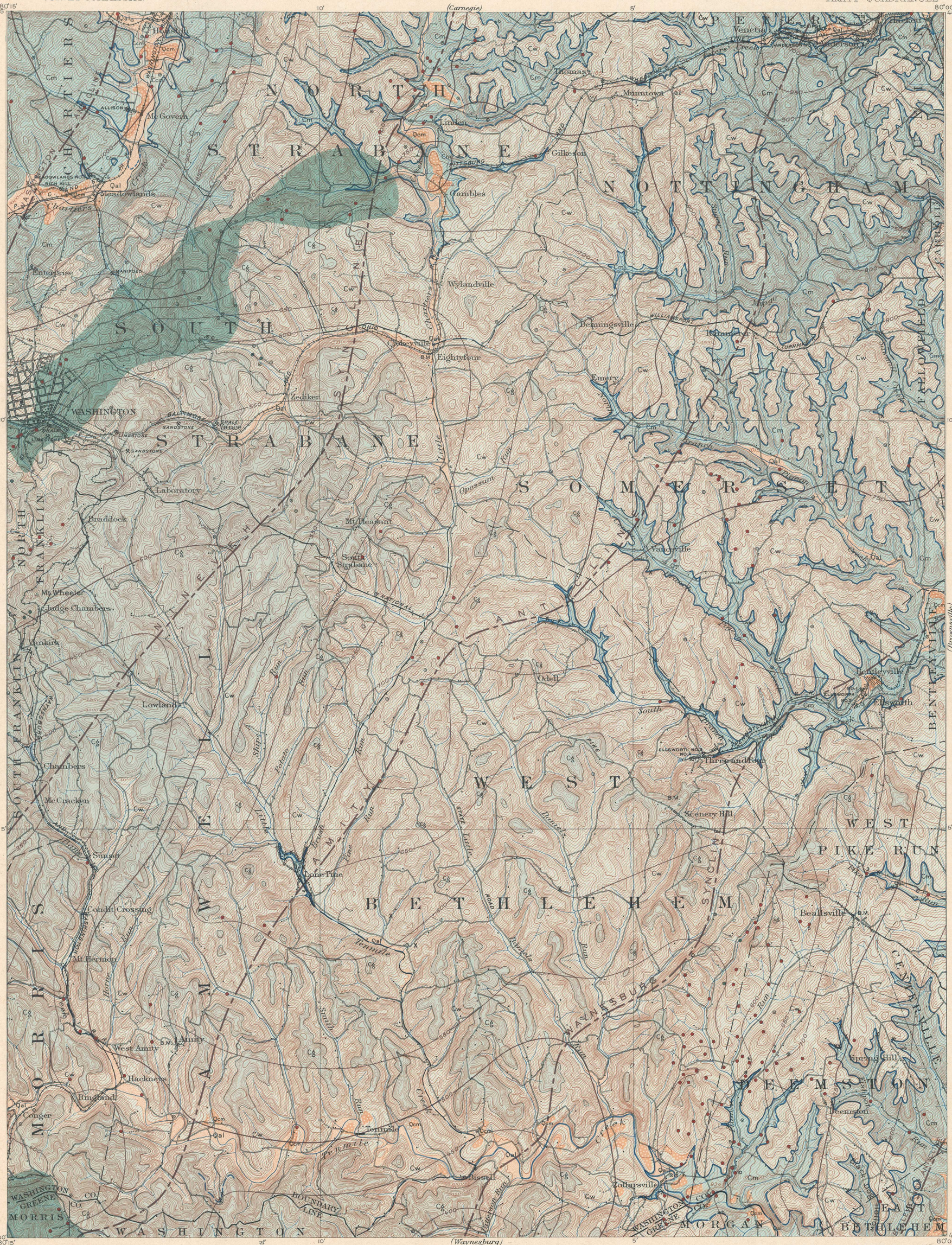
U.S. GEOLOGICAL SURVEY
CHARLES D. WALCOTT, DIRECTOR

STATE OF PENNSYLVANIA
REPRESENTED BY
TOPOGRAPHIC AND GEOLOGIC
SURVEY COMMISSION

STRUCTURE AND ECONOMIC GEOLOGY

PENNSYLVANIA
(WASHINGTON COUNTY)
AMITY QUADRANGLE



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)*

Pleistocene

Qcm — Carmichaels formation *(clay, sand, and bowlders on terraces and old valley floors)*

CARBONIFEROUS

Permian (Dunkard group)

Cg — Greene formation *(shale and sandstone, with thin limestones and beds of coal)*

Cw — Washington formation *(sandy shale, and coarse sandstone, with limestones and thin beds of coal)*

Pennsylvanian

Cm (wb, sw, rs, pb) — 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 — Conemaugh formation *(shales and sandstone, with thin limestone)*

Known productive areas

Coal outcrops *(Pittsburg, pb; Waynesburg, wb; Redstone, rs; Sewickley, sw. Continuous lines represent known workable beds; dashed lines, probably workable beds; dotted lines, beds covered by surficial deposits)*

500 — *Structure contours* *(showing elevation above sea and top of bottom of Pittsburg coal. Contour interval is 50 feet)*

Oil pools *(projected to the surface; individual wells not shown)*

- *Scattered oil wells*
- *Gas wells*
- *Dry holes or product unknown*

Sections of numbered wells are shown on columnar section sheet

- *Mines and quarries* — *Coal mines, unless otherwise marked*
- *Local and abandoned coal banks*

H. M. Wilson, Geographer in charge.
Triangulation by D. H. Baldwin.
Topography by Robt. D. Cummin, T. G. Basinger, and A. H. Bumstead.

SURVEYED IN 1901–1902 IN COOPERATION WITH THE STATE OF PENNSYLVANIA.

24° TRUE NORTH MAGNETIC NORTH
APPROXIMATE MEAN DECLINATION 1901.

Scale $\frac{1}{62500}$

1 ½ 0 1 2 3 4 Miles

1 ½ 0 1 2 3 4 5 Kilometers

Contour interval 20 feet.

Datum is mean sea level.

Edition of Nov. 1906.

Geology by Frederick G. Clapp,
assisted by Frank W. De Wolf,
under the direction of Marius R. Campbell.
Surveyed in 1904.

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