

Base from U.S. Geological Survey state base maps, scale 1:500,000

Geology in Pennsylvania from Sherwood (1878); Sherwood and Platt (1880); Fuller (1903b); Stose and Ljungstedt (1931); Lohman (1939); and Fetke (1954). Geology in New York west of long. 70° W. from Bradley and Pepper (1938); Pepper and de Witt (1950, 1951); Pepper (1954); and Pepper, de Witt, and Colton (1956); Colton and de Witt (1958). Geology in New York east of long. 77° W. from Williams, Tarr, and Kindle (1909). Physiographic subdivisions from Fenneman (1938)

PENNSYLVANIA



PMS
Sandstone and conglomerate, some shale and coal
Allegheny and Pottsville formations and Mauch Chunk shale undifferentiated. Chiefly Pottsville formation; Allegheny formation present only in southern Tioga and Bradford Counties and in northwestern Lycoming County. Mauch Chunk shale present in some places



MDp
Sandstone, siltstone, and shale; dominantly gray. Sandstone, locally conglomeratic, cross-bedded, thin-bedded or flaggy; includes a few red beds and a few slightly calcareous beds
Pocono and Oswayo formations, undifferentiated



Dc
Sandstone, siltstone, and shale; dominantly red. Sandstone, medium- to fine-grained, cross-bedded, thin-bedded or flaggy; includes a few slightly calcareous beds
Catskill or Cattaraugus formations

EXPLANATION

NEW YORK WEST OF LONG. 77° W.

NEW YORK EAST OF LONG. 77° W.



Duz₃
Shale, gray; includes a few beds of siltstone and sandstone; overlain by silty shale, siltstone, and thick massive beds of sandstone near Pennsylvania state line
Canisteo shale member of Perrysburg formation and higher beds



Duz₂
Shale and sandstone; gray; thin-bedded sandstone dominant in upper part, shale in lower part; conglomerate lenses and thin limestone bed near top
Chemung formation



Duz₁
Siltstone, sandstone, and shale; dominantly gray; sandstone, fine-grained, thin-bedded, locally flaggy; siltstone, massive- to thin-bedded
Canaseraga sandstone, South Wales, and Dunkirk shale members of Perrysburg formation; Wiscoy sandstone; Nunda sandstone member, West Hilly member, and Grimes siltstone member of West Falls formation; undifferentiated



Du
Shale, sandstone, and a few thin beds of impure limestone; dominantly gray; sandstone, in part calcareous and fossiliferous
Chemung formation; includes some rocks of pre-Chemung age south of the Allegheny Front



Duz₂
Shale and interbedded sandstone; gray; flaggy sandstone near base
Portage formation



Duz₁
Shale and thin-bedded sandstone; gray to black; locally flaggy; includes limestone bed near base
Hatch shale member and Rhinestreet shale member of West Falls formation, and Cashaqua shale member of Sonyea formation; undifferentiated



Duz₁
Shale, black; thin limestone bed near top
Genesee formation



DSOu
Sedimentary rocks, undifferentiated
Oriskany and older formations, undifferentiated

Contact

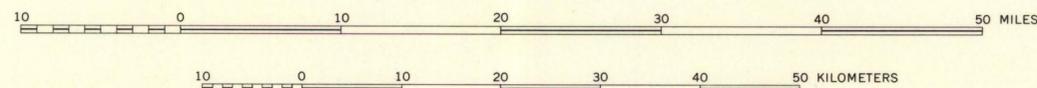
Anticlinal axis
Dashed where approximately located.
Arrow shows direction of plunge

Synclinal axis
Dashed where approximately located.
Arrow shows direction of plunge

Border of physiographic subdivisions

GENERALIZED MAP OF BEDROCK GEOLOGY OF THE ELMIRA-WILLIAMSPORT REGION, NEW YORK AND PENNSYLVANIA

SCALE 1:500,000



MISSISSIPPIAN AND PENNSYLVANIAN
 DEVONIAN AND MISSISSIPPIAN
 DEVONIAN
 ORDOVICIAN, SILURIAN, AND DEVONIAN
 CARBONIFEROUS