SYSTEM	SERIES	GROUP	FORMATION	MEMBER AND BED	THICKNESS IN FEET	DESCRIPTION UNIT
PENNSYLVANIAN	Morrowan	Raccoon Creek	Tradewater	Reynoldsburg Coal Bed	0-70	A
			Caseyville	Pounds Sandstone Member	10-80	B
				"Drury" Member	70-120	C
				Battery Rock Sandstone Member	30-100	D
				Wayside Member	30-100	E
MISSISSIPPIAN	Chesterian	Pope	Kinkaid Limestone	Goreville Ls. Mbr.	0-20	F
				Cave Hill Member	60-100	G
				Negli Creek Limestone Member	25-35	H
			Degonia		20-50	I
			Clore	Ford Station Mbr.	30	J
				Tygett Sandstone Member	15-100	K
				Cora Member	45-60	L
			Palestine Sandstone		40-60	M
			Menard Limestone		125-140	N
			Waltersburg		30-120	O
			Vienna Limestone		15-50	P
			Tar Springs Sandstone		80-130	Q
			Glen Dean Limestone		60-80	R
			Hardinsburg Sandstone		90-110	S
			Golconda	Haney Limestone Member	40-60	T
				Fraileys Shale Member	80-120	
				Beech Creek Ls. Mbr.	0-10	

A Interbedded sandstone, siltstone, shale, and coal. Sandstone is light to medium gray lithic arenite, weathers brown, and is very fine to medium grained; contains noticeable mica and interstitial clay; bedding is thin to thick and irregular. Siltstone and shale are medium to dark gray, fissile. Reynoldsburg Coal Bed is bright-banded to dull and shaley, less than 1 ft thick. Lower contact is gradational.

B Sandstone. White to light gray quartz arenite, weathers yellowish gray, very fine to coarse grained, dominantly fine; contains scattered quartz granules and small pebbles; unit is thick bedded to massive; crossbedding and slumped bedding are common. Lower contact is erosional.

C Interbedded sandstone, siltstone, shale, and coal. Sandstone is white to light gray quartz arenite, very fine to fine grained; rare quartz pebbles occur; dominantly thin bedded, ripple marked; load casts are common. Local crossbedded sandstone is up to 15 ft thick. Siltstone is light to dark gray, laminated, burrowed. Clay-shale and silty shale are medium gray to black, blocky to fissile; plant fossils are common. Coal is shaley and lenticular, up to 18 in. thick. Lower contact is sharp to gradational.

D Sandstone. White to light gray quartz arenite is fine to very coarse grained; quartz pebbles up to 1 in. in diameter are abundant; conglomerate lenses are common near base; tends to fine upward. Unit contains prominent wedge-planar and tabular-planar unidirectional crossbedding; foresets generally dip southwest. Lower contact is erosional.

E Interbedded sandstone, siltstone, shale, and conglomerate. Sandstone is white to light gray quartz arenite, very fine to fine grained; quartz pebbles are rare; unit is dominantly thin bedded; ripple marks, load casts, tool marks are common. Siltstone is light to dark gray and laminated. Clay-shale and silty shale are medium gray to black, blocky to fissile. Lenticular conglomerate of quartz and ironstone pebbles occurs in sandstone matrix. Lower contact is a major unconformity.

F Limestone. Light to medium gray crinoidal packstone and grainstone are medium to coarse grained; beds are 4 to 24 in. thick; unit contains occasional chert nodules. Lower contact is sharp.

G Interbedded limestone, shale, and claystone. Limestone is light to dark gray lime mudstone to fine grained skeletal packstone, weathers light gray, and is dense, and fossiliferous. Chert lenses and beds up to 12 in. thick are present in lower part. Clay shale is dark greenish gray, dark gray, and black, soft to hard, well laminated, calcareous, and fossiliferous. Claystone, greenish gray and red variegated, occurs at top of unit. Lower contact is sharp.

H Limestone. Lower part is dark brownish gray, fine grained, argillaceous cherty lime mudstone and wackestone; contains bellerophontid gastropods and *Girvanella* oncoids. Upper part is light to medium gray, fine to coarse grained, argillaceous crinoidal packstone and grainstone. Lower contact is sharp.

I Interbedded sandstone, siltstone, shale, and claystone. Siltstone to very fine sandstone is bluish, greenish, and olive gray, laminated, brittle, and locally burrowed. Silty shale is gray to greenish gray, laminated. Clay-shale is dark gray, platy. Claystone is dark greenish gray, olive gray and red mottled, mainly at top of unit. Lower contact is sharp (?).

J Limestone with shale interbeds. Two types of limestones are present: the first is light to dark gray, fossiliferous lime mudstone and wackestone that weathers olive gray and orange; unit is massive and sandy near base. The second type of limestone is dark gray, argillaceous lime mudstone. Clay shale is dark gray, fissile, partly calcareous. Lower contact is sharp to gradational.

K Sandstone, siltstone, shale, and limestone. Commonly two coarsening-upward intervals; dark gray clay-shale at base grades upward to silty shale and siltstone, then to thin bedded shaley sandstone, then to medium bedded sandstone rooted at the top. Bluff-forming crossbedded sandstone is present along Max Creek. Limestone in Tygett is dark gray argillaceous lime mudstone and wackestone. Lower contact is sharp.

L Shale with limestone interbeds. Shale is dark gray, olive gray and black, clayey to finely silty, fissile, partly calcareous; lenses and interbeds of limestone, mostly dark gray, are fossiliferous and argillaceous lime mudstone and wackestone; limestone beds are less than 3 ft thick. Coquinoid nodular limestone occurs in lower part of unit. Lower contact is gradational.

M Interbedded sandstone and shale. Sandstone is white to light gray quartz arenite, very fine grained; unit is crossbedded to massive in exposures east of Cedar Creek, elsewhere dominantly thin bedded, micaceous; contains ripple marks, load casts, tool marks, trails, burrows, and occasional brachiopods. Shale is medium to dark gray, silty; contains sandstone lenses and laminae. Interval coarsens upward overall. Lower contact is sharp to gradational.

N Limestone with shale interbeds. Limestone is medium to dark gray and brownish gray skeletal wackestone and packstone, weathers mottled light gray, and is mostly fine to coarse grained. Dense lime mudstone is common in lower Menard. Shale is olive gray and greenish gray, soft, platy, and calcareous. At top and base of Menard are intervals of shale containing lenses and thin beds of slabby to nodular coquinoid limestone. Lower contact is gradational.

O Sandstone, shale, and local coal; laterally variable. Sandstone is light gray quartz arenite, weathers brownish gray, very fine to fine grained; thick bluff-forming crossbedded sandstone occurs in vicinity of Wartrace; foresets are undirectionally southwest-facing. Elsewhere sandstone is dominantly thin bedded and ripple marked. Shale is dark gray, weathers silvery gray, and is silty and siliceous; also, dark gray to black, carbonaceous, soft, and contains plant fossils. Coal is shaley near top of unit. Lower contact is generally gradational.

P Limestone. Medium to dark gray fossiliferous lime mudstone to wackestone, weathers to brown porous residuum; locally coarse skeletal grainstone occurs at top. Unit is very siliceous, silty, and dolomitic; contains abundant dark chert lenses and bands. Clay shale is dark gray, soft, platy, calcareous, with interbeds of argillaceous limestone in the upper Vienna. Lower contact is sharp.

Q Interbedded sandstone, siltstone, shale, and coal. Sandstone is light gray to greenish and brownish gray, slightly micaceous quartz arenite, very fine to fine grained, thin to thick bedded; displays crossbedding, ripple marks, small load casts, and burrows. Some calcareous sandstone occurs near base. Siltstone and silty shaley are medium to dark gray, well laminated, ripple marked. Clay-shale is dark gray, platy. Coal is thin and shaley; occurs most commonly at or near top of unit. Commonly several coarsening- and fining-upward intervals are 15 to 30 ft thick. Lower contact is generally sharp but locally gradational and intertonguing.

R Limestone and clay-shale. Upper part is limestone, a light to dark gray and brown crinoidal grainstone, weathers dark gray with orange mottling, and is fine to very coarse grained, partly oolitic, and crossbedded. Lower part is largely clay-shale, medium gray to dark greenish gray, soft, platy to mudlike, partly calcareous, fossiliferous, poorly exposed. Lower contact is concealed.

S Interbedded sandstone, siltstone, and shale. Sandstone is light gray to light brown, weathers yellowish gray, and is very fine to fine grained quartz arenite, mostly thin bedded and ripple marked, but occasional thick beds. Siltstone and silty shale are medium to dark gray and greenish gray, laminated, ripple marked. Lower contact is concealed.

T Interbedded limestone and shale. Limestone is mostly light to medium gray, fine to very coarse crinoidal-bryozoan packstone, fossiliferous. Shale is greenish gray, soft, calcareous; also dark gray, fissile, and sideritic. Lower portion is largely shale; upper portion is largely limestone.

Plate 1 Stratigraphic column of rocks exposed at surface.