CLASSIFICATION OF ROCKS IN KANSAS

1968 (Revised November 2026)

KANSAS GEOLOGICAL SURVEY
The University of Kansas

Bulletin 189
Plate 1

Rock-Stratigraphic | Time-Stratigraphic | SERIES | SYSTEM

CENOZOIC ERA

DeForest Formation | Bignell Loess
Brady Geosol
Peoria Loess
Severance Formation | Gilman Canyon Loess
Sangamon Geosol
Loveland Loess
WISCONSIN STAGE
SANGAMONIAN STAGE
ILLINOIAN STAGE
PRE-ILLINOIAN STAGE
HOLOCENE SER.
PLEISTOCENE SERIES
QUATERNARY SYSTEM

Ogallala Formation
PLIOCENE SER.
MIOCENE SERIES
NEOGENE SYSTEM

MESOZOIC ERA

Beecher Island Sh. Mbr.
Pierre Shale
Salt Grass Shale Mbr.
Lake Creek Shale Mbr.
Weskan Shale Member
Montana Group
UPPER CRETACEOUS SERIES

Sharon Springs Sh. Mbr.
Smoky Hill Chalk Mbr.
Niobrara Chalk
Fort Hays Ls. Mbr.
Colorado Group
CRETACEOUS SYSTEM

Codell Sandstone Member
Blue Hill Shale Member
Carlile Shale
Fairport Chalk Member
Fence-post limestone bed
Pfeifer Shale Member
Jetmore Chalk Member
Hartland Shale Member
Lincoln Limestone Mbr.
Greenhorn Limestone
Colorado Group
Graneros Shale
UPPER CRETACEOUS SERIES

Janssen Clay Member
Terra Cotta Clay Mbr.
Dakota Formation
Kiowa Formation
LOWER CRETACEOUS SERIES

Cheyenne Sandstone
Morrison Formation
Saltsurface only
UPPER JURASSIC SERIES
JURASSIC SYSTEM

Big Basin Formation
Day Creek Dolomite
Kiger Shale Member
Relay Creek (?) Dol. Mbr.
Marlow Sandstone Mbr.
Whitehorse Formation
Dog Creek Formation
Haskew Gypsum Mbr.
Shimer Gypsum Mbr.
Nescatunga Gyp. Mbr.
Medicine Lodge Gyp. Mbr.
Blaine Formation
Flower-pot Shale
GUADALUPIAN SERIES

Cedar Hills Sandstone
Nippewalla Group
Salt Plain Formation
Crisfield Sandstone bed
Kingman Sandstone Mbr.
Harper Sandstone
Chikaskia Sandstone Mbr.
Stone Corral Formation
Runnymede Ss. Mbr.
Ninnescah Shale
Sumner Group
KUNGURIAN STAGE
LEONARDIAN SERIES
PERMIAN SYSTEM

PALEOZOIC ERA

Milan Limestone Member
Hutchinson Salt Member
Wellington Formation
Sumner Group
Carlton Limestone Member
Hollenberg Limestone Mbr.
Herington Limestone Mbr.
Paddock Shale Member
Krider Limestone Member
Nolans Limestone
Odell Shale
Cresswell Limestone Mbr.
Grant Shale Member
Stovall Limestone Member
Winfield Limestone
Gage Shale Member
Towanda Limestone Member
Holmesville Shale Member
Doyle Shale
Fort Riley Limestone Mbr.
Oketo Shale Member
Florence Limestone Member
Barneston Limestone
Chase Group
Blue Springs Shale Member
Kinney Limestone Member
Wymore Shale Member
Matfield Shale
Schroyer Limestone Mbr.
Havensville Shale Mbr.
Threemile Limestone Mbr.
Wreford Limestone
Speiser Shale
Funston Limestone
Blue Rapids Shale
Crouse Limestone
Easly Creek Shale
Middleburg Limestone Mbr.
Hooser Shale Member
Eiss Limestone Member
Bader Limestone
Stearns Shale
Morrill Limestone Member
Florena Shale Member
Cottonwood Limestone Mbr.
Beattie Limestone
Eskridge Shale
Neva Limestone Member
Salem Point Shale Member
Burr Limestone Member
Legion Shale Member
Sallyards Limestone Member
Grenola Limestone
Council Grove Group
Roca Shale
Howe Limestone Member
Bennett Shale Member
Glenrock Limestone Mbr.
Red Eagle Limestone
Red Eagle Limestone
Johnson Shale
Long Creek Limestone Mbr.
Hughes Creek Shale Mbr.
Foraker Limestone
Council Grove Gp.
Americus Limestone Mbr.
Houchen Creek ls. bed
Hamlin Shale Member
Janesville Shale
Five Point Limestone Mbr.
West Branch Shale Member
Falls City Limestone
Admire Group
Hawxby Shale Member
Aspinwall Limestone Mbr.
Onaga Shale
Towle Shale Member
Brownville Limestone Mbr.
Pony Creek Shale Mbr.
Grayhorse Limestone Mbr.
Wood Siding Formation
Plumb Shale Member
Nebraska City Limestone Mbr.
French Creek Shale Mbr.
Jim Creek Limestone Mbr.
Friedrich Shale Mbr.
Root Shale
Grandhaven Limestone Mbr.
Dry Shale Member
Dover Limestone Member
Stotler Limestone
Pillsbury Shale
Stormont ls. bed
Maple Hill Limestone Member
Wamego Shale Member
Tarkio Limestone Member
Zeandale Limestone
Richardson Subgroup
Willard Shale
Elmont Limestone Member
Harveyville Shale Member
Reading Limestone Member
Emporia Limestone
Auburn Shale
Wakarusa Limestone Mbr.
Soldier Creek Shale Mbr.
Burlingame Limestone Mbr.
Bern Limestone
Nemaha Subgroup
Wabaunsee Group
Silver Lake Shale Member
Rulo Limestone Member
Elmo coal bed
Cedar Vale Shale Member
Happy Hollow Limestone Mbr.
Scranton Shale
White Cloud Shale Member
Utopia Limestone Member
Winzeler Shale Member
Nodaway coal bed
Church Limestone Member
Aarde Shale Member
Howard Limestone
Bachelor Creek Ls. Mbr.
Severy Shale
Sacfox Subgroup
Coal Creek Limestone Mbr.
Holt Shale Member
Du Bois Limestone Mbr.
Turner Creek Shale Mbr.
Sheldon Limestone Mbr.
Jones Point Shale Mbr.
Curzon Limestone Mbr.
Iowa Point Shale Mbr.
Hartford Limestone Mbr.
Topeka Limestone
Calhoun Shale
Ervine Creek Ls. Mbr.
Larsh and Burroak Sh. Mbrs.
Rock Bluff Limestone Mbr.
Oskaloosa Shale Member
Ozawkie Limestone Member
Deer Creek Limestone
Tecumseh Shale
Avoca Limestone Member
King Hill Shale Member
Beil Limestone Member
Queen Hill Shale Mbr.
Big Springs Limestone Mbr.
Doniphan Shale Member
Spring Branch Limestone Mbr.
Lecompton Limestone
Shawnee Group
Stull Shale Member
Clay Creek Limestone Mbr.
Kanwaka Shale
Jackson Park Shale Member
Kereford Limestone Member
Heumader Shale Member
Plattsmouth Limestone Mbr.
Heebner Shale Member
Leavenworth Limestone Mbr.
Oread Limestone
Snyderville Shale Mbr.
Toronto Limestone Mbr.
Williamsburg coal bed
Amazonia Limestone Mbr.
Ireland Sandstone Member
Robbins Shale Member
Haskell Limestone Member
Lawrence Formation
Vinland Shale Member
Westphalia Limestone Mbr.
Upper Sibley coal bed
Tonganoxie Sandstone Mbr.
Iatan Limestone Member
Weston Shale Member
Stranger Formation
Douglas Group
South Bend Limestone Mbr.
Rock Lake Shale Member
Stoner Limestone Mbr.
Eudora Shale Member
Captain Creek Limestone Mbr.
Stanton Limestone
Vilas Shale
Spring Hill Limestone Mbr.
Hickory Creek Shale Mbr.
Merriam Limestone Mbr.
Plattsburg Limestone
Lansing Group
Bonner Springs Shale Mbr.
Upper Farley Limestone Mbr.
Middle Farley Shale Member
Lower Farley Limestone Mbr.
Island Creek Shale Member
Lane Shale
Argentine Limestone Mbr.
Quindaro Shale Member
Frisbie Limestone Member
Wyandotte Limestone
Liberty Memorial Shale
Zarah Subgroup
Kansas City Group
MISSOURIAN STAGE
ASSELIAN STAGE
SAKMARIAN STAGE
ARTINSKIAN STAGE
KUNGURIAN STAGE
WOLFCAMPIAN SERIES
LEONARDIAN SERIES
PERMIAN SYSTEM

Raytown Limestone Mbr.
Muncie Creek Shale Mbr.
Paola Limestone Mbr.
Iola Limestone
Lyon Subgroup
Cottage Grove Ss. Mbr.
Thayer coal bed
Chanute Shale
Noxie Sandstone Mbr.
Corbin City Ls. Mbr.
Drum Limestone
Dewey Limestone Mbr.
Quivira Shale Mbr.
Westerville Ls. Mbr.
Cherryvale Shale
Wea Shale Member
Block Limestone Mbr.
Fontana Shale Mbr.
Linn Subgroup
Winterset Limestone Mbr.
Dennis Limestone
Stark Shale Member
Canville Limestone Mbr.
Coffeyville Formation
Galesburg Shale
Dodds Creek Ss. Mbr.
Bethany Falls Ls. Mbr.
Swope Limestone
Hushpuckney Shale Mbr.
Middle Creek Ls. Mbr.
Ladore Shale
Bronson Subgroup
Kansas City Group
Sniabar Limestone Mbr.
Mound City Shale Mbr.
Critzer Limestone Mbr.
Hertha Limestone
Tacket Formation
Checkerboard Limestone
Pleasanton Group
South Mound Shale Mbr.
Hepler Sandstone Mbr.
Seminole Formation
Holdenville Shale
Idenbro Limestone Mbr.
Perry Farm Shale Mbr.
Norfleet Limestone Mbr.
Lenapah Limestone
Walter Johnson Ss. Mbr.
Nowata Shale
Worland Limestone Mbr.
Lake Neosho Sh. Mbr.
Amoret Limestone Mbr.
Altamont Limestone
Mulberry coal bed
Bandera Quarry Ss. Mbr.
Bandera Shale
Laberdie Ls. Mbr.
Mine Creek Shale Mbr.
Myrick Station Ls. Mbr.
Pawnee Limestone
Anna Shale Member
Englevale Ss. Mbr.
Labette Shale
Marmaton Group
Higginsville Ls. Mbr.
Little Osage Shale Mbr.
Summit coal bed
Blackjack Creek Ls. Mbr.
Fort Scott Limestone
Mulky coal bed
Breezy Hill Ls. Mbr.
Bevier coal bed
Verdigris Limestone Mbr.
Croweburg coal bed
Fleming coal bed
Mineral coal bed
Scammon coal bed
Chelsea Sandstone Mbr.
Tiawah limestone bed
Tebo coal bed
Weir-Pittsburg coal bed
Cabaniss Formation
Cherokee Group
Seville (?) Ls. Mbr.
Bluejacket Ss. Mbr.
Dry Wood coal bed
Rowe coal bed
Neutral coal bed
Warner Sandstone Mbr.
Riverton coal bed
Krebs Formation
Saltsurface only
Kearny Formation
Ste. Genevieve Limestone
St. Louis Limestone
MISSOURIAN STAGE
DESMOINESIAN STAGE
ATOKAN STAGE
MORROWAN STAGE
MIDDLE PENNSYLVANIAN SERIES
LOWER PENNSYLVANIAN SERIES
UPPER PENNSYLVANIAN SERIES
PENNSYLVANIAN SUBSYSTEM
CHESTERAN STAGE
UPPER MISS. SER.
MERAMECIAN STAGE
MIDDLE MISSISSIPPIAN SERIES
MISSISSIPPIAN SUBSYSTEM
CARBONIFEROUS SYSTEM

PALEOZOIC ERA

Salem Limestone
Warsaw Limestone
Short Creek Oolite Mbr.
Keokuk Limestone
Burlington Limestone
Reeds Spring Limestone Mbr.
Fern Glen Limestone
St. Joe Limestone Mbr.
Gilmore City Limestone
Sedalia Formation (Northview Formation)
Chouteau Limestone (Compton Limestone)
Boice Shale
Chattanooga Shale
Misener Sandstone Mbr.
Cowley Formation
MERAMECIAN STAGE
OSAGEAN STAGE
KINDERHOOKIAN STAGE
MIDDLE MISSISSIPPIAN SERIES
LOWER MISSISSIPPIAN SERIES
MISSISSIPPIAN SUBSYSTEM
DEVONIAN SYS.
SILURIAN SYSTEM
CARBONIFEROUS SYSTEM

Chimneyhill Dolomite
"Hunton Group"
Maquoketa (Sylvan) Shale
Viola (Kimmswick) Limestone
Saltsurface only
Platteville Formation
St. Peter Sandstone
Simpson Group
Cotter Dolomite and Jefferson City Dolomite
Roubidoux Formation
Arbuckle Group
Gasconade Dolomite
Gunter Sandstone Mbr.
Eminence Dolomite
Bonneterre Dolomite
Lamotte (Reagan) Sandstone
UPPER ORD. SER.
MIDDLE ORDOVICIAN SERIES
LOWER ORDOVICIAN SERIES
UPPER CAMBRIAN SERIES
ORDOVICIAN SYSTEM
CAMBRIAN SYSTEM

Neoproterozoic Era
Mesoproterozoic Era
Paleoproterozoic Era

PALEOZOIC ERA

Approximate vertical scale, 1 inch = 75 feet

For more complete description of units, see text of Bulletin 189.

EXPLANATION

- Reddish rock color (used as overlay on other symbols)
- Soil
- Unconsolidated silt and clay
- Sand and gravel, conglomerate, or "mortar beds"
- Sandstone or sand
- Undifferentiated sandstone or siltstone
- Siltstone
- Cross-bedded sandstone or siltstone
- Shale or claystone
- Black shale
- Calcareous shale
- Chalk
- Shale with concretions
- Glauconite
- Underclay
- Coal or lignite
- Volcanic ash
- Unconformity
- Bentonite
- Opaline sandstone
- Limestone
- Cross-bedded limestone
- Oolitic limestone
- Cherty limestone
- Shaly limestone
- Sandy limestone
- Dolomitic limestone
- Dolomite
- Cherty dolomite
- Shaly dolomite
- Sandy dolomite
- Gypsum or anhydrite
- Salt
- Igneous and metamorphic rocks

For the most current version of this chart, please visit https://www.kgs.ku.edu/Publications/Bulletins/189/13_chart.html

Recommended reference: Zeller, D.E., ed., [1968] 2026, Classification of rocks in Kansas, revised by Kansas Geological Survey Stratigraphic Nomenclature Committee; *in*, The Stratigraphic Succession in Kansas: Kansas Geological Survey, Bulletin 189, 81 p., chart.