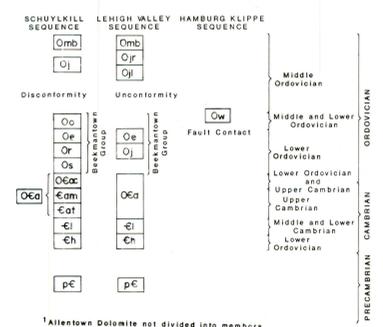


EXPLANATION

DESCRIPTION OF MAP UNITS

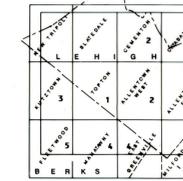
- ROCKS OF THE SCHUYLKILL VALLEY SEQUENCE**
- Omb** BUSKILL MEMBER OF MARTINSBURG FORMATION (MIDDLE ORDOVICIAN)--Medium to dark-gray slate containing thin beds of quartzite, graywacke, siltstone, and carbonaceous slate.
  - Oj** JACKSONBERG LIMESTONE (MIDDLE ORDOVICIAN)--Dark gray to black, laminated to medium-bedded, fine-grained, argillaceous limestone containing some crystalline limestone and calcareous siltstone beds. Most upper and lower contacts are faulted.
  - Oe** ONTELAUNE FORMATION OF BEEKMANTON GROUP (MIDDLE AND LOWER ORDOVICIAN)--Medium-dark gray, medium to thick bedded, fine to medium-grained crystalline dolomite that is cherty near base and may contain limestone beds near top. Upper contact is faulted.
  - De** EPLER FORMATION OF BEEKMANTON GROUP (LOWER ORDOVICIAN)--Medium gray, thin to thick bedded, fine to medium-grained limestone interbedded with lesser amounts of light to medium-gray, thin to thick bedded crystalline limestone to medium-crystalline dolomite. Grades up into overlying Ontelaune Formation (Oe).
  - Or** RICKENBACH DOLOMITE OF BEEKMANTON GROUP (LOWER ORDOVICIAN)--Medium-dark gray, thin to thick bedded, medium to coarse-crystalline dolomite containing light-gray chert, and medium-gray, laminated, finely crystalline dolomite containing dark-gray chert. Grades up into overlying Epler Formation (De).
  - Oa** STONEHENGE LIMESTONE OF BEEKMANTON GROUP (LOWER ORDOVICIAN)--Medium gray, medium to thick bedded, finely crystalline limestone that has silty or sandy laminae and contains sporadic beds and lenses of fossiliferous calcarenite and intraformational conglomerate and has dolomite beds near base. Grades up into the Rickenbach Dolomite (Or).
  - Oca** ALLENTOWN DOLOMITE, UNDIVIDED (LOWEST LOWER ORDOVICIAN AND UPPER CAMBRIAN)
  - Ocac** MAIDEN CREEK MEMBER (LOWEST LOWER ORDOVICIAN AND UPPER CAMBRIAN)--Medium to dark-medium gray, thick bedded dolomite and lesser light-medium gray magnesian limestone. Contains dark-gray chert stringers and nodules. Grades up into the Stonehenge Limestone (Oa).
  - Cam** MULEBERG MEMBER (UPPER CAMBRIAN)--Medium to light-medium gray, thick bedded dolomite and magnesian limestone. Contains interbedded calcareous sandstone that serves as host rock for strata-bound limestone deposits. Grades up into the Maiden Creek Member (Ocac).
  - Ca1** TUCKESTON MEMBER (UPPER CAMBRIAN)--Light to dark medium gray, medium to thick bedded dolomite and magnesian limestone. Limestone layers have shaly or silty partings. Grades up into the Muleberg Member (Cam).
  - Cl** LEITHSVILLE FORMATION (MIDDLE AND LOWER CAMBRIAN)--Medium gray, thick bedded, finely crystalline dolomite, upper part of unit is shaly. Grades up into the Tuckeston Member of the Allentown Dolomite (Ca1).
  - Ch** HARDYSTON QUARTZITE (LOWER CAMBRIAN)--Light gray, medium to thick bedded quartzite and feldspathic sandstone that has a basal pebbly conglomerate. Upper contact is mostly faulted, but elsewhere is gradational into the Leithsville Formation (Cl).
  - pC** UNDIFFERENTIATED PRECAMBRIAN ROCKS including granitic gneiss, hornblende gneiss, other gneisses, and pegmatites constituting the Reading Prong.
- ROCKS OF THE LEHIGH VALLEY SEQUENCE**
- Omb** BUSKILL MEMBER OF MARTINSBURG FORMATION (MIDDLE ORDOVICIAN)--Medium to dark-gray slate containing thin beds of quartzite, graywacke, siltstone, and carbonaceous slate. Grades down to cement rock facies of the Jacksonburg Limestone (Oj).
  - Oj** JACKSONBERG LIMESTONE (MIDDLE ORDOVICIAN)
  - Oe** CEMENT ROCK FACIES--dark-gray to black, fine to very-fine-grained argillaceous limestone, with bedding nearly obliterated by slaty cleavage. Contains scattered thin beds of crystalline limestone.
  - Oj** CEMENT LIMESTONE FACIES--light to medium-gray, well bedded, medium to coarse-grained calcarenite, and fine to medium-crystalline, high-calcium limestone. Grades up into the cement rock facies (Oj).
  - De** EPLER FORMATION OF BEEKMANTON GROUP (LOWER ORDOVICIAN)--Medium gray, thin to thick bedded, fine to medium-grained limestone interbedded with dolomite. Contains abundant strata-bound limestone deposits in silty or sandy limestone host rock. Upper boundary is an unconformity, but in most places upper contact is faulted.
  - Or** RICKENBACH DOLOMITE OF BEEKMANTON GROUP (LOWER ORDOVICIAN)--Medium-dark gray, thin to thick bedded, medium to coarse-crystalline dolomite containing light-gray chert, and medium-gray, laminated, finely crystalline dolomite containing dark-gray chert. Grades up into overlying Epler Formation (De).
  - Oca** ALLENTOWN DOLOMITE, UNDIVIDED (LOWEST LOWER ORDOVICIAN AND UPPER CAMBRIAN)--Light to dark medium gray, very fine to medium-grained, rhythmically bedded dolomite containing abundant algal stromatolites and beds and lenses of orthoquartzite. Upper contact is gradational.
  - Cl** LEITHSVILLE FORMATION (MIDDLE AND LOWER CAMBRIAN)--Interbedded light-medium to dark-gray coarse-grained dolomite and calcitic dolomite, light-gray to tan phyllite, and very thin beds of quartz and dolomite sandstone. Grades up into the Allentown Dolomite (Oca).
  - Ch** HARDYSTON QUARTZITE (LOWER CAMBRIAN)--Light gray, medium to thick bedded quartzite and feldspathic sandstone that has a basal pebbly conglomerate. Upper contact is mostly faulted, but elsewhere is gradational into the Leithsville Formation (Cl).
  - pC** UNDIFFERENTIATED PRECAMBRIAN ROCKS including granitic gneiss, hornblende gneiss, other gneisses and pegmatites constituting the Reading Prong.
- HAMBURG KLIPPE SEQUENCE**
- Ow** WINDSOR TOWNSHIP FORMATION, UNDIVIDED (MIDDLE AND LOWER ORDOVICIAN)--Medium gray, medium to very-thick bedded, fine to coarse-grained calcareous graywacke and conglomerate interbedded with dark-greenish to olive-gray fissile sandstone, siltstone, and shale.

CORRELATION OF MAP UNITS



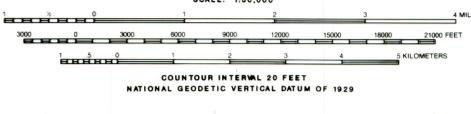
EXPLANATION OF MAP SYMBOLS

- Contact--accuracy not defined
- Faults--accuracy not defined
- Thrust fault--Sawtooth on upper plate. Dip shown where known.
- Overturned thrust fault--Sawtooth in direction of dip; bar on side of tectonically higher plate.
- Tear fault--Arrows indicate direction of relative movement.
- High-angle fault--U, upthrown side; D, downthrown side.
- 1286 WELL AND IDENTIFICATION NUMBER
- SP-15 SPRING AND IDENTIFICATION NUMBER



- 1 Drake, A.K., 1987, Geologic Map of the Topen Quadrangle, Lehigh and Berks Counties, Pennsylvania: U.S. Geological Survey Map 60-100, 1:24,000.
- 2 Drake, A.K., unpublished field notes, reprinted in Kochner, W.E., 1987, Structures and basement-related features of Lehigh County, Pennsylvania: Pennsylvania Geological Survey, Open-File Report 87/1, text and 6 map sheets, 1:24,000.
- 3 Lash, G.C., 1985, Geologic map of the Kutztown Quadrangle, Berks and Lehigh Counties, Pennsylvania: U.S. Geological Survey Map 60-157, 1:24,000.
- 4 Berg, T.N. and Dodge, C.W., 1981, Atlas of preliminary geologic quadrangle maps of Pennsylvania: Pennsylvania Geological Survey, 4th series, Map 41, 1:62,500.
- 5 MacLachlan, D.B., 1979, Geology and mineral resources of the Temple and Fleetwood Quadrangles, Berks County, Pennsylvania: Pennsylvania Geological Survey, 4th series, Atlas 107a, 71 p. and 2 plates, 1:24,000.

Base from U.S. Geological Survey  
Berks County 1:50,000, 1973  
Lehigh County 1:50,000, 1968



GEOLOGY AND LOCATION OF SELECTED WELLS AND SPRINGS, LITTLE LEHIGH CREEK BASIN AND VICINITY, BERKS AND LEHIGH COUNTIES, PENNSYLVANIA