U.S. GEOLOGICAL SURVEY
CHARLES D. WALCOTT, DIRECTOR

STATE OF PENNSYLVANIA
TOPOGRAPHIC AND GEOLOGIC SURVEY COMMISSION
JOSEPH N. PEW, CHAIRMAN

GEOLOGIC STRUCTURE

PENNSYLVANIA
LATROBE QUADRANGLE

79°30′ 25′ 20′ 79°15′ (Indiana) — 40°30′

LEGEND

SEDIMENTARY ROCKS

SHEET SYMBOL	SECTION SYMBOL	
Qal		**Alluvium** *(in flood plains of present streams)*
Qcm		**Carmichaels clay** *(clay, sand, and bowlders on terraces and in abandoned channels of the larger streams)*
Cd		**Dunkard formation** *(only the lowest member, Waynesburg sandstone, occurs in this area.)*
Cm	Cm	**Monongahela formation** *(shale, limestone, and occasionally coarse sandstone, Pittsburg coal at the bottom, Waynesburg coal at the top, and coal beds of local importance between)*
Ccm	Ccm	**Conemaugh formation exclusive of the Saltsburg sandstone** *(sandstone, shale, small amount of limestone and a few small coal beds)*
Ccs		*Included in Conemaugh formation on section* — **Saltsburg sandstone lentil in the Conemaugh formation** *(coarse, thick-bedded or massive sandstone in the Conemaugh formation)*
Ca	Ca	**Allegheny formation** *(shale, sandstone, and clay with several workable coal beds, Upper Freeport coal at the top)*
Cpv	Cpv	**Pottsville sandstone** *(coarse massive sandstone or conglomerate with some shale and usually a coal bed at the middle)*
Cmc	Cmc	**Mauch Chunk formation exclusive of the Greenbrier limestone** *(red and green shale and thin-bedded green sandstone)*
Cgr		*Included in Mauch Chunk formation on section* — **Greenbrier limestone lentil in the Mauch Chunk formation** *(thin blue fossiliferous limestone)*
Cpo	Cpo	**Pocono sandstone** *(coarse sandstone grading into very sandy limestone at the top and usually containing sandy shale; underlying shales of Devonian age shown on the section)*

Permian series ? — *Pennsylvanian series* — *Mississippian series*

1400 — *Contour lines drawn upon floor of Pittsburg coal at base of Monongahela formation* *(contour interval is 50 feet. Datum is mean sea level. Where the coal has been removed by erosion the lines are determined by the calculated position of the bed.)*

1000 — *Contour lines drawn upon upper surface of Pottsville sandstone approximately 950 feet below the Pittsburg coal horizon* *(contour interval is 100 feet. Datum is mean sea level. Where the sandstone has been removed by erosion the lines are determined by the calculated position of the formation.)*

The axes of the folds are represented by heavy broken lines drawn along the lowest parts of the synclines and the highest parts of the anticlines.

(Connellsville) 79°30′ — 40°15′

H.M. Wilson, Geographer in charge.
Triangulation by A.H. Thompson and J.D. Forster.
Topography by Frank Sutton and H.C. Frick Coke Co.
Surveyed in 1900 in cooperation with the State of Pennsylvania.

MAGNETIC NORTH — TRUE NORTH
APPROXIMATE MEAN DECLINATION 1902.

Scale 1/62500
1½ 0 1 2 3 4 Miles
1½ 0 1 2 3 4 5 Kilometers

Contour interval 20 feet.
Datum is mean sea level.

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Geology by Marius R. Campbell,
Assisted by George B. Richardson
and Lester H. Woolsey.
Surveyed in 1901-02 in cooperation
with the State of Pennsylvania.

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