

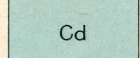
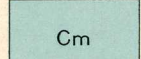
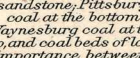
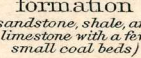


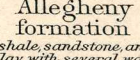
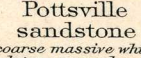
SURFICIAL ROCKS

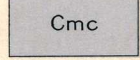
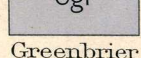
-  **Pal**  
Alluvium  
*(in flood plains of present streams)*
-  **Pcm**  
Carmichael clay  
*(clay sand and boulders on terraces and in abandoned channels of the larger streams)*

SEDIMENTARY ROCKS


-  **Cd**  
Dunkard formation  
*(sandy shale and coarse sandstone with thin limestone and beds of coal, many of workable size)*
-  **Cm**  
Monongahela formation  
*(shale, limestone, and occasionally coarse sandstone; Pittsburgh coal at the bottom, and coal beds of local importance between)*

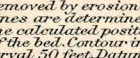
-  **Ccm**  
Conemaugh formation  
*(sandstone, shale, and limestone with a few small coal beds)*
-  **Ca**  
Allegheny formation  
*(shale, sandstone, and clay with several workable coal beds; Freeport coal at the top)*

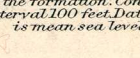
-  **Cpv**  
Pottsville sandstone  
*(coarse massive white sandstone or conglomerate with some shale and usually a coal bed at the middle)*
-  **Cmc**  
Mauch Chunk shale  
*(red and green shale and thin bedded green sandstone)*

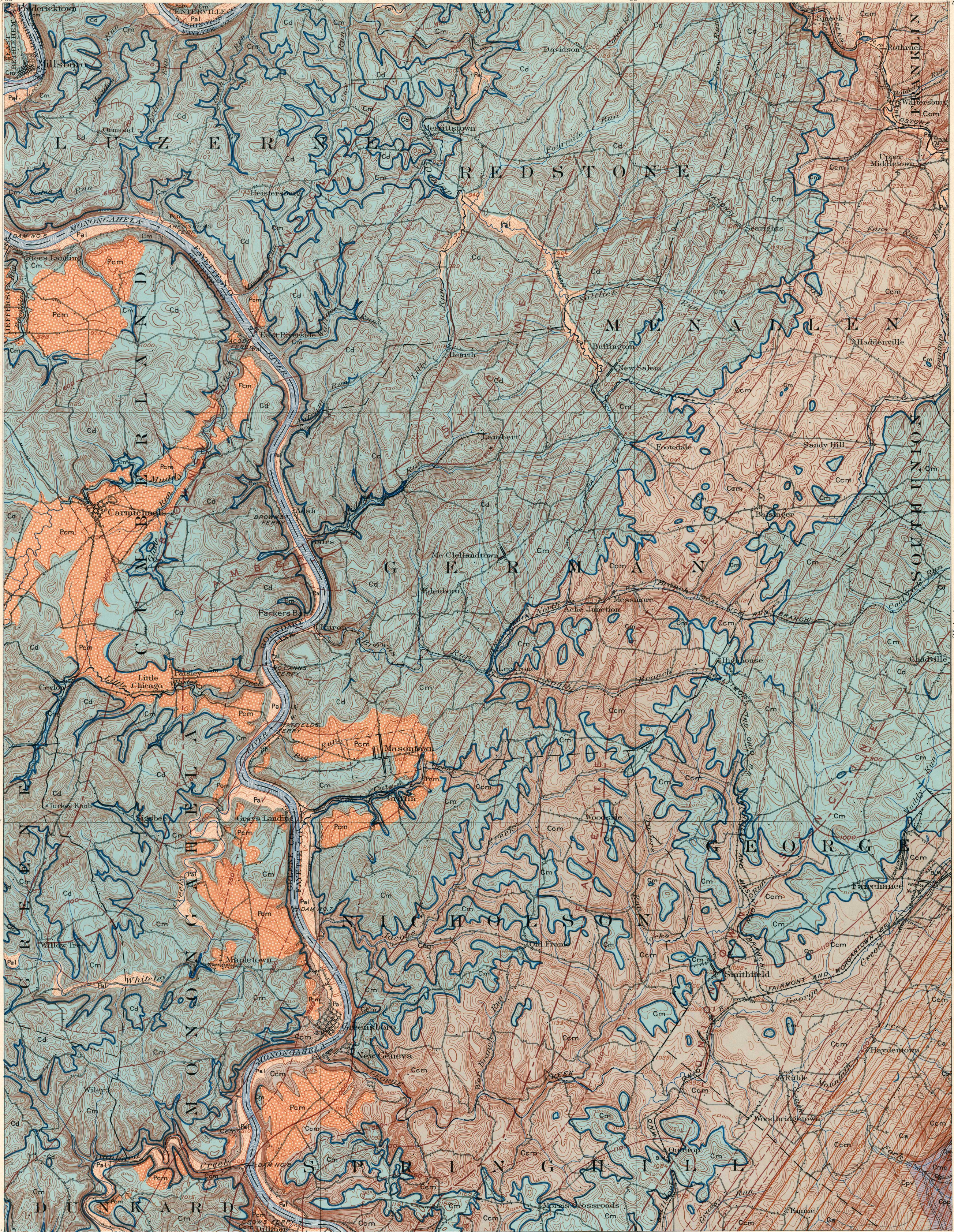
-  **Cgr**  
Greensbrier limestone lentil  
*(thin blue fossiliferous limestone in the Mauch Chunk shale)*
-  **Cpo**  
Pocahontas sandstone  
*(coarse sandstone grading into very sandy limestone at the top and usually containing sandy shale)*

-  **Coal beds**  
*(outcrops of coal beds which are probable of workable thickness)*

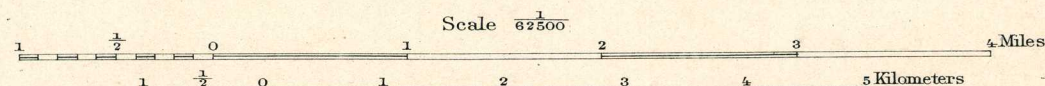
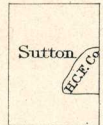
-  **Contour lines drawn upon the floor of the Pittsburgh coal**  
*(where the coal has been removed by erosion, the lines are determined by the estimated position of the bed. Contour interval 50 feet. Datum is mean sea level)*

-  **Contour lines drawn upon the upper surface of the Pottsville sandstone**  
*(where the sandstone has been removed by erosion, the lines are determined by the estimated position of the formation. Contour interval 100 feet. Datum is mean sea level)*

-  **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.**



H. M. Wilson, Geographer in charge.  
Control by S. S. Gannett, Sledge Tatam, and A. C. Roberts.  
Topography by Frank Sutton, R. D. Cummin, and H. C. Frick. Coke Co.  
Surveyed in 1899 in cooperation with the State of Pennsylvania.



Contour interval 20 feet.  
Datum is mean sea level.  
Edition of June 1902.

Geology by Marius R. Campbell.  
Assisted by John D. Irving  
and Myron L. Fuller.  
Surveyed in 1900.