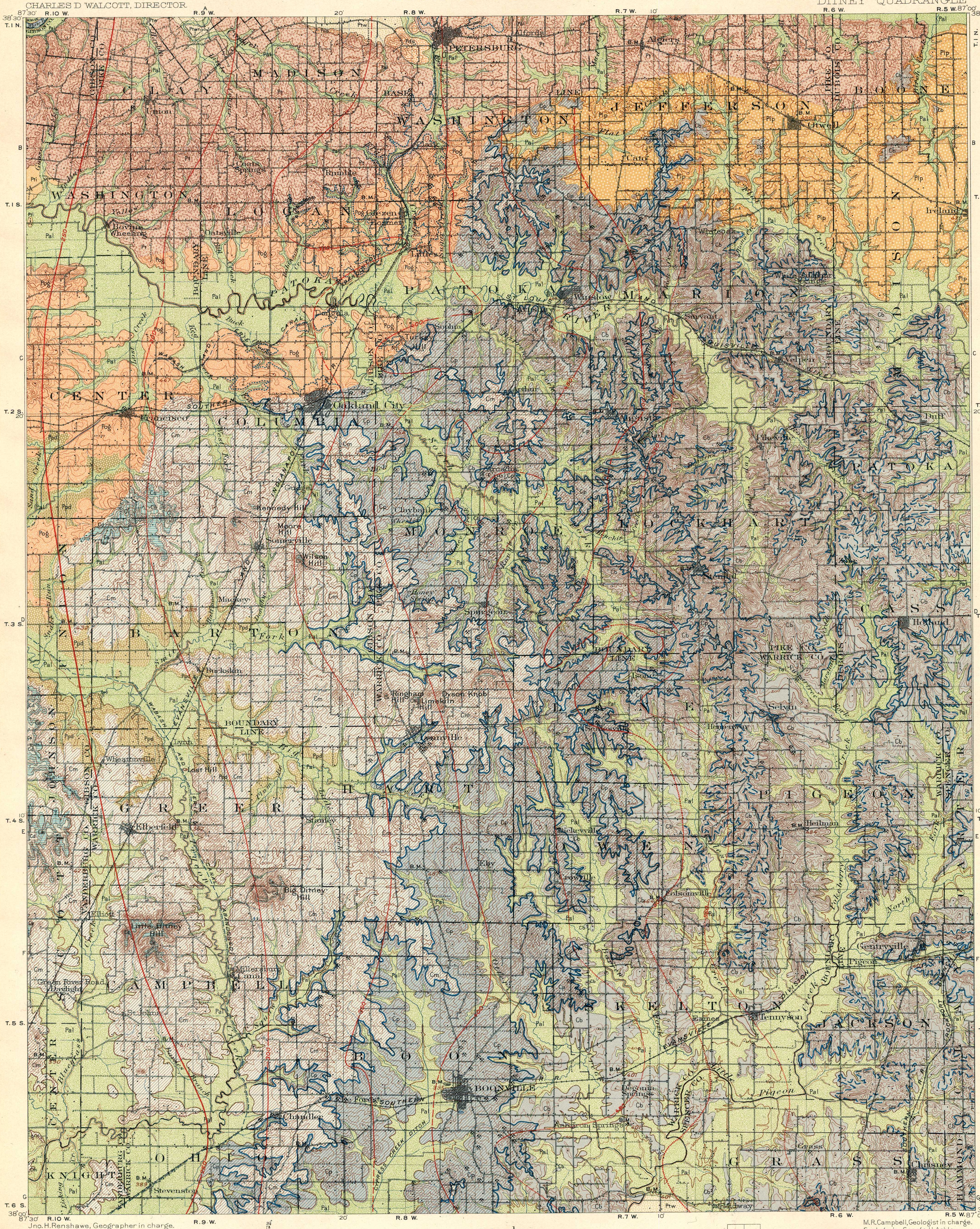
U.S. GEOLOGICAL SURVEY
CHARLES D. WALCOTT, DIRECTOR

ECONOMIC GEOLOGY

INDIANA
DITNEY QUADRANGLE



Jno. H. Renshawe, Geographer in charge.
Control by Geo. T. Hawkins.
Topography by H.B. Blair, R.C. Mc Kinney, and Chas. W. Goodlove.
Surveyed in 1899-1900 and 1902.

TRUE NORTH
MAGNETIC NORTH
3¼°
APPROXIMATE MEAN DECLINATION 1902

Scale $\frac{1}{125000}$

1 ½ 0 1 2 3 4 5 Miles

1 ½ 0 1 2 3 4 5 Kilometers

Contour interval 20 feet.

Datum is mean sea level.

Edition of Nov. 1902.

Fuller and Irving	Ashley

M.R. Campbell, Geologist in charge.
Geology by George H. Ashley, Myron L. Fuller, and John D. Irving.
Surveyed in 1900, 1901, and 1902.

LEGEND

SURFICIAL ROCKS

(Areas of Surficial rocks are shown by patterns of dots and circles)

PLEISTOCENE

Recent Epoch

- Pal — Recent alluvium *(reworked loess and fine sand, generally underlain by alluvium of glacial age)*

Glacial Epoch

Wisconsin Stage

- Pds — Dune sand *(wind blown sand)*
- Ptw — Terrace sand and gravel *(remnants of fluviatile deposits of Wisconsin age)*

Iowan Stage

- Loess *(fine silt, mainly wind deposited, covering all bed rock and all older glacial deposits)*

Illinoian Stage

- Pti — Older terrace deposits *(remnants of fluviatile silts and sand of late Illinoian age)*
- Plp — Lake Patoka deposits *(silt, sand, and rarely fine gravel, covered with about ten feet of loess)*
- Ppd — Lake Pigeon deposits *(mainly silts, deeply covered by loess and alluvium)*
- Pog — Outwash gravel *(stratified drift in local patches)*
- Pt — Till *(yellow and red clay till, with pebbles generally small and moderately weathered)*

SEDIMENTARY ROCKS

(Areas of Sedimentary rocks are shown by patterns of parallel lines)

CARBONIFEROUS

Pennsylvanian Epoch

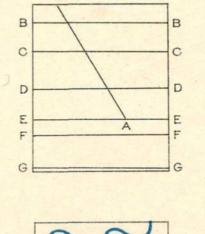
- Ci — Inglefield sandstone *(massive sandstone)*

Unconformity

- Cd — Ditney formation *(sandy shale)*
- Cs — Somerville formation *(limestone with interbedded shale)*
- Cm — Millersburg formation *(sandstone, shale, and coal beds; Millersburg coal at the base)*
- Cp — Petersburg formation *(sandstone, shale, limestone, and coal beds; Petersburg coal, the main workable bed in the area, at the base)*
- Cb — Brazil formation *(sandstone, shale, limestone, and thin coal beds)*

⚒ Coal mines and surface strippings

Sections



Coal beds
(continuous lines indicate known outcrop, dashed lines, calculated outcrop, dotted lines, outcrop beneath glacial drift)

Millersburg coal, base of Millersburg formation
Petersburg coal, base of Petersburg formation
Survant coal (Csv), in Brazil formation
Rock Creek coal (Crc), in Brazil formation
Holland coal (Ch), in Brazil formation

Coal contours
(showing elevation above sea and configuration of Petersburg coal. Contour interval 50 feet. Continuous lines indicate present occurrence of coal; dashed lines indicate that coal horizon, though beneath the surface, may be eroded and replaced by alluvium; dotted lines indicate original position of the coal before removal by erosion)