

# Oklahoma Geology Notes



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- 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 brownspertensis* 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 Hargan formation is distinguished from *Parmorthis brownspertensis* 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 tippie 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.
- Billingslev, 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 Butterfly 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  $2286 \pm 200$  years. Wood from Craig burial mound, Spiro site, Le Flore County, Oklahoma, dated at  $640 \pm 250$  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. *Okl. 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. *Okl. 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 proj-

- ect 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. *Okl. 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 (Keweenaw) 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. *Okl. 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 cherts 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. *Oklahoma 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 Morrissey, 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.
- Morrissey, 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.
- Morrissey, 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 (1956), 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.