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Ground Water in Kansas — Bibliography and Subject Index

By Robert S. Roberts
and Warren G. Hodson

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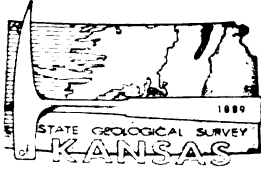
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Ground Water in Kansas — Bibliography and Subject Index

INTRODUCTION

The following bibliography on ground water in Kansas comprises all published reports and selected unpublished reports including theses and open-file reports. The list is in two sections: *Bibliography*, a listing by authors, in alphabetical order, and *Subject Index*, with the Kansas counties in alphabetical order.

The listing is based principally on a thorough examination of the following publications:

- American Association Petroleum Geologists (Bulletins)
- American Geologist (Bulletins)
- American Geophysical Union (Transactions)
- American Institute of Mining, Metallurgical, and Petroleum Engineers (Transactions)
- American Medical Association (Journal)
- American Water Works Association (Journal)
- Arkansas-White-Red Basins Inter-Agency Committee (Reports)
- Board of Irrigation Survey and Experiment Report
- Civil Engineer (Volumes)
- Compass (Volumes)
- Geological Society of America (Bulletins)
- Kansas Academy of Science (Transactions)
- Kansas Engineering Society (Yearbooks)
- Kansas Governor's Water Committee (Reports)
- Kansas State Board of Agriculture (Quarterly Reports)
- Kansas State College (Bulletins)
- Kansas State Department of Health, Environmental Health Services (Bulletins)
- Kansas University Quarterly
- Kansas Water Resources Board (State Water Plan Studies; Interim Report to Kansas Legislature)
- Kansas Water Resources Fact-Finding and Research Committee (Report)

Science

State Geological Survey of Kansas (Bulletins; Circulars; Mineral Resources Circulars; Miscellaneous Publications; Special Distribution Publications)
The University of Kansas, Engineering and Architecture (Bulletins)
U. S. Bureau Mines (Information Circulars; Reports of Investigation)
U. S. Bureau Reclamation (Technical Memorandums)
U. S. Department of Agriculture: Bureau of Agricultural Economics; Miscellaneous Publications; Office of Experiment Station (Bulletins)
U. S. Department of Interior (Memorandums for the Press)
U. S. Geological Survey (Annual Reports; Bulletins; Circulars; Geologic Atlases, Folios; Hydrologic Investigation Atlases; Professional Papers; Water-Supply Papers)
U. S. Congress, House of Representatives, Interior and Insular Affairs Committee (Reports)
U. S. Congress, Senate Select Committee on National Water Resources (Reports)
Wichita Mayor's Advisory Committee
World Oil

Information on published and unpublished reports was also obtained from the following sources:

Black and Veatch, consulting engineers
City of Wichita
Fort Hays Kansas State College, unpublished theses
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Kansas State College, unpublished theses
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Kansas State University, unpublished theses
Kansas University Geological Survey [State Geological Survey of Kansas]
Keplinger and Wanenmacher, consulting engineers
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SUBJECT INDEX

Allen County

Quality of water

- Iola mineral well: Kedzie, 1878; Patrick, 1877; Peale, 1886.
- Municipal supplies: Haskins and Young, 1915.
- Underground waters: Parker, 1911.

Analog field plotter, conducting-paper, evaluation of: Mack, 1957.

Anderson County

Quality of water

- Municipal supplies: Mayes and others, 1965.
- Pennsylvanian System: Rall and Wright, 1953.
- Underground waters: Parker, 1911.

Source and treatment of water for flooding: Powell and Eakin, 1953.

Aquifers, Kansas, mapping: Landes, 1935.

Arkansas Basin, ground-water supplies: Frye, 1951.

Arkansas River basin, ground-water investigations, map: Lohman and Burtis, 1953a.

Arkansas River drainage area, western Kansas, disposal of oil-field brines: Wilhelm and others, 1936.

Arkansas Valley, western, water facilities area plan; U.S. Dept. Agriculture, 1941a.

Artesian and underflow investigation: Hay, 1892; Nettleton, 1891.

Artesian wells, causes of flow: Hay, 1890a.

Artesian wells investigation, report: Hay, 1890b.

Atchison County

Quality of water

- Atchison, spring: Knerr, 1898.
- Iodine content: Kindig, 1932.
- Municipal supplies: Kansas State Board of Health, 1940, 1945, 1950, 1956; Mayes and others, 1965.
- Muscatoh artesian wells: Knerr, 1901.
- Underground waters: Parker, 1911.

Piezometric surface cross section, Pleistocene deposits: Frye, 1941.

Resources, water

- Pennsylvanian System: Frye, 1941.
- Pleistocene Series: Frye, 1941; Kansas Water Resources Board, 1959b, 1962a.
- Pliocene Series: Frye, 1941.

Barber County

Cross section, Pleistocene deposits: Williams and Bayne, 1946.

Depth to water level, table: Williams and Bayne, 1946.

Quality of water

- Municipal supplies: Gottlieb, 1928; Haskins and Young, 1915; Kansas State Board of Health, 1940, 1945, 1950, 1956; Mayes and others, 1965.
- Ordovician System: Rall and Wright, 1953.
- Pennsylvanian System: Rall and Wright, 1953; Williams and Bayne, 1946.
- Permian System: Williams and Bayne, 1946.
- Pleistocene Series: Williams and Bayne, 1946.
- Underground waters: Parker, 1911.

Resources, water

- Permian System: Williams and Bayne, 1946.
- Pleistocene Series: Williams and Bayne, 1946.

Saturated thickness, isopach map, ground-water aquifers: Kansas Water Resources Board, 1960a.

Water, availability and depth to, map: Corps of Engineers, 1955; Lohman and Burtis, 1953b; U.S. Geol. Surv., 1955.

Water-table elevation, contour map: Williams and Bayne, 1946.

Barton County

Cross section, Pleistocene deposits: Latta, 1950.

Depth to water level

- Map: Haworth, 1897b; Latta, 1950.
- Table: Darton, 1905a; Latta, 1950.

Quality of water

- Cambrian System: Rall and Wright, 1953.
- Cambrian and Ordovician systems: Jewett, 1948; Jones, 1945, 1950; Rall and Wright, 1953; Schoewe, 1943; Wilhelm and others, 1936.
- Cretaceous System: Latta, 1950.
- Iodine content: Kindig, 1932.
- Irrigation water: Naddih, 1960.
- Municipal supplies: Gottlieb, 1928; Haskins and Young, 1915; Kansas State Board of Health, 1940, 1945, 1950, 1956; Mayes and others, 1965; Young, 1911a.

Pennsylvanian System: Jones, 1945, 1950; Rall and Wright, 1953; Schoewe, 1943; Wilhelm and others, 1936.

Pleistocene Series: Latta, 1950.

Underground waters: Parker, 1911.

Resources, water

- Cretaceous System: Latta, 1950.
- Pleistocene Series: Latta, 1950.

Saturated thickness, isopach map

Ground-water aquifers: Kansas Water Resources Board, 1960a.

Post-Cretaceous deposits: Latta, 1950.

Unconsolidated deposits: Kansas Water Resources Board, 1962b.

Water, availability and depth to, map: Corps of Engineers, 1955; Lohman and Burtis, 1953b; U.S. Geol. Survey, 1955.

Water-table elevation, contour map: Kansas Water Resources Board, 1960a, 1962b; Latta, 1950.

Bourbon County

Depth to water level, table: Darton, 1905a.

Quality of water

- Ft. Scott, artesian well: Bailey and Walter, 1885.
- Underground waters: Parker, 1911.

Resources, water

- Cambrian System: Abernathy, 1941.
- Cambrian and Ordovician systems: Kansas Water Resources Board, 1958a.
- Mississippian System: Abernathy, 1941.
- Ordovician System: Abernathy, 1941.

Brine, oil field

Disposal: Jewett, 1956; Kansas State Board of Health, 1957.

Disposition: Jones, 1945

Graphic representation: Jeffords, 1948.

Brown County

Quality of water

- Iodine content: Kindig, 1932.
- Manganese content, Horton: Young, 1909.
- Municipal supplies: Gottlieb, 1928; Haskins and Young, 1915; Kansas State Board of Health, 1940, 1945, 1950, 1956; Mayes and others, 1965; Young, 1911a.
- Silurian and Devonian systems: Rall and Wright, 1953.
- Underground waters: Parker, 1911.

Butler County

Depth to water level, table: Lane and others, 1962.

Quality of water

- Cambrian and Ordovician systems: Jones, 1945, 1950; Powell, 1956; Rall and Wright, 1953; Schoewe, 1943.
- Mississippian System: Fath, 1921.

- Municipal supplies: Gottlieb, 1928; Kansas State Board of Health, 1940, 1945, 1950, 1956; Mayes and others, 1965; Young, 1911a.
- Ordovician System: Jones, 1945, 1950; Rall and Wright, 1953; Schoewe, 1943.
- Pennsylvanian System: Abernathy, 1948; Jewett, 1948; Jones, 1945, 1950; Rall and Wright, 1953; Schoewe, 1943.
- Silurian and Devonian systems: Jewett, 1948; Jones, 1945, 1950; Rall and Wright, 1953; Schoewe, 1943.
- Underground waters: Parker, 1911.
- Water, availability and depth to, map: Corps of Engineers, 1955; Lane and others, 1962; Lohman and Burtis, 1953b; U.S. Geol. Survey, 1955.

Chase County

- Cross section, Pleistocene deposits: O'Connor, 1951.
- Depth to water level, table: O'Connor, 1951.
- Quality of water
- Elmdale, artesian wells: Smith, A. J., 1915.
- Iodine content: Kindig, 1932.
- Municipal supplies: Gottlieb, 1928; Mayes and others, 1965; Young, 1911a.
- Permian System: O'Connor, 1951.
- Pleistocene Series: O'Connor, 1951.
- Underground waters: Parker, 1911.
- Resources, water
- Permian System: O'Connor, 1949, 1951.
- Pleistocene Series: O'Connor, 1951; Kansas Water Resources Board, 1961a.
- Water, availability and depth to, map: Corps of Engineers, 1955; Lohman and Burtis, 1953b; U.S. Geol. Survey, 1955.

Chautauqua County

- Quality of water
- Municipal supplies: Gottlieb, 1928; Kansas State Board of Health, 1940, 1945, 1950, 1956; Mayes and others, 1965; Young, 1911a.
- Pennsylvanian System: Fancher and Barnes, 1936; Jewett, 1948; Jones, 1945, 1950; Rall and Wright, 1953; Schoewe, 1943.
- Underground waters: Parker, 1911.

Cherokee County

- Depth to water level, table: Darton, 1905a.
- Quality of water
- Cambrian System: Abernathy, 1948.
- Columbus, well: Eailyer and Willard, 1887.
- Mississippian System: Abernathy, 1943, 1948.
- Municipal supplies: Gottlieb, 1928; Haskins and Young, 1915; Kansas State Board of Health, 1940, 1945, 1950, 1956; Mayes and others, 1965; Young, 1911a.
- Ordovician System: Abernathy, 1941, 1943, 1948; Jewett, 1948.
- Underground waters: Parker, 1911.
- Resources, water
- Cambrian System: Abernathy, 1941; Kansas Water Resources Board, 1961a.
- Mississippian System: Abernathy, 1941; Kansas Water Resources Board, 1961a; Smith and Siebenthal, 1907; Williams, 1948.
- Ordovician System: Abernathy, 1941, 1943; Kansas Water Resources Board, 1961a; Williams, 1948.
- Pennsylvanian System: Williams, 1948.
- Water, availability and depth to, map: Corps of Engineers, 1955; Lohman and Burtis, 1953b; U.S. Geol. Survey, 1955.

Cheyenne County

- Availability of ground water, map: U.S. Dept. Agriculture, 1941b.

Cross sections

- Pleistocene deposits: Wolff, 1911.
- Pleistocene and Pliocene deposits: Kansas Water Resources Board, 1960c.
- Pliocene deposits: Prescott, 1953a.
- Depth to water level
- Map: Haworth, 1897b; Prescott, 1953a.
- Table: Newell, 1895; Prescott, 1953a; U.S. Dept. Agriculture, 1941b; Wolff, 1911.
- Quality of water
- Iodine content: Kindig, 1932.
- Municipal supplies: Gottlieb, 1928; Kansas State Board of Health, 1940, 1945, 1950, 1956; Mayes and others, 1965.
- Pennsylvanian System: Rall and Wright, 1953.
- Pleistocene Series: Prescott, 1953a; Wolff, 1911.
- Pliocene Series: Prescott, 1953a.
- Underground waters: Parker, 1911.
- Resources, water
- Pleistocene Series: Hay, 1895; Prescott, 1953a; Wolff, 1911.
- Pliocene Series: Hay, 1895; Prescott, 1953a.
- St. Francis, utilization of underflow: Wolff, 1911.
- Saturated thickness, isopach map
- Ground-water aquifers: Kansas Water Resources Board, 1960c.
- Tertiary and Quaternary deposits: Prescott, 1953a.
- Water table elevation, contour map: Kansas Water Resources Board, 1960c; Prescott, 1953a.

Clark County

- Artesian wells, general review: Gregory, 1890.
- Depth to water level, map: Haworth, 1897a, 1897b.
- Meade artesian basin, deep seated solution: Fryc, 1950; Fryc and Schoff, 1942.
- Quality of water
- Iodine content: Kindig, 1932.
- Municipal supplies: Gottlieb, 1928; Haskins and Young, 1915; Kansas State Board of Health, 1940, 1945, 1950, 1956; Mayes and others, 1965.
- Underground waters: Parker, 1911.
- Water, availability and depth to, map: Corps of Engineers, 1955; Lohman and Burtis, 1953b; U.S. Geol. Survey, 1955.

Clay County

- Cross sections, Pleistocene deposits: Kansas Water Resources Board, 1961c; Walters and Bayne, 1955, 1959.
- Depth to water level, map, table: Walters and Bayne, 1955, 1959.
- Quality of water
- Cretaceous System: Walters and Bayne, 1955, 1959.
- Iodine content: Kindig, 1932.
- Manganese content, Wakefield: Young, 1909.
- Municipal supplies: Gottlieb, 1928; Haskins and Young, 1915; Kansas State Board of Health, 1940, 1945, 1950, 1956; Mayes and others, 1965; Young, 1911a.
- Permian System: Walters and Bayne, 1955, 1959.
- Pleistocene Series: Walters and Bayne, 1955, 1959.
- Underground waters: Parker, 1911.
- Resources, water
- Cretaceous System: Kansas Water Resources Board, 1959b; Walters and Bayne, 1955, 1959.
- Permian System: Walters and Bayne, 1955, 1959.
- Pleistocene Series: Walters and Bayne, 1955, 1959.
- Saturated thickness, isopach map, Pleistocene: Walters and Bayne, 1955.
- Water-table elevation, contour map: Kansas Water Resources Board, 1961c; Walters and Bayne, 1955, 1959.

Cloud County

Cross sections, Pleistocene Deposits: Bayne and Walters, 1959; Fishel, 1948b; Kansas Water Resources Board, 1961c; Walters and Bayne, 1955.

Depth to water level, table: Bayne and Walters, 1959; Darton, 1905a; Fishel, 1948b; Walters and Bayne, 1955.

Quality of water

Cretaceous System: Bayne and Walters, 1959; Fishel, 1948b; Kansas Water Resources Board, 1961c; Walters and Bayne, 1955.

Iodine content: Kindig, 1932.

Municipal supplies: Gottlieb, 1928; Haskins and Young, 1915; Kansas State Board of Health, 1940, 1945, 1950, 1956; Mayes and others, 1965; Young, 1911a.

Permian Series: Walters and Bayne, 1955.

Pleistocene Series: Bayne and Walters, 1959; Fishel, 1948b; Kansas Water Resources Board, 1961c; Walters and Bayne, 1955.

Underground waters: Parker, 1911.

Resources, water

Cretaceous System: Bayne and Walters, 1959; Fishel, 1948b; Kansas Water Resources Board, 1961c; Walters and Bayne, 1955; Wing, 1930.

Permian Series: Walters and Bayne, 1955.

Pleistocene Series: Bayne and Walters, 1959; Fishel, 1948b; Kansas Water Resources Board, 1961c; Walters and Bayne, 1955; Wing, 1930.

Pliocene Series: Wing, 1930.

Saturated thickness, isopach map, Pleistocene deposits, Republican River: Bayne and Walters, 1959; Walters and Bayne, 1955.

Water-table elevation, contour map: Bayne and Walters, 1959; Fishel, 1948b; Kansas Water Resources Board, 1961b, 1961c; Walters and Bayne, 1955.

Coffey County**Quality of water**

Manganese content, Burlington: Young, 1909.

Mississippian System: Jones, 1945, 1950; Schoewe, 1943.

Municipal supplies: Haskins and Young, 1915; Kansas State Board of Health, 1945, 1950, 1956; Mayes and others, 1965; Young, 1911a.

Underground waters: Parker, 1911.

Comanche County

Depth to water level, map: Haworth, 1897b.

Quality of water

Iodine content: Kindig, 1932.

Municipal supplies: Gottlieb, 1928; Haskins and Young, 1915; Kansas State Board of Health, 1940, 1945, 1950, 1956; Mayes and others, 1965.

Underground waters: Parker, 1911.

Water, availability and depth to, map: Corps of Engineers, 1955; Lohman and Burtis, 1953b; U.S. Geol. Survey, 1955.

Contamination by brine: Lane, 1960; Schmidt and Wilhelm, 1941; Wilhelm, 1937.

Cowley County

Cross section, Pleistocene deposits: Bayne, 1962.

Depth to water level

Map: Bayne, 1962.

Table: Bayne, 1962; Darton, 1905a; Lane and others, 1962.

Quality of water

Cambrian and Ordovician systems: Jones, 1945, 1950; Powell and others, 1958; Schoewe, 1943.

Municipal supplies: Bass, 1929; Gottlieb, 1928; Haskins and Young, 1915; Kansas State Board

of Health, 1940, 1945, 1950, 1956; Mayes and others, 1965; Young, 1911a.

Pennsylvanian System: Bayne, 1962; Jewett, 1948; Jones, 1942, 1945, 1950; Powell and others, 1958; Schoewe, 1943.

Permian System: Bayne, 1962.

Pleistocene Series: Bayne, 1962.

Underground waters: Parker, 1911.

Resources, water

Pennsylvanian System: Bayne, 1962.

Permian System: Bass, 1929; Bayne, 1962.

Pleistocene Series: Bass, 1929; Bayne, 1962; Lohman, 1942.

Saturated thickness, isopach map

Ground-water aquifers: Kansas Water Resources Board, 1960b.

Pleistocene deposits: Bayne, 1962.

Strata, fresh-water-bearing, cross section: Kansas Water Resources Board, 1960a.

Water, availability and depth to, map: Corps of Engineers, 1955; Lane and others, 1962; Lohman and Burtis, 1953b; U.S. Geol. Survey, 1955.

Water-table elevation, contour map: Bayne, 1962.

Crawford County

Contamination, deep water wells: Williams, 1949.

Depth to water level, table: Darton, 1905a.

Quality of water

Bacteriological analysis, drinking water, rural districts: McClure, 1942.

Cambrian System: Abernathy, 1941.

Cambrian and Ordovician systems: Wilhelm and others, 1941.

Girard, well: Davies, 1898.

Iodine content: Kindig, 1932.

Municipal supplies: Gottlieb, 1928; Haskins and Young, 1915; Kansas State Board of Health, 1940; Young, 1911a.

Ordovician System: Abernathy, 1941.

Underground waters: Parker, 1911.

Resources, water

Cambrian System: Abernathy, 1941; Kansas Water Resources Board, 1961a.

Cambrian and Ordovician systems: Kansas Water Resources Board, 1958a.

Mississippian System: Abernathy, 1941; Kansas Water Resources Board, 1961a; Williams, 1948.

Ordovician System: Abernathy, 1941; Kansas Water Resources Board, 1961a; Stramel, 1957; Williams, 1948.

Pennsylvanian System: Williams, 1948.

Water, availability and depth to, map: Corps of Engineers, 1955; Lohman and Burtis, 1953b; U.S. Geol. Survey, 1955.

Dakota, Cretaceous of Kansas: Gould, 1901.

Decatur County

Availability of ground water, map: U.S. Dept. Agriculture, 1941b.

Cross section, Pleistocene and Pliocene deposits: Kansas Water Resources Board, 1960c.

Depth to water level

Map: Haworth, 1897b.

Table: Darton, 1905a; U.S. Dept. Agriculture, 1941b.

Quality of water

Municipal supplies: Gottlieb, 1928; Haskins and Young, 1915; Kansas State Board of Health, 1940, 1945, 1950, 1956; Mayes and others, 1965; Young, 1911a.

Pennsylvanian System: Rall and Wright, 1953.

Underground waters: Parker, 1911.

Resources, water

Cretaceous System: Elias, 1937.

Pleistocene Series: Elias, 1937.

Pliocene Series: Elias, 1937.

Saturated thickness, isopach map, ground-water aquifers: Kansas Water Resources Board, 1960c.

Water-table elevation, contour map: Kansas Water Resources Board, 1960c, 1961b.

Depth to water level, southern Kansas: Corps of Engineers, 1955.

Dickinson County

Cross section, Pleistocene deposits: Latta, 1949.

Depth to water level, table: Darton, 1905a; Latta, 1949.

Quality of water

Municipal supplies: Gottlieb, 1928; Haskins and Young, 1915; Kansas State Board of Health, 1940, 1945, 1950, 1956; Mayes and others, 1965; Young, 1911a.

Pleistocene Series: Latta, 1949.

Underground waters: Parker, 1911.

Resources, water

Cretaceous System: Latta, 1949.

Permian System: Latta, 1949.

Pleistocene Series: Latta, 1949.

Doniphan County**Quality of water**

Iodine content: Kindig, 1932.

Municipal supplies: Gottlieb, 1928; Haskins and Young, 1915; Kansas State Board of Health, 1940, 1945, 1950, 1956; Mayes and others, 1965.

Underground waters: Parker, 1911.

Douglas County

Cross sections, Pleistocene deposits: Carlson, 1952; Davis and Carlson, 1952; Dufford, 1953, 1958; Lohman, 1941; O'Connor, 1960.

Depth to water level

Electrical resistivity study: Merriam, 1954.

Map: Carlson, 1952; Davis, 1951; Davis and Carlson, 1952; Dufford, 1953, 1958; O'Connor, 1960.

Table: Carlson, 1952; Darton, 1905a; Davis and Carlson, 1952; Dufford, 1953, 1958; Lohman, 1941; O'Connor, 1960.

Ground water, immunity of to changes in composition of Kansas River water, Lawrence: Young, 1913.

Quality of water

Manganese content, Lawrence: Young, 1909.

Municipal supplies: Haskins and Young, 1915; Kansas State Board of Health, 1940, 1945, 1950, 1956; Young, 1911a.

Nitrate content, Baldwin: Young, 1911b.

Pennsylvanian System: Davis and Carlson, 1952; Lohman, 1941; O'Connor, 1960.

Pleistocene Series: Carlson, 1952; Davis and Carlson, 1952; Dufford, 1953, 1958; Lohman, 1941; Merriam, 1954; O'Connor, 1960.

Underground waters: Parker, 1911.

Well water, Lawrence: Young, 1911b.

Resources, water

Pennsylvanian System: Carlson, 1952; Davis and Carlson, 1952; Dufford, 1958; Kansas Water Resources Board, 1959b; Lohman, 1941.

Pleistocene Series: Carlson, 1952; Davis and Carlson, 1952; Dufford, 1953, 1958; Lohman, 1941.

Water-table elevation, contour map: Carlson, 1952; Davis and Carlson, 1952; Dufford, 1953, 1958; Kansas Water Resources Board, 1959b; Lohman, 1941; Merriam, 1954.

Edwards County**Depth to water level**

Map: Haworth, 1897b; McLaughlin, 1949.

Table: McLaughlin, 1949.

Quality of water

Cretaceous System: McLaughlin, 1949.

Iodine content: Kindig, 1932.

Municipal supplies: Gottlieb, 1928; Haskins and Young, 1915; Kansas State Board of Health, 1940, 1945, 1950, 1956; Mayes and others, 1965.

Pleistocene Series: McLaughlin, 1949.

Underground waters: Parker, 1911.

Resources, water

Cretaceous System: McLaughlin, 1949.

Pleistocene Series: McLaughlin, 1949.

Saturated thickness, isopach map

Ground-water aquifers: Kansas Water Resources Board, 1960a.

Unconsolidated deposits: Kansas Water Resources Board, 1962b.

Water, availability and depth to, map: Corps of Engineers, 1955; Lohman and Burtis, 1953b; U.S. Geol. Survey, 1955.

Water-table elevation, contour map: Kansas Water Resources Board, 1960a, 1962b; McLaughlin, 1949.

Elk County

Cross section, Pleistocene deposits: Bayne, 1958.

Depth to water level, map, table: Bayne, 1958.

Quality of water

Lawrence formation, water from sandstone: Young, 1910.

Pennsylvanian System: Abernathy, 1948; Bayne, 1958; Jones, 1945, 1950; Schoewe, 1943.

Permian System: Bayne, 1958.

Pleistocene Series: Bayne, 1958.

Underground waters: Parker, 1911.

Resources, water

Pennsylvanian System: Bayne, 1958.

Permian System: Bayne, 1958.

Pleistocene Series: Bayne, 1958.

Pliocene Series: Bayne, 1958.

Ellis County

Cross sections, Pleistocene deposits: Latta, 1948b; Leonard and Berry, 1961.

Depth to water level

Map: Frye and Brazil, 1943; Haworth, 1897b; Leonard and Berry, 1961.

Table: Darton, 1905a; Frye and Brazil, 1943; Latta, 1948b; Leonard and Berry, 1961; Lippert, 1937.

Quality of water

Cambrian System: Rall and Wright, 1953.

Cambrian and Ordovician systems: Jones, 1945, 1950; Rall and Wright, 1953; Runyon, 1936;

Runyon and Rankin, 1937, 1940; Schoewe, 1943.

Cretaceous System: Frye and Brazil, 1943; Leonard and Berry, 1961; Runyon and Rankin, 1937, 1940.

Manganese content, Hays: Young, 1909.

Municipal supplies: Gottlieb, 1928; Haskins and Young, 1915; Kansas State Board of Health, 1940, 1945, 1950, 1956; Mayes and others, 1965; Young, 1911a.

Pennsylvanian System: Rall and Wright, 1953; Runyon, 1936; Runyon and Rankin, 1937, 1940.

Permian System: Runyon, 1936; Runyon and Rankin, 1937, 1940.

Pleistocene Series: Frye and Brazil, 1943; Latta, 1948b; Leonard and Berry, 1961.

Pliocene Series: Frye and Brazil, 1943.

Radioactive properties, subterranean waters: Lippert, 1937, 1938.

Underground waters: Parker, 1911.

Resources, water

Cretaceous System: Bass, 1926a; Frye and Brazil, 1943; Leonard and Berry, 1961.

Permian System: Frye and Brazil, 1943.

Pleistocene Series: Frye and Brazil, 1943; Latta, 1948b; Leonard and Berry, 1961.

Pliocene Series: Frye and Brazil, 1943.

Water-table elevation, contour map: Leonard and Berry, 1961.

Ellsworth County

Depth to water level

Map: Haworth, 1897b.

Table: Darton, 1905a; Waterman, 1952(?).

Quality of water

Brookville, well west of: Bailey, 1887b.

Cambrian and Ordovician systems: Crum and Gottlieb, 1935; Jones, 1945, 1950; Rall and Wright, 1953; Schoewe, 1943; Wilhelm and others, 1936.

Cretaceous System: Crum and Gottlieb, 1935.

Irrigation water: Naddih, 1960.

Municipal supplies: Gottlieb, 1928; Haskins and Young, 1915; Kansas State Board of Health, 1940, 1945, 1950, 1956; Mayes and others, 1965; Young, 1911a.

Ordovician System: Crum and Gottlieb, 1935.

Pennsylvanian System: Crum and Gottlieb, 1935; Jones, 1945, 1950; Schoewe, 1943; Wilhelm and others, 1936.

Permian System: Crum and Gottlieb, 1935.

Underground waters: Parker, 1911.

Resources, water

Cretaceous System: Waterman, 1952(?).

Pleistocene Series: Waterman, 1952(?).

Saturated thickness, isopach map: Waterman, 1952(?).

Water-table elevation, contour map: Waterman, 1952(?).

Finney County

Cross sections, Pleistocene and Pliocene deposits: Frye and Fishel, 1949; Latta, 1944; Stramel and others, 1958.

Depth to water level

Map: Fishel, 1947a; Frye and Fishel, 1949; Haworth, 1897a, 1897b; Latta, 1944; Pfister, 1955.

Table: Darton, 1905a; Latta, 1944; Stramel and others, 1958.

Quality of water

Cretaceous System: Latta, 1944.

Iodine content: Kindig, 1932.

Manganese content, Garden City: Young, 1909.

Mississippian System: Rall and Wright, 1953.

Municipal supplies: Gottlieb, 1928; Haskins and Young, 1915; Kansas State Board of Health, 1940, 1945, 1950, 1956; Mayes and others, 1965.

Pennsylvanian System: Rall and Wright, 1953.

Pleistocene Series: Latta, 1944.

Pliocene Series: Latta, 1944; Stramel and others, 1958.

Underground waters: Parker, 1911.

Resources, water

Cretaceous System: Latta, 1944.

Pleistocene Series: Latta, 1944; Lohman and others, 1942; Stramel and others, 1958.

Pliocene Series: Latta, 1944; Lohman and others, 1942; Moore, 1940; Moss, 1933; Stramel and others, 1958.

Underground water, Garden City: Wright and Collins, 1905.

Saturated thickness, isopach map

Pleistocene and Ogallala deposits: Frye and Fishel, 1949; Pfister, 1955.

Pleistocene and Pliocene deposits: Stramel and others, 1958.

Unconsolidated deposits: Kansas Water Resources Board, 1962b.

Underflow, Arkansas River valley: Slichter, 1906.

Water, availability and depth to, map: Corps of Engineers, 1955; Lohman and Burtis, 1953b; U.S. Geol. Survey, 1955.

Water level, change, contour map: Kansas Water Resources Board, 1962b.

Water-table elevation, contour map: Fishel, 1947a; Frye and Fishel, 1949; Kansas Water Resources Board, 1962b; Latta, 1944; Moss, 1933; Pfister, 1955; Stramel and others, 1958.

Ford County

Artesian wells, general review: Gregory, 1890.

Cross section, Pleistocene and Pliocene deposits: Waite, 1942.

Depth to water level

Map: Haworth, 1897a, 1897b; Waite, 1942.

Table: Waite, 1942.

Meade artesian basin, occurrence of water: Moore, 1940.

Quality of water

Cretaceous System: Waite, 1942.

Iodine content: Kindig, 1932.

Irrigation water: Naddih, 1960.

Municipal supplies: Gottlieb, 1928; Haskins and Young, 1915; Kansas State Board of Health, 1940, 1945, 1950, 1956; Mayes and others, 1965; Young, 1911a.

Pleistocene Series: Waite, 1942.

Pliocene Series: Waite, 1942.

Underground waters: Parker, 1911.

Resources, water

Cretaceous System: Moore, 1940; Waite, 1942.

Ingalls area, Pleistocene Series: Barrett, 1957.

Pleistocene Series: Moore, 1940; Waite, 1942.

Pliocene Series: Lohman, 1938; Moore, 1940; Waite, 1942.

Saturated thickness, isopach map, unconsolidated deposits: Kansas Water Resources Board, 1962b.

Water, availability and depth to, map: Corps of Engineers, 1955; Lohman and Burtis, 1953b; U.S. Geol. Survey, 1955.

Water-table elevation, contour map: Kansas Water Resources Board, 1960a, 1962b; Waite, 1942.

Franklin County

Quality of water

Mississippian System: Rall and Wright, 1953.

Municipal supplies: Kansas State Board of Health, 1945, 1950, 1956; Mayes and others, 1965.

Spring, Ottawa: Bailey, 1903.

Underground waters: Parker, 1911.

Source and treatment of water for flooding: Powell and Eakin, 1953.

Geary County

Cross section, Pleistocene deposits: Latta, 1949.

Depth to water level, table: Latta, 1949.

Quality of water

Iodine content: Kindig, 1932.

Municipal supplies: Kansas State Board of Health, 1940, 1945, 1950, 1956; Mayes and others, 1965; Young, 1911a.

Pleistocene Series: Latta, 1949.

Underground waters: Parker, 1911.

Resources, water

- Cretaceous System: Latta, 1949.
- Permian System: Jewett, 1941; Latta, 1949.
- Pleistocene Series: Latta, 1949; Moulthrop, 1963.

Water-table elevation, contour map: Latta, 1949.

Glaciated northeastern region

- Fluctuation of water table: Schoewe, 1935.
- Ground-water reservoirs, possible: Sanders, 1957.
- Pleistocene: Jones, 1936.
- Subsurface reconnaissance, glacial deposits: Frye and Walters, 1950.

Gove County**Cross sections**

- Pleistocene deposits: Bradley and Johnson, 1957; Hodson and Wahl, 1960.
- Pliocene deposits: Hodson and Wahl, 1960.

Depth to water level

- Map: Haworth, 1897b; Hodson and Wahl, 1960.
- Table: Bradley and Johnson, 1957; Hodson and Wahl, 1960.

Quality of water

- Cretaceous System: Hodson and Wahl, 1960.
- Municipal supplies: Gottlieb, 1928; Hodson and Wahl, 1960; Kansas State Board of Health, 1940, 1945, 1950, 1956; Mayes and others, 1965.
- Pleistocene Series: Hodson and Wahl, 1960.
- Pliocene Series: Hodson and Wahl, 1960.
- Underground waters: Parker, 1911.

Resources, water

- Cretaceous System: Bradley and Johnson, 1957; Hodson and Wahl, 1960.
- Pleistocene Series: Bradley and Johnson, 1957; Hodson and Wahl, 1960.
- Pliocene Series: Bradley and Johnson, 1957; Hodson and Wahl, 1960.

Saturated thickness, isopach map

- Ogallala Formation: Kansas Water Resources Board, 1962c.

Tertiary and Quaternary deposits: Hodson and Wahl, 1960.

Water-table elevation, contour map: Hodson and Wahl, 1960.

Graham County

Cross section, Pliocene deposits: Prescott, 1955.

Depth to water level

- Map: Haworth, 1897b; Prescott, 1955.
- Table: Prescott, 1955.

Quality of water

- Cambrian and Ordovician systems: Rall and Wright, 1953.
- Cretaceous System: Prescott, 1955.
- Municipal supplies: Gottlieb, 1928; Haskins and Young, 1915; Kansas State Board of Health, 1940, 1945, 1950, 1956; Mayes and others, 1965.
- Pennsylvanian System: Rall and Wright, 1953.
- Pleistocene Series: Prescott, 1955.
- Pliocene Series: Prescott, 1955.
- Underground waters: Parker, 1911.

Resources, water

- Cretaceous System: Prescott, 1955.
- Pleistocene Series: Prescott, 1955.
- Pliocene Series: Prescott, 1955.

Saturated thickness, isopach map, Ogallala Formation: Kansas Water Resources Board, 1961b.

Water-table elevation, contour map: Kansas Water Resources Board, 1961b; Prescott, 1955.

Grant County

Artesian wells, general review: Gregory, 1890.

Bear Creek, ground-water recharge possibilities: Barrett, 1961.

Cross sections

- Neogene deposits: Winslow and others, 1964.
- Pleistocene and Pliocene deposits: Fader and others, 1964; Frye and Fishel, 1949; Kansas Water Resources Board, 1958b.

Depth to water level

- Map: Fishel, 1947a; Frye and Fishel, 1949; Haworth, 1897b; Kansas Water Resources Board, 1958b; McLaughlin, 1946; Nuzman and Meyer, 1965; Pfister, 1955.

Table: Fader and others, 1964; McLaughlin, 1946.

Fence diagram, Pleistocene and Pliocene deposits: McLaughlin, 1946.

Quality of water

- Irrigation water: Naddih, 1960.
- Municipal supplies: Kansas State Board of Health, 1940, 1945, 1950, 1956; Mayes and others, 1965.
- Pleistocene Series: Fader and others, 1964; McLaughlin, 1946.
- Pliocene Series: Fader and others, 1964.
- Underground waters: Parker, 1911.

Resources, water

- Cretaceous System: Fader and others, 1964.
- Pleistocene Series: Lohman and others, 1942; McLaughlin, 1946.
- Pliocene Series: Darton, 1920; Lohman and others, 1942; McLaughlin, 1946.
- Triassic(?) System: Fader and others, 1964.

Saturated thickness, isopach map

- Neogene deposits: Fader and others, 1964.
- Pleistocene and Ogallala deposits: Frye and Fishel, 1949; Pfister, 1955.

Water-bearing material: Kansas Water Resources Board, 1958b.

Water, availability and depth to, map: Corps of Engineers, 1955; Lohman and Burtis, 1953b; U.S. Geol. Survey, 1955.

Water level, change, contour map: Broecker and Fishel, 1962; Fader and others, 1964; Kansas Water Resources Board, 1958b; Nuzman and Meyer, 1965; Winslow and others, 1964.

Water-table elevation, contour map: Fishel, 1947a; Frye and Fishel, 1949; Kansas Water Resources Board, 1958b; McLaughlin, 1946; Nuzman and Meyer, 1965; Pfister, 1955; Winslow and others, 1964.

Gray County

Artesian wells, general review: Gregory, 1890.

Cross sections, Pleistocene and Pliocene deposits: Frye and Fishel, 1949; Kansas Water Resources Board, 1958b; Latta, 1944; Stramel and others, 1958.

Depth to water level

- Map: Fishel, 1947a; Frye and Fishel, 1949; Haworth, 1897a, 1897b; Kansas Water Resources Board, 1958b; Latta, 1944; Pfister, 1955.

Table: Latta, 1944; Stramel and others, 1958.

Quality of water

- Cretaceous System: Latta, 1944.
- Iodine content: Kindig, 1932.
- Irrigation water: Naddih, 1960.
- Municipal supplies: Gottlieb, 1928; Haskins and Young, 1915; Kansas State Board of Health, 1940, 1945, 1950, 1956; Mayes and others, 1965.
- Pleistocene Series: Latta, 1944; Stramel and others, 1958.
- Pliocene Series: Latta, 1944; Stramel and others, 1958.
- Underground waters: Parker, 1911.

Resources, water

- Cretaceous System: Latta, 1944.
- Ogallala area, Pleistocene Series: Barrett, 1957.

- Pleistocene Series: Latta, 1944; Stramel and others, 1958.
- Pliocene Series: Latta, 1944; Stramel and others, 1958.
- Saturated thickness, isopach map
- Pleistocene and Ogallala deposits: Frye and Fishel, 1949; Pfister, 1955.
- Pleistocene and Pliocene deposits: Stramel and others, 1958.
- Unconsolidated deposits: Kansas Water Resources Board, 1962b.
- Water-bearing material: Kansas Water Resources Board, 1958b.
- Water, availability and depth to, map: Corps of Engineers, 1955; Lohman and Burtis, 1953b; U.S. Geol. Survey, 1955.
- Water-table elevation, contour map: Fishel, 1947a; Frye and Fishel, 1949; Kansas Water Resources Board, 1958b, 1962b; Latta, 1944; Pfister, 1955; Stramel and others, 1958.
- Great Plains, central, underground water resources: Darton, 1905b.
- Great Spirit Spring. See Mitchell County.
- Greeley County**
- Cross sections, Pliocene deposits: Bradley and Johnson, 1957; Prescott and others, 1954.
- Depth to water level
- Map: Bradley and Johnson, 1957; Frye and Fishel, 1949; Haworth, 1897b; Pfister, 1955; Prescott and others, 1954.
- Table: Bradley and Johnson, 1957; Darton, 1905a; Prescott and others, 1954.
- Quality of water
- Cretaceous System: Prescott and others, 1954.
- Municipal supplies: Kansas State Board of Health, 1945, 1950, 1956; Mayes and others, 1965.
- Pleistocene Series: Prescott and others, 1954.
- Underground waters: Parker, 1911.
- Resources, water
- Cretaceous System: Bradley and Johnson, 1957.
- Pleistocene Series: Bradley and Johnson, 1957.
- Pliocene Series: Bradley and Johnson, 1957; Prescott and others, 1954.
- Saturated thickness, isopach map
- Ogallala Formation: Kansas Water Resources Board, 1962c.
- Pleistocene and Ogallala deposits: Frye and Fishel, 1949; Pfister, 1955.
- Pleistocene and Pliocene deposits: Bradley and Johnson, 1957.
- Pleistocene and Tertiary deposits: Prescott and others, 1954.
- Unconsolidated deposits: Kansas Water Resources Board, 1962b.
- Water availability and depth to, map: Corps of Engineers, 1955; Lohman and Burtis, 1953b; U.S. Geol. Survey, 1955.
- Water-table elevation, contour map: Bradley and Johnson, 1957; Kansas Water Resources Board, 1962b; Moss, 1933; Prescott and others, 1954.
- Greenwood County**
- Depth to water level, table: Darton, 1905a.
- Quality of water
- Cambrian and Ordovician systems: Jones, 1945, 1950; Schoewe, 1943.
- Eureka, mineral well: Bailey, 1890.
- Madison, well: Bushong, 1901.
- Mississippian System: Abernathy, 1948; Jewett, 1948; Jones, 1945, 1950; Rall and Wright, 1953; Schoewe, 1943.
- Municipal supplies: Gottlieb, 1928; Haskins and Young, 1915; Kansas State Board of Health, 1945, 1950, 1956; Mayes and others, 1965.
- Pennsylvanian System: Fancher and Barnes, 1936; Jewett, 1948; Jones, 1945, 1950; Powell, 1956; Rall and Wright, 1953; Schoewe, 1943; Taylor and others, 1939.
- Underground waters: Parker, 1911.
- Ground water
- Development: Joslyn, 1928.
- Investigations, Kansas: Lohman, 1939.
- Occurrence: Meinzer, 1923.
- Ground-water levels
- Fluctuation: flood of July 1951: Fishel, 1952b.
- Long-term trends: Fishel, 1956.
- Observation wells: Broecker and Fishel, 1961, 1962; Broecker and Winslow, 1963, 1964; Fishel and Broecker, 1960; Fishel and Mason, 1957, 1958; Fishel and others, 1959; U.S. Geol. Survey.
- Ground-water table, lowering, eastern Kansas: Cook, 1914.
- Hamilton County**
- Cross section, Pleistocene and Pliocene deposits: McLaughlin, 1943.
- Depth to water level
- Map: Frye and Fishel, 1949; Haworth, 1897b; Kansas Water Resources Board, 1958b; McLaughlin, 1943; Pfister, 1955.
- Table: McLaughlin, 1943.
- Quality of water
- Arkansas River valley: Darton, 1920.
- Cretaceous System: Haworth, 1897b; McLaughlin, 1943.
- Municipal supplies: Gottlieb, 1928; Haskins and Young, 1915; Kansas State Board of Health, 1940, 1945, 1950, 1956; Mayes and others, 1965.
- Pleistocene Series: McLaughlin, 1943.
- Pleistocene and Pliocene series: McLaughlin, 1943.
- Underground waters: Parker, 1911.
- Resources, water
- Cretaceous System: Bass, 1926b; Darton, 1920; McLaughlin, 1943.
- Pleistocene Series: Darton, 1920; McLaughlin, 1943.
- Pliocene Series: Bass, 1926b; McLaughlin, 1943.
- Saturated thickness, isopach map
- Pleistocene and Ogallala deposits: Frye and Fishel, 1949; Pfister, 1955.
- Unconsolidated deposits: Kansas Water Resources Board, 1962b.
- Water-bearing material: Kansas Water Resources Board, 1958b.
- Water-table elevation, contour map: Frye and Fishel, 1949; Kansas Water Resources Board, 1958b, 1962b; McLaughlin, 1943.
- Harper County**
- Brine, oil-field, magnesium content: Kansas Geol. Survey staff, 1942.
- Cross section, Pleistocene deposits: Bayne, 1960.
- Depth to water level
- Map: Bayne, 1960.
- Table: Bayne, 1960; Lane and others, 1962.
- Quality of water
- Iodine content: Kindig, 1932.
- Municipal supplies: Gottlieb, 1928; Haskins and Young, 1915; Kansas State Board of Health, 1940, 1945, 1950, 1956; Mayes and others, 1965; Young, 1911a.
- Permian System: Bayne, 1960.
- Pleistocene Series: Bayne, 1960.
- Underground waters: Parker, 1911.

Resources, water

Permian System: Bayne, 1960.

Pleistocene System: Bayne, 1960.

Saturated thickness, isopach map

Ground-water aquifers: Kansas Water Resources Board, 1960a.

Pleistocene deposits: Bayne, 1960.

Water, availability and depth to, map: Lane and others, 1962.

Water-table elevation, contour map: Bayne, 1960.

Harvey County

Contamination by brine: Petri and others, 1964; Williams and Lohman, 1949.

Cross sections, Pleistocene deposits: Foley and others, 1955; Keplinger and Wanenmacher Engineers, 1954; Stramel, 1956; Williams and Lohman, 1949.

Depth to water level

Map: Stramel, 1956; Williams and Lohman, 1949.

Table: Lane and others, 1962; Williams and Lohman, 1949.

Quality of water

Iodine content: Kindig, 1932.

Municipal supplies: Gottlieb, 1928; Haskins and Young, 1915; Kansas State Board of Health, 1940, 1945, 1950, 1956; Mayes and others, 1965; Young, 1911a.

Pennsylvanian System: Jewett, 1948; Jones, 1945, 1950; Schoewe, 1943.

Permian System: Williams and Lohman, 1949.

Pleistocene Series: Kansas Water Resources Board, 1960a; Lawrence, 1940; Wichita, 1940; Wilhelm and Schmidt, 1935; Williams and Lohman, 1949. Silurian and Devonian systems: Jewett, 1949; Jones, 1945, 1950; Schoewe, 1943.

Unconsolidated deposits: Petri and others, 1964.

Underground waters: Parker, 1911.

Walton, well: Davies, 1898.

Resources, water

Permian System: Petri and others, 1964; Williams and Lohman, 1949.

Pleistocene Series: Black and Veatch, 1952; Foley and others, 1955; Hess, 1952; Kansas Water Resources Board, 1960a; Lawrence, 1940; Lohman, 1942; Lohman and Frye, 1940; Miller, G. H., 1959; Stramel, 1956; Williams and Lohman, 1949.

Pliocene(?) Series: Petri and others, 1964.

Saturated thickness, isopach map

Equus beds: Black and Veatch, 1952; Keplinger and Wanenmacher Engineers, 1954.

Ground-water aquifers: Kansas Water Resources Board, 1960a.

Pleistocene and Pliocene deposits: Stramel, 1956.

Unconsolidated deposits: Petri and others, 1964.

Water-bearing materials: Williams and Lohman, 1949.

Water, availability and depth to, map: Corps of Engineers, 1955; Lane and others, 1962; Lohman and Burtis, 1953b; U.S. Geol. Survey, 1955.

Water-table elevation, contour map: Kansas Water Resources Board, 1960a; Lohman and Frye, 1940; Moore, 1940; Petri and others, 1964; Stramel, 1956; Williams and Lohman, 1947, 1949.

Wichita well field, change in water level, contour map: Black and Veatch, 1952; Broecker and Fishel, 1961, 1962; Broecker and Winslow, 1963, 1964; Fishel and Broecker, 1960; Fishel and Mason, 1957, 1958; Fishel and others, 1959; Foley and others, 1955; Hess, 1952; Houe, 1955; Kansas Water Resources Board, 1960a; Keplinger and Wanenmacher

Engineers, 1954; Petri and others, 1964; Stramel, 1956; Wichita, 1940; Wichita Mayor's Advisory Committee, 1956; Williams and Lohman, 1949.

Wichita well field water supply, methods of estimating: Williams and Lohman, 1947.

Haskell County

Artesian wells, general review: Gregory, 1890.

Cross sections, Pleistocene and Pliocene deposits: Frye and Fishel, 1949; Kansas Water Resources Board, 1958b.

Depth to water level

Map: Fishel, 1947a; Frye and Fishel, 1949; Haworth, 1897a, 1897b; Kansas Water Resources Board, 1958b; McLaughlin, 1946; Pfister, 1955. Table: McLaughlin, 1946.

Fence diagram, Pleistocene and Pliocene deposits: McLaughlin, 1946.

Quality of water

Municipal supplies: Gottlieb, 1928; Kansas State Board of Health, 1940, 1945, 1950, 1956; Mayes and others, 1965.

Pennsylvanian System: Rall and Wright, 1953.

Pleistocene Series: McLaughlin, 1946.

Underground waters: Parker, 1911.

Resources, water

Pleistocene Series: McLaughlin, 1946.

Pliocene Series: McLaughlin, 1946.

Saturated thickness, isopach map

Pleistocene and Ogallala deposits: Frye and Fishel, 1949; Pfister, 1955.

Unconsolidated deposits: Kansas Water Resources Board, 1962b.

Water-bearing material: Kansas Water Resources Board, 1958b.

Water, availability and depth to, map: Corps of Engineers, 1955; Lohman and Burtis, 1953b; U.S. Geol. Survey, 1955.

Water-table elevation, contour map: Fishel, 1947a; Frye and Fishel, 1949; Kansas Water Resources Board, 1958b, 1962b; McLaughlin, 1946; Pfister, 1955.

High Plains

Pliocene Series: Thomas, 1952.

Productive aquifers, map: Fishel, 1963; Thomas, 1952. Southern

Depth to water, map: Theis and others, 1935.

Ground water: Theis and others, 1935.

Water resources: Fishel, 1963; Johnson, W. D., 1901, 1902; Lohman, 1953.

Hodgeman County

Cross section, Pleistocene deposits: Fishel, 1952a.

Depth to water level

Map: Fishel, 1952a; Haworth, 1897a, 1897b.

Table: Fishel, 1952a.

Quality of water

Cretaceous System: Fishel, 1952a.

Iodine content: Kindig, 1932.

Mississippian System: Rall and Wright, 1953.

Municipal supplies: Gottlieb, 1928; Kansas State Board of Health, 1940, 1945, 1950, 1956; Mayes and others, 1965.

Pleistocene Series: Fishel, 1952a; Moss, 1931, 1932.

Underground waters: Parker, 1911.

Resources, water

Cretaceous System: Fishel, 1952a; Moss, 1931, 1932.

Pleistocene Series: Fishel, 1952a; Moss, 1931, 1932.

Pliocene Series: Fishel, 1952a; Moss, 1931, 1932.

Saturated thickness, isopach map

Pleistocene deposits: Fishel, 1952a.

Unconsolidated deposits: Kansas Water Resources Board, 1962b.

- Water, availability and depth to, map: Corps of Engineers, 1955; Lohman and Burtis, 1953b; U.S. Geol. Survey, 1955.
- Water-table elevation, contour map: Fishel, 1952a; Kansas Water Resources Board, 1962b.
- Investigations, ground water, methods of: Fishel, 1947b.
- Jackson County**
- Depth to water level, map, table: Davis, 1951; Walters, 1953.
- Quality of water
- Iodine content: Kindig, 1932.
- Municipal supplies: Gottlieb, 1928; Haskins and Young, 1915; Kansas State Board of Health, 1940, 1945, 1950, 1956; Mayes and others, 1965; Young, 1911a.
- Pennsylvanian System: Walters, 1953.
- Permian System: Walters, 1953.
- Pleistocene Series: Davis, 1951; Walters, 1953.
- Underground waters: Parker, 1911.
- Resources, water
- Pennsylvanian System: Walters, 1953.
- Permian System: Walters, 1953.
- Pleistocene Series: Davis, 1951; Kansas Water Resources Board, 1959b.
- Jefferson County**
- Cross sections, Pleistocene deposits: Carlson, 1952; Davis and Carlson, 1952.
- Depth to water level, map, table: Carlson, 1952; Davis, 1951; Davis and Carlson, 1952.
- Quality of water
- Iodine content: Kindig, 1932.
- Municipal supplies: Gottlieb, 1928; Haskins and Young, 1915; Kansas State Board of Health, 1940, 1945, 1950, 1956; Mayes and others, 1965.
- Pleistocene Series: Carlson, 1952; Davis, 1951; Davis and Carlson, 1952.
- Underground waters: Parker, 1911.
- Resources, water
- Pennsylvanian System: Carlson, 1952; Davis and Carlson, 1952.
- Pleistocene Series: Carlson, 1952; Davis, 1951; Davis and Carlson, 1952.
- Water-table elevation, contour map: Carlson, 1952; Davis, 1951; Davis and Carlson, 1952; Kansas Water Resources Board, 1959b.
- Jewell County**
- Cross sections, Pleistocene deposits: Fishel and Leonard, 1956; Kansas Water Resources Board, 1961c.
- Depth to water level
- Map: Fishel and Leonard, 1956; Haworth, 1897b.
- Table: Fishel and Leonard, 1956.
- Quality of water
- Burr Oak, well: Failyer and Breese, 1889.
- Cretaceous System: Fishel and Leonard, 1956; Haworth, 1897b.
- Municipal supplies: Gottlieb, 1928; Haskins and Young, 1915; Kansas State Board of Health, 1940, 1940, 1950, 1956; Mayes and others, 1965; Young, 1911a.
- Omio, spring: Failyer and Willard, 1887.
- Pleistocene Series: Fishel and Leonard, 1956.
- Underground waters: Parker, 1911.
- White Rock, spring: Failyer and Willard, 1887.
- Resources, water
- Cretaceous System: Fishel and Leonard, 1956.
- Pleistocene Series: Fishel and Leonard, 1956.
- Johnson County**
- Cross sections, Pleistocene deposits: Fishel, 1948a; Fishel and others, 1953.
- Depth to water level
- Map: Dufford, 1953, 1958.
- Table: Dufford, 1953, 1958; Fishel, 1948a.
- Gardner, developing a water supply: Landes, 1933b.
- Quality of water
- Municipal supplies: Kansas State Board of Health, 1940, 1945.
- Pleistocene Series: Dufford, 1953, 1958; Fishel, 1948a; Fishel and others, 1953.
- Underground waters: Parker, 1911.
- Resources, water
- Pennsylvanian System: Fishel, 1948a; Jewett and Williams, 1935; Kansas Water Resources Board, 1959b.
- Pleistocene Series: Dufford, 1953, 1958; Fishel, 1948a; Fishel and others, 1953; Jewett and Williams, 1935.
- Saturated thickness, isopach map, Pleistocene deposits: Fishel and others, 1953.
- Water-table elevation, contour map: Dufford, 1953, 1958; Kansas Water Resources Board, 1959b.
- Joplin district, Missouri-Kansas, water resources:** Smith, W.S.T., 1905.
- Kansas**
- Central, *Equus*-beds area, ground-water resources: Beck, 1955b.
- Eastern, shallow aquifers: Jewett, 1939; Landes, 1934, 1937.
- Ground-water resources: Fishel, 1947a; Jones, 1948; Landes, 1934, 1937.
- Mineral waters: Hay, 1893.
- Oil area, soil and water resources: Jones, 1938a.
- Productive aquifers map: McGuinness, 1964.
- Southwestern
- Geologic studies: Smith, H.T.U., 1940.
- Ground water: Frye and Fishel, 1949.
- Ground-water geology: Foley, 1958.
- Ground-water resources, management: Kansas Water Resources Board, 1959a.
- Underground waters: Haworth, 1897a.
- Underground resources, water: Moore and Landes, 1927.
- Water situation: Fishel, 1963.
- Western
- Geology of underground water: Haworth, 1897b.
- Water supply: Hay, 1886; Jones, 1936.
- Kearny County**
- Cross sections, Pleistocene and Pliocene deposits: Frye and Fishel, 1949; McLaughlin, 1943.
- Depth to water level
- Map: Fishel, 1947a; Frye and Fishel, 1949; Haworth, 1897b; Kansas Water Resources Board, 1958b; McLaughlin, 1943; Pfister, 1955.
- Table: McLaughlin, 1943.
- Quality of water
- Arkansas River valley: Darton, 1920.
- Municipal supplies: Gottlieb, 1928; Kansas State Board of Health, 1940, 1945, 1950, 1956; Mayes and others, 1965.
- Pennsylvanian System: Rall and Wright, 1953.
- Pleistocene Series: McLaughlin, 1943.
- Pleistocene and Pliocene Series: McLaughlin, 1943.
- Underground waters: Parker, 1911.
- Resources, water
- Cretaceous System: McLaughlin, 1943.
- Pleistocene Series: Darton, 1920; McLaughlin, 1943.
- Pliocene Series: McLaughlin, 1943.

Saturated thickness, isopach map
Pleistocene and Ogallala deposits: Frye and Fishel, 1949; Pfister, 1955.
Unconsolidated deposits: Kansas Water Resources Board, 1962b.
Water-bearing material: Kansas Water Resources Board, 1958b.
Water, availability and depth to, map: Corps of Engineers, 1955; Lohman and Burtis, 1953b; U.S. Geol. Survey, 1955.
Water level, change, contour map: Kansas Water Resources Board, 1962b.
Water-table elevation, contour map: Fishel, 1947a; Frye and Fishel, 1949; Kansas Water Resources Board, 1958b, 1962b; McLaughlin, 1943; Pfister, 1955.

Kingman County

Cross section, Pleistocene deposits: Lane, 1960.
Depth to water level
Map: Haworth, 1897b; Lane, 1960.
Table: Lane, 1960; Lane and others, 1962.
Quality of water
Iodine content: Kindig, 1932.
Municipal supplies: Haskins and Young, 1915; Kansas State Board of Health, 1940, 1945, 1950, 1956; Mayes and others, 1965; Young, 1911a.
Ordovician System: Rall and Wright, 1953.
Pennsylvanian System: Rall and Wright, 1953; Wilhelm and others, 1936.
Permian System: Lane, 1960.
Pleistocene Series: Lane, 1960.
Underground waters: Parker, 1911.
Resources, water
Permian System: Lane, 1960.
Pleistocene Series: Lane, 1960.
Pliocene Series: Lane, 1960.
Saturated thickness, isopach map, ground-water aquifers: Kansas Water Resources Board, 1960a.
Water, availability and depth to, map: Corps of Engineers, 1955; Lane and others, 1962; Lohman and Burtis, 1953b; U.S. Geol. Survey, 1955.
Water-table elevation, contour map: Kansas Water Resources Board, 1960a; Lane, 1960.

Kiowa County

Artesian wells, general review: Gregory, 1890.
Depth to water level
Map: Haworth, 1897b; Latta, 1948a.
Table: Latta, 1948a.
Fence diagram, Pleistocene and Pliocene deposits: Latta, 1948a.
Quality of water
Cretaceous System: Latta, 1948a.
Municipal supplies: Gottlieb, 1928; Kansas State Board of Health, 1940, 1945, 1950, 1956; Mayes and others, 1965.
Permian System: Latta, 1948a.
Pleistocene Series: Latta, 1948a.
Pliocene Series: Kansas Water Resources Board, 1960a; Latta, 1948a.
Underground waters: Parker, 1911.
Resources, water
Cretaceous System: Latta, 1948a.
Permian System: Latta, 1948a.
Pleistocene Series: Latta, 1948a; Lohman and others, 1942.
Pliocene Series: Latta, 1948a.
Saturated thickness, isopach map, ground-water aquifers: Kansas Water Resources Board, 1960a.
Water, availability and depth to, map: Corps of Engineers, 1955; Lohman and Burtis, 1953b; U.S. Geol. Survey, 1955.

Water-table elevation, contour map: Kansas Water Resources Board, 1960a; Latta, 1948a.

Labette County

Cross section, Pleistocene deposits: Williams, 1944.
Depth to water level, table: Williams, 1944.
Quality of water
Iodine content: Kindig, 1932.
Cambrian System: Abernathy, 1948; Jewett, 1948.
Municipal supplies: Haskins and Young, 1915; Young, 1911a.
Pleistocene Series: Williams, 1944.
Underground waters: Parker, 1911.
Resources, water
Cambrian System: Kansas Water Resources Board, 1961a.
Ordovician System: Abernathy, 1941; Kansas Water Resources Board, 1961a.
Pleistocene Series: Williams, 1944.
Water-table elevation, contour map: Williams, 1944.

Ladder Creek area, western Kansas: Bradley and Johnson, 1957.

Lane County

Cross section, Pleistocene and Pliocene deposits: Frye and Fishel, 1949.
Depth to water
Map: Bradley and Johnson, 1957; Frye and Fishel, 1949; Haworth, 1897b; Pfister, 1955; Prescott, 1951.
Table: Bradley and Johnson, 1957; Prescott, 1951.
Quality of water
Cretaceous System: Prescott, 1951.
Municipal supplies: Gottlieb, 1928; Kansas State Board of Health, 1945, 1950, 1956; Mayes and others, 1965.
Pleistocene Series: Prescott, 1951.
Pliocene Series: Prescott, 1951.
Underground waters: Parker, 1911.

Resources, water

Cretaceous System: Bradley and Johnson, 1957; Prescott, 1951.
Pleistocene Series: Bradley and Johnson, 1957; Prescott, 1951.
Pliocene Series: Bradley and Johnson, 1957; Prescott, 1951.

Saturated thickness, isopach map

Ogallala Formation: Kansas Water Resources Board, 1962c.
Pleistocene and Ogallala deposits: Frye and Fishel, 1949; Pfister, 1955.
Pleistocene and Pliocene deposits: Bradley and Johnson, 1957.
Tertiary and Quaternary deposits: Prescott, 1951.
Unconsolidated deposits: Kansas Water Resources Board, 1962b.

Water, availability and depth to, map: Corps of Engineers, 1955; Lohman and Burtis, 1953b; U.S. Geol. Survey, 1955.

Water-table elevation, contour map: Bradley and Johnson, 1957; Kansas Water Resources Board, 1962b; Moss, 1933; Prescott, 1951.

Leavenworth County

Cross sections, Pleistocene deposits: Dufford, 1953, 1958.
Depth to water level, map, table: Dufford, 1953, 1958.
Quality of water
Municipal supplies: Gottlieb, 1928; Kansas State Board of Health, 1940.
Pennsylvanian System: Dufford, 1953, 1958.

- Pleistocene Series: Dufford, 1953, 1958; Lohman and Mitchell, 1940.
 Underground waters: Parker, 1911.
- Resources, water**
 Ordovician System: Hinds and Greene, 1917.
 Pennsylvanian System: Dufford, 1958; Hinds and Greene, 1917; Kansas Water Resources Board, 1959b.
 Pleistocene Series: Dufford, 1953, 1958; Lohman and Mitchell, 1940; Kansas Water Resources Board, 1962a.
 Water-table elevation, contour map: Dufford, 1953, 1958; Kansas Water Resources Board, 1959b.
- Lincoln County**
 Cross section, Pleistocene deposits: Berry, 1952.
 Depth to water level
 Map: Berry, 1952; Haworth, 1897b.
 Table: Berry, 1952.
 Quality of water
 Iodine content: Kindig, 1932.
 Cretaceous System: Berry, 1952.
 Municipal supplies: Gottlieb, 1928; Haskins and Young, 1915; Kansas State Board of Health, 1945, 1950, 1956; Mayes and others, 1965; Young, 1911a.
 Pleistocene Series: Berry, 1952.
 Underground waters: Parker, 1911.
- Resources, water**
 Cretaceous System: Berry, 1952.
 Pleistocene Series: Berry, 1952.
 Water-table elevation, contour map: Berry, 1952.
- Linn County**
 Quality of water
 Municipal supplies: Haskins and Young, 1915; Kansas State Board of Health, 1945, 1950, 1956.
 Nitrate content, La Cygne: Young, 1911b.
 Underground waters: Parker, 1911.
 Source and treatment of water for water flooding: Powell and Eakin, 1953.
- Logan County**
 Breathing well: Willard, 1893.
 Cross sections
 Pleistocene deposits: Bradley and Johnson, 1957.
 Pliocene deposits: Johnson, C. R., 1958; Kansas Water Resources Board, 1962c.
 Depth to water level
 Map: Bradley and Johnson, 1957; Haworth, 1897b; Johnson, C. R., 1958.
 Table: Bradley and Johnson, 1957; Johnson, C. R., 1958.
 Quality of water
 Cretaceous System: Bradley and Johnson, 1957; Johnson, C. R., 1958.
 Municipal supplies: Gottlieb, 1928; Haskins and Young, 1915; Kansas State Board of Health, 1940, 1945, 1950, 1956; Mayes and others, 1965.
 Pleistocene Series: Bradley and Johnson, 1957; Johnson, C. R., 1958.
 Pliocene Series: Bradley and Johnson, 1957; Johnson, C. R., 1958.
 Underground waters: Parker, 1911.
- Resources, water**
 Cretaceous System: Bradley and Johnson, 1957; Johnson, C. R., 1958.
 Pleistocene Series: Bradley and Johnson, 1957; Johnson, C. R., 1958.
 Pliocene Series: Bradley and Johnson, 1957; Johnson, C. R., 1958.
 Saturated thickness, isopach map
 Ogallala Formation: Johnson, C. R., 1958; Kansas Water Resources Board, 1962c.
- Pleistocene and Pliocene deposits: Bradley and Johnson, 1957.
 Water-table elevation, contour map: Bradley and Johnson, 1957; Johnson, C. R., 1958.
- Lyon County**
 Cross section, Pleistocene deposits: O'Connor, 1953.
 Depth to water level, table: O'Connor, 1953.
 Quality of water
 Municipal supplies: Kansas State Board of Health, 1945, 1950, 1956; Mayes and others, 1965; Young, 1911a.
 Pennsylvanian System: O'Connor, 1953.
 Permian System: O'Connor, 1953.
 Pleistocene Series: O'Connor, 1953.
 Stotler, well: Failyer and Willard, 1887.
 Underground waters: Parker, 1911.
- Resources, water**
 Pennsylvanian System: O'Connor, 1953.
 Permian System: O'Connor, 1953.
 Pleistocene Series: Kansas Water Resources Board, 1961a; O'Connor, 1953.
 Water, availability and depth to, map: Corps of Engineers, 1955; Lohman and Burtis, 1953b; U.S. Geol. Survey, 1955.
- Marion County**
 Depth to water level, table: Lane and others, 1962.
 Quality of water
 Iodine content: Kindig, 1932.
 Marion, mineral well: Bailey, 1890.
 Municipal supplies: Gottlieb, 1928; Haskins and Young, 1915; Kansas State Board of Health, 1940, 1945, 1950, 1956; Mayes and others, 1965; Young, 1911a.
 Ordovician System: Jewett, 1948; Jones, 1945, 1950; Rall and Wright, 1953; Schoewe, 1943.
 Pennsylvanian System: Jones, 1945, 1950; Rall and Wright, 1953; Schoewe, 1943.
 Silurian and Devonian systems: Jones, 1945, 1950; Schoewe, 1943.
 Underground waters: Parker, 1911.
 Water, availability and depth to, map: Corps of Engineers, 1955; Lane and others, 1962; Lohman and Burtis, 1953b; U.S. Geol. Survey, 1955.
- Marshall County**
 Depth to water level, map, table: Walters, 1954.
 Quality of water
 Municipal supplies: Bailey, 1899; Gottlieb, 1928; Haskins and Young, 1915; Kansas State Board of Health, 1940, 1945, 1950, 1956; Mayes and others, 1965; Young, 1911a.
 Permian System: Walters, 1954.
 Pleistocene Series: Walters, 1954.
 Underground waters: Parker, 1911.
- Resources, water**
 Permian System: Walters, 1954.
 Pleistocene Series: Kansas Water Resources Board, 1959b; Walters, 1954.
- McPherson County**
 Brine, oil field, disposal: Landes, 1933a; Wilhelm and Schmidt, 1935.
 Chloride content, Pleistocene deposits, contour map: Wilhelm and Schmidt, 1935.
 Contamination by brine: Wilhelm and Schmidt, 1935.
 Cross sections, Pleistocene deposits: Keplinger and Wannenmacher Engineers, 1954; Lohman, 1942; Lohman and Frve, 1940; Moore, 1940; Williams and Lohman, 1949.
 Depth to water level
 Map: Williams and Lohman, 1949.

Table: Lane and others, 1962; Williams and Lohman, 1949.

Quality of water

Cambrian and Ordovician systems: Jones, 1945, 1950; Schoewe, 1943.

Municipal supplies: Gottlieb, 1928; Haskins and Young, 1915; Kansas State Board of Health, 1940, 1945, 1950, 1956; Mayes and others, 1965; Young, 1911a.

Ordovician System: Jones, 1942, 1945, 1950; Rall and Wright, 1953; Schmidt and Wilhelm, 1941; Schoewe, 1943; Wilhelm and Schmidt, 1935.

Pennsylvanian System: Grandone and Schmidt, 1943; Jewett, 1948; Jones, 1945, 1950; Rall and Wright, 1953; Schoewe, 1943; Wilhelm and Schmidt, 1935.

Permian System: Waterman, 1952(?); Williams and Lohman, 1949.

Pleistocene Series: Haworth, 1897b; Waterman, 1952(?); Wilhelm and Lohman, 1949; Wilhelm and Schmidt, 1935.

Silurian and Devonian systems: Jewett, 1948; Jones, 1945, 1950; Schoewe, 1943.

Underground waters: Parker, 1911.

Resources, water

Cretaceous System: Lohman and Frye, 1940; Williams and Lohman, 1949.

Permian System: Waterman, 1952(?); Williams and Lohman, 1949.

Pleistocene Series: Haworth, 1897b; Lohman, 1942; Lohman and Frye, 1940; Parker, 1911; Waterman, 1952(?); Williams and Lohman, 1949; Wilhelm and Schmidt, 1935.

Pliocene Series: Lohman and Frye, 1940; Williams and Lohman, 1949.

Saturated thickness, isopach map

Equus beds: Black and Veatch, 1952; Keplinger and Wanenmacher Engineers, 1954.

Ground-water aquifers: Kansas Water Resources Board, 1960a.

Pleistocene deposits: Waterman, 1952(?).

Pleistocene and Pliocene deposits: Stramel, 1956.

Water, availability and depth to, map: Corps of Engineers, 1955; Lane and others, 1962; Lohman and Burtis, 1953b; U.S. Geol. Survey, 1955.

Water-table elevation, contour map: Kansas Water Resources Board, 1960a; Lohman and Frye, 1940; Waterman, 1952(?); Williams and Lohman, 1949.

Meade County

Artesian wells, general review: Gregory, 1890.

Cross sections, Pleistocene and Pliocene deposits: Frye, 1940, 1942b; Frye and Fishel, 1949; Kansas Water Resources Board, 1958b; Moore, 1940.

Depth to water level

Map: Fishel, 1947a; Frye, 1942b; Frye and Fishel, 1949; Haworth, 1897a, 1897b; Kansas Water Resources Board, 1958b; Pfister, 1955.

Table: Frye, 1942b.

Ground-water level, reference to land surface, map: Frye, 1940.

Meade artesian basin

Deep-seated solution: Frye, 1950; Frye and Schoff, 1942; St. John, 1887.

History of development: Frye, 1942b.

Occurrence of water: Frye, 1940; Haworth, 1897a, 1897b; Johnson, W. D., 1901; Parker, 1911.

Quality of water

Irrigation water: Naddih, 1960.

Meade artesian valley, bacteriological analysis: Ellithorpe, 1933a, 1933b.

Meade salt sink: Frye, 1942b.

Municipal supplies: Gottlieb, 1928; Haskins and Young, 1915; Kansas State Board of Health, 1940, 1945, 1950, 1956; Mayes and others, 1965.

Permian System: Frye, 1942b.

Pleistocene Series: Frye, 1942b.

Pliocene Series: Frye, 1942b.

Underground waters: Parker, 1911.

Piezometric surface, contour map, Meade County State Park: Frye, 1940.

Resources, water

Permian System: Frye, 1942b.

Pleistocene Series: Frye, 1940, 1942b; Lohman and others, 1942.

Pliocene Series: Frye, 1940, 1942b; Lohman and others, 1942.

Saturated thickness, isopach map

Pleistocene and Ogallala deposits: Frye and Fishel, 1949; Pfister, 1955.

Water-bearing material: Kansas Water Resources Board, 1958b.

Water, availability and depth to, map: Corps of Engineers, 1955; Lohman and Burtis, 1953b; U.S. Geol. Survey, 1955.

Water-table elevation, contour map: Fishel, 1947a; Frye, 1940, 1942b; Frye and Fishel, 1949; Kansas Water Resources Board, 1958b; Pfister, 1955.

Miami County

Cross sections, Pleistocene deposits: Miller, D. E., 1966.

Depth to water level, table: Miller, D. E., 1966.

Quality of water

Cambrian and Ordovician systems: Rall and Wright, 1953.

Pennsylvanian System: Rall and Wright, 1953; Miller, D. E., 1966.

Pleistocene Series: Miller, D. E., 1966.

Underground waters: Parker, 1911.

Resources, water

Pennsylvanian System: Miller, D. E., 1966.

Pleistocene Series: Miller, D. E., 1966.

Source and treatment of water for water flooding: Powell and Eakin, 1953.

Mineral

springs, quality: Peale, 1886.

waters, special report: Bailey and others, 1902.

Mitchell County

Cross sections, Pleistocene deposits: Hodson, 1956, 1959; Leonard, 1952.

Depth to water level

Map: Haworth, 1897b; Hodson, 1956, 1959; Leonard, 1952.

Table: Darton, 1905a; Hodson, 1956, 1959; Leonard, 1952.

Great Spirit Spring: Hay, 1885; Hodson, 1959; Schoewe, 1953; Swineford and Frye, 1955.

Quality of water

Cretaceous System: Hodson, 1956, 1959.

Great Spirit spring, vicinity: Bailey and Rice, 1896; Hodson, 1959; Landes, 1930; Patrick, 1881; Peale, 1886; Schoewe, 1953; Swineford and Frye, 1955.

Municipal supplies: Gottlieb, 1928; Haskins and Young, 1915; Kansas State Board of Health, 1940, 1945, 1950, 1956; Mayes and others, 1965; Young, 1911a.

Pleistocene Series: Hodson, 1956, 1959; Leonard, 1952.

Underground waters: Parker, 1911.

Resources, water

Cretaceous System: Hodson, 1956, 1959; Leonard, 1952.

Pleistocene Series: Hodson, 1956, 1959; Leonard, 1952.

Water-table elevation, contour map: Hodson, 1956, 1959; Kansas Water Resources Board, 1961b; Leonard, 1952.

Montgomery County

Quality of water

Artesian well, Independence: Bailey, 1887a.

Municipal supplies: Schrader and Haworth, 1906.

Ordovician System: Abernathy, 1948; Jewett, 1948.

Pennsylvanian System: Fancher and Barnes, 1936.

Underground waters: Parker, 1911.

Underground water, Independence quadrangle: Schrader, 1908.

Morris County

Quality of water

Municipal supplies: Kansas State Board of Health, 1945, 1950, 1956; Mayes and others, 1965.

Underground waters: Parker, 1911.

Water, availability and depth to, map: Corps of Engineers, 1955; Lohman and Burtis, 1953b; U.S. Geol. Survey, 1955.

Morton County

Artesian wells, general review: Gregory, 1890.

Cross sections

Pleistocene and Pliocene deposits: Kansas Water Resources Board, 1958b.

Pleistocene, Pliocene, and Cretaceous deposits: McLaughlin, 1942.

Depth to water level

Map: Fishel, 1947a; Frye and Fishel, 1949; Haworth, 1897b; Kansas Water Resources Board, 1958b; McLaughlin, 1942; Pfister, 1955.

Table: McLaughlin, 1942.

Quality of water

Cretaceous System: McLaughlin, 1942.

Municipal supplies: Gottlieb, 1928; Kansas State Board of Health, 1945, 1950, 1956; Latta, 1942; Mayes and others, 1965.

Pennsylvanian System: Rall and Wright, 1953.

Pleistocene Series: McLaughlin, 1942.

Pleistocene and Pliocene Series: McLaughlin, 1942.

Triassic(?) System: McLaughlin, 1942.

Underground waters: Parker, 1911.

Resources, water

Cretaceous System: McLaughlin, 1942; Moore, 1940.

Permian System: McLaughlin, 1942; Moore, 1940.

Pleistocene Series: McLaughlin, 1942.

Pliocene Series: Moore, 1940.

Pleistocene and Pliocene series: McLaughlin, 1942.

Triassic(?) System: McLaughlin, 1942; Moore, 1940.

Saturated thickness, isopach map

Pleistocene and Ogallala deposits: Frye and Fishel, 1949; Pfister, 1955.

Water-bearing material: Kansas Water Resources Board, 1958b.

Water, availability and depth to, map: Corps of Engineers, 1955; Lohman and Burtis, 1953b; U.S. Geol. Survey, 1955.

Water-table elevation, contour map: Fishel, 1947a; Frye and Fishel, 1949; Kansas Water Resources Board, 1958b; McLaughlin, 1942; Pfister, 1955.

National defense industries, ground-water supplies available, geographic areas: Lohman and others, 1942.

Nemaha County

Quality of water

Centralia, well: Knerr, 1898.

Iodine content: Kindig, 1932.

Municipal supplies: Gottlieb, 1928; Haskins and Young, 1915; Kansas State Board of Health, 1940, 1945, 1950, 1956; Mayes and others, 1965; Young, 1911a.

Ordovician System: Rall and Wright, 1953.

Silurian and Devonian systems: Rall and Wright, 1953.

Underground waters: Parker, 1911.

Resources, water

Pleistocene Series: Kansas Water Resources Board, 1959b.

Neosho County

Cross sections, Pleistocene deposits: Jungmann, 1966.

Depth to water level, table: Darton, 1905a; Jungmann, 1966.

Quality of water

Manganese content, Chanute: Young, 1909.

Mississippian System: Rall and Wright, 1953.

Municipal supplies: Haskins and Young, 1915.

Pre-Pennsylvanian rocks: Jungmann, 1966.

Pennsylvanian System: Jungmann, 1966.

Pleistocene Series: Jungmann, 1966.

St. Paul, well: Davies, 1898.

Underground waters: Parker, 1911.

Resources, water

Cambrian System: Kansas Water Resources Board, 1961a.

Ordovician System: Kansas Water Resources Board, 1961a.

Pre-Pennsylvanian rocks: Jungmann, 1966.

Pennsylvanian System: Jungmann, 1966.

Pleistocene Series: Jungmann, 1966.

Ness County

Cross section, Pleistocene deposits: Fishel, 1952a.

Depth to water level

Map: Fishel, 1952a; Haworth, 1897b.

Table: Darton, 1905a; Fishel, 1952a.

Quality of water

Cretaceous System: Fishel, 1952a; Moss, 1931, 1932.

Iodine content: Kindig, 1932.

Mississippian System: Rall and Wright, 1953.

Municipal supplies: Gottlieb, 1928; Kansas State Board of Health, 1940, 1945, 1950, 1956; Mayes and others, 1965.

Pennsylvanian System: Rall and Wright, 1953.

Pleistocene Series: Fishel, 1952a.

Pliocene Series: Moss, 1931, 1932.

Underground waters: Parker, 1911.

Resources, water

Cretaceous System: Fishel, 1952a; Moss, 1931, 1932.

Pleistocene Series: Fishel, 1952a; Moss, 1931, 1932.

Pliocene Series: Fishel, 1952a; Moss, 1931, 1932.

Saturated thickness, isopach map

Pleistocene deposits: Fishel, 1952a.

Unconsolidated deposits: Kansas Water Resources Board, 1962b.

Water, availability and depth to, map: Corps of Engineers, 1955; Lohman and Burtis, 1953b; U.S. Geol. Survey, 1955.

Water-table elevation, contour map: Fishel, 1952a.

Neutron probe, use in determining storage coefficient of an unconfined aquifer: Meyer, 1963.

Norton County

Availability of ground water, map: U.S. Dept. Agriculture, 1941b.

Cross sections

Pleistocene and Pliocene deposits: Kansas Water Resources Board, 1960c.

Pliocene deposits: Frye and Leonard, 1949.

Depth to water level

Map: Haworth, 1897b.

Table: Frye and Leonard, 1949; Johnson, C. R., 1957(?).

Quality of water

Cambrian and Ordovician systems: Rall and Wright, 1953.

Cretaceous System: Frye and Leonard, 1949.

Iodine content: Kindig, 1932.

Municipal supplies: Gottlieb, 1928; Haskins and Young, 1915; Kansas State Board of Health, 1940, 1945, 1950, 1956; Mayes and others, 1965; Young, 1911a.

Pleistocene Series: Leonard, 1949.

Pliocene Series: Frye and Leonard, 1949.

Underground waters: Parker, 1911.

Resources, water

Cretaceous System: Frye and Leonard, 1949.

Pleistocene Series: Frye and Leonard, 1949; Johnson, C. R., 1957(?).

Pliocene Series: Frye and Leonard, 1949; Johnson, C. R., 1957(?).

Saturated thickness, isopach map

Ground-water aquifers: Kansas Water Resources Board, 1960c.

Ogallala Formation: Kansas Water Resources Board, 1961b.

Pleistocene deposits: Johnson, C. R., 1957(?).

Water-table elevation, contour map: Frye and Fishel, 1949; Frye and Leonard, 1949; Johnson, C. R., 1957(?); Kansas Water Resources Board, 1960c, 1961b.

Observation wells, ground-water levels in: Brocker and Fishel, 1961, 1962; Brocker and Winslow, 1963, 1964; Fishel and Brocker, 1960; Fishel and Mason, 1957, 1958; Fishel and others, 1959; U.S. Geol. Survey.

Oil area, soil and water resources: Jones, 1938a.

Ordovician waters, iso-con map: Case, 1934; Dott and Ginter, 1930.

Osage County

Depth to water level, table: O'Connor, 1955.

Quality of water

Municipal supplies: Kansas State Board of Health, 1945, 1950, 1956; Mayes and others, 1965.

Overbrook, well: Davies, 1898.

Pennsylvanian System: O'Connor, 1955.

Permian System: O'Connor, 1955.

Pleistocene Series: O'Connor, 1955.

Underground waters: Parker, 1911.

Resources, water

Pennsylvanian System: O'Connor, 1955.

Permian System: O'Connor, 1955.

Pleistocene Series: O'Connor, 1955.

Osborne County

Cross section, Pleistocene deposits: Leonard, 1952.

Depth to water level

Map: Haworth, 1897b; Leonard, 1952.

Table: Darton, 1905a; Leonard, 1952.

Quality of water

Irrigation water: Naddih, 1960.

Municipal supplies: Gottlieb, 1928; Haskins and Young, 1915; Kansas State Board of Health, 1940, 1945, 1950, 1956; Leonard, 1952; Mayes and others, 1965; Young, 1911a.

Pleistocene Series: Leonard, 1952.

Underground waters: Parker, 1911.

Resources, water

Cretaceous System: Leonard, 1952.

Pleistocene Series: Leonard, 1952.

Water-table elevation, contour map: Kansas Water Resources Board, 1961b; Leonard, 1952.

Ottawa County

Cross sections, Pleistocene deposits: Mack, 1959, 1962.

Depth to water level

Map: Mack, 1959, 1962.

Table: Mack, 1962.

Quality of water

Cretaceous System: Mack, 1959, 1962.

Municipal supplies: Gottlieb, 1928; Haskins and Young, 1915; Kansas State Board of Health, 1940, 1945, 1950, 1956; Mayes and others, 1965.

Pleistocene Series: Mack, 1959, 1962.

Underground waters: Parker, 1911.

Piezometric surface, contour map: Mack, 1959, 1962.

Resources, water

Cretaceous System: Mack, 1959, 1962.

Pleistocene Series: Mack, 1959, 1962.

Water-table elevation, contour map: Kansas Water Resources Board, 1961b.

Pawnee County

Cross section, Pleistocene deposits: Fishel, 1952a.

Depth to water level

Map: Fishel, 1952a; Haworth, 1897b; McLaughlin, 1949.

Table: Darton, 1905a; Fishel, 1952a; McLaughlin, 1949.

Quality of water

Cambrian and Ordovician systems: Rall and Wright, 1953.

Cretaceous System: Fishel, 1952a; McLaughlin, 1949.

Iodine content: Kindig, 1932.

Municipal supplies: Gottlieb, 1928; Haskins and Young, 1915; Kansas State Board of Health, 1940, 1945, 1950, 1956; Mayes and others, 1965.

Pennsylvanian System: Rall and Wright, 1953.

Permian System: Fishel, 1952a; McLaughlin, 1949.

Pleistocene Series: Fishel, 1952a; McLaughlin, 1949.

Underground waters: Parker, 1911.

Resources, water

Cretaceous System: Fishel, 1952a; McLaughlin, 1949.

Pleistocene Series: Fishel, 1952a; McLaughlin, 1949.

Saturated thickness, isopach map

Pleistocene deposits: Fishel, 1952a.

Unconsolidated deposits: Kansas Water Resources Board, 1962b.

Water, availability and depth to, map: Corps of Engineers, 1955; Lohman and Burtis, 1953; U.S. Geol. Survey, 1955.

Water-table elevation, contour map: Fishel, 1952a; Kansas Water Resources Board, 1962b; McLaughlin, 1949.

Phillips County

Cross sections

Pleistocene deposits: Leonard, 1952.

Pliocene deposits: Frye and Leonard, 1949.

Depth to water level

Map: Frye and Leonard, 1949; Haworth, 1897b; Leonard, 1952.

Table: Darton, 1905a; Frye and Leonard, 1949; Leonard, 1952.

Ground-water levels, effect of Kirwin Reservoir on: Bedinger and Tanaka, 1962.

Quality of water

Cambrian System: Rall and Wright, 1953.

Cambrian and Ordovician systems: Rall and Wright, 1953.

- Municipal supplies: Gottlieb, 1928; Haskins and Young, 1915; Kansas State Board of Health, 1940, 1945, 1950, 1956; Leonard, 1952; Mayes and others, 1965; Young, 1911a.
- Pennsylvanian System: Rall and Wright, 1953.
- Pleistocene Series: Frye and Leonard, 1949; Leonard, 1952.
- Pliocene Series: Frye and Leonard, 1949.
- Underground waters: Parker, 1911.
- Resources, water
- Cretaceous System: Leonard, 1952.
- Pleistocene Series: Frye and Leonard, 1949; Landes and Keroher, 1942; Leonard, 1952.
- Pliocene Series: Frye and Leonard, 1949; Landes and Keroher, 1942.
- Saturated thickness, isopach map, ground-water aquifers: Kansas Water Resources Board, 1960c.
- Water-table elevation, contour map: Bedinger and Tanaka, 1962; Frye and Leonard, 1949; Kansas Water Resources Board, 1960c, 1961b; Leonard, 1952.
- Pleistocene studies, importance for ground-water investigations: Frye, 1951.
- Pollution, oil field, states responsibility: Jones, 1942; Knapp, 1940; Latta, 1963.
- Pottawatomie County**
- Cross sections, Pleistocene deposits: Beck, 1955a, 1959.
- Depth to water level
- Map: Beck, 1955a, 1959.
- Table: Beck, 1959; Darton, 1905a.
- Quality of water
- Municipal supplies: Gottlieb, 1928; Haskins and Young, 1915; Hopp and Herron, 1915; Kansas State Board of Health, 1940, 1945, 1950, 1956; Mayes and others, 1965; Young, 1911a.
- Pennsylvanian System: Beck, 1955a.
- Permian System: Beck, 1955a.
- Pleistocene Series: Beck, 1955a, 1959.
- Underground waters: Parker, 1911.
- Resources, water
- Pennsylvanian System: Beck, 1955a, 1959.
- Permian System: Beck, 1955a, 1959.
- Pleistocene Series: Beck, 1955a, 1959; Moulthrop, 1963; Smith, J. T., 1959.
- Water-table elevation, contour map: Beck, 1955a, 1959; Kansas Water Resources Board, 1959b.
- Pratt County**
- Depth to water level
- Map: Haworth, 1897b.
- Table: Darton, 1905a.
- Quality of water
- Cambrian System: Rall and Wright, 1953.
- Cambrian and Ordovician systems: Rall and Wright, 1953.
- Iodine content: Kindig, 1932.
- Municipal supplies: Gottlieb, 1928; Haskins and Young, 1915; Kansas State Board of Health, 1940, 1945, 1950, 1956; Mayes and others, 1965.
- Ordovician System: Jones, 1945, 1950; Schoewe, 1943.
- Pennsylvanian System: Jones, 1945, 1950; Rall and Wright, 1953; Schoewe, 1943.
- Underground waters: Parker, 1911.
- Saturated thickness, isopach map, ground-water aquifers: Kansas Water Resources Board, 1960a.
- Water, availability and depth to, map: Corps of Engineers, 1955; Lohman and Burtis, 1953b; U.S. Geol. Surv., 1955.
- Water-table elevation, contour map: Kansas Water Resources Board, 1960a.
- Rawlins County**
- Availability of ground water, map: U.S. Dept. Agriculture, 1941b.
- Cross sections
- Pleistocene and Pliocene deposits: Kansas Water Resources Board, 1960c.
- Pliocene deposits: Walters, 1956.
- Depth to water level
- Map: Haworth, 1897b; Walters, 1956.
- Table: U.S. Dept. Agriculture, 1941b; Walters, 1956.
- Quality of water
- Iodine content: Kindig, 1932.
- Municipal supplies: Gottlieb, 1928; Haskins and Young, 1915; Kansas State Board of Health, 1940, 1945, 1950, 1956; Mayes and others, 1965.
- Pleistocene Series: Walters, 1956.
- Pliocene Series: Walters, 1956.
- Underground waters: Parker, 1911.
- Resources, water
- Cretaceous System: Elias, 1937.
- Pleistocene Series: Elias, 1937; Walters, 1956.
- Pliocene Series: Elias, 1937; Walters, 1956.
- Saturated thickness, isopach map
- Ground-water aquifers: Kansas Water Resources Board, 1960c.
- Quaternary and Tertiary deposits: Walters, 1956.
- Water-table elevation, contour map: Kansas Water Resources Board, 1960c; Walters, 1956.
- Reno County**
- Cross sections, Pleistocene deposits: Bayne, 1956b; Keplinger and Wanenmacher Engineers, 1954; Selm, 1961; Williams, 1946; Williams and Lohman, 1949.
- Depth to water level
- Map: Bayne, 1956b; Haworth, 1897b; Williams and Lohman, 1949.
- Table: Bayne, 1956b; Lane and others, 1962; Selm, 1961; Williams, 1946; Williams and Lohman, 1949.
- Quality of water
- Iodine content: Kindig, 1932.
- Municipal supplies: Gottlieb, 1928; Haskins and Young, 1915; Kansas State Board of Health, 1940, 1945, 1950, 1956; Mayes and others, 1965; Young, 1911a.
- Ordovician System: Jewett, 1948; Jones, 1945, 1950; Rall and Wright, 1953; Schoewe, 1943.
- Pleistocene Series: Bayne, 1956b; Kansas Water Resources Board, 1960a; Selm, 1961; Williams, 1946; Williams and Lohman, 1949.
- Pennsylvanian System: Jewett, 1949; Jones, 1945, 1950; Rall and Wright, 1953; Schoewe, 1943; Wilhelm and others, 1936.
- Permian System: Bayne, 1956b; Kansas Water Resources Board, 1960a.
- Silurian and Devonian systems: Rall and Wright, 1953.
- Underground waters: Parker, 1911.
- Resources, water
- Permian System: Bayne, 1956b; Williams and Lohman, 1949.
- Pleistocene Series: Bayne, 1956b; Foley and others, 1955; Lohman, 1942; Lohman and Frye, 1940; Selm, 1961; Williams, 1946; Williams and Lohman, 1949.
- Saturated thickness, isopach map
- Equus beds: Black and Veatch, 1952; Keplinger and Wanenmacher Engineers, 1954.
- Ground-water aquifers: Kansas Water Resources Board, 1960a.

Pleistocene deposits: Bayne, 1956b.

Pleistocene and Pliocene deposits: Stramel, 1956.

Water, availability and depth to, map: Corps of Engineers, 1955; Lane and others, 1962; Lohman and Burtis, 1953b; U.S. Geol. Survey, 1955.

Water-table elevation, contour map: Bayne, 1956b; Kansas Water Resources Board, 1960a; Lohman and Frye, 1940; Moore, 1940; Selm, 1961; Williams, 1946; Williams and Lohman, 1949.

Republic County

Cross sections, Pleistocene deposits: Fishel, 1948b; Kansas Water Resources Board, 1961c.

Depth to water level, table: Darton, 1905a; Fishel, 1948b.

Quality of water

Cretaceous System: Fishel, 1948b.

Municipal supplies: Gottlieb, 1928; Haskins and Young, 1915; Kansas State Board of Health, 1940, 1945, 1950, 1956; Mayes and others, 1965; Young, 1911a.

Pleistocene Series: Fishel, 1948b.

Underground waters: Parker, 1911.

Resources, water

Cretaceous System: Fishel, 1948b; Wing, 1930.

Pleistocene Series: Fishel, 1948b; Kansas Water Resources Board, 1961c; Wing, 1930.

Pliocene Series: Wing, 1930.

Water-table elevation, contour map: Fishel, 1948b; Kansas Water Resources Board, 1961c.

Republican Basin, upper, water facilities area plan: U.S. Dept. Agriculture, 1941b.

Rice County

Contamination, resistivity survey: O'Connor and Bayne, 1959.

Cross section, Pleistocene deposits: Fent, 1950.

Depth to water level

Map: Fent, 1950; Haworth, 1897b.

Table: Darton, 1905a; Fent, 1950.

Quality of water

Cambrian System: Rall and Wright, 1953.

Cambrian and Ordovician systems: Crum and Gottlieb, 1935; Grandone and Schmidt, 1943; Jewett, 1948; Jones, 1942, 1945, 1950; Rall and Wright, 1953; Schmidt and Wilhelm, 1941; Schoewe, 1943; Taylor and others, 1939; Wilhelm and others, 1936.

Cretaceous System: Crum and Gottlieb, 1935; Fent, 1950; Kansas Water Resources Board, 1960a.

Iodine content: Kindig, 1932.

Municipal supplies: Haskins and Young, 1915; Kansas State Board of Health, 1940, 1945, 1950, 1956; Mayes and others, 1965; Young, 1911a.

Ordovician System: Crum and Gottlieb, 1935.

Pennsylvanian System: Crum and Gottlieb, 1935; Jewett, 1948; Jones, 1945, 1950; Rall and Wright, 1953; Schoewe, 1943; Taylor and others, 1939; Wilhelm and others, 1936.

Permian System: Crum and Gottlieb, 1935.

Pleistocene Series: Fent, 1950.

Underground waters: Parker, 1911.

Resources, water

Cretaceous System: Fent, 1950; O'Connor and Bayne, 1959.

Pleistocene Series: Fent, 1950; O'Connor and Bayne, 1959.

Permian System: Fent, 1950.

Saturated thickness, isopach map

Ground-water aquifers: Kansas Water Resources Board, 1960a.

Tertiary and Quaternary deposits: Fent, 1950.

Water, availability and depth to, map: Corps of Engineers, 1955; Lohman and Burtis, 1953b; U.S. Geol. Survey, 1955.

Water-table elevation, contour map: Fent, 1950; Kansas Water Resources Board, 1960a.

Riley County

Quality of water

Bacteriological analysis, rural schools water supplies: Green, 1949; Green and Garvey, 1949.

Municipal supplies: Gottlieb, 1928; Haskins and Young, 1915; Kansas State Board of Health, 1940, 1945, 1950, 1956; Mayes and others, 1965; Young, 1911a.

Pleistocene Series: Smith, J. T., 1959.

Underground waters: Parker, 1911.

Resources, water

Permian System: Jewett, 1941; Kansas Water Resources Board, 1959b.

Pleistocene Series: Moulthrop, 1963; Smith, J. T., 1959.

Rooks County

Depth to water level

Map: Haworth, 1897b.

Table: Darton, 1905a.

Quality of water

Cambrian System: Rall and Wright, 1953.

Cambrian and Ordovician systems: Rall and Wright, 1953.

Cretaceous System: Schmidt and Marsi, 1961.

Municipal supplies: Gottlieb, 1928; Haskins and Young, 1915; Kansas State Board of Health, 1940, 1945, 1950, 1956; Mayes and others, 1965; Young, 1911a.

Pennsylvanian System: Rall and Wright, 1953.

Pleistocene Series: Schmidt and Marsi, 1961.

Pliocene Series: Schmidt and Marsi, 1961.

Underground waters: Parker, 1911.

Rush County

Depth to water level

Map: Haworth, 1897b.

Table: Darton, 1905a; Leonard and Berry, 1961.

Quality of water

Cambrian and Ordovician systems: Rall and Wright, 1953.

Cretaceous System: Leonard and Berry, 1961.

Municipal supplies: Gottlieb, 1928; Kansas State Board of Health, 1940, 1945, 1950, 1956; Mayes and others, 1965.

Pennsylvanian System: Rall and Wright, 1953.

Underground waters: Parker, 1911.

Resources, water

Cretaceous System: Leonard and Berry, 1961.

Pleistocene Series: Leonard and Berry, 1961.

Water, availability and depth to, map: Corps of Engineers, 1955; Lohman and Burtis, 1953b; U.S. Geol. Survey, 1955.

Russell County

Depth to water level

Map: Frye and Brazil, 1943; Haworth, 1897b.

Table: Darton, 1905a; Frye and Brazil, 1943; Latta, 1948b.

Quality of water

Cambrian System: Rall and Wright, 1953.

Cambrian and Ordovician systems: Jewett, 1948; Jones, 1945, 1950; Rall and Wright, 1953; Runyon, 1936; Runyon and Rankin, 1937, 1940; Schoewe, 1943.

- Cretaceous System: Frye and Brazil, 1943; Haworth, 1897b; Runyon, 1936; Runyon and Rankin, 1937, 1940; Swineford and Williams, 1945.
- Manganese content, Lucas: Young, 1909.
- Mineral constituents in solution, relationship to streamflow, Russell: Durum, 1953.
- Municipal supplies: Gottlieb, 1928; Haskins and Young, 1915; Kansas State Board of Health, 1940, 1945, 1950, 1956; Mayes and others, 1965; Young, 1911a.
- Pennsylvanian System: Jewett, 1948; Jones, 1945, 1950; Grandone and Schmidt, 1943; Rall and Wright, 1953; Runyon, 1936; Runyon and Rankin, 1937, 1940; Schoewe, 1943; Taylor and others, 1939.
- Permian System: Swineford and Williams, 1945.
- Pleistocene Series: Frye and Brazil, 1943; Swineford and Williams, 1945.
- Pliocene Series: Frye and Brazil, 1943.
- Underground waters: Parker, 1911.
- Resources, water**
- Cretaceous System: Frye and Brazil, 1943.
- Permian System: Frye and Brazil, 1943.
- Pleistocene Series: Frye and Brazil, 1943; Latta, 1948b.
- Pliocene Series: Frye and Brazil, 1943.
- Saline County**
- Cross sections, Pleistocene deposits: Kansas Water Resources Board, 1962c; Latta, 1949.
- Depth to water level, table: Latta, 1949; Waterman, 1952(?).
- Quality of water
- Iodine content: Kindig, 1932.
- Municipal supplies: Gottlieb, 1928; Haskins and Young, 1915; Kansas State Board of Health, 1940, 1945, 1950, 1956; Mayes and others, 1965.
- Permian Series: Waterman, 1952(?).
- Pleistocene Series: Latta, 1949; Waterman, 1952(?).
- Underground waters: Parker, 1911.
- Resources, water**
- Cretaceous System: Latta, 1949; Waterman, 1952(?).
- Permian System: Latta, 1949.
- Pleistocene Series: Latta, 1949; Waterman, 1952(?).
- Saturated thickness: Waterman, 1952(?).
- Water-table elevation, contour map: Waterman, 1952(?).
- Scott County**
- Cross sections**
- Pleistocene and Pliocene deposits: Bradley and Johnson, 1957; Frye and Fishel, 1949; Waite, 1947.
- Scott County Basin: Bird, 1942.
- Depletion of flow in Smoky Hill River due to well pumping, estimating: U.S. Bureau Reclamation, 1960.
- Depth to water level
- Map: Bradley and Johnson, 1957; Frye and Fishel, 1949; Haworth, 1897b; Moss, 1933; Pfister, 1955; Waite, 1947.
- Table: Bradley and Johnson, 1957; Waite, 1947.
- Ground-water levels, nine-year decline, factors producing: Waite, 1941.
- Irrigation, effect on ground-water levels: McCall, 1944.
- Quality of water**
- Cretaceous System: Waite, 1947.
- Mississippian System: Rall and Wright, 1953.
- Municipal supplies: Gottlieb, 1928; Haskins and Young, 1915; Kansas State Board of Health, 1940, 1945, 1950, 1956; Mayes and others, 1965.
- Pennsylvanian System: Rall and Wright, 1953.
- Pleistocene Series: Bradley and Johnson, 1957; Waite, 1947.
- Pliocene Series: Bradley and Johnson, 1957; Waite, 1947.
- Underground waters: Parker, 1911.
- Resources, water**
- Cretaceous System: Bradley and Johnson, 1957; Waite, 1947.
- Pleistocene Series: Bradley and Johnson, 1957; Waite, 1947.
- Pliocene Series: Bradley and Johnson, 1957; Lohman and others, 1942; Moore, 1940; Moss, 1933.
- Scott County Basin: Bird, 1942.
- Saturated thickness, isopach map
- Ogallala Formation: Kansas Water Resources Board, 1962c.
- Pleistocene and Ogallala deposits: Frye and Fishel, 1949; Pfister, 1955.
- Pleistocene and Pliocene deposits: Bradley and Johnson, 1957.
- Tertiary and Quaternary deposits: Waite, 1947.
- Unconsolidated deposits: Kansas Water Resources Board, 1962b.
- Water, availability, and depth to, map: Corps of Engineers, 1955; Lohman and Burtis, 1953b; U.S. Geol. Survey, 1955.
- Water level, change, contour map: Kansas Water Resources Board, 1962b.
- Water-table elevation, contour map: Bradley and Johnson, 1957; Frye and Fishel, 1949; Kansas Water Resources Board, 1962b; Moss, 1933; Pfister, 1955; Waite, 1947.
- White Woman Creek, ground-water recharge possibilities: Barrett, 1961.
- Sedgwick County**
- Chloride survey, Wichita: Jones, 1938b.
- Contamination by brine: Petri and others, 1964.
- Cross sections**
- Pleistocene deposits: Foley and others, 1955; Kepingler and Wanenmacher Engineers, 1954; Williams and Lohman, 1949; Lane and Miller, 1965.
- Pleistocene and Pliocene(?) deposits: Petri and others, 1964.
- Depth to water level
- Map: Stramel, 1956; Williams and Lohman, 1949.
- Table: Lane and others, 1962; Lane and Miller, 1965; Williams and Lohman, 1949.
- Quality of water**
- Iodine content: Kindig, 1932.
- Mississippian System: Rall and Wright, 1953.
- Municipal supplies: Gottlieb, 1928; Haskins and Young, 1915; Kansas State Board of Health, 1940, 1945, 1950, 1956; Mayes and others, 1965; Young, 1911a.
- Ordovician System: Jewett, 1948; Jones, 1942, 1945, 1950; Rall and Wright, 1953; Schmidt and Wilhelm, 1941; Schoewe, 1943.
- Pennsylvanian System: Jones, 1942, 1945, 1950; Rall and Wright, 1953; Schmidt and Wilhelm, 1941; Schoewe, 1943.
- Permian System: Wilhelm and Schmidt, 1935; Lane and Miller, 1965.
- Pleistocene Series: Lane and Miller, 1965; Lawrence, 1940; Meinzer, 1914; Wichita, 1940; Williams and Lohman, 1949.
- Pliocene Series: Lane and Miller, 1965.
- Unconsolidated deposits: Petri and others, 1964.
- Underground waters: Parker, 1911.

Resources, water

Permian System: Petri and others, 1964; Williams and Lohman, 1949; Lane and Miller, 1965.

Pleistocene Series: Black and Veatch, 1952; Foley and others, 1955; Kansas Water Resources Board, 1960a; Lane and Miller, 1965; Lawrence, 1940; Lohman, 1942; Lohman and Frye, 1940; Meinzer, 1914; Miller, 1959; Stramel, 1956; Williams and Lohman, 1949.

Pliocene(?) Series: Petri and others, 1964.

Saturated thickness, isopach map

Equus beds: Black and Veatch, 1952; Keplinger and Wanenmacher Engineers, 1954.

Ground-water aquifers: Kansas Water Resources Board, 1960a.

Pleistocene deposits: Lane and Miller, 1965.

Pleistocene and Pliocene deposits: Stramel, 1956.

Unconsolidated deposits: Petri and others, 1964.

Water-table elevation, contour map: Lane and Miller, 1965.

Water, availability and depth to, map: Corps of Engineers, 1955; Lane and others, 1962; Lohman and Burtis, 1953b; U.S. Geol. Survey, 1955.

Water-table elevation, contour map: Kansas Water Resources Board, 1960a; Lohman and Frye, 1940; Moore, 1940; Petri and others, 1964; Stramel, 1956; Williams and Lohman, 1947, 1949.

Wichita well field, change in water level, contour map: Black and Veatch, 1952; Broeker and Fishel, 1961, 1962; Broeker and Winslow, 1963, 1964; Fishel and Broeker, 1960; Fishel and Mason, 1957, 1958; Fishel and others, 1959; Foley and others, 1955; Hess, 1952; House, 1955; Kansas Water Resources Board, 1960a; Keplinger and Wanenmacher Engineers, 1954; Petri and others, 1964; Stramel, 1956; Wichita, 1940; Wichita Mayor's Advisory Committee, 1956; Williams and Lohman, 1949.

Wichita well field water supply, methods of estimating: Williams and Lohman, 1947.

Seward County

Artesian wells, general review: Gregory, 1890.

Cross section, Pleistocene and Pliocene deposits: Kansas Water Resources Board, 1958b.

Depth to water level

Map: Byrne and McLaughlin, 1947; Fishel, 1947a; Frye and Fishel, 1949; Haworth, 1897a, 1897b; Kansas Water Resources Board, 1958b; Pfister, 1955.

Table: Byrne and McLaughlin, 1947; Darton, 1905a.

Fence diagram, Pleistocene and Pliocene deposits: Byrne and McLaughlin, 1947.

Quality of water

Iodine content: Kindig, 1932.

Municipal supplies: Gottlieb, 1928; Haskins and Young, 1915; Kansas State Board of Health, 1940, 1945, 1950, 1956; Mayes and others, 1965; Young, 1911a.

Pennsylvanian System: Rall and Wright, 1953.

Underground waters: Parker, 1911.

Resources, water

Pleistocene Series: Byrne and McLaughlin, 1947.

Pliocene Series: Byrne and McLaughlin, 1947.

Saturated thickness, isopach map

Pleistocene and Ogallala deposits: Frye and Fishel, 1949; Pfister, 1955.

Water-bearing material: Kansas Water Resources Board, 1958b.

Water, availability and depth to, map: Corps of Engineers, 1955; Lohman and Burtis, 1953b; U.S. Geol. Survey, 1955.

Water-table elevation, contour map: Byrne and McLaughlin, 1947; Fishel, 1947a; Frye and Fishel, 1949; Kansas Water Resources Board, 1958b; Pfister, 1955.

Shawnee County

Aquifer test, Pleistocene deposits, Topeka: U.S. Geol. Survey, 1958.

Cross sections, Pleistocene deposits: Beck, 1955a, 1959; Davis, 1951; Davis and Carlson, 1952.

Depth to water level

Map: Beck, 1955a, 1959; Davis, 1951; Davis and Carlson, 1952.

Table: Beck, 1959; Davis, 1951; Davis and Carlson, 1952.

Quality of water

Municipal supplies: Haskins and Young, 1915; Kansas State Board of Health, 1950, 1956; Mayes and others, 1965; Young, 1911a.

Nitrate content, Tecumseh: Young, 1911b.

Pennsylvanian System: Beck, 1955a; Davis and Carlson, 1952.

Permian System: Beck, 1955a.

Pleistocene Series: Beck, 1955a, 1959; Davis, 1951; Davis and Carlson, 1952; Merriam, 1954.

Underground waters: Parker, 1911.

Resources, water

Pennsylvanian System: Beck, 1955a, 1959; Davis and Carlson, 1952.

Permian System: Beck, 1955a, 1959.

Pleistocene Series: Beck, 1955a, 1959; Davis, 1951; Davis and Carlson, 1952.

Sheridan County

Cross section, Pleistocene and Pliocene deposits: Bayne, 1956a.

Depletion of flow in North Solomon River due to well pumping, estimating: U.S. Bureau Reclamation, 1960.

Depth to water level

Map: Bayne, 1956a; Haworth, 1897b.

Table: Bayne, 1956a.

Quality of water

Municipal supplies: Gottlieb, 1928; Kansas State Board of Health, 1940, 1945, 1950, 1956; Mayes and others, 1965.

Pennsylvanian System: Rall and Wright, 1953.

Pleistocene Series: Bayne, 1956a.

Underground waters: Parker, 1911.

Resources, water

Pleistocene Series: Bayne, 1956a.

Pliocene Series: Bayne, 1956a.

Saturated thickness, isopach map

Ground-water aquifers: Kansas Water Resources Board, 1960c.

Ogallala Formation: Kansas Water Resources Board, 1961b.

Tertiary and Quaternary deposits: Bayne, 1956a.

Water-table elevation, contour map: Bayne, 1956a; Kansas Water Resources Board, 1960c, 1961b.

Sherman County

Availability of ground water, map: U.S. Dept. Agriculture, 1941b.

Cross sections, Pliocene deposits: Kansas Water Resources Board, 1960c; Prescott, 1953b.

Depth to water level

Map: Haworth, 1897b; Prescott, 1953b.

Table: Newell, 1895; Prescott, 1953b; U.S. Dept. Agriculture, 1941b.

Quality of Water

Municipal supplies: Gottlieb, 1928; Haskins and

- Young, 1915; Kansas State Board of Health, 1940, 1945, 1950, 1956; Mayes and others, 1965; Young, 1911a.
 Pleistocene Series: Prescott, 1953b.
 Pliocene Series: Prescott, 1953b.
 Underground waters: Parker, 1911.
- Resources, water**
 Cretaceous System: Prescott, 1953b.
 Pleistocene Series: Hay, 1895; Prescott, 1953b.
 Pliocene Series: Hay, 1895; Prescott, 1953b.
- Saturated thickness, isopach map**
 Ground-water aquifers: Kansas Water Resources Board, 1960c.
 Ogallala Formation: Kansas Water Resources Board, 1962c.
 Tertiary and Quaternary deposits: Prescott, 1953b.
- Water-table elevation, contour map:** Kansas Water Resources Board, 1960c; Prescott, 1953b.
- Smith County**
 Cross section, Pleistocene deposits: Leonard, 1952.
 Depth to water level
 Map: Haworth, 1897b; Leonard, 1952.
 Table: Darton, 1905a; Leonard, 1952.
 Quality of water
 Municipal supplies: Gottlieb, 1928; Haskins and Young, 1915; Kansas State Board of Health, 1940, 1945, 1950, 1956; Leonard, 1952; Mayes and others, 1965; Young, 1911a.
 Pleistocene Series: Leonard, 1952.
 Underground waters: Parker, 1911.
- Resources, water**
 Cretaceous System: Leonard, 1952.
 Pleistocene Series: Leonard, 1952.
- Water-table elevation, contour map:** Kansas Water Resources Board, 1961b; Leonard, 1952.
- Springs, classification of best known:** Schoewe, 1953.
- Stafford County**
 Cross section, Pleistocene deposits: Latta, 1950.
 Depth to water level
 Map: Haworth, 1897b; Latta, 1950.
 Table: Latta, 1950.
 Quality of water
 Cambrian and Ordovician systems: Jewett, 1948; Jones, 1950; Rall and Wright, 1953; Schoewe, 1943; Wilhelm and others, 1936.
 Cretaceous System: Latta, 1950.
 Municipal supplies: Gottlieb, 1928; Haskins and Young, 1915; Kansas State Board of Health, 1940, 1945, 1950, 1956; Mayes and others, 1965; Young, 1911a.
 Ordovician System: Jones, 1945, 1950; Rall and Wright, 1953; Schoewe, 1943.
 Pennsylvanian System: Rall and Wright, 1953.
 Pleistocene Series: Kansas Water Resources Board, 1960a; Latta, 1950.
 Underground waters: Parker, 1911.
- Resources, water**
 Cretaceous System: Latta, 1950.
 Pleistocene Series: Latta, 1950.
- Saturated thickness, isopach map**
 Ground-water aquifers: Kansas Water Resources Board, 1960a.
 Post-Cretaceous deposits: Latta, 1950.
- Water, availability and depth to, map:** Corps of Engineers, 1955; Lohman and Burtis, 1953b; U.S. Geol. Survey, 1955.
- Water-table elevation, contour map:** Kansas Water Resources Board, 1960a; Latta, 1950.
- Stanton County**
 Cross sections
 Cretaceous, Pleistocene, and Neogene deposits: Nuzman and Meyer, 1965; Winslow and others, 1964.
 Pleistocene and Pliocene deposits: Frye and Fishel, 1949; Kansas Water Resources Board, 1958b; Latta, 1941.
 Pliocene deposits: Fader and others, 1964.
 Depth to water level
 Map: Fishel, 1947a; Frye and Fishel, 1949; Haworth, 1897b; Kansas Water Resources Board, 1958b; Latta, 1941; Nuzman and Meyer, 1965; Pfister, 1955.
 Table: Darton, 1905a; Fader and others, 1964; Latta, 1941.
 Quality of water
 Cretaceous System: Fader and others, 1964; Latta, 1941.
 Municipal supplies: Kansas State Board of Health, 1940, 1945, 1950, 1956; Mayes and others, 1965.
 Pleistocene Series: Fader and others, 1964.
 Pliocene Series: Fader and others, 1964; Latta, 1941.
 Triassic System: Fader and others, 1964.
 Underground waters: Parker, 1911.
- Resources, water**
 Cretaceous System: Darton, 1920; Fader and others, 1964; Latta, 1941; Moore, 1940.
 Pleistocene Series: Fader and others, 1964; Latta, 1941; Lohman and others, 1942.
 Pliocene Series: Darton, 1920; Fader and others, 1964; Latta, 1941; Lohman and others, 1942; Moore, 1940.
 Triassic(?) System: Fader and others, 1964; Moore, 1940.
- Saturated thickness, isopach map**
 Neogene deposits: Fader and others, 1964.
 Pleistocene and Ogallala deposits: Frye and Fishel, 1949; Pfister, 1955.
 Water-bearing material: Kansas Water Resources Board, 1958b.
- Water, availability and depth to, map:** Corps of Engineers, 1955; Lohman and Burtis, 1953b; U.S. Geol. Survey, 1955.
- Water-level change, contour map:** Broecker and Fishel, 1962; Fader and others, 1964; Kansas Water Resources Board, 1958b; Nuzman and Meyer, 1965; Winslow and others, 1964.
- Water-table elevation, contour map:** Fishel, 1947a; Frye and Fishel, 1949; Kansas Water Resources Board, 1958b; Latta, 1941; Nuzman and Meyer, 1965; Pfister, 1955; Winslow and others, 1964.
- Stevens County**
 Cross sections, Pleistocene and Pliocene deposits: Frye and Fishel, 1949; Kansas Water Resources Board, 1958b.
 Depth to water level
 Map: Fishel, 1947a; Frye and Fishel, 1949; Haworth, 1897b; Kansas Water Resources Board, 1958b; McLaughlin, 1946; Pfister, 1955.
 Table: McLaughlin, 1946.
 Fence diagram, Pleistocene and Pliocene deposits: McLaughlin, 1946.
 Quality of water
 Municipal supplies: Gottlieb, 1928; Kansas State Board of Health, 1940, 1945, 1950, 1956; Mayes and others, 1965.
 Pleistocene Series: McLaughlin, 1946.
 Underground waters: Parker, 1911.

Resources, water

Pleistocene Series: McLaughlin, 1946.

Pliocene Series: McLaughlin, 1946.

Saturated thickness, isopach map

Pleistocene and Ogallala deposits: Frye and Fishel, 1949; Pfister, 1955.

Water-bearing material: Kansas Water Resources Board, 1958b.

Water, availability and depth to, map: Corps of Engineers, 1955; Lohman and Burtis, 1953b; U.S. Geol. Survey, 1955.

Water-table elevation, contour map: Fishel, 1947a; Frye and Fishel, 1949; Kansas Water Resources Board, 1958b; McLaughlin, 1946; Pfister, 1955.

Storage coefficient of unconfined aquifer, determination of: Meyer, 1963.

Sumner County

Cross section, Pleistocene deposits: Walters, 1961.

Depth to water level

Map: Walters, 1961.

Table: Lane and others, 1962; Walters, 1961.

Quality of water

Conway, well: Failyer and Breese, 1889.

Municipal supplies: Gottlieb, 1928; Haskins and Young, 1915; Kansas State Board of Health, 1940, 1945, 1950, 1956; Mayes and others, 1965; Young, 1911a.

Ordovician System: Jones, 1945, 1950; Schoewe, 1943.

Pennsylvanian System: Jewett, 1948; Jones, 1945, 1950; Schoewe, 1943.

Permian System: Kansas Water Resources Board, 1960a; Walters, 1961.

Pleistocene Series: Kansas Water Resources Board, 1960a; Walters, 1961.

Underground waters: Parker, 1911.

Resources, water

Permian System: Walters, 1961.

Pleistocene Series: Lohman, 1942; Walters, 1961.

Saturated thickness, isopach map, ground-water aquifers: Kansas Water Resources Board, 1960a.

Water, availability and depth to, map: Corps of Engineers, 1955; Lane and others, 1962; Lohman and Burtis, 1953b; U.S. Geol. Survey, 1955.

Water-table elevation, contour map: Kansas Water Resources Board, 1960a; Walters, 1961.

Thomas County

Availability of ground water, map: U.S. Dept. Agriculture, 1941b.

Cross sections

Pleistocene and Pliocene deposits: Kansas Water Resources Board, 1960c.

Pliocene deposits: Frye, 1945.

Depth to water level

Map: Frye, 1945; Haworth, 1897b.

Table: Frye, 1945; U.S. Dept. Agriculture, 1941b.

Quality of water

Irrigation water: Naddih, 1960.

Municipal supplies: Gottlieb, 1928; Haskins and Young, 1915; Kansas State Board of Health, 1940, 1945, 1950, 1956; Mayes and others, 1965.

Pleistocene and Pliocene Series: Frye, 1945.

Pliocene Series: Frye, 1945.

Underground waters: Parker, 1911.

Resources, water

Pleistocene Series: Frye, 1945.

Pliocene Series: Frye, 1945.

Saturated thickness, isopach map

Ground-water aquifers: Kansas Water Resources Board, 1960c.

Ogallala Formation: Kansas Water Resources Board, 1961b.

Water-table elevation, contour map: Frye, 1945; Kansas Water Resources Board, 1960c, 1961b.

Trego County**Cross sections**

Pleistocene deposits: Leonard and Berry, 1961; Hodson, 1965.

Pleistocene and Pliocene deposits: Hodson, 1965.

Depth to water level

Map: Haworth, 1897b; Hodson, 1965; Leonard and Berry, 1961.

Table: Darton, 1905a; Hodson, 1965; Leonard and Berry, 1961.

Quality of water

Cambrian and Ordovician systems: Rall and Wright, 1953.

Cretaceous System: Hodson, 1965.

Municipal supplies: Gottlieb, 1928; Haskins and Young, 1915; Kansas State Board of Health, 1940, 1945, 1950, 1956; Mayes and others, 1965.

Pennsylvanian System: Rall and Wright, 1953; Runyon, 1936; Runyon and Rankin, 1937, 1940.

Pleistocene Series: Hodson, 1965; Leonard and Berry, 1961.

Pliocene Series: Hodson, 1965.

Underground waters: Parker, 1911.

Resources, water

Cretaceous System: Hodson, 1965; Leonard and Berry, 1961.

Pleistocene Series: Hodson, 1965; Leonard and Berry, 1961.

Pliocene Series: Hodson, 1965.

Water-table elevation, contour map: Leonard and Berry, 1961; Hodson, 1965.

Underflow investigations, western Kansas: Follett, 1892; Nettleton, 1891; Schlichter, 1906; Walcott, 1905; Wil-liston, 1895.

Unglaciaded central region

Productive aquifers, map: Fishel, 1963.

Storage facilities: Thomas, 1952.

Water resources: Fishel, 1963.

Underground waters, pollution: Crumline, 1909.

Wabaunsee County

Cross sections, Pleistocene deposits: Beck, 1955a, 1959.

Depth to water level

Map: Beck, 1955a, 1959.

Table: Beck, 1959; Darton, 1905a.

Quality of water

Municipal supplies: Gottlieb, 1928; Kansas State Board of Health, 1945, 1950, 1956; Mayes and others, 1965.

Ordovician System: Rall and Wright, 1953.

Pennsylvanian System: Beck, 1955a.

Permian System: Beck, 1955a.

Pleistocene Series: Beck, 1955a, 1959.

Underground waters: Parker, 1911.

Resources, water

Pennsylvanian System: Beck, 1955a, 1959.

Permian System: Beck, 1955a, 1959.

Pleistocene Series: Beck, 1955a, 1959; Smith, J. T., 1959.

Water-table elevation, contour map: Beck, 1955a, 1959; Kansas Water Resources Board, 1959b.

Wallace County

Cross sections

Pleistocene and Pliocene deposits: Bradley and Johnson, 1957; Kansas Water Resources Board, 1962c.

Pliocene deposits: Hodson, 1963.

Depth to water level

Map: Bradley and Johnson, 1957; Haworth, 1897b.

Table: Bradley and Johnson, 1957; Hodson, 1963; Newell, 1895.

Quality of water

Irrigation water: Naddih, 1960.

Municipal supplies: Gottlieb, 1928; Haskins and Young, 1915; Kansas State Board of Health, 1940, 1945, 1950, 1956; Mayes and others, 1965.

Pleistocene Series: Bradley and Johnson, 1957; Hodson, 1963.

Pliocene Series: Bradley and Johnson, 1957; Hodson, 1963.

Underground waters: Parker, 1911.

Resources, water

Cretaceous System: Bradley and Johnson, 1957.

Pleistocene Series: Bradley and Johnson, 1957; Hay, 1895; Hodson, 1963.

Pliocene Series: Bradley and Johnson, 1957; Hay, 1895; Hodson, 1963.

Saturated thickness, isopach map

Ogallala Formation: Kansas Water Resources Board, 1962c.

Pleistocene and Pliocene deposits: Bradley and Johnson, 1957; Hodson, 1963.

Sharon Springs, subsidence near: Moore, 1926a, 1926b.

Water-table elevation, contour map: Bradley and Johnson, 1957; Hodson, 1963.

War-time industries, ground-water supplies for: Frye, 1942a.

Washington County

Quality of water

Manganese content, Barnes: Young, 1909.

Municipal supplies: Haskins and Young, 1915; Kansas State Board of Health, 1940, 1945, 1950, 1956; Mayes and others, 1965; Young, 1911a.

Underground waters: Parker, 1911.

Resources, water

Pleistocene Series: Kansas Water Resources Board, 1959b.

Saturated thickness, isopach map, Pleistocene: Walters and Bayne, 1955.

Water-table elevation, contour map: Walters and Bayne, 1955.

Water flooding, Kansas, geology of: Jewett, 1948.

Water problems, Kansas, preliminary appraisal: Kansas Water Resources Board, 1958a-1962c.

Well waters, Kansas, Special report: Haworth, 1913.

Wichita County

Cross sections

Pleistocene and Pliocene deposits: Bradley and Johnson, 1957; Frye and Fishel, 1949.

Pliocene deposits: Prescott and others, 1954.

Depth to water level

Map: Bradley and Johnson, 1957; Frye and Fishel, 1957; Haworth, 1897b; Pfister, 1955; Prescott and others, 1954.

Table: Bradley and Johnson, 1957; Prescott and others, 1954.

Quality of water

Municipal supplies: Kansas State Board of Health, 1945, 1950, 1956; Mayes and others, 1965.

Pleistocene Series: Bradley and Johnson, 1957.

Pliocene Series: Bradley and Johnson, 1957; Prescott and others, 1954.

Underground waters: Parker, 1911.

Resources, water

Cretaceous System: Bradley and Johnson, 1957.

Pleistocene Series: Bradley and Johnson, 1957.

Pliocene Series: Bradley and Johnson, 1957; Prescott and others, 1954.

Saturated thickness, isopach map

Ogallala Formation: Kansas Water Resources Board, 1962c.

Pleistocene and Ogallala deposits: Frye and Fishel, 1949; Pfister, 1955.

Pleistocene and Pliocene deposits: Bradley and Johnson, 1957; Prescott and others, 1954.

Pliocene deposits: Kansas Water Resources Board, 1962c.

Unconsolidated deposits: Kansas Water Resources Board, 1962b.

Water, availability and depth to, map: Corps of Engineers, 1955; Lohman and Burtis, 1953b; U.S. Geol. Survey, 1955.

Water-table elevation, contour map: Bradley and Johnson, 1957; Frye and Fishel, 1949; Kansas Water Resources Board, 1962b; Moss, 1933; Pfister, 1955; Prescott and others, 1954.

Wichita well field. See Harvey and Sedgwick counties.

Wilson County

Quality of water

Fredonia, well: Davies, 1898.

Underground waters: Parker, 1911.

Underground waters: Schrader, 1908.

Woodson County

Depth to water level, table: Darton, 1905a.

Quality of water

Mississippian System: Jewett, 1948; Jones, 1945, 1950; Schoewe, 1943.

Municipal supplies: Kansas State Board of Health, 1940, 1945, 1950, 1956.

Underground waters: Parker, 1911.

Wyandotte County

Cross sections, Pleistocene deposits: Dufford, 1953, 1958; Fishel, 1948a; Fishel and others, 1953.

Depth to water level

Map: Dufford, 1953, 1958.

Table: Dufford, 1953, 1958; Fishel, 1948a.

Quality of water

Municipal supplies: Haskins and Young, 1915; Young, 1911a.

Pleistocene Series: Dufford, 1953, 1958; Fishel, 1948a; Fishel and others, 1953.

Underground waters: Parker, 1911.

Resources, water

Pennsylvanian System: Dufford, 1958; Fishel, 1948a.

Pleistocene Series: Dufford, 1953, 1958; Fishel, 1948a; Fishel and others, 1953; Kansas Water Resources Board, 1962a.

Saturated thickness, isopach map, Pleistocene deposits: Fishel, 1948a; Fishel and others, 1953.

Water-table elevation, contour map: Dufford, 1953, 1958; Kansas Water Resources Board, 1959b.