STRUCTURE SECTIONS

U.S. GEOLOGICAL SURVEY
GEORGE OTIS SMITH, DIRECTOR

STATE OF MARYLAND
WILLIAM BULLOCK CLARK
STATE GEOLOGIST

MARYLAND - WEST VIRGINIA - PENNSYLVANIA
PAWPAW QUADRANGLE

LEGEND

SEDIMENTARY ROCKS

SHEET SYMBOL	SECTION SYMBOL		
Qal		Alluvium (gravel and silt in flood plains of the larger streams)	QUATERNARY
Qtg		Terrace gravels (stream gravel and sand on terraces and in abandoned channels 20 to 250 feet above present drainage)	TERTIARY
Cp	Cp	Pursлane sandstone (massive white sandstone and quartz conglomerate)	CARBONIFEROUS — Mississippian (Pocono group)
Cr	Cr	Rockwell formation (buff shale, dark-gray shale with thin coal beds, and soft coarse arkosic sandstone)	
Dck	Dck	Catskill formation (red micaceous sandstone and shale, with green, yellow, and grayish sandy layers)	DEVONIAN
Djc	Djc	Jennings-Catskill transition zone (red sandstone and shale of Catskill type at base; yellow sandy strata containing Chemung fossils in upper portion)	Portage and Chemung
Dj	Dj Dph	Jennings formation (platy gray shale and buff sandy shale with thin conglomerate beds and Parkhead sandstone member, Dph; Spirifer disjunctus fauna occurs directly above the Parkhead)	
Dr	Dr	Romney shale (dark-gray to black sandy shale, fissile at base, hackly above, with several hard sandstones in upper portion)	Hamilton, Marcellus and Onondaga
Do	Do	Oriskany sandstone (white quartzose sandstone, gray sandy and cherty limestone, and fine quartz conglomerate)	
		UNCONFORMITY	
Dh	Dh	Helderberg limestone (massive dark-blue limestone and shaly cherty limestone)	
Stw	Stw	Tonoloway limestone (finely laminated drab to dark-gray limestone, weathering to shaly limestone)	SILURIAN — Cayuga group
Swc Sb	Swc Sb	Wills Creek shale (platy drab calcareous shale, shaly limestone, and natural cement rock; Bloomsburg red sandstone member, Sb, at base)	
Smk Sk	Smk Sk	McKenzie formation (gray shale with thin crystalline and laminated limestones; Keefer sandstone member, Sk, hard white sandstone, at base)	
Sc	Sc	Clinton shale (drab to pink fine shale and thin sandstones with locally thin iron-ore beds)	
St	St	Tuscarora sandstone (hard white massive and thin-bedded quartzose sandstone)	Medina
Oj	Oj	Juniata formation (soft red sandstone and shale, and locally quartz conglomerate)	ORDOVICIAN
		Do not outcrop in quadrangle — Martinsburg shale and underlying limestones	

Faults

Concealed faults (covered by surficial deposits)

45° Strike and dip of stratified rocks
Strike of vertical strata
Horizontal strata

H. M. Wilson, Geographer in charge.
Triangulation by Geo. T. Hawkins.
Topography by J. H. Jennings and W. Carvel Hall.
Surveyed in 1898 in cooperation with the States of Maryland and Pennsylvania.

(Romney 125000)

(Winchester 125000)

Scale 1/62500

1 0 1 2 3 4 Miles

1 0 1 2 3 4 5 Kilometers

Edition of Dec. 1910.

Swartz, Stose, Martin and Ohern, Stose

Structure sections by
George W. Stose.
Geology by George W. Stose,
Charles K. Swartz, George C. Martin, and D. W. Ohern.
Ohern assisted by T. P. Maynard.

SURVEYED 1904–10 IN COOPERATION WITH THE STATE OF MARYLAND.

MAGNETIC NORTH — TRUE NORTH

APPROXIMATE MEAN DECLINATION 1910.