## COLUMNAR SECTIONS

			GENE		FOR THE	EBENSBURG QUADRANGLE. EET.
SYSTEM.	SERIES.	FORMATION NAME.	SYMBOL.	COLUMNAR SECTION.	THICKNESS IN FEET.	CHARACTER OF ROCKS.
		Monongahela formation.	Cm		100	Shale and thin sandstone.
DEVONIAN	PENNSYLVANIAN	Conemaugh formation.	Ccm	Month of the second of the sec	770	Prevailingly shale with heavy sandstone strata in lower two-thirds.
		Allegheny formation.	Ca	Managaran M	270	Prevailingly gray and dark clay shale with beds of heavy gray sandstone locally developed. Valuable seams of coal.
		Pottsville formation.	Cpv		130	Two beds of heavy sandstone, separated by shale bearing locally a seam of coal.
	MISSISSIPPIAN	Mauch Chunk formation.  Pocono formation.	Cmc		180	Soft, red shale at top, coarse greenish to gray heavy bedded sandstone at bottom.
	MISSIS		Сро		1030	Prevailingly gray sandy shale and coarse gray sand stone. Several bands of red shale.
		Catskill formation.	Dck		1900	Predominantly red shale and red sandstone. Probably 80 per cent red. Some bands of gray and green shale.
		Chemung formation.	Dch		2400	Lower 1400 feet gray and green shale with sandstone layers; upper 1000 feet prevailingly chocolate shale and sandstone. Rather abundantly fossiliferous throughout.
		Nunda formation.	Dn		1600	Very thinly and evenly laminated pale-brown clay shale, at bottom merging into greenish-gray, sandy, unevenly laminated shale with thin, fine-grained, gray and bluish sandstone layers above. Bands of reddish and chocolate rock up to 1 foot thick occur at a certain zone in upper half. Very sparingly fossiliferous throughout. Minute forms occur characteristic of western Nunda ("Portage") rocks only.
		Genesee shale.	Dg		60	Very soft, black clay shale with limestone nodules; sparingly fossiliferous.
		Hamilton formation.	Dh		1300	Mostly olive sandy and clay shale, frequently with characteristic fracture across lamination planes. Thin, very evenly bedded, and jointed gray sandstone layers. Fossils fairly abundant; characteristic Hamilton forms.

SYSTEM	SERIES.	N	NAMES OF FORMATIONS AND MEMBERS.	COLUMNAR SECTION.	THICKNESS IN FEET.	CHARACTER OF ROCKS.
	R.	Monongahela formation.				
		_	Pittsburg coal.		2	Occurs only on ridge 3 miles south of Wilmore.
		100	Wilmore sandstone.		20-30	Laminated to flaggy and coarse, thick bedded.
	PENNSYLVANIAN	gh formation.	Summerhill sandstone.		40-60	Laminated to heavy bedded.
		Conemaugh	Ebensburg sandstone.		40-50	Coarse grained, locally conglomeratic and massive.
						Red shale (local).
)			Saltsburg sandstone		40-60	Evenly bedded flags.
			Gallitzin coal.		1-11	Generally thin.
			Mahoning sandstone.		0-90	Generally heavy bedded, in places conglomeratic; some times in two benches.
			Upper Freeport coal. Freeport limestone. Lower Freeport coal.		3½-4 0-12 0-2	Valuable, persistent seam.  Locally developed; of little value.  Generally thin.
		formation.	Upper Kittanning coal.  Llanfair sandstone.		2–5 40	Only locally developed; generally worthless.  Coarse gray sandstone.
		Allegheny f	Middle Kittanning coal.  Lower Kittanning (Miller or B) seam.		$ \begin{array}{c} 0-2\frac{1}{2} \\ 1\frac{7}{2}-5 \\ 3\frac{1}{2}-4 \end{array} $	Not persistent.  Thin coal overlies Lower Kittanning seam; persistent.  Persistent and valuable.
		tion.	Clarion sandstone. Clarion coal. Brookville coal. Homewood sandstone. Mercer coal, clay, and shale.		40 1-5 15+	Locally developed, coarse, conglomeratic. Thin, not persistent. Persistent seam; poor quality. Coarse, thick bedded. Coal generally worthless, locally minable.
		Pottsville formation.	Connoquenessing sandstone.		100+	Coarse, heavy bedded.
		Mauch Chunk formation.				
	MISSISSIPPIAN		Loyalhanna ("Siliceous")		40-60	Heavy bedded and siliceous; characteristically cross-bedded.
		Pocono formation.	Burgoon sandstone.		300	Coarse, heavy bedded.
			Patton shale.	ERAVEY ERA	40	Red shale below Burgoon sandstone.