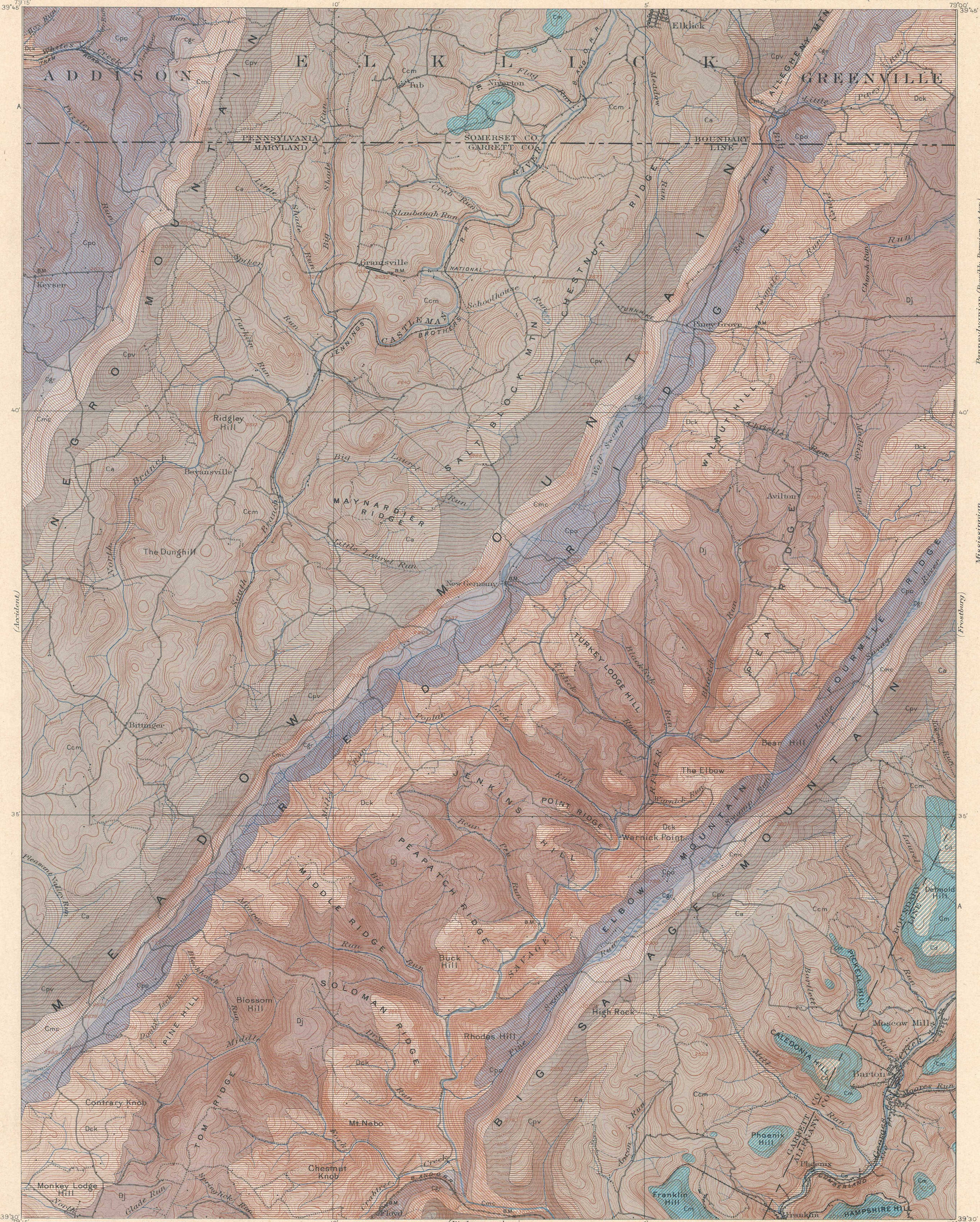


# AREAL GEOLOGY

STATE OF MARYLAND  
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MARYLAND-PENNSYLVANIA  
GRANTSVILLE QUADRANGLE

U.S. GEOLOGICAL SURVEY  
GEORGE OTIS SMITH, DIRECTOR



## LEGEND

**SEDIMENTARY ROCKS**  
(Areas of subequivalent deposits are shown by patterns of parallel lines)

**Cd**  
Dunkard formation  
(shale, sandstone, and thin coal beds)

**Cm**  
Monongahela formation  
(shale, sandstone, and limestone; Pittsburgh coal at the bottom; bituminous coal at the top; Sewickley and other coal beds between)

**Ccm**  
Conemaugh formation  
(shale, sandstone, and limestone, with Bakerstown and several thin coal beds)

**Ca**  
Allegheny formation  
(shale and sandstone; Upper Freeport coal at top; Lower Pittsford coal below)

**Cpv**  
Pottsville formation  
(sandstone, conglomerate, and shale with Mount Savage fire clay and a few thin coal beds)

**Cme**  
Manch Chunk formation  
(red and green shale and sandstone)

**Cgr**  
Greenbrier limestone  
(limestone with much interbedded shale)

**Cpa**  
Pocahontas sandstone  
(sandstone and conglomerate with some shale)

**Dek**  
Catskill formation  
(red and green shale and sandstone)

**Dj**  
Jennings formation  
(shale and sandstone)

Pennsylvanian (Possibly Permian at top)

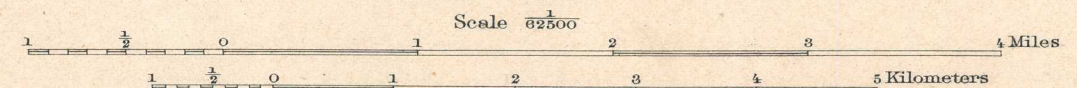
Mississippian

Froebury

CARBONIFEROUS

DEVONIAN

H.M. Wilson, Geographer in charge.  
Control by Geo. T. Hawkins and J. H. Jennings.  
Topography by W. Carvel Hall.



Contour interval 20 feet.  
Datum is mean sea level.  
Edition of July 1908.

Geology by G. C. Martin.  
Surveyed in 1900-1903.

SURVEYED IN COOPERATION WITH THE STATE OF MARYLAND.