

COLUMNAR SECTION

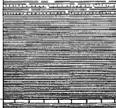
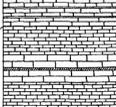
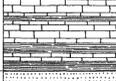
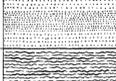
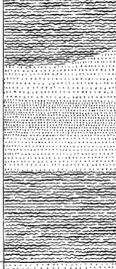
GENERALIZED SECTION OF ROCKS FOR THE MERCERSBURG AND CHAMBERSBURG QUADRANGLES.						
SCALE: 1 INCH = 1000 FEET.						
SYSTEM.	FORMATION NAME.	SYMBOL.	COLUMNAR SECTION.	THICKNESS IN FEET.	CHARACTER OF ROCKS.	CHARACTER OF TOPOGRAPHY AND SOILS.
DEVONIAN	Chemung formation.	Dc		1500±	Alternating greenish-gray to chocolate-colored sandy shale and thin micaceous sandstones.	Hilly upland, in part cultivated. Poor sandy soil.
	(Portage and Romney shales not exposed.) Oriskany formation.	Do		175±	White fossiliferous granular sandstone and fossiliferous cherty limestone with conglomerate of small round white quartz pebbles at base.	Foothills and ridges, in part cultivated. Cherty sandy soil.
SILURIAN	Helderberg limestone.	Sh		800±	Massive to thin-bedded dark crystalline fossiliferous limestone with numerous fossiliferous cherts in upper portion.	Valley slopes and low foothills, generally cultivated. Rich clay soil, very cherty on the hilltops.
	Cayuga formation.	Scy		750	Upper part finely laminar impure light-gray limestone and calcareous shale; lower part red, green, and yellow sandy shale with hard white sandstone bed. Tough red argillaceous sandstone near the base.	Valley bottoms and lower mountain slopes, generally densely forested. Clay soil, in large part covered by sandstone wash.
	Clinton shale.	Sc		750	Soft gray to pink fissile clay shale, with massive and thin-bedded red ferruginous sandstones in upper portion and flaggy white quartzite containing short scolithus tubes at the top. Thin soft calcareous sandstone beds in lower portion.	Steep slopes and foothills of high mountains, generally wooded. Clay soil, generally covered by sandstone wash.
	Tuscarora sandstone.	St		270	Massive granular white quartz sandstone.	Forest-covered crests of mountains. Talus slopes and ledges.
ORDOVICIAN	Juniata formation.	Oj		400-450	Soft red sandstone and shale with some hard quartz sandstone and conglomerate.	Steep upper slopes of mountains. Forested. Thin rocky sandy soil.
	(Sandstone member.) Martinsburg shale.	Om		2000	Soft greenish arkosic sandstone mapped as a separate member in eastern part of area. Chiefly dark shale, black, carbonaceous, fissile to blocky at the base; dark-gray crumbly "shoe-peg" shale, some weathering to soft whitish clay, in the upper portion.	Elevated level plateau, deeply cut by narrow winding valleys and steep ravines, and lower slopes of mountains. Dry shaly soil, suitable for fruit culture and general farming where surface is not too steep; usually covered by sandstone wash and heavily forested near mountains.
	Chambersburg limestone.	Oc		100-750	Thin-bedded tough dark limestone, usually very fossiliferous, with irregular clayey partings giving rise to limestone "cobble" on weathering. Interbedded shale at the top in most places forms gradation into Martinsburg.	Gentle to steep slopes of shale ridges. Thin residual clay soil with numerous rock outcrops.
	Stones River limestone.	Osr		675-1050	Very pure, thin-bedded, even-grained dove-colored limestone at top and bottom with some magnesian layers; granocrystalline gray fossiliferous limestone with thin layer of black blocky chert in middle.	Gently rolling lowland with few rock outcrops. Deep residual yellow clay soil, suitable for general farming.
	Beekmantown limestone.	Ob		2300	Small rosette and "cauliflower" cherts at or near the top. Thick-bedded, rather pure limestone, in large part finely laminated, interbedded with magnesian beds and fine-grained pink to white marble; contains beds of oolite, fine conglomerate, chert nodules, and quartz geodes at several horizons. Prominent layers of cherts in the Mercersburg quadrangle.	Low, gently rolling plains with few rock outcrops and low chert-covered ridges. Deep residual clay soil, suitable for general farming, and cherty soil on ridges suitable for fruit culture.
	(Stonehenge siliceous limestone member.)	(Osh)		(485)	Blue limestone with hard siliceous lamina, coarse "edgewise" conglomerate, and purer fine-grained marble. Not clearly separable in the Mercersburg quadrangle.	
CAMBRIAN	Conococheague limestone.	Ec		1635	Thin-bedded blue limestone finely banded by thin, hard, siliceous, generally contorted laminae that weather in relief and finally disintegrate to slaty sandstone and shale fragments. "Edgewise" conglomerate, chert, oolite, and limestone conglomerate containing quartz grains and weathering to porous sandstone, at the base.	Rough hilly land with numerous rock outcrops, partly wooded, and low narrow ridges. Thin sandy clay soil with numerous hard shale fragments, suitable for grazing and fruit culture.
	Elbrook formation.	Ee		3000	Gray to pale-blue shaly limestone and calcareous papery shale with some heavier limestone beds at the base and thick-bedded siliceous limestone in the middle.	Rolling cultivated plains with low ridges and knobs. Light sandy residual clay soil, suitable for farm land.
	Waynesboro formation.	Ewb		1000±	Slabby gray calcareous sandstones or sandy limestones and hard slaty purple shale, with limestone and fine-grained white marble in middle. Large scoriaceous white chert heads and vein quartz in lower portion.	Low ridges and rounded hills. Thin sandy soil with numerous hard slaty fragments, suitable for fruit culture and grazing.
	Tomstown limestone.	Et		1000±	Massive and thin-bedded limestone, in part cherty and magnesian, with considerable shale and soft white clay at the base.	Rolling cultivated lowlands and broad valleys. Rich clay soil largely covered by alluvium and sandstone wash, suitable for fruit culture and general farming.
	Antietam sandstone.	Ea		500-800	Coarse-grained white and bluish-gray quartzite and sandstone containing numerous long scolithus tubes; generally weathers readily to sand.	Sharp rocky wooded ridges and slopes. Sandy soil, rock talus, and ledges.
	Harpers schist. (Montalto quartzite member.)	Ch (Cms)		2750 (30-850)	Dark-banded tough hackly schist or slate and thin flaggy sandstones with massive hard white scolithus-bearing quartzite member in middle, which thickens from 20 feet at the south border of the Chambersburg quadrangle to about 850 feet at the north border.	Smooth-topped, high wooded ridges and deep densely forested intermontane valleys. Clayey and sandy soil, with sandstone talus on steep slopes.
Weverton sandstone.	Ew		1250	Coarse gray feldspathic sandstone and white quartzose sandstone, with purplish arkose and hard purple quartz conglomerate at the base.	Sharp high wooded ridges. Rocky ledges with meager sandy soil.	
PRE-CAMBRIAN	UNCONFORMITY					
	Aporhyolite.	arh			Altered rhyolitic lava, finely laminated by flow structure and in places spherulitic and porphyritic; usually red to purple in color.	Rolling intermontane valley, densely forested. Poor, thin soil largely covered by sandstone wash.
Metabasalt.	mb			Altered basalt flows, containing amygdules filled with chlorite, epidote, and quartz and veined by epidote and asbestos. Usually altered to greenstone and chlorite schist.	Rolling intermontane valley, densely forested. Thin, rich red soil.	



FIGURE 6.—SCHOOLEY PENEPLAIN PRESERVED ON THE NORTH MOUNTAIN RIDGES.
 Parnell Knob at the left. Foreground and middle ground are part of the dissected shale plateau of the Harrisburg peneplain. From point $3\frac{1}{2}$ miles southwest of Chambersburg.



FIGURE 7.—JORDAN KNOB SYNCLINAL MOUNTAIN, FROM FORT LOUDON.
 The western limb of the syncline is shown terminating in Jordan Knob in the center of the picture. The crest of the mountain is composed of Tuscarora sandstone; the cleared fields on the slope are of Martinsburg shale.



FIGURE 8.—COVE MOUNTAIN AND THE MERCERSBURG LIMESTONE VALLEY SEEN FROM DUNNS GAP ROAD, ON THE SLOPE OF CROSS MOUNTAIN.
 The comblike ridge on the left is Cove Mountain. Parnell and Jordan synclinal ridges are in the distance.



FIGURE 9.—CHAMBERSBURG LIMESTONE AT CHAMBERSBURG.
 The planes dipping steeply to the left are the bedding; those dipping gently to the right are the argillaceous partings that give rise to "cobbly" fragments on weathering.



FIGURE 10.—CHARACTERISTIC THIN-BEDDED LIMESTONE OF THE CHAMBERSBURG FORMATION, IN RAILROAD CUT 2 MILES SOUTHWEST OF MARION.



FIGURE 11.—SYNCLINE IN MARTINSBURG SHALE, 3 MILES NORTHEAST OF UPTON.
 Shows the cleavage planes radiating from the center of the fold.



FIGURE 12.—SCHOOLEY PENEPLAIN PRESERVED ON CROSS MOUNTAIN.
 The level-topped ridge in the middle distance is Cross Mountain. At the right is the lower ridge of Cove Mountain, and at the left is Two Top Mountain. The foreground represents the Somerville peneplain preserved on Martinsburg shale.

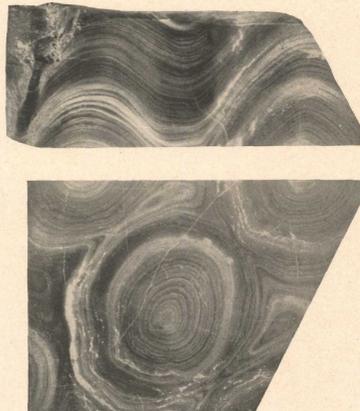


FIGURE 13.—CRYPTOZOON PROLIFERUM FROM LOWER PART OF THE CONOCOCHIEGUE FORMATION, 2 MILES WEST OF FAYETTEVILLE.
 Natural size. Upper figure, cross section; lower figure, under side of same specimen.

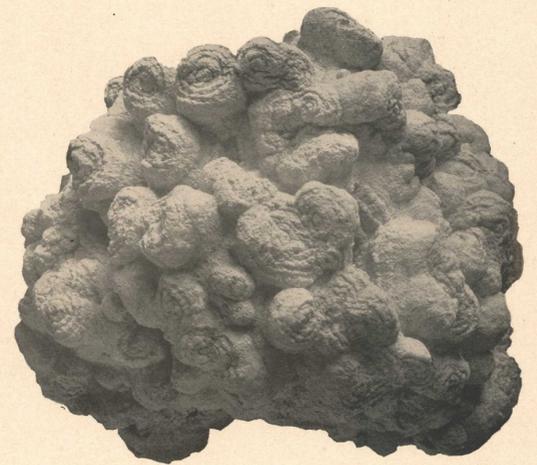


FIGURE 14.—"CAULIFLOWER" CHERT FROM THE UPPER PART OF THE BEEKMANTOWN LIMESTONE IN THE MERCERSBURG QUADRANGLE.



FIGURE 15.—CRINKLED SILICEOUS BANDING IN THE CONOCOCHIEGUE LIMESTONE, LEFT IN STRONG RELIEF BY WEATHERING.



FIGURE 16.—IRREGULAR ARGILLACEOUS AND SILICEOUS BANDING IN THE LOWER BEDS OF THE BEEKMANTOWN LIMESTONE, 1 MILE SOUTHWEST OF AQUA.



FIGURE 17.—"EDGEWISE" CONGLOMERATE IN THE STONE-HENGE MEMBER OF THE BEEKMANTOWN LIMESTONE 4 MILES SOUTHEAST OF GREENCASTLE.



FIGURE 18.—ROSETTE CHERT FROM THE TOP LAYERS OF THE BEEKMANTOWN LIMESTONE. Occurs in both the Chambersburg and the Mercersburg quadrangle.