BIBLIOGRAPHY
OF
NORTH AMERICAN GEOLOGY
FOR
1919-1920

BY
JOHN M. NICKLES

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BIBLIOGRAPHY OF NORTH AMERICAN GEOLoGY FOR 1919-1920.

By John M. Nickles.

INTRODUCTION.

The bibliography of North American geology, including paleontology, petrology, and mineralogy, for the years 1919 and 1920 contains publications on the geology of the Continent of North America and adjacent islands and on Panama and the Hawaiian Islands. It includes textbooks and papers of general character by American authors, but not those by foreign authors, except papers that appear in American publications.

The papers, with full title and medium of publication and explanatory note if the title is not fully self-explanatory, are listed under the names of their authors, which are arranged in alphabetic order. The author list is followed by an index to the literature listed.

The bibliography of North American geology is comprised in the following bulletins of the United States Geological Survey: No. 127 (1732-1892); Nos. 188 and 189 (1892-1900); No. 301 (1901-1905); No. 372 (1906-7); No. 409 (1908); No. 444 (1909); No. 495 (1910); No. 524 (1911); No. 545 (1912); No. 584 (1913); No. 617 (1914); No. 645 (1915); No. 665 (1916); No. 684 (1917); and No. 698 (1918).
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Abo beds, Pennsylvanian, New Mexico: Böse, 163.

Abo formation, Carboniferous, New Mexico: Baker, 55.
Abo sandstone, Pennsylvanian, New Mexico: Semmes, 1659.
Acilia shales, Oligocene, Oregon: Harrison and Eaton, 761.
Ackerman clays, Tertiary, Mississippi: Lowe, 1138.
LISTS—GEOLOGIC FORMATIONS DESCRIBED.

Admire shale, Pennsylvanian, Kansas: Snider, 1736.
Admire shale member, Pennsylvanian, Kansas: Moore, 1846.
Aftonian interglacial stage, Pleistocene: Baker, 56.
Aftonian interglacial stage, Pleistocene, Iowa: Arey, 35; Tilton, 1846.
Ainsworth formation, Carboniferous or pre-Carboniferous, British Columbia: Schofield, 1617.
Ainsworth formation, Paleozoic, British Columbia: Schofield, 1619.
Ainsworth series, Paleozoic, British Columbia: Bancroft, 66; Schofield, 1619.
Ajax limestone, Ordovician, Utah: Linds and Loughlin, 1105; Wichman, 2024.
Akron dolomite formation, Silurian, New York and Ontario: Williams, 2034.
Alachua clays, Quaternary, Florida: Hay, 767.
Alachua formation, Tertiary, Florida: Sellards, 1648.
Alamito terrane, Pennsylvanian, New Mexico: Keyes, 993.
Albany formation, Permian, Texas: Mattheson, 1231.
Albright limestone, Pennsylvanian, Maryland: Swartz, 1804.
Albuquerquean series, Proterozoic, New Mexico: Keyes, 993.
Alger formation, Silurian, Kentucky: Miller, 1293.
Algonan, pre-Cambrian, Ontario: Miller and Knight, 1301, 1302.
Albates dolomite, Permian, Texas: Gould, 678.
Allegheny formation, Pennsylvanian, Maryland: Swartz, 1804.
Allegheny formation, Pennsylvanian, Ohio: Stout, 1794.
Allegheny series, Pennsylvanian, Kentucky: Miller, 1293.
Allegheny series, Pennsylvanian, West Virginia: Hennen, 797; Reger, 1528.
Allensville, Mississippian, Ohio: Miller, 1203.
Allison formation, Cretaceous, Alberta: Rose, 1576.
Alison formation, Jurassic, Alberta: Rose, 1575.
Alsien cherty limestones, Devonian, New York: Grabau, 685.
Altamaha (Lafayette?) formation, Tertiary, Georgia: McCallie, 1159.
Altamont limestone, Pennsylvanian, Kansas and Oklahoma: Snider, 1736.
Alum Bluff formation, Miocene, Florida: Sellards, 1647, 1648.
Alum Bluff formation, Miocene, Gulf States: Vaughan, 1910.
Americus limestone, Pennsylvanian, Kansas: Snider, 1736.
Americus limestone member, Pennsylvanian, Kansas: Moore, 1346.
Ames limestone, Pennsylvanian, Maryland: Swartz, 1804.
Ames limestone, Pennsylvanian, Ohio: Stout, 1794.
Amisk series, pre-Cambrian, Manitoba: Bruce, 208.
Amisk volcanics, pre-Cambrian, Manitoba: Hanson, 744.
Amaden formation, Carboniferous, Wyoming: Collier, 399.
Anacapa limestone, Cretaceous, Texas: Udden, 1889.
Andrews schist, Cambrian, Georgia: McCallie, 1159.
Angola shale, Devonian, New York: Husakoff and Bryant, 884.
Anian period, Proterozoic, New Mexico: Keyes, 993.
Animikian, pre-Cambrian, Ontario: Miller and Knight, 1301, 1302.
Antietam sandstone, Cambrian, Maryland: Bassler, 90.
Antonio terrane, Proterozoic, New Mexico: Keyes, 993.
Antonio terrane, Permian, New Mexico: Keyes, 993.
Aptan member, pre-Cambrian, Wisconsin and Michigan: Hotchkiss, 885.
Apishapa shale, Cretaceous, New Mexico: Garrett, 640.
Apishapa terrane, Cretaceous, New Mexico: Keyes, 993.
Apison shale, Cambrian, Georgia: McCallie, 1159.
Aquilneck shales, Carboniferous, Rhode Island: Perkins, 1462.
Arigo formation, Eocene, Oregon: Smith and Packard, 1728.
Arapahoe period, Cenozoic (Tertiary), New Mexico: Keyes, 993.
Arbuckle limestone, Cambrian and Ordovician, Oklahoma: Decker, 483.
Archuleta terrane, Eocene, New Mexico: Keyes, 993.
Arctomys formation, Cambrian, Alberta: Walcott, 1928.
Arecibo formation, Oligocene, Puerto Rico: Hodge, 837.
Arecibo formation, Tertiary, Porto Rico: Berkey, 124; Hubbard, 877; Maury, 1248; Semmes, 1655.

Arkansas novaculite, Devonian, Arkansas: Miser, 1319.

Armendaris terrane, Ordovician, New Mexico: Keyes, 993.

Arnheim limestone, Ordovician, Tennessee: Bailey limestone, Devonian, Missouri: Dake, 441.

Baitoa formation, Miocene, Dominican Republic: Cooke, 400.

Bar Harbor series, Mount Desert Island, Maine: Bascom, 87.

Barranquitas-Cayey series, Comanchean, Porto Rico: O'Hara, 1389.

Bartlett Island series, Mount Desert Island, Maine: Bascom, 87.

Bartlet Island series, Mount Desert Island, Maine: Bascom, 87.

"Barton Beds," Silurian, Ontario: Williams, 2034.

Bateston formation, Tertiary, California: Merritt, 1204.

Batesville sandstone, Mississippian, Arkansas: Miser, 1319, 1320.


Beacon formation, Jurassic, Wyoming: Schultz, 1639.

Beckwith formation, Jurassic, Wyoming: Schultz, 1639.

Beckley conglomerate, Cretaceous (?), Idaho: Mansfield, 1216.

Becker formation, Jurassic, Wyoming: Schults, 1639.

Bedford clay, Pennsylvania, Ohio: Stout, 1784.
Bedford shale, Mississippian, Kentucky: Miller, 1293.

Bedford shale, Mississippian, Ohio: Decker, 483.

Beech Creek limestone, Mississippian, Indiana: Malott, 1205; Malott and Thompson, 1206.

Beech Mountain pararhombolite, pre-Cambrian, New York: Alling, 28.

Beechwood member, Devonian, Kentucky: Miller, 1293.

Beekmantown limestone, Ordovician, Maryland: Bassler, 90.

Beekmantown limestone, Ordovician, New York: Decker, 483.

Beekmantown Conglomerate, Ordovician, New York: Chadwick, 310.

Bella terrane, Devonian, New Mexico: Keyes, 993.

Bellaire sandstone, Pennsylvanian, Ohio: Stout, 1794.

Bellevue, Ordovician, Kentucky: Miller, 1293.

Bell Mountain sandstone member, Cretaceous, New Mexico: Winchester, 2061.

Belly River series, Cretaceous, Alberta: Sliper, 1712.

Belt series, Algonkian, Idaho: Jones, 944.

Bend formation, Carboniferous, Texas: Girty, 659.

Bend formation, Pennsylvanian, Texas: Ud den, 1889.

Bend series, Carboniferous, Texas: Girty and Moore, 660; Udden, 1887.

Bend series, Pennsylvanian, Texas: Matto son, 1231; Moore, 1344; Plummer, 1475.

Bend (Lower) shale, Carboniferous, Texas: Udden, 1887.

Bend (Lower) shale, Mississippian, Texas: Girty, 659; Matto son, 1281.

Bend (Lower) shale, Pennsylvanian, Texas: Moore, 1344; Plummer, 1475.

Bennett formation, pre-Cambrian, Quebec: Knox, 1850.

Benson bed, Ordovician, Kentucky: Miller, 1293.

Benton formation, Cretaceous, Alberta: Rose, 1576; Stewart, 1766.


Benton formation, Cretaceous, Kansas: Moore, 1346; Snider, 1736.


Benwood limestone, Pennsylvanian, Ohio: Stout, 1794.

Bernalillo series, Permian, New Mexico: Keyes, 993.

Berea grit, Carboniferous, Kentucky: Johnson, 918.

Berea sandstone, Mississippian, Kentucky: Miller, 1293.

Berenda terrane, Devonian, New Mexico: Keyes, 993.
Black River group, Ordovician, Tennessee: Galloway, 635.
Black River limestone, Ordovician, New York: Clark, 345.
Blacksmitli formation, Cambrian, Idaho: Mansfield, 1211.
Blair formation, Cretaceous, Wyoming: Schultz, 1638.
Blairmore formation, Cretaceous, Alberta: Rose, 1575, 1576; Slipper, 1712; Stewart, 1766.
Blakely sandstone, Ordovician, Arkansas: Miser, 1319.
Blaylock sandstone, Silurian, Arkansas: Miser, 1319.
Bloomfield limestone, Pennsylvanian, Ohio: Stout, 1794.
Bloomington formation, Cambrian, Idaho: Mansfield, 1211.
Blythe shale, Pennsylvania, Virginia: Miser, 1319.
Bluebell dolomite, Ordovician, Utah: Lindgren and Loughlin, 1105.
Bluebird dolomite, Cambrian, Utah: Lindgren and Loughlin, 1105; Wichman, 2024.
Bluefield shale, Mississippian, Virginia: Harnsberger, 749.
Bluefield formation, Mississippian, Virginia: Harnsberger, 749.
Boggy formation, Pennsylvania, Ohio: Snider, 1736.
Boggs member, Pennsylvania, Ohio: Stout, 1794.
Bolivia conglomerate, Oligocene, Panama Canal Zone: MacDonald, 1170; MacDonald et al., 1171; Vaughan, 1910.
Bois d'Arc limestone, Devonian, Oklahoma: Decker, 485.
Bolin Creek member, Cambrian, Missouri: Duke, 441.
Bolivar fire clay, Pennsylvania, West Virginia: Reger, 1528.
Bonaventure conglomerate, Devonian, Quebec: Clarke, 355.
Bone Valley, Pleistocene, Florida: Sellards, 1647.
Bone Valley formation, Tertiary, Florida: Sellards, 1648.
Bonnette formation, Cambrian, Missouri: Duke, 441.
Boone chert, Mississippian, Arkansas: Miser, 1320.
Boone formation, Carboniferous, Oklahoma: Berger, 123.
Boone formation, Mississippian, Arkansas: Miser, 1319.
Boone formation, Mississippian, Oklahoma: Berger, 123; Snider, 1736.
Bowman sandstone, Pennsylvanian, Oklahoma: Goldman and Robinson, 607.
Bozeman beds, Tertiary, Rocky Mountain region: Keyes, 998.
Brendon lignite, Tertiary, Vermont: Berry, 133.
Brennon bed, Ordovician, Kentucky: Miller, 1203.
Brandy Run sandstone, Mississippian, Indiana: Malott, 1205; Malott and Thompson, 1206.
Brandywine formation, Cretaceous, Maryland and Delaware: Bascom and Miller, 86.
Brassfield formation, Silurian, Ohio: Foerster, 598.
Brassfield limestone, Silurian, Arkansas: Miser, 1319, 1320.
Brassfield stage, Silurian, Kentucky: Miller, 1203.
Brass town schist, Cambrian, Georgia: McCallie, 1159.
Brazer limestone, Mississippian, Idaho: Mansfield, 1211, 1216.
Brazos sandstone, Pennsylvanian, Texas: Plummer, 1475.
Breckenridge formation, Pennsylvanian, Texas: Plummer, 1475.
Breckenridge limestone, Pennsylvania, Texas: Snider, 1736.
Brentwood limestone member, Pennsylvania, Arkansas: Miser, 1319.
Bridgeburg horizon, Silurian, New York: Williams, 2034.
Bridge formation, Tertiary, Wyoming: Schultz, 1638.
Bridgman formation, Cambrian, Idaho: Mansfield, 1211.
Britannia formation, Devon-Carboniferous (?), British Columbia: Schofield, 1610.
Bredback series, pre-Cambrian, Quebec: Cooke, 401.
Brock series, pre-Cambrian, Quebec: Cooke, 401.
Brookeville clay, Pennsylvania, Ohio: Stout, 1794.
Brookville formation, Cambrian, Idaho: Mansfield, 1211.
Brookville clay, Pennsylvania, Ohio: Stout, 1794.
Brownstown marl, Cretaceous, Arkansas: Miser, 1319.
Brownstone sandstone, Pennsylvania, West Virginia: Hennen, 797; Reger, 1528.
Brule formation, Oligocene, South Dakota: O'Harra, 1389.
Brush Creek limestone, Pennsylvanian, Maryland: Swartz, 1804.
Brush Creek limestone, Pennsylvania, Ohio: Stout, 1794.
Bryant limestone, Ordovician, Missouri: Foerste, 603.
Buchanan gravels, Pleistocene: Baker, 56.
Buckhorn limestone, Utah: Wichman, 2024.
Buckingham series, pre-Cambrian, Quebec: Wilson, 2051.
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Buck Point sandstone, Pennsylvanian, Oklahoma: Robinson and Mills, 1559.

Bucks Bridge mixed beds, Ordovician, New York: Chadwick, 310.

Buda formation, Cretaceous, Texas: Sel-lards, 1653.

Buda limestone, Cretaceous, Texas: Christ-ner and Wheeler, 339; Dumble, 524; Snider, 1736; Udden, 1880.

Buffalo cement bed, Silurian, New York: Williams, 2034.

Buffalo sandstone, Pennsylvanian, Ohio; Stout, 1794.

Buffalo shales, Ordovician, Missouri: Forrester, 603.

Buffalo Wallow formation, Mississippian, Indiana: Malott and Thompson, 1206.

Buffalo Wallow, Mississippian, Kentucky: Miller, 1293.

Bulka conglomerate, Miocene, Dominican Republic: Cooke, 400.

Bullhead Mountain formation, Cretaceous, British Columbia: Stewart, 1767.

Burner formation, Pennsylvanian, Texas: Plummer, 1475.

Burgen sandstone, Ordovician, Oklahoma: Snider, 1736.

Burgess sand, Pennsylvanian, Kansas: Moore, 1346.

Burke formation, Algonkian, Idaho: Jones, 944.

Burlingame limestone member, Pennsylvanian, Kansas: Snider, 1736.

Burlingame limestone, Mississippian, Illinois: Coryell, 410.

Burlingame limestone, Pennsylvanian, Kansas: Snider, 1736.

Burlington limestone (Osagian), Mississippian, Missouri: Branson, 190.

Burro terrane, Cambrian, New Mexico: Keys, 993.

Buxton formation, Pennsylvanian, Oklahoma: Snider, 1736.

Byer, Mississippian, Ohio: Miller, 1293.

Byram marl, Tertiary, Missouri: Lowe, 1138.

Cahat Head shale member, Silurian, Ontario: Williams, 2034.

Cach creek series, Carboniferous, British Columbia: Reinecke, 1538.

Caddell beds, Tertiary, Texas: Dumble, 524.

Calimento formation, Oligocene, Canol Zone: MacDonald, 1170; Vaughan, 1910.

Calhoun shale, Pennsylvanian, Kansas: Snider, 1736.

Calhoun shale member, Pennsylvanian, Kansas: Moore, 1346.

Callaway limestone, Devonian, Missouri: Branson, 120.

Caloosahatchee formation, Pliocene, Florida: Sellards, 1647.

Chiloosa formation, Pliocene, Florida: Sellards, 1646.

Carrasco terrane, Cambrian, New Mexico: Keys, 993.

Cambridge limestone, Pennsylvanian, Mary-land: Swarts, 1804.

Cambridge limestone, Pennsylvanian, Ohio: Stoughton, 1794.

Cambridge slate member, Permo-Carboniferous, Massachusetts: Sayles, 1606.

Camen chert, Devonian, Tennessee: Dun-bar, 525.

Camillus shale member, Silurian, Ontario: Williams, 2034.

Camp Nelson stage, Ordovician, Kentucky: Miller, 1293.

Canyon limestone, Mississippian, Oklahoma: Decker, 453.

Cannelton limestone, Pennsylvanian, West Virginia: Hennen, 797; Roger, 1528.

Canton terrace, Tertiary, Missouri: Baker, 55.

Capitol limestone, Permian, New Mexico: Keys, 993.

Cape May formation, Quaternary, New Jersey: Hay, 767.

Cap Mountain formation, Cambrian, Texas: Snider, 1736.

Cardin formation, Ordovician, Pennsylvania, Massachusetts: Field, 1536.

Carrasco terrane, Cambrian, New Mexico: Keys, 993.
Carrizo formation, Eocene, Texas: Sellards, 1653; Snider, 1736.
Carrizo formation, Tertiary, Texas: Dumble, 524.
Cartersville formation, Cambrian, Georgia: Hull, 880; Hull et al., 878; McCullie, 1159.
Carters lime stone, Ordovician, Tennessee: Galloway, 633.
Cason shale, Ordovician, Arkansas: Miser, 1219, 1220.
Cassville plant shale, Permian, Ohio: Stout, 1794.
Cassville shale, Permian, Ohio: Stauffer and Schroyer, 1757.
Castlegate sandstone, Cretaceous, Utah: Forrester, 610.
Catahoula formation, Tertiary, Texas: Durable, 524.
Catahoula sandstone, Tertiary, Mississippi: Lowe, 1138.
Catahoula sandstone, Tertiary, Texas: Udend, 1880.
Catamount schist, pre-Cambrian, New York: Ailing, 28.
Cathedral Bluffs member, Tertiary, Wyoming: Schultz, 1639.
Cave Creek formation, Permian, Kansas: Snider, 1736.
Cayugan group, Silurian, Ontario: Williams, 2034.
Cedar (Upper) sandstone, Pennsylvania: West Virginia: Hennen, 797.
Cedar Creek argillite, Paleozoic, Washington: Weaver, 1970.
Cedar Grove (Middle) sandstone, Pennsylvania: West Virginia: Reger, 1528.
Cedar Grove (Upper) sandstone, Pennsylvania: West Virginia: Reger, 1528.
Cedar Hills sandstone, Permian, Kansas: Snider, 1736.
Cedar Hills sandstone member, Permian, Kansas: Snider, 1736.
Cedar Rapids phase of Otis limestone, Devonian, Iowa: Norton, 1831.
Cedar Valley limestone, Devonian, Illinois and Iowa: Savage, 1604.
Center Hall formation, Ordovician, Pennsylvania: Field, 560.
Cencado formation, Miocene, Dominican Republic: Cooke, 400; Manry, 1249.
Cerro Gordo substage, Devonian, Iowa: Fenton, 580.
Cevicos limestone, Oligocene, Dominican Republic: Cooke, 400.
Chaco terrane, Oligocene, New Mexico: Keys, 993.
Chacra terrane, Cretaceous, New Mexico: Keys, 993.

Chadron formation, Oligocene, South Dakota: Darton, 461; O'Hara, 1389.
Chagres sandstone, Pliocene, Canal Zone: MacDonald, 1170.
Chagrin formation, Ohio: Deck, 483.
Champlain series, Oligocene, New Mexico: Keys, 993.
Chambersburg limestone, Ordovician, Maryland: Bassier, 90.
Chamiso formation, Cretaceous, New Mexico: Winchester, 2061.
Champion shell bed, Cretaceous, Kansas: Twenhofel, 1871.
Chanute shale, Pennsylvanian, Iowa: Tilton, 1844.
Chanute shale, Pennsylvanian, Kansas: Snider, 1736.
Chanute shale member, Pennsylvanian, Kansas: Moore, 1905.
Charaqua terrane, Jurassic, New Mexico: Keys, 993.
Chariton formation, Tertiary, Georgia: McCallie, 1159.
Chase formation, Permian, Kansas: Moore, 1346; Snider, 1736.
Chattahoochee formation, Oligocene, Florida: Sells, 1647.
Chattahoochee formation, Tertiary, Florida: Sells, 1648.
Chattanooga black shale, Devonian, Georgia: McCallie, 1159.
Chattanooga formation, Mississippian, Tennessee: Galloway, 633.
Chattanooga shale, Devonian, Arkansas: Miller, 1297.
Chattanooga shale, Devonian, Kentucky: Butts, 259; Jilson, 918.
Chattanooga shale, Devonian, Oklahoma: Snider, 1736.
Chattanooga shale, Devonian, Tennessee: Butts, 258; Dunbar, 525.
Chattanooga shale, Devonian and Mississippian, Kentucky: Miller, 1297.
Chattanooga shale, Devonian or Carboniferous, Tennessee: Mather, 1227.
Chattanooga shale, Devonian or Carboniferous, Kentucky: Shaw and Mathes, 1680.
Chatauquan group, Devonian, Tennessee: Dunbar, 525.
Chaves terrane, Permian, New Mexico: Keys, 993.
Checkerboard limestone, Pennsylvanian, Oklahoma: Bloesch, 155.
Chegoggin Point formation, Nova Scotia: Fairbault, 572.
Chenung formation, Pennsylvania: Deck, 485.
Cherokee shale, Carboniferous, Oklahoma: Berger 123.
Cherokee shale, Pennsylvanian, Kansas: Boughton, 170; Moore, 1346.
Cherokee shale, Pennsylvanian, Kansas and Oklahoma: Snider, 1736.
Cherokee shale, Pennsylvanian, Oklahoma: Berger, 123.

Cherryvale shale, Pennsylvanian, Iowa: Tilton, 1846.

Cherryvale shale, Pennsylvanian, Kansas: Snider, 1736.

Cherryvale shale member, Pennsylvanian, Kansas: Moore, 1346.

Cheyenne sandstone, Comanchean, Kansas: Moore, 1346; Snider, 1736.

Chesapeake group, Cretaceous, Maryland: Bassler, 190.

Chesapeake group, Cretaceous, New Jersey: Logan, 1902.

Chester group, Mississippian, New York: Alling, 28.

Cheyenne sandstone, Pennsylvanian, Kansas: Snider, 1736; Moore, 1346; Twenhofel, 1871.

Chiefland series, Ordovician, Florida: Dickey, 1909.

Chilnachines formation, Ordovician, New Jersey: Decker, 191.


Chinle formation, Triassic, Arizona: Shimer, 1903.

Chinle formation, Triassic, Utah: Clark, 1891.

Chippewa group, Eocene, Wisconsin: Smith and Parkard, 1891.

Chippewa group, Eocene, New Jersey: Decker, 191.

Chippewa group, Eocene, Texas: Vaughan, 1910.

Chippewa group, Eocene, Colorado: Church, 1891.

Chippewa group, Eocene, California: Decker, 191.


Chugwater formation, Triassic, Wyoming: Collier, 1897, 1898.
Clinton formation, Silurian, Ontario: Williams, 2034.
Clore, Mississippian, Kentucky: Miller, 1293.
Cleverly formation, Cretaceous, Wyoming: Hancock, 734.
Coaledo formation, Eocene, Oregon: Harrison and Eaton, 761; Smith and Packard, 1728.
Coalburg (Lower) sandstone, Pennsylvanian, West Virginia: Hennen, 797.
Coalburg (Upper) sandstone, Pennsylvanian, West Virginia: Hennen, 797; Reger, 1528.
Coamo tuff limestone, Porto Rico: Berkey, 124.
Coast Range batholith, Jurassic (?), British Columbia: Dolmage, 506.
Cobalt series, pre-Cambrian, Ontario: Cooke, 401, 407; Coleman, 382; Whitehead, 1910.
Cobalt series, pre-Cambrian, Quebec: Cooke, 403.
Cole Canyon dolomite, Cambrian, Utah: Lindgren and Loughlin, 1105.
Collazo shales, Tertiary, Porto Rico: Maury, 1248.
Collier shale, Cambrian, Kansas: Moore, 1340.
Colton Mountain formation, Eocene, Texas: Dumble, 524.
Colton Peak beds, Cretaceous, Texas: Sellsars, 1653.
Colville quartzite, Pennsylvanian, Alaska: Dall, 451.
Connasauga formation, Cambrian, Georgia: Hull, 880; Hull et al., 878; McCullough, 1189.
Connellsville sandstone, Pennsylvanian, Pennsylvania: Williams, 2032.
Connellsville sandstone, Pennsylvanian, Ohio: Stout, 1794.
Connellsville sandstone, Pennsylvanian, West Virginia: Reger, 1528.
Conecuh group, Tertiary, Maryland: Bassler, 90.
Cook Mountain formation, Eocene, Texas: Snider, 1736.
Cook Mountain formation, Tertiary, Texas: Udden, 1850.
Cooch's Mountain formation, Tertiary, Texas: Dumble, 524.
Coop Creek member, Cretaceous, Montana: Bowe, 171; Hancock, 734.
Colorado formation, Pleistocene, Tennessee: Schroeder, 1623.
Colorado formation, Pleistocene, Texas: Dumble, 524; Snider, 1736.
Colorado group, Quaternary, Maryland and Delaware: Bascom and Miller, 86.
Colorado group, Quaternary, Kentucky: Miller, 1293.
Colorado formation, Colorado: Henderson, 795.
LISTS—GEOLOGIC FORMATIONS DESCRIBED.

Copps group, pre-Cambrian, Michigan:
Allen, 25.

Corbin granite, Archean, Georgia: Hull et al., 878.

Corinth sandstone, Pennsylvanian, Maryland: Swartz, 1804.

Cornishville bed, Ordovician, Kentucky: Miller, 1293.

Corozal limestone, Cretaceous (?), Porto Rico: Semmes, 1655.

Corryville, Ordovician, Kentucky: Miller, 1293.

Cotter dolomite, Ordovician, Arkansas: Miser, 1319.

Cottonwood limestone, Permian, Kansas, Oklahoma: Snider, 1736.

Cottonwood limestone, Permian, Oklahoma: Bowen et al., 172.

Cottonwood limestone member, Permian, Permian, Kansas: Moore, 1346.

Creston reds, Permian, Ohio: Stauffer and Schroyer, 1757.

Crystal Mountain sandstone, Ordovician, Arkansas: Miser, 1319.

Cuyahoga stage, Mississippian, Kentucky: Miller, 1283.

Cynthiana stage, Ordovician, Kentucky: Miller, 1283.


Cypress sandstone, Mississippian, Indiana: Malott, 1205; Malott and Thompson, 1206.

Cypress sandstone, Mississippian, Kentucky: Butts, 259; Miller, 1283.

Cypress sandstone, Mississippian, Tennessee: Butts, 258.

Cyril gypsum bed, Permian, Oklahoma: Clapp, 340.

Cuyahoga stage, Mississippian, Kentucky: Miller, 1283.

Cynthiana stage, Ordovician, Kentucky: Miller, 1283.


Cypress sandstone, Mississippian, Indiana: Malott, 1205; Malott and Thompson, 1206.

Cypress sandstone, Mississippian, Kentucky: Butts, 259; Miller, 1283.

Cypress sandstone, Mississippian, Tennessee: Butts, 258.

Cyril gypsum bed, Permian, Oklahoma: Clapp, 340.

Dakmar limestone, Cambrian, Utah: Lindgren and Loughlin, 1105; Wichman, 2024.

"Dakota" formation, Cretaceous, Colorado: Crawford et al., 416; Henderson, 795; Perlil and Collis, 1461.

Dakota formation, Cretaceous, Wyoming: Hancock, 737.

Dakota group, Cretaceous, Colorado: Lee, 1047.

Dakota sandstone, Cretaceous, Kansas: Darton, 462; Moore, 1346; Snider, 1736.

Dakota sandstone, Cretaceous, New Mexico: Baker, 55; Garrett, 640; Wells, 1978; Winchester, 2061.

Dakota sandstone, Cretaceous, North Dakota: Leonard, 1082.

Dakota sandstone, Cretaceous, Utah: Clark, 344.

Dakota stage, Cretaceous, Iowa: Tilton, 1847.

Dakota (Lower), Cretaceous, Kansas: Twenhofel, 1871.

Dakota (Upper), Cretaceous, Kansas: Twenhofel, 1571.

"Dannemora" formation, pre-Cambrian, New York: Alling, 28.

Datil formation, Tertiary, New Mexico: Winchester, 2061.

Davenport (Lower) limestone, Devonian, Iowa: Norton, 1381.

Davenport (Upper) limestone, Devonian, Iowa: Norton, 1381.

Day Creek dolomite, Permian, Kansas: Sniider, 1736.

Day Creek dolomite member, Permian, Kansas: Moore, 1346.

Dayton limestone, Silurian, Ohio: Foerste, 598.

Deadman limestone, Triassic (?), Idaho: Mansfield, 1211, 1214, 1216.

Decatur limestone, Silurian, Tennessee: Dunbar, 525.

Decatur sand, Tertiary, Mississippian: Lowe, 1135.

Decaturville chert, Mississippian, Tennessee: Dunbar, 525.

De Cew waterlime member, Silurian, Ontario: Williams, 2084.

Decorah shale, Ordovician, Minnesota: Grow and Soper, 715.

Decota sandstone, Pennsylvania, West Virginia: Hennen, 797; Reger, 1528.
Deer Creek limestone, Pennsylvanian, Kansas: Snider, 1736.
Deer Creek limestone, Pennsylvanian, Oklahoma: Heald, 777; Heald and Mather, 780.
Deer Creek limestone member, Pennsylvanian, Kansas: Moore, 1346.
De Kalb limestone (Drum), Pennsylvanian, Iowa: Tilton, 1846.
Delaware limestone, Devonian, Kentucky: Miller, 1293.
Delaware (Sellersburg) limestone, Devonian, New Mexico: Miller, 1299.
Delaware Mountain formation, Pennsylvanian, New Mexico: Baker, 55.
Del Rio clay, Cretaceous, Texas: Christner and Wheeler, 339; Snider, 1736; Udden, 1880.
Del Rio clays, Cretaceous, Texas: Shuler, 1696.
Del Rio formation, Cretaceous, Texas: Sellards, 1658.
Denton formation, Comanchean, Texas: Adkins, 6; Adkins and Winton, 7.
Denton marl, Cretaceous, Texas: Winton and Adkins, 2062.
De Queen limestone member, Cretaceous, Arkansas: Miller, 1319.
De Moline group, Pennsylvanian, Kansas: Moore, 1346; Snider, 1736.
Del Moline stage, Pennsylvanian, Iowa: Tilton, 1846.
Devil's River limestone, Cretaceous, Texas: Christner and Wheeler, 339.
Dewey limestone, Carboniferous, Oklahoma: Goldman, 666.
Dewey limestone, Pennsylvanian, Oklahoma: Ross, 1573; Snider, 1736.
Dewitt formation, Tertiary, Texas: Udden, 1880.
Dexter sands, Cretaceous, Texas: Shuler, 1696.
Dierks limestone lentil, Cretaceous, Arkansas: Miser, 1319.
Dighton conglomerate, Carboniferous, Massachusetts and Rhode Island: Perkins, 1462.
Dillard formation, Jurassic, Oregon: Smith and Packard, 1728.
Dime formation, Pennsylvanian, Texas: Böse, 161; Moore, 1344.
Dingess limestone, Pennsylvanian, West Virginia: Hennen, 797; Reger, 1528.
Diuwoody formation, Carboniferous, Wyoming: Collier, 387.
Diuwoody formation, Carboniferous and Triassic, Wyoming: Collier, 389.
"Dixon" graphite schist, pre-Cambrian, New York: Alling, 28.
LISTS—GEOLOGIC FORMATIONS DESCRIBED.

Duplin marl, Tertiary, Georgia: McCullie, 1159.
Dutch Creek sandstone, Devonian, Illinois: Savage, 1604, 1605.
Dyer Bay dolomite lentil, Silurian, Ontario: Williams, 2034.
Eagle limestone and shale, Pennsylvanian, West Virginia: Hennen, 797; Reger, 1528.
Eagle sandstone, Cretaceous, Montana: Bowen, 171; Hancock, 734.
Eagle sandstone, Pennsylvanian, West Virginia: Hennen, 797; Reger, 1528.
Eagle Creek formation, Tertiary, Oregon: Smith and Packard, 1728.
Eagle Creek formation, Tertiary, Washington and Oregon: Chaney, 325.
Eagle Ford formation, Cretaceous, Texas: Christner and Wheeler, 339; Dumble, 524; Sellards, 1653; Shuler, 1696; Snider 1736; Udden, 1880.
Eagleford shales, Cretaceous, Texas: Winton and Atkinson, 2062.
Early Bird formation, Carboniferous or pre-Carboniferous, British Columbia: Schofield, 1617.
Early Bird formation, Paleozoic, British Columbia: Schofield, 1819.
Eastland formation, Pennsylvanian, Texas: Plummer, 1475.
Eastland limestone, Pennsylvanian, Texas: Snider, 1736.
East Lynn sandstone, Pennsylvanian, West Virginia: Hennen, 797; Reger, 1528.
East Lynn (Upper) sandstone, Pennsylvanian, West Virginia: Hennen, 797; Reger, 1528.
Eddy terrane, Permian, New Mexico: Keyes, 993.
Eden formation, Ordovician, Kentucky: Miller, 1283.
Edmonton formation, Cretaceous, Alberta: Allan, 20; Slipper, 1712.
Edwards formation, Comanchean, Texas: Adkins, 6.
Edwards formation, Cretaceous, Texas: Sellards, 1653.
Edwards limestone, Comanchean, Texas: Liddle and Prettyman, 1102.
Edwards limestone, Cretaceous, Texas: Christner and Wheeler, 339; Dumble, 524; Snider, 1736; Udden, 1880; Winton and Atkinson, 2062.
Ekwan River limestone, Silurian, Canada: Savage and Van Tuyl, 1603.
Elbrook formation, Cambrian, Maryland: Bassler, 90.
Elgin sandstone, Pennsylvanian, Kansas: Moore, 1346.
Elgin sandstone, Pennsylvanian, Oklahoma: Heald and Bowen, 778; Snider, 1736.
Elliot phyllite, Carboniferous (?), Maine and New Hampshire: Wandel, 1943.
Elk River beds, Pleistocene, Oregon: Smith and Packard, 1728.
Ellenberger limestone, Cambro-Ordovician, Texas: Snider, 1736.
Ellenberger limestone formation, Cambro-Ordovician, Texas: Matteson, 1231.
Ellenburger formation, Texas: Sellards, 1652, 1654.
Ellenburger limestone, Ordovician, Texas: Udden, 1880.
Ellerslie sandstone, Pennsylvanian, Maryland: Swartz, 1704.
Elmdale shale, Pennsylvanian, Kansas: Snider, 1736.
Elmdale shale member, Pennsylvanian, Kansas: Moore, 1346.
Elm Grove limestone, Permian, Ohio: Stauffer and Schroyer, 1757; Stout, 1794.
El Paso limestone, Ordovician, New Mexico: Keyes, 993.
El Paso limestone, Ordovician, Texas: Udden, 1880.
Elwins formation, Cambrian, Missouri: Tarr, 1817.
Elwren sandstone, Mississippian, Indiana: Malott and Thompson, 1206.
Elwren sandstone and shale, Mississippian, Indiana: Malott, 1205.
Embar group, Carboniferous, Wyoming: Collier, 387.
Embar group, Carboniferous and Triassic, Wyoming: Collier, 389.
Emerald dolomite member, Ordovician, Utah: Lindgren and Loughlin, 1105.
Emmitsburg facies of Newark system, Triassic, Maryland: Dorsey, 510.
Emperorad limestone, Oligocene, Panama Canal Zone: MacDonald, 1170; MacDonald et al., 1171; Vaughan, 1910.
Empire beds, Oligocene, Oregon: Smith and Packard, 1728.
Empire formation, Pliocene, Oregon: Harrison and Eaton, 701.
Emporia limestone, Pennsylvanian, Kansas: Snider, 1736.
Emporia shale member, Pennsylvanian, Kansas: Moore, 1346.
Engadine dolomite, Michigan: Ehlers, 539.
End formation, Permian, Kansas: Moore, 1346; Snider, 1736.
End formation, Permian, Oklahoma: Clapp, 340.
Enterprise green marl, Tertiary, Mississippian: Lowe, 1138.
Enterprise shale, Permian, Kansas: Snider, 1736.
Enterprise shale member, Permian, Kansas: Moore, 1346.
Ephrata conglomerate, Cretaceous (?), Idaho: Mansfield, 1216.
Eramosa member, Silurian, Ontario: Stose et al., 1786.
Escabrosa limestone, Mississippian, Arizona: Mitchell, 1822.
Escondido beds, Cretaceous, Texas: Udden, 1880.
Escondido beds, Cretaceous, Texas: Snider, 1736.
Eskridge shale, Pennsylvanian, Kansas: Snider, 1736.
Eskridge shale member, Pennsylvanian, Kansas: Moore, 1346.
Esopus grit, Devonian, New York: Jones, 951.
Estill, Silurian, Kentucky: Miller, 1293.
Etchegoin formation, Tertiary, California: Pack, 1415.
Eutaw formation, Cretaceous, Georgia: McCallie, 1159.
Eutaw formation, Cretaceous, Georgia, Alabama, and Tennessee: Berry, 129.
Eutaw formation, Cretaceous, Mississippi: Lowe, 1138, 1140.
Eutaw formation, Cretaceous, Mississippi, Alabama, and Tennessee: Berry, 129.
Eutaw formation, Cretaceous, Mississippi, Alabama, and Tennessee: Berry, 129.
Eutaw formation, Cretaceous, Tennessee: Wade, 1922.
Everton formation, Ordovician, Missouri: Dake, 441.
Everton limestone, Ordovician, Arkansas: Miser, 1319.
Ewing limestone, Pennsylvanian, Ohio: Stout, 1794.
Exter (?) formation, Triassic, New Mexico: Garrett, 640.
Exter terrane, Jurassic, New Mexico: Keyes, 993.
Farnam formation, Ordovician, Kentucky: Miller, 1293.
Fajardo shales, Porto Rico: Berkey, 124.
Falkirk dolomite, Silurian, New York: Williams, 2034.
Farnham formation, Ordovician, Quebec: Knox, 1030.
Faulconer bed, Ordovician, Kentucky: Miller, 1293.
Faxon limestone, pre-Cambrian, New York: Alling, 28.
Payette formation, Eocene, Texas: Snider, 1736.
Payette substage, Tertiary, Texas: Dumble, 524.
Payetteville shale, Mississippian, Arkansas: Miser, 1319.
Payetteville shale, Mississippian, Oklahoma: Snider, 1736.
Fernando formation, Pliocene, California: Kew, 979, 980.
Fernie formation, Jurassic, Alberta: Rose, 1575, 1576.
Pernulva limestone, Ordovician, Arkansas: Miser, 1319, 1320.
Pernulva formation, Ordovician, Tennessee: Mather, 1227.
Pernulva rhyolite, Utah: Lindgren and Loughlin, 1105.
Perron sandstone, Cretaceous, Utah: Clark, 344.
Fincher sand, Mississippian, Texas: Mattox, 1231.

Fish Creek argillite, Paleozoic, Washington: Weaver, 1970.
Fish Creek sandstone, Permian, Ohio: Stauffer and Schroyer, 1757.
Fish Haven dolomite, Ordovician, Idaho: Mansfield, 1211.
Fish House clays, Quaternary, New Jersey: Hay, 767.
Flaming Gorge formation, Jurassic, Utah: Butler, 255.
Flat Gap Member, Devonian, Tennessee: Dunbar, 525.
Flattop Mountain sandstone, Pennsylvanian, West Virginia: Hennen, 797.
Flaxman formation, Pleistocene, Alaska: Leffingwell, 1074.
Fleming clay, Tertiary, Texas: Udden, 1889.
Fleming formation, Tertiary, Texas: Dumble, 524.
Florence flint, Permian, Kansas: Snider, 1736.
Florence flint member, Permian, Kansas: Snider, 1736.
Florencla formation, Pleistocene: Baker, 56.
Flowerpot shale, Permian, Kansas: Snider, 1736.
Flowerpot shale member, Permian, Kansas: Folley shale, Carboniferous, Georgia: McCullar, 1159.
Floyed shale, Carboniferous, Georgia: McCullar, 1159.
Folsey limestone, Ordovician, Missouri: Foerste, 603.
Fort-eraker limestone, Pennsylvanian, Oklahoma: Bowen et al., 172; Snider, 1736.
Forteraker limestone member, Carboniferous, Kansas and Oklahoma: Twenhofel, 1867.
Forest Hill sand, Tertiary, Missouri: Lowe, 1138.
Forest Hill (Madison) sand, Tertiary, Mississippian: Lowe, 1138.
Fort Hall formation, Triassic, Idaho: Mansfield, 1211, 1216.
Fort Hays limestone member, Cretaceous, Kansas: Moore, 1346.
Fort Payne chert, Mississippian, Kentucky: Miller, 1297; Shaw and Mather, 1680.
Fort Payne chert, Mississippian, Tennessee: Mather, 1227.
Fort Payne formation, Mississippian, Kentucky: Butler, 255.
Fort Payne formation, Mississippian, Pennsylvania: Bowen et al., 172; Snider, 1736.
Fort Riley limestone, Permian, Kansas: Snider, 1736.
Fort Riley limestone member, Permian, Kansas: Moore, 1346.
Fort Scott limestone, Pennsylvanian, Kansas and Oklahoma: Snider, 1736.
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Fort Scott limestone member, Pennsylvanian, Kansas: Moore, 1346.

Fort Thompson beds, Pleistocene, Florida: Sellards, 1646, 1647, 1648.

Fort Union formation, Tertiary, Montana: Hancock, 734.

Fort Union formation, Tertiary, North and South Dakota: Stanton, 1756.

Fort Union formation, Tertiary, North Dakota: Leonard, 1082.


Fort Wayne chert, Carboniferous, Georgia: McCullie, 1159.

Fort Worth formation, Comanchean, Texas: Adkins, 6.

Fort Worth formation, Cretaceous, Texas: Adkins and Winton, 7; Winton and Adkins, 2062.

Fountain formation, Pennsylvanian, Colorado: Henderson, 795.


Fox Hills group, Cretaceous, Colorado: Henderson, 794.

Fox Hills sandstone, Cretaceous, North and South Dakota: Stanton, 1756.

Fox Hills sandstone, Cretaceous, North Dakota: Leonard, 1082.

Fox Hills (?) sandstone, Cretaceous, South Dakota: Darton, 461.

Fox Hills sandstone, Cretaceous, Wyoming: Hancock, 735.

Franciscan series, Jurassic (?) California: Kew, 980.

Franconia formation, Cambrian, Wisconsin: Twenhofel and Thwaites, 1870.

Franconia sandstone, Cambrian, Minnesota: Grout and Soper, 715.

Franks conglomerate, Pennsylvanian, Oklahoma: Bloesch, 155; Decker, 483.

Fraser River formation, Cretaceous, British Columbia: Redneck, 1538.

Frederick limestone, Ordovician, Maryland: Bassler, 90.

Fredericksburg, Cretaceous, Texas: Dumble, 524.

Fredericksburg division, Comanchean, Texas: Liddle and Prettyman, 1102; Snider, 1736.

Fredericksburg division, Cretaceous, Texas: Winton and Adkins, 2062.

Fredericksburg formation, Cretaceous, Texas: Adkins and Winton, 7.

Fredericksburg terrane, Comanchean, New Mexico: Kewes, 993.

Fredonia, Mississippian, Kentucky: Miller, 1293.


Fredonia oolite, Mississippian, Indiana: Malott and Thompson, 1206.

Fredonia oolite, Mississippian, Tennessee: Butts, 258.

Freeport (Lower) limestone, Pennsylvanian, Ohio: Stout, 1794.

Freeport (Lower) limestone, Pennsylvanian, West Virginia: Reger, 1528.

Freeport (Lower) sandstone, Pennsylvanian, Ohio: Stout, 1794.

Freeport (Lower) sandstone, Pennsylvanian, West Virginia: Reger, 1528.

Freeport (Upper) limestone, Pennsylvanian, Ohio: Stout, 1794.

Freeport (Upper) limestone, Pennsylvanian, West Virginia: Reger, 1528.

Freeport (Upper) sandstone, Pennsylvanian, Ohio: Stout, 1794.

Freeport (Upper) sandstone, Pennsylvanian, West Virginia: Reger, 1528.

Frio formation, Eocene, Texas: Snider, 1736.

Fronclosa terrane, Ordovician, New Mexico: Kewes, 993.

Frontier formation, Cretaceous, Wyoming: Collier, 388; Schultz, 389.

Fulton bed, Ordovician, Kentucky: Miller, 1293.

Fulton green shale, Pennsylvanian, Ohio: Stout, 1794.

Furnaceville (Sodus) shale member, Silurian, Ontario: Williams, 2034.

Fusion formation, Cretaceous, Wyoming: Hancock, 735, 737.

Galena formation, Ordovician, Illinois: Cadby, 270.

Galena limestone, Ordovician, Minnesota: Grout and Soper, 715.

Galesburg shale, Pennsylvanian, Iowa: Tilton, 1846.

Galesburg shale, Pennsylvanian, Kansas: Snider, 1736.

Galesburg shale member, Pennsylvanian, Kansas: Moore, 1348.

Galesoic terrane, Miocene, New Mexico: Kewes, 993.

Galice formation, Jurassic, Oregon: Smith and Packard, 1728.

Galisteo formation, Tertiary, New Mexico: Baker, 55.


Gallego sandstone member, Cretaceous, New Mexico: Winchester, 2061.

Gallegos terrane, Permian, New Mexico: Kewes, 993.

Gallinas terrane, Cretaceous, New Mexico: Kewes, 993.

Gannett group, Cretaceous (?), Idaho: Mansfield, 1216.

Gaptank formation, Pennsylvanian, Texas: Böse, 161.

Garden City limestone, Ordovician, Idaho: Mansfield, 1211.

Gardner dolomite, Mississippian, Utah: Lindgren and Loughbirt, 1105.

Gardner formation, Utah: Wichman, 2024.

Garnuan series, Proterozoic, New Mexico: Keyses, 993.

Garrard, Ordovician, Kentucky; Miller, 1293.
Garrett terrane, Comanchean, New Mexico; Keyes, 993.
Garrison limestone and shale, Permian, Kansas; Snider, 1736.
Garrison limestone and shale member, Permian, Kansas; Moore, 1846.
Gasconade formation, Ordovician, Missouri; Tarr, 1817.
Gasper, Mississippian, Kentucky; Miller, 1293.
Gasper oolite, Mississippian, Indiana; Malott and Thompson, 1206.
Gasper oolite, Mississippian, Kentucky; Butts, 259.
Gasper oolite, Mississippian, Tennessee; Butts, 258.
Gasport dolomite member, Silurian, Ontario; Williams, 2034.
Gatun formation, Miocene, Panama Canal Zone; MacDonald, 1170; Vaughan, 1910.
Gatun formation, Miocene, Panama and Costa Rica; MacDonald et al., 1171.
Gaululpe formation, Permian, Permian, Kansas; Snider, 1736; Udden, 1880.
Georgetown formation, Cretaceous, Texas; Sellards, 1653; Snider, 1736.
Georgetown formation, Cretaceous, Texas; Udden, 1880.
Georgetown limestone, Cretaceous, Texas; Dumble, 524; Matteson, 1231; Winton and Adkins, 2062.
Glen Rose formation, Cretaceous, Texas; Snider, 1736; Udden, 1880.
Glen Rose limestone, Cretaceous, Texas; Dumble, 524; Matteson, 1231; Winton and Adkins, 2062.
Glen Rose limestone, Permian, New Mexico; Baker, 55.
Glen Echo terrane, Cretaceous, New Mexico; Keyes, 993.
Golconda, Mississippian, Kentucky; Miller, 1293.
Golconda formation, Mississippian, Illinois; Weller et al., 1973.
Golconda limestone, Mississippian, Illinois; Weller, 1974.
Golconda limestone, Mississippian, Indiana; Malott and Thompson, 1206.
Golconda limestone and shale, Mississippian, Indiana; Malott, 1205.
Golconda shale, Mississippian, Tennessee; Butts, 258.
Glenville formation, Nova Scotia; Farbault, 572.
Goodland formation, Cretaceous, Texas; Adkins and Winton, 7.
Goodland limestone, Cretaceous, Arkansas; Miser, 1319.
Goodland limestone, Cretaceous, Texas; Winton and Adkins, 2062.
Gordon sand, Mississippian, Texas; Plummer, 1475.
Gore (Upper Mercer) limestone, Pennsylvanian, Ohio; Stout, 1794.
Goshen schist, Vermont; Foye, 620.
Graford formation, Pennsylvanian, Texas; Plummer, 1475.
Graford limestone, Pennsylvanian, Texas; Snider, 1736.
Grand Rapids formation, Cretaceous, Alberta; McLean, 1195.
Grand Tower limestone, Devonian, Illinois; Savage, 1604, 1605; Weller et al., 1973.
Graneros shale, Cretaceous, Kansas; Dutton, 462; Snider, 1736.
Graneros shale, Cretaceous, New Mexico; Garrett, 640.
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Graneros shale, Cretaceous, South Dakota: Darton, 461.
Graneros shale, Cretaceous, Wyoming: Hancock, 735, 736.
Graneros shale member, Cretaceous, Kansas: Moore, 1846.
Granite Mountain porphyry, Arizona: Ransome, 1507.
Grapevine sandstone, Pennsylvanian, West Virginia: Reger, 1528.
Graphic terrane, Proterozoic, New Mexico: Keyes, 993.
Grayhorse limestone, Pennsylvanian, Oklahoma: Bowen et al., 172.
Grayson formation, Comanchean, Texas: Adkins, 6.
Grayson formation, Cretaceous, Texas: Adkins and Winton, 2082.
Grayson marl, Comanchean, Texas: Snider, 1736.
Grayson marls, Comanchean, Texas: Snider and Adkins, 1736.
Greenbrier limestone, Mississippian, West Virginia: Reger, 1528.
Greencastle bed, Ordovician, Maryland: Bliss, 90.
Greendale bed, Ordovician, Kentucky: Miller, 1193.
Greene formation, Permian, Ohio: Stauffer and Schroyer, 1757.
Greenhorn limestone, Cretaceous, Kansas: Darton, 462; Snider, 1736.
Greenhorn limestone, Cretaceous, New Mexico: Garrett, 1240.
Greenhorn limestone, Cretaceous, South Dakota: Darton, 461.
Greenhorn limestone, Cretaceous, Wyoming: Hancock, 735, 736.
Greenhorn limestone member, Cretaceous, Kansas: Moore, 1346.
Greenleaf sandstone, Cretaceous, Kansas: Twenhofel, 1871.
Green River formation, Eocene, Colorado: Lunt, 1149.
Green River formation, Wyoming: Schramm, 1622.
Greer formation, Permian, Kansas: Moore, 1346; Snider, 1736.
Greer formation, Permian, Texas: Beede, 109; Gould, 678.
Greer terrane, Permian, New Mexico: Keyes, 993.
Grenville, pre-Cambrian, Ontario: Miller and Knight, 1201, 1202.
Grenville series, pre-Cambrian, New York: Ailing, 28; Miller, 1302, 1308, 1309.
Grenville series, pre-Cambrian, Quebec: Cooke, 401; Wilson, 2051.
Grimsky sandstone member, Silurian, Ontario: Williams, 2084.
Grizzly Bear formation, Cretaceous, Alberta: Slipper, 1712.
Grizzly Peak rhyolite, Tertiary, Colorado: Howell, 574.
Gros Ventre formation, Cambrian, Wyoming: Coller, 389.
Guadaloupan series, Permian, New Mexico: Keyes, 993.
Guayama series, Comanchean or Cretaceous, Puerto Rico: Hodge, 837.
Guelpf formation, Silurian, Ontario: Williams, 2034.
Guadal formation, pre-Cambrian, Minnesota: Broderick, 198.
Gunsight formation, Pennsylvanian, Texas: Plummer, 1475.
Gunsight limestone, Pennsylvanian, Texas: Snider, 1736.
Gunter sandstone, Cambrian, Missouri: Dake, 441.
Gurabo formation, Miocene, Dominican Republic: Cooke, 400; Maury, 1249.
Guyandot sandstone, Pennsylvanian, West Virginia: Hennen, 797; Rege, 1528.
Guyandot (Lower) sandstone, Pennsylvanian, West Virginia: Hennen, 797.
Hackberry shale, Permian, Kansas: Snider, 1736.
Hackberry stage, Devonian, Iowa: Fenton, 580.
Halleyburian, pre-Cambrian, Ontario: Miller and Knight, 1301, 1302.
Halleybury formation, Ordovician, Ontario: Hume, 881.
Hale formation, Pennsylvanian, Arkansas: Miser, 1319.
Halifax slate formation, Nova Scotia: Paribault, 572.
Hamden limestone, Pennsylvanian, Ohio: Stout, 1794.
Hampton shale, Cambrian, Virginia: Stose et al., 1786.
Hanbury formation, pre-Cambrian, Michigan: Allen, 25.
Hannah formation, Mississippian, Missouri: Dake, 441.
Hanover shale, Devonian, New York: Chadwick, 308; Russakof and Bryan, 884.
Haragan marl, Devonian, Oklahoma: Decker, 483.
Hardin sandstone member, Mississippian, Tennessee: Galloway, 633.
Hardeesburg, Mississippian, Kentucky: Miller, 1283.
Hardinsburg sandstone, Mississippian, Indiana: Malott and Thompson, 1206.
Hardinsburg sandstone, Mississippian, Tennessee: Butts, 258.
Harper sandstone, Permian, Kansas: Snider, 1736.
Harper sandstone member, Permian, Kansas: Moore, 1846.
Harpers shale, Cambrian, Maryland: Bassler, 90.
Harricanaw series, pre-Cambrian, Quebec: Tanton, 1818.
Harriman novaculite, Devonian, Tennessee: Dunbar, 525.
Harrison beds, Miocene, South Dakota: O'Hara, 1899.
Harrodsburg, Mississippian, Kentucky: Miller, 1298.
Harrodsburg limestone, Mississippian, Indiana: Logan, 1120.
Hartridge black shale, Pennsylvania, West Virginia: Hennen, 797; Reger, 1528.
Hartselle sandstone, Mississippian, Mississippian, Ohio: Logan, 1120.
Harvey conglomerate sandstone, Pennsylvania, West Virginia: Hennen, 797; Reger, 1528.
Hatchetigbee formation, Tertiary, Alabama: Brantley, 191.
Hawkeye granite, pre-Cambrian, New York: Miller, 1305, 1309.
Hawkins terrane, Cambrian, New Mexico: Keyes, 993.
Hay Hollow sandstone, Pennsylvanian, Oklahoma: Goldman and Robinson, 667.
Hazen limestone, Pennsylvanian, Texas: Döse, 161.
Hazelton series, Jurassic, British Columbia: O'Neill, 1890.
Heimens group, Mississippian, Texas: Beebe, 110.
Henryhouse shale, Silurian, Oklahoma: Decker, 483.
Herington limestone, Permian, Kansas: Snider, 1738.
Herington limestone, Permian, Oklahoma: Bowen et al., 172.
Herington limestone member, Permian, Kansas: Moore, 1346.
Herkimer limestone, Cambrian, Utah: Lindgren and Loughlin, 1104; Wichman, 2024.
Hermitage formation, Ordovician, Tennessee: Galloway, 633.
Hermitage substage, Ordovician, Kentucky: Miller, 1293.
Hermosa formation, Pennsylvanian, Colorado: Coffin, 375.
Hertha limestone, Pennsylvanian, Iowa: Tilton, 1846.
Hertha limestone, Pennsylvanian, Kansas: Moore and Elledge, 1347; Snider, 1738.
Hertha limestone member, Pennsylvanian, Kansas: Moore, 1346.
Hess formation, Perm-Carboniferous, Texas: Döse, 161.
Heuvelton sandstone, Cambrian, New York: Chadwick, 310.
Hewittville beds, Ordovician, New York: Chadwick, 310.
Hickory sandstone, Cambrian, Texas: Snider, 1738.
Hidden Treasure limestone, Mississippian, Utah: Wichman, 2024.
Higham grit, Triassic (?), Idaho: Mansfield, 1211, 1214, 1216.
Highbridge stage, Ordovician, Kentucky: Miller, 1293.
High Rock sandstone, Carboniferous, Kentucky: Browning and Russell, 206.
Hilliard shale, Cretaceous, Wyoming: Schults, 1639.
Hindsville limestone member, Mississippian, Arkansas: Miser, 1318.
Hinton formation, Mississippian, Virginia: Harnsberger, 749.
Hinton limestone, Mississippian, West Virginia: Reger, 1528.
Hoffman limestone, Pennsylvanian, Kentucky: Swartz, 1804.
Hogshooter gas sand, Carboniferous, Oklahoma: Berger, 123.
Hogshooter limestone, Pennsylvanian, Oklahoma: Ross, 1783; Snider, 1736.
Holdenville shale, Pennsylvanian, Oklahoma: Snider, 1738.
Holtclaw, Mississippian, Kentucky: Miller, 1298.
Holly Springs sand, Tertiary, Mississippi: Lowe, 1138.
Homewood sandstone, Pennsylvanian, West Virginia: Reger, 1528.
Homewood (Roaring Creek) sandstone, Pennsylvanian, West Virginia: Hennen, 797.
Homewood (Tionesta) sandstone, Pennsylvanian, Ohio: Stout, 1794.
Hot Springs sandstone, Mississippian, Arkansas: Miser, 1318.
Houten terrane, Cenozoic (Tertiary), New Mexico: Keyes, 993.
Howard limestone, Pennsylvanian, Kansas: Snider, 1736.
Howard limestone member, Pennsylvanian, Kansas: Snider, 1736.
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Huronian (Lower) group, pre-Cambrian, Michigan: Allen, 25.

Huronian (Upper) group, pre-Cambrian, Michigan: Allen, 25.

Hygiene sandstone member, Cretaceous, Colorado: Henderson, 704.

Iaeger (Lower) shale, Pennsylvanian, West Virginia: Hennen, 707; Reger, 1528.

Iaeger (Middle) sandstone, Pennsylvanian, West Virginia: Reger, 1528.

Iaeger (Upper) shale, Pennsylvanian, West Virginia: Reger, 1528.

Iatan (?) limestone, Carboniferous, Oklahoma: Goldman, 665.

Iatan limestone, Pennsylvanian, Kansas: Boughton, 170; Snider, 1738.

Iatan limestone, Pennsylvanian, Oklahoma: Goldman and Robinson, 667.

Iatan limestone member, Pennsylvanian, Kansas: Moore, 1436.

Idaho formation, Pliocene, Oregon: Smith and Packard, 1728.

Idaho formation, Quaternary, Idaho: Hay, 737.

Ignek formation, Jurassic (?), Alaska: Leffingwell, 1074.

Illinoian drift, Pleistocene: Baker, 50.

Illinoian drift, Pleistocene, Illinois: Hinds, 832.

Illinoian drift sheet, Quaternary, Ohio: Stout, 1794.

Independence shale, Devonian, Iowa: Norton 1351; Thomas, 1859.

Indian Falls stage, Silurian, Kentucky: Miller, 1293.

Iowa series, Mississippian, Illinois: Williams, 2032.

Indian Springs shale, Mississippian, Indiana: Malott and Thompson, 1208.

Iola limestone, Pennsylvanian, Kansas: Snider, 1736.

Iola limestone member, Pennsylvanian, Kansas: Moore, 1346.

Ione formation, Eocene, California: Clark, 341.


Iowan drift, Pleistocene: Baker, 50.

Irasburg conglomerate, Ordovician, Vermont: Richardson, 1544, 1545.

Irondale limestone, Pennsylvanian, Maryland: Swartz, 1804.

Irondequoit dolomite member, Silurian, Ontario: Williams, 2034.

Ironside formation, Pliocene, Oregon: Smith and Packard, 1728.

Ironwood formation, pre-Cambrian, Wisconsin and Michigan: Hotchkiss, 865.

Jackfork sandstone, Mississippian, Arkansas: Miser, 1319.

Jackeboro limestone, Pennsylvanian, Texas: Plummer, 1475.

Jackson formation, Tertiary, Alabama: Brantley, 181.

Jackson formation, Tertiary, Mississippi: Lowe, 1146.

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LISTS—GEOLOGIC FORMATIONS DESCRIBED.

Reagan sandstone, Cambrian, Oklahoma: Decker, 483.
Redbank sand, Cretaceous, New Jersey: Mansfield, 1210.
Red Bluff formation, Tertiary, Mississippi: Lowe, 1138.
Red Bluff formation, Tertiary, Mississippian: Decker, 483.
Red Engle limestone, Pennsylvanian, Oklahoma: Bowen et al., 172; Snider, 1736.
Red Mountain formation, British Columbia: Schofield, 1020.
Red Rock Canyon beds, Tertiary, California: Men-lam, 1264.
Redtown limestone, Mississippian, Ohio: Stout, 1794.
Red Top formation, British Columbia: Schofield, 1620.
Red Top limestone, Mississippian, Arizona: Shimer, 1693.
Redder, sandstone, Cretaceous, Kansas: Twenhofel, 1871.
Redsville limestone, Mississippian, Indiana: Malott, 1205; Malott and Thompson, 1206.
Renault limestone, Mississippian, Indiana: Hole, 847.
Republican Creek limestone, Paleozoic, Washington: Weaver, 1970.
Revard sandstone, Pennsylvanian, Oklahoma: Robinson and Mills, 1559, 1560.
Revet formation, Algonkian, Idaho: Jones, 944.
Rex chert member, Permian, Idaho: Mansfield, 1211.
Reynales (Wolcott) dolomite member, Silurian, Pennsylvania: Williams, 2034.
Reynosa limestone, Texas: Barton, 85.
Rhine street shale, Devonian, New York: Hussakof and Bryant, 884.
Rhode Island formation, Carboniferous, Rhode Island: Perkins, 1462.
Ribstone Creek formation, Cretaceous, Alberta: Slipper, 1712.
RicardO beds, Tertiary, California: Merriman, 1264.
Ricardo group, Tertiary, California: Merriman, 1264.
Riceville shale, Devonian, Carboniferous, Pennsylvania: Decker, 483.
Richmond stage, Ordovician, Kentucky: Miller, 1293.
Richardson shale, Mississippian, Kentucky: Miller, 1293.
Ridley limestone, Ordovician, Tennessee: Galloway, 683.
Rio de la Plata series, Comanchean, Porto Rico: Hodge, 837.
Ripley formation, Cretaceous, Alabama: Brantley, 191.
Ripley formation, Cretaceous, Georgia: McCullie, 1159.
Ripley formation, Cretaceous, Georgia and Alabama: Berry, 129.
Ripley formation, Cretaceous, Kentucky: Miller, 1293.
Ripley formation, Cretaceous, Mississippi: Lowe, 1138, 1140.
Ripley formation, Cretaceous, Tennessee: Schroeder, 1623; Wade, 1922.
Ripton conglomerate, Algonkian, Vermont: Foye, 620.
Riverside sandstone, Mississippian, Indiana: Logan, 1120.
Roan gneiss, Archean, Georgia: McCullie, 1159.
Roaring Creek sandstone, Pennsylvanian, West Virginia: Hennen, 797.
Rochester quartzite, Vermont: Foye, 620.
Rocheuse shale formation, Silurian, Ontario: Williams, 2034.
Roelada terrane, Archeozoic, New Mexico: Keyes, 993.
Rockcastle sandstone, Pennsylvanian, Tennessee: Butts, 258.
Rockford limestone, Mississippian, Indiana: Logan, 1120.
Rockhouse shale, Devonian, Tennessee: Dunbar, 525.
Rockmart shale, Ordovician, Georgia: McCullie, 1159.
Rockwood formation, Silurian, Georgia: McCullie, 1159.
Rodman formation, Ordovician, Pennsylvania: Field, 590.
Romance arkose, Vermont: Foye, 620.
Rome formation, Cambrian, Georgia: McCullie, 1159.
Rondout limestone, Silurian, New York: Jones, 951.
Rosewood series, Tertiary, California: Merriman, 1264.
Rosebud beds, Miocene, South Dakota: O'Harr, 1389.
Rosewood, Mississippian, Kentucky: Miller, 1293.
Rosiclar, Mississippian, Kentucky: Miller, 1293.
Ross Fork limestone, Triassic, Idaho: Mansfield, 1211, 1216.
Roubidoux formation, Cambrian, Missouri: Dake, 441.
Roubidoux formation, Ordovician, Missouri: Tarr, 1817.
Round Knob shale. Pennsylvanian, Ohio: Stout, 1794.

Rove slate, pre-Cambrian, Minnesota: Broderick, 198.

Rosbury conglomerate series, Permo-Carboniferous, Massachusetts: Sayles, 1606.

Royal shale, Pennsylvanian, West Virginia: Hennen, 797.


Ruth argillite, Carboniferous, British Columbia: Schofield, 1619.

Saanich granodiorite, Jurassic (?), British Columbia: Dolmage, 506.

Sabine formation, Tertiary, Texas: Dumble, 524.

Sacadaga quartzite, pre-Cambrian, New York: Alling, 28.

Saddlehorse gypsum, Permian, Texas: Gould, 678.

Sadlerochit sandstone, Pennsylvanian, Alaska: Leffingwell, 1074.

St. Charles formation, Cambrian, Idaho: Mansfield, 1211.

St. Clair limestone, Silurian, Arkansas: Miser, 1319, 1320.

St. Clair marble, Silurian, Oklahoma: Snider, 1736.

St. Edmund dolomite lentil, Silurian, Ontario: Williams, 2034.

St. John formation, Cretaceous, Alberta: McLear, 1187, 1188.

St. John formation, Cretaceous, British Columbia: Stewart, 1747.


St. Lawrence formation, Cambrian, Minnesota: Grout and Soper, 715.

St. Lawrence formation, Cambrian, Wisconsin: Twehufel and Thwaites, 1870.

St. Lorenz limestone, Devonian, Missouri: Dake, 441.

St. Louis formation, Mississippian, Mississipi Valley: Keyes, 939.

St. Louis limestone, Carboniferous, Kentucky: Jillson, 918.

St. Louis limestone, Mississippian, Illinois: Coryell, 410; Hinds, 832.

St. Louis limestone, Mississippian, Illinois: Nebel, 1367; Weller et al., 1975.

St. Louis limestone, Mississippian, Kentucky: Butts, 259; Miller, 1293; Shaw and Mather, 1860.

St. Louis limestone, Mississippian, Tennessee: Butts, 258; Mather, 1227.

St. Louis stage, Mississippian, Kentucky: Miller, 1293.

St. Mary River beds, Cretaceous, Alberta: Slipper, 1712.

St. Mary River formation, Eocene (?), Alberta: Rose, 1576.

St. Mary River formation, Cretaceous, Alberta: Stewart, 1760.

St. Mary River formation, Jurassic, Alberta: Rose, 1575.

St. Peter formation, Ordovician, Wisconsin: Twehufel and Thwaites, 1870.

St. Peter sandstone, Ordovician, Arkansas: Miser, 1319, 1320.

St. Peter sandstone, Ordovician, Illinois: Cadz, 267, 270.

St. Peter sandstone, Ordovician, Minnesota: Grout and Soper, 715.

St. Peter sandstone, Ordovician, Missouri: Branson, 190; Dake, 441.

St. Peter’s sandstone, Ordovician, Indiana: Logan, 1120.

St. Regis formation, Algonkian, Idaho: Jones, 944.


Ste. Genevieve limestone, Carboniferous, Kentucky: Jillson, 905.

Ste. Genevieve marls, Mississippian, Iowa: Lees and Thomas, 1073.

Ste. Genevieve stage, Mississippian, Kentucky: Miller, 1269.

Salem limestone, Mississippian, Indiana: Logan, 1120.

Salem limestone, Mississippian, Illinois: Coryell, 410; Nebel, 1367.

Salem limestone (Meramecian), Missouri: Branson, 190.

Salina formation, Silurian, Ontario: Williams, 2034.

Salinas shale, Miocene, California: Kew, 980.

Salina formation, Ordovician, Pennsylvania: Field, 300.

Salt Lake formation, Pliocene, Idaho: Mansfield, 1216.

Salt Lake formation, Pliocene (?), Idaho: Mansfield, 1211.

Salt Lake formation, Tertiary, Idaho: Mansfield, 1213.

Salt Mountain limestone, Tertiary, Alabama: Brentley, 191.

Salt Plain shale, Permian, Kansas: Snider, 1736.

Salt Plain shale member, Permian, Kansas: Moore, 1346.

Salt Wash sandstone member, Jurassic, Utah: Butler, 255.

Saltzberg sandstone, Pennsylvanian, Ohio: Stout, 1794.

Saluda, Ordovician, Kentucky: Miller, 1293.

Sattama bed, Ordovician, Kentucky: Miller, 1293.

Sample sandstone, Mississippian, Indiana: Malott, 1205.

Sample sandstone, Mississippian, Indiana: Malott and Thompson, 1290.

Sample sandstone member, Mississippian, Kentucky: Miller, 1293.

Sampson Rock sandstone, Pennsylvanian, Maryland: Schwart, 1804.

San Andreas limestone, Permian, New Mexico: Baker, 55; Semmes, 1658.
LISTS—GEOLOGIC FORMATIONS DESCRIBED.

San Angelo beds, Permian, Texas: Bedde, 108.
San Angelo formation, Permian, Texas: Bedde, 109.
San Carlos beds, Cretaceous, Texas: Udden, 1850.
San Diego formation, Tertiary, California: Ellis, 542.
Sanilia terrane, Pennsylvanian, New Mexico: Keyes, 993.
San Joaquin terrane, Proterozoic, New Mexico: Keyes, 993.
Sandy Huff shale, Pennsylvania, West Virginia: Reger, 1528.
Sangamon interglacial interval, Pleistocene: Reger, 1528.
San Juan formation, Pleistocene, Porto Rico: Maury, 1248.
San Juan formation, Pleistocene (?), Porto Rico: Semmes, 1655.
San Juan formation, Tertiary, Porto Rico: Bearkey, 124.
San Juan formation, Quaternary, Porto Rico: Hubbard, 877.
San Onofre breccia, Tertiary, California: Kew, 542.
San Pedro formation, Quaternary, California: Ellis, 542.
San Sebastian shales, Tertiary, Porto Rico: Bearkey, 124; Maury, 1248.
Santa Fe terrane, Miocene, New Mexico: Keyes, 993.
Santa Isabel series, Recent, Porto Rico: Hodge, 827.
Santa Margarita formation, Miocene, California: Pack, 1415.
Santa Rita series, Silurian, New Mexico: Keyes, 993.
Sapello terrane, Archeozoic, New Mexico: Keyes, 993.
Sparbach formation, Ordovician, Alberta: Wakcott, 1928.
Saudia terrace, Tertiary, Mississippi: Lowe, 1138.
Shila formation, Quaternary, Georgia: McCallie, 1159.
Shoshone formation, Pleistocene, Oregon: Smith and Packard, 1728.
Savanna formation, Pennsylvanian, Arkansas: Misc. 1319.
Savanna limestone, Pennsylvanian, Oklahoma: Snider, 1736.
Scajaquada shales, Silurian, New York: Williams, 2034.
Scalan conglomerate, Cambrian, Arizona: Ransome, 1507.
Schooner Head series, Mount Desert Island, Maine: Bascom, 87.
Schultz granite, Tertiary (?), Arizona: Ransome, 1507.
Schottsville clay, Pennsylvanian, Ohio: Stout, 1794.
Scranton shale, Pennsylvanian, Kansas: Snider, 1736.
Scranton shale member, Pennsylvanian, Kansas: Moore, 1346.
Sebkht el-Kebir period, Proterozoic, New Mexico: Keyes, 993.
Selma chalk, Cretaceous, Alabama: Brantley, 191.
Selma chalk, Cretaceous, Gulf region: Berry, 129.
Selma chalk, Cretaceous, Mississippi: Lowe, 1138, 1140.
Selma clay, Cretaceous, Tennessee: Schroeder, 1623.
Selma formation, Cretaceous, Tennessee: Wade, 1822.
Seminole conglomerate, Pennsylvanian, Oklahoma: Snider, 1736.
Sequatchie formation, Pennsylvanian, Oklahoma: Snider, 1736.
Sensit agglomerate and limestone, Panama and Costa Rica: MacDonald et al., 1171.
Serna terrane, Archeozoic, New Mexico: Keyes, 993.
Sespe formation, Oligocene (?), California: Kew, 979, 980.
Seth limestone, Pennsylvanian, West Virginia: Hennen, 797.
Severn River limestone, Silurian, Canada: Savage and Van Tuyl, 1608.
Severy shale, Pennsylvanian, Kansas: Snider, 1736.
Severy shale member, Pennsylvanian, Kansas: Moore, 1346.
Sewickley sandstone, Pennsylvanian, Ohio: Stout, 1794.
Sextant sandstone and shale, Devonian, Canada: Savage and Van Tuyl, 1608.
Shady dolomite, Cambrian, Virginia: Stose et al., 1786.
Shady limestone, Cambrian, Georgia: Hull, 880; Hull et al., 878; McCullie, 1159.
Shakopee dolomite, Ordovician, Illinois: Cadly, 267.
Shakopee dolomite, Ordovician, Minnesota: Grovit and Soper, 713.
Shanmattawa limestone, Ordovician, Canada: Savage and Van Tuyl, 1608.
Shannon (?) sandstone, Cretaceous, Wyoming: Hancock, 735.
Sharon conglomerate, Pennsylvanian, Ohio: Stout, 1794.
Sharon or Olean conglomerate, Pennsylvanian, Ohio, Pennsylvania, and New York: Decker, 483.
Shawangunk conglomerate, Silurian, New York: Colony, 392.
Shawnee formation, Pennsylvanian, Kansas: Moore, 1346; Snider, 1356.
Sheep Creek beds, Miocene, South Dakota: O'Hara, 1359.
Sheep Creek conglomerate, Carboniferous (?), Washington: Weaver, 1970.
Sheridan formation, Devonian, Iowa: Fenton, 580.
Shebibraune sandstone, Devonian, New York: (illegible), 688.
Shiner gypsum member,Permian, Kansas: Moore, 1946.
Shiner gypsum, Permian, Kansas: Snider, 1736.
Shinarump conglomerate, Triassic, Arizona: Shimer, 1093.
Shinarump conglomerate, Triassic, Utah: Butler, 235; Clark, 344.
Shinarump sandstone, Permian, New Mexico: Baker, 55.
Shinarump terrane, Triassic, New Mexico: Keyes, 993.
Siberia limestone, Mississippian, Indiana: Malott and Thompson, 1206.
Sierra terrane, Mississippian, New Mexico: Keyes, 993.
Sierra Blanca series, Cretaceous, New Mexico: Semmes, 1558.
Sierra de Cayce series, Cenomanian or Cretaceous, Porto Rico: Hodge, 837.
Signal Hill series, pre-Cambrian, Newfoundland: Buddington, 226.
Sillery formation, Cambrian, Quebec: Knox, 1030.
Silver terrane, Devonian, New Mexico: Keyes, 993.
Silver Creek member, Devonian, Kentucky: Miller, 1293.
Silver Bead formation, Carboniferous, British Columbia: Schofield, 1617, 1618.
Silvis River beds, Jurassic, Oregon: Smith and Packard, 1728.
Stimpson formation, Ordovician, Oklahoma: Decker, 483.
Stevenson limestone, Pennsylvania, Ohio: Stout, 1794.
Stoltz limestone, Pennsylvania, West Virginia: Reger, 1528.
Skyline formation, Carboniferous, British Columbia: Schofield, 1617, 1619.
Slocan series, Carboniferous, British Columbia: Bancroft, 66; Schofield, 1619.
Smithwick shale, Carboniferous, Texas: Ulden, 1887.
Smithwick shale, Mississippian, Texas: Mattheson, 1231.
Smithwick shale, Pennsylvania, Texas: Girty, 659; Girty and Moore, 660; Moore, 1344; Plummer, 1475; Snider, 1736.
Smoky Hill chalk member, Cretaceous, Kansas: Moore, 1346.
Smoky River formation, Cretaceous, Alberta: McLearn, 1187, 1188.
Smoky River formation, Cretaceous, British Columbia: Steward, 1767.
Smoky River series, Cretaceous, British Columbia: Steward, 1767.
Snider Creek shale, Devonian, Missouri: Branson, 190.
Soccoro series, Mississippian, New Mexico: Keyes, 993.
Soledad deposits, Tertiary, California: Jordan, 994.
Solitario terrane, Archeozoic, New Mexico: Keyes, 993.
Someo formation, Miocene, British Columbia: Cooke, 402.
Someo gabbro, Oligocene, British Columbia: Cooke, 402.
Someo gabbro, Tertiary, British Columbia: Dolmage, 507.
Spavinaw granite, Oklahoma: Aurlin, 50.
Spearfish formation, Triassic (?), Wyoming: Hancock, 735.
Spence shale member, Cambrian, Idaho: Mansfield, 1211.
Spencer, Mississippian, Kentucky: Miller, 1293.
Spencer formation, Mississippian, Illinois: Hinds, 852.
Spring Creek clays, Cretaceous, Kansas: Twenhofel, 1871.
Squanto tillite member, Permo-Carboniferous, Massachusetts: Sayles, 1696.
Stanley shale, Mississippian, Arkansas: Miser, 1319.
Stanton limestone, Pennsylvanian, Kansas: Boughton, 170; Snider, 1756.
Stanton limestone member, Pennsylvanian, Kansas: Moore, 1346.
Star limestone, Carboniferous, British Columbia: Schofield, 1619.
Stockton (Cannelton) limestone, Pennsylvanian, West Virginia: Hennen, 797; Reger, 1528.
Stollmeyer Cruse shale, Tertiary, Trinidad: Macreedy, 1195.
Stollmeyer oil zone, Tertiary, Trinidad: Macreedy, 1195.
Stonebreaker limestone, Pennsylvanian, Oklahoma: Bowen et al., 172; Heald, 773; Snider, 1736.
Stonehenge group, Ordovician, Maryland: Bassler, 90.
Stone River group, Ordovician, Pennsylvania: Field, 599.
Stone River group, Ordovician, Tennessee: Galloway, 633.
Stone River limestone, Ordovician, Maryland: Bassler, 90.
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Strawn division, Pennsylvanian, Texas: Plummer, 1475.
Strawn formation, Pennsylvanian, Texas: Matteson, 1231; Snider, 1736.
Stuart shale, Pennsylvanian, Oklahoma: Snider, 1736.
Stump sandstone, Jurassic, Idaho: Mansfield, 1214, 1216.
Succaroches formation, Tertiary, Alabama: Brantley, 191.
Summerfield limestone, Pennsylvanian, Ohio: Stout, 1794.
Summer group, Carboniferous, Kansas: Darnton, 462.
Sunbury shale, Mississippian, Kentucky: Miller, 1293.
Sundance formation, Jurassic, Colorado: Lee, 1067.
Sundance formation, Jurassic, Wyoming: Collier, 389; Hancock, 735.
Sundance marine beds, Jurassic, Colorado: Henderson, 795.
Sundal Lake quartzite, pre-Cambrian, Wisconsin and Michigan: Hoeltkiss, 865.
Sunderland formation, Quaternary, Maryland: Hay, 797.
Sunderland formation, Quaternary, Maryland and Delaware: Bascom and Miller, 86.
Supai formation, Pennsylvanian and Permian, Arizona: Shimer, 1693.
Superioran period, Proterozoic, New Mexico: Keyes, 993.
Sutton formation, Triassic or Jurassic, British Columbia: Dolmage, 506.
Swan Peak quartzite, Ordovician, Idaho: Mansfield, 1211.
Swanseah rhyolite, Utah: Lindgren and Loughlin, 1105.
Swept Pond quartzite, pre-Cambrian, New York: Alling, 28.
Sweetland Creek shale, Devonian, Illinois: Savage, 1904.
Sycamore limestone, Mississippian, Oklahoma: Decker, 483.
Sylamore sandstone, Mississippian, Missouri: Branson, 190.
Sylamore sandstone member, Devonian, Arkansas: Miser, 1319.
Syvan shale, Silurian, Oklahoma: Decker, 483.
Tabera formation, Oligocene, Dominican Republic: Cooke, 400.
Tablot formation, Quaternary, Maryland: Hay, 767.
Talbot formation, Quaternary, Maryland, Delaware, and New Jersey: Bascom and Miller, 86.
Tallahatta formation, Tertiary, Mississippi: Lowe, 1138.
Tampa formation, Oligocene, Florida: Cashman, 491; Sollards, 1647, 1648.
Taneytown facies of Newark system, Triassic, Maryland: Dorsey, 510.
Tosoan series, Archeozoic, New Mexico: Keyes, 993.
Tarkio formation, Carboniferous, Iowa: Smith, 1714.
Tar Springs, Mississippian, Kentucky: Miller, 1293.
Tar Springs formation, Mississippian, Indiana: Malott and Thompson, 1206.
Tatima group, Ordovician (?), Alaska: Capps, 291.
Taylor formation, Cretaceous, Texas: Dumble, 524; Sollards, 1650, 1653; Shuler, 1696; Snider, 1736.
Taylor marl, Cretaceous, Texas: Udell, 1880.
Teapot Mountain porphyry, Arizona: Ramsome, 1507.
Teocas formation, Triassic, Texas: Gould, 675.
Teocas terrane, Triassic, New Mexico: Keyes, 993.
Tejina beds, Tertiary, California: Stock, 1770.
Tecumseh shale, Pennsylvanian, Kansas: Snider, 1736.
Tecumseh shale member, Pennsylvanian, Kansas: Moore, 1346.
Tefon formation, Eocene, California: Kew, 979, 980.
Tefon formation, Eocene, California: Pack, 1415.
Tellera terrane, Permian, New Mexico: Keyes, 993.
Tensleep sandstone, Carboniferous, Wyoming: Collier, 389.
Tensleep sandstone, Peninsylvanian, Wyoming: Schulz, 1639.
Terry limestone, Mississippian, West Virginia: Hennen, 797; Reger, 1528.
Tessey formation, Perm-Carboniferous, Texas: Bise, 161.
Teutonic limestone, Cambrian, Utah: Lindgren and Loughlin, 1105; Wichman, 2024.
Thaynes group, Triassic, Idaho: Mansfield, 1211, 1214, 1216.
Thebes sandstone, Ordovician, Illinois and Missouri: Savage, 1602.
Thebes sandstone, Ordovician, Missouri: Deke, 441.
Theresa mixed beds, Cambrian, New York: Chadwick, 310.


Thornton clay, Pennsylvania, Ohio: Stout, 1794.

Thornton fire clay, Pennsylvania, West Virginia: Reeder, 1728.

Thorold sandstone member, Silurian, Ontario: Williams, 2034.

Threeforks formation, Devonian, Montana: Condit, 395.

Thorold (?) limestone, Devonian, Idaho: Mansfield, 1211.

Thurman sandstone, Pennsylvania, Oklahoma: Reger, 1528.

Tigre limestone, Oligocene, Panama and Costa Rica: MacDonald et al., 1171.

Timiskamian, pre-Cambrian, Ontario: Miller and Knight, 1301, 1302.

Timiskaming series, pre-Cambrian, Canada: Cooke, 407.

Timiskamin formation, pre-Cambrian, Ontario: Burrows and Hopkins, 248.

Timas limestone, Cretaceous, New Mexico: Garrett, 640.

Tipton shale member, Tertiary, Wyoming: Schultz, 1639.

Todilto (?) formation, Jurassic, Utah: Clark, 344.

Tokio sand member, Cretaceous, Arkansas: Miser, 1319.

Toledo formation, Oligocene, Oregon: Harrison and Eaton, 761.

Tombigbee sand, Cretaceous, Tennessee: Wade, 1922.

Tomstown limestone, Cambrian, Maryland: Bassler, 90.

Tonopah group, Devonian or Silurian, Alaska: Capps, 291.

Topeka limestone, Pennsylvania, Kansas: Snider, 1736.

Torbay series, pre-Cambrian, Newfoundland: Buddington, 226.

Tornado limestone, Carboniferous, Arizona: Ransome, 1507.
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Trujillo terrane, Triassic, New Mexico: Keyes, 993.

Trujillo Alta limestone, Porto Rico: Berkley, 124.

Tully pyrite layer, Devonian, New York: Hussakov and Bryant, 934.

Turkey Run limestone, Pennsylvanian, Oklahoma: Bowen et al., 172; Heald, 779; Heald and Mather, 780.

Tusahoma formation, Tertiary, Alabama: Brantley, 191.

Tusaloosa formation, Cretaceous, Alabama: Brantley, 191.

Tusaloosa formation, Cretaceous, Alabama and Tennessee: Berry, 129.

Tuscaloosa formation, Cretaceous, Mississippi: Lowe, 1138, 1140.

Tuscaloosa formation, Cretaceous, Tennessee: Wade, 1922.

Tuscaloosa formation, Jurassic, Idaho: Mansfield, 1211.

Tuscaloosa formation, Jurassic, Wyoming: Schmitz, 1639.

Tuscaloosa formation, Jurassic, Idaho: Mansfield, 1211, 1214.

Tuscaloosa formation, Jurassic, Mississippi: Flood, 1784.

Tuscania formation, Jurassic, Oklahoma: Pool, 1728.

Tyee sandstone, Eocene, Oregon: Smith and Packard, 1728.

Tyee sandstone, Cretaceous (?), Idaho: Mansfield, 1216.

Tyee graywacke slate, pre-Cambrian, Wisconsin and Michigan: Hotchkiss, 805.

Tyler shale formation, pre-Cambrian, Wisconsin: Allen, 25.

Tyner formation, Ordovician, Oklahoma: Snider, 1736.

Tyro substage, Ordovician, Kentucky: Miller, 1293.

Ullington shale, Pennsylvanian, West Virginia: Neger, 1928.

Ullistian group, Devonian, Tennessee: Donner, 525.

Uima Thule member, Cretaceous, Arkansas: Misur, 1319.

Unpuqua formation, Eocene, Oregon: Harrison and Eaton, 761.

Unpuqua group, Eocene, Oregon: Smith and Packard, 1728.


Unicoil formation, Cambrian, Virginia: Stose et al., 1786.

Unisontown limestone, Pennsylvanian, Ohio: Stout, 1794.

University terrace, Pleistocene, Alabama: Brantley, 191.

University terrace, Pleistocene, Idaho: Mansfield, 1211.

Uvaide formation, Pliocene or Pleistocene, Texas: Sellards, 1633.

Valdez group, Mesozoic (?), Alaska: Johnson, 930.

Vale formation, Permian, Texas: Beede, 109.

Valencian series, Proterozoic, New Mexico: Keyes, 993.

Valentine formation, Ordovician, Pennsylvania: Field, 790.

Valley Spring gneiss, pre-Cambrian, Texas: Snider, 1730.

Valletown formation, Cambrian, Georgia: McCullough, 1159.

Valse, Miocene, Dominican Republic: Cooke, 406.

Vancouver group, Jurassic or Triassic, British Columbia: Dolmage, 506.

Vanover shale, Pennsylvanian, Tennessee: Butts, 258.

Vanport limestone, Pennsylvanian, Ohio: Stout, 1794.

Vanport (ferroferous) limestone, Pennsylvanian, West Virginia: Reger, 1528.

Vaqueros formation, Tertiary, California: Pack, 1415.

Vaqueros sandstone, Miocene, California: Kew, 797, 980.

Vaughal formation, Anticosti, Quebec: Twenhofel, 1873.

Vale sand, Mississippian, Texas: Matteson, 1231.

Vernago formation, Cretaceous, New Mexico: Garrett, 646.

Vermillion Cliff sandstone, Triassic, Utah: Butler, 255.


Vicksburg formation, Oligocene, Florida: Sellards, 1647.

Vicksburg formation, Tertiary, Florida: Sellards, 1648.

Vicksburg formation, Tertiary, Mississippi: Lowe, 1140.

Vicksburg group, Tertiary, Alabama: Brantley, 191.

Vicksburg group, Tertiary, Mississippi: Reger, 1528.

Vidro formation, Permo-Carboniferous, Texas: Buse, 161.


Villas shale, Pennsylvanian, Kansas: Bughton, 170; Snider, 1736.

Villas shale member, Pennsylvanian, Kansas: Moore, 1346.

Vinton, Mississippian, Ohio: Miller, 1293.

Vinton phase of Otis limestone, Devonian, Iowa: Norton, 1381.

Vioila formation, Ordovician, Oklahoma: Deckert, 493.

Virginian slate, pre-Cambrian, Minnesota: Grout and Broderick, 716.

Wabaunsee formation, Pennsylvanian, Kansas: Moore, 1946; Snider, 1736.

Wals River limestone, Ordovician, Vermont: Richardson, 1544, 1545.

Walden sandstone, Carboniferous, Georgia: McCallie, 1159.

Waldrip formation, Pennsylvanian, Texas: Plummer, 1475.

Waldrip limestone, Pennsylvanian, Texas: Snider, 1736.

Waldron formation, Silurian, Tennessee: Mather, 1227.

Waldrón shale, Silurian, Kentucky: Miller, 1293.

Walcott, Silurian, Kentucky: Miller, 1293.

Waco, Silurian, Kentucky: Miller, 1293.

Waits River limestone, Ordovician, Vermont: Richardson, 1544, 1545.

Walnut clay, Cornachean, Texas: Liddle and Prettyman, 1102.

Walnut clays, Cretaceous, Texas: Dumble, 524; Snider, 1736.

Walnut formation, Cretaceous, Texas: Adkins and Winton, 7.

Walnut limestone, Cretaceous, Texas: Christner and Wheeler, 339.

Walnut shale, Pennsylvanian, Kansas: 1736.

Walnut shell conglomerate, Cretaceous, Texas: Winton and Adkins, 2062.


Wamsutta series, Carboniferous, Rhode Island: Perkins, 1492.

War Eagle (Lower) sandstone, Pennsylvanian, West Virginia: Hennen, 797; Reger, 1528.

Waveny group, Carboniferous, Kentucky: Miller, 1293.

Wayne formation, Carboniferous, Pennsylvania: Broughton, 170.

Webster Spring sandstone, Mississippian, West Virginia: Reger, 1528.

Welborn beds, Tertiary, Texas: Dumble, 524.

Wellesley formation, Permain, Kansas: Moore, 1346; Snider, 1736.
LISTS—GEOLOGIC FORMATIONS DESCRIBED.

Wells formation, Pennsylvanian, Idaho: Mansfield, 1211, 1216.
Weno formation, Comanchean, Texas: Adkins, 6; Adkins and Winton, 7; Winton and Adkins, 2062.
Westerville limestone, Pennsylvanian, Iowa: Tilton, 1846.
Westfield phase of Otis limestone, Devonian, Iowa: Norton, 1381.
Weston shale, Pennsylvanian, Kansas: Boughton, 170; Snider, 1736.
Weston shale member, Pennsylvanian, Kansas: Snider, 1346.
West River formation, Devonian, New York: Hussakof and Bryant, 884.
West Union formation, Silurian, Ohio: Foerste, 598, 599.
Wetumka shale, Pennsylvanian, Oklahoma: Snider, 1736.
Wevertori sandstone, Cambrian, Maryland: Bussler, 90.
Wewoka shale, Pennsylvanian, Oklahoma: Snider, 1736.
Whirlpool sandstone member, Silurian, Ontario: Williams, 2034.
White Cliff sandstone, Jurassic, Utah: Butler, 255.
Whiteface anorthosite, pre-Cambrian, New York: Miller, 1303, 1304.
Whitetail conglomerate, Tertiary, Arizona: Ransome, 1507.
Wichita formation, Permian, Texas: Mattheson, 1231.
Wicomico formation, Quaternary, Maryland: Hay, 767.
Wicomico formation, Quaternary, Maryland and Delaware: Bascom and Miller, 86.
Wilberns formation, Cambrian, Texas: Snider, 1736.
Wilcox formation, Eocene, Texas: DeGolyer, 485; Sellards, 1053.
Wilcox formation, Tertiary, Georgia: McCauley, 1159.
Wilcox formation, Tertiary, Mississippi: Lowe, 1140.
Wilcox formation, Tertiary, Texas: Udden, 1880.
Wilcox group, Eocene, Texas: Snider, 1736.
Wilcox group, Tertiary, Alabama: Brandley, 191.
Wilcox group, Tertiary, Mississippi: Lowe, 1138.
Wilcox shale, Algonkian, Georgia: Hull, 930.
Wood shale, Triassic (?), Idaho: Mansfield, 1211, 1214, 1216.

Woodbine formation, Cretaceous, Texas: Dumble, 524; Shuler, 1696; Snider, 1736; Udden, 1880; Winton and Adkins, 2062.

Woodburn bed, Ordovician, Kentucky: Miller, 1293.

Woodford chert, Devonian, Oklahoma: Decker, 453.

Wood's Bluff formation, Tertiary, Mississippian: Lowe, 1138.

Woodside shale, Triassic, Idaho: Mansfield, 1211, 1214, 1216.

Woodward formation, Permian, Kansas: Moore, 1346; Snider, 1736.

Word formation, Carboniferous, Texas: Boede, 111.

Word formation, Permo-Carboniferous, Texas: Buse, 161.

Wreck Bay formation, Pleistocene (?), British Columbia: Dolmage, 506.

Wreford limestone, Permian, Kansas and Oklahoma: Snider, 1736.

Wreford limestone, Permian, Oklahoma: Bowman et al., 172.

Wreford limestone member, Carboniferous, Kansas and Oklahoma: Twenhofel, 1867.

Wynona sandstone, Pennsylvanian, Oklahoma: Heald and Bowen, 778.

Yale member, pre-Cambrian, Wisconsin and Michigan: Hotchkiss, 915.


Yaque group, Miocene, Dominican Republic: Cooke, 400.

Yaquina formation, Oligocene, Oregon: Harrison and Eaton, 761.

Yarmouth (?) sand and soil, Pleistocene, Illinois: Hinds, 832.

Yarmouth stage, Pleistocene, Iowa: Tilton, 1846, 1847.

Yarmouth interglacial interval, Pleistocene: Baker, 56.

Yazoo clays, Tertiary, Mississippi: Lowe, 1138.

Yegua clay, Tertiary, Texas: Udden, 1880.

Yegua formation, Eocene, Texas: Snider, 1736.

Yegua formation, Tertiary, Texas: Dumble, 524.

Yellow Creek beds, Devonian, Mississippi: Lowe, 1138.

Yeso formation, Pennsylvanian, New Mexico: Semmes, 1658.

Yeso formation, Permian, New Mexico: Baker, 55.

Yeso terrane, Permian, New Mexico: Keyses, 983.

Ysidro terrane, Proterozoic, New Mexico: Keyses, 983.

Zoar (Lower Mercer) limestone, Pennsylvanian, Ohio: Stout, 1794.

Zunian series, Jurassic, New Mexico: Keyses, 993.