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

STATE OF PENNSYLVANIA
REPRESENTED BY
TOPOGRAPHIC AND GEOLOGIC
SURVEY COMMISSION

STRUCTURE AND ECONOMIC GEOLOGY

PENNSYLVANIA
BEAVER QUADRANGLE

80° 30′ — 25′ — 20′ — 80° 15′
40° 45′ — 40° 40′ — 40° 35′ — 40° 30′

(Newcastle) (Steubenville) (Wellsville)

SOUTH BEAVER
CHIPPEWA
BRIGHTON
DARLINGTON
ROCHESTER
INDUSTRY
MONACA
FREEDOM
MONTGOMERY
RACCOON
GREENE
NEW SHERIFFIELD
MOON
CRESCENT
HANOVER
FINDLEY

Beaver Falls, New Brighton, Patterson Heights, Fallston, Bridgewater, Beaver Terrace, Rochester, Bolesville, McDonaldtown, Monaca, Freedom, Doctor Heights, St. Clair, Colonial, Bakers Landing, Bellowsville, Stobo, Blackhawk, Esther, Fairview, Ohioville, Smiths Ferry, Georgetown I., Georgetown, Shippingport, Phillis I., Montgomery I., Hookstown, Mc Cleary, Green Garden, Mechanicsburg, Harshaville, Kendall, Shafers, Bunker Hill, Holt, New Sheffield, Scottsville, Independence, Grimes, Bocktown, Hog, Crow, Mc Erdy, Dry, Moon, Trumpet, Traverse, Creek, Run, Ohio River, Beaver River, Big Sewickley Creek, Little Beaver Creek, Pennsylvania, Cleveland, Valmont Division, Dam No. 5, Dam No. 6, Sunshine, Pittsburgh, Fort Wayne, Youngstown, Erie, Baltimore & Ohio, Pennsylvania Lines, Lake Erie & Western, Chicago & Erie, Pittsburgh & Lake Erie, Pittsburgh, Cincinnati, Chicago & St. Louis, Cleveland & Pittsburgh, Pittsburgh, Youngstown & Ashtabula, Pittsburgh & Western, Pittsburgh, Fort Wayne & Chicago, Pittsburgh, Cincinnati & St. Louis, Cleveland, Cincinnati, Chicago & St. Louis, Pittsburgh & Lake Erie, Pittsburgh, Youngstown & Ashtabula, Pittsburgh & Western, Pittsburgh, Fort Wayne & Chicago, Pittsburgh, Cincinnati & St. Louis, Cleveland, Cincinnati, Chicago & St. Louis

LEGEND

SEDIMENTARY ROCKS

(Areas of subaqueous deposits are shown by patterns of parallel lines, subaerial deposits by patterns of dots and circles)

QUATERNARY

Recent

Qal — **Alluvium** *(in flood plains of present streams)*

Qlg — **Later glacial gravel** *(outwash sand and gravel of distant origin, on lower terraces, probably of Wisconsin age)*

Qlt — **Lower terrace gravel** *(silt, sand, and bowlders of local derivation, probably of Wisconsin age)*

Pleistocene

Qeg — **Earlier glacial gravel** *(outwash sand and gravel of distant origin, on higher rock terraces, probably of Kansan or pre-Kansan age)*

Qcm — **Carmichaels formation** *(clay, sand, and bowlders of local derivation, on higher terraces and in abandoned channels, probably of Kansan or pre-Kansan age)*

CARBONIFEROUS

Pennsylvanian

Cm — **Monongahela formation** *(coarse sandstone and shale with the Pittsburg coal at the base)*

Cam / Ccm — **Conemaugh formation and Ames limestone lentil** *(sandstone, shale, and limestone, with a few small coal beds)*

Ca — **Allegheny formation** *(shale and massive sandstone with beds of limestone and valuable seams of coal and fire clay; Upper Freeport coal at the top)*

Cpv — **Pottsville sandstone** *(coarse massive white sandstone and fine conglomerate)*

Known productive formations

Coal outcrops (Upper Freeport, uf, of probably workable thickness; Lower Kittanning, lk, overlying important fire clay; Pittsburg, pb)

Structure contours drawn on top of Ames limestone (contour interval is 20 feet; datum is mean sea level)

Structure contours drawn on roof of Upper Freeport coal (290 feet below top of Ames limestone; contour interval is 20 feet; datum is mean sea level)

⚒ *Mines and quarries* C, clay; S, building stone; L, limestone

✕ *Coal prospects and local banks*

• *Wells drilled for oil*

• *Wells drilled for gas*

⊙ *Wells drilled for oil or gas*

Numbered wells are referred to in text.

H. M. Wilson, Geographer in charge.
Triangulation by S. S. Gannett and D. H. Baldwin.
Topography by Frank Sutton, E. B. Clark, and J. D. Forster.
Surveyed in 1901.

SURVEYED IN COOPERATION WITH THE STATE OF PENNSYLVANIA.

APPROXIMATE MEAN DECLINATION 1902.

Scale 1/62500

1 0 1 2 3 4 Miles

1 0 1 2 3 4 5 Kilometers

Contour interval 20 feet.
Datum is mean sea level.
Edition of Nov. 1905.

Geology by L. H. Woolsey,
assisted by F. G. Clapp and M. I. Goldman,
under the direction of M. R. Campbell.
Surveyed in 1902-03.

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