mar.), p. 2-17, 5 figs., 4 pls. Stratigraphy of Ordovician through Pennsylvanian strata.

Quinn, J. H., *see* Furnish, W. M., Quinn, J. H., and McCaleb, J. A., *also* McCaleb, J. A., Quinn, J. H., and Furnish, W. M.

Read, C. B., and Mamay, S. H., 1964, Upper Paleozoic floral zones and floral provinces of the United States: U. S. Geol. Survey, Prof. Paper 454-K, p. K-1-35, 19 pls., 5 tables. Mississippian, Pennsylvanian, and Permian floral zones represented in Oklahoma.

Reed, W. E., *see* Degens, E. T., Hunt, J. M., Reuter, J. H., and Reed, W. E.

Reso, Anthony, and Wegner, Karen, 1964, Echinoderm (holothurian?) sclerites from the Bromide Formation (Black Riverian) of southern Oklahoma: Jour. Paleontology, vol. 38, p. 89-94, 1 fig., 1 pl. Description of three species (two new) of *Thuroholia* from Ordovician rocks in Carter County.

Reuter, J. H., *see* Degens, E. T., Hunt, J. M., Reuter, J. H., and Reed, W. E.

Ringwald, W. J., and Lamar, O. W., 1963, Soil survey of Cotton County, Oklahoma: U. S. Dept. Agriculture, Soil Conserv. Service, ser. 1960, no. 11, 70 p., 22 figs., 13 tables, 62 aerial photos.

Roark, J. J., 1964, Bibliography of geophysics in Oklahoma: Geophys. Soc. Tulsa, Proc., vol. 8, p. 65-82. Bibliography and index.

Rowett, C. L., and Sutherland, P. K., 1964, Biostratigraphy and rugose corals of the Lower Pennsylvanian Wapanucka Formation in Oklahoma: Okla. Geol. Survey, Bull. 104, 124 p., 13 figs., 9 pls., 12 tables. Study in the eastern Arbuckles and western Ouachitas. Nineteen species (two new) are in nine genera.

Schmitz, Richard, *see* Branson, C. C., and Schmitz, Richard.

Schramm, M. W., Jr., 1964, Paleogeologic and quantitative lithofacies analysis, Simpson Group, Oklahoma: Amer. Assoc. Petroleum Geologists, Bull., vol. 48, p. 1164-1195, 18 figs.

Schriever, William, 1964, Reflection seismograph prospecting. How it started: Okla. City Geol. Soc., Shale Shaker, vol. 15, p. 20-23, 5 figs. Recount of development and testing of this geophysical tool in Oklahoma during early 1920's.

Shead, A. C., 1964a, Industrial utilization of concretions, nodules, segregations and the shales containing them: Okla. Acad. Science, Proc., 1963, vol. 44, p. 77-84, 1 table. Includes list of some published occurrences.

_____ 1964b, Reclamation strip-pit-coal mining-spoil by mineral recovery and geochemical treatment: Okla. Acad. Science, Proc., 1963, vol. 44, p. 84-88, 1 table.

_____ 1964c, Some phosphate nodules and the beds from which they were derived: Okla. Acad. Science, Proc., 1963, vol. 44, p. 74-76. Discussion of nodules from the Permian and from the Woodford Formation.

Shed, J. S., and Penfound, W. T., 1964, Distribution of legumes as correlated with surface geology and plant succession: Okla. Acad. Science, Proc., 1963, vol. 44, p. 2-6, 3 tables. Study made in Marshall County.

Shelby, J. M., 1964, Developments in Texas and Oklahoma Panhandles in 1963: Amer. Assoc. Petroleum Geologists, Bull., vol. 48, p. 875-880, 1 fig., 4 tables. Oil and gas statistics.

Shoji, Rikii, and Folk, R. L., 1964, Surface morphology of some limestone types as revealed by electron microscope: Jour. Sed. Petrology, vol. 34, p. 144-155, 5 pls. Illustrated and discussed are five samples of Ordovician and Devonian rocks from Murray County.

Six, D. A., 1964, Arkoma gas field is big, complex: Oil and Gas Jour., vol. 62, no. 23 (June 8), p. 214-218, 4 figs. Geology and production in Red Oak-Norris gas field.

Smith, A. G., and Toomey, D. F., 1964, Chitons from the Kindblade Formation (Lower Ordovician), Arbuckle Mountains, southern Oklahoma: Okla. Geol. Survey, Circ. 66, 41 p., 2 figs., 8 pls. Description of four genera, two new, and five species, all new, from localities in Murray and Carter Counties.

Spradlin, C. B., *see* Pitt, W. D., and Spradlin, C. B.

Steele, C. E., and Barclay, J. E., 1964, Ground-water resources of Harmon County and adjacent parts of Greer and Jackson Counties, Oklahoma: U. S. Geol. Survey and Okla. Water Resources Board, open-file report, 425 p., 15 figs.

Stoever, E. C., and Trask, Juel, 1964, Earth science: Okla. Teacher, vol. 45, no. 9 (May), p. 38-39. Geologic education in Oklahoma secondary schools.

Sutherland, P. K., *see* Rowett, C. L., and Sutherland, P. K.

Taylor, J. A., and Branan, C. B., Jr., 1964, The wandering oil fields of northeastern Oklahoma, *in* Variations in limestone deposits: Okla. City Geol. Soc. and Okla. Geol. Survey, Guidebook, Field Conf., 1964, p. 8-40, 11 figs. History of oil discoveries and general geology of various fields.

Teichert, Curt, 1964, Morphology of hard parts, *in* Mollusca 3, pt. K *of* Moore, R. C., ed., Treatise on invertebrate paleontology: Geol. Soc. America and Univ. Kans. Press, p. 13-53, 42 figs. Includes seven electron micrographs of Pennsylvanian cephalopod shells from Buckhorn asphalt deposit, Murray County.

Toomey, D. F., and Ingels, J. J. C., 1964, Reported Silurian occurrence of *Calathium* from the Thornton reef, Illinois: a correction: Jour. Paleontology, vol. 38, p. 1102-1104, 1 pl. Illustrated are specimens of Ordovician sponges from the Arbuckle Mountains.

Toomey, D. F., *see* Smith, A. G., and Toomey, D. F.

Totten, R. B., and Horn, P. H., 1960, Geology of certain gas fields of the western Anadarko basin, Texas and Oklahoma Panhandles, *in* Natural gas in the Southwest: Southwestern Federation of Geol. Societies, Trans., vol. 1, p. 39-61, 21 figs. Includes fields in Texas and Beaver Counties.

Trask, Juel, *see* Stoever, E. C., and Trask, Juel.

United States Geological Survey, 1963 [1964]a, Quality of surface waters for irrigation, western states, 1959: U. S. Geol. Survey, Water-supply Paper 1699, 147 p., 1 pl. Includes data from five stations in Oklahoma.

———— 1964b, Compilation of records of surface waters of the United States, October 1950 to September 1960. Part 7. Lower Mississippi River basin: U. S. Geol. Survey, Water-supply Paper 1731, 552 p., 2 figs., 1 pl. Includes stream-flow records from Oklahoma.

———— 1964c, Geological Survey research 1964: U. S. Geol. Survey, Prof. Paper 501-A, p. A-1-367, 14 figs. Preliminary results of various Survey projects, including four water-resources studies in Oklahoma.

Velde, Bruce, and Hower, John, 1963, Petrological significance of illite polymorphism in Paleozoic sedimentary rocks: Amer. Mineralogist, vol. 48, p. 1239-1254, 7 figs., 2 tables. Rock specimens studied include ten samples from Oklahoma.

Venkatachala, B. S., *see* Wilson, L. R., and Venkatachala, B. S.

Vining, J. W., 1964, The Caddo Canyons of Oklahoma: Great Plains Jour., vol. 4, no. 1 (fall), p. 1-6, 1 fig. Geomorphology and stream development in parts of Caddo and Canadian Counties.

Vosburg, D. L., 1964, Helium in Oklahoma, a review: Okla. Geol. Survey, Okla. Geology Notes, vol. 24, p. 185-187. *Review of* Pierce, A. P., Gott, G. B., and Mytton, J. W., 1964, Uranium and helium in the Panhandle gas field, Texas, and adjacent areas: U. S. Geol. Survey, Prof. Paper 454-G. Includes Hugoton and Keyes fields of Oklahoma Panhandle.

Walper, J. L., 1963, Some thoughts of the structural evolution of southern Oklahoma: Tulsa Geol. Soc., Digest, vol. 31, p. 260-265, 7 figs. Deals principally with Ouachita Mountains.

Wegner, Karen, *see* Reso, Anthony, and Wegner, Karen.

Wermund, E. G., 1964, Geologic significance of fluviodetrital glauconite: Jour. Geology, vol. 72, p. 470-476, 3 figs., 3 tables. Test areas include Wichita and Arbuckle Mountains.

Wilson, L. R., 1964, Palynological assemblage resemblance in the Croweburg coal of Oklahoma: Okla. Geol. Survey, Okla. Geology Notes, vol. 24, p. 138-143, 4 tables. Flora from Pennsylvanian coal bed in northeastern Oklahoma.

Wilson, L. R., and Dolly, E. D., 1964, Chitinozoa in the Tulip Creek Formation, Simpson Group (Ordovician), of Oklahoma: Okla. Geol. Survey, Okla. Geology Notes, vol. 24, p. 224-232, 1 pl. Two new species, *Hoegisphaera bransoni* and *Conochitina infraspinosa,* are described from Carter County. The genus *Calpichitina* is placed in synonymy with *Hoegisphaera.*

Wilson, L. R., and Hedlund, R. W., 1964, *Calpichitina scabiosa,* a new chitinozoan from the Sylvan Shale (Ordovician) of Oklahoma: Okla. Geol. Survey, Okla. Geology Notes, vol. 24, p. 161-164, 1 pl. Specimens from Murray County.

Wilson, L. R., and Hoffmeister, W. S., 1964, Taxonomy of the spore genera *Lycospora* and *Cirratriradites* in the Croweburg coal: Okla. Geol. Survey, Okla. Geology Notes, vol. 24, p. 33-35, 1 pl. Flora from Pennsylvanian coal bed in northeastern Oklahoma.

Wilson, L. R., and Venkatachala, B. S., 1964, *Potonieisporites elegans* (Wilson and Kosanke, 1944) Wilson and Venkatachala comb.

nov.: Okla. Geol. Survey, Okla. Geology Notes, vol. 24, p. 67-68, 2 figs. Pennsylvanian spore *Florinites elegans* assigned to genus *Potonieisporites*.
Wood, P. R., and Moeller, M. D., 1964, Ground-water levels in observation wells in Oklahoma, 1961-62: U. S. Geol. Survey and Okla. Water Resources Board, 119 p., 17 figs., 4 tables.

INDEX

1965

Vol. 26, no. 3, March 1966

Bibliography and Index of Oklahoma Geology
1965

Prepared by Jane Howe

Bibliography—pages 55-64

Index—pages 64-73

Bibliography

Adams, W. L., 1965, Identity and description of the diagenetic aspects of lower Morrowan sandstones in the north rim of the Anadarko basin, northwestern Oklahoma: Oil and Gas Jour., vol. 63, no. 16 (Apr. 19), p. 176-182, 4 figs.

Ager, D. V., Grant, R. E., McLaren, D. J., and Schmidt, Herta, 1965, Rhynchonellida, *in* Brachiopoda, vol. 2, *pt. H of* Moore, R. C., ed., Treatise on invertebrate paleontology: Geol. Soc. America and Univ. Kans. Press, p. 552-632.

Akins, Ralph, 1964 [1965]a, Map of Arbuckle pools of Oklahoma, *in* Tulsa Geological Society, Symposium on the Arbuckle: Tulsa Geol. Soc., Digest, vol. 32, p. 36.

_____1964 [1965]b, Map of Arbuckle pools of Osage County, *in* Tulsa Geological Society, Symposium on the Arbuckle: Tulsa Geol. Soc., Digest, vol. 32, p. 37.

Amsden, T. W., and Biernat, Gertruda, 1965, Pentamerida, *in* Brachiopoda, vol. 2, *pt. H of* Moore, R. C., ed., Treatise on invertebrate paleontology: Geol. Soc. America and Univ. Kans. Press, p. 523-552.

Amsden, T. W., and Rowland, T. L., 1965, Silurian stratigraphy of northeastern Oklahoma: Okla. Geol. Survey, Bull. 105, 174 p., 19 figs., 20 pls.

Arro, Eric, 1965, Morrowan sandstones in the subsurface of the Hough area, Texas County, Oklahoma: Oklahoma City Geol. Soc., Shale Shaker, vol. 16, no. 1 (Sept.), p. 2-15, 2 figs., 11 pls.

Atkins, R. L., Miller, J. H., and Gillian, T. M., 1965, Oklahoma, *in* International oil and gas development, review 1964: Internat. Oil Scouts Assoc., vol. 35, pt. 1, p. 247-273.

Bailey, S. W., *see* Doman, R. C., Cinnamon, C. G., and Bailey, S. W.

Ball Associates, Ltd., 1965, Oklahoma, *in* Surface and shallow oil-impregnated rocks and shallow oil fields in the United States: U. S. Bur. Mines, Mon. 12, p. 227-290.

Barclay, J. E., *see* Steele, C. E., and Barclay, J. E.

Becker, Edith, *see* Dufor, C. N., and Becker, Edith.

Bennison, Alan, 1964 [1965], The Cushing field, Creek County, Oklahoma, *in* Tulsa Geological Society, Symposium on the Arbuckle: Tulsa Geol. Soc., Digest, vol. 32, p. 158-159, 1 fig.

Berry, C. G., 1965, Stratigraphy of the Cherokee group, eastern Osage County, Oklahoma: Oklahoma City Geol. Soc., Shale Shaker, vol. 16, no. 4 (Dec.), p. 78-92.

Bloesch, Edward, 1964 [1965], Arbuckle production and prospects in northeastern Oklahoma, *in* Tulsa Geological Society, Symposium on the Arbuckle: Tulsa Geol. Soc., Digest, vol. 32, p. 43-44.

Bond, T. A., 1965a, Ephedran pollen grains in Pleistocene sediments of central and southeastern Oklahoma: Okla. Geol. Survey, Okla. Geology Notes, vol. 25, p. 302-307, 1 pl.

_____1965b, Recycled hystrichosphaerids in Pleistocene sediments in central Oklahoma: Okla. Geol. Survey, Okla. Geology Notes, vol. 25, p. 126-130, 1 pl.

Boucot, A. J., Johnson, J. G., Pitrat, C. W., and Staton, R. D., 1965, Spiriferida, *in* Brachiopoda, vol. 2, *pt. H of* Moore, R. C., ed., Treatise on invertebrate paleontology: Geol. Soc. America and Univ. Kans. Press, p. 632-728.

Branson, C. C., 1965a, Checkerboard Limestone: Okla. Geol. Survey, Okla. Geology Notes, vol. 25, p. 113-115, 2 figs.

_____1965b, Color on an Oklahoma rugose coral: Okla. Geol. Survey, Okla. Geology Notes, vol. 25, p. 86.

_____1965c, Decisions on Oklahoma place names: Okla. Geol. Survey, Okla. Geology Notes, vol. 25, p. 82-85.

_____1965d, Field-trip guidebooks of Oklahoma geology: Okla. Geol. Survey, Okla. Geology Notes, vol. 25, p. 136-148.

_____1965e, Geology of Byars fossil site: Okla. Geol. Survey, Okla. Geology Notes, vol. 25, p. 98.

_____1965f, Holotype of type species of *Mortoniceras*: Okla. Geol. Survey, Okla. Geology Notes, vol. 25, p. 252-256, 2 figs.

_____1965g, Names of Oklahoma coal beds: Okla. Geol. Survey, Okla. Geology Notes, vol. 25, p. 160-167.

_____1965h, New names for some Oklahoma brachiopods: Okla. Geol. Survey, Okla. Geology Notes, vol. 25, p. 204.

_____1965i, New species of *Conocardium*: Okla. Geol. Survey, Okla. Geology Notes, vol. 25, p. 247-251, 10 figs.

_____1965j, New specimens of *Homotelus* from the Bromide Formation: Okla. Geol. Survey, Okla. Geology Notes, vol. 25, p. 294-296, 3 figs.

_____1965k, Oklahoma Board on Geographic Names: Okla. Geol. Survey, Okla. Geology Notes, vol. 25, p. 299-300.

_____1965l, Oklahoma Pennsylvanian Conularida: Okla Geol. Survey, Okla. Geology Notes, vol. 25, p. 18-19, 3 figs.

_____1965m, *Petrodus* in Oklahoma: Okla. Geol. Survey, Okla. Geology Notes, p. 274-275, 3 figs.

_____1965n, *Schizophoria oklahomae*: Okla. Geol. Survey, Okla. Geology Notes, vol. 25, p. 50-51, 1 fig.

_____1965o, *Serpula* in the Caddo Limestone of Choctaw County: Okla. Geol. Survey, Okla. Geology Notes, vol. 25, p. 300-301, 1 fig.

_____1965p, Sponge borings or snail borings: Okla. Geol. Survey, Okla. Geology Notes, vol. 25, p. 132.

_____1965q, Status of topographic mapping in Oklahoma: Okla. Geol. Survey, Okla. Geology Notes, vol. 25, p. 87.

———1965r, Trilobite from the Lenapah Limestone: Okla. Geol. Survey, Okla. Geology Notes, vol. 25, p. 27-28, 1 fig.
Burgess, W. J., 1964 [1965], Stratigraphic dolomitization in Arbuckle rocks in Oklahoma, *in* Tulsa Geological Society, Symposium on the Arbuckle: Tulsa Geol. Soc., Digest, vol. 32, p. 45-48, 2 figs.
Burton, L. C., 1965, Ground water in terrace deposits of central Beckham County, Oklahoma: Okla. Water Resources Board, Bull. 25, 30 p., 3 figs., 5 pls.
Calvin, D. G., 1965, Incidence of oil and gas in the Cottage Grove Sandstone: Oklahoma City Geol. Soc., Shale Shaker, vol. 16, no. 2 (Oct.), p. 25-42, 12 figs., 7 pls., 2 maps.
Carrales, M., Jr., *see* Dietzman, W. D., Carrales, M., Jr., and Jirik, C. J.
Chenoweth, P. A., 1965a, A boulder in the Gunter Sandstone, northeastern Oklahoma: Okla. Geol. Survey, Okla. Geology Notes, vol. 25, p. 3-5, 1 fig.
———1965b, Caney River arch, a pre-Seminole uplift in northeastern Oklahoma: Okla. Geol. Survey, Okla. Geology Notes, vol. 25, p. 279-286, 4 figs.
Chenoweth, P. A., Hansen, D. L., and Wilson, J. W., 1965, Developments in Oklahoma and the Panhandle of Texas: Amer. Assoc. Petroleum Geologists, Bull., vol. 49, p. 710-727, 2 figs., 11 tables.
Cinnamon, C. G., *see* Doman, R. C., Cinnamon, C. G., and Bailey, S. W.
Clarke, J. W., and others, 1965, Bibliography of North American geology, 1961: U. S. Geol. Survey, Bull. 1197, 663 p.
Clayton, J. M., 1965, Paleodepositional environments of the "Cherokee" sands of central Payne County, Oklahoma: Oklahoma City Geol. Soc., Shale Shaker, vol. 16, no. 3 (Nov.), p. 50-66, 2 figs., 18 pls.
Conkin, B. M., *see* Conkin, J. E., and Conkin, B. M.
Conkin, J. E., and Conkin, B. M., 1965, Ordovician (Richmondian) Foraminifera from Oklahoma, Missouri, Illinois, and Kentucky: Okla. Geol. Survey, Okla. Geology Notes, vol. 25, p. 207-221, 2 pls., 3 tables.
Crammatte, Florence, *see* Hobbs, H. M., and Crammatte, Florence.
Croneis, Carey, and Toomey, D. F., 1965, Gunsight (Virgilian) wewokelid sponges and their depositional environment: Jour. Paleontology, vol. 39, p. 1-16, 2 figs., 8 pls.
Cronoble, W. R., and Mankin, C. J., 1965, Petrology of the Hogshooter Formation (Missourian), Washington and Nowata Counties, Oklahoma: Okla. Geol. Survey, Bull. 107, 148 p., 9 figs., 5 pls., 8 tables.
Cummings, T. R., 1965a, Chemical character of surface waters of Oklahoma, 1960-1961: Okla. Water Resources Board, Bull. 23, 178 p.
———1965b, Chemical character of surface waters of Oklahoma, 1961-1962: Okla. Water Resources Board, Bull. 24, 203 p.
Denison, R. E., *see* Ham, W. E., Denison, R. E., and Merritt, C. A.
Dietzman, W. D., Carrales, M., Jr., and Jirik, C. J., 1965, Heavy crude oil reservoirs in the United States: U. S. Bur. Mines, Inf. Circ. 8263, p. 28-30, 1 table.
Doerr, A. H., 1965, Arid and semiarid climates in Oklahoma, 1923-1958: Okla. Geol. Survey, Okla. Geology Notes, vol. 25, p. 99-112, 35 figs.
Doman, R. C., Cinnamon, C. G., and Bailey, S. W., 1965, Structural discontinuities of the plagioclase feldspar series: Amer. Mineralogist, vol. 50, p. 724-740, 6 figs., 2 tables.
Dowds, J. P., 1965, A decade of successful discovery case histories: World Oil, vol. 161, no. 4 (Sept.), p. 96-102, 6 figs.
Dufor, C. N., and Becker, Edith, 1965, Chemical quality of public water supplies of the United States and Puerto Rico, 1962: U. S. Geol. Survey, Hydrol. Inv., Atlas HA-200, 1 table.
Elliott, G. F., *see* Muir-Wood, Helen., Stehli, F. G., Elliott, G. F., and Hatai, Kotora.
Engleman, Rolf, 1965, Block diagram of Ouachita structure: Okla. Geol. Survey, Okla. Geology Notes, vol. 25, p. 203, 1 fig.
Erickson, A. J., Jr., 1965, Temperatures of calcite deposition in the upper Mississippi Valley lead-zinc deposits: Econ. Geology, vol. 60, p. 506-528, 10 figs., 4 tables.
Fay, R. O., 1965, Geology and mineral resources of Woods County, Oklahoma: Okla. Geol. Survey, Bull. 106, 189 p., 40 figs., 4 pls., 1 table.
Feth, J. H., and others, 1965, Preliminary map of the conterminous United States showing depth to and quality of shallowest ground water containing more than 1,000 parts per million dissolved solids: U. S. Geol. Survey, Hydrol. Inv., Atlas HA-199.
Frederickson, E. A., and Redman, R. H., 1965, Geology of Love County, *Pt. I of* Geology and petroleum of Love County, Oklahoma: Okla. Geol. Survey, Circ. 63, p. 1-48, figs. 1-24, 1 pl.
Given, I. A., ed., 1965, Keystone Coal Buyers Manual: N. Y., McGraw-Hill, Inc., p. 370-371, 1 fig. Mining districts and coal seams in Oklahoma by C. C. Branson.
Graffham, Allen, 1965, A slab of extra-fine trilobites from Arbuckle Mountains of Carter County, southern Oklahoma: Rocks and Minerals, vol. 40, p. 322, 1 fig.
Grant, R. E., *see* Ager, D. V., Grant, R. E., McLaren, D. J., and Schmidt, Herta.
Grégoire, Charles, and Teichert, Curt, 1965, Conchiolin membranes in shell and cameral deposits of Pennsylvanian cephalopods, Oklahoma: Okla. Geol. Survey, Okla. Geology Notes, vol. 25, p. 175-201, 1 fig., 11 pls.
Ham, W. E., 1965, Dolese Brothers plant at Richards Spur described: Okla. Geol. Survey, Okla. Geology Notes, vol. 25, p. 10.
Ham, W. E., Denison, R. E., and Merritt, C. A., 1965, Basement rocks and structural evolution of southern Oklahoma—a summary: Amer. Assoc. Petroleum Geologists, Bull., vol. 49, p. 927-934, 2 figs., 2 tables.
Hamblin, W. K., 1965, Internal structures of "homogeneous" sandstones: Kans., State Geol. Survey, Bull. 175, Pt. I, 38 p., 28 figs., 1 table.
Hamilton, Warren, and Pakiser, L. S., 1965, Geologic and crustal cross section of the United States along the 37th parallel: U. S. Geol. Survey, Misc. Geol. Inv., Map I-449.

Hammes, R. A., 1965, Ouachita overthrusting—stratigraphic appraisal: Amer. Assoc. Petroleum Geologists, Bull., vol. 49, p. 1666-1679, 3 figs.

Hansen, D. L., *see* Chenoweth, P. A., Hansen, D. L., and Wilson, J. W.

Harlton, B. H., 1964 [1965], Surface and subsurface divisions of Cambro-Ordovician carbonates of Oklahoma, *in* Tulsa Geological Society, Symposium on the Arbuckle: Tulsa Geol. Soc., Digest, vol. 32, p. 38-42, 2 figs.

Harris, Beth, *see* Harris, R. W., and Harris, Beth.

Harris, R. W., and Harris, Beth, 1965, Some West Spring Creek (Ordovician Arbuckle) conodonts from Oklahoma: Okla. Geol. Survey, Okla. Geology Notes, vol. 25, p. 34-47, 1 pl.

Hart, D. L., Jr., 1965, Ground water in alluvial deposits of the Washita River between Clinton and Anadarko, Oklahoma: Okla. Water Resources Board, Bull. 26, 25 p., 12 figs., 2 tables.

Hatai, Kotora, *see* Muir-Wood, Helen, Stehli, F. G., Elliott, G. F., and Hatai, Kotora.

Healy, J. H., Steinhart, J. S., and Meyer, R. P., 1965, Seismic refraction studies in the transcontinental geophysical survey: Amer. Geophys. Union, Trans., vol. 46, p. 383-384, 1 map.

Hedlund, R. W., 1965, Palynological assemblage from the Permian Wellington Formation, Noble County, Oklahoma: Okla. Geol. Survey, Okla. Geology Notes, vol. 25, p. 236-241, 3 pls.

Hendricks, T. A., 1965, Section of beds overlying the Springer (?) Formation in Ti Valley, Pittsburg County, Oklahoma: Okla. Geol. Survey, Okla. Geology Notes, vol. 25, p. 6-10, 1 fig.

Herndon, Tom, 1964 [1965]a, The Frederick field, Tillman County, Oklahoma, *in* Tulsa Geological Society, Symposium on the Arbuckle: Tulsa Geol. Soc., Digest, vol. 32, p. 142-143, 1 fig.

_____1964 [1965]b, The West Frederick field, Tillman County, Oklahoma, *in* Tulsa Geological Society, Symposium on the Arbuckle: Tulsa Geol. Soc., Digest, vol. 32, p. 144-145, 1 fig.

Hessler, R. R., 1965, Lower Mississippian trilobites of the family Proetidae in the United States, Pt. II: Jour. Paleontology, vol. 39, p. 248-264, 1 fig., 4 pls., 3 tables.

Hobbs, H. W., and Crammatte, Florence, 1965, Hydrologic data for experimental agricultural watersheds in the United States, 1960-1961: U. S. Dept. Agriculture, Misc. Pub. 994, 496 p.

Hollowell, J. R., 1965a, Ground water in the alluvium of Otter Creek basin, Oklahoma: Okla. Water Resources Board, Bull. 27, 15 p., 7 figs.

_____1965b, Ground water in the alluvium of Elk Creek basin, Oklahoma: Okla. Water Resources Board, Bull. 28, 12 p., 6 figs.

Jirik, C. J., *see* Dietzman, W. D., Carrales, M., Jr., and Jirik, C. J.

Johnson, J. G., *see* Boucot, A. J., Johnson, J. G., Pitrat, C. W., and Staton, R. D.

Johnson, K. S., 1965a, Bibliography and index of Oklahoma geology, 1964: Okla. Geol. Survey, Okla. Geology Notes, vol. 25, p. 55-75.

_____1965b, Gypsum quarry operating at Fletcher, Comanche County, Oklahoma: Okla. Geol. Survey, Okla. Geology Notes, vol. 25, p. 78-81, 2 figs.

Jones, C. L., 1965, Petrology of evaporites from the Wellington Formation near Hutchinson, Kansas: U. S. Geol. Survey, Bull. 1201-A, 70 p., 18 figs., 1 pl., 1 table.

Jordan, Louise, 1965a, Chemical quality of public water supplies in Oklahoma, a review: Okla. Geol. Survey, Okla. Geology Notes, vol. 25, p. 226-227.

_____1965b, Frisco Formation (Devonian) in borehole, Jackson County, Oklahoma: Okla. Geol. Survey, Okla. Geology Notes, vol. 25, p. 20-27, 5 figs.

_____1965c, Statistics of Oklahoma's petroleum industry, 1964: Okla. Geol. Survey, Okla. Geology Notes, vol. 25, p. 151-159, 9 tables.

_____1965d, Upper-mantle study and Oklahoma: Okla. Geol. Survey, Okla. Geology Notes, vol. 25, p. 242-244.

Kennedy, L. E., and Peters, L. B., Jr., 1964 [1965]a, Country Club field, Osage County, Oklahoma, *in* Tulsa Geological Society, Symposium on the Arbuckle: Tulsa Geol. Soc., Digest, vol. 32, p. 148-149, 1 fig.

_____1964 [1965]b, South Canyon Creek field, Osage County, Oklahoma, *in* Tulsa Geological Society, Digest, vol. 32, p. 146-147, 1 fig.

_____1964 [1965]c, Whitecliff Dome field, Osage County, Oklahoma, *in* Tulsa Geological Society, Symposium on the Arbuckle: Tulsa Geol. Soc., Digest, vol. 32, p. 150-151, 1 fig.

Kier, P. M., 1965, Evolutionary trends in Paleozoic echinoids: Jour. Paleontology, vol. 39, p. 436-465, 26 figs., 6 pls., 1 table.

Kitts, D. E., 1965, Geology of the Cenozoic rocks of Ellis County, Oklahoma: Okla. Geol. Survey, Circ. 69, 30 p., 5 figs., 1 pl.

Kruger, R. C., 1965, Subsurface study of Mississippian rocks in the Tulsa area: Oklahoma City Geol. Soc., Shale Shaker, vol. 15, no. 8 (April), p. 134-155, 5 figs., 1 table.

Lara, J. M., and Pemberton, E. L., 1965, Initial unit weight of deposited sediment, *in* Proceedings of the Federal Inter-Agency Sedimentation Conference, 1963: U. S. Dept. Agriculture, Misc. Pub. 970, p. 818-845, 4 figs., 3 tables.

Lindsly, R. R., and others, Oklahoma, *in* International oil and gas development, review 1964: Internat. Oil Scouts Assoc., vol. 35, pt. 2, p. 255-319.

Lundin, R. F., 1965a, A new name for *Leperditia symmetrica*: Jour. Paleontology, vol. 39, p. 1221.

_____1965b, Ostracodes of the Henryhouse Formation (Silurian) in Oklahoma: Okla. Geol. Survey, Bull. 108, 104 p., 45 figs., 18 pls., 16 tables.

Macurda, D. B., Jr., 1965, The functional morphology and stratigraphic distribution of the Mississippian blastoid genus *Orophocrinus*: Jour. Paleontology, vol. 39, p. 1045-1096, 16 text-figs., 6 pls., 3 tables.

Madden, E. B., 1965, Channel design for modified sediment regime

conditions on the Arkansas River, *in* Proceedings of the Federal Inter-Agency Sedimentation Conference, 1963: U. S. Dept. Agriculture, Misc. Pub. 970, p. 335-352, 11 figs., 1 table.

Mankin, C. J., *see* Cronoble, W. R., and Mankin, C. J.

McBride, E. F., 1965, Review of turbidite studies in the United States, *in* Bouma, A. H., and Bouwer, Aart, eds., Turbidites; Developments in sedimentology 3: Amsterdam, New York, Elsevier Pub. Co., p. 93-105.

McCaslin, J. C., 1965, Blaine County wildcats: Oil and Gas Jour., vol. 63, no. 41 (Oct. 11), p. 241, 1 fig.

McCracken, M. H., 1964 [1965], The Cambro-Ordovician rocks of northeastern Oklahoma and adjacent areas, *in* Tulsa Geological Society, Symposium on the Arbuckle: Tulsa Geol. Soc., Digest, vol. 32, p. 49-75, 10 figs.

McDougal, R. B., 1965, The mineral industry of Oklahoma in 1964 (Preliminary): Okla. Geol. Survey, Okla. Geology Notes, vol. 25, p. 31-33, 1 table.

McLaren, D. J., *see* Ager, D. V., Grant, R. E., McLaren, D. J., and Schmidt, Herta.

Merritt, C. A., 1965, Mt. Scott Granite, Wichita Mountains, Oklahoma: Okla. Geol. Survey, Okla. Geology Notes, p. 263-272, 3 figs., 1 table.

Merritt, C. A., *see* Ham, W. E., Denison, R. E., and Merritt, C. A.

Meyer, R. P., *see* Healy, J. H., Steinhart, J. S., and Meyer, R. P.

Miller, R. D., and Norrell, G. P., 1965, Analyses of natural gases of the United States, 1963: U. S. Bur. Mines, Info. Circ. 8241, 102 p., 1 fig.

Moore, R. C., ed., Brachiopoda, *pt. H of* Treatise on Invertebrate paleontology: Geol. Soc. America and Univ. Kans. Press, 2 vols., 927 p., 746 figs.

Mound, M. C., 1965a, A conodont fauna from the Joins Formation (Ordovician), Oklahoma: Tulane Univ., Tulane Studies in Geology, vol. 4, p. 1-45, 3 figs., 4 pls., 1 table.

_____1965b, Two new conodont genera from the Joins Formation (lower Middle Ordovician) of Oklahoma: Biol. Soc. Washington, Proc., vol. 48, p. 193-200, 13 figs.

Muir-Wood, Helen, Stehli, F. G., Elliott, G. F., and Hatai, Kotora, 1965, Terebratulida, *in* Brachiopoda, vol. 2, *pt. H of* Moore, R. C., ed., Treatise on invertebrate paleontology: Geol. Soc. America and Univ. Kans. Press, p. 728-857.

Muir-Wood, Helen, and Williams, Alwyn, 1965, Strophomenida, *in* Brachiopoda, vol. 1, *pt. H of* Moore, R. C., ed., Treatise on invertebrate paleontology: Geol. Soc. America and Univ. Kans. Press, p. 361-521.

Myers, A. J., 1965a, Highest point in Oklahoma: Okla. Geol. Survey, Okla. Geology Notes, vol. 25, p. 119-125, 5 figs.

_____1965b, Late Wisconsinan date for the Bar M local fauna: Okla. Geol. Survey, Okla. Geology Notes, vol. 25, p. 168-170.

Nassichuk, W. W., *see* Strimple, H. L., and Nassichuk, W. W.

Nicol, David, 1965, An ecological analysis of four Permian molluscan faunas: Nautilus, vol. 78, p. 86-95, 1 table.

Oklahoma Geological Survey, 1965a, Geology and petroleum of Love County; Part I, Geology of Love County, by E. A. Frederickson and R. H. Redman; Part II, Petroleum Geology of Love County, by J. M. Westheimer: Okla. Geol. Survey, Circ. 63, 77 p., 29 figs., 2 pls.

_____1965b, Résumé of new nomenclature published in the Oklahoma Geology Notes, January 1964 through December 1964: Okla. Geol. Survey, Okla. Geology Notes, vol. 25, p. 51-52.

Oklahoma Water Resources Board, 1965, Ground water in the Rush Springs Sandstone, Caddo County area: Okla. Water Resources Board, Pub. 11, 17 p., 4 figs., 10 tables, 1 map.

Olson, E. C., 1965a, New Permian vertebrates from the Chickasha Formation in Oklahoma: Okla. Geol. Survey, Circ. 70, 70 p., 5 figs., 8 pls., 2 tables.

_____1965b, *Zatrachys serratus* Cope (Amphibia: Labyrinthodontia) from McClain County, Oklahoma: Okla. Geol. Survey, Okla. Geology Notes, vol. 25, p. 91-97, 3 figs., 1 table.

Padgett, Ward, 1965, Fifty-sixth annual report of mines and mining of Oklahoma: [Okla.] Dept. Chief Mine Inspector, 40 p.

Pakiser, L. S., *see* Hamilton, Warren, and Pakiser, L. S.

Peace, H. W., II, 1965, The Springer Group of the southeastern Anadarko basin in Oklahoma: Oklahoma City Geol. Soc., Shale Shaker, vol. 15, no. 5 (Jan.), p. 81-88, 1 fig., 11 pls.

Pemberton, E. L., *see* Lara, J. M., and Pemberton, E. L.

Peters, L. B., *see* Kennedy, L. E. and Peters, L. B.

Pitrat, C. W., *see* Boucot, A. J., Johnson, J. G., Pitrat, C. W., and Staton, R. D.

Polone, D. J., *see* Warth, Peter, and Polone, D. J.

Redman, R. H., *see* Frederickson, E. A., and Redman, R. H.

Richardson, W. E., 1965, Oswego is prolific target in Oklahoma: Oil and Gas Jour., vol. 63, no. 51 (Dec. 20), p. 96-100, 5 figs.

Rowell, A. J., 1965, Inarticulata, *in* Brachiopoda, vol. 1, *pt. H of* Moore, R. C., ed., Treatise on invertebrate paleontology: Geol. Soc. America and Univ. Kans. Press, p. 260-296.

Rowland, T. L., *see* Amsden, T. W., and Rowland, T. L.

Sanderson, G. A., *see* Toomey, D. F., and Sanderson, G. A.

Schmidt, Herta, *see* Ager, D. V., Grant, R. E., McLaren, D. J., and Schmidt, Herta.

Shaw, D. B., and Weaver, C. E., 1965, The mineralogical composition of shales: Jour. Sed. Petrology, vol. 35, p. 213-222, 5 figs.

Shead, A. C., 1965, Rational mineral analyses, computed from complete empirical chemical analysis in the detection and correction of errors in quantitative analytical geochemistry: Okla. Acad. Science, Proc. 1964, vol. 45, p. 99-107, 2 tables.

Sheppard, J. R., 1965, Methods and their suitability for determining total sediment quantities, *in* Proceedings of the Federal Inter-Agency Sedimentation Conference, 1963: U. S. Dept. Agriculture, Misc. Pub. 970, p. 272-287, 9 figs., 1 table.

Stacy, B. L., *see* Wood, P. R., and Stacy, B. L.
Staton, R. D., *see* Boucot, A. J., Johnson, J. G., Pitrat, C. W., and Staton, R. D.
Steele, C. E., and Barclay, J. E., 1965, Ground-water resources of Harmon County and adjacent parts of Greer and Jackson Counties, Oklahoma: Okla. Water Resources Board, Bull. 29, 96 p., 8 figs., 7 pls., 6 tables.
Stehli, F. G., *see* Muir-Wood, Helen, Stehli, F. G., Elliott, G. F., and Hatai, Kotora.
Steinhart, J. S., *see* Healy, J. H., Steinhart, J. S., and Meyer, R. P.
Strimple, H. L., and Nassichuk, W. W., 1965, Correlation notes on the upper Wapanucka Limestone of southeastern Oklahoma: Okla. Geol. Survey, Okla. Geology Notes, vol. 25, p. 287-294, 1 fig., 1 pl.
Sutherland, P. K., 1965, Rugose corals of the Henryhouse Formation (Silurian) in Oklahoma: Okla. Geol. Survey, Bull. 109, 92 p., 26 text-figs., 34 pls.
Tanner, W. F., 1965, Cretaceous shoreline across the South: Oklahoma City Geol. Soc., Shale Shaker, vol. 15, no. 7 (Mar.), p. 118-124, 4 figs.
Taugordeau, P., 1965, Chitinozoaires de l'Ordovicién des U. S. A.; Comparaison avec les faunes de l'àncien monde: Rêvue de l'Institut Française de Pétrole et Annàles des Combustibles Liquides, vol. 20, p. 463-485, 1 fig., 3 pls., 3 tables.
Teichert, Curt, *see* Grégoire, Charles, and Teichert, Curt.
Thomas, L. E., 1965, Subsurface geology of the Criner area, McClain County: Oklahoma City Geol. Soc., Shale Shaker, vol. 15, no. 10 (June), p. 176-193, 1 fig., 6 pls., 2 tables.
Thornbury, W. D., 1965, Regional geomorphology of the United States: New York, John Wiley & Sons, Inc., p. 277-286.
Toomey, D. F., and Sanderson, G. A., 1965, A bibliography of the family Fusulinidae, Addendum 2: Jour. Paleontology, vol. 39, p. 1192-1206.
Toomey, D. F., *see* Croneis, Carey, and Toomey, D. F.
Tulsa Geological Society, 1964 [1965], Symposium on the Arbuckle: Tulsa Geol. Soc., Digest, vol. 32, p. 38-75, illus.
Wallace, Norman, 1964 [1965], The Billings field, Noble County, Oklahoma, *in* Tulsa Geological Society, Symposium on the Arbuckle: Tulsa Geol. Soc., Digest, vol. 32, p. 152-155, 2 figs.
Warth, Peter, and Polone, D. J., 1965, Soil survey, Adair County, Oklahoma: U. S. Dept. Agriculture, Ser. 1961, no. 31, 62 p., 28 figs., 13 tables.
Weaver, C. E., *see* Shaw, D. B., and Weaver, C. E.
Westheimer, J. M., 1965, Petroleum geology of Love County, *pt. II of* Geology and petroleum of Love County, Oklahoma: Okla. Geol. Survey, Circ. 63, p. 50-77, figs. 25-29, 1 pl.
Wheeler, H. E., 1965, Ozark pre-Cambrian-Paleozoic relations: Amer. Assoc. Petroleum Geologists, Bull., vol. 49, p. 1647-1665, 4 figs.
Williams, Alwyn, and Wright, A. D., 1965, Orthida, *in* Brachiopoda, vol. 1, *pt. H of* Moore, R. C. ed., Treatise on invertebrate paleontology: Geol. Soc. America and Univ. Kans. Press, p. 299-359.

Williams, Alwyn, *see* Muir-Wood, Helen, and Williams, Alwyn.
Wilson, J. W., *see* Chenoweth, P. A., Hansen, D. L., and Wilson, J. W.
Wilson, L. R., 1965a, *Florinites* versus *Cordaianthus*—A problem in nomenclatural procedure: Okla. Geol. Survey, Okla. Geology Notes, vol. 25, p. 76-77.
———1965b, Palynological age determination of a rock section in Ti Valley, Pittsburg County, Oklahoma: Okla. Geol. Survey, Okla. Geology Notes, vol. 25, p. 11-18, 3 pls.
———1965c, *Rhizophagites*, a fossil fungus from the Pleistocene of Oklahoma: Okla. Geol. Survey, Okla. Geology Notes, vol. 25, p. 257-260, 2 figs.
Wong, Her-Yue, 1965, Clay mineralogy of lower Paleozoic rocks in Beavers Bend State Park, Ouachita Mountains, Oklahoma: Geol. Soc. China, Proc., vol. 8, p. 70-84, 7 figs., 2 pls., 3 tables.
Wood, P. R., 1965, Ground-water levels in observation wells in Oklahoma; 1963-1964: Okla. Water Resources Board, Bull. 22, 82 p., 2 tables.
Wood, P. R., and Stacy, B. L., 1965, Geology and ground-water resources of Woodward County, Oklahoma: Okla. Water Resources Board, Bull. 21, 79 p., 6 figs., 7 pls., 8 tables.
Wright, A. D., *see* Williams, Alwyn, and Wright, A. D.
Young, Brigham, n. d., Gem trails of Oklahoma: Oklahoma City, Alamo Flower Shop, 25 p.

INDEX

1966

Vol. 27, no. 4, April 1967

Bibliography of Oklahoma Geology

1966

Prepared by Jane Howe

Adams, J. A. S., *see* Harris, R. C., and Adams, J. A. S.

Albans, L. L., *see* Moore, C. A., and Albans, L. L.

Albritton, C. C., Jr., 1966, Stratigraphy of the Domebo site, *in* Domebo: A Paleo-Indian mammoth kill in the Prairie Plains: Museum Great Plains, Contr., no. 1, p. 10-13, 2 figs.

Allen, Don, *see* Cheatum, E. P., and Allen, Don

Amsden, T. W., 1966a, *Microcardinalia protriplesiana* Amsden, a new species of stricklandiid brachiopod, with a discussion on its phylogenetic position: Jour. Paleontology, vol. 40, p. 1009-1016, 1 text fig., 4 pls.

_____1966b, Pettit Oölite: Okla. Geol. Survey, Okla. Geology Notes, vol. 26, p. 54.

Anderson, A. D., *see* Leonhardy, F. C., and Anderson, A. D.

Anglin, M. E., 1966, The petrography of the bioherms of the St. Joe Limestone of northeastern Oklahoma: Oklahoma City Geol. Soc., Shale Shaker, vol. 16, p. 150-164, 7 figs., 8 pls., 1 table.

Ardmore Geological Society, 1966, Pennsylvanian of the Ardmore basin, southern Oklahoma: Ardmore Geol. Soc., [Field Conf.] Guidebook, 50 p. Includes papers by R. M. Becker, R. H. Dott, R. C. Lang, E. C. Parker, and L. R. Wilson, cited elsewhere.

Arlin, J. C., *see* Cole, E. L., Arlin, J. C., and Rhoads, C. E.

Atkins, R. L., 1966, Oklahoma [exploration], *in* International oil and gas development, review 1965: Internat. Oil Scouts Assn., vol. 36, pt. 1, p. 240-258, 7 tables.

Aurin, F. L., 1966, Early petroleum geology in northern Oklahoma: Oklahoma City Geol. Soc., Shale Shaker, vol. 16, p. 184-185.

Barnes, V. E., 1966, Texarkana sheet: Texas, Univ., Bur. Econ. Geology, Geol. Atlas Texas, map, scale 1:250,000, 7-page pamphlet.

Bartenstein, H., 1966, "Scharrkreise" an einer seukrechten Sandwand: Frankfort am Main, Natur und Museum, vol. 96, no. 4, p. 155-156, 1 fig.

Bartlett, C. S., Jr., 1966, Arkoma's search for porosity broadens: Oil and Gas Jour., vol. 64, no. 4, Jan. 24, p. 126-132, 9 figs.

Becker, R. M., 1966a, The Caddo anticline, 3S-1E, Carter County, Oklahoma, *in* Pennsylvanian of the Ardmore basin, southern Oklahoma: Ardmore Geol. Soc., [Field Conf.] Guidebook, p. 38-40.

_____1966b, Overbrook anticline, *in* Pennsylvanian of the Ardmore basin, southern Oklahoma: Ardmore Geol. Soc., [Field Conf.] Guidebook, p. 25-28.

Beckman, W. A., Jr., and Sloss, L. L., 1966, Possible pre-Springeran unconformity in southern Oklahoma: Amer. Assoc. Petroleum Geologists, Bull., vol. 50, p. 1342-1364, 9 figs., 3 cross-sections.

Bellis, W. H., 1966, Zeolitization: Okla. Geol. Survey, Okla. Geology Notes, vol. 26, p. 86.

Bellis, W. H., *see* Mankin, C. J., and Bellis, W. H.

Berg, O. R., 1966, Depositional environment of a portion of the Bluejacket Sandstone, Mayes County, Oklahoma: Oklahoma City Geol. Soc., Shale Shaker, vol. 17, p. 50-54, 4 pls., 1 table.

Boardman, R. S., and Utgaard, John, 1966, A revision of the Ordovician bryozoan genera *Monticulipora, Peronopora, Heterotrypa,* and *Dekayia*: Jour. Paleontology, vol. 40, p. 1082-1108, 9 text-figs., 10 pls., 3 tables.

Bowman, M. C., *see* Fox, R. C., and Bowman, M. C.

Branson, C. C., 1964 [1966], Cyclicity in Oklahoma Paleozoic rocks, *in* Symposium on cyclic sedimentation: Kans., State Geol. Survey, Bull. 169, vol. 1, p. 57-62, 6 figs.

_____1966a, *Conocardium* in the Bromide Formation (Ordovician) of Oklahoma: Okla. Geol. Survey, Okla. Geology Notes, vol. 26, p. 78-79, 1 fig.

_____1966b, Geologic background of petroleum and gas in Oklahoma: Interstate Oil Compact Commission, Bull., vol. 8, no. 1, June 1966, p. 1-5, 4 figs.

_____1966c, Patterns of Oklahoma prairie mounds: Okla. Geol. Survey, Okla. Geology Notes, vol. 26, p. 263-273, 11 figs.

_____1966d, Recent cutoffs on the Kiamichi River: Okla. Geol. Survey, Okla. Geology Notes, vol. 26, p. 286-288, 3 figs.

_____1966e, *Reticulariina* in Oklahoma: Okla. Geol. Survey, Okla. Geology Notes, vol. 26, p. 115-116, 5 figs.

_____1966f, Sole marks in Atoka rocks of platform facies: Okla. Geol. Survey, Okla. Geology Notes, vol. 26, p. 236-239, 3 figs.

_____1966g, New genus of spiriferid brachiopod from Oklahoma and Texas: Okla. Geol. Survey, Okla. Geology Notes, vol. 26, p. 74-78, 1 pl.

Branson, C. C., Huffman, G. G., and others, 1965, Geology of Craig County, *pt I of* Geology and oil and gas resources of Craig County, Oklahoma: Okla. Geol. Survey, Bull. 99, p. 7-58, 73-109, 29 figs., 2 pls.

Brower, J. C., 1966, Functional morphology of Calceocrinidae with description of some new species: Jour. Paleontology, vol. 40, p. 616-634.

Brune, G. M., 1965, Anhydrite and gypsum problems in engineering geology: Sacramento, Assn. Engineering Geologists, Engineering Geology, vol. 2, no. 1, p. 26-38.

Busby, M. W., 1966, Annual runoff in the conterminous United States: U. S. Geol. Survey, Hydrol. Inv. Atlas 212, 3 figs., 3 tables.

Camargo, Orlando, and Fons, Lloyd, 1966, New ways to evaluate potential of new Mississippi lime wells: World Oil, vol. 16, no. 5, Oct., p. 155-162, 4 figs.

Cella, F. R., 1966, Oklahoma data book: Okla., Univ., Bur. Business Research, 151 p., tables.

Cheatum, E. P., and Allen, Don, 1966, Ecological significance of the fossil fresh-water and land shells from the Domebo mammoth kill site, *in* Domebo: A Paleo-Indian mammoth kill in the Prairie-Plains: Museum Great Plains, Contr., no. 1, p. 36-43, 1 fig., 1 table.

Chenoweth, P. A., 1966a, Pennsylvanian slate-pencil sea urchin from the Oologah Limestone, Oklahoma: Okla. Geol. Survey, Okla. Geology Notes, vol. 26, p. 279-282, 2 figs.

_____1966b, Type section of the Oologah Limestone: Okla. Geol. Survey, Okla. Geology Notes, vol. 26, p. 193-208, 7 figs.

Churkin, Michael, 1966, Morphology and stratigraphic range of the phyllocarid crustacean *Caryocaris* from Alaska and the Great Basin: Palaeontology, vol. 9, p. 371-380, 2 text-figs.

Cline, L. M., 1966, Late Paleozoic rocks of Ouachita Mountains, a flysch facies, *in* Field conference on flysch facies and structure of the Ouachita Mountains: Kans. Geol. Soc., 29th Field Conf., Guidebook, p. 91-111.

Cocke, J. M., 1966, New species of *Dibunophyllum* from the Dewey Formation, *in* Studies of Pennsylvanian corals in Oklahoma: Okla. Geol. Survey, Circ. 72, 22 p., 2 text-figs., 1 pl., 1 table.

Cole, E. L., Arlin, J. C., and Rhoads, C. E., 1966, Soil survey of Ellis County, Oklahoma: U. S. Dept. Agriculture, Ser. 1961, no. 38, 81 p., 18 figs., 10 tables, maps.

Cramer, H. R., 1965 [1966], Bibliography of the Simpson Group and equivalents in Kansas, Oklahoma, and Texas, *in* Symposium on the Simpson: Tulsa Geol. Soc., Digest, vol. 33, p. 251-264.

Creath, W. B., 1966, New isochilinid ostracode from the West Spring Creek Formation (Arbuckle Group) of Oklahoma: Okla. Geol. Survey, Okla. Geology Notes, vol. 26, p. 243-246, 1 pl.

Cronoble, W. R., and Waddell, D. E., 1966, Petrology of Lester Limestone (Desmoinesian), Carter and Love Counties, Oklahoma: Okla. Geol. Survey, Okla. Geology Notes, vol. 26, p. 151-166, 5 figs., 2 tables, 1 pl.

Cruz, J. A., 1966, Geometry and origin of the Burbank sandstone and Mississippian "chat" in T. 25 & 26 N., R. 6 E., Osage County, Oklahoma: Oklahoma City Geol. Soc., Shale Shaker, vol. 16, p. 102-116, 1 fig., 8 pls.

Cummins, T. R., 1966a, Chemical character of surface waters of Oklahoma, 1962-1963: Okla. Water Resources Board, Bull. 30, 200 p., 42 tables.

_____1966b, Chemical character of surface waters of Oklahoma, 1959-1960: Okla. Water Resources Board, Bull. 22, 163 p.

David, Marthann, *see* Forgotson, J. M., Jr., Statler, A. T., and David, Marthann.

Deike, R. G., *see* Randolph, J. R., and Deike, R. G.

Demirmen, Ferruh, *see* Harbaugh, J. W., and Demirmen, Ferruh

Denison, R. E., Hetherington, E. A., and Kenny, G. S., 1966, Isotopic-age dates from basement rocks in Oklahoma: Okla. Geol. Survey, Okla. Geology Notes, vol. 26, p. 170-176, 2 figs., 1 table.

Denison, R. E., *see* Muehlberger, W. R., Hedge, C. E., Denison, R. E., and Marvin, R. F.

Dott, R. H., 1966, Geological framework of southern Oklahoma, *in* Pennsylvanian of the Ardmore basin, southern Oklahoma: Ardmore Geol. Soc., [Field Conf.] Guidebook, p. 19.

Driscoll, E. G., 1966a, Hinge structure and shell perforation in an upper Paleozoic nuculoid genus: Malac. Soc. London, Proc., vol. 37, p. 93-96, 6 figs.

_____1966b, Morphology and evolution of certain Paleozoic Nuculanidae from the midcontinental United States: Prague, Narodni Muzea Praze, Sbornik, vol. 22-B, no. 1, p. 26, 11 text-figs., 4 pls., 4 tables.

Dunn, D. L., 1966, New Pennsylvanian platform conodonts from southwestern United States: Jour. Paleontology, vol. 40, p. 1294-1313, 2 text-figs., 2 pls.

Elias, M. K., 1964 [1966], Depth of late Paleozoic sea in Kansas and its megacyclic sedimentation, *in* Symposium on cyclic sedimentation: Kans., State Geol. Survey, Bull. 169, vol. 1, p. 87-106, 4 figs.

_____1966, Late Paleozoic conodonts from the Ouachita and Arbuckle Mountains of Oklahoma: Okla. Geol. Survey, Guidebook 16, 39 p., 2 pls.

Ferrero, E. P., *see* McKinney, C. M., Ferrero, E. P., and Wenger, W. J.

Feth, J. H., 1966 Selected references on saline ground-water resources of the United States: U. S. Geol. Survey, Circ. 499, 30 p.

Feth, J. H., and others, 1965 [1966], Preliminary map of the conterminous United States showing depth to and quality of shallowest ground water containing more than 1,000 parts per million dissolved solids: U. S. Geol. Survey, Hydrol. Inv. Atlas 199.

Fons, Lloyd, *see* Camargo, Orlando, and Fons, Lloyd

Forgotson, J. M., Jr., Statler, A. T., and David, Marthann, 1966, Influence of regional tectonics and local structure on deposition of Morrow in western Anadarko basin: Amer. Assoc. Petroleum Geologists, Bull., vol. 50, p. 518-532, 13 figs.

Fox, R. C., 1962, Two new pelycosaurs from the Lower Permian of Oklahoma: Kans., Univ., Museum Nat. Hist., Pub., vol. 12, p. 297-307, illus., table.

Fox, R. C., and Bowman, M. C., 1966, Vertebrata: Osteology and relationships of *Captorhinus aguti* (Cope) (Reptilia: Captorhinomorpha): Kans., Univ., Paleont. Contr. [no. 41], Vertebrata, art. 11, 79 p., 38 figs.

Gatewood, L. E., 1966, Some aspects of the geological history of Cleveland, McClain and Oklahoma Counties: Oklahoma City Geol. Soc., Shale Shaker, vol. 16, p. 227-244, 26 figs., 2 maps.

Gaudette, H. E., Grim, R. E., and Metzger, C. F., 1966, Illite: a model based on the sorption behavior of caesium: Amer. Mineralogist, vol. 51, p. 1649-1656.

Gibbon, Anthony, 1966, Anadarko basin gas strike is one of the world's giants: World Oil, vol. 163, no. 4, p. 104, 1 text fig.

Göke, Gerhard, 1964, Trilobiten aus dem Nordamerikanische Silur: Aufschluss, vol. 15, no. 10, p. 268-272.

Goldich, S. S., Muehlberger W. R., Lidiak, E. G., and Hedge, C. E., 1966, Scope, methods, and principles, *pt. 1 of* Geochronology of the Midcontinent region, United States: Jour. Geophys. Research, vol. 71, p. 5375-5388.

Gordon, Mackenzie, Jr., 1966, New spinose early Meramec (Upper Mississippian) productoid brachiopods: Jour. Paleontology, vol. 40, p. 573-584, 2 pls.

Green, T. H., 1965 [1966], Some aspects of Simpson anticlines in central Oklahoma, *in* Symposium on the Simpson: Tulsa Geol. Soc., Digest, vol. 33, p. 235-244, 8 figs.

Guber, A. L., and Jaanusson, Valdar, 1966, Ordovician ostracodes with posterior domiciliar dimorphism: Uppsala, Univ., Geol. Institutions, Bull., vol. 43, nos. 1-3, 41 p., 19 figs., 6 pls.

Hall, S. A., 1966, *Lingula* in the Wellington Formation (Permian) of Oklahoma: Okla. Geol. Survey, Okla. Geology Notes, vol. 26, p. 258-259, 1 fig.

Ham, W. E., 1966, Flow-banded rhyolite: Okla. Geol. Survey, Okla. Geology Notes, vol. 26, p. 2.

Ham, W. E., *see* McDougal, R. B., and Ham, W. E.

Hamblin, W. K., 1964 [1966], Rhythmic laminations within seemingly homogeneous sandstones of Kansas and Oklahoma, *in* Symposium on cyclic sedimentation: Kans., State Geol. Survey, Bull. 169, vol. 1, p. 199-203, 3 figs.

Hancock, J. M., Jr., *see* Huffman, G. G., Langton, J. M., and Hancock, J. M., Jr.

Harbaugh, J. W., 1964 [1966], Significance of marine banks in southeastern Kansas in interpreting cyclic Pennsylvanian sediments, *in* Symposium on cyclic sedimentation: Kans., State Geol. Survey, Bull. 169, vol. 1, p. 199-203, 3 figs.

Harbaugh, J. W., and Demirmen, Ferruh, 1964, Application of factor analysis to petrologic variation of Americus Limestone (Lower Permian) Kansas and Oklahoma: Kans., State Geol. Survey, Spec. Distrib. Pub. 15, 40 p.

Harlton, B. H., 1966, Relation of buried Tishomingo uplift to Ardmore basin and Ouachita Mountains, southeastern Oklahoma: Amer. Assoc. Petroleum Geologists, Bull., vol. 50, p. 1365-1374, 4 figs.

Harp, L. J., 1966a, Do not overlook fractured zones: World Oil, vol. 162, no. 5, April, p. 119-123, 4 figs.

_____1966b, How to improve oil well productivity along Oklahoma's Mississippian trend: World Oil, vol. 162, no. 5, April, p. 124-126, 136, 5 tables.

Harris, R. C., and Adams, J. A. S., 1966, Geochemical and mineralogical studies on weathering in granitic rocks: Amer. Jour. Science, vol. 264, no. 2, p. 146-173.

Harris, R. W., and Harris, R. W., Jr., 1965 [1966], Pruitt Ranch, new member of Oil Creek (Simpson) in Criner Hills (Oklahoma), *in* Symposium on the Simpson: Tulsa Geol. Soc., Digest, vol. 33, p. 144-161, 6 figs., 2 tables, 1 pl.

Harris, R. W., Jr., *see* Harris, R. W., and Harris, R. W., Jr.

Hart, D. L., Jr., 1966, Base of fresh ground water in southern Oklahoma: U. S. Geol. Survey, Hydrol. Inv. Atlas 223.

Hass, W. H., and Huddle, J. W., 1966, Late Devonian and Early Mississippian age of the Woodford Shale in Oklahoma, as determined by conodonts, *in* Geological Survey Research 1965, Chap. D: U. S. Geol. Survey, Prof. Paper 525-D, p. D125-D132, 11 figs., 1 table.

Hedge, C. E., *see* Goldich, S. S., Muehlberger, W. R., Lidiak, E. G., and Hedge, C. E.

Hedge, C. E., *see* Muehlberger, W. R., Hedge, C. E., Denison, R. E., and Marvin, R. F.

Hedlund, R. W., 1966, Palynology of the Red Branch Member of the Woodbine Formation (Cenomanian), Bryan County, Oklahoma: Okla. Geol. Survey, Bull. 112, 61 p., 1 text-fig., 10 pls.

Hetherington, E: A., *see* Denison, R. E., Hetherington, E. A. and Kenny, G. S.,

Hewitt, C. H., 1966, How geology can help engineer your reservoirs: Oil and Gas Jour., vol. 64, no. 46, p. 171-178, 15 figs., 6 tables.

Hill, J. G., 1966, Petrology and provenance of sandstones of the Stanley Group (Mississippian), southern Ouachita Mountains, Oklahoma, *in* Field conference on flysch facies and structure of the Ouachita Mountains: Kans. Geol. Soc., 29th Field Conf., Guidebook, p. 112-124.

Hiss, W. L., and Hunter, H. E., 1966, Primary orthopyroxene-spinel intergrowths in Cambrian cumulates, Wichita Mountains, Oklahoma: Okla. Geol. Survey, Okla. Geology Notes, vol. 26, p. 231-235, 2 pls.

Ho, Tong-yun, 1966, Stratigraphic and paleoecologic applications of water-insoluble fraction of residual shell proteins in fossil shells: Geol. Soc. America, Bull., vol. 77, p. 375-392.

Holden, F. T., 1965 [1966], The Simpson Group of the Arkoma basin, Oklahoma and Arkansas, *in* Symposium on the Simpson: Tulsa Geol. Soc., Digest, vol. 33, p. 134-143, 7 figs.

Hollowell, J. R., *see* Tanaka, H. H., and Hollowell, J. R.

Holmes, K. H., 1966, Stratigraphic traps in the northwest Quinlan and Cedarvale fields, Major and Woodward Counties, Oklahoma: Oklahoma City Geol. Soc., Shale Shaker, vol. 16, p. 174-182, 14 figs.

Howe, H. J., 1966, The brachiopod genus *Lepidocyclus* from the Cape (Fernvale) Limestone (Ordovician of Oklahoma and Missouri): Jour. Paleontology, vol. 40, p. 258-268, 5 text-figs., 2 tables, 1 pl.

Howe, Jane, 1966, Bibliography and index of Oklahoma geology, 1965: Okla. Geol. Survey, Okla. Geology Notes, vol. 26, p. 55-73.

Hower, John, and Mowatt, T. C., 1966, The mineralogy of illites and mixed-layer montmorillonites: Amer. Mineralogist, vol. 51, p. 825-854.

Huddle, J. W., *see* Hass, W. H., and Huddle, J. W.

Huffman, G. G., 1965 [1966], Simpson Group in northeastern Oklahoma, *in* Symposium on the Simpson: Tulsa Geol. Soc., Digest, vol. 33, p. 109-159, 13 figs., 5 tables.

Huffman, G. G., Langton, J. M., and Hancock, J. M., Jr., 1966, Geology of northern Adair County, Oklahoma: Okla. Geol. Survey, Circ. 68, 50 p., 21 figs., 1 pl.

Huffman, G. G., *see* Branson, C. C., Huffman, G. G., and others.

Huffman, G. G., *see* Strong, D. M., and Huffman, G. G.

Hunter, H. E., 1962, Layered basic intrusive rocks of the Wichita Mountains, southwestern Oklahoma: Amer. Mineralogist, vol. 47, p. 192.
Hunter, H. E., *see* Hiss, W. L., and Hunter, H. E.
Imbrie, John, Laporte, L. F., Mirriam, D. F., 1964 [1966], Beattie Limestone facies (Lower Permian) of the northern Midcontinent, *in* Symposium on cyclic sedimentation: Kans., State Geol. Survey, Bull. 169, vol. 1, p. 219-238, 8 figs., 8 measured sections.
Ireland, H. A., 1965 [1966], Regional depositional basin and correlations of Simpson Group, *in* Symposium on the Simpson: Tulsa Geol. Soc., Digest, vol. 33, p. 74-89, 3 figs., 1 table.
_____1966, Silurian arenaceous Foraminifera from subsurface strata of northeastern Kansas: Micropaleontology, vol. 12, p. 215-234, 2 text-figs., 1 pl., 4 tables.
Jaanusson, Valdar, *see* Guber, A. L., and Jaanusson, Valdar.
Johnson, K. E., 1966, A depositional interpretation of the Stanley Group of the Ouachita Mountains, Oklahoma, *in* Field conference on flysch facies and structure of the Ouachita Mountains: Kans. Geol. Soc., 29th Field Conf., Guidebook, p. 140-163.
Johnson, W. C., 1966, Wind in the southwestern Great Plains: U. S. Dept. Agriculture, Agricultural Review Service and Texas Agricultural Experiment Station, Conservation Research Report no. 6, 65 p., 40 figs., 24 tables.
Jordan, Louise, 1966a, Basement and near-basement tests in Oklahoma, 1965: Okla. Geol. Survey, Okla. Geology Notes, vol. 26, p. 168-169, 1 table.
_____1966b, Statistics of Oklahoma's petroleum industry, 1965: Okla. Geol. Survey, Okla. Geology Notes, vol. 26, p. 143-150, 3 figs., 3 tables.
Jordan, Louise, *see* Tarr, R. S., Jordan, Louise, and Rowland, T. L.
Kansas Geological Society, 1966, Field conference on flysch facies and structure of the Ouachita Mountains: Kans. Geol. Soc., 29th Field Conf., Guidebook, 278 p. Includes papers by L. M. Cline, J. G. Hill, K. E. Johnson, and P. H. Stark, cited elsewhere.
Kapp, R. O., 1965, Illinoian and Sangamon vegetation in southwestern Kansas and adjacent Oklahoma: Mich., Univ., Museum Paleontology, Contr., vol. 19, p. 167-255.
Keeling, L. A., 1966, Advanced crude-oil recovery techniques in Oklahoma: Okla. Geol. Survey, Okla. Geology Notes, vol. 26, p. 247-256, 2 tables.
Kennedy, Marie, 1966, Flint Hills fossils: Rocks and Minerals, vol. 41, no. 1., p. 15-18, 5 figs.
Kennon, F. W., 1966, Hydrologic effects of small reservoirs in Sandstone Creek watershed, Beckham and Roger Mills Counties, western Oklahoma: U. S. Geol. Survey, Water-Supply Paper 1839-C, 39 p., 8 tables, 1 pl., 12 figs.
Kenny, G. S., *see* Denison, R. E., Hetherington, E. A., and Kenny, G. S.
Klein, G. de V., 1966, Dispersal and petrology of sandstones of Stanley-Jackfork boundary, Ouachita fold belt, Arkansas and Oklahoma: Amer. Assoc. Petroleum Geologists, Bull., vol. 50, p. 308-326, 18 figs., 1 table.
Klement, K. W., *see* Toomey, D. F., and Klement, K. W.
Klingener, D., 1963, Dental evolution of *Zapus*: Jour. Mammalia, vol. 44, no. 2, p. 248-260.
Kornfeld, J. A., 1966a, Anadarko basin spawns another record-breaking deep gas strike: World Oil, vol. 163, no. 7, Dec., p. 113-114, 2 tables, map.
_____1966b, New gas fields keep Arkoma basin active: World Oil, vol. 162, no. 2, Feb., p. 82, 85-86, 1 fig., 2 tables.
_____1965 [1966], North Madill field, Simpson pool, Marshall County, Oklahoma, *in* Symposium on the Simpson: Tulsa Geol. Soc., Digest, p. 219-234, 9 figs., 3 tables.
Lane, H. R., *see* Rexroad, C. B., and Lane, H. R.
Lang, R. C., 1966, The Pennsylvanian rocks of the Lake Murray area, *in* Pennsylvanian of the Ardmore basin, southern Oklahoma: Ardmore Geol. Soc., [Field Conf.] Guidebook, p. 13-18.
Langton, J. M., *see* Huffman, G. G., Langton, J. M., and Hancock, J. M., Jr.
Leonhardy, F. C. (ed.), 1966a, Domebo: A Paleo-Indian mammoth kill in the Prairie-Plains: Museum Great Plains, Contr., no. 1, 53 p. Includes papers by H. J. Retallick, C. C. Albritton, Jr., F. C. Leonhardy and A. D. Anderson, M. G. Mehl, B. H. Slaughter, E. P. Cheatum and Don Allen, L. R. Wilson, and F. C. Leonhardy, cited elsewhere.
_____1966b, Late Pleistocene research at Domebo, a summary and interpretation, *in* Domebo: A Paleo-Indian mammoth kill in the Prairie-Plains: Museum Great Plains, Contr., no. 1, p. 51-53.
Leonhardy, F. C., and Anderson, A. D., 1966, The archaeology of the Domebo site, *in* Domebo: A Paleo-Indian mammoth kill in the Prairie-Plains: Museum Great Plains, Contr., no. 1, p. 14-26.
Lidiak, E. G., *see* Goldich, S. S., Muehlberger, W. R., Lidiak, E. G., and Hedge, C. E.
Lindsly, R. R. (chm.), and others, 1966, Oklahoma [production], *in* International oil and gas development, review 1965: Internat. Oil Scouts Assn., vol. 36, pt. 2, p. 274-342.
Love, K. S., 1966, Quality of surface waters of the United States, 1963 Parts 7 and 8, Lower Mississippi River basin and Western Gulf of Mexico basins: U. S. Geol. Survey, Water-Supply Paper 1950, 635 p.
Macurda, D. B., 1966, The ontogeny of the Mississippian blastoid *Orophocrinus*: Jour. Paleontology, vol. 40, p. 92-124, 10 text-figs., 3 pls.
Mankin, C. J., and Bellis, W. H., 1966, Low-grade metamorphism: Okla. Geol. Survey, Okla. Geology Notes, vol. 26, p. 30.
Markas, J. M., 1966, Subsurface geology of northern McClain County, Oklahoma: Oklahoma City Geol. Soc., Shale Shaker, vol. 16, p. 198-212, 7 figs., 1 table.
Marvin, R. F., *see* Muehlberger, W. R., Hedge, C. E., Denison, R. E., and Marvin, R. F.

Matuszak, D. R., 1966, Stratigraphic trend studies by electronic computer: World Oil, vol. 163, no. 2, August, p. 61-65, 92, 4 figs.
Maxwell, A. J., and Reasoner, Robert, 1966, Soil survey of Love County, Oklahoma: U. S. Dept. Agriculture, 94 p., 10 tables, 48 maps, 20 figs.
McCaslin, J. C., 1966a, Anadarko basin: Rigs running high on the shelves and down yonder in the trough: Oil and Gas Jour., vol. 64, no. 4, June 13, p. 131, 1 fig.
_____1966b, Drilling picks up in northwest Oklahoma: Oil and Gas Jour., vol. 64, no. 14, April 4, p. 227-228, 1 fig.
_____1966c, Oklahoma strains to produce more oil: Oil and Gas Jour., vol. 64, no. 49, Dec. 5, p. 74-75.
_____1966d, Sooner Panhandle counties see plenty of drilling action: Oil and Gas Jour., vol. 64, no. 26, June 27, p. 190, 1 fig.
_____1966e, Wide spacing paves way to deep tests: Oil and Gas Jour., vol. 64, no. 11, March 14, p. 68-69, 1 fig.
McDougal, R. B., 1966a, The mineral industry of Oklahoma in 1965 (preliminary): Okla. Geol. Survey, Okla. Geology Notes, vol. 26, p. 31-34, 1 table.
_____1966b, The mineral industry of Oklahoma in 1965 (final): Okla. Geol. Survey, Okla. Geology Notes, vol. 26, p. 227-230, 1 table.
McDougal, R. B., and Ham, W. E., 1965, The mineral industry of Oklahoma, *in* Minerals yearbook 1964, vol. 3, Area Reports: Domestic: U. S. Bur. Mines, p. 799-827, 23 tables.
McKinney, C. M., Ferrero, E. P., and Wenger, W. J., 1966, Analyses of crude oil from 546 important oilfields in the United States: U. S. Bur. Mines, Rept. Inv. 6819, 345 p.
Mehl, M. G., 1966, The Domebo mammoth: vertebrate paleomortology, *in* Domebo: A Paleo-Indian mammoth kill in the Prairie-Plains: Museum Great Plains, Contr., no. 1, p. 27-30, 4 figs.
Merritt, C. A., 1966, Rim albite in coarse-grained Quanah Granite, Wichita Mountains, Oklahoma: Okla. Geol. Survey, Okla. Geology Notes, p. 211-213, 2 figs., 1 table.
Mikkleson, D. H., 1966, The origin and age of the Mississippian "chat" in north-central Oklahoma: Oklahoma City Geol. Soc., Shale Shaker, vol. 17, p. 23-33, 7 figs.
Miller, B. B., 1966, Five Illinoian molluscan faunas from the great southern plains: Kent State Univ., Dept. Geology, 26 p., 8 figs., 3 pls., 3 tables.
Miller, F. X., 1966, *Circlettisporites dawsonensis* gen. et sp. nov. from the Dawson coal of Oklahoma: Pollen et Spores, vol. 8, no. 1, p. 223-228, 2 figs., 1 pl.
Miller, R. D., *see* Moore, B. J., Miller, R. D., and Shrewsberry, R. D.
Mogharabi, Ataolah, 1966, Dolomitization in the Foraker Formation: Okla. Geol. Survey, Okla. Geology Notes, vol. 26, p. 242, 1 fig.
Moore, B. J., Miller, R. D., and Shrewsbury, R. D., 1966, Analysis of natural gases of the United States, 1964: U. S. Bur. Mines, Inf. Circ. 8302, 144 p., 2 tables, 1 fig.

Moore, C. A., 1966, First Bromide sands: Okla. Geol. Survey, Okla. Geology Notes, vol. 26, p. 122, 1 fig.
Moore, C. A., and Albans, L. L., 1965 [1966], Relation of physical and geochemical factors to porosities in sandstones of the Bromide (Simpson) of Oklahoma, *in* Symposium on the Simpson: Tulsa Geol. Soc., Digest, vol. 33, p. 90-108, 1 fig., 2 tables, 4 graphs, 6 plates.
Moore, R. C., 1964 [1966], Paleoecological aspects of Kansas Pennsylvanian and Permian cyclothems, *in* Symposium on cyclic sedimentation: Kans., State Geol. Survey, Bull. 169, vol. 1, p. 287-380, 52 figs.
Motts, W. S., 1962, Correlation of Upper Permian shelf rocks in parts of New Mexico, Texas, and Oklahoma [abs., for Stratigraphic Committee, Roswell Geol. Soc.], *in* Abstracts for 1961: Geol. Soc. America, Spec. Paper 68, p. 234.
Mowatt, T. C., *see* Hower, John, and Mowatt, T. C.
Muehlberger, W. R., Hedge, C. E., Denison, R. E., and Marvin, R. F., 1966, Southern area, *pt. 3 of* Geochronology of the Midcontinent region: Jour. Geophys. Research, vol. 71, p. 5409-5426.
Muehlberger, W. R., *see* Goldich, S. S., Muehlberger, W. R., Lidiak, E. G., and Hedge, C. E.
Murphy, J. J., 1966, Chemical quality of the water, *in* Hydrology of the alluvium of the Arkansas River, Muskogee, Oklahoma, to Ft. Smith, Arkansas: U. S. Geol. Survey, Water-Supply Paper 1809-T, p. 31-42, 2 tables.
Nichols, C. R., 1966, Electron microscopy of clay particles: Okla. Geol. Survey, Okla. Geology Notes, vol. 26, p. 210, 1 fig.
Nicholson, Alex., 1966, Malachite in the Flowerpot shale: Okla. Geol. Survey, Okla. Geology Notes, vol. 26, p. 262, 1 fig.
Oklahoma Geological Survey, 1966a, Oil and gas fields of Oklahoma, 1965: Okla. Geol. Survey, Map GM-10, scale 1:750,000.
_____1966b, Products pipelines of Oklahoma, 1965: Okla. Geol. Survey, Map GM-11, scale 1:750,000.
_____1966c, Crude-oil pipelines of Oklahoma, 1965: Okla. Geol. Survey, Map GM-12, scale 1:750,000.
_____1966d, Natural-gas pipelines of Oklahoma, 1965: Okla. Geol. Survey, Map GM-13, scale 1:750,000.
_____1966e, Résumé of new nomenclature published in Oklahoma Geology Notes: Okla. Geol. Survey, Okla. Geology Notes, vol. 26, p. 37.
Oklahoma Highway Department, 1965a, Engineering classification of geological materials and (related soils), Division 1: Okla. Highway Dept., 248 p., 11 figs., 40 tables, 7 charts, 8 maps.
_____1965b, Engineering classification of geological materials and (related soils), Division 8: Okla. Highway Dept., 287 p., 28 figs., 76 tables, 7 charts, 14 maps.
_____1966, Engineering classification of geological materials and (related soils), Division 2: Okla. Highway Dept., 353 p., 9 figs., 12 maps, 7 charts.

Ormiston, A. R., 1966, Occurrence of *Australosutura* (Trilobita) in the Mississippian of Oklahoma, U. S. A.: Palaeontology, vol. 9, p. 270-273, 1 pl.

Orth, R. P., 1966, Water quality records in Oklahoma, 1964: U. S. Geol. Survey, Water Resources Division, 62 p.

Parker, E. C., 1966, The Pennsylvanian rocks north of Ardmore, *in* Pennsylvanian of the Ardmore basin, southern Oklahoma: Ardmore Geol. Soc., [Field Conf.] Guidebook, p. 29-37.

Paul, C. R., 1965 [1966], On the occurrence of *Comarocysites* or *Sinclairocystis* (Paracrinoidea: Comarocystidae) in the Starfish Bed, Threave Glen, Girvan: Geol. Magazine, vol. 102, p. 474-477, 1 pl.

Pecora, W. T., 1966a, Backwater in open channels, *in* Geological Survey research, 1965: U. S. Geol. Survey, Prof. Paper 525-A, p. 166.

_____1966b, Crustal structure of Oklahoma under cooperative study, *in* Geological Survey research, 1965: U. S. Geol. Survey, Prof. Paper, 525-A, p. 141-142.

_____1966c, Oklahoma; ground water, *in* Geological Survey research, 1965: U. S. Geol. Survey, Prof. Paper 525-A, p. 36-37.

Polone, D. J., 1966, Soil survey of Rogers County, Oklahoma: U. S. Dept. Agriculture, 65 p., 10 tables, 58 maps, 24 figs.

Price, L. I., *see* Stovall, J. W., Price, L. I., and Romer, A. S.

Pulpan, H. and Scheidegger, A. E., 1965, Calculation of tectonic stresses from hydraulic well-fracturing data: Inst. Petroleum, Jour., vol. 51, no. 497, p. 169-176, tables.

Quinn, J. H., 1966, Genus *Reticuloceras* in America: Okla. Geol. Survey, Okla. Geology Notes, vol. 26, p. 13-20, 4 figs.

Randolph, J. R., and Deike, R. G., 1966, Bibliography of hydrology of the United States, 1963: U. S. Geol. Survey, Water-Supply Paper 1863, 166 p.

Retallick, H. J., 1966, Geomorphology of the Domebo site, *in* Domebo: A Paleo-Indian mammoth kill in the Prairie-Plains: Museum Great Plains, Contr., no. 1, p. 3-9, 5 figs.

Rexroad, C. B., and Lane, H. R., 1966, Clarification of *Cavusgnathus alta,* type species of the conodont genus *Cavusgnathus*: Jour. Paleontology, vol. 40, p. 1391-1392, 1 text-fig.

Rhoads, C. E., *see* Cole, E. L., Arlin, J. C., and Rhoads, C. E.

Rice, E. L., 1962, The microclimate of sugar maple stands in Oklahoma: Ecology, vol. 43, no. 1, p. 19-25.

Roberts, J. F., 1966, Developments in the Oklahoma portion of the Arkoma basin, 1960-1965: Okla. Geol. Survey, Okla. Geology Notes, vol. 26, p. 187-192, 2 figs.

Romer, A. S., *see* Stovall, J. W., Price, L. I., and Romer, A. S.

Ross, J. P., 1966, Early Ordovician ectoproct from Oklahoma: Okla. Geol. Survey, Okla. Geology Notes, vol. 26, p. 218-224, 3 pls.

Roswell Geological Society, Stratigraphic Committee, *see* Motts, W. S.

Rowett, C. L., 1966, Tabulate corals of the Wapanucka Formation, *in* Studies of Pennsylvanian corals in Oklahoma: Okla. Geol. Survey, Circ. 72, 38 p., 2 pls.

Rowland, T. L., 1966, Lower Mississippian bioherm: Okla. Geol. Survey, Okla. Geology Notes, vol. 26, p. 142, 1 fig.

Rowland, T. L., *see* Tarr, R. S., Jordan, Louise, and Rowland, T. L.

Rupnik, J. J., 1965 [1966], Structural geophysics and the Simpson in Oklahoma, *in* Symposium on the Simpson: Tulsa Geol. Soc., Digest, vol. 33, p. 35-61, 24 figs.

Scheidegger, A. E., *see* Pulpan, H., and Scheidegger, A. E.

Schemel, M. P., 1966, Lower Pliocene (Laverne) diatoms in Oklahoma: Okla. Geol. Survey, Okla. Geology Notes, vol. 26, p. 278, 1 fig.

Schramm, M. W., Jr., 1965a [1966], Distribution of Simpson production, central Mid-Continent region, *in* Symposium on the Simpson: Tulsa Geol. Soc., Digest, vol. 33, p. 130-133, 6 figs.

_____1965b [1966], Résumé of Simpson (Ordovician) stratigraphy, *in* Symposium on the Simpson: Tulsa Geol. Soc., Digest, vol. 33, p. 26-34, 3 figs.

Shrewsbury, R. D., *see* Moore, B. J., Miller, R. D., and Shrewsbury, R. D.

Shulman, Chaim, 1966, Stratigraphic analysis of the Cherokee Group in adjacent portions of Lincoln, Logan, and Oklahoma Counties, Oklahoma: Oklahoma City Geol. Soc., Shale Shaker, vol. 16, p. 126-140, 2 figs., 10 pls.

Slaughter, B. H., 1966, The vertebrates of the Domebo local fauna, Pleistocene of Oklahoma, *in* Domebo: A Paleo-Indian mammoth kill in the Prairie-Plains: Museum Great Plains, Contr., no. 1, p. 31-35, 2 figs., 1 table.

Sloss, L. L., *see* Beckman, W. A., Jr., and Sloss, L. L.

Smith, C. L., 1962, Some Pliocene fishes from Kansas, Oklahoma, and Nebraska: Copeia 1962, no. 3, p. 505-520, illustrations, tables.

Stark, P. H., 1966, Stratigraphy and environment of deposition of the Atoka Formation in the central Ouachita Mountains, Oklahoma, *in* Field conference on flysch facies and structure of the Ouachita Mountains: Kans. Geol. Soc., 29th Field Conf., Guidebook, p. 164-176.

Statler, A. T., 1965 [1966], Stratigraphy of the Simpson Group in Oklahoma, *in* Symposium on the Simpson: Tulsa Geol. Soc., Digest, vol. 33, p. 162-211, 28 figs.

Statler, A. T., *see* Forgotson, J. M., Jr., Statler, A. T., and David, Marthann.

Stevens, M. K., 1966, The osteology and relationships of the Pliocene ground squirrel, *Citellus dotti* Hibbard, from the Ogallala Formation of Beaver County, Oklahoma: Texas Memorial Museum, Pearce-Sellards Ser., no. 4, 24 p., 6 figs., 3 tables.

Stovall, J. W., Price, L. I., and Romer, A. S., 1966, The postcranial skeleton of the giant Permian pelycosaur *Cotylorhynchus romeri*: Harvard Coll., Museum Comp. Zoology, Bull., vol. 135, no. 1, 30 p., 17 figs., table.

Strimple, H. L., 1966a, New species of cromyocrinids from Oklahoma and Arkansas: Okla. Geol. Survey, Okla. Geology Notes, vol. 26, p. 3-12, 2 pls.

_____1966b, Some notes concerning the Allagecrinidae: Okla. Geol. Survey, Okla. Geology Notes, vol. 26, p. 99-111, 2 figs., 1 pl.
Strong, D. M., and Huffman, G. G., 1965, Oil and gas in Craig County, *pt. II of* Geology and oil and gas resources of Craig County, Oklahoma: Okla. Geol. Survey, Bull. 99, p. 59-76.
Sutherland, P. K., 1966, *Lithostrotionella* from the Pennsylvanian of Oklahoma: Okla. Geol. Survey, Okla. Geology Notes, vol. 26, p. 178, 1 fig.
Tanaka, H. H., and Hollowell, J. R., 1966, Hydrology of the alluvium of the Arkansas River, Muskogee, Oklahoma, to Ft. Smith, Arkansas: U. S. Geol. Survey, Water-Survey Paper 1809-T, 31 p., 6 figs., 5 tables, 3 pls.
Tarr, R. S., Jordan, Louise, and Rowland, T. L., 1965, Geological map and section of Pre-Woodford rocks in Oklahoma: Okla. Geol. Survey, Map GM-9, scale 1:750,000.
Tasch, Paul, 1964 [1966], Periodicity in the Wellington Formation of Kansas and Oklahoma, *in* Symposium on cyclic sedimentation: Kans., State Geol. Survey, Bull. 169, vol. 2, p. 481-495, 2 figs., 6 tables.
Taylor, D. W., 1966, Summary of North American Blancan mollusks: Mich. State Univ., 172 p., 18 figs., 8 pls., 7 tables.
Texas Christian University and Baylor Geological Society, 1962, Pre-Cambrian igneous rocks of the Wichita Mountains, Oklahoma: Waco, Baylor Univ. Press, field-trip guidebook, 27 p.
Toomey, D. F., 1966, Application of factor analysis to a facies study of the Leavenworth Limestone (Pennsylvanian-Virgilian) of Kansas and environs: Kans., State Geol. Survey, Spec. Distrib. Pub. 27, 28 p., 13 figs., 6 tables.
Toomey, D. F., and Klement, K. W., 1966, A problematical microorganism from the El Paso Group (Lower Ordovician) of West Texas: Jour. Paleontology, vol. 40, p. 1304-1311, 1 fig., 2 pls.
U. S. Geological Survey, 1966, Correlation of water-level functions in the Oklahoma Panhandle, 1963: U. S. Geol. Survey, Water-Supply Paper 1669K.
Unklesbay, A. G., 1966, Variation in an *Eothalassoceras* from the Seminole Formation, Oklahoma: Okla. Geol. Survey, Okla. Geology Notes, vol. 26, p. 283-284, 2 figs.
Urban, L. L., 1966, *Cappasporites,* a new Pennsylvanian spore genus from the Des Moines Series of Oklahoma: Okla. Geol. Survey, Okla. Geology Notes, vol. 26, p. 111-114, 1 pl.
Utgaard, John, *see* Boardman, R. S., and Utgaard, John
Van Zandt, F. K., 1966, Oklahoma, *in* Boundaries of the United States and the several states: U. S. Geol. Survey, Bull. 1212, p. 255-288, 1 fig.
Waddell, D. E., 1966a, Diagenetic fabrics: Okla. Geol. Survey, Okla. Geology Notes, vol. 26, p. 226, 1 fig.
_____1966b, Pennsylvanian fusulinid biozones in southern Oklahoma: Okla. Geol. Survey, Okla. Geology Notes, vol. 26, p. 123-133, 10 figs.

_____1966c, Pennsylvanian fusulinids in the Ardmore Basin, Love and Carter Counties, Oklahoma: Okla. Geol. Survey, Bull. 113, 128 p., 11 figs., 8 tables, 12 pls.
Waddell, D. E., *see* Cronoble, W. R., and Waddell, D. E.
Wenger, W. J., *see* McKinney, C. M., Ferrero, E. P., and Wenger, W. J.
Wilson, L. R., 1966a, Palynological evidence for Mississippian age of the Springer Formation, *in* Pennsylvanian of the Ardmore basin, southern Oklahoma: Ardmore Geol. Soc., [Field Conf.] Guidebook, p. 20-24.
_____1966b, Palynology of the Domebo site, *in* Domebo: A Paleo-Indian mammoth kill in the Prairie-Plains: Museum Great Plains, Contr., no. 1, p. 44-50, 4 figs.
Withrow, P. C., 1966a, The discovery of the Seminole field [Oklahoma], 1926: Oklahoma City Geol. Soc., Shale Shaker, vol. 16, p. 214, 215.
_____1966b, Early exploration in the Anadarko basin: Oklahoma City Geol. Soc., Shale Shaker, vol. 16, p. 183.
Wroblewski, E. F., 1966, Big potential keeps drillers busy in Anadarko basin: Oil and Gas Jour., vol. 64, no. 44, p. 122-124, 1 fig.

1967

Vol. 28, no. 2, April 1968

Bibliography and Index of Oklahoma Geology 1967

Prepared by Patricia W. Wood

Bibliography

Amsden, T. W., 1967a, Chimneyhill Limestone sequence (Silurian), Hunton Group, Oklahoma, revised: Amer. Assoc. Petroleum Geologists, Bull., vol. 51, p. 937-942.

_____1967b, Silurian and Devonian strata in Oklahoma: Tulsa Geol. Soc., Digest, vol. 35, p. 25-34, 3 figs.

Amsden, T. W., Boucot, A. J., and Johnson, J. G., 1967, *Conchidium* and its separation from the subfamily Pentamerinae: Jour. Paleontology, vol. 41, p. 861-867.

Amsden, T. W., and Rowland, T. L., 1967a, Geologic maps and stratigraphic cross sections of Silurian strata and Lower Devonian formations in Oklahoma: Okla. Geol. Survey, Map GM-14, 1 sheet.

_____1967b, Résumé of Silurian and Devonian strata in the subsurface of Oklahoma: Tulsa Geol. Soc., Digest, vol. 35, p. 22-24, 1 fig.

Anderson, K. F., *see* Weaver, L. K., and Anderson, K. F.

Aresco, S. J., Janus, J. B., and Walker, F. E., 1966, Analyses of tipple and delivered samples of coal collected during the fiscal year 1965: U. S. Bur. Mines, Rept. Inv. 6792, 38 p.

Ash, R. D., *see* Klinger, R. R., and Ash, R. D.

Atkins, R. L., 1967, Oklahoma [exploration], *in* International oil and gas development, review 1966: Internat. Oil Scouts Assoc., vol. 37, pt. 1, p. 273-292, 4 tables.

Baggett, B. G., *see* Culver, J. R., Bain, W. R., and Baggett, B. G.

Bain, W. R., *see* Culver, J. R., Bain, W. R., and Baggett, B. G.

Barbat, W. N., 1967, Crude-oil correlations and their role in exploration: Amer. Assoc. Petroleum Geologists, Bull., vol. 51, p. 1255-1292. Discusses stages of oil migration from Oklahoma into Kansas.

Barnes, V. E., 1967, Sherman quadrangle: Texas, Univ., Bur. Econ. Geology, Geol. Atlas Texas, map, scale 1:250,000. Includes part of southern Oklahoma.

Baskett, K. R., *see* Johnston, K. H., and Baskett, K. R.

Boardman, R. S., *see* Merida, J. E., and Boardman, R. S.

Boucot, A. J., and Johnson, J. G., 1967a, Paleogeography and correlation of Appalachian Province Lower Devonian sedimentary rocks: Tulsa Geol. Soc., Digest, vol. 35, p. 35-87, 5 figs., 2 pls., 5 tables. Oklahoma section discussed.

_____1967b, Species and distribution of *Coelospira* (Brachiopoda): Jour. Paleontology, vol. 41, p. 1226-1242.

Boucot, A. J., *see* Amsden, T. W., Boucot, A. J., and Johnson, J. G.

Bowsher, A. L., 1967, The Devonian System of New Mexico: Tulsa Geol. Soc., Digest, vol. 35, p. 259-276, 7 figs. Oklahoma section discussed.

Bowsher, A. L., *see* Walthall, B. H., and Bowsher, A. L.

Branson, C. C., 1967a, Frank Buttram, 1886-1966: Okla. Geol. Survey, Okla. Geology Notes, vol. 27, p. 23.

_____1967b, *Caryocaris* removed from Oklahoma faunal list: Okla. Geol. Survey, Okla. Geology Notes, vol. 27, p. 44.

_____1967c, Geographic and stratigraphic distribution of *Oklahomacrinus*: Okla. Geol. Survey, Okla. Geology Notes, vol. 27, p. 86.

_____1967d, Fresh-water sponges of Oklahoma: Okla. Geol. Survey, Okla. Geology Notes, vol. 27, p. 101-104, 1 pl.

_____1967e, Progress in topographic mapping in Oklahoma: Okla. Geol. Survey, Okla. Geology Notes, vol. 27, p. 131-134, 2 figs.

_____1967f, Trace elements in Oklahoma coals [review]: Okla. Geol. Survey, Okla. Geology Notes, vol. 27, p. 150.

_____1967g, Protest against names for trace fossils: Okla. Geol. Survey, Okla. Geology Notes, vol. 27, p. 151.

_____1967h, Geologic publications by Oklahoma organizations: Okla. Geol. Survey, Okla. Geology Notes, vol. 27, p. 195-200.

Branson, C. C., Jordan, Louise, and Roberts, J. F., 1967, Index to geologic mapping in Oklahoma—Supplement 2: Okla. Geol. Survey, 2 sheets. Contains Map I-B, Surface mapping, 1901-1966, and Map VII, Subsurface mapping, 1964-1966.

Brett, G. W., *see* Weld, B. A., Griffin, M. S., and Brett, G. W.

Briggs, G., and Cline, L. M., 1967, Paleocurrents and source areas of Late Paleozoic sediments of the Ouachita Mountains, southeastern Oklahoma: Jour. Sed. Petrology, vol. 37, p. 985-1000.

Brinlee, R. C., *see* Frie, J. W., Brinlee, R. C., and Graft, R. D.; *also* Mobley, H. L., and Brinlee, R. C.

Brown, A. R., *see* Logsdon, Truman, and Brown, A. R.

Brown, H. A., 1967, Structural control of Canadian River in western Oklahoma: Okla. Geol. Survey, Okla. Geology Notes, vol. 27, p. 135-149, 6 figs., 1 table. Reprinted in Oklahoma City Geol. Soc., Shale Shaker, vol. 18, p. 42-50.

Buchanan, R. S., 1959, New activity in southwest Kansas-Oklahoma Panhandle: World Oil, vol. 156, no. 6, p. 113-116.

Burbridge, P. P., 1967, *see* Felix, C. J., and Burbridge, P. P.

Campbell, K. S. W., 1967a, Geographic and stratigraphic implications of a study of the Henryhouse trilobite fauna: Tulsa Geol. Soc., Digest, vol. 35, p. 253-258, 2 figs.

_____1967b, Trilobites of the Henryhouse Formation (Silurian) in Oklahoma: Okla. Geol. Survey, Bull. 115, 68 p., 7 text-figs., 19 plates.

Caplan, W. M., *see* Wise, O. A., and Caplan, W. M.

Chenoweth, P. A., 1967, Unconformity analysis: Amer. Assoc. Petroleum Geologists, Bull., vol. 51, p. 4-27, 20 figs.; addendum, p. 623. Includes examples from Oklahoma stratigraphy.

Cline, L. M., 1966, Late Paleozoic rocks of Ouachita Mountains, a flysch facies: Kans. Geol. Soc., 29th Field Conf. (Ft. Smith, Ark.; Nov., 1966), Guidebook, p. 91-111.

Cline, L. M., *see* Briggs, G., and Cline, L. M.

Collins, A. G., and Egleson, G. C., 1967, Iodide abundance in oilfield brines in Oklahoma: Science, vol. 156, no. 3777 (May 19), p. 934-935, 1 fig., 1 table.

Coons, R. L., Woollard, G. P., and Hershey, Garland, 1967, Structural significance and analysis of Mid-Continent gravity high: Amer. Assoc. Petroleum Geologists, Bull., vol. 51, p. 2381-2399.

Culver, J. R., Bain, W. R., and Baggett, B. G., 1967, Soil survey of Kay County, Oklahoma: U. S. Dept. Agr. and Okla. Agr. Expt. Sta., 86 p., 25 figs., 10 tables, 83 maps.

DeGreer, W. D., *see* Redding, H. D., DeGreer, W. D., and Huber, C. A.

Denison, R. E., *see* Muehlberger, W. R., Denison, R. E., and Lidiak, E. G.

Desai, A. A., *see* Hagni, R. D., and Desai, A. A.

Dickey, P. A., *see* Koinm, D. N., and Dickey, P. A.

Downey, M. W., *see* Edwards, A. R., and Downey, M. W.

Edwards, A. R., and Downey, M. W., 1967, Cross section, Oklahoma, *pl. 1 of* Stratigraphic cross section of Paleozoic rocks Oklahoma to Saskatchewan: Amer. Assoc. Petroleum Geologists, Cross Sec. Pub. 5, p. 1-3.

Egleson, G. C., *see* Collins, A. G., and Egleson, G. C.

Felix, C. J., and Burbridge, P. P., 1967, Palynology of the Springer Formation of southern Oklahoma: Palaeontology, vol. 10, p. 349-425, 14 pls.

Feray, D. E., *see* Oetking, Philip, Feray, D. E., and Renfro, H. B.

Finch, W. I., 1967, Geology of epigenetic uranium deposits in sandstone in the U. S.: U. S. Geol. Survey, Prof. Paper 538, 121 p., 2 pls., 12 figs., 9 tables. Contains uranium mineral occurrences in Oklahoma sandstones.

Fisher, W. L., and Rodda, P. U., 1966, Nomenclature revision of basal Cretaceous rocks between the Colorado and Red Rivers, Texas: Texas, Univ., Bur. Econ. Geology, Rept. Inv., 58, 20 p.

_____1967, Lower Cretaceous sands of Texas: Stratigraphy and resources: Texas, Univ., Bur. Econ. Geology, Rept. Inv. 59, 118 p.

Flawn, P. T., et al., 1967, Basement map of North America: between latitudes 24° and 60°: Amer. Assoc. Petroleum Geologists and U. S. Geol. Survey, 1 sheet.

Frederick, W. S., 1967, Technology for detecting, defining, mapping doubtful zones should precede drilling: World Oil, vol. 164, no. 4, p. 74-77, 6 figs. Discussion of Anadarko basin.

Frie, J. W., Brinlee, R. C., and Graft, R. D., 1967, Soil survey of Greer County, Oklahoma: U. S. Dept. Agriculture, Soil Conserv. Serv., and Okla. Agr. Expt. Sta., 58 p.

Fronjosa, E., and Menzie, D. E., 1967, A study of Oklahoma waterflood statistics: Production Monthly, vol. 31, p. 16-19.

Gafford, E. L., Jr., 1967, Scolecodont carriers from the Lower Permian of Kansas: Okla. Geol. Survey, Okla. Geology Notes, vol. 27, p. 230-232. Specimens from the Fort Riley Limestone which crops out in north-central Oklahoma.

Ganser, R. W., 1967, Recent delta growth in the Butcher Pen, Lake Texoma, Oklahoma: Okla. Geol. Survey, Okla. Geology Notes, vol. 27, p. 232-233.

Glaenzer, J., *see* Walters, J. G., Ortuglio, C., and Glaenzer, J.

Graffham, A. A., 1967, Type locality of *Cordania falcata*: Okla. Geol. Survey, Okla. Geology Notes, vol. 27, p. 14-15, 1 fig.

Graft, R. D., *see* Frie, J. W., Brinlee, R. C., and Graft, R. D.

Gray, Fenton, *see* Stahnke, Clyde, and Gray, Fenton.

Grégoire, Charles, 1966, On organic remains in shells of Paleozoic and Mesozoic cephalopods (nautiloids and ammonoids): Institut Royal des Sciences naturelles de Belgique, Bull., vol. 42, 36 p. Figured specimens from the Upper Pennsylvanian Buckhorn asphalt, Sulphur, Oklahoma.

Griffin, M. S., *see* Weld, B. A., Griffin, M. S., and Brett, G. W.

Hagni, R. D., and Desai, A. A., 1966, Solution thinning of the M bed host rock limestone in the Tri-State district, Missouri, Kansas, Oklahoma: Econ. Geology, vol. 61, p. 1436-1442.

Ham, W. E., 1967, Basement rocks and structural evolution of southern Oklahoma: A summary, *in* The structure and igneous rocks of the Wichita Mountains, Oklahoma: Geol. Soc. America, South-Central Sec., 1st Ann. Mtg., Guidebook, p. 2-13.

Ham, W. E., and Wilson, J. L., 1967, Paleozoic epeirogeny and orogeny in the central United States: Amer. Jour. Science, vol. 265, p. 332-407, 12 figs., 1 table.

Ham, W. E., *see* McDougal, R. B., and Ham, W. E.; *also* Toomey, D. F., and Ham, W. E.

Hanke, H. W., 1967, Subsurface stratigraphic analysis of the Cherokee Group in north-central Creek County: Oklahoma City Geol. Soc., Shale Shaker, vol. 17, p. 150-167.

Harlton, B. H., 1966, Reply [to discussion by R. S. Tarr, 1966, of "Relation of buried Tishomingo uplift to Ardmore basin and Ouachita Mountains, southeastern Oklahoma"]: Amer. Assoc. Petroleum Geologists, Bull., vol. 50, p. 1519.

Hart, D. L., Jr., *see* Wood, P. R., and Hart, D. L., Jr.

Hartner, F. E., *see* Walker, F. E., and Hartner, F. E.

Hattin, D. E., 1967, Permian ophiuroids from northern Oklahoma: Jour. Paleontology, vol. 41, p. 489-491.

Hayes, C. J. (principal investigator), 1967, Engineering classification of geologic materials and (related soils), Division four: Research and Devel. Div., Okla. Hwy. Dept. and U. S. Bur. Public Roads, 284 p., 9 figs., 7 charts.

Hedlund, R. W., *see* Upshaw, C. F., and Hedlund, R. W.

Hendricks, L., 1967, Comanchean stratigraphy of North Texas, *in* Comanchean (Lower Cretaceous) stratigraphy and paleontology of Texas: Soc. Econ. Paleontologists Mineralogists, Permian Basin Sec., Pub. 67-68, p. 50-63. Includes part of southern Oklahoma.

Hershey, Garland, *see* Coons, R. L., Woollard, G. P., and Hershey, Garland.

Hill, J. G., 1966, Petrology and provenance of sandstones of the Stanley Group (Mississippian), southern Ouachita Mountains, Oklahoma: Kans. Geol. Soc., 29th Field Conf. (Ft. Smith, Ark.; Nov., 1966), Guidebook, p. 112-124.

Hilpman, P. L., 1967, Devonian stratigraphy in Kansas; a progress report: Tulsa Geol. Soc., Digest, vol. 35, p. 88-98, 10 figs.

Holbrook, D. F., *see* Sterling, P. J., Stone, C. G., and Holbrook, D. F.

Howe, Jane, 1967, Bibliography of Oklahoma geology, 1966: Okla. Geol. Survey, Okla. Geology Notes, vol. 27, p. 67-80.

Huber, C. A., *see* Redding, H. D., DeGreer, W. D., and Huber, C. A.

Hunter, H. E., 1967, Raggedy Mountain Gabbro Group, *in* The structure and igneous rocks of the Wichita Mountains, Oklahoma: Geol. Soc. America, South-Central Sec., 1st Ann. Mtg., Guidebook, p. 34-41.

Ireland, H. A., 1967, Regional depositional basins and correlation of Siluro-Devonian beds using arenaceous Foraminifera and acid residues: Tulsa Geol. Soc., Digest, vol. 35, p. 99-118, 6 figs., 1 table. Oklahoma section discussed.

Janus, J. B., *see* Aresco, S. J., Janus, J. B., and Walker, F. E.

Johnson, J. G., *see* Amsden, T. W., Boucot, A. J., and Johnson, J. G.; *also* Boucot, A. J., and Johnson, J. G.

Johnston, K. H., and Baskett, K. R., 1966, A thermal-recovery project and two waterflood projects in Carter, Garvin, and Stephens Counties, Oklahoma, 1966: U. S. Bur. Mines, Inf. Circ. 8311, 32 p.

Jordan, Louise, 1967, Geology of Oklahoma—A summary [reprint]: Okla. Geol. Survey, Okla. Geology Notes, vol. 27, p. 215-228. Reprinted with slight modification from the Proceedings of the Geophysical Society of Tulsa, vol. 8, 1961-1964.

Jordan, Louise, *see* Branson, C. C., Jordan, Louise, and Roberts, J. F.

Kerns, R. L., Jr., 1967a, Pickeringite in Oklahoma: Okla. Geol. Survey, Okla. Geology Notes, vol. 27, p. 112-120, 3 figs., 2 tables.

_____1967b, Chemical analyses by x-ray fluorescence: Okla. Geol. Survey, Okla. Geology Notes, vol. 27, p. 201-210, 3 figs., 3 tables. Beavers Bend illite analyzed.

Keroher, G. C., 1967, Some uses of fossil names in the evolution of stratigraphic nomenclature in the Mid-Continent: Kans., Univ., Dept. Geology, Spec. Pub. 2, p. 479-502.

Klapper, Gilbert, and Ziegler, Willi, 1967, Evolutionary development of the *Icriodus latericrescens* group (Conodonta) in the Devonian of Europe and North America: Palaeontografica, Abt. A, vol. 127, p. 68-83. Some specimens of *I. latericrescens huddlei* correlative with material from the Turkey Creek inlier, Marshall County.

Klinger, R. R., and Ash, R. D., 1967, Geologic studies can project stratigraphic trap trends: World Oil, vol. 164, no. 2, p. 65-70. Stratigraphic traps in Chester- and Morrow-aged rocks in the Anadarko basin.

Koenig, J. W., 1967, The Ozark uplift and Midcontinent Silurian and Devonian stratigraphy: Tulsa Geol. Soc., Digest, vol. 35, p. 119-147, 13 figs., list of wells.

Koinm, D. N., and Dickey, P. A., 1967, Growth faulting in McAlester basin of Oklahoma: Amer. Assoc. Petroleum Geologists, Bull., vol. 51, p. 710-719.

Koontz, Terry, 1967, Petroleum geology of McIntosh County, *part II of* Geology and petroleum of McIntosh County, Oklahoma: Okla. Geol. Survey, Bull. 111, p. 50-65, figs. 9-13, pls. 3, 4.

Kornfeld, J. A., 1967a, Arkoma basin lateral conquers terrain problems in strip mining area: Pipeline Construction, vol. 32, no. 13, p. 23-24, 48.

_____1967b, Oklahoma's new 4-mile-deep tests grab spotlight in Anadarko basin: World Oil, vol. 164, no. 4, 127-135.

Ku, Chao-Cheng, Sun, Stanley, Soffel, Heinrich, and Scharon, LeRoy, 1967, Paleomagnetism of the basement rocks, Wichita Mountains, Oklahoma: Jour. Geophys. Research, vol. 72, p. 731-737.

Kunsman, H. S., 1967, Hunton oil and gas fields, Arkansas, Oklahoma, and Panhandle Texas: Tulsa Geol. Soc., Digest, vol. 35, p. 165-197, 3 tables, 1 map, list of Hunton oil and gas wells.

Lane, H. R., 1967, Uppermost Mississippian and Lower Pennsylvanian conodonts from the type Morrowan region, Arkansas: Jour. Paleontology, vol. 41, p. 920-942.

Lidiak, E. G., *see* Muehlberger, W. R., Denison, R. E., and Lidiak, E. G.

Logsdon, Truman, and Brown, A. R., 1967, "Hunton"—Hottest play in Oklahoma: Oklahoma City Geol. Soc., Shale Shaker, vol. 18, p. 63-70.

Lundin, R. F., 1967, Ostracoda and stratigraphy of the Henryhouse and Haragan Formations in south-central Oklahoma: Tulsa Geol. Soc., Digest, vol. 35, p. 198-208, 7 figs.

MacLachlan, M. E., 1967, Paleotectonic investigations of the Permian System in the United States: Oklahoma: U. S. Geol. Survey, Prof. Paper 515-E, p. 81-92, 1 pl.

McDougal, R. B., 1967, The mineral industry of Oklahoma in 1966 (Preliminary): Okla. Geol. Survey, Okla. Geology Notes, vol. 27, p. 19-22, 1 table.

McDougal, R. B., and Ham, W. E., 1967, The mineral industry of Oklahoma, *in* Minerals yearbook 1965, vol. 3, Area reports: Domestic: U. S. Bur. Mines, p. 641-664, 1 fig.

McGinnis, H. J., 1967, The osteology of *Phlegethontia,* a Carboniferous and Permian aistopod amphibian: Calif., Univ., Pubs. Geol. Sciences, vol. 71, 49 p. Braincase and vertebrae from Ft. Sill (in Arbuckle ls.) extends range of Aistopoda into Early Permian.

McGlasson, E. H., 1967, The Siluro-Devonian of West Texas and southeast New Mexico: Tulsa Geol. Soc., Digest, vol. 35, p. 148-164, 14 figs. Oklahoma section discussed.

McKinney, C. M., and Shelton, E. M., 1967, Sulfur content of crude oils of the free world: U. S. Bur. Mines, Rept. Inv. 7059, 37 p.

Menzie, D. E., *see* Fronjosa, E., and Menzie, D. E.

Merida, J. E., and Boardman, R. S., 1967, The use of Paleozoic Bryozoa from well cuttings: Jour. Paleontology, vol. 41, p. 763-765, pl. 100. Bryozoa studied from well cuttings from the Bromide Fm. (Mid. Ord.), southern Oklahoma.

Merritt, C. A., 1967a, Mt. Scott Granite, *in* The structure and igneous rocks of the Wichita Mountains, Oklahoma: Geol. Soc. America, South-Central Sec., 1st Ann. Mtg., Guidebook, p. 22-33.

_____1967b, Names and relative ages of granites and rhyolites in the Wichita Mountains, Oklahoma: Okla. Geol. Survey, Okla. Geology Notes, vol. 27, p. 45-53, 2 figs.

Mesnard, M. L. (ed.), 1967, The oil producing industry in your state: Tulsa, Indep. Petroleum Assoc. America, 114 p.
Meyers, W. C., 1967, Palynological correlation of the Henryetta coal, Oklahoma: Okla. Geol. Survey, Okla. Geology Notes, vol. 27, p. 34-38, 2 figs.
Miller, R. D., *see* Moore, B. J., Miller, R. D., and Shrewsbury, R. D.
Miller, T. H., 1967, Techniques for processing and photographing chitinozoans: Kans., Univ., Paleont. Contr., Paper 21, 10 p., 1 fig., 4 pls.
Mobley, H. L., and Brinlee, R. C., Soil survey of Comanche County, Oklahoma: U. S. Dept. Agriculture, Soil Conserv. Serv. and Okla. Agr. Expt. Sta., 58 p., 20 figs., 9 tables, 47 maps.
Moore, B. J., and Shrewsbury, R. D., 1967, Analyses of natural gases, 1966: U. S. Bur. Mines, Inf. Circ. 8302, 130 p., 4 tables.
Moore, B. J., Miller, R. D., and Shrewsbury, R. D., 1966, Analyses of natural gases of the United States, 1964: U. S. Bur. Mines, Inf. Circ. 8302, 144 p., 1 fig. Analyses of some helium-bearing natural gases from Oklahoma.
Muehlberger, W. R., Denison, R. E., and Lidiak, E. G., 1967, Basement rocks in continental interior of United States: Amer. Assoc. Petroleum Geologists, Bull., vol. 51, p. 2351-2380, 13 figs.
Nicholson, Alex., 1967, Louise Jordan, 1908-1966: Okla. Geol. Survey, Okla. Geology Notes, vol. 27, p. 3-8.
Oakes, M. C., 1967, Geology and mineral resources of McIntosh County, *pt. I of* Geology and petroleum of McIntosh County, Oklahoma: Okla. Geol. Survey, Bull. 111, p. 5-49, 68-85, figs. 1-8, pls. 1, 2.
Odom, I. E., 1967, Clay fabric and its relation to structural properties in Mid-Continent Pennsylvanian sediments: Jour. Sed. Petrology, vol. 37, p. 610-623.
Oetking, Philip, Feray, D. E., and Renfro, H. B., 1966, Geological highway map of the Mid-Continent region—Kansas, Oklahoma, Missouri, Arkansas: Amer. Assoc. Petroleum Geologists, U. S. Geol. Highway Map Ser., Map 1, scale 1:1,875,000, sections, text.
Oklahoma Geological Survey, 1967a, Résumé of new nomenclature published in Oklahoma Geology Notes, January 1966 through December 1966: Okla. Geol. Survey, Okla. Geology Notes, vol. 27, p. 39.
_____1967b, Bibliography of Louise Jordan: Okla. Geol. Survey, Okla. Geology Notes, vol. 27, p. 107-111.
Oklahoma Water Resources Board, 1967, Oklahoma's water resources, 1967: Oklahoma City, Okla. Water Resources Board, 62 p., 10 illus., 3 tables.
Olson, E. C., 1967, Early Permian vertebrates of Oklahoma: Okla. Geol. Survey, Circ. 74, 111 p., 12 figs., 3 pls.
Ortuglio, C., *see* Walters, J. G., Ortuglio, C., and Glaenzer, J.
Padgett, Ward, 1967, 58th Annual report, Chief Mine Inspector: Okla., Dept. Mines, 55 p., 23 tables.
Peterson, E. C., 1966, Titanium resources of the United States: U. S. Bur. Mines, Inf. Circ. 8290, 65 p., 17 figs.

Qualls, B. R., *see* Tryggvason, E., and Qualls, B. R.
Redding, H. D., DeGreer, W. D., and Huber, C. A., 1967, Anadarko's deep play challenge to drillers: Oil and Gas Jour., vol. 65, no. 20, p. 84-86, 88.
Renfro, H. B., *see* Oetking, Philip, Feray, D. E., and Renfro, H. B.
Riley, L. R., 1966, The challenge of deep exploration—the Chitwood pool, Grady County, Oklahoma: Oklahoma City Geol. Soc., Shale Shaker, vol. 17, p. 66-73.
Roberts, J. F., 1967a, New Oklahoma core catalog issued: Okla. Geol. Survey, Okla. Geology Notes, vol. 27, p. 87.
_____1967b, Statistics of Oklahoma's petroleum industry, 1966: Okla. Geol. Survey, Okla. Geology Notes, vol. 27, p. 123-130, 4 figs., 4 tables.
Roberts, J. F., *see* Branson, C. C., Jordan, Louise, and Roberts, J. F.
Rodda, P. U., *see* Fisher, W. L., and Rodda, P. U.
Rowland, T. L., *see* Amsden, T. W., and Rowland, T. L.
Scharon, LeRoy, *see* Ku, Chao-Cheng, Sun, Stanley, Soffel, Heinrich, and Scharon, LeRoy.
Schemel, M. P., 1967a, Note on the Laverne Formation: Okla. Geol. Survey, Okla. Geology Notes, vol. 27, p. 15-16.
_____1967b, Investigation of selected Lower Pliocene and Pleistocene deposits in northwestern Oklahoma: Okla. Geol. Survey, Okla. Geology Notes, vol. 27, p. 24-33, 1 fig., 1 table, 9 meas. secs.
Schramm, M. W., Jr., 1967, Application of trend analysis to pre-Morrow surface, southeastern Hugoton embayment area: Oklahoma City Geol. Soc., Shale Shaker, vol. 18, no. 2, p. 27-33.
Sellars, R. T., Jr., 1967, The Siluro-Devonian rocks of the Ouachita Mountains: Tulsa Geol. Soc., Digest, vol. 35, p. 231-241, 1 fig.
Shaw, N. G., 1967, Cheilostomata from Gulfian (Upper Cretaceous) rocks of southwestern Arkansas: Jour. Paleontology, vol. 41, p. 1393-1432, 4 pls., 16 text-figs. Descriptions of several Oklahoma specimens.
Sheffey, N. B., *see* Zubovic, Peter, Sheffey, N. B., and Stadnichenko, Taisia.
Shelton, E. M., *see* McKinney, C. M., and Shelton, E. M.
Shrewsbury, R. D., *see* Moore, B. J., Miller, R. D., and Shrewsbury, R. D.; *also* Moore, B. J., and Shrewsbury, R. D.
Skvarla, J. J., *see* Wilson, L. R., and Skvarla, J. J.
Smith, Russell (ed.), 1967, Stratigraphic cross section of Paleozoic rocks Oklahoma to Saskatchewan: Amer. Assoc. Petroleum Geologists, Cross Sec. Pub. 5, 23 p., 1 fig., 6 pls. Plate 1 is a cross section of Oklahoma, *cited under* Edwards, A. R., and Downey, M. W.
Soffel, Heinrich, *see* Ku, Chao-Cheng, Sun, Stanley, Soffel, Heinrich, and Scharon, LeRoy.
Stadnichenko, Taisia, *see* Zubovic, Peter, Sheffey, N. B., and Stadnichenko, Taisia.
Stahnke, Clyde, and Gray, Fenton, 1966, A mineralogical study of thick-surfaced Brunizemic soils: Okla. Acad. Science, Proc. 1965, vol. 46, p. 72, 2 tables.

Sterling, P. J., Stone, C. G., and Holbrook, D. F., 1966, General geology of eastern Ouachita Mountains, Arkansas: Kans. Geol. Soc., 29th Field Conf. (Ft. Sill, Ark.; Nov., 1966), Guidebook, p. 177-194.

Stiles, M. F., Jr. (chm.), 1967, Oklahoma [production], *in* International oil and gas development, review 1966: Internat. Oil Scouts Assoc., vol. 37, pt. 2, p. 277-349.

Stone, C. G., 1966, General geology of the eastern frontal Ouachita Mountains and southeastern Arkansas Valley, Arkansas: Kans. Geol. Soc., 29th Field Conf. (Ft. Smith, Ark.; Nov., 1966), Guidebook, p. 195-221.

Stone, C. G., *see* Sterling, P. J., Stone, C. G., and Holbrook, D. F.

Stone, G. T. (ed.), 1967, The structure and igneous rocks of the Wichita Mountains, Oklahoma: Geol. Soc. America, South-Central Sec., 1st Ann. Mtg., Guidebook, 46 p., 11 figs., 4 tables. Contains articles by W. E. Ham, C. A. Merritt, and H. E. Hunter, cited elsewhere in this bibliography.

Strimple, H. L., 1967, Aphelecrinidae, a new family of inadunate crinoids: Okla. Geol. Survey, Okla. Geology Notes, vol. 27, p. 81-85, 1 pl.

Summers, F. C., Jr., 1967, Exploration in Oklahoma and the Panhandle of Texas in 1966: Amer. Assoc. Petroleum Geologists, Bull., vol. 51, p. 1048-1052.

Sun, Stanley, *see* Ku, Chao-Cheng, Sun, Stanley, Soffel, Heinrich, and Scharon, LeRoy.

Swafford, Bill, 1967, Soil survey of Garfield County, Oklahoma: U. S. Dept. Agriculture, Soil Conserv. Serv., 57 p., 12 figs., 8 tables, 92 maps (90 at 1:20,000, 2 at 1:190,080).

Swanson, D. C., 1967, Major factors controlling Anadarko basin production: World Oil, vol. 164, no. 1, p. 81-92.

Swinchatt, J. P., 1967, Formation of large-scale cross-bedding in a carbonate unit: Sedimentology, vol. 8, p. 93-120. Discussion of Lindsey Bridge Member, Moorefield Formation, northeastern Oklahoma.

Tanaka, H. H., 1966, Use of analog models in the Arkansas and Verdigris River Valleys, Oklahoma: Okla. Acad. Science, Proc. 1965, vol. 46, p. 76.

Tanner, J. H., 3d, 1967, Wrench fault movements along Washita Valley fault, Arbuckle Mountain area, Oklahoma: Amer. Assoc. Petroleum Geologists, Bull., vol. 51, p. 126-134.

Tarr, R. S., 1966, Relation of buried Tishomingo uplift to Ardmore basin and Ouachita Mountains, southeastern Oklahoma—Discussion: Amer. Assoc. Petroleum Geologists, Bull., vol. 50, p. 1365-1374. See Harlton, B. H., 1966, for reply.

Thalman, A. L., 1967, Geology of the Oakdale Red Fork sand field, Woods County, Oklahoma: Oklahoma City Geol. Soc., Shale Shaker, vol. 18, no. 1, p. 3-11.

Taylor, F. B., 1967, Outlook for shallow oil exploration and development, United States: Amer. Assoc. Petroleum Geologists, Bull., vol. 51, p. 134-136. Data on Oklahoma exploration and development.

Toomey, D. F. (ed.), 1967, Symposium—Silurian-Devonian rocks of Oklahoma and environs: Tulsa Geol. Soc., Digest, vol. 35, 303 p. Contains articles by T. W. Amsden and T. L. Rowland; T. W. Amsden, A. J. Boucot, and J. G. Johnson; P. L. Hilpman; H. A. Ireland; J. W. Koenig; E. H. McGlasson; H. S. Kunsman; R. F. Lundin; R. T. Sellars, Jr.; O. A. Wise and W. M. Caplan; K. S. W. Campbell; and A. L. Bowsher, cited elsewhere in this bibliography.

Toomey, D. F., and Ham, W. E., 1967, *Pulchrilamina*, a new mound-building organism from Lower Ordovician rocks of West Texas and southern Oklahoma: Jour. Paleontology, vol. 41, p. 981-987.

Tryggvason, E., and Qualls, B. R., 1967, Seismic refraction measurements of crustal structure in Oklahoma: Jour. Geophys. Research, vol. 72, p. 3738-3740.

Tucker, V. M. (chm.), et al., 1966, Field conference on flysch facies and structure of the Ouachita Mountains: Kans. Geol. Soc., 29th Field Conf. (Ft. Smith, Ark.; Nov., 1966), Guidebook, 278 p. Contains articles by L. M. Cline; J. G. Hill; P. J. Sterling, C. G. Stone, and D. F. Holbrook; C. G. Stone; G. W. Viele; and B. H. Walthall and A. L. Bowsher, cited elsewhere in this bibliography.

U. S. Geological Survey, 1967a, Ground-water levels in the United States, 1960-64: South-central states: U. S. Geol. Survey, Water-Supply Paper 1824, 152 p., 5 illus.

_____1967b, Water resources data for Oklahoma, 1965; part 2, Water-quality records: Oklahoma City, U. S. Geol. Survey, Water Resources Div., 132 p.

_____1967c, Water resources data for Oklahoma, 1965, part 1, Surface-water records: Oklahoma City, U. S. Geol. Survey, Water Resources Div., 191 p.

Upshaw, C. F., and Hedlund, R. W., 1967, Microspores from the upper part of the Coffeyville Formation (Pennsylvanian, Missourian), Tulsa County, Oklahoma: Pollen et spores, vol. 9, no. 1, p. 143-170.

Venkatachala, B. S., *see* Wilson, L. R., and Venkatachala, B. S.

Viele, G. W., 1966, The regional structure of the Ouachita Mountains of Arkansas, a hypothesis: Kans. Geol. Soc., 29th Field Conf. (Ft. Smith, Ark.; Nov., 1966), Guidebook, p. 245-278.

Walker, F. E., and Hartner, F. E., 1966, Forms of sulfur in U. S. coals: U. S. Bur. Mines, Inf. Circ. 8301, 51 p.

Walker, F. E., *see* Aresco, S. J., Janus, J. B., and Walker, F. E.

Walters, J. G., Ortuglio, C., and Glaenzer, J., 1967, Yields and analyses of tars and light oils from carbonization of U. S. coals: U. S. Bur. Mines, Bull. 643, 91 p., 5 tables.

Walthall, B. H., 1967, Stratigraphy and structure, part of Athens Plateau, southern Ouachitas, Arkansas: Amer. Assoc. Petroleum Geologists, Bull., vol. 51, p. 504-528. Correlations with Oklahoma section.

Walthall, B. H., and Bowsher, A. L., 1966, Geology of part of southern Ouachitas, Arkansas: Kans. Geol. Soc., 29th Field Conf. (Ft. Smith, Ark.; Nov., 1966), Guidebook, p. 125-139.

Weaver, L. K., and Anderson, K. F., 1966, Oil recovery from gas-cap reservoirs: an engineering evaluation of conservation practices in

six reservoirs: U. S. Bur. Mines, Mon. 13, 106 p., 70 figs. Data on West Cement field.
Weber, D. F., 1967, The East Washington-West Goldsby-Osborn trend, McClain County, Oklahoma: Oklahoma City Geol. Soc., Shale Shaker, vol. 17, p. 175-179.
Weld, B. A., Griffin, M. S., and Brett, G. W., 1967, Reports and maps of the U. S. Geological Survey released only in the open files: U. S. Geol. Survey, Circ. 528, 14 p.
Wilson, J. L., *see* Ham, W. E., and Wilson, J. L.
Wilson, L. R., and Skvarla, J. J., 1967, Electron-microscope study of the wall structure of *Quisquilites and Tasmanites*: Okla. Geol. Survey, Okla. Geology Notes, vol. 27, p. 54-63, 1 text-fig., 5 pls.
Wilson, L. R., and Venkatachala, B. S., 1967, *Circlettisporites* Miller, 1966, a synonym of *Leschikisporis* Potonié, 1958: Pollen et spores, vol. 9, no. 2, p. 363-365. Specimens from Dawson coal, Tulsa County, Oklahoma.
Wise, O. A., and Caplan, W. M., 1967, Silurian and Devonian rocks of northern Arkansas: Tulsa Geol. Soc., Digest, vol. 35, p. 242-252, 7 figs.
Withrow, P. C., 1967, The Red Fork sandstone in the Wakita trend, Grant and Alfalfa Counties, Oklahoma: Oklahoma City Geol. Soc., Shale Shaker, vol. 17, p. 198-205.
Wood, P. R., and Hart, D. L., Jr., 1967, Availability of ground water in Texas County, Oklahoma: U. S. Geol. Survey, Hydrol. Inv. Atlas HA 250, 3 sheets.
Woollard, G. P., *see* Coons, R. L., Woollard, G. P., and Hershey, Garland.
World Oil, 1966, Anadarko basin gas strike is one of world's giants: World Oil, vol. 163, no. 4, p. 104, 1 illus.
Wroblewski, E. F., 1967, Exploration problems in the "deep" Anadarko basin: Oklahoma City Geol. Soc., Shale Shaker, vol. 17, p. 131-136.
Ziegler, Willi, *see* Klapper, Gilbert, and Ziegler, Willi.
Zubovic, Peter, Sheffey, N. B., and Stadnichenko, Taisia, 1967, Distribution of minor elements in some coals in the western and southwestern regions of the Interior coal province: U. S. Geol. Survey, Bull. 1117-D, 33 p., 4 figs., 1 pl., 11 tables.

INDEX

1968

Vol. 29, no. 2, April 1969

Bibliography and Index of Oklahoma Geology
1968

Prepared by Alex. Nicholson and Patricia W. Wood

Bibliography—pages 27-41

Index—pages 41-54

Bibliography

1. Ahmeduddin, Mir, 1968, Subsurface geology of Wheatland area, Cleveland, McClain, Grady, Canadian, and Oklahoma Counties, Oklahoma: Oklahoma City Geol. Soc., Shale Shaker, vol. 19, p. 2-19, 3 figs., 6 pls.
2. Allen, P. B., and Welch, N. H., 1967, Sediment transport of streams in the Washita River basin in Caddo and Grady Counties, Oklahoma: Water Resources Research, vol. 3, p. 777-784, 8 figs., 3 tables.
3. American Gas Association, Inc., American Petroleum Institute, and Canadian Petroleum Association, 1968, Reserves of crude oil, natural gas liquids, and natural gas in the United States and Canada as of December 31, 1967: Amer. Gas Assoc., Amer. Petroleum Inst., Canadian Petroleum Assoc., vol. 22, 309 p., 60 tables, 5 charts, 5 maps.
4. Amsden, Thomas W., 1968, Articulate brachiopods of the St. Clair Limestone (Silurian), Arkansas, and the Clarita Formation (Silurian), Oklahoma: Paleont. Soc., Mem. 1 (Jour. Paleontology, vol. 42, no. 3, supp.), 117 p., 83 text-figs., 20 pls.
5. Amsden, Thomas W., Caplan, W. M., Hilpman, P. L., McGlasson, E. H., Rowland, T. L., and Wise, O. A., Jr., 1968, Devonian of the southern Midcontinent area, United States, *in* International symposium on the Devonian System, vol. I: Calgary, Alberta Soc. Petroleum Geologists, p. 913-932, 10 figs.
6. Amsden, Thomas W., Klapper, Gilbert, and Ormiston, A. R., 1968, Lower Devonian limestone of post-Hunton age, Turkey Creek inlier, Marshall County, south-central Oklahoma: Amer. Assoc. Petroleum Geologists, Bull., vol. 52, p. 162-166, 4 figs.
7. Amsden, Thomas W., and Rowland, T. L., 1968, Silurian-Devonian relationship in Oklahoma, *in* International symposium on the Devonian System, vol. II: Calgary, Alberta Soc. Petroleum Geologists, p. 949-959, 10 figs.
8. Arbenz, J. Kaspar, 1968, Structural geology of the Potato Hills, Ouachita Mountains, Oklahoma, *in* Geology of the western Arkoma basin and Ouachita Mountains, Oklahoma: Oklahoma City Geol. Soc., Guidebook (AAPG-SEPM Ann. Mtg.), p. 109-121, 3 figs., 1 pl.
9. Atkins, Robert L., 1968, Oklahoma oil and gas development 1967, *in part I,* Exploration, *of* International oil and gas development: Internat. Oil Scouts Assoc., vol. 38, p. 239-256.
10. Averitt, Paul, 1968, Stripping-coal resources of the United States: U. S. Geol. Survey, Bull. 1252-C, p. 1-20, 3 tables (figures on Oklahoma's coal strip-mining production).
11. Bado, John T., 1968, Geology of the North Mustang and South Yukon fields, T. 11 N., R. 5 W., Canadian County, Oklahoma: Okla. Geology Notes, vol. 28, p. 95-104, 7 figs., 1 table; *also in* Oklahoma City Geol. Soc., Shale Shaker, vol. 18, p. 202-206 (1968).

Baerreis, David A., *see* Bender, M. M., Bryson, R. A., and Baerreis, D. A. (15).

12. Bakker, D., 1968, Natural gas in Texas part of Marietta syncline, Cooke and Grayson Counties, Texas, *in* Natural gases of North America: Amer. Assoc. Petroleum Geologists, Mem. 9, vol. 2, p. 1459-1466, 2 figs., 1 table.
13. Becker, Leroy E., and Patton, John B., 1968, World occurrence of petroleum in pre-Silurian rocks: Amer. Assoc. Petroleum Geologists, Bull., vol. 52, p. 224-245, 13 figs., 1 table.
14. Bell, Robert E., 1968, Dating the prehistory of Oklahoma: Great Plains Jour., vol. 7, no. 2, p. 1-11.
15. Bender, Margaret M., Bryson, Reid A., and Baerreis, David A., 1968, University of Wisconsin radiocarbon dates IV: Radiocarbon, vol. 10, p. 161-168 (archeological specimens from Delaware Co.).
16. Bennison, Allan P., and Chenoweth, Philip A., 1968, Geology of the Tulsa metropolitan area: Tulsa Geol. Soc., Guidebook, 27 p., 12 figs.
17. Berry, Richard M., and Trumbly, W. D., 1968, Wilburton gas field, Arkoma basin, Oklahoma, *in* Geology of the western Arkoma basin and Ouachita Mountains, Oklahoma: Oklahoma City Geol. Soc., Guidebook (AAPG-SEPM Ann. Mtg.), p. 86-103, 10 figs., 1 pl.

Berry, Richard M., *see* Cline, L. M., and Berry, R. M. (46); *see also* Visher, G. S., Branson, C. C., and Berry, R. M. (164).

Birch, Francis, *see* Roy, R. F., Decker, E. R., Blackwell, D. D., and Birch, Francis (125).

Blackwell, David D., *see* Roy, R. F., Decker, E. R., Blackwell, D. D., and Birch, Francis (125).

Bogard, Vinson A., *see* Sparwasser, W. A., Bogard, V. A., and Henson, O. G. (143).

18. Bond, Thomas A., 1968, Permian palynological assemblage from the Wellington Formation, Kay County, Oklahoma: Pollen et Spores, vol. 10, p. 385-393, 3 pls.
19. Bond, Thomas A., 1968, A postglacial diatom assemblage from Caddo County, Oklahoma: Micropaleontology, vol. 14, p. 484-488, 1 fig., 1 pl.
20. Boucot, Arthur J., and Harper, Charles W., 1968, Silurian to lower Middle Devonian Chonetacea: Jour. Paleontology, vol. 42, p. 143-176, pls. 27-30 (*Eodevonaria arcuata* reported from Sallisaw Fm., Sequoyah Co.; *E. intermedia* reduced to subspecies of *E. arcuata*).
21. Bowsher, Arthur L., and Johnson, Norman L., 1968, Road log for

second day of field trip, *in* Geology of the western Arkoma basin and Ouachita Mountains, Oklahoma: Oklahoma City Geol. Soc., Guidebook (AAPG-SEPM Ann. Mtg.), p. 24-62, 20 figs.

Bowsher, Arthur L., *see* Cocke, J. M., and Bowsher, A. L. (47).

22. Branan, C. B., Jr., 1968, Natural gas in Arkoma basin of Oklahoma and Arkansas, *in* Natural gases of North America: Amer. Assoc. Petroleum Geologists, Mem. 9, vol. 2, p. 1616-1635, 8 figs., 1 table.
23. Branson, Carl C., 1968, The Cherokee Group, *in* Geology of the Bluejacket-Bartlesville Sandstone, Oklahoma: Oklahoma City Geol. Soc., Guidebook (AAPG-SEPM Ann. Mtg.), p. 26-31, 2 figs., 2 tables.
24. Branson, Carl C., 1968, Chester A. Reeds, Oklahoma geologist: Okla. Geology Notes, vol. 28, p. 192-194.
25. Branson, Carl C., 1968, Contribution of S. W. Lowman to Oklahoma geology: Okla. Geology Notes, vol. 28, p. 32.
26. Branson, Carl C., 1968, Everett Carpenter, 1884-1968: Okla. Geology Notes, vol. 28, p. 110-111.
27. Branson, Carl C., 1968, Fossil freshwater sponges in Oklahoma: Okla. Acad. Science, Proc. 1966, vol. 47, p. 162-163.
28. Branson, Carl C., 1968, New topographic maps in Oklahoma: Okla. Geology Notes, vol. 28, p. 12-13, 1 fig.
29. Branson, Carl C., 1968, Progress of topographic mapping in Oklahoma: Okla. Geology Notes, vol. 28, p. 188-190, 1 fig.
30. Branson, Carl C., 1968, Recently published Oklahoma topographic maps: Okla. Geology Notes, vol. 28, p. 170-171, 1 fig.

Branson, Carl C., *see* Visher, G. S., Branson, C. C., and Berry, R. M. (164).

31. Brockie, Douglas C., Hare, Edward H., Jr., and Dingess, Paul R., 1968, The geology and ore deposits of the Tri-State district of Missouri, Kansas, and Oklahoma, *chap.* 20 *in* Ridge, John D. (ed.), Ore deposits of the United States, 1933-1967: New York, Amer. Inst. Mining Metall. Petroleum Engineers, vol. 1, p. 400-430, 11 figs., 3 tables.

Bryson, Reid A., *see* Bender, M. M., Bryson, R. A., and Baerreis, D. A. (15).

32. Buchanan, Richard S., and Johnson, Fritz K., 1968, Bonanza gas field—a model for Arkoma basin growth faulting, *in* Geology of the western Arkoma basin and Ouachita Mountains, Oklahoma: Oklahoma City Geol. Soc., Guidebook (AAPG-SEPM Ann. Mtg.), p. 75-85, 7 figs.
33. Burke, R. G., 1968, Major new gas source evolving out of Anadarko basin: Oil and Gas Jour., vol. 66, no. 13 (Mar. 25), p. 222-224, 228-229, 3 figs.

Burton, L. C., *see* Wood, P. R., and Burton, L. C. (174).

34. Bush, James L., and Helander, Donald P., 1968, Empirical prediction of recovery rate in waterflooding depleted sands: Jour. Petroleum Technology, vol. 20, p. 933-943, 5 figs., 4 tables (analysis based on 86 Oklahoma waterfloods in 23 counties).
35. Byars, C., 1968, Sooner floods to add 150 million bbl: Oil and Gas Jour., vol. 66, no. 7 (Feb. 12), p. 72-73, 76, 1 fig.

Canis, Wayne F., *see* Conkin, J. E., Conkin, B. M., and Canis, W. F. (48).

36. Cannon, P. Jan, 1968, Pleistocene stream piracy in southwestern Oklahoma: Okla. Geology Notes, vol. 28, p. 183-187, 5 figs.

Caplan, W. M., *see* Amsden, T. W., Caplan, W. M., Hilpman, P. L., McGlasson, E. H., Rowland, T. L., and Wise, O. A. (5).

37. Carlson, Keith J., 1968, The skull morphology and estivation burrows of the Permian lungfish, *Gnathorhiza serrata*: Jour. Geology, vol. 76, p. 641-663, 3 figs., 1 pl., 5 tables.
38. Carroll, R. L., 1968, A ?diapsid (Reptilia) parietal from the Lower Permian of Oklahoma: Yale Univ., Peabody Mus. Nat. History, Postilla, no. 117, 7 p.
39. Cassidy, Martin M., 1968, Excello Shale, northeastern Oklahoma: Clue to locating buried reefs: Amer. Assoc. Petroleum Geologists, Bull., vol. 52, p. 295-312, 8 figs., 2 tables.
40. Cassidy, Martin M., 1968, Reply *to* Don M. Triplehorn, Excello Shale, northeastern Oklahoma: Clue to locating buried reefs: Discussion: Amer. Assoc. Petroleum Geologists, Bull., vol. 52, p. 2266.
41. Chenoweth, Philip A., 1967, Southern Mid-Continent: Past, present, future: Oil and Gas Jour., vol. 65, no. 49 (Dec. 4), p. 130-136, 11 figs.
42. Chenoweth, Philip A., 1968, Early Paleozoic (Arbuckle) overlap, southern Mid-Continent, United States: Amer. Assoc. Petroleum Geologists, Bull., vol. 52, p. 1670-1688, 16 figs.

Chenoweth, Philip A., *see* Bennison, A. P., and Chenoweth, P. A. (16).

43. Cherry, J. T., and Waters, K. H., 1968, Shear-wave recording using continuous signal methods, Part I—Early development: Geophysics, vol. 33, p. 229-239, 13 figs.

Clarke, Robert T., *see* Gibson, L. B., and Clarke, R. T. (65).

44. Cline, Lewis M., 1968, Comparison of main geologic features of Arkoma basin and Ouachita Mountains, southeastern Oklahoma, *in* Geology of the western Arkoma basin and Ouachita Mountains, Oklahoma: Oklahoma City Geol. Soc., Guidebook (AAPG-SEPM Ann. Mtg.), p. 63-74, 5 figs.
45. Cline, Lewis M. (ed.), 1968, Geology of the western Arkoma basin and Ouachita Mountains, Oklahoma: Oklahoma City Geol. Soc., Guidebook (AAPG-SEPM Ann. Mtg.), 126 p. (contains articles by J. K. Arbenz, R. M. Berry, R. S. Buchanan, A. L. Bowsher, L. M. Cline, H. R. Hopkins, F. K. Johnson, N. L. Johnson, G. L. Shideler, W. D. Trumbly, cited elsewhere in this bibliography).
46. Cline, Lewis M., and Berry, Richard M., 1968, [Road log and discussion for] First day of conference, *in* Geology of the western Arkoma basin and Ouachita Mountains, Oklahoma: Oklahoma City Geol. Soc., Guidebook (AAPG-SEPM Ann. Mtg.), p. 8-23, 6 figs.

47. Cocke, J. M., and Bowsher, Arthur L., 1968, New tabulate genus *Sutherlandia* (Coelenterata, Anthozoa) from Pennsylvanian of Oklahoma and Kansas: Kans., Univ., Paleont. Contr., Paper 33, 8 p., 3 figs.

Conkin, Barbara M., *see* Conkin, J. E., Conkin, B. M., and Canis, W. F. (48).

48. Conkin, James E., Conkin, Barbara M., and Canis, Wayne F., 1968, The limestones of the Chouteau Group in Missouri and Illinois, *part 3 of* Mississippian Foraminifera of the United States: Micropaleontology, vol. 14, p. 133-178, 16 figs., 4 pls., 42 tables.

49. Couch, Elton L., and Grim, Ralph E., 1968, Boron fixation by illites: Clays and Clay Minerals, vol. 16, p. 249-256, 3 figs., 3 tables (includes data on Beavers Bend illite).

50. Crane, H. R., and Griffin, James B., 1968, University of Michigan radiocarbon dates XII: Radiocarbon, vol. 10, p. 61-114 (archeological specimens from Le Flore Co.).

51. Culver, James R., and Gray, Fenton, 1968, A pedological study in the Wellington Formation: Okla. Acad. Science, Proc. 1966, vol. 47, p. 163-169, 3 figs., 1 table.

52. Dahlgren, E. G., 1968, Discovery of a giant, the Oklahoma City oil field: Oklahoma City Geol. Soc., Shale Shaker, vol. 19, p. 53-55.

Dale, William J., *see* Denny, C. S., Warren, C. R., Dow, D. H., and Dale, W. J. (55).

53. Davis, Johnnie L., 1968, Meteorologic and hydrologic relationships on the Great Salt Plains of Oklahoma: Okla. Geology Notes, vol. 28, p. 163-168, 3 figs.

Decker, Edward R., *see* Roy, R. F., Decker, E. R., Blackwell, D. D., and Birch, Francis (125).

54. Dellwig, Louis F., 1968, Significant features of deposition in the Hutchinson salt, Kansas, and their interpretation, *in* Saline deposits: Geol. Soc. America, Spec. Paper 88, p. 421-426, 2 figs., 1 pl.

55. Denny, Charles S., Warren, Charles R., Dow, Donald H., and Dale, William J., 1968, A descriptive catalog of selected aerial photographs of geologic features in the United States: U. S. Geol. Survey, Prof. Paper 590, 79 p., 113 pls. (4 examples from Oklahoma).

Dew, J. N., *see* Martin, W. L., Dew, J. N., Powers, M. L., and Steves, H. B. (93).

56. Dickey, Parke A., 1968, Discussion [of Migration of reservoir fluids, by William C. Gussow]: Jour. Petroleum Technology, vol. 20, p. 364-365.

Dingess, Paul R., *see* Brockie, D. C., Hare, E. H., Jr., and Dingess, P. R. (31).

57. Dixon, George H., 1967, Northeastern New Mexico and Texas-Oklahoma Panhandles, *ch. D in* Paleotectonic investigations of the Permian System in the United States: U. S. Geol. Survey, Prof. Paper 515, p. 63-80, figs. 19-27, 1 table.

58. Dover, T. B., Leonard, A. R., and Laine, L. L., 1968, Water for Oklahoma: U. S. Geol. Survey, Water-Supply Paper 1890, 107 p., 18 figs., 1 pl.

Dow, Donald H., *see* Denny, C. S., Warren, C. R., Dow, D. H., and Dale, W. J. (55).

59. Dowds, John P., 1968, Mathematical probability approach proves successful: World Oil, vol. 167, no. 7 (Dec.), p. 82-85, 4 figs. (1 example of oil and gas exploration in Cimarron Co.).

Drugg, Warren S., *see* Loeblich, A. R., and Drugg, W. S. (89).

60. Eisenhuth, H. P., 1968, Lower Mississippi River basin, *pt. 7 of* Index of surface-water records to September 30, 1967: U. S. Geol. Survey, Circ. 577, 66 p., 1 fig.

61. Erickson, E. L., Miller, D. E., and Waters, K. H., 1968, Shear-wave recording using continuous signal methods, Part II—Later experimentation: Geophysics, vol. 33, p. 240-254, 11 figs. (8 recordings from Oklahoma boreholes).

62. Gafford, Edward L., Jr., and Kidson, E. J., 1968, Probable occurrence of chitinozoans from the Lower Permian of Kansas: Compass, vol. 45, p. 72-73 (specimens from the Fort Riley Limestone).

63. Ganser, Robert W., 1968, The relation of river gradient changes to differences in lithology across formation contacts: Compass, vol. 45, p. 234-235, 1 table.

64. Garner, H. F., 1967 [1968], Moorefield-Batesville stratigraphy and sedimentation in Arkansas: Geol. Soc. America, Bull., vol. 78, p. 1233-1246, 2 figs., 5 pls. (contains correlations with Oklahoma section).

65. Gibson, Lee B., and Clarke, Robert T., 1968, Floral succession and palynological correlation: Jour. Paleontology, vol. 42, p. 576-581, 3 figs.

Gilarranz, Santos, *see* Schoeppel, R. J., and Gilarranz, Santos (129).

66. Goebel, Edwin D., Thompson, Thomas L., Waugh, Truman C., and Mueller, Leslie C., 1968, Mississippian conodonts from the Tri-State district, Kansas, Missouri, and Oklahoma, *in* Short papers on research in 1967: Kans., State Geol. Survey, Bull. 191, pt. 1, p. 21-25, 1 fig., 1 table.

Gray, Fenton, *see* Culver, J. R., and Gray, Fenton (51); *see also* Stiegler, Jim, and Gray, Fenton (144).

67. Grégoire, Charles, 1967, Sur la structure des matrices organiques des coquilles de mollusques: Cambridge Phil. Soc., Biol. Rev., vol. 42, p. 653-687 (2 figures on plate 2 are of Pennsylvanian Buckhorn asphalt specimens).

68. Grégoire, Charles, 1968, Thermal changes in conchiolin matrix of mother-of-pearl, *pt. I of* Experimental alteration of the *Nautilus* shell by factors involved in diagenesis and metamorphism: Brussels, Institut royal des Sciences naturelles de Belgique, Bull., vol. 44, no. 25, 69 p., 26 pls., 2 tables (includes 3 examples from Buckhorn asphalt).

Griffin, James B., *see* Crane, H. R., and Griffin, J. B. (50).

Grim, Ralph E., *see* Couch, E. L., and Grim, R. E. (49).
69. Gussow, William C., 1968, Migration of reservoir fluids [with discussion by Parke A. Dickey and author's reply]: Jour. Petroleum Technology, vol. 20, p. 353-365, 13 figs. (Hugoton embayment and Arkoma basin among examples).
70. Halbouty, Michel T., 1968, Giant oil and gas fields in United States: Amer. Assoc. Petroleum Geologists, Bull., vol. 52, p. 115-1151, 26 figs., 2 tables.
71. Haley, Boyd R., and Hendricks, Thomas A., 1968, Geology of the Greenwood quadrangle, Arkansas-Oklahoma: U. S. Geol. Survey, Prof. Paper 536-A, 15 p., 4 pls.
72. Hall, S. A., 1968, A paleosol in central Oklahoma and its archaeological significance: Okla. Anthropol. Soc., Bull., vol. 16, p. 151-154.

Ham, William E., *see* McDougal, R. B., and Ham, W. E. (102).
Hare, Edward H., Jr., *see* Brockie, D. C., Hare, E. H., Jr., and Dingess, P. R. (31).
Harper, Charles W., *see* Boucot, A. J., and Harper, C. W. (20).

73. Harvey, Ralph, 1968, The West Campbell field—Key to unlock the Hunton: Oklahoma City Geol. Soc., Shale Shaker, vol. 18, p. 183-195, 8 figs.

Hayes, John B., *see* Schroeder, R. J., and Hayes, J. B. (131).

74. Hedberg, Hollis D., 1968, Significance of high-wax oils with respect to genesis of petroleum: Amer. Assoc. Petroleum Geologists, Bull., vol. 52, p. 736-750, 1 table, appendix (data for 3 Oklahoma samples).
75. Hedlund, Richard W., 1967, Taxonomic reevaluation of spores from the Cenomanian of Oklahoma: Pollen et spores, vol. 9, p. 579-583.
76. Hedlund, Richard W., and Norris, G., 1968, Spores and pollen grains from Fredericksburgian (Albian) strata, Marshall County, Oklahoma: Pollen et Spores, vol. 10, p. 129-159, 2 figs., 9 pls.

Helander, Donald P., *see* Bush, J. L., and Helander, D. P. (34).

77. Henbest, Lloyd G., 1968, Diagenesis in oolitic limestones of Morrow (Early Pennsylvanian) age in northwestern Arkansas and adjacent Oklahoma: U. S. Geol. Survey, Prof. Paper 594-H, p. 1-22, 16 figs.

Hendricks, T. A., *see* Haley, B. R., and Hendricks, T. A. (71).

78. Henry, Gary E., 1968, Recent developments in the Marietta basin: Oklahoma City Geol. Soc., Shale Shaker, vol. 19, p. 46-51, 5 figs.

Henry, Thomas W., *see* Sutherland, P. K., and Henry, T. W. (149).
Henson, Odos G., *see* Sparwasser, W. A., Bogard, V. A., and Henson, O. G. (143).
Hilpman, P. L., *see* Amsden, T. W., Caplan, W. M., Hilpman, P. L., McGlasson, E. H., Rowland, T. L., and Wise, O. A. (5).

79. Hopkins, H. R., 1968, Structural interpretation of the Ouachita Mountains, *in* Geology of the western Arkoma basin and Ouachita Mountains, Oklahoma: Oklahoma City Geol. Soc., Guidebook (AAPG-SEPM Ann. Mtg.), p. 104-108, 3 figs.

Horn, Paul H., *see* Totten, Robert B., and Horn, Paul H. (153).

80. Hubbert, M. King, 1967, Application of hydrodynamics to oil exploration, *in* Latest developments within the oil industry: World Petroleum Cong., 7th, Mexico City 1967, Proc., vol. 1B, p. 59-75, 6 figs.
81. Johnson, Edward L., 1968, Summary report on the geology and mineral resources of the Charons Gardens unit, Wichita Mountains National Wildlife Refuge, Comanche County, Oklahoma: U. S. Geol. Survey, Bull. 1260-J, 7 p., 1 fig.

Johnson, Fritz K., *see* Buchanan, R. S., and Johnson, F. K. (32).

82. Johnson, Kent E., 1968, Sedimentary environment of Stanley Group of the Ouachita Mountains of Oklahoma: Jour. Sed. Petrology, vol. 38, p. 723-733, 8 figs.

Johnson, Norman L., *see* Bowsher, A. L., and Johnson, N. L. (21).

83. Johnston, K. H., 1968, Performance of a low-permeability sandstone oil reservoir, West Avant field, Osage County, Oklahoma: U. S. Bur. Mines, Rept. Inv. 7161, 28 p., 9 figs.
84. Jones, Fred B., Jr., 1968, East Durant field, Bryan County, Oklahoma, *in* Natural gases of North America: Amer. Assoc. Petroleum Geologists, Mem. 9, vol. 2, p. 1467-1476, 6 figs.

Kidson, E. J., *see* Gafford, E. L., Jr., and Kidson, E. J. (62).
Kirby, John R., *see* Zietz, Isidore, and Kirby, J. R. (177).
Klapper, Gilbert, *see* Amsden, T. W., Klapper, Gilbert, and Ormiston, A. R. (6).

85. Kohler, M. A., and Parmele, L. H., 1967, Generalized estimates of free-water evaporation: Water Resources Research, vol. 3, p. 997-1005, 7 figs., 1 table (includes data for Lake Hefner, Oklahoma Co.).

Laine, L. L., *see* Dover, T. B., Leonard, A. R., and Laine, L. L. (58).

86. Lane, H. Richard, 1968, Symmetry in conodont element-pairs: Jour. Paleontology, vol. 42, p. 1258-1263, 3 figs. (includes examples from Oklahoma).
87. Latham, Jack W., 1968, Petroleum geology of Arbuckle Group (Ordovician), Healdton field, Carter County, Oklahoma: Amer. Assoc. Petroleum Geologists, Bull., vol. 52, p. 3-20.

Leonard, A. R., *see* Dover, T. B., Leonard, A. R., and Laine, L. L. (58).

88. Levinson, Stuart A., 1968, *Eoaquapulex*, new name for *Diplopsis* Levinson, 1961: Micropaleontology, vol. 14, p. 248.
89. Loeblich, Alfred R., and Drugg, Warren S., 1968, New acritarchs from the Early Devonian (late Gedinnian) Haragan Formation of Oklahoma, U. S. A.: Tulane Studies Geology, vol. 6, p. 129-137, 4 pls.
90. Lucia, F. Jerry, and Murray, Raymond C., 1967, Origin and dis-

tribution of porosity in crinoidal rock, *in* Origin of oil, geology and geophysics: World Petroleum Cong., 7th, Mexico City 1967, Proc., vol. 2, p. 409-423, 16 figs.

Lumsden, David N., *see* Pittman, E. D., and Lumsden, D. N. (120).

91. Lundin, Robert F., 1968, Ostracodes of the Haragan Formation (Devonian) in Oklahoma: Okla. Geol. Survey, Bull. 116, 121 p., 51 figs., 22 pls., 18 tables.

MacClintock, Copeland, *see* Pannella, Giorgio, MacClintock, Copeland, and Thompson, M. N. (117).

92. Mankin, Charles J., 1968, Oklahoma Geological Survey, annual report: Okla. Geology Notes, vol. 28, p. 123-137, 2 figs.
93. Martin, W. L., Dew, J. N., Powers, M. L., and Steves, H. B., 1968, Results of tertiary hot waterflood in a thin sand reservoir: Jour. Petroleum Technology, vol. 20, p. 739-750, 15 figs., 6 tables.
94. Marvin, Richard F., 1968, Transcontinental geophysical survey (35°-39°N)—Radiometric age determinations of rocks: U. S. Geol. Survey, Misc. Geol. Inv. Map I-537, scale 1:7,500,000, text of 25 p.
95. Mason, Brian, and Nelen, J., 1968, The Weatherford meteorite: Geochim. et Cosmochim. Acta, vol. 32, p. 661-664, 4 figs., 1 table.
96. Mason, John W., 1968, Hugoton Panhandle field, Kansas, Oklahoma and Texas, *in* Natural gases of North America: Amer. Assoc. Petroleum Geologists, Mem. 9, vol. 2, p. 1539-1547, 3 figs., 1 table.
97. McAlester, A. Lee, 1968, Type species of Paleozoic nuculoid bivalve genera: Geol. Soc. America, Mem. 105, 143 p., 36 pls., 2 tables (includes 2 Oklahoma species).
98. McCaleb, James A., 1968, Lower Pennsylvanian ammonoids from the Bloyd Formation of Arkansas and Oklahoma: Geol. Soc. America, Spec. Paper 96, 123 p., 27 figs., 12 pls., 11 tables.
99. McDaniel, Gary A., 1968, Application of sedimentary directional features and scalar properties to hydrocarbon exploration: Amer. Assoc. Petroleum Geologists, Bull., vol. 52, p. 1689-1699, 13 figs.
100. McDaniel, Gary A., 1968, Find strat-trap oil with paleocurrents: Oil and Gas Jour., vol. 66, no. 20 (May 13), p. 122-129, 11 figs.
101. McDougal, Robert B., 1968, The mineral industry in Oklahoma in 1967 (Preliminary): Okla. Geology Notes, vol. 28, p. 3-6, 1 table.
102. McDougal, Robert B., and Ham, William E., 1967, The mineral industry of Oklahoma, *in* Minerals yearbook 1966, vol. 3, Area reports: Domestic: U. S. Bur. Mines, p. 625-645, 1 fig., 23 tables.

McGlasson, E. H., *see* Amsden, T. W., Caplan, W. M., Hilpman, P. L., McGlasson, E. H., Rowland, T. L., and Wise, O. A. (5).

103. McKee, Edwin D., Oriel, Steven S., and others, 1967, Paleotectonic maps of the Permian System: U. S. Geol. Survey, Misc. Geol. Inv. Map I-450, scale (pls. 1-8) 1:5,000,000, 164 p., 12 figs., 20 pls.
104. McMurtry, Wilbur, 1968, Memorial, Everett Carpenter: Oklahoma City Geol. Soc., Shale Shaker, vol. 18, p. 177-180, 3 figs.

Miller, D. E., *see* Erickson, E. L., Miller, D. E., and Waters, K. H. (61).

105. Mogharabi, Ataolah, 1968, Trace elements in carbonates of the Foraker Formation (Lower Permian) in north-central Oklahoma: Okla. Geology Notes, vol. 28, p. 14-20, 2 figs., 1 table.
107. Moore, Carl A., and Pereira S., Orlando, 1968, Geologic factors which affect deep drilling: World Oil, vol. 167, no. 6 (Nov.), p. 94, 96, 98, 102, 3 figs.
108. Morris, Don L., 1968, Field study of the East Oconee field, Coal Co., Oklahoma: Oklahoma City Geol. Soc., Shale Shaker, vol. 18, p. 210-211, 1 fig., 1 table.
109. Mound, Michael C., 1968, Conodonts and biostratigraphy of the lower Arbuckle Group (Ordovician), Arbuckle Mountains, Oklahoma: Micropaleontology, vol. 14, p. 393-434, 5 figs., 6 pls., 2 tables.

Mueller, Leslie C., *see* Goebel, E. D., Thompson, T. L., Waugh, T. C., and Mueller, L. C. (66).

Murray, Raymond C., *see* Lucia, F. J., and Murray, R. C. (90).

Nelen, J., *see* Mason, Brian, and Nelen, J. (95).

110. Nitecki, Matthew H., and Richardson, Eugene S., Jr., 1967, Catalog of type specimens of conodonts in the Field Museum of Natural History: Fieldiana: Geology, vol. 17, p. 3-101 (Mississippian and Pennsylvanian specimens from Pontotoc and Tulsa Cos.).

Norris, G., *see* Hedlund, R. W., and Norris, G. (76).

Nur, Amos, *see* Simmons, Gene, and Nur, Amos (137).

111. Ogren, David E., 1968, Stratigraphy of Upper Mississippian rocks of northern Arkansas: Amer. Assoc. Petroleum Geologists, Bull., vol. 52, p. 282-294, 8 figs., 2 tables.
112. Oklahoma Geological Survey, 1968, Arthur Curtis Shead, 1891-1968: Okla. Geology Notes, vol. 28, p. 178.
113. Oklahoma Water Resources Board, 1968, Appraisal of the water and related land resources of Oklahoma—Region two: Okla. Water Resources Board, Pub. 19, 131 p., illus.
114. Olson, Everett C., 1968, The family Caseidae: Fieldiana: Geology, vol. 17, p. 225-349, 24 figs., 5 pls., 8 tables.

Oriel, Steven S., *see* McKee, E. D., Oriel, S. S., and others (103).

115. Ormiston, Allen R., 1968, Lower Devonian trilobites of Hercynian type from the Turkey Creek inlier, Marshall County, south-central Oklahoma: Jour. Paleontology, vol. 42, p. 1186-1199, pls. 157-158, 2 figs.

Ormiston, Allen R., *see* Amsden, T. W., Klapper, Gilbert, and Ormiston, A. R. (6).

116. Padgett, Ward, 1968, Fifty-ninth annual report, Department of Mines Chief Mine Inspector: Okla., Dept. Mines, 55 p.
117. Pannella, Giorgio, MacClintock, Copeland, and Thompson, Maxwell N., 1968, Paleontological evidence of variations in length of synodic month since Late Cambrian: Science, vol. 162, p. 792-796, 2 figs., 1 table (3 Pennsylvanian specimens from Vilas Shale).
Parmele, L. H., *see* Kohler, M. A., and Parmele, L. H. (85).
118. Pate, J. Durwood, 1968, Laverne gas area, Beaver and Harper Counties, Oklahoma, *in* Natural gases of North America: Amer. Assoc. Petroleum Geologists, Mem. 9, vol. 2, p. 1509-1524, 13 figs., 3 tables.
Patton, John B., *see* Becker, L. E., and Patton, J. B. (13).
Pereira S., Orlando, *see* Moore, C. A., and Pereira S., Orlando (107).
119. Petroleum Information Corporation, 1968, Analysis of available data on secondary recovery in Oklahoma: Oklahoma City, Petroleum Inf. Corp.
120. Pittman, Edward D., and Lumsden, David N., 1968, Relationship between chlorite coatings on quartz grains and porosity, Spiro sand, Oklahoma: Jour. Sed. Petrology, vol. 38, p. 668-670, 3 figs.
Powers, M. L., *see* Martin, W. L., Dew, J. N., Powers, M. L., and Steves, H. B. (93).
121. Purnell, Louis R., 1968, Catalog of the type specimens of invertebrate fossils, pt. 1, Paleozoic Cephalopoda: U. S. Natl. Mus., Bull. 262, 198 p., 1 fig.
122. Rascoe, Bailey, Jr., 1968, Permian System in western Mid-Continent: Rocky Mountain Assoc. Geologists, Mountain Geologist, vol. 5, p. 127-138, 9 figs.
123. Reedy, Harold J., 1968, Carter-Knox gas field, Oklahoma, *in* Natural gases of North America: Amer. Assoc. Petroleum Geologists, Mem. 9, vol. 2, p. 1476-1491, 7 figs.
Richardson, Eugene S., Jr., *see* Nitecki, M. H., and Richardson, E. S., Jr. (110).
124. Roberts, John F., 1968, Statistics of Oklahoma's petroleum industry, 1967: Okla. Geology Notes, vol. 28. p. 138-145, 4 figs., 5 tables.
Rowland, T. L., *see* Amsden, T. W., Caplan, W. M., Hilpman, P. L., McGlasson, E. H., Rowland, T. L., and Wise, O. A. (5); *see also* Amsden, T. W., and Rowland, T. L. (7).
125. Roy, Robert F., Decker, Edward R., Blackwell, David D., and Birch, Francis, 1968, Heat flow in the United States: Jour. Geophys. Research, vol. 73, p. 5207-5221, 3 figs., 5 tables (includes data on 2 Oklahoma localities).
126. Sackett, William M., 1968, Carbon isotope composition of natural methane occurrences: Amer. Assoc. Petroleum Geologists, Bull., vol. 52, p. 853-857, 1 fig., 2 tables (includes data for 10 Oklahoma samples).
127. Saitta B., Sandro, and Visher, Glenn S., 1968, Subsurface study of the southern portion of the Bluejacket delta: Oklahoma City Geol. Soc., Guidebook (AAPG-SEPM Ann. Mtg.), p. 52-68, 8 figs.
128. Schenk, Paul E., 1967 [1968], Facies and phases of the Altamont Limestone and megacyclothem (Pennsylvanian), Iowa to Oklahoma: Geol. Soc. America, Bull., vol. 78, p. 1369-1384, 5 figs., 2 pls., 3 tables.
129. Schoeppel, R. J., and Gilarranz, Santos, 1966, Use of well log temperatures to evaluate regional geothermal gradients: Jour. Petroleum Technology, vol. 18, p. 667-673, 6 figs., 3 tables.
130. Schramm, Martin W., Jr., 1968, Application of trend analysis to pre-Morrow surface, southeastern Hugoton embayment area, Texas, Oklahoma, and Kansas: Amer. Assoc. Petroleum Geologists, Bull., vol. 52, p. 1655-1661, 9 figs.
131. Schroeder, Richard J., and Hayes, John B., 1968, Dickite and kaolinite in Pennsylvanian limestones of southeastern Kansas: Clays and Clay Minerals, vol. 16, p. 41-49, 7 figs.
132. Scott, R. L., 1968, The exploratory significance of gravity in the Anadarko basin: Oklahoma City Geol. Soc., Shale Shaker, vol. 18, p. 132-150, 16 figs.
133. Shead, Arthur C., 1968, Some natural landmarks of western Oklahoma: Okla. Acad. Science, Proc. 1966, vol. 47, p. 173-195, 16 figs.
134. Shead, Arthur C., 1968, Spherulites in the phosphatic concretions of the Woodford Chert, Arbuckle Mountains, Oklahoma: Okla. Acad. Science, Proc. 1966, vol. 47, p. 171.
135. Shelton, John W., 1968, Role of contemporaneous faulting during basinal subsidence: Amer. Assoc. Petroleum Geologists, Bull., vol. 52, p. 399-413, 10 figs.
136. Shideler, Gerald L., 1968, Preliminary report on the origin of the Johns Valley boulders, *in* Geology of the western Arkoma basin and Ouachita Mountains, Oklahoma: Oklahoma City Geol. Soc., Guidebook (AAPG-SEPM Ann. Mtg.), p. 122-126.
137. Simmons, Gene, and Nur, Amos, 1968, Granites: Relation of properties in situ to laboratory measurements: Science, vol. 162, p. 789-791, 4 figs., 1 table.
138. Sippel, R. F., 1968, Sandstone petrology, evidence from luminescence petrography: Jour. Sed. Petrology, vol. 38, p. 530-554, 18 figs.
139. Six, David A., 1968, Red Oak-Norris gas field, Brazil anticline, Latimer and Le Flore Counties, Oklahoma, *in* Natural gases of North America: Amer. Assoc. Petroleum Geologists, Mem. 9, vol. 2, p. 1644-1657, 9 figs.
140. Snyder, Frank G., 1968, Geology and mineral deposits, Midcontinent United States, *chap. 14 in* Ridge, John D. (ed.), Ore deposits of the United States, 1933-1967: New York, Amer. Inst. Mining Metall. Petroleum Engineers, vol. 1, p. 257-286, 5 figs., 3 tables.
141. Snyder, Frank G., 1968, Tectonic history of Midcontinental

United States: UMR Jour., no. 1, p. 65-77, 9 figs., 2 tables.
142. Spall, Henry, 1968, Paleomagnetism of basement granites of southern Oklahoma and its implications; Progress report: Okla. Geology Notes, vol. 28, p. 65-80, 12 figs., 3 tables.
143. Sparwasser, W. A., Bogard, Vinson A., and Henson, Odos G., 1968, Soil survey of Okmulgee County, Oklahoma: U. S. Dept. Agriculture, Soil Conserv. Serv. and Okla. Agr. Expt. Sta., 51 p., 12 figs., 11 tables, 63 maps.
Steves, H. B., *see* Martin, W. L., Dew, J. N., Powers, M. L., and Steves, H. B. (93).
144. Stiegler, Jim, and Gray, Fenton, 1968, Micromorphological soil study in the Boggy Formation: Okla. Acad. Science, Proc. 1966, vol. 47, p. 205-210, 9 figs., 2 tables.
145. Stoever, Edward C., Jr., 1968, Earth science instruction in Oklahoma high schools: Okla. Geology Notes, vol. 28, p. 105-109, 1 fig., 2 tables.
146. Strimple, Harrell L., 1968, *Paracromyocrinus marquisi* from the Savanna Formation, Oklahoma: Okla. Geology Notes, vol. 28, p. 33-36, 2 figs.
147. Strimple, Harrell L., and Strimple, Melba L., 1968, Pennsylvanian *Synbathocrinus* from Oklahoma: Okla. Geology Notes, vol. 28, p. 172-173, 1 fig.
Strimple, Melba L., *see* Strimple, H. L., and Strimple, M. L. (147).
148. Summers, Fred C., Jr., 1968, Exploration in Oklahoma and Panhandle of Texas in 1967: Amer. Assoc. Petroleum Geologists, Bull., vol. 52, p. 986-989, 1 fig., 3 tables.
149. Sutherland, Patrick K., and Henry, Thomas W., 1968, Differential weathering in Morrowan sandstones: Okla. Geology Notes, vol. 28, p. 122, 1 fig.
150. Takken, Suzanne, 1968, Subsurface geology of North Gotebo area, Kiowa and Washita Counties, Oklahoma, *in* Natural gases of North America: Amer. Assoc. Petroleum Geologists, Mem. 9, vol. 2, p. 1492-1508, 13 figs.
151. Taylor, John Allen, 1968, Oklahoma City: Its geologic setting: Geotimes, vol. 13, no. 4, p. 10-15, 3 figs., 2 pls.
Thompson, Maxwell N., *see* Pannella, Giorgio, MacClintock, Copeland, and Thompson, M. N. (117).
Thompson, Thomas L., *see* Goebel, E. D., Thompson, T. L., Waugh, T. C., and Mueller, L. C. (66).
152. Toomey, Donald Francis, 1967, Additional occurrences and extension of stratigraphic range of the problematical microorganism *Nuia*: Jour. Paleontology, vol. 41, p. 1457-1460, pl. 185.
153. Totten, Robert B., and Horn, Paul H., 1968, Introduction to regional geology and typical gas fields of western Anadarko basin, *in* Natural gases of North America: Amer. Assoc. Petroleum Geologists, Mem. 9, vol. 2, p. 1525-1538, 14 figs.
154. Triplehorn, Don M., 1968, Excello Shale, northeastern Oklahoma: Clue to locating buried reefs: Discussion: Amer. Assoc. Petroleum Geologists, Bull., vol. 52, p. 2265.

155. Trollinger, William V., 1968, Surface evidence of deep structure in the Anadarko basin: Oklahoma City Geol. Soc., Shale Shaker, vol. 18, p. 162-171, 14 figs.
Trumbly, W. D., *see* Berry, R. M., and Trumbly, W. D. (17).
156. Ungar, Irwin A., 1968, Species-soil relationships on the Great Salt Plains of northern Oklahoma: Amer. Midland Naturalist, vol. 80, p. 392-406, 3 figs., 7 tables.
157. U. S. Bureau of Mines, 1967, Potential sources of aluminum: U. S. Bur. Mines, Inf. Circ. 8335, 148 p. (includes review of aluminum reserves and anorthosite and kaolin in Wichita Mountains).
158. U. S. Geological Survey, 1968, Quality of surface waters of the United States, Pts. 7 and 8. Lower Mississippi River basin and western Gulf of Mexico basins: U. S. Geol. Survey, Water Supply Paper 1744, 548 p., 1 fig.
159. U. S. Geological Survey, 1968, Transcontinental geophysical survey (35°-39°N)—Bouguer gravity map from 87° to 100° W longitude: U. S. Geol. Survey, Misc. Geol. Inv. Map I-534-B, scale 1:1,000,000.
160. U. S. Geological Survey, 1968, Transcontinental geophysical survey (35°-39°N)—Bouguer gravity map from 100° to 112° W longitude: U. S. Geol. Survey, Misc. Geol. Inv. Map I-533-B, scale 1:1,000,000.
161. U. S. Geological Survey, 1968, Water data for metropolitan areas: U. S. Geol. Survey, Water-Supply Paper 1871, 397 p., 3 figs., 5 tables (data for Lawton, Oklahoma City, and Tulsa).
162. Visher, Glenn S., 1968, Depositional framework of the Bluejacket-Bartlesville Sandstone, *in* Geology of the Bluejacket-Bartlesville Sandstone, Oklahoma: Oklahoma City Geol. Soc., Guidebook (AAPG-SEPM Ann. Mtg.), p. 32-51, 11 figs., app.
163. Visher, Glenn S. (ed.), 1968, Geology of the Bluejacket-Bartlesville Sandstone, Oklahoma: Oklahoma City Geol. Soc., Guidebook (AAPG-SEPM Ann. Mtg.), 72 p. (contains articles by R. M. Berry, C. C. Branson, S. Saitta B., G. S. Visher, and T. E. Weirich, cited elsewhere in this bibliography).
164. Visher, Glenn S., Branson, Carl C., and Berry, Richard M., 1968, Road log—Bluejacket-Bartlesville field trip, April 20 and 21, 1968, *in* Geology of the Bluejacket-Bartlesville Sandstone, Oklahoma: Oklahoma City Geol. Soc., Guidebook (AAPG-SEPM Ann. Mtg.), p. 4-25, 9 figs.
Visher, Glenn S., *see* Saitta B., Sandro, and Visher, G. S. (127).
165. Ward, John R., 1968, A study of the joint patterns in gently dipping sedimentary rocks of south-central Kansas: Kans., State Geol. Survey, Bull. 191, pt. 2, 23 p., 14 figs., 2 pls., 1 table (includes discussion of Oklahoma joint sets).
166. Warner, Gary E., 1968, Waterflooding a highly stratified reservoir: Jour. Petroleum Technology, vol. 20, p. 1179-1186, 13 figs.
Warren, Charles R., *see* Denny, C. S., Warren, C. R., Dow, D. H., and Dale, W. J. (55).
Waters, K. H., *see* Cherry, J. T., and Waters, K. H. (43); *see also* Erickson, E. L., Miller, D. E., and Waters, K. H. (61).

Waugh, Truman C., *see* Goebel, E. D., Thompson, T. L., Waugh, T. C., and Mueller, L. C. (66).
167. Weaver, Charles E., 1967, Variability of a river clay suite: Jour. Sed. Petrology, p. 971-974, 4 figs.
168. Weinkauf, Don G., 1968, Field study of the Southeast Woodward gas field, Woodward Co., Oklahoma: Oklahoma City Geol. Soc., Shale Shaker, vol. 18, p. 207-209, 1 fig., 2 tables.
169. Weirich, T. E., 1968, History of the Bartlesville oil sand, *in* Geology of the Bluejacket-Bartlesville Sandstone, Oklahoma: Oklahoma City Geol. Soc., Guidebook (AAPG-SEPM Ann. Mtg.), p. 69-72, 1 fig., 1 table.
Welch, N. H., *see* Allen, P. B., and Welch, N. H. (2).
170. Wilson, L. R., 1968, Diatom succession in a Laverne (Pliocene) deposit of Oklahoma: Okla. Acad. Science, Proc. 1966, vol. 47, p. 210-213.
Wise, O. A., *see* Amsden, T. W., Caplan, W. M., Hilpman, P. L., McGlasson, E. H., Rowland, T. L., and Wise, O. A. (5).
171. Withrow, Jon R., 1968, Geology of the Cromwell Sand Member in the Franks graben area, Coal and Pontotoc Counties, Oklahoma: Oklahoma City Geol. Soc., Shale Shaker, vol. 18, p. 82-96, 8 figs., 4 tables.
172. Withrow, Philip C., 1968, Depositional environments of Pennsylvanian Red Fork Sandstone in northeastern Anadarko basin, Oklahoma: Amer. Assoc. Petroleum Geologists, Bull., vol. 52, p. 1638-1654, 16 figs.
173. Woncik, John, 1968, Kinta gas field, Haskell County, Oklahoma, *in* Natural gases of North America: Amer. Assoc. Petroleum Geologists, Mem. 9, vol. 2, p. 1636-1643, 6 figs.
174. Wood, P. R., and Burton, L. C., 1968, Ground-water resources in Cleveland and Oklahoma Counties, Oklahoma: Okla. Geol. Survey, Circ. 71, 75 p., 8 figs., 2 pls., 9 tables.
175. Wood, Patricia W., 1968, Bibliography and index of Oklahoma geology, 1967: Okla. Geology Notes, vol. 28, p. 39-60.
176. Zietz, Isidore, and Kirby, John R., 1968, Transcontinental geophysical survey (35°-39°N)—Magnetic map from 87° to 100° W longitude: U. S. Geol. Survey, Misc. Geol. Inv. Map I-534-A, scale 1:1,000,000.
177. Zietz, Isidore, and Kirby, John R., 1968, Transcontinental geophysical survey (35°-39°N)—Magnetic map from 100° to 112° W longitude: U. S. Geol. Survey, Misc. Geol. Inv. Map I-533-A, scale 1:1,000,000.

Index

1969

Vol. 30, no. 2, April 1970

Bibliography and Index of Oklahoma Geology 1969

Prepared by Kenneth S. Johnson *and* Alex. Nicholson

Bibliography

1. Alberstadt, Leonard P., 1969, Biostratigraphy of the Viola and "Fernvale" Formations, *in* Arbuckle Mountains field trip: Ft. Worth Geol. Soc., Field Trip Guidebook (April 26-27, 1969), p. 20-23.
2. Allgood, Ferris P., Conradi, Arlin J., Rhoads, Clifford E., and Brinlee, R. C., 1968, Soil survey of Major County, Oklahoma: U S. Dept. Agriculture, Soil Conserv. Service and Okla. Agr. Expt. Sta., 84 p., 30 figs., 8 tables, 84 maps.
3. American Gas Association, Inc., 1969, Gas facts, a statistical record of the gas utility industry in 1968: Amer. Gas Assoc., 218 p., 179 tables, 19 charts.
4. American Gas Association, Inc., American Petroleum Institute, and Canadian Petroleum Association, 1969, Reserves of crude oil, natural gas liquids, and natural gas in the United States and Canada as of December 31, 1968: Amer. Gas Assoc., Amer. Petroleum Inst., Canadian Petroleum Assoc., vol. 23, 306 p., 62 tables, 5 charts, 5 maps.
5. Amsden, Thomas W., 1969, A widespread zone of pentamerid brachiopods in subsurface Silurian strata of Oklahoma and Texas Panhandle: Jour. Paleontology, vol. 43, p. 961-975, 11 figs., 3 pls.

Andress, B. O., *see* Disney, R. W., Andress, B. O., Chenoweth, P. A., and Schramm, M. W., Jr.

6. Atkins, Robert L., 1969, Oklahoma oil and gas development 1968, *part I of* Exploration, *in* International oil and gas development: Internat. Oil Scouts Assoc., vol. 39, p. 244-254.
7. Austin, C. T., 1969, Aeromagnetics in the Anadarko basin: Oil and Gas Jour., vol. 67, no. 33 (Aug. 18), p. 106-108, 4 figs. (Study of Custer City N field, Custer County.)
8. Averitt, Paul, 1969, Coal resources of the United States, January 1, 1967: U. S. Geol. Survey, Bull. 1275, 116 p., 11 figs., 10 tables. (Includes data on Oklahoma.)

Baker, N. M., *see* Randolph, J. R., Baker, N. M., and Deike, R. G.

Bartolina, Donald G., *see* Fisher, C. F., Bartolina, D. G., and Rieke, D. L.

9. Bell, Robert E., 1969, Oklahoma archaeology: an annotated bibliography: Univ Okla. Press, 99 p.
10. Berg, Orville Roger, 1969, Cherokee Group, west flank of the Nemaha ridge: Okla. City Geol. Soc., Shale Shaker, vol. 19, p. 94-110, 5 figs., 8 pls.

Bernard, Joseph L., *see* Rittenhouse, Gordon, Fulton, R. B., III, Grabowski, R. J., and Bernard, J. L.

11. Bertoni, Sandro Saitta, 1969, Environment of deposition of an ancient delta: the Bluejacket Formation in northeastern Oklahoma: Asociacion Venezolanan de Geologia, Mineria y Petroleo, Boletin Informativo, vol. 12, 109-150, 19 figs., 1 table.
12. Bingham, Roy H., 1969, Springs in the Ozark region, northeastern Oklahoma: Okla. Geol. Survey, Okla. Geology Notes, vol. 29, p. 135-145, 7 figs., 3 tables.
13. Blackwell, Phillip W., Morrison, Jack L., and Smith, Wayne E., Jr., 1969, GIPSY computer retrieval of geologic literature: Okla. Geol. Survey, Okla. Geology Notes, vol. 29, p. 6-14, 1 fig.
14. Bolt, John R., 1969, Lissamphibian origins: possible Protolissamphibian from the Lower Permian of Oklahoma: Science, vol. 166, p. 888-891, 4 figs.
15. Bond, T. A., 1969, Corrections of diatom misidentifications: Micropaleontology, vol. 15, p. 504. (Holocene flora from Caddo County.)
16. Branson, Carl C., 1969, Historic Wilson Rock—a Keota Sandstone outcrop: Okla. Geol. Survey, Okla. Geology Notes, vol. 29, p. 14-17, 3 figs.
17. Branson, Carl C., 1969, New Oklahoma topographic maps: Okla. Geol. Survey, Okla. Geology Notes, vol. 29, p. 56-57, 1 fig.
18. Branson, Carl C., 1969, Recently issued topographic maps: Okla. Geol. Survey, Okla. Geology Notes, vol. 29, p. 146-147, 1 fig.

Brinlee, R. C., *see* Allgood, F P., Conradi, A. J., Rhoads, C. E., and Brinlee, R. C.

19. Brobst, Donald A., and Ward, Frederick N., 1965, A turbidimetric test for barium and its geologic application in Arkansas: Econ. Geology, vol. 60, p. 1020-1040, 6 figs., 7 tables. (Analysed samples of Mississippian Stanley Shale and Cretaceous Trinity Group taken just outside southeastern Oklahoma.)
20. Brown, Harold A., 1969, Hunton stratigraphy in eastern Oklahoma and western Arkansas, *in* Arbuckle Mountains field trip: Ft. Worth Geol. Soc., Field Trip Guidebook (April 26-27, 1969), p. 29-32, 1 fig., 1 map.
21. Burdick, D. W., and Strimple, H. L., 1969, Revision of some Chesterian inadunate crinoids: Kans., Univ., Paleont. Contr., Paper 40, 14 p., 2 figs., 1 pl., 2 tables. (Includes some specimens from Oklahoma.)
22. Burke, W. H., Otto, J. B., and Denison, R. E., 1969, Potassium-argon dating of basaltic rocks: Jour. Geophys. Research, vol. 74, p. 1082-1086, 1 fig., 1 table. (Includes 6 samples from Comanche and Kiowa Counties, Wichita Mountains.)
23. Byars, Carlos, 1969, Technology, steel stretched to limit in drilling world's second deepest hole: Oil and Gas Jour., vol. 67, no. 18 (May 5), p. 109-114, 5 figs., 1 table. (Drilling of Glover-Hefner-Kennedy 1-1 Green, Beckham County.)

24. Cambridge, Thomas R., 1969, Marmaton oil production: future potential, western Anadarko basin: Okla. City Geol. Soc., Shale Shaker, vol. 20, p. 64-71, 6 figs.
25. Cannon, Philip Jan, 1969, The physiography of southwestern Oklahoma: Compass, vol. 47, p. 23-26.
26. Cannon, Ralph S., Jr., and Pierce, Arthur P., 1969, Lead isotope guides for Mississippi Valley lead-zinc exploration: U. S. Geol. Survey, Bull. 1312-G, p. G1-G20, 13 figs. (Includes data on Tri-State district, Ottawa County.)
Chelf, John V., *see* Fisher, C. F., and Chelf, J. V.
27. Chenoweth, Phillip A., 1969, Reply, *to* Meyerhoff, H. A., Early Paleozic (Arbuckle) overlap, southern Mid-continent, United States: discussion: Amer. Assoc. Petroleum Geologists, Bull., vol. 53, p. 1520-1521.
Chenoweth, P. A., *see* Disney, R. W., Andress, B. O., Chenoweth, P. A., and Schramm, M. W., Jr.
Clabaugh, Patricia S., *see* Muehlberger, W. R., and Clabaugh, P. S.
28. Clark, Tim W., 1969, Some petroglyphs from the Black Mesa area of Cimarron County, Oklahoma: Okla. Acad. Science, Proc. 1967, vol. 48, p. 138-141, 16 figs.
29. Cocke, J. M., 1965, Occurrence of a Carboniferous coral not previously reported from North American rocks: Compass, vol. 42, p. 180-187, 4 figs. (Specimens of *Koninickocarina* collected from Dewey Formation in Washington County.)
Cocke, J. M., *see* Heckel, P. H., and Cocke, J. M.
30. Cole, J. Glenn, 1969, Cherokee Group, east flank of the Nemaha ridge, north-central Oklahoma, Part I: Okla. City Geol. Soc., Shale Shaker, vol. 19, p. 134-146, 4 figs., 6 pls.
31. Cole, J. Glenn, 1969, Cherokee Group, east flank of the Nemaha ridge, north-central Oklahoma, Part 2: Okla. City. Geol. Soc., Shale Shaker, vol. 19, p. 150-161, 2 figs., 6 pls.
32. Collins, A. Gene, 1969, Chemistry of some Anadarko basin brines containing high concentrations of iodide: Chemical Geology, vol. 4, p. 169-187, 10 figs., 5 tables.
Conradi, Arlin J., *see* Allgood, F. P., Conradi, A. J., Rhoads, C. E., and Brinlee, R. C.
Croneis, Carey, *see* Park, D. E., Jr., and Croneis, Carey.
33. Cutolo-Lozano, Francisco, 1969, Subsurface geology of the Seminole area: Oklahoma City Geol. Soc., Shale Shaker, vol. 19, p. 118-130, 4 figs., 6 pls.
34. Daly, Eleanor, 1969, A new procolophonoid reptile from the Lower Permian of Oklahoma: Jour. Paleontology, vol. 43, p. 676-687, 7 figs.
Deike, R. G., *see* Randolph, J. R., Baker, N. M., and Deike, R. G.
35. Dellwig, Louis F., MacDonald, Harold C., and Kirk, J. Norman, 1968, The potential of radar in geological exploration: Tulsa Geol Soc., Digest, vol. 36, p. 26-42, 12 figs. (Includes radar imagery of Potato Hills in Ouachita Mountains.)

36. Denison, R. E., Hetherington, E. A., Jr., and Otto, J. B., 1969, Age of basement rocks in northeastern Oklahoma: Okla. Geol. Survey, Okla. Geology Notes, vol. 29, p. 120-128, 3 figs., 2 tables.
Denison, R. E., *see* Burke, W. H., Otto, J. B., and Denison, R. E.
37. Derby, James R., 1969, Revision of Lower Ordovician-Middle Ordovician boundary in western Arbuckle Mountains, Oklahoma, *in* Ham, W. E., Regional geology of the Arbuckle Mountains, Oklahoma: Okla. Geol. Survey, Guide Book 17, p. 35-37, 1 table.
38. Dickey, Parke A., 1969, Increasing concentration of subsurface brines with depth: Chemical Geology, vol. 4, p. 361-370, 7 figs. (Includes data on Oklahoma brines in Pennsylvanian and Ordovician strata.)
39. Disney, R. W., Andress, B. O., Chenoweth, P. A., and Schramm, M. W., Jr., 1968, The mineral industry in Oklahoma: Tulsa Geol. Soc., Digest, vol. 36, p. 89-90.
England, C. B., *see* Holtan, H. N., England, C. B., Lawless, G. P., and Schumaker, G. A.
Faul, H., *see* Naeser, C. W., and Faul, H.
40. Fay, R. O., 1969, Geology of the Arbuckle Mountains along Interstate 35, Carter and Murray Counties, Oklahoma: Ardmore Geol. Soc., Guidebook, 75 p. (incl. ads.), 8 figs., 2 pls.
41. Fay, Robert O., and Graffham, A. Allen, 1969, Bromide Formation on Tulip Creek and in the Arbuckle Mountains region, *in* Ham, W. E., Regional geology of the Arbuckle Mountains, Oklahoma: Okla. Geol. Survey, Guide Book 17, p. 37-39, 1 fig.
42. Feder, Allen M., 1964, Let's use more of the electromagnetic spectrum: Gulf Coast Assoc. Geol. Soc., Transactions, vol. 14, p. 35-49, 18 figs. (Includes side-looking radar display mosaics of Arbuckle Mountains.)
Feemster, W. E., *see* Van Hook, W. A., and Feemster, W. E.
43. Fischer, Alfred G., and Teichert, Curt, 1969, Cameral deposits in cephalopod shells: Kans., Univ., Paleont. Contr., Paper 37, 30 p., 8 figs., 4 pls. (New observations on Pennsylvanian material from Buckhorn asphalt deposit, Murray County.)
44. Fisher, Carl F., Bartolina, Donald G., and Rieke, Duane L., 1968, Soil survey of Blaine County, Oklahoma: U. S. Dept. Agriculture, Soil Conserv. Service and Okla. Agr. Expt. Sta., 84 p., 9 figs., 8 tables, 80 maps.
45. Fisher, Carl F., and Chelf, John V., 1969, Soil survey of Oklahoma County, Oklahoma: U. S. Dept. Agriculture, Soil Conserv. Service and Okla. Agr. Expt. Sta., 56 p., 14 figs., 8 tables, 62 maps.
46. Forgotson, James M., Jr., 1969, Factors controlling occurrence of Morrow sandstones and their relation to production in the Anadarko basin: Okla. City Geol. Soc., Shale Shaker, vol. 20, p. 24-38, 15 figs.

47. Ft. Worth Geological Society, 1969, Arbuckle Mountains field trip: Ft. Worth Geol. Soc., Field Trip Guidebook (April 26-27, 1969), 70 p., illus. (Includes articles listed separately in this bibliography under the following authors: L. P. Alberstadt, H. A. Brown, Ft. Worth Geol. Soc., Lloyd Gatewood, G. C. Glaser, R. L. Harvey, J. L. Walper, and R. A. Worthing.)

48. Ft. Worth Geological Society, 1969, Mississippian strata of south central Oklahoma, *in* Arbuckle Mountains field trip: Ft. Worth Geol. Soc., Field Trip Guidebook (April 26-27, 1969), p. 42-43, 1 fig.

49. Ft. Worth Geological Society, 1969, Stratigraphy of the Simpson Group in southern Oklahoma, *in* Arbuckle Mountains field trip: Ft. Worth Geol. Soc., Field Trip Guidebook (April 26-27, 1969), p. 12-17, 3 figs.

Frey, Robert W., *see* Hattin, D. E., and Frey, R. W.

Friedman, Irving, *see* Hall, W E., and Friedman, Irving.

Fulton, Robert B., III, *see* Rittenhouse, Gordon, Fulton, R. B., III, Grabowski, R. J., and Bernard, J. L.

50. Gatewood, Lloyd, 1969, The Arbuckle—still Oklahoma's greatest mystery, *in* Arbuckle Mountains field trip: Ft. Worth Geol. Soc., Field Trip Guidebook (April 26-27, 1969), p. 4-8, 2 figs.

Gibson, A. M., *see* Meyers, A. J., Gibson, A. M., Glass, B. P., and Patrick, C. R.

51. Glaser, Gerald C., 1969, Lithostratigraphy and carbonate petrography of the Viola Formation, *in* Arbuckle Mountains field trip: Ft. Worth Geol. Soc., Field Trip Guidebook (April 26-27, 1969), p. 18-19.

Glass, Bryan P., *see* Myers, A J., Gibson, A. M., Glass, B. P., and Patrick, C. R.

52. Gonzalez-P., Gustavo C., 1969, Reservoir study, Red Fork Sandstone in the Oakdale field, Woods County, Oklahoma: Okla. City Geol. Soc., Shale Shaker, vol. 19, p. 170-179, 4 figs., 5 pls.

53. Gordon, Mackenzie, Jr., et al., 1969, Revision of some of Girty's invertebrate fossils from the Fayetteville Shale (Mississippian) of Arkansas and Oklahoma: U. S. Geol. Survey, Prof. Paper 606, 59 p., 2 figs., 9 pls.

Grabowski, Robert J., *see* Rittenhouse, Gordon, Fulton, R. B., III, Grabowski, R. J., and Bernard, J. L.

Graffham, A. Allen, *see* Fay, R. O., and Graffham, A. A.

Gray, Fenton, *see* Yeck, R. D., and Gray, Fenton.

54. Hagni, Richard D., and Saadallah, Adnan A., 1965, Alteration of host rock limestone adjacent to zinc-lead ore deposits in the Tri-State district, Missouri, Kansas, Oklahoma: Econ. Geology, vol. 60, p. 1607-1619, 8 figs.

55. Hall, Wayne E., and Friedman, Irving, 1969, Oxygen and carbon isotopic composition of ore and host rock of selected Mississippi Valley deposits, *in* Geological Survey research 1969: U. S. Geol. Survey, Prof. Paper 650-C, p. C140-C148, 7 figs., 4 tables. (Study includes part of Tri-State district.)

56. Ham, William E., 1969, Regional geology of the Arbuckle Mountains, Oklahoma: Okla. Geol. Survey, Guide Book 17, 52 p., 41 figs., 1 pl., 1 table. (Includes contributions by James H. Stitt, James R. Derby, Robert O. Fay, and A. Allen Graffham, cited elsewhere in this bibliography.)

57. Ham, W. E., and Rowland, T. L., 1969, Burial cementation in the Wapanucka Limestone (Pennsylvanian) of Oklahoma: Bermuda Biol. Sta. for Research, Spec. Publ. 3, p. 152-157, 1 fig., 2 pls.

Ham, William E., *see* McDougal, R. B., and Ham W. E.

Ham, William E., *see* Patrick, D. M., and Ham, W. E.

58. Hamblin, W. Kenneth, 1969, Marine paleocurrent directions in limestones of the Kansas City Group (Upper Pennsylvanian) in eastern Kansas: Kans., State Geol. Survey, Bull. 194, pt. 2, 25 p., 19 figs. (Parts of study continued into Oklahoma.)

59. Harlton, Bruce H., 1969, Relation of fault systems to oil accumulation on eastern margin of Arbuckle Mountains, southeastern Oklahoma: Amer. Assoc. Petroleum Geologists, Bull., vol. 53, p. 2290-2298, 5 figs.

60. Harvey, Ralph L., 1969, Hunton mystery solved?, *in* Arbuckle Mountains field trip: Ft. Worth Geol. Soc., Field Trip Guidebook (April 26-27, 1969), p. 33-41, 2 figs., 5 maps. (Study in Anadarko basin, including West Campbell field in Major County.)

61. Hattin, Donald E., and Frey, Robert W., 1969, Facies relations of *Crossopodia* sp., a trace fossil from the Upper Cretaceous of Kansas, Iowa, and Oklahoma: Jour. Paleontology, vol. 43, p. 1435-1440, 2 figs., 1 table. (Includes four specimens from Cimarron County.)

62. Hayes, C. J., and McCasland, W., 1969, Engineering classification of geological materials and (related soils), Oklahoma Highway Department Maintenance Division Three: Okla. Hwy. Dept., Research and Devel. Div., 398 p., 9 figs., 7 charts. (Parts of central and south-central Oklahoma.)

63. Hayes, C. J., and McCasland, W., 1969, Engineering classification of geological materials and (related soils), Oklahoma Highway Department Maintenance Division Five: Okla. Hwy. Dept., Research and Devel. Div., 343 p., 10 figs., 7 charts. (Includes southwestern and west-central Oklahoma.)

64. Hayes, C. J., and McCasland, W., 1969, Engineering classification of geological materials and (related soils), Oklahoma Highway Department Maintenance Division Six: Okla. Hwy. Dept., Research and Devel. Div., 240 p., 9 figs., 7 charts. (Includes northwestern Oklahoma and the Panhandle.)

65. Hayes, C. J., and McCasland, W., 196º, Engineering classification of geological materials and (related soils), Oklahoma Highway Department Maintenance Division Seven: Okla.

Hmy. Dept., Research and Devel. Div., 302 p., 10 figs., 7 charts. (Includes parts of south-central and southwestern Oklahoma.)

66. Heckel, Philip H., and Cocke, J. M., 1969, Phylloid algal-mound complexes in outcropping Upper Pennsylvanian rocks of Mid-Continent: Amer. Assoc. Petroleum Geologists, Bull., vol. 53, p. 1058-1074, 12 figs.

Hetherington, E. A., Jr., *see* Denison, R. E., Hetherington, E. A., Jr., and Otto, J. B.

67. Heyl, Allen V., 1968, Minor epigenetic, diagenetic, and syngenetic sulfide, fluorite, and barite occurrences in the central United States: Econ. Geology, vol. 63, p. 585-594, 5 figs. (Includes reference to copper and lead-zinc deposits in Oklahoma.)

68. Holtan, H. N., England, C. B., Lawless, G. P., and Schumaker, G. A., 1968, Moisture-tension data for selected soils on experimental watersheds: U. S. Dept. Agriculture, ARS 41-144, 609 p., 1 fig., 2 tables. (Includes soil data in Muskogee and Noble Counties.)

69. Irwin, James H., and Morton, Robert B., 1969, Hydrogeologic information on the Glorieta Sandstone and the Ogallala Formation in the Oklahoma Panhandle and adjoining areas as related to underground waste disposal: U. S. Geol. Survey, Circ. 630, 26 p., 4 figs., 4 pls., 2 tables.

70. Johnson, J. Harlan, 1969, Algal stromatolites from the Wellington Formation of Kansas and Oklahoma, *part 2 of* Tasch, Paul, et al., Lower Permian algal stromatolites from Kansas and Oklahoma: Kans., Univ., Paleont. Contr., Paper 43, p. 9-19, 5 figs., 2 tables.

71. Johnson, Kenneth S., 1969, Calcined petroleum coke produced at Enid: Okla. Geol. Survey, Okla. Geology Notes, vol. 29, p. 55.

72. Johnson, Kenneth S., 1969, Oklahoma mineral raw materials for chemical industry (exclusive of petroleum and coal): Okla. Geol. Survey, Okla. Geology Notes, vol. 29, p. 100-106, 6 figs.

Keith, John R., *see* Vine, J. D., Tourtelot, E. B., and Keith, J. R.

Kidson, Evan, *see* Tasch, Paul, and Kidson, Evan.

73. King, Philip B., 1969, Tectonic map of North America: U. S. Geol. Survey, scale 1:5,000,000 (1 inch equals 80 miles).

74. King, Philip B., 1969, The tectonics of North America—a discussion to accompany the tectonic map of North America, scale 1:5,000,000: U. S. Geol. Survey, Prof. Paper 628, 95 p., 14 figs., 3 tables.

Kirk, J. Norman, *see* Dellwig, L. F., MacDonald, H. C., and Kirk, J. N.

75. Kjellesvig-Waering, Erik N., 1969, A new phalangiotarbid (Arachnida from the Pennsylvanian of Oklahoma: Jour. Paleontology, vol. 43, p. 1280-1282, 2 figs.

76. Kornfeld, Joseph A., 1969, Oklahoma's Green 1-1 discovery sparks Anadarko basin activity: World Oil, vol. 168, no. 7 (June), p. 107-110, 1 fig.

Lawless, G. P., *see* Holtan, H. N., England, C. B., Lawless, G. P., and Schumaker, G. A.

77. Long, Roscoe M., 1968, Soil survey of Hughes County, Oklahoma: U. S. Dept. Agriculture and Okla. Agr. Expt. Sta., 48 p., 19 figs., 8 tables, 74 maps.

78. MacDonald, Harold C., 1969, Remote sensing will refine exploration science: World Oil, vol. 169, no. 2 (August 1), p. 48-52, 7 figs. (Includes radar imagery of Tuskahoma syncline, Pushmataha County, Ouachita Mountains.)

MacDonald, Harold C., *see* Dellwig, L. F., MacDonald, H. C., and Kirk, J. N.

79. Mamay, Sergius H., 1969, Cycads: fossil evidence of late Paleozoic origin: Science, vol. 164, p. 295-296, 1 fig. (Some specimens from Permian of Oklahoma.)

80. Mankin, Charles, J., 1969, Oklahoma Geological Survey, annual report, July 1, 1968-June 30, 1969: Okla. Geol. Survey, Okla. Geology Notes, vol. 29, p. 111-116.

81. Marcher, Melvin V., 1969, Reconnaissance of the water resources of the Fort Smith quadrangle, east-central Oklahoma: Okla. Geol. Survey, Hydrologic Atlas Map HA-1, scale 1:250,000, with text. (Set of four maps.)

82. Matuszak, David R., 1965, Adjustment of electric log values for preparation of subsurface facies maps: Amer. Assoc. Petroleum Geologists, Bull., vol. 49, p. 126-138, 11 figs., 1 table. (Examples show Pennsylvanian units in Carter County.)

83. McCasland, Willard (princ. invest.), 1968, Potential material sites, 1968 edition: Okla. Hwy. Dept., Research and Devel. Div., 180 p. (Inventory of fine and coarse aggregates in Oklahoma for highway construction.)

McCasland, W., *see* Hayes, C. J., and McCasland, W.

84. McDougal, Robert B., and Ham, William E., 1968, The mineral industry of Oklahoma, *vol. 3 of* Area Reports: domestic, *in* Minerals yearbook 1967: U. S. Bur. Mines, p. 645-661, 1 fig., 22 tables.

85. McMahan, Arel B., 1969, The mineral industry of Oklahoma in 1968 (preliminary): Okla. Geol. Survey, Okla. Geology Notes, vol. 29, p. 3-5, 1 table. (Statistics.)

Merriam, D. F., *see* Sackin, M. J., Sneath, P. H. A., and Merriam, D. F.

86. Meyerhoff, Howard A., 1969, Early Paleozoic (Arbuckle) overlap, southern Mid-continent, United States: discussion: Amer. Assoc. Petroleum Geologists, Bull., vol. 53, p. 1519-1520.

87. Moore, Carl A., 1969, Geologic factors which may affect the occurrence of natural gas in the Oklahoma Panhandle: Okla. City Geol. Soc., Shale Shaker, vol. 20, p. 49-55, 7 figs.

88. Moore, Raymond C., and Strimple, Harrell L., 1969, Explosive evolutionary differentiation of unique group of Mississippian-Pennsylvanian camerate crinoids (Acrocrinidae):

Kans., Univ., Paleont. Contr., Paper 39, 44 p., 24 figs. (Includes Pennsylvanian specimens from Oklahoma.)
Morrison, Jack L., *see* Blackwell, P. W., Morrison, J. L., and Smith, W. E., Jr.
Morrison, Jack L., *see* Wilson, L. R., Morrison, J. L., and Reid, W. E.
Morton, Robert B., *see* Irwin, J. H., and Morton, R. B.
89. Mose, Douglas, 1969, The age of the Hatton Tuff of the Ouachita Mountains, southeastern Oklahoma: Geol. Soc. America, Bull., vol. 80, p. 2373-2378, 5 figs.
90. Muehlberger, William R., and Clabaugh, Patricia S., 1968, Internal structure and petrofabrics of Gulf Coast salt domes, *in* Diapirism and diapirs, a symposium: Amer. Assoc. Petroleum Geologists, Mem. 8, p. 90-98. (Includes comparison with Permian salt from Beaver County.)
91. Myers, Arthur J., Gibson, A. M., Glass, Bryan P., and Patrick, Carol R., 1969, Guide to Alabaster Cavern and Woodward County, Oklahoma: Okla. Geol. Survey, Guide Book 15, 38 p., 41 figs.
92. Naeser, C. W., and Faul, H., 1969, Fission track annealing in apatite and sphene: Jour. Geophys. Research, vol. 74, p. 705-710, 7 figs. (Includes dating of samples from Tishomingo Granite in Arbuckle Mountains.)
93. Nicholson, Alex., and Wood, Patricia W., 1969, Bibliography and index of Oklahoma Geology, 1968: Okla. Geol. Survey, Okla. Geology Notes, vol. 29, p. 27-54.
94. Oakes, Malcolm C., 1969, Hugh Dinsmore Miser, 1884-1969: Okla. Geol. Survey, Okla. Geology Notes, vol. 29, p. 129-130, 1 fig.
95. Oklahoma Geological Survey, 1969, Flood-prone areas in urban Oklahoma: Okla. Geol. Survey, Okla. Geology Notes, vol. 29, p. 98-99. (List of quadrangle maps prepared for Oklahoma City and Tulsa areas.)
96. Oklahoma Geological Survey, 1969, Kerr-McGee begins coal production: Okla. Geol. Survey, Okla. Geology Notes, vol. 29, p. 131-132, 1 fig. (Brief description of Choctaw Mining Facility near Stigler, Haskell County.)
97. Oklahoma Water Resources Board, 1968, Appraisal of the water and related land resources of Oklahoma—Region Three: Okla. Water Resources Board, Pub. 23, 131 p., illus. (Embraces Washita River watershed below Caddo-Grady County line.)
98. Oklahoma Water Resources Board, 1969, Appraisal of the water and related land resources of Oklahoma—Region Four: Okla. Water Resources Board, Pub. 24, 127 p., illus. (Area drained by Washita River and its tributaries from Texas Panhandle-Oklahoma State line to eastern Caddo County.)
99. Oklahoma Water Resources Board, 1969, Appraisal of the water and related land resources of Oklahoma—Regions Five and Six: Okla. Water Resources Board, Pub. 27, illus. (Embrace the lower Red River watershed in southeastern Oklahoma below Lake Texoma and Washita River.)
100. Orange, Arnold S., 1969, Granitic rock: properties in situ: Science, vol. 165, p. 202-203. (Discussion of Troy Granite in southern Oklahoma.)
Otto, J. B., *see* Burke, W. H., Otto, J. B., and Denison, R. E.
Otto, J. B., *see* Denison, R. E., Hetherington, E. A., Jr., and Otto, J. B.
101. Padgett, Ward, 1968 [1969], Sixtieth annual report, Department of Mines Chief Mine Inspector: Okla., Dept. Mines, 52 p.
102. Park, David E., Jr., and Croneis, Carey, 1969, Origin of Caballos and Arkansas novaculite formations: Amer. Assoc. Petroleum Geologists, Bull., vol. 53, p. 94-111, 18 figs., 1 table.
103. Patrick, David M., and Ham, William E., 1969, Oklahoma, *in* Uranium in the southern United States: Southern Interstate Nuclear Board and U. S. Atomic Energy Commission, p. 36-56, 3 figs., 3 tables. (Tabulation and bibliography of anomalous uranium occurrences in Oklahoma.)
Patrick, Carol R., *see* Myers, A. J., Gibson, A. M., Glass, B. P., and Patrick, C. R.
Pierce, Arthur P., *see* Cannon, R. S., Jr., and Pierce, A. P.
Pojeta, John, Jr., *see* Gordon, Mackenzie, Jr., et al.
104. Polone, Dock J., 1968, Soil survey of Washington County, Oklahoma: U. S. Dept. Agriculture, Soil Conserv. Serv., and Okla. Agr. Expt. Sta., 41 p., 15 figs., 9 tables, 41 maps.
105. Quackenbush, W. M. (chm.), 1969, Pre-Pennsylvanian geology of the western Anadarko basin: Panhandle Geol. Soc., 34 p., 2 figs., 12 pls.
106. Randolph, J. R., Baker, N. M., and Deike, R. G., 1969, Bibliography of hydrology of the United States and Canada, 1964: U. S. Geol. Survey, Water-Supply Paper 1864, 232 p.
107. Ray, James D., 1969, Anadarko basin drilling—an operating challenge: World Oil, vol. 168, no. 5 (April), p. 89-90, 2 figs.
Reid, William E., *see* Wilson, L. R., Morrison, J. L., and Reid, W. E.
Rhoads, Clifford E., *see* Allgood, F. P., Conradi, A. J., Rhoads, C. E., and Brinlee, R. C.
Rieke, Duane L., *see* Fisher, C. F., Bartolina, D. G., and Rieke, D. L.
108. Rittenhouse, Gordon, Fulton, Robert B., III, Grabowski, Robert J., and Bernard, Joseph L., 1969, Minor elements in oilfield waters: Chemical Geology, vol. 4, p. 189-209, 8 figs., 5 tables. (Includes data on Oklahoma.)
109. Roberts, John F., 1969, Directory of mineral producers in Oklahoma, 1969: Okla. Geol. Survey, 50 p.
110. Roberts, John F., 1969, Statistics of Oklahoma's petroleum industry, 1968: Okla. Geol. Survey, Okla. Geology Notes, vol. 29, p. 91-98, 4 figs., 4 tables.
Rowland, T. L., *see* Ham, W. E., and Rowland, T. L.
Saadallah, Adnan A., *see* Hagni, R. D., and Saadallah, A. A.

111. Sackin, Michael J., Sneath, Peter H. A., and Merriam, Daniel F., 1965, ALGOL program of cross-association of nonnumeric sequences using a medium size computer: Kans., State Geol. Survey, Spec. Distrib. Pub. 23, 37 p., 4 figs., 10 tables. (Sample problems show attempted correction of Pennsylvanian units in Osage County with those in Kansas.)
Sando, William J., *see* Gordon, MacKenzie, Jr., et al.
Schramm, M. W., Jr., *see* Disney, R. W., Andress, B. O., Chenoweth, P. A., and Schramm, M. W., Jr.
Schumaker, G. A., *see* Holtan, H. N., England, C. B., Lawless, G. P., and Schumaker, G. A.
112. Singler, Charles R., 1965, Preliminary remarks on the stratigraphy of the Pleasanton Group (Pennsylvanian) in the northern Midcontinent: Compass, vol. 42, p. 63-72, 1 fig.
Smith, Wayne E., Jr., *see* Blackwell, P. W., Morrison, J. L., and Smith, W. E., Jr.
Sneath, Peter H. A., *see* Sackin, M. J., Sneath, P. H. A., and Merriam, D. F.
Sohn, I. G., *see* Gordon, Mackenzie, Jr., et al.
113. Stewart, Wendell J., 1968, The stratigraphic and phylogenetic significance of the fusulinid genus *Eowaeringella*, with several new species: Cushman Found. Foram. Research, Spec. Pub. 10, 29 p., 2 figs., 7 pls. (Includes specimens from Pennsylvanian rocks of Carter County.)
114. Stiles, M. F., Jr. (chm.), 1969, Oklahoma oil and gas development 1968, *part II of* Production United States and Canada, *in* International oil and gas development: Internat. Oil Scouts Assoc., vol. 39, p. 301-376.
115. Stitt, James H., 1969, Late Cambrian and earliest Ordovician trilobite faunas, western Arbuckle Mountains, Murray County, Oklahoma, *in* Ham, W. E., Regional geology of the Arbuckle Mountains, Oklahoma: Okla. Geol. Survey, Guide Book 17, p. 29-31, 1 fig.
116. Strimple, Harrell L., 1969, New lecanocrinid from Pennsylvanian of Oklahoma, *part 1 of* Strimple, H. L., et al., Fossil crinoid studies: Kans., Univ., Paleont. Contr., Paper 42, p. 1-6, 2 figs. (Specimens from Seminole Formation, Tulsa County.)
117. Strimple, Harrell L., 1969, Pennsylvanian crinoids from Ohio and Oklahoma, *part 3 of* Strimple, H. L., et al., Fossil crinoid studies: Kans., Univ., Paleont. Contr., Paper 42, p. 11-17, 2 figs. (Includes specimens from Pumpkin Creek Limestone, Love County.)
Strimple, H. L., *see* Burdick, D. W., and Strimple, H. L.
Strimple, Harrell L., *see* Moore, R. C., and Strimple, H. L.
118. Summers, Fred C., Jr., 1969, Exploration in Oklahoma and Panhandle of Texas in 1968: Amer. Assoc. Petroleum Geologists, Bull., vol. 53, p. 1241-1243, 1 fig., 3 tables.
119. Tasch, Paul, and Kidson, Evan, 1969, Paleoecological observations on Wellington algal stromatolites from Kansas and Oklahoma, *part 1 of* Tasch, Paul, et al., Lower Permian algal stromatolites from Kansas and Oklahoma: Kans., Univ., Paleont. Contr., Paper 43, p. 1-9, 5 figs., 1 table. (Includes specimens from Kay and Noble Counties.)
120. Taugourdeau, Ph., 1969, Sur un assemblage partiel (Scolécodonte) de *Polychetaspis oklahomensis* n. sp.: Paris, Revue de Micropaléontologie, vol. 11, p. 176-180, 3 figs., 1 pl.
Teichert, Curt, *see* Fischer, A. G., and Teichert, Curt.
121. Toomey, Donald F., 1969, Stratigraphy, paleogeography, and sediment facies relationships, *part I of* The biota of the Pennsylvanian (Virgilian) Leavenworth Limestone, Midcontinent region: Jour. Paleontology, vol. 43, p. 1001-1018, 5 figs., 3 pls., 3 tables. (Study extends south to Osage County, Oklahoma.)
122. Toomey, Donald Francis, 1969, Distribution of algae, *part 2 of* The biota of the Pennsylvanian (Virgilian) Leavenworth Limestone, Midcontinent region: Jour. Palentology, vol. 43, p. 1313-1330, 1 fig., 4 pls., 2 tables. (Includes specimens from Osage County.)
Tourtelot, Elizabeth B., *see* Vine, J. D., Tourtelot, E. B., and Keith, J. R.
123. Troell, Arthur R., 1969, Depositional facies of Toronto Limestone Member (Oread Limestone, Pennsylvanian), subsurface marker unit in Kansas: Kans., State Geol. Survey, Bull. 197, 29 p., 13 figs., 2 tables. (Includes data from Osage County, Oklahoma.)
124. U. S. Bureau of Mines, 1969, Pozzolanic raw materials resources in the central and western United States: U. S. Bur. Mines, Info. Circ. 8421, 117 p., 24 figs., 17 tables.
125. U. S. Geological Survey, 1968, Quality of surface waters for irrigation, western states, 1960: U. S. Geol. Survey, Water-Supply Paper 1746, 152 p., 2 figs., 1 pl.
126. U. S. Geological Survey, 1968 [1969], Quality of surface waters for irrigation, western states, 1961: U. S. Geol. Survey, Water-Supply Paper 1886, 154 p., 2 figs., 1 pl.
127. U. S. Geological Survey, 1969, Bibliography of North American geology, 1965: U. S. Geol. Survey, Bull. 1235, 1144 p.
128. U .S. Geological Survey, 1969, Lower Mississippi River basin and western Gulf of Mexico basins, *parts 7, 8 of* Quality of surface waters of the United States, 1964: U. S. Geol. Survey, Water-Supply Paper 1957, 602 p., 1 fig.
129. U. S. Geological Survey, 1969, Quality of surface waters for irrigation, western states, 1964: U. S. Geol. Survey, Water-Supply Paper 1960, 144 p., 2 figs., 1 pl.
130. U S. Geological Survey, 1969, Arkansas River basin, *vol. 2 of* Lower Mississippi River basin, *part 7 of* Surface water supply of the United States, 1961-65: U. S. Geol. Survey, Water-Supply Paper 1921, 878 p., 1 fig., 1 pl.
131. Van Hook, W. A., and Feemster, W. E., 1969, New completion methods are being used in Anadarko basin: Oil and Gas Jour., vol. 67, no. 24 (June 16), p. 67-70, 7 figs.
132. Vine, James D., 1969, Element distribution in some Paleozoic

black shales and associated rocks: U. S. Geol. Survey, Bull. 1214-G, p. G1-G32, 5 figs., 11 tables. (Includes samples of Pennsylvanian shales from northeastern Oklahoma.)
133. Vine, James D., Tourtelot, Elizabeth B., and Keith, John R., 1969, Element distribution in some trough and platform types of black shale and associated rocks: U. S. Geol. Survey, Bull. 1214-H, p. H1-H38, 5 figs., 10 tables. (Includes samples of Pennsylvanian rock from northeastern and east-central Oklahoma.)
134. Visher, Glenn S., 1965, Fluvial processes as interpreted from ancient and recent fluvial deposits, *in* Middleton, Gerard M. (ed.), Primary sedimentary structures and their hydrodynamic interpretation: Soc. Econ. Paleontologists and Mineralogists, Symposium, Spec. Pub. 12, p. 116-132, 13 figs., 2 tables. (Examples include Pennsylvanian strata from Oklahoma.)
135. Visher, Glenn S., 1969, Grain size distributions and depositional processes: Jour. Sed. Petrology, vol. 39, p. 1074-1106, 21 figs., 1 table. (Examples include Pennsylvanian sandstones and Arkansas River sands from Oklahoma.)
136. Visher, Glenn S., 1969, How to distinguish barrier bar and channel sands: World Oil, vol. 168, no. 6 (May), p. 106-113 (incl. ads), 2 figs. (Includes Pennsylvanian sandstone from Oklahoma as fluvial example.)
137. Walper, Jack L., 1965, Some thoughts on the structural evolution of southern Oklahoma: Oklahoma City Geol. Soc., Shale Shaker, vol. 15, p. 180.
138. Walper, Jack L., 1969, Tectonic evolution of the Arbuckle area, *in* Arbuckle Mountains field trip: Ft. Worth Geol. Soc., Field Trip Guidebook (April 26-27, 1969), p. 1-3, 4 figs.
Ward, Frederick N., *see* Brobst, D. A., and Ward, F. N.
139. Williams, Alwyn, 1968, Evolution of the shell structure of articulate brachiopods: Palaeont. Assoc. London, Spec. Paper Palaeontology, no. 2, 55 p., 27 figs., 24 pls. (Includes electron micrographs of Ordovician and Devonian specimens from Oklahoma.)
140. Wilson, L. R., Morrison, Jack L., and Reid, William E., 1969, Computer research in palynology demonstrated by use of Oklahoma University General Information Processing System (GIPSY), Permian palynology of North America and some associated problems: Okla., Univ., Info. Science Series, Monograph 2, 143 p.
141. Wingerter, H. R., 1968, Greenwood gas field, Kansas, Colorado, and Oklahoma, *part B of* Natural gas in Kansas, *in* Beebe, B. W. (ed.), Natural gases of North America, vol. 2: Amer. Assoc. Petroleum Geologists, Mem. 9, p. 1557-1566, 6 figs., 2 tables.
142. Withrow, Jon R., 1969, Geology of Cromwell Sandstone Member, Franks Graben area, Coal and Pontotoc Counties, Oklahoma: Amer. Assoc. Petroleum Geologists, Bull., vol. 53, p. 2299-2313, 9 figs., 4 tables.

143. Withrow, Philip C., 1969, Hunton geology of the Star-Lacey field: Okla. City Geol. Soc., Shale Shaker, vol. 19, p. 78-88, 10 figs.
Wood, Patricia W., *see* Nicholson, Alex., and Wood, P. W.
144. Worthing, Robert W., 1969, SE Hoover—Arbuckle dolomite production, *in* Arbuckle Mountains field trip: Ft. Worth Geol. Soc., Field Trip Guidebook (April 26-27, 1969), p. 9-11, 2 figs.
145. Yeck, Ronald D., and Gray, Fenton, 1969, Preliminary studies of opaline phytoliths from selected Oklahoma soils: Okla. Acad. Science, Proc. 1967, vol. 48, p. 112-116, 1 fig., 2 tables.
Yochelson, Ellis L., *see* Gordon, MacKenzie, Jr., et al.

Index

1970

Vol. 31, no. 2, April 1971

Bibliography and Index of Oklahoma Geology 1970[1]

Prepared by William D. Rose

Bibliography

1. Abernathy, E. J., 1970, Soil survey of Sequoyah County, Oklahoma: U.S. Soil Conserv. Service, 57 p., 14 figs., 9 tables, 69 maps.
2. American Gas Association, American Petroleum Institute, and Canadian Petroleum Association, 1970, Reserves of crude oil, natural gas liquids, and natural gas in the United States and Canada and United States productive capacity as of December 31, 1969: Am. Gas Assoc., Am. Petroleum Inst., Canadian Petroleum Assoc., v. 24, 308 p., 64 tables, 5 charts, 5 maps.
3. Anderson, J. E., Jr., 1970, Recognition and time distribution of texturally altered welded tuff: Geol. Soc. America Bull., v. 81, p. 287-292, 3 figs. (Includes Wichita Mountains.)
4. Anderson, J. E., Jr., 1970, Snowflake texture not diagnostic of devitrified ash-flow tuffs: reply: Geol. Soc. America Bull., v. 81, p. 2529-2530. (Gives reference to tuffs from Wichita Mountains.)

Andrew, B. F., *see* Batty, J. V., and Andrew, B. F.

5. Andrews, H. N., Jr., 1970, Index of generic names of fossil plants, 1820-1965 [with bibliography]: U.S. Geol. Survey Bull. 1300, 354 p. (Based on Compendium Index of Paleobotany of U.S. Geological Survey.)
6. Atkins, R. L., 1970, Oklahoma oil and gas development 1969, *in* Exploration, *part 1 of* International oil and gas development: Internat. Oil Scouts Assoc., v. 40, p. 242-260.
7. Austin, C. T., 1970, Analysis of an aeromagnetic profile across the Mill Creek syncline, Anadarko basin, southern Oklahoma: Shale Shaker, v. 20, p. 144-160.
8. Averitt, Paul, and Carter, M. D., 1970, Selected sources of information on United States and world energy resources—August 1, 1970: an annotated bibliography: U.S. Geol. Survey Circ. 641, 21 p.

Baerreis, D. A., *see* Bender, M. M., Bryson, R. A., and Baerreis, D. A.

9. Baker, D. R., and Claypool, G. E., 1970, Effects of incipient metamorphism on organic matter in mudrock: Am. Assoc. Petroleum Geologists Bull., v. 54, p. 456-468, 6 figs., 4 tables. (Includes organic analyses of Pennsylvanian shales from Craig County.)
10. Barnes, V. E. (dir.), 1970, Geologic atlas of Texas, Perryton sheet: Texas Bur. Econ. Geology, scale 1:250,000. (Areal geology of parts of Texas, Beaver, Ellis, and Harper Counties, Oklahoma.)

[1] Includes some 1969 listings.

Bartolina, D. G., *see* Williams, G. E., and Bartolina, D. G.

11. Batty, J. V., and Andrew, B. F., 1970, Leach-precipitation-flotation studies on red bed copper ore using controlled atmosphere: U.S. Bur. Mines Rept. Inv. 7375, 9 p., 1 fig., 5 tables. (Includes studies of ores from Creta area, Oklahoma.)
12. Bedinger, M. S., Reed, J. E., Wells, C. J., and Swafford, B. F., 1970, Methods and applications of electrical simulation in ground-water studies in the lower Arkansas and Verdigris River valleys, Arkansas and Oklahoma: U.S. Geol. Survey Water-Supply Paper 1971, 71 p., pls. in pocket.
13. Bender, M. M., Bryson, R. A., and Baerreis, D. A., 1970, University of Wisconsin radiocarbon dates VII: Radiocarbon, v. 12, p. 335-345. (Dates from Oklahoma archaeological sites.)

Black, B. A., *see* Rigby, J. K., Chamberlain, C. K., and Black, B. A.

14. Branson, C. C., 1970, Oklahoma topographic maps in 1970: Oklahoma Geology Notes, v. 30, p. 40-41, 1 fig.
15. Bryant, D. G., 1970, Exploration in Oklahoma and Panhandle of Texas in 1969: Am. Assoc. Petroleum Geologists Bull., v. 54, p. 990-994, 1 fig., 4 tables.

Bryson, R. A., *see* Bender, M. M., Bryson, R. A., and Baerreis, D. A.

16. Burdick, D. W., and Strimple, H. L., 1970, The occurrence of *Pterotocrinus* in Oklahoma: Oklahoma Geology Notes, v. 30, p. 121-123, 1 fig.

Cannon, P. J., *see* Rowan, L. C., and Cannon, P. J.

Cannon, P. J., *see* Rowan, L. C., Offield, T. W., Watson, Kenneth, Cannon, P. J., and Watson, R. D.

Carter, M. D., *see* Averitt, Paul, and Carter, M. D.

17. Cartmill, J. C., and Dickey, P. A., 1970, Flow of a disperse emulsion of crude oil in water through porous media: Am. Assoc. Petroleum Geologists Bull., v. 54, p. 2438-2443, 6 figs., 1 table. (Presents data on Oklahoma oil.)

Chamberlain, C. K., *see* Rigby, J. K., Chamberlain, C. K., and Black, B. A.

18. Clapham, W. B., Jr., 1970, Nature and paleogeography of Middle Permian floras of Oklahoma as inferred from their pollen record: Jour. Geology, v. 78, p. 153-171, 4 figs., 1 pl., 3 tables.
19. Clapham, W. B., Jr., 1970, Permian miospores from the Flowerpot Formation of western Oklahoma: Micropaleontology, v. 16, p. 15-36, 3 figs., 2 pls., 2 tables.

Claypool, G. E., *see* Baker, D. R., and Claypool, G. E.

20. Cocke, J. M., 1970, Dissepimental rugose corals of Upper Pennsylvanian (Missourian) rocks of Kansas: Univ. Kansas Paleont. Contr. Art 54 (Coelenterata 4), 67 p., 11 figs., 8 pls., 6 tables. (Gives correlations with northeastern Oklahoma.)
21. Cole, J. G., 1970, Marmaton Group, east flank of the Nemaha ridge, north-central Oklahoma: Shale Shaker, v. 21, p. 52-67, 2 figs., 9 pls., 1 table.
22. Cramer, F. H., 1970, *Angochitina sinica*, a new Siluro-Devonian chitinozoan from Yunnan Province, China: Jour. Paleon-

tology, v. 44, p. 1122-1124, 1 fig., 1 pl. (Mentions Oklahoma chitinozoans.)
Davis, E. M., *see* Valastro, S., Jr., and Davis, E. M.
Dickey, P. A., *see* Cartmill, J. C., and Dickey, P. A.
23. Dogan, Nevzat, 1970, Subsurface study of Pennsylvanian rocks in east central Oklahoma (from the Brown Limestone to the Checkerboard Limestone): Shale Shaker, v. 20, p. 192-213, 17 figs.
24. Dolcater, D. L., Syers, J. K., and Jackson, M. L., 1970, Titanium as free oxide and substituted forms in kaolinites and other soil minerals: Clays and Clay Minerals, v. 18, p. 71-79, 2 figs., 2 tables. (Includes analyses of illite from Beavers Bend, Oklahoma.)
25. Dunn, D. L., 1970, Conodont zonation near the Mississippian-Pennsylvanian boundary in western United States: Geol. Soc. America Bull., v. 81, p. 2959-2974, 4 figs. (Includes conodonts from Oklahoma sections.)
26. Dunn, D. L., 1970, Middle Carboniferous conodonts from western United States and phylogeny of the platform group: Jour. Paleontology, v. 44, p. 312-342, 11 figs., 4 pls. (Includes eastern Oklahoma fauna.)
Duschatko, R. W., *see* Pittman, E. D., and Duschatko, R. W.
27. Elias, M. K., 1970, Progress in correlation of Carboniferous rocks: Compte Rendu 6e Congrès Intern. Strat. Géol. Carbonif., Sheffield, U.K., 1967, v. 2, p. 695-714, 2 figs., 2 pls., 1 table. (Oklahoma goniatite.)
28. Espach, Ralph, 1970, O.C.G.S. - A.I.P.G. introductory geology course for secondary teachers, a volunteer public service effort: Shale Shaker, v. 20, p. 116-117, illus.
29. Fåhraeus, L. E., 1970, Conodont-based correlations of Lower and Middle Ordovician strata in western Newfoundland: Geol. Soc. America Bull., v. 81, p. 2061-2076, 4 figs. (Gives correlation with Joins Formation conodonts.)
Fellows, L. D., *see* Thompson, T. L., and Fellows, L. D.
Fischer, R. P., *see* McKnight, E. T., and Fischer, R. P.
30. Flawn, P. T., and Muehlberger, W. R., 1970, The Precambrian of the United States of America: south-central United States, *in v. 4 of* Rankama, Kalervo (ed.), The geologic systems: the Precambrian: New York, Interscience Div. John Wiley and Sons, p. 73-143, 15 figs., 8 tables.
Frederiksen, N. O., *see* Kirkland, D. W., and Frederiksen, N. O.
Golden, Julia, *see* Nitecki, M. H., and Golden, Julia.
31. Graves, R. C., Helander, D. P., and Martinez, S. J., 1969, The University of Tulsa information retrieval system: Geoscience Inf. Soc. Proc., v. 1, p. 18-26, illus.
32. Green, J. C., 1970, Snowflake texture not diagnostic of devitrified ash-flow tuffs: discussion: Geol. Soc. America Bull., v. 81, p. 2527-2528, 2 figs. (Includes Wichita Mountains.)
Ham, W. E., *see* McMahan, A. B., and Ham, W. E.
33. Harris, S. A., 1970, Bends of the South Canadian: Shale Shaker, v. 20, p. 80-95, 12 figs. (Covers part of Oklahoma.)
34. Hartronft, B. C., Smith, M. D., Hayes, C. J., and McCasland, W., 1970, Engineering classification of geologic materials and (related soils), Oklahoma Highway Department Maintenance Division Eight: Oklahoma Hwy. Dept., Research and Devel. Div., 285 p., 10 figs., 7 charts. (Northeastern Oklahoma—updates 1965 edition.)
Hayes, C. J., *see* Hartronft, B. C., Smith, M. D., Hayes, C. J., and McCasland, W.
35. Hayes, J. B., 1970, Polytypism of chlorite in sedimentary rocks: Clays and Clay Minerals, v. 18, p. 285-306, 13 figs., 3 tables. (Discusses chlorite in Morrow Series, Oklahoma.)
Helander, D. P., *see* Graves, R. C., Helander, D. P., and Martinez, S. J.
Hibpshman, M. H., *see* Stroud, R. B., McMahan, A. B., Stroup, R .K., and Hibpshman, M. H.
Hille, J. B., *see* Howell, W. D., and Hille, J. B.
36. Howell, W. D., and Hille, J. B., 1970, Explosive detonation tested in hydraulically fractured gas wells: Jour. Petroleum Technology, v. 22, p. 403-408, 11 figs. (Tests performed in Wynona field, Osage County.)
37. Hudson, A. S., 1970, Depositional environment of the Red Fork and equivalent sandstones east of the Nemaha ridge, Kansas and Oklahoma: Shale Shaker, v. 21, p. 80-95, 16 figs.
Ingham, J. K., *see* Ross, R. J., Jr., and Ingham, J. K.
38. Iranpanah, Assad, 1970, Trace-element analyses of the Ada shales and sandstones, Seminole and Pontotoc Counties, Oklahoma: Oklahoma Geology Notes, v. 30, p. 5-10, 2 figs., 1 table.
Jackson, M. L., *see* Dolcater, D. L., Syers, J. K., and Jackson, M. L.
39. James, W. R., 1970, Regression models for faulted structural surfaces: Am. Assoc. Petroleum Geologists Bull., v. 54, p. 638-646, 8 figs. (Uses data from Ramsey pool, Payne County.)
40. Jenkins, W. A. M., 1969, Chitinozoa from the Ordovician Viola and Fernvale Limestones of the Arbuckle Mountains, Oklahoma: Palaeont. Assoc. Spec. Paper 5, 44 p., 10 figs., 9 pls., 3 tables.
41. Jenkins, W. A. M., 1970, Chitinozoa from the Ordovician Sylvan Shale of the Arbuckle Mountains, Oklahoma: Palaeontology, v. 13, p. 261-288, 7 figs., 5 pls., 2 tables.
42. Johnson, K. S., 1969 [1970], Mineral map of Oklahoma (exclusive of oil and gas fields): Oklahoma Geol. Survey Map GM-15, scale 1:750,000.
43. Johnson, K. S., 1970, Rock handled efficiently at Texas Gypsum Company quarry, Fletcher, Oklahoma: Oklahoma Geology Notes, v. 30, p. 118-120, 3 figs.
44. Johnson, K. S., 1970, Salt produced by solar evaporation on Big Salt Plain, Woods County, Oklahoma: Oklahoma Geology Notes, v. 30, p. 47-54, 3 figs., 4 tables.
45. Johnson, K. S., and Nicholson, Alex., 1970, Bibliography and index of Oklahoma geology, 1969: Oklahoma Geology Notes, v. 30, p. 19-39.
46. Kirkland, D. W., and Frederiksen, N. O., 1970, *Cordaitina* pollen from Pennsylvanian strata of Oklahoma and Texas: Rev. Palaeobotany Palynology, v. 10, p. 221-231, 2 figs., 3 pls., 3 tables.
47. Kornfeld, J. A., 1970, Drilling will center in three areas: World Oil, v. 170, no. 6 (May), p. 64-66, 3 figs. (Includes Anadarko basin.)

48. Landes, K. K., 1970, Petroleum geology of the United States: New York, Interscience Div. John Wiley and Sons, 571 p., 333 figs., 1 table.
Landisman, M., *see* Mitchell, B. J., and Landisman, M.
Lane, H. R., *see* Straka, J. J., II, and Lane, H. R.
Lane, N. G., *see* Webster, G. D., and Lane, N. G.
49. Lochman-Balk, Christina, 1970, Upper Cambrian faunal patterns on the craton: Geol. Soc. America Bull., v. 81, p. 3197-3224, 11 figs. (Includes Oklahoma.)
50. Loeblich, A. R., Jr., and Tappan, Helen, 1969, Acritarch excystment and surface ultrastructure with descriptions of some Ordovician taxa: Rev. Española Micropaleontología, v. 1, p. 45-57, 1 fig., 4 pls. (Includes Oklahoma forms.)
51. Longacre, S. A., 1970, Trilobites of the Upper Cambrian Ptychaspid Biomere, Wilberns Formation, central Texas: Paleont. Soc. Mem. 4 (Jour. Paleontology, v. 44, no. 1, supp.), 70 p., 8 figs., 6 pls., 1 table. (Gives correlation with Arbuckle Mountain trilobites.)
52. Louden, L. R., and Woods, E. W., 1970, Is shale remineralization a cause of formation damage?: World Oil, v. 170, no. 2 (Feb.), p. 55-58, 2 figs., 1 table. (Example: Atoka shale from northwestern Oklahoma.)
Mack, D. E., *see* Shelton, J. W., and Mack, D. E.
53. MacLean, W. P., III, 1970, The braincase of *Labidosaurikos* (a Permian captorhinomorph reptile): Jour. Paleontology, v. 44, p. 458-463, 10 figs. (Describes Oklahoma specimen.)
54. Mankin, C. J., 1970, Oklahoma Geological Survey, annual report, July 1, 1969-June 30, 1970: Oklahoma Geology Notes, v. 30, p. 153-157.
Martinez, S. J., *see* Graves, R. C., Helander, D. P., and Martinez, S. J.
Maxwell, B. W., *see* McMillion, L. G., Sr., and Maxwell, B. W.
McCasland, W., *see* Hartronft, B. C., Smith, M. D., Hayes, C. J., and McCasland, W.
55. McCaslin, J. C., 1970, Anadarko headlines super-deep U.S. drilling surge: Oil and Gas Jour., v. 68, no. 39 (Sept. 28), p. 29-32, illus.
56. McCaslin, J. C., 1970, Journal's survey of active fields: Oil and Gas Jour., v. 68, no. 38 (Sept. 21), p. 106-134 (incl. ads). (Includes Oklahoma.)
57. McKnight, E. T., and Fischer, R. P., 1970, Geology and ore deposits of the Picher field, Oklahoma and Kansas: U.S. Geol. Survey Prof. Paper 588, 165 p., 45 figs., 11 pls., 10 tables.
58. McMahan, A. B., 1970, The mineral industry of Oklahoma in 1969 (preliminary): Oklahoma Geology Notes, v. 30, p. 3-4, 1 table. (Statistics.)
59. McMahan, A. B., and Ham, W. E., 1970, The mineral industry of Oklahoma, *in* Area reports: domestic, *v. 3 of* Minerals yearbook 1967: U.S. Bur. Mines, p. 597-613, 1 fig., 22 tables.
McMahan, A. B., *see* Stroud, R. B., McMahan, A. B., Stroup, R. K., and Hibpshman, M. H.
60. McMillion, L. G., Sr., and Maxwell, B. W., 1970, Determination of pollutional potential of the Ogallala Aquifer by salt water injection: U.S. Fed. Water Quality Admin., 80 p., 12 figs., 8 tables. (Study conducted in Texas County, Oklahoma.)

61. Meyer, R. F., 1970, Geologic provinces code map for computer use: Am. Assoc. Petroleum Geologists Bull., v. 54, p. 1301-1305. (Includes Oklahoma.)
62. Mitchell, B. J., and Landisman, M., 1970, Interpretation of a crustal section across Oklahoma: Geol. Soc. America Bull., v. 81, p. 2647-2656, 5 figs., 2 tables.
Morrison, J. L., *see* Wilson, L. R., Morrison, J. L., and Reid, W. E.
Muehlberger, W. R., *see* Flawn, P. T., and Muehlberger, W. R.
63. Nichols, C. R., 1970, Diabase argillation at King Mountain, Kiowa County, Oklahoma: Jour. Sed. Petrology, v. 40, p. 848-854, 6 figs., 3 tables.
Nicholson, Alex., *see* Johnson, K. S., and Nicholson, Alex.
64. Nitecki, M. H., and Golden, Julia, 1970, Catalogue of type specimens of trilobites in Field Museum of Natural History: Fieldiana—Geology, v. 22, 117 p.
Offield, T. W., *see* Rowan, L. C., Offield, T. W., Watson, Kenneth, Cannon, P. J., and Watson, R. D.
65. Oil and Gas Journal, 1970, Side-look radar: geologists' new oil-hunting tool: Oil and Gas Jour., v. 68, no. 50 (Dec. 14), p. 134-135, illus. (Radar imagery in Ouachita Mountains.)
66. Oklahoma Water Resources Board, 1970, Appraisal of the water and related land resources of Oklahoma—Region Four: Oklahoma Water Resources Board Pub. 29, 141 p., illus. (Area in central eastern Oklahoma drained by Poteau River and its tributaries, lower part of Canadian River, and Arkansas River.)
67. Oklahoma Water Resources Board, 1970, Oklahoma's water resources, 1970: Oklahoma Water Resources Board Pub. 30, 69 p., illus. (Gives brief discussion of geology and hydrology; lists principal streams and lakes.)
68. Padgett, Ward, 1970, Sixty-first annual report, Department of Mines, Chief Mine Inspector, year ending December 31, 1969: Oklahoma Dept. Mines, 51 p.
69. Parsley, R. L., 1970, Revision of the North American Pleurocystitidae (Rhombifera-Cystoidea): Bulls. Am. Paleontology, v. 58, no. 260, p. 135-213, 8 figs., 30 pls., 1 table. (Oklahoma form illustrated.)
70. Pittman, E. D., and Duschatko, R. W., 1970, Use of pore casts and scanning electron microscope to study pore geometry: Jour. Sed. Petrology, v. 40, p. 1153-1157, 2 figs. (Includes Oklahoma photomicrographs.)
Qualls, B. R., *see* Tryggvason, E., and Qualls, B. R.
Reed, J. E., *see* Bedinger, M. S., Reed, J. E., Wells, C. J., and Swafford, B. F.
Reid, W. E., *see* Wilson, L. R., Morrison, J. L., and Reid, W. E.
71. Rigby, J. K., Chamberlain, C. K., and Black, B. A., 1970, Mississippian and Pennsylvanian sponges from the Ouachita Mountains of Oklahoma: Jour. Paleontology, v. 44, p. 816-832, 12 figs., 3 pls.
72. Riley, H. G., 1970, A short cut to stabilized gas well productivity: Jour. Petroleum Technology, v. 22, p. 537-542, 4 figs., 3 tables. (Tests performed on wells in northwestern Oklahoma.)
73. Roberts, J. F. (comp.), 1970, Complete list of cores acquired by The University of Oklahoma Core and Sample Library

through March 1970: Oklahoma Geol. Survey Core Catalog 4, 34 p. (Multilith.)
74. Roberts, J. F. (comp.), 1970, Directory of mineral producers in Oklahoma, 1970: Oklahoma Geol. Survey, 50 p. (Multilith.)
75. Roberts, J. F., 1970, Statistics of Oklahoma's petroleum industry, 1969: Oklahoma Geology Notes, v. 30, p. 67-74, 4 figs., 4 tables.
76. Ross, R. J., Jr., and Ingham, J. K., 1970, Distribution of the Toquima-Table Head (Middle Ordovician Whiterock) Faunal Realm in the Northern Hemisphere: Geol. Soc. America Bull., v. 81, p. 393-408, 5 figs. (Takes in Arbuckle Mountains.)
77. Rowan, L. C., and Cannon, P. J., 1970, Remote-sensing investigations near Mill Creek, Oklahoma: Oklahoma Geology Notes, v. 30, p. 127-135, 5 figs.
78. Rowan, L. C., Offield, T. W., Watson, Kenneth, Cannon, P. J., and Watson, R. D., 1970, Thermal infrared investigations, Arbuckle Mountains, Oklahoma: Geol. Soc. America Bull., v. 81, p. 3549-3561, 7 figs.
79. Sanderson, G. A., 1970, A bibliography of the family Fusulinidae, addendum 7: Jour. Paleontology, v. 44, p. 770-775. (Includes Oklahoma listings.)
80. Scott, R. W., 1970, Stratigraphy and sedimentary environments of Lower Cretaceous rocks, southern Western Interior: Am. Assoc. Petroleum Geologists Bull., v. 54, p. 1225-1244, 5 figs., 1 table. (Includes parts of Oklahoma.)
81. Shelton, J. W., and Mack, D. E., 1970, Grain orientation in determination of paleocurrents and sandstone trends: Am. Assoc. Petroleum Geologists Bull., v. 54, p. 1108-1119, 10 figs., 1 table. (Gives data on Oklahoma sandstones.)
82. Shideler, G. L., 1970, Petrography of the Johns Valley boulders, Ouachita Mountains: Oklahoma Geology Notes, v. 30, p. 98-117, 9 figs.
83. Shideler, G. L., 1970, Provenance of Johns Valley boulders in late Paleozoic Ouachita facies, southeastern Oklahoma and southwestern Arkansas: Am. Assoc. Petroleum Geologists Bull., v. 54, p. 789-806, 8 figs., 1 table.
84. Simonett, D. S., 1969, Aerial photo mosaic and radar imagery of Tuskahoma syncline; radar image of a breached synclinal fold, and of folded and faulted geologic structures, *in* Earth resource surveys from spacecraft, V. 2: Natl. Aeronautics and Space Adm., Earth Resources Group, p. E74-E77, illus.
Smith, M. D., *see* Hartronft, B. C., Smith, M. D., Hayes, C. J., and McCasland, W.
85. Spall, Henry, 1970, Paleomagnetism of basement granites in southern Oklahoma: final report: Oklahoma Geology Notes, v. 30, p. 136-150, 8 figs., 4 tables.
86. Straka, J. J., II, and Lane, H. R., 1970, Evolution of some Lower Pennsylvanian conodont species: Lethaia, v. 3, p. 41-49, 2 figs. (Describes forms from Ardmore basin.)
87. Strimple, H. L., 1970, The occurrence of *Onychaster strimplei* in Oklahoma: Oklahoma Geology Notes, v. 30, p. 42.
Strimple, H. L., *see* Burdick, D. W., and Strimple, H. L.
88. Stroud, R. B., McMahan, A. B., Stroup, R. K., and Hibpshman, M. H., 1970, Production potential of copper deposits associated with Permian red bed formations in Texas, Oklahoma, and Kansas: U.S. Bur. Mines Rept. Inv. 7422, 103 p., 13 figs., 12 tables.
Stroup, R. K., *see* Stroud, R. B., McMahan, A. B., Stroup, R. K., and Hibpshman, M. H.
Swafford, B. F., *see* Bedinger, M. S., Reed, J. E., Wells, C. J., and Swafford, B. F.
Syers, J. K., *see* Dolcater, D. L., Syers, J. K., and Jackson, M. L.
89. Talley, R. D., 1970, Programed drilling cuts Arkoma basin well costs: World Oil, v. 170, no. 2 (Feb.), p. 53-54, 58, 1 fig.
Tappan, Helen, *see* Loeblich, A. R., Jr., and Tappan, Helen.
90. Thompson, T. L., and Fellows, L. D., 1969 [1970], Stratigraphy and conodont biostratigraphy of Kinderhookian and Osagean (Lower Mississippian) rocks of southwestern Missouri and adjacent areas: Missouri Geol. Survey and Water Resources Rept. Inv. 45, 263 p., 33 figs., 10 pls., 1 table. (Eastern Oklahoma conodonts and sections.)
Tourtelot, E. B., *see* Vine, J. D., and Tourtelot, E. B.
91. Tryggvason, E., and Qualls, B. R., 1970, Seismic refraction measurements of crustal structure in Oklahoma: Shale Shaker, v. 20, p. 174-175, 3 figs.
92. U.S. Army Corps of Engineers, 1969, Special flood hazard information, Canadian River, Norman, Oklahoma: U.S. Army Corps Engineers, 3 p., 13 pls.
93. U.S. Geological Survey, 1969, Geological Survey research 1969: U.S. Geol. Survey Prof. Paper 650-A, 425 p., 11 figs., 4 tables. (Reports on Oklahoma paleontology, hydrology, and geology.)
94. U.S. Geological Survey, 1970, The National Atlas of the United States of America: U.S. Geol. Survey, 335 p., maps, charts, other illus. (Represents combined efforts of more than 84 federal agencies. A definitive reference tool for the United States.)
95. U.S. Geological Survey, 1970, Bibliography of North American geology, 1966: U.S. Geol. Survey Bull. 1266, 1069 p.
96. U.S. Geological Survey, 1970, Bibliography of North American geology, 1967: U.S. Geol. Survey Bull. 1267, 1029 p.
97. U.S. Geological Survey, 1970, Lower Mississippi River basin and western Gulf of Mexico basins, *parts 7, 8 of* Quality of surface waters of the United States, 1965: U.S. Geol. Survey Water-Supply Paper 1964, 819 p., 1 fig.
98. Valastro, S., Jr., and Davis, E. M., 1970, University of Texas at Austin radiocarbon dates VII: Radiocarbon, v. 12, p. 249-280. (Dates from Oklahoma archaeological sites.)
99. Vine, J. D., and Tourtelot, E. B., 1970, Geochemistry of black shale deposits—a summary report: Econ. Geology, v. 65, p. 253-272, 3 figs., 7 tables. (Gives analyses of shales from eastern Oklahoma.)
100. Walper, J. L., 1970, Wrench faulting in the Mid-Continent: Shale Shaker, v. 21, p. 32-40, 6 figs. (Includes Oklahoma.)
Watson, Kenneth, *see* Rowan, L. C., Offield, T. W., Watson, Kenneth, Cannon, P. J., and Watson, R. D.
Watson, R. D., *see* Rowan, L. C., Offield, T. W., Watson, Kenneth, Cannon, P. J., and Watson, R. D.
101. Webster, G. D., and Lane, N. G., 1970, Carboniferous echinoderms from the southwestern United States: Jour. Paleon-

tology, v. 44, p. 276-296, 3 figs., 4 pls. (Comparisons with Oklahoma echinoderms.)
Wells, C. J., *see* Bedinger, M. S., Reed, J. E., Wells, C. J., and Swafford, B. F.
102. Williams, G. E., and Bartolina, D. G., 1970, Soil survey of Lincoln County, Oklahoma: U.S. Soil Conserv. Service, 57 p., 11 figs., 8 tables, 83 maps.
103. Wilson, L. R., Morrison, J. L., and Reid, W. E., 1970, Development of palynological computer information at The University of Oklahoma: Oklahoma Geology Notes, v. 30, p. 75-83, 3 figs., 1 table.
Woods, E. W., *see* Louden, L. R., and Woods, E. W.
104. Wright, A. D., 1970, A note on the shell structure of the triplesiacean brachiopods: Lethaia, v. 3, p. 423-426, 2 figs. (Includes Oklahoma specimens.)
105. Wroblewski, E. F., 1970, New look at a major deep drilling area—the Anadarko basin: World Oil, v. 171, no. 2 (Aug. 1), p. 29-32.

INDEX