EXPLANATION

QUATERNARY
HOLOCENE
- Sands of Presque Isle

PLEISTOCENE
- Trenton Gravel

TERTIARY
MIOCENE
- Pensauken and Bridgeton Formations, undifferentiated
- Bryn Mawr Formation

CRETACEOUS
LOWER(?)
- Patapsco(?) Formation

JURASSIC
- Kimberlite
- Sedimentary strata above Jacksonwald and Aspers basalt flows (occurs only in two small areas in Berks and Adams Counties)
- Diabase

TRIASSIC(?)
- Quarryville Diabase

TRIASSIC
SOUTH-CENTRAL AND SOUTHEASTERN PENNSYLVANIA
- Limestone fanglomerate
- Quartz fanglomerate

ADAMS, YORK, AND DAUPHIN COUNTIES
- Gettysburg Formation
- Heidlersburg Member of Gettysburg Formation
- Gettysburg conglomerate

LANCASTER, LEBANON, AND BERKS COUNTIES
- Hammer Creek Formation (includes Hammer Creek conglomerate)

MONTGOMERY AND BUCKS COUNTIES
- Brunswick Formation
- Lockatong Formation

ADAMS, YORK, AND LANCASTER COUNTIES
- New Oxford Formation (includes New Oxford conglomerate)

BERKS, CHESTER, MONTGOMERY, AND BUCKS COUNTIES
- Stockton Formation (includes Stockton conglomerate)

PERMIAN
- Greene Formation
- Washington Formation

PERMIAN AND PENNSYLVANIAN
- Waynesburg Formation

PENNSYLVANIAN
APPALACHIAN PLATEAU AND BROAD TOP REGION
- Monongahela Group
- Conemaugh Group
- Allegheny Formation
- Pottsville Formation

Allegheny and Pottsville Formations, undivided

ANTHRACITE REGION
- Llewellyn Formation
- Pottsville Formation

MISSISSIPPIAN
SOUTHWESTERN, CENTRAL, AND EASTERN PENNSYLVANIA
- Mauch Chunk Formation

WESTERN PENNSYLVANIA
- Shenango Formation through Cuyahoga Group, undivided

NORTHERN, WESTERN, AND CENTRAL PENNSYLVANIA
- Burgoon Sandstone

CENTRAL-WESTERN PENNSYLVANIA
- Burgoon Sandstone through Cuyahoga Group, undifferentiated

EASTERN AND CENTRAL PENNSYLVANIA
- Pocono Formation

MISSISSIPPIAN AND DEVONIAN
WESTERN PENNSYLVANIA
- Shenango Formation through Riceville/ Oswayo Formation, undivided

NORTH-CENTRAL PENNSYLVANIA
- Huntley Mountain Formation

SOUTH-CENTRAL PENNSYLVANIA
- Pocono and Rockwell Formations, undivided
- Rockwell Formation

EASTERN PENNSYLVANIA
- Spechty Kopf Formation

DEVONIAN
UPPER

WESTERN PENNSYLVANIA
- Berea/Corry Sandstone through Riceville Formation, undivided
- Berea Sandstone through Venango Formation, undivided
- Venango Formation
- Chadakoin Formation
- Girard Shale
- Northeast Shale

SOUTH-CENTRAL PENNSYLVANIA
- Catskill Formation
- Foreknobs Formation
- Scherr Formation
- Brallier and Harrell Formations, undivided

CENTRAL AND EASTERN PENNSYLVANIA

Catskill Formation
- Buddys Run Member (present in Susquehanna Valley only)
- Duncannon and Clarks Ferry Members, undivided
- Sherman Creek and Irish Valley Members, undivided
- Lock Haven Formation

EASTERN PENNSYLVANIA

Catskill Formation
- Duncannon and Clarks Ferry Members, undivided
- Berry Run, Sawmill Run, and Packerton Members, undivided
- Poplar Gap and Packerton Members, undivided
- Long Run and Beaverdam Run Members, undivided
- Long Run, Walcksville, and Towamensing Members, undivided
- Walcksville and Towamensing Members, undivided

CENTRAL AND EASTERN PENNSYLVANIA
- Trimmers Rock Formation

MIDDLE AND LOWER

CENTRAL AND EASTERN PENNSYLVANIA

Hamilton Group
- Mahantango Formation
- Marcellus Formation

CENTRAL AND EAST-CENTRAL PENNSYLVANIA
- Onondaga and Old Port Formations, undivided

DEVONIAN AND SILURIAN
CENTRAL AND EAST-CENTRAL PENNSYLVANIA
- Keyser and Tonoloway Formations, undivided
- Keyser Formation through Mifflintown Formation, undivided
- Keyser Formation through Clinton Group, undivided
- Onondaga Formation through Poxono Island Formation, undivided

EASTERN PENNSYLVANIA
- Buttermilk Falls Limestone through Poxono Island Formation, undivided

SILURIAN
CENTRAL AND EAST-CENTRAL PENNSYLVANIA

Wills Creek Formation through Mifflintown Formation, undivided
- Wills Creek Formation
- Bloomsburg and Mifflintown Formations, undivided (Mifflintown Formation not present east of Perry County)
- Clinton Group
- Tuscarora Formation

EASTERN PENNSYLVANIA
- Bloomsburg Formation
- Shawangunk Formation

ORDOVICIAN
CENTRAL PENNSYLVANIA

Juniata and Bald Eagle Formations, undivided
- Juniata Formation
- Bald Eagle Formation
- Reedsville Formation
- Coburn Formation through Loysburg Formation, undivided
- Bellefonte and Axemann Formations, undivided
- Nittany and Stonehenge/ Larke Formations, undivided

WESTERN GREAT VALLEY
- Martinsburg Formation
- Chambersburg Formation
- St. Paul Group
- Beekmantown Group

CENTRAL GREAT VALLEY AND NORTHERN PIEDMONT
- Hamburg sequence rocks
- Martinsburg Formation
- Hershey Formation through Annville Formation, undivided
- Beekmantown Group

EASTERN GREAT VALLEY
- Martinsburg Formation
- Jacksonburg Formation
- Beekmantown Group

ORDOVICIAN AND CAMBRIAN
- Conestoga Formation

CAMBRIAN
CENTRAL PENNSYLVANIA
- Gatesburg Formation
- Warrior Formation
- Pleasant Hill Formation
- Waynesboro Formation

WESTERN GREAT VALLEY AND SOUTH MOUNTAIN
- Shadygrove Formation
- Zullinger Formation
- Elbrook Formation
- Waynesboro Formation
- Tomstown Formation
- Antietam and Harpers Formations, undivided
- Weverton and Loudoun Formations, undivided

CENTRAL GREAT VALLEY AND NORTHERN PIEDMONT
- Richland Formation through Schaefferstown Formation, undivided
- Snitz Creek and Buffalo Springs Formations, undivided
- Zooks Corner Formation
- Ledger Formation
- Kinzers Formation
- Vintage Formation
- Antietam and Harpers Formations, undivided
- Chickies Formation

Elbrook Formation

Lower (Middle?) Cambrian rocks, undivided

EASTERN GREAT VALLEY AND READING PRONG
- Allentown and Leithsville Formations, undivided
- Hardyston Formation

PROBABLY LOWER PALEOZOIC
- Pegmatite
- Anorthosite
- Granitic gneiss and granite
- Mafic gneiss
- Ultramafic rocks
- Peach Bottom Slate and Cardiff Conglomerate, undivided
- Peters Creek Schist
- Marburg Schist
- Octoraro Formation
- "Glenarm Wissahickon" formation
- Wissahickon Formation
- Wakefield Marble
- Sams Creek Metabasalt
- Cockeysville Marble
- Setters Quartzite

PRECAMBRIAN
SOUTH MOUNTAIN
- Metabasalt
- Metarhyolite
- Greenstone schist

EASTERN PENNSYLVANIA
- Metadiabase
- Anorthosite
- Graphitic, felsic, and intermediate gneisses, undivided
- Banded mafic gneiss
- Graphitic felsic gneiss
- Felsic and intermediate gneisses, undivided
- Hornblende gneiss
- Mafic gneiss
- Felsic to mafic gneiss

SYMBOLS
Dikes
Igneous intrusions that cut across the bedding or foliation of the surrounding rock. Dikes of Jurassic, Triassic(?), and Pre-cambrian age are shown in the map explanation above.

Fault
Includes approximately located faults.

Stream or river

Water body

County boundary

State boundary