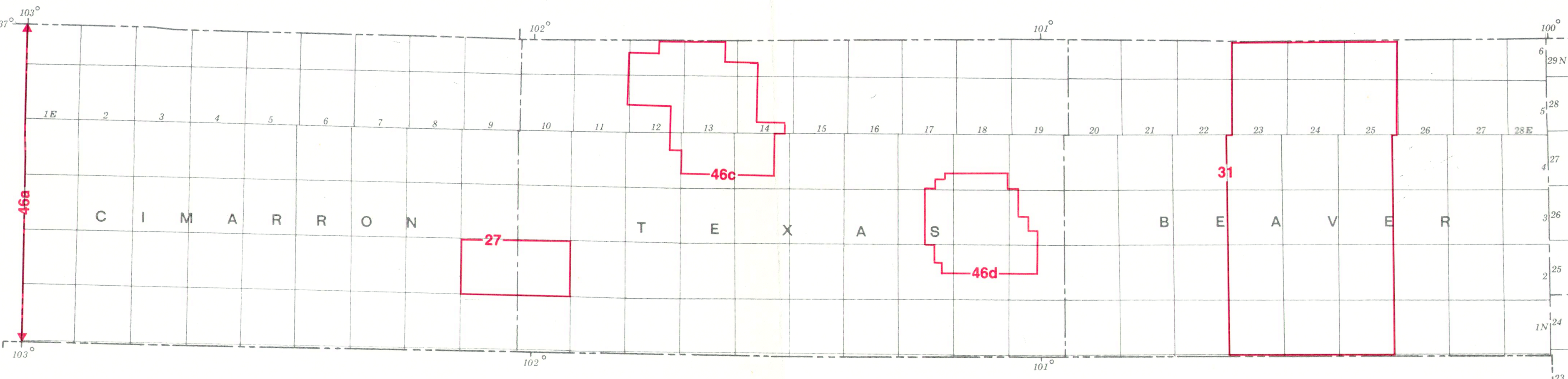
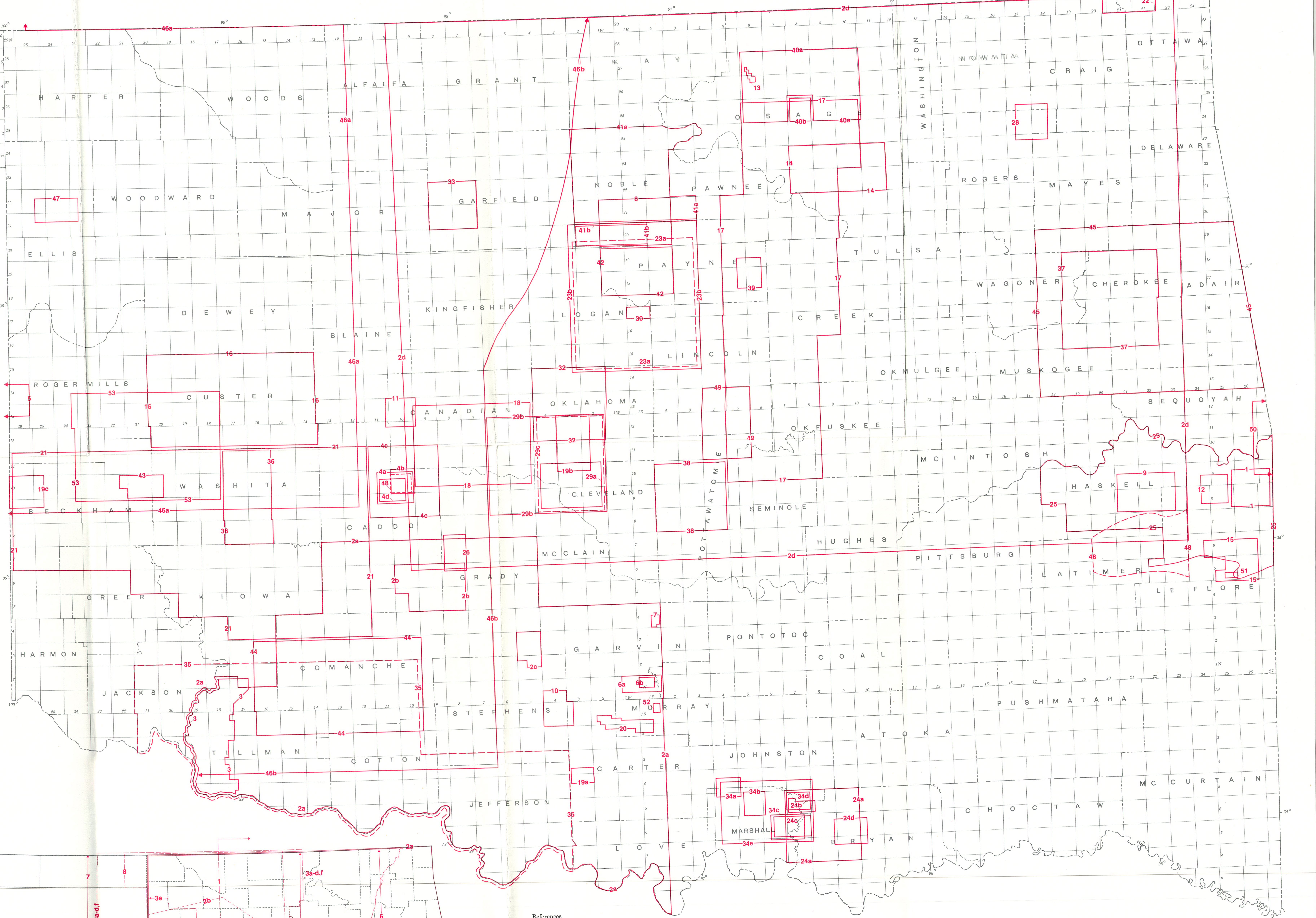
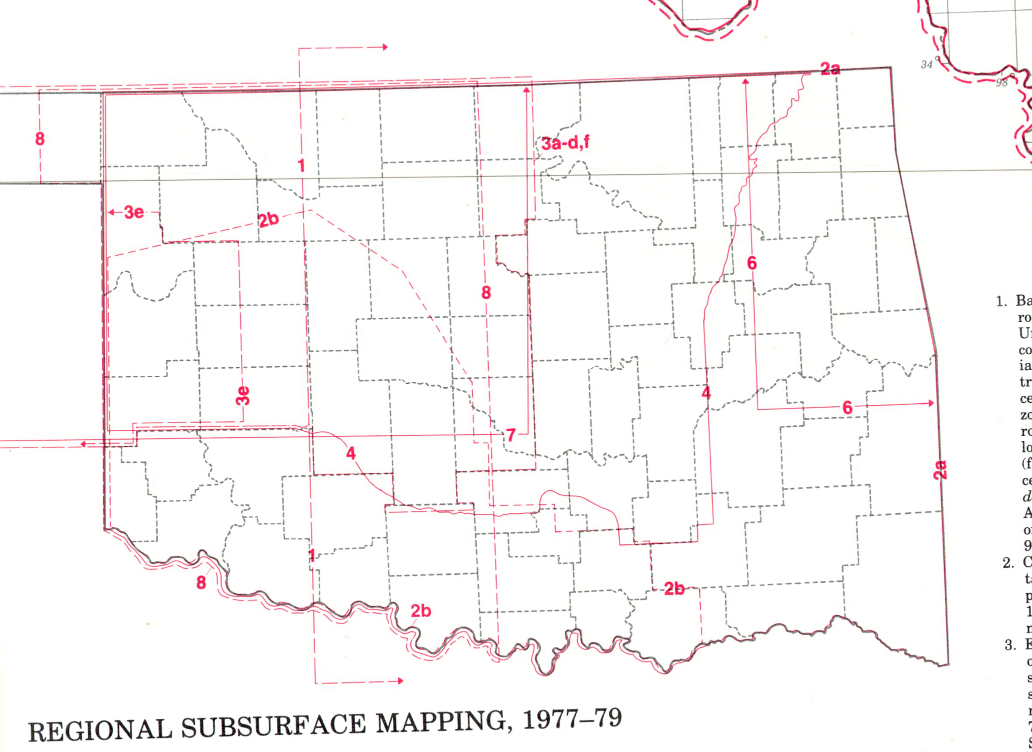
OKLAHOMA GEOLOGICAL SURVEY
Charles J. Mankin, *Director*







REGIONAL SUBSURFACE MAPPING, 1977–79

INDEX TO SUBSURFACE GEOLOGIC MAPPING IN OKLAHOMA, 1977–1979

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This map supplements Maps II through VII and GM–22, Part 1, Part 2, and Part 3 (1961, 1964, 1967, 1981).

EXPLANATION

The following explanatory listings outline the publication sources, types of maps, contour intervals (where applicable), and map scales (in miles per inch) as they are used in the references.

Publication Source

AAPG: American Association of Petroleum Geologists
DOE: Department of Energy
JPT: Journal of Petroleum Technology
OGN: Oklahoma Geology Notes
OGS: Oklahoma Geological Survey
OSUMS: Master's thesis, Oklahoma State University
OUMS: Master's thesis, University of Oklahoma
PA: Petroleum Abstracts
SS: Shale Shaker, Oklahoma City Geological Society
TGS: Tulsa Geological Society

Type of Map/Contour Interval

A: Areal
I: Isopach (thickness)
M: Magnetic
O: Porosity, lithofacies, and other
P: Paleogeologic
S: Structure

In the map references, the following notations indicate map type and contour intervals (where applicable). For maps that have contour intervals in units other than feet, these units are given in the map description. Maps without contours are indicated by—. (Some lines are dashed on map to aid in delineating mapped areas.)

Examples: I/100 indicates an isopach map with a 100-ft contour interval; A/— indicates an areal map without geologic contouring; lower-case letters denote separate mapped areas.

Map Scale and Miles-per-Inch Equivalents

In the references, map scales are indicated in terms of miles per inch. Example: 3.95/in. means a map scale of 3.95 miles per inch or 1:250,000 (see table below). The following table lists some of the more commonly used scales and the miles-per-inch equivalent.

1:8,000 = 0.13mi/in.	1:48,000 = 0.76mi/in.	1:250,000 = 3.95mi/in.
1:12,000 = 0.19mi/in.	1:62,500 = 0.99mi/in.	1:500,000 = 7.87mi/in.
1:24,000 = 0.38mi/in.	1:63,360 = 1.00mi/in.	1:750,000 = 11.90mi/in.
1:31,680 = 0.50mi/in.	1:125,000 = 1.98mi/in.	1:1,000,000 = 15.77mi/in.

References

Numbers on outlined areas on map correspond to equivalent numbers in reference list below.

1. Agbe-Davies, V. F., 1978, The geology of the Hartshorne coals in the Spiro and Hackett quadrangles, Le Flore County, Oklahoma: OUMS, 132 p. (Abstract in OGN, v. 39, p. 37–38.) **S**: Top of Upper Hartshorne coal and Hartshorne coal, undivided (pl. 1), S/100, 0.38/in.; top of lower Hartshorne coal (pl. 2), S/100, 0.38/in. **I**: Upper Hartshorne coal and Hartshorne coal, undivided (pl. 3), I/1, 0.38/in.; isopach and resources map of Lower Hartshorne coal (pl. 4), I/1, 0.38/in.; net sandstone in interval between Upper and Lower Hartshorne coals (pl. 5), I/2, 1/in. **O**: Isocarb (rank) lines of Upper Hartshorne coal and Hartshorne coal, undivided (pl. 6), O/1%; 1/in.; percentage of sulfur in Upper Hartshorne and Hartshorne coals, undivided (pl. 7), O/0.5%, 1/in.; percentage of ash in Upper Hartshorne and Hartshorne coals, undivided (pl. 8), 0/1%, 1/in.
2. Al-Shaieb, Zuhair, Olmsted, R. W., Shelton, J. W., May, R. T., Owens, R. T., and Hanson, R. E., 1977, Uranium potential of Permian and Pennsylvanian sandstones in Oklahoma: AAPG, v. 61, p. 360–375, 15 figs. (Abstract in PA, v. 17, p 714.) **S**: (a) Structural features of southern Oklahoma (fig. 1), S/—, 18.8/in.; (b) Cement area, structural sketch map (fig. 2), S/—, 2.7/in.; (c) Cox City area, structural sketch map (fig. 3), S/—, 1.12/in. **A**: (d) Sandstone distribution map—Bartlesville-Bluejacket Sandstone (fig. 15), A/—, 40/in.
3. Al-Sumait, A.J., 1978, A computer ground-water model for the Tillman alluvium in Tillman County, Oklahoma: OSUMS, 152 p. (Abstract in OGN, v. 39, p. 245.) **S**: Bedrock elevation map (fig. 17), S/10, 4/in. **O**: 1969 water-head elevations (fig. 4), O/10, 4/in.; coefficient of permeability map (fig. 9), O/500 × 10^{-6} ft/sec, 4/in; specific yield map (fig. 13), O/0.2 yield, 4/in.; 1974 water-head elevations (fig. 15), O/10, 4/in.; 1973 water-head elevations (fig. 45), O/10, 4/in.
4. Baker, R. K., 1978, The depositional environment of the Pennsylvanian upper Marchand sandstones, Northeast and East Binger fields, Oklahoma: OUMS, 122 p. **S**: (a) Base of Hogshooter "Hot Shale" (fig. 10) S/20, 1.23/in.; (d) base of "Marchand C" (fig. 30), S/25, 0.97/in.; **I**: (b) Gross clean sandstone "Marchand A" (fig. 11), I/5, 0.89/in.; (c) base of Hogshooter "Hot Shale" to top of Culp Melton Limestone (fig. 14), I/20, 2.6/in.; (a) gross clean sand "Marchand C" (fig. 20), I/20, 1.23/in.
5. Borger, J. G., II, 1977, Upper Morrow development, Reydon field: Society of Petroleum Engineers of America Institute of Mining Engineers Deep Drilling and Production Symposium, Amarillo, Texas, April 1977, Proceedings, pp. 137–144. **S**: Top of Squaw Valley (fig. 6), S/200, 3/in.; top of Morrow (fig. 7), S/100, 3/in. **I**: Upper Morrow (fig. 8), I/100, 3/in.; upper Morrow "A" sand total sand (fig. 9), I/20, 3/in.; upper Morrow "B" sand total sand (fig. 10), I/20, 3/in.; upper Morrow "C" sand total sand (fig. 11), I/10, 3/in.; upper Morrow "A" sand net sand (ϕ≥7%) (fig. 12), I/20, 3/in.
6. Borras, J. B., 1978, Genetic study of the Northwest Butterly field, Garvin County, Oklahoma: OUMS, 53p. **S**: (a) Top of Deese Group (pl. 3), S/100, 0.33/in.; (b) top of lower second Tuley sandstone (pl. 5), S/50, 0.33/in. **I**: (a) Isochore map of lower second Tuley sandstone (pl. 6), I/5, 0.33/in.
7. Bradford, R.N., and Hrkel, E. J., 1979, Evaluation of a reservoir simulation study: West Civit Dykeman Sand Unit: JPT, v. 31, p. 1599–1604, **S**: Top of Dykeman sand (fig. 1), S/10, 0.30/in.
8. Candler, C. E., 1977, Subsurface stratigraphic analysis of selected sandstones of the "Cherokee" Group, southern Noble County, Oklahoma, part 1 and part 2: SS, v. 28, p. 56–59; v. 28, p. 72–83. *Also in* OSUMS [1976]. **S**: Base of Oswego Limestone (fig. 3), S/20, 1.9/in. **I**: Base of Pink Limestone to top of Mississippian Limestone (fig. 4), I/20, 1.8/in.; base of Oswego to base of Pink Limestone (fig. 5), I/10, 1.8/in.; net sandstone, lower Skinner sandstone (fig. 8), I/10, 1.8/in.; net sandstone, Red Fork Sandstone (fig. 10), I/10, 1.8/in. **P**: Relationship of paleostructural and paleotopographic trends involving anomalously thick intervals of "Cherokee" strata (fig. 6), P/—, 3.6/in.; relationship of paleostructural and paleotopographic trends involving anomalously thin intervals of "Cherokee" strata (fig. 7), P/—, 3.6/in.
9. Catalano, L. E., 1978, Geology of the Hartshorne coal, McCurtain and Lafayette Quadrangles, Haskell and Le Flore Counties, Oklahoma: OSUMS. (Abstract in OGN, v. 39, p. 246.) **S**: Top of Hartshorne coal (pl. 3), S/50, 100, 0.38/in. **I**: Net thickness of Hartshorne coal (pl. 4), I/0.5, 0.63/in.; overburden thickness map (pl. 5), I/150, 1,000, 0.63/in.; thickness of Hartshorne coal parting (pl. 6), I/0.25, 0.63/in. **O**: Isopleth map of fixed carbon (pl. 7), O/0.5%, 0.63/in.; isopleth map of sulfur (pl. 8), O/0.5%, 0.63/in.; isopleth map of ash (pl. 9), O/2%, 0.63/in.
10. Clark, N. E., and Wall, L. J., 1978, Development of Sycamore Sandstone, Sholom Alechem field, Stephens and Carter Counties, Oklahoma: JPT, v. 30, p. 35–42. **S**: Sholom Alechem field (fig. 4), S/500, 1.23/in.
11. Clement, W. A., 1977, A case history of geoseismic modeling of basal Morrow-Springer sandstones, Watonga-Chickasha trend: Geary, Oklahoma—T. 13 N., R. 10 W., *in* Payton, C. E., editor, Seismic stratigraphy—applications to hydrocarbon exploration: AAPG Memoir 26, p. 451–476. (Abstract in PA, v. 18, p. 681.) **S**: top of Parvin Limestone—seismic lines included (fig. 5A), S/100, 1.33/in. **I**: Interval isopach map from top of Atoka Limestone to top of Parvin Limestone—seismic lines included (fig. 5B), I/50, 1.33/in.; present basal Springer sandstone (fig. 16B), I/20, 1.33/mi. **O**: Seismic amplitude anomaly map (fig. 16A), O/—, 1.33/in.
12. Craney, D. L., 1978, Distribution, structure, origin, and resources of the Hartshorne coals in the Panama quadrangle, Le Flore County, Oklahoma: OUMS, 126 p. **S**: Lower Hartshorne coal (pl. 6), S/100, 0.38/in. **I**: Thickness of surface and underground mined areas of Lower Hartshorne coal (pl. 5), I/variable, 0.38/in.; isochore map of clastic interval between Upper and Lower Hartshorne coals (pl. 7), I/10, 0.38/in.; thickness of surface and underground mined areas of Upper Hartshorne coal (pl. 8), I/variable, 0.38/in. **O**: Isocarb (rank) map of Lower Hartshorne coal (fig. 5), O/1.14%; isopleth map, sulfur content of Lower Hartshorne coal (fig. 6), O/0.5%, 1.14/in.; isopleth map, percentage of sandstone in clastic split between Upper and Lower Hartshorne coals (fig. 7), O/20%, 1.14/in.; isocarb (rank) map of Upper Hartshorne and Hartshorne coal (fig. 8), O/1%, 1.14/in.
13. Cunningham, J. W., and DuBois, Mait, 1978, Improved waterflooding with polymers, completion and evaluation of the North Stanley project, *in* Linville, Bill, editor, fourth DOE Symposium on Enhanced Oil and Gas Recovery and Improved Drilling Methods, Proceedings, v. 1A: U.S. Department of Energy in cooperation with University of Tulsa and Oil and Gas Journal, p. B-8/1—B-8/18. **I**: Burbank sand, I/20.
14. Davidson, J. D., 1978, Physical stratigraphy of the Avant Limestone Member of the Iola Formation, southern Osage County and parts of nearby counties, Oklahoma: OSUMS, 123 p. (Abstract in OGN, v. 39, p. 33.) **S**: Base of Avant Limestone Member, Iola Formation (pl. 8), S/50, 1/in. **I**: Net limestone, Avant Limestone Member, Iola Formation (pl. 7), I/10, 1/in.; Avant-Hogshooter interval (pl. 9), I/20, 1/in.
15. Donica, D. R., 1978, The geology of the Hartshorne coals (Desmoinesian) in parts of the Heavener 15′ quadrangle, Le Flore County, Oklahoma: OUMS, 128 p. **S**: Top of Lower Hartshorne coal (pl. 1), S/100, 0.38/in.; top of Upper Hartshorne coal (pl. 2), S/100, 0.38/in. **I**: Lower Hartshorne coal (pl. 3), I/0.5, 0.38/in. Upper Hartshorne coal (pl. 4), I/0.5, 0.38/in.; interval between Upper and Lower Hartshorne coals—thickness of Upper Hartshorne Member (pl. 5), I/20, 1/in.; net sandstone thickness of Upper Hartshorne Member (pl. 15), I/10, 1/in. **O**: Fixed carbon percentage and rank of Lower Hartshorne coal (pl. 11), O/1%, 1/in.; percentage of sulfur in Lower Hartshorne coal (pl. 12), O/0.5%, 1/in.; percentage of ash in Lower Hartshorne coal (pl. 13), O/1% unit, 1/in.; free-swelling index of Lower Hartshorne coal (pl. 14), O/1 unit, 1/in.
16. Fay, R. O., and Hart, D. L., Jr., 1978, Geology and mineral resources (exclusive of petroleum) of Custer County, Oklahoma: OGS Bulletin 114, 88 p. **S**: Base of Rush Springs Formation (pl. 2), S/100, 4/in.; base of Marlow formation (pl. 2), S/100, 4/in.; base of Southard bed (pl. 2), S/100, 4/in.; base of Watonga bed (pl. 2), S/100, 4/in.; base of Shimer Gypsum (pl. 2), S/100, 4/in.; base of Medicine Lodge Gypsum (pl. 2), S/100, 4/in. **I**: Rush springs Formation (pl. 2), I/50, 4/in.; Marlow Formation (pl. 2), I/10, 4/in.; upper Dog Creek (pl. 2), I/10, 4/in.; lower Dog Creek (pl. 2), I/10, 4/in.; Blaine Formation (pl. 2), I/10, 4/in. **O**: Radiometric map of basal Doxey Shale (fig. 51), O/10, 2.28/in. (geiger counts per minute).
17. Ford, G. W., 1978, Genesis and trend of the lowermost unit of the Vamoosa Formation (Gypsy Sandstone) in parts of northeastern and central Oklahoma: OSUMS. (Abstract in OGN, v. 38, p. 249.) **I**: Net sandstone thickness of Gypsy Sandstone unit (pl. 1), I/40, 4/in.; thickness of Gypsy Sandstone unit (pl. 2), I/40, 4/in.
18. Galloway, W. E., Yancey, M. S., and Whipple, A. P., 1977, Seismic stratigraphic model of depositional platform margin, eastern Anadarko Basin, Oklahoma, *in* Payton, C. E., editor, Seismic stratigraphy—applications to hydrocarbon exploration: AAPG Memoir 26, p. 439–449. (Reprinted from AAPG Bulletin, v. 61, p. 1437–1447.) **I**: Pre-Belle City sandstone (fig. 8A), I/25, 9.14/in.; Belle City carbonate (fig. 8B); Medrano Sandstone (fig. 8C), I/50, 9.14/in.; lower Wade Sandstone (fig. 8D), I/10, 9.14/in.
19. Gatewood, L. E., 1978, Some Oklahoma Arbuckle production and thoughts on fracturing: SS, v. 29, p. 4–11. **S**: (a) Arbuckle "Brown Zone," Healdton field [after Latham] (fig. 1), S/100, 0.75/in.; (b) top of Arbuckle, Oklahoma City field (fig. 3), S/200, 3/in.; (c) Arbuckle structure map, West Mayfield field (fig. 5), S/500, 2.75/in.
20. Haas, E. A., 1978, Structural analysis of a portion of the Reagan Fault Zone, Murray County, Oklahoma: OUMS, 52 p. **S**: Geologic structure map of part of the Reagan Fault Zone (pl. 1), S/10, 0.37/in.
21. Hansen, C. A., 1978, Subsurface Virgilian and Lower Permian arkosic facies, Wichita Uplift-Anadarko Basin, Oklahoma: OSUMS. (Abstract in OGN, v. 38, p. 250–251.) **S**: Elevation of top of Granite Wash-Wichita Uplift, Anadarko Basin (pl. 1), S/250,000, 4.1/in. **I-O**: Sandstone percentage and thickness map, (pl. 5), O/10%, 4.1/in.
22. Harrison, W. E., Curiale, J. A., and Roberts, J. F., 1979, Investigation of Desmoinesian rocks in northeastern Oklahoma for heavy-oil potential, *in* Hyne, N. J., editor, Pennsylvanian sandstones of the Mid-Continent: TGS, p. 337-347. **S**: Top of "Mississippian Limestone" (fig. 4), S/50, 2.3/in. **I**: Sandstone in Bartlesville interval (fig. 6), I/10, 2.3/in.; sandstone in Warner interval (fig. 7), I/2, 2.3/in.
23. Hollrah, T. L., 1978, Subsurface lithostratigraphy of the Hunton Group in parts of Payne, Lincoln, and Logan Counties, Oklahoma, part I: SS, v. 28, p. 150–156. *Also in* OSUMS [1977]. (Abstract in PA, v. 18, p. 921, and in OGN, v. 38, p. 106–107.) **S**: (a) Top of Sylvan Shale (pl. 1), S/50, 4.6/in. **I**: (a) Hunton Group (pl. 2), I/50, 4.2/in.; (b) Woodford Shale (pl. 3), I/50, 4.7/in. **P**: (b) Paleogeomorphic and paleogeologic map of terrain beneath Woodford Shale (fig. 4), P/—, 7.5/in.
24. Huffman, G. G., Hart, T. A., Olson, L. J., Currier, J. D., and Ganser, R. W., 1978, Geology and mineral resources of Bryan County, Oklahoma: OGS Bulletin 126, 113 p. **S**: (a) Top of Viola Limestone, northwest Bryan County (fig. 35), S/1,000, 3/in.; (b) top of Viola Limestone, Cumberland Field, (fig. 44), S/200, 1/in.; (c) top of Viola Limestone, Aylesworth-Aylesworth SE, (fig. 46), S/500, 1.8/in.; (d) top of Viola Limestone, Durant oil fields (fig. 49), S/500, 1.6/in.
25. Iannacchione, A. T., and Puglio, D. G., 1979, Methane content and geology of the Hartshorne coalbed in Haskell and Le Flore Counties, Oklahoma: U.S. Bureau of Mines Report of Investigations 8407, 14 p. **S**: Base of Hartshorne coalbed (fig. 8), S/100, 9.8/in. **I**: Interval between Lower and Upper Hartshorne coalbed (fig. 4), I/20, 7.5/in.; undivided Hartshorne and Lower Hartshorne coalbeds (fig. 5), I/1, 8/in.; Upper Hartshorne coalbed (fig. 6), I/1, 10.7/in.
26. Jowell, J. H., and Haberthur, C. R., 1977, Description of Norge Marchand Unit in Grady County, Oklahoma: Society of Petroleum Engineers of America Institute of Mining Engineers Practical Aspects of Drilling and Production Operators Regular Meeting Proceedings (Oklahoma City, February 1977), p. 25–34. **O**: Net pay isopach (porosity, percentage of shale, minimums); producing from Marchand sand (fig. 1), O/25, 1/in.
27. Kasino, R. E., and Davies, D. K., 1979, Environments and diagenesis, Morrow sands, Cimarron County (Oklahoma), and significance to regional exploration, production and well completion practices, *in* Hyne, N. J., editor, Pennsylvanian sandstones of the Mid-Continent: TGS, p. 169–194. **I**: Upper Morrow sands (fig. 3), I/20, 2.25/in.
28. Keasler, W. R., 1979, Coal geology of the Chelsea quadrangle in parts of Craig, Mayes, Nowata, and Rogers Counties, Oklahoma: OSUMS, 58 p. (Abstract in OGN, v. 40, p. 42.) **S**: Top of Mississippian rocks (pl. 3), S/50, 0.4/in.; top of Weir-Pittsburg and Croweburg coals (pl. 4), S/20, 0.4/in.; top of Iron-Post coal (pl. 5), S/20, 0.4in. **I**: Weir-Pittsburg and Croweburg coals (pl. 6), I/2/in., 0.4/in.; Iron-Post coal (pl. 7), I/2in., 0.4/in.; overburden thickness of Croweburg coal (pl. 8), I/20, 0.4/in.; overburden thickness of Mineral coal (pl. 9), I/20, 0.4/in.; overburden thickness of Weir-Pittsburg coal (pl. 10), I/20, 0.4/in.
29. Koff, L. R., 1978, Tectonics of the Oklahoma City Uplift, central Oklahoma: OUMS, 64 p. **S**: (b) Top of Arbuckle Limestone (pl. 11), S/100, 1.45/in. **I**: (a) Top of Bromide Dense to top of Arbuckle Limestone (pl. 5), I/100, 1.45/in.; (a) top of Sylvan Shale to top of Arbuckle Limestone (pl. 6), I/100, 1.45/in.; (a) top of Hunton Limestone to top of Arbuckle Limestone (pl. 7), I/100, 1.45/in.; (a) top of Oswego Limestone to top of Arbuckle Limestone (pl. 8), I/100, 1.45/in.; (c) top of Checkerboard Limestone to top of Arbuckle Limestone (pl. 9), I/100, 1.45/in.; (c) top of Oread Limestone to top of Arbuckle Limestone (pl. 10), I/100, 1.45/in.
30. Kousparis, Dimitrious, 1978, Quantitative geophysical study of the Cleveland sand reservoir (Pennsylvanian) in the eastern part of Logan County, Oklahoma, part 1 and part 2: SS, v. 28, p. 96–107; v. 28, p. 120–123. *Also in* OSUMS [1975]. (Abstract in PA, v. 18, p. 422, and in OGN, v. 36, p. 38–39.) **S**: Top of upper Cleveland sand (fig. 3), S/20, 1.25/in.; possible fracture lineation map of upper Cleveland sand (fig. 28), S/—, 1/in.; **I**: Isochore map of effective feet of upper Cleveland sand (fig. 4), I/2.5, 1/in.; isochore map of lower Cleveland sand (fig. 5), I/2.5, 1/in.; **O**: Electrochemical potential map of upper Cleveland sand (fig. 6), O/mv, 1/in.; electrochemical potential map of lower Cleveland sand (fig. 7), O/10mv, 1/in.; formation temperature of upper Cleveland sand (fig. 8), O/5°F, 1/in.; formation temperature of lower Cleveland sand (fig. 9), O/5°F, 1/in.; formation resistivity factor of upper Cleveland sand (fig. 10), O/10 units, 1/in.; formation restivity factor of lower Cleveland sand (fig. 11), O/10 units, 1/in.; porosity map of upper Cleveland sand (fig. 14), O/0.1 units, 1/in.; porosity map of lower Cleveland sand (fig. 15), O/0.1 units, 1/in.; equivalent NaCl concentration map of upper Cleveland sand (fig. 16), O/10,000ppm NaCl equivalent, 1/in.; equivalent NaCl concentration map of lower Cleveland sand (fig. 17), O/10,000 ppm NaCl equivalent, 1/in.; true resistivity map of upper Cleveland sand (fig. 18), O/5 ohm-meter, 1/in.; true resistivity map of lower Cleveland sand (fig. 19), O/5 ohm-meter, 1/mi; oil saturation map of upper Cleveland sand (fig. 20), O/10% 1/in.; oil saturation map of lower Cleveland sand (fig. 21), O/10%, 1/in.; water saturation map of upper Cleveland sand (fig. 22), O/10%, 1/in.; water saturation map of lower Cleveland sand (fig. 23), O/10%, 1/in.; permeability map of upper Cleveland sand (fig. 24), O/on millidarcy valves, 1/in.; permeability map of lower Cleveland sand (fig. 25), O/on millidarcy valves, 1/in.; compaction pressure map of upper Cleveland sand (fig. 26), O/20 psi, 1/in.; compaction pressure map of lower Cleveland sand (fig. 27), O/20 psi, 1/in.
31. Lane, S. D., 1978, Relationship of the carbonate shelf and basinal clastic deposits of the Missourian and Virgilian Series of the Pennsylvanian System in central Beaver County, Oklahoma: OSUMS, 95 p. (Abstract in OGN, v. 39 p. 34–35.) **S**: Minor anticlinal and synclinal trends (fig. 7), S/—, 5/in.; base of Heebner Shale (pl. 1), S/20, 2/in. **I**: Base of Heebner Shale to uppermost Lansing Limestone (pl. 2), I/20, 2/in.; sand-distribution map (pl. 9), I/20, 2/in.
32. Luza, K. V., DuBois, R. L., Lawson, J. E., Jr., Foster, Paul, and Koff, Leonid, 1978, Seismicity and tectonic relationships of the Nemaha Uplift in Oklahoma [part 1]: OGS Open-File Report (NUREG/CR-0050, prepared for U.S. Nuclear Regulatory Commission), 67 p. **S**: Top of Viola Formation in vicinity of Oklahoma City (fig. 5), S/50, 2.7/in.; base of Pennsylvanian in vicinity of Oklahoma City (fig. 6), S/50, 2.7/in.; top of Oswego Formation in vicinity of Oklahoma City (fig. 7), S/50, 2.7/in.
33. Maddox, G. D., 1977, Infill drilling in the Mississippi limestone, Garfield County, Oklahoma: Society of Petroleum Engineers of America Institute of Mining Engineers Practical Aspects of Drilling and Production Operators Regular Meeting Proceedings (Oklahoma City, February 1977), p. 25–34. **O**: Cumulative production contours (fig. 1), O/40,000 BLS, 0.5/in.
34. Merritt, M. L., 1978, Subsurface geology of the Madill-Cumberland-Aylesworth area, Marshall County, Oklahoma: OUMS, 109 p. **S**: (a) Viola-Fernvale, SE Mannsville Field (fig. 4), S/500, 0.67/in.; (b) Viola-Fernvale, Madill area (fig. 7), S/500, 1/in.; (c) Viola-Fernvale structure, Aylesworth area (fig. 10), S/500, 1/in.; (d) Viola-Cumberland, Cumberland area (fig. 14), S/250, 0.67/in.; (e) Viola-Fernvale (pl. 1), S/500, 1/in. **I**: (e) Hunton, Woodford subcrop (pl. 3), S/100, 1/in. **P**: Pre-Cretaceous paleogeology (pl. 2), P/—, 1/in.
35. Morrison, C. M., 1977, Permian uranium-bearing sandstones on the Muenster-Waurika arch and in the Red River area: OSUMS. (Abstract in OGN, v. 38, p. 251–252.) **S**: Lower marker, Megargel Limestone (pl.), S/100, 4/in.
36. Moussavi-Harami, Reza, 1977, Areal geology of Cordell area, Washita County, Oklahoma: OUMS, 76 p. (Abstract in OGN, v. 38, p. 114). **S**: Base of Cloud Chief and Doxey Formations (pl. 2), S/10, 2/in. **I**: Thickness of gypsum at base of Cloud Chief (pl. 3), I/—, 2/in.; thickness of Whitehorse Group (fig. 7), I/50, 4/in.
37. Orgren, A. H., 1979, Lithostratigraphy and depositional environments of the Pitkin Limestone and Fayetteville Shale (Chesterian) in portions of Wagoner, Cherokee, and Muskogee Counties, Oklahoma: OUMS, 144 p. (Abstract in OGN, v. 40, p.119–120.) **P**: residual map of Pitkin showing "true" topography (fig. 15), P/2m, 4/in.; residual map from Sausbee data (fig. 18), P/2m, 4/in. **I**: Pitkin Formation (fig. 11-a), I/2m, 4/in.; Sausbee Formation (fig. 17-a) I/2m, 4/in.
38. Pulling, D. M., 1979, Subsurface stratigraphic and structural analysis, Cherokee Group, Pottawatomie County, Oklahoma, part 1 and part 2: SS, v. 29, p. 124–137; v. 29, p. 148–158. *Also in* OUMS [1978]. (Abstract in OGN, v. 39, p. 40.) **S**: Top of Verdigris Limestone (fig. 3), S/50, 2.28/in.; structure and paleologic map on pre-Pennsylvanian unconformity surface (fig. 4), S/50, 2.28/in. **I**: Bartlesville sand (fig. 12), I/10, 2.28/in.; Red Fork sand (fig. 14), I/20, 2.28/in.; upper Skinner sand (fig. 17), I/20, 2.28/in. **P**: Paleotopographic map of pre-Pennsylvanian land surface [isochore map of top of Verdigris Limestone to pre-Pennsylvanian unconformity] (fig. 11), P/25, 2.28/in.
39. Robbins, G. D., Jr., 1979, Geology of the Yale Southwest Quadrangle, Payne County, Oklahoma: OSUMS, 78 p. **S**: Base of Lecompton Limestone (pl. 7), S/20, 0.4/in. **A**: Surficial geologic map (pl. 3), A/—, 0.4/in. (see surface listing); bedrock geologic map (pl. 5), A/—, 0.4/in.
40. Root, M. R., 1978, Computer applications to petroleum exploration, Osage County, Oklahoma: University of Alaska M.S. thesis. **S**: (a) Computer-generated maps for townships 25 N., 26 N., 27 N., and ranges 6E., 7E., 9E., 10E. Each township has: (1) structure-contour map of top of Mississippian, (2) second-order trend surface residuals between the second-order trend and actual top of Mississippian (Appendix 4-17). S/variable, 1/in.; (b) same maps as above for T25N., R8E.; also maps using varying well control and some contour maps showing third-order and sixth-order trend surface residuals between the trends and the actual top of the Mississippian (figs. 6–9, 11–15, 17). **I**: Thickness of stratigraphic interval bounded by Oswego Limestone and top of Mississippian, I/variable, 1/in. **O**: Total oil production per quarter-section through 1975, O/variable (bbls), 1/in.
41. Shelton, J. W., Bingham, R. H., and Jenkins, W. A., 1979, Geology and mineral resources of Noble County, Oklahoma: OGS Bulletin 128, 66 p. **S**: (a) Top of Herrington Limestone (pl. 1), S/20, 1/in.; top of Viola Limestone (pl. 3), S/50, 1/in. **I**: (b) Lower Cleveland sandstone (fig. 40), I/25, 3/in.
42. Shipley, R. D., 1977, Local depositional trends of "Cherokee" sandstones, Payne County, Oklahoma, part 1 and part 2: SS, v. 28, p. 24–25; v. 28, p. 48–55. *Also in* OSUMS [1975]. (Abstract in OGN, v. 36, p. 37.) **S**: Base of Oswego Limestone (fig. 3), S/25, 2/in. **I**: Base of Pink Limestone to top of Mississippian Limestone (fig. 4), I/20, 2/in.; base of Oswego Limestone to base of pink Limestone (fig. 7), I/10, 2/in.; net sandstone, Bartlesville Sandstone (fig. 8), I/20, 2/in.; I/10, 2/in. **P**: Relationship of paleostructural trends involving anomalously thick intervals of "Cherokee" strata (fig. 5), P/—, 3/in.; relationship of paleostructural and paleotopographic trends involving anomalously thin intervals of "Cherokee" strata (fig. 6), P/—, 3/in.
43. Sneider, R. M., Richardson, F. H., Paynter, D. D., Eddy, R. E., and Wyant, I. A., 1977, Predicting reservoir rock geometry and continuity in Pennsylvanian reservoirs, Elk City Field, Hoxbar Unit: JPT, v. 29, p. 851–866. **S**: Marker M (fig. 3), S/50, 1.10/in.
44. Stone, W. B., Jr., 1977, Mineralogic and textural dispersal patterns within the Permian Post Oak Formation of southwestern Oklahoma: OUMS, 117 p. (Abstract in OGN, v. 39, p. 41–42.) **O**: Geologic maps with isopleth contours superimposed (figs. 16–36), O/variable (grain size), 4.3/in.
45. Sutherland, P. K., and Henry, T. W., 1977, Stratigraphy of uppermost Mississippian and Lower Pennsylvanian strata in northeastern Oklahoma, *in* Sutherland, P. K., and Manger, W. L., editors, Upper Chesterian-Morrowan stratigraphy and the Mississippian-Pennsylvanian boundary in northeastern Oklahoma and northwestern Arkansas: OGS Guidebook 18, p. 41–48. **I**: Generalized pre-Morrowan subcrop map, Pitkin Limestone (fig. 3), I/50, 7.4/in.
46. Swanson, D. C., 1979, Deltaic deposits in the Pennsylvanian upper Morrow Formation of the Anadarko Basin, *in* Hyne, N. J., editor, Pennsylvanian sandstones of the Mid-Continent: TGS, p. 115–168, 47 figs. **S**: (a) Base of Morrow Formation in Anadarko Basin (fig. 3), S/500, 53/in.; (a) contour map of ratio of upper Morrow deltaic clastics to lower Morrow nearshore marine deposits in Anadarko Basin (fig. 42), S/variable, 43/in. **I**: (a) Total Morrow Formation (upper and lower) in Anadarko Basin (fig. 5), I/250, 44/in.; (a) upper Morrow deltaic clastics (fig. 41), I/100, 43/in. **P**: (a) Source (petrographic) and trend analysis of stage C upper Morrow point-bar deposits in Anadarko Basin (fig. 44), P/—, 43/in.; (b) paleographic map during stage C, upper Morrowan time (fig. 47), P/—, 90/in. **A**: (a) Location of upper Morrow deltaic reservoir deposits in Anadarko Basin (fig. 45), A./—, 43/in.; (a) type and location of source material available and approximate size of source areas during upper Morrowan stage C delta building (fig. 46), A/—, 90/in. **O**: (c) Isolith map, stage A upper Morrowan stream-mouth deposits, Hough area, Texas County, Oklahoma (fig. 25), O/10, 5.8/in.; (c) isolith map, stage B upper Morrowan stream-mouth deposits, Hough area, Texas County, Oklahoma (fig. 26), O/10, 5.8/in.; (c) isolith map, stage C upper Morrowan point-bar deposits, Hough area, Texas County, Oklahoma (fig. 27), O/10, 5.8/in.; (d) isolith maps, stages B and C upper Morrow stream-mouth and point-bar deposits, Hardesty area, Texas County, Oklahoma (fig. 29), O/10, 5.8/in.
47. Towns, D. J., 1978, Distribution, depositional environment, and reservoir properties of the Pennsylvanian Cottage Grove Sandstone, South Gage field, Oklahoma, part 1: SS, v. 29, p. 52–63, *Also in* OSUMS [1978]. (Abstract in OGN, v. 38, p. 252.) **S**: "Hot Shale" marker (fig. 4), S/20, 1.6/in. **I**: Cottage Grove interval (fig. 14), I/10, 1.6/in.; gross sandstone (Cottage Grove) (fig. 15), I/10, 1.6/in.
48. Vedros, S. G., and Visher, G. S., 1978, The Red Oak Sandstone: a hydrocarbon-producing submarine fan deposit, *in* Stanley, D. J., and Kelling, Gilbert, editors, Sedimentation in submarine canyons, fans, and trenches: Dowden, Hutchinson, & Ross, Inc., Stroudsburg, Pennsylvania, p. 292–308. **S**: Red Oak Sandstone format map (fig. 20.3), S/100, 1.88/in. **I**: Red Oak Sandstone gross sand map (fig. 20.4), I/50, 1.88/in.
49. Verish, N. P., 1979, Reservoir trends, depositional environments, and petroleum geology of "Cherokee" sandstones in T11-13N, R4-5E, central Oklahoma, part 1 and part 2: SS, v. 29, p. 209–214; v. 29, p. 224–236. *Also in* OSUMS [1978]. **S**: Top of Pink Limestone (fig. 3), S/20, 1.23/in.
50. Watkins, J. P., 1978, A ground magnetic and subsurface investigation of the Van Buren Quadrangle, Arkansas and Oklahoma: University of Arkansas M.S. thesis. (Derivative maps included in thesis.) **M**: Total field magnetic map (pl. 2), M/1.25 gammas.
51. Williams, C. E., 1978, The economic potential of the Lower Hartshorne coal on Pine Mountain, Heavener, Oklahoma: OSUMS (Abstract in OGN, v. 39, p. 35.) **S**: Top of Lower Hartshorne coal (pl. 2), S/5, 0.075/in. **I**: Overburden above Lower Hartshorne coal (pl. 3), I/5, 0.075/in.; Lower Hartshorne coal (pl. 4), I/2in., 0.075/in.; Upper Hartshorne sandstone member, (pl. 5), I/5, 0.075/in.
52. Wiltse, E. W., 1979, Surface and subsurface study of the Southwest Davis Oil Field, sections 11 and 14, T1S, R1E, Murray County, Oklahoma, part 1 and part 2: SS, v. 29, p. 82–87; v. 29, p. 100–110. *Also in* OUMS [1978]. (Abstract in OGN, v. 38, p. 114–115.) **S**: Top of basal Oil Creek sand (above Fault "I") (fig. 12), S/100, 0.09/in.; below fault "I" (fig. 13), S/100, 0.09/in.; surface of fault "I" (fig. 14), S/100, 0.09/in.
53. Zabawa, P. J., 1977, Investigation of surficial structural geology of portions of Beckham, Custer, Roger Mills, and Washita Counties, Oklahoma, part 1: SS, v. 27, p. 144–153. *Also in* OUMS [1976]. **S**: Base of Elk City Limestone (fig. 5), S/500, 4.8/in.

References

1. Barrick, J. E., 1978, Wenlockian (Silurian) depositional environments and conodont biofacies, south-central United States: University of Iowa Ph.D. dissertation, 286 p. P: Distribution of conodont biofacies in south-central U.S. during early Wenlockian (*Kockellela ranuliformis* zone) (fig. 48), P/—, 91/in.; distribution of lithofacies and macrofaunal associations in south-central U.S. during early Wenlockian (*Kockellela ranuliformis* zone) (fig. 46), P/—, 91/in.; distribution of lithofacies and macrofaunal associations in south-central U.S. during late Wenlockian (upper *Kockellela amsdeni–Kockellela stauros* zone) (fig. 47), P/—, 91/in.; distribution of conodont biofacies in south-central U.S. during late Wenlockian (upper *Kockellela amsdeni–Kockellela stauros* zone) (fig. 49), P/—, 91/in. A: Distribution of Silurian strata in south-central U.S. (extent of outcrop and subsurface extent is indicated) (fig. 1), P/—, 91/in.
2. Cheung, P. K. S., 1978, The geothermal gradient in sedimentary rocks in Oklahoma: OSUMS, 53 p. (Abstract in OGN, v. 38, p. 247–248.) O: (a) Geothermal gradient map of Oklahoma (pl. 1), 0/0.10% per 100 ft., 8/in.; (b) abnormal temperature gradient map (pl. 2), 0/0.5% per 100 ft., 8/in.
3. Evans, J. L., 1979, Major structural and stratigraphic features of the Anadarko Basin, *in* Hyne, N. J., editor, Pennsylvanian sandstones of the Mid-Continent: TGS, p. 97–113. S: (a) Major structural features (fig. 2), S/10,000, 34.2/in.; (b) Hunton facies map (fig. 6), S/10,000, 34.2/in.; (c) Morrow-Springer trends (fig. 7), S/10,000, 34.2/in.; (d) upper Morrow trend map (fig. 8), S/10,000, 34.2/in.; (e) Lips Fault Trend (fig. 9), S/—, 16.1/in; (f) post-Morrow Pennsylvanian sand trends (fig. 10), S/10,000, 34.2/in.
4. Fritz, R. D., 1978, Structural contour map of Oklahoma on the Pennsylvanian Wapanucka Limestone, Oswego Limestone, base of the Hoxbar Group, and Checkerboard Limestone; OSUMS, 47 p. (Abstract in OGN, v. 38, p. 250.) S: Mapping horizons in Pennsylvanian strata: Wapanucka Limestone, Oswego Limestone, base of Hoxbar Group (base of second Checkerboard limestone), Checkerboard Limestone (pl. 7) S/100, 250, 500, 1,000, 8/in.
5. Moore, G. E., 1979, Pennsylvanian paleogeography of the southern Mid-Continent, *in* Hyne, N. J., editor, Pennsylvanian sandstones of the Mid-Continent: TGS. p. 2–12 (includes entire state and is not shown on map.) P: Principle Pennsylvanian physiographic and tectonic features of the southern Mid-Continent (fig. 1), P/—, 167/in.; generalized paleogeography and paleoenvironments of Morrowan (fig. 4), P/—, 167/in.; generalized paleogeography and paleoenvironments of Atokan (fig. 5), P/—, 167/in.; generalized paleogeography and paleoenvironments of early Desmoinesian (fig. 6), P/—, 167/in.; generalized paleogeography and paleoenvironments of late Desmoinesian (fig. 7), P/—, 167/in.; generalized paleogeography and paleoenvironments of early Missourian (fig. 8), P/—, 167/in.; generalized paleogeography and paleoenvironments of late Missourian (fig. 9), P/—, 167/in.; generalized paleogeography and paleoenvironments of early Virgilian (fig. 10), P/—, 167/in.; generalized paleogeography and paleoenvironments of late Virgilian (fig. 11), P/—, 167/in.
6. Nodine-Zeller, D. E., and Thompson, T. L., 1977, Age and structure of subsurface beds in Cherokee County, Kansas—implications from endothyrid Foraminifera and conodonts: Kansas Geological Survey Bulletin 211, part 3, 11 p. (includes Tri-State area; abstract in PA, v. 18, p. 999.) S: Contour map on base of Mississippian (fig. 1), S/200, 60/in.
7. Rascoe, Bailey, Jr., 1978, Sedimentary cycles in the Virgilian Series (Upper Pennsylvanian) of the Anadarko Basin, part 1 and part 2: SS, v. 28, p. 123–131; v. 28, p. 144–149. I: Thickness of Heebner Shale (fig. 4), I/100, 33.6/in.; thickness and depositional systems of Pvm-2 (fig. 6), I/100, 51.7/in.; thickness and depositional systems of Pvm-1 (fig. 7), I/100, 39.5/in.; thickness and depositional systems of Pvm-11 (fig. 7), I/100, 39.5/in.; thickness and depositional systems of Pvu-10 (fig. 8), I/100, 39.5/in.; thickness and depositional systems of Pvu-9 (fig. 8), I/100, 39.5/in.; thickness and depositional systems of Pvu-8, Pvu-7, and Pvu-6 (fig. 9), I/100, 39.5/in.; thickness and depositional systems of Pvu-4 (fig. 10), I/100, 39.5/in.; thickness and depositional systems of Pvu-5 (fig. 10), I/100, 39.5/in.; thickness and depositional systems of Pvu-3, Pvu-2, and Pvu-1 (fig. 12), I/100, 39.5/in.
8. Totten, M. W., 1979, Grain size distribution of quartz as a function of distance from shoreline, Blaine Formation (Permian), western Oklahoma: OUMS, 77 p. O: Areal variation of quartz percentage, upper Blaine shale, (fig. 12), 0/10%, 23.6/in.; areal variation of quartz percentage, lower Blaine shale, (fig. 14), 0/10%, 23.6/in.; areal variation of quartz mean size, upper Blaine shale, (fig. 19), 0/0.5 PHI 23.6/in.; areal variation of quartz mean size, lower Blaine shale, (fig. 21), 0/0.5 PHI, 23.6/in.