

STRUCTURE AND ECONOMIC GEOLOGY

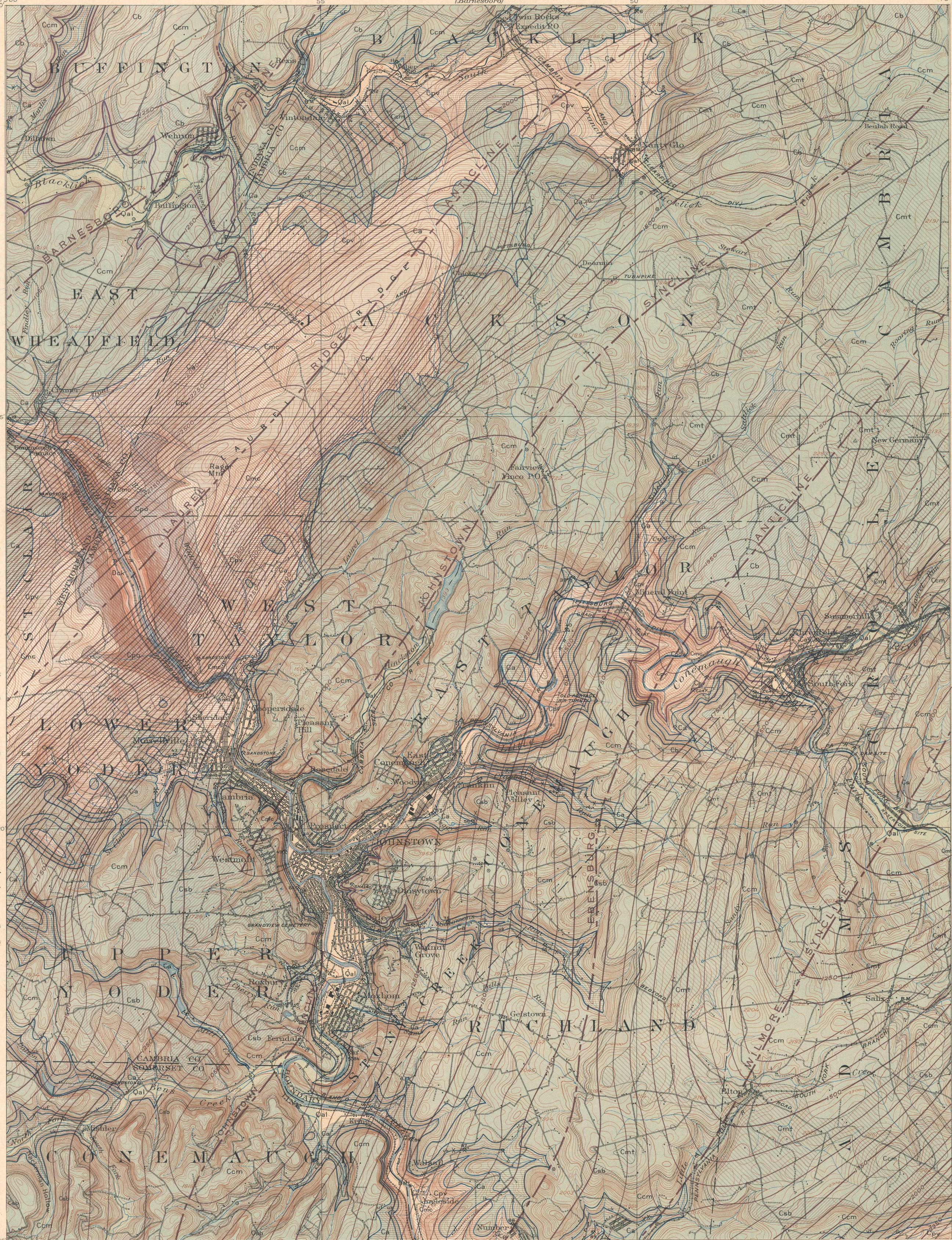
U.S. GEOLOGICAL SURVEY
GEORGE OTIS SMITH, DIRECTOR

STATE OF PENNSYLVANIA
GEORGE W. MCNEES, RICHARD R. HICE, ANDREW S. MCCREATH
COMMISSIONERS

PENNSYLVANIA
JOHNSTOWN QUADRANGLE

LIST OF MINES

- Location indicated on the map by numbers.
1. Pennsylvania, Beech Creek, and Eastern No. 14.
 2. Nant-y-Glo.
 3. Ivory Hill.
 4. Ivory Hill (slope).
 5. Lincoln.
 6. Cardiff.
 7. Blacklick No. 2.
 8. Big Bend (Nonpareil No. 1).
 9. Commercial No. 3.
 10. Commercial No. 4.
 11. Vinton No. 5.
 12. Vinton No. 3.
 13. Vinton No. 6.
 14. Vinton No. 2.
 15. Vinton No. 1.
 16. Rager.
 17. Lackawanna No. 4 (shaft).
 18. Dill.
 19. Johnstown (Cramer).
 20. Nineveh.
 21. Pennsylvania, Beech Creek, and Eastern No. 8.
 22. Pennsylvania, Beech Creek, and Eastern Nos. 3 and 5.
 23. Giles.
 24. South Fork No. 2.
 25. South Fork No. 1.
 26. Hutzel.
 27. Stineman C. M. Co. No. 1.
 28. Stineman C. and C. Co. No. 4.
 29. O. M. Stineman No. 3.
 30. O. M. Stineman No. 3.
 31. H. C. Stineman No. 5.
 32. H. C. Stineman No. 6.
 33. Stineman C. and C. Co. No. 2.
 34. Priscilla.
 35. Argyle No. 1.
 36. Argyle No. 2.
 37. Argyle No. 3.
 38. Page-Reighard (Juniper).
 39. Gillan.
 40. Valley Smokeless No. 3 (Radnor).
 41. Adams.
 42. Hawes (Coopersdale).
 43. Williams (Morrellville).
 44. Robertson & Griffith.
 45. Prosser (slope).
 46. Samuel Fuge.
 47. E. W. Fuge.
 48. Hawes (shaft).
 49. Cambria Steel Co., Rolling Mill mine.
 50. Epply.
 51. Cambria Steel Co. (Conemaugh slope).
 52. Keystone (Conemaugh).
 53. Mitchell.
 54. Custer.
 55. Umbarger.
 56. Cambria Steel Co. (Franklin No. 1).
 57. Cambria Steel Co. (Franklin No. 2).
 58. Griffith.
 59. Cover.
 60. Davis.
 61. Johnstown Press Brick Co.
 62. Suppes No. 1.
 63. Citizens C. Co. (Green Hill slope).
 64. Williams (Kernville).
 65. Livergood.
 66. Suppes (Dale).
 67. Citizens C. Co. (Dale).
 68. Caddy.
 69. Citizens C. Co. (Eighth Ward).
 70. Davis (Grubtown).
 71. Schaeffer.
 72. Jacoby.
 73. Fyock.
 74. Wertz & Miller.
 75. Litsinger.
 76. Heidingsfelder.
 77. Berkebile.
 78. Llewellyn.
 79. Sunnyside.
 80. Ferndale.
 81. Caulfield.
 82. Highland.
 83. Valley C. and S. Co. No. 1.
 84. Valley C. and S. Co. No. 2.
 85. Kelso.
 86. Ingleside.
 87. Orris.
 88. Berwind-White (Eureka No. 37).
 89. Berwind-White (Eureka No. 40).



LEGEND

SEDIMENTARY ROCKS
(Lines indicating depositional patterns are shown by patterns of parallel lines; substantial deposits by patterns of dots and circles)

Qal
Alluvium
(only the larger areas shown)

QUATERNARY

Ccm
Conemaugh formation
(shale with several thin coal beds; sometimes low clay some red shale and heavy bedded sandstones comprising the Summerville, Cambria, and Pottsville members)

Allegheny formation
(chiefly gray and dark shale with thin beds of heavy sandstone and several workable coal beds)

Ppv
Pottsville formation
(heavy bedded sandstone with shale bed containing locally a thin coal bed and fine clay)

Cmc
Mauch Chunk shale
(red and green shale with thin bed of gray sandstone)

Cpe
Pocomo formation
(greenish gray sandy shale and sandstone with several beds of red shale)

DEVONIAN

Dck
Catskill formation
(red shale and reddish and green sandstones)

ECONOMIC AND STRUCTURE DATA

Coal outcrops and area underlain by coal

Outcrop of workable clay beds
(in places a valuable fine clay)

Structure contours
(showing elevation and lay of Lower Eraming coal bed; contour interval is 50 feet; datum is mean sea level)

Coal mines
unless otherwise specified

Clay fire clay mines

Country coal banks and abandoned mines

Diamond drill holes

Economic data: Coal occurs in the Allegheny, Conemaugh, and Pottsville formations; first clays in the Pottsville and Conemaugh; clay and shale for brick, terra cotta, and tile in the Mauch Chunk. Pottsville, Allegheny, and Conemaugh; limestone and cement materials in the Allegheny; building stone and paving blocks in all except the Catskill and Mauch Chunk formations; sand and gravel in stream alluvium; glass sand in the Pottsville; iron ore near the base of the Conemaugh.

List of mines on the left margin.

H. M. Wilson, Geographer.
Frank Sutton and R. D. Cummin, in charge of section.
Topography by R. D. Cummin and A. C. Roberts. Assistant, B. B. Alexander.
Control by S. S. Gannett and H. B. Paige.
Surveyed in 1901-1904.

SURVEYED IN COOPERATION WITH THE STATE OF PENNSYLVANIA.

Scale 1:25,000
1 2 3 4 5 Miles
1 2 3 4 5 Kilometers

Contour interval 20 feet.
Datum is mean sea level.

Edition of May 1910

Geology by W. C. Phalen,
assisted by Lawrence Martin,
under the supervision of G. H. Ashley.
Surveyed in 1906.

SURVEYED IN COOPERATION WITH THE STATE OF PENNSYLVANIA.