

STATEMAP Johnson County-BG Sheet 1 of 2

SUBSYST	SERIES	STAGE	GROUP	FORMATION	MEMBER OR BED (units are members unless "bed" is specified)	GRAPHIC COLUMN	THICKNESS FT (M)	UNIT	A Vergennes Sandstone sandstone is light to medium gray, very fine to medium-grained, micaceous lithic arenite, friable, mostly thick-bedded to massive, lower contact erosive.	Y Scottsburg Limestone Member limestone is typically dark gray, dense, and sublithographic, in wavy to hummocky beds to about 2 feet (60 cm) thick. Some layers are dolomitic; mud cracks have been observed. Skeletal and pelletal wackestone also occurs. Interbeds of gray greenish
					Vergennes Ss.		30–60 (9–18)	A B	B Interval, largely shale and siltstone, medium to dark gray, laminated. Named units in descending order are Carrier Mills Shale Member, Stone-	gray, and olive-gray shale reach 6 feet (1.8 m) but most are much thinner. Both contacts are sharp to gradational.
	ESIAN				See Fig. 11 in report				fort Limestone Member, Veale Shale Member, Wise Ridge Coal Bed, Mt. Rorah Coal Bed, Creal Springs Limestone Member, and Murphysboro Coal Member. The Carrier Mills and Veale are black, hard, thinly fissile,	Z Lower shale member mostly greenish gray, soft, weakly fissile, calcar- eous clay-shale containing lenses and thin interbeds of limestone that can
	SMOINES				Granger Ss		20-70 (6-21)	С	and phosphatic.	be highly fossiliferous.
	DESM				Mitchellsville Ls Bed New Burnside Coal Bed		0-5 (0-1.5)	D	C Granger Sandstone sandstone is light to medium gray, weathering yellow to brown, fine to coarse-grained, poorly sorted, and friable. Bedding is mostly thick to massive. Lower contact is erosive.	AA Walche Limestone Member a single layer of limestone similar to that of Scottsburg Member, but can be silty to sandy near the base. Lower contact may be sharp or gradational.
					Delwood Coal Bed Oldtown Coal Bed		<u>0-6 (0-1.8)</u> 0-3.5 (0-1.1)		D Interval, largely shale and siltstone, medium to dark gray, laminated.	BB Waltersburg Formation in most of the county, dark gray fissile clay-
				Tradewater	Murray Bluff Ss	~	· 10–115 (3–35) (320)	E	Named units in descending order are Mitchellsville Limestone, New Burn- side Coal, Delwood Coal, and Oldtown Coal, all ranked as beds.	shale in the lower part grades to thin siltstone or very fine sandstone at the top. In southeastern Johnson County bluff-forming, crossbedded sand-stone as thick as 50 feet (15 m) forms a southwest-trending paleochan-
z	Z		Ж				500 (15		E Murray Bluff Sandstone sandstone is light to medium gray, weath- ering brown, iron-rich, well indurated, slightly micaceous lithic arenite to	nel. Coal and rooted claystone occur near top of Waltersburg on flanks of channel. Lower contact is generally gradational, but locally erosive.
PENNSYLVANIAN	ATOKAN		RACCOON CREEK				0-90 (0-27) 0-2.3 (0-0.7) 0-3.5 (0-1.1) 0-100 (0-30)	F G H	sublitharenite. Grain size is fine to coarse; quartz granules are rare. Bed- ding is mostly thick to massive. Lower contact erosive.	CC Vienna Limestone limestone mostly dark gray and brown, lime mudstone and wackestone, very siliceous and cherty, weathering to dis-
					Grindstaff Ss				F Interval, shale, siltstone, and sandstone in variable proportions. Shale and siltstone are medium to dark gray, laminated, and commonly contain abundant trace fossils. Sandstone is light gray, very fine to medi-	tinctive cherty residuum. Locally contains crinoid-bryozoan packstone and grainstone with oolites. Where Vienna is thickest, shale interbeds occur in upper part. Contacts sharp to gradational.
					Bell Coal Bed				 G Grindstaff Sandstone sandstone is white to light gray, wery line to mediate um-grained, slightly micaceous sublitharenite with thin to thick bedding. G Grindstaff Sandstone sandstone is white to light gray, weathering light yellow to brown, fine to medium-grained, with rare quartz granules. Sandstone is well sorted and dominantly quartz, approaching quartz aren- 	DD Tar Springs Formation varying proportions of shale, siltstone, and sandstone with multiple upward-fining and upward-coarsening sequences. Sandstone mostly white to light gray, very fine to fine-grained quartz arenite having ripple marks, crossbedding, load casts, tool marks, and trace fossils. Thin coal and shale containing fossil plants near top. Upper contact typically sharp, local contact sharp to intertonguing with limestone.
					Reynoldsburg Coal Bed					
					Pounds Ss	0 0 0		I	ite. Bedding is mostly thick to massive. Lower contact erosive.	
	ROWAN				unnamed		20–120 (0 (6–36) +	J	H Basal Tradewater largely shale and siltstone, medium to dark gray, laminated; also sandstone that is light gray, very fine to medium-grained, dominantly quartz, thin to thick-bedded. The Bell and Reynoldsburg Coal	EE Glen Dean Limestone most sections show upper and lower lime- stone separated by middle shale. Limestone varies from lime mudstone to
	MORR			Caseyville			00 (45-		Beds are locally present.	oolitic and crinoidal grainstone. Shale is dark gray to greenish and olive- gray, fissile, clayey to slightly silty, and fossiliferous. Crinoids, blastoids,
					Battery Rock Ss	· · · · · · · · · · · · · · · · · · ·	0–140 04 (0–43) 05 F	K	I Pounds Sandstone sandstone is white to light gray, weathering yellow- ish gray to light grayish brown, fine to coarse-grained with common quartz pebbles, bedding mostly thick to massive, crossbedding prominent. Lower	brachiopods, bryozoans, corals, ostracods, and foraminifera are common. Lower contact generally is gradational.
					Wayside		25–145 (8–44)	L	contact erosive. J Unnamed member, largely shale and siltstone, medium to dark gray,	FF. Hardinsburg Formation most sections show bluff-forming lower sandstone and upper slope-forming shale, siltstone, and thinly layered sandstone. Lower sandstone is white to light gray, very fine to medium-
				Grove	Dutchman Ls		15 (4.5) (4.5) (7, 2) (4.5)	КЛ	 J Unnamed member, largely shale and slitstone, medium to dark gray, laminated; also sandstone that is light gray, very fine to medium-grained quartz arenite, quartz pebbles common, thin to thick-bedded. Gentry Coal Bed locally present near base. K Battery Rock Sandstone sandstone is white to light gray, weathering 	grained quartz arenite, fining upward from erosive base. Ripple marks and crossbedding are well developed. Thin coal and rooted claystone occur in
				Church	unnamed		80 30 30 30 30			upper Hardinsburg. Formation thickens markedly toward southeast. Lower contact gradational to erosive but not deeply incised.
					Goreville Ls		37–50 (11–15) ₍	N	yellowish gray to light grayish brown, fine to coarse-grained with abundant quartz pebbles, bedding mostly thick to massive, crossbedding prominent. Lower contact erosive.	GG Haney Limestone Member limestone and lesser shale interbed- ded in variable fashion. Limestone largely crinoid-bryozoan wackestone and packstone: also crinoidal and politic grainstone and micrograpular.
				Kinkaid Limestone	Cave Hill		70–92 0 <u>4</u> (21–28) 1	0	L Wayside Member shale, siltstone, sandstone, local conglomerate.	and packstone; also crinoidal and oolitic grainstone and microgranular limestone and dolomite. Shale is dark gray and greenish gray, fissile and calcareous. Crinoids (some with intact calices), blastoids, brachiopods,
							150		Lithologies commonly interlaminated or thinly interbedded, trace fossils and load casts common. Conglomerate contains quartz pebbles and near base of unit, pebbles and cobbles of limestone, chert, ironstone, and other	bryozoans, and rugose corals are common. Lower contact gradational. HH Fraileys Shales Member at or near the top is red and green blocky
MISSISSIPPIAN				Degonia	Negli Creek Ls		25–32 (8–10) . ဖွ		rock types. Lower contact a regional unconformity.	claystone. Siltstone to very fine-grained sandstone underlies claystone on the southeast. Remainder is dominantly shale, with interbeds of limestone,
				,	Ford Station		· bit 25–55 (8–17) ⊕	R	M Grove Church Shale shale, claystone, and limestone. Shale is mostly dark gray, fissile, silt-free, and partly calcareous. Claystone is mottled and variegated red, green, and gray and has blocky structure. Limestone is	similar to Haney. Lower Fraileys is dark gray to greenish and olive-gray, fis- sile clay-shale containing siderite nodules. Lower contact is sharp.
		/IRAN		Clore	Tygett Ss		(9–24) (9–24) (9–24)	s	wackestone and packstone with diverse marine invertebrates. Dutchman Limestone Member at top is light to medium gray, mostly crinoidal wacke-	II Beech Creek Limestone Member dark gray lime mudstone to pack- stone, locally grainstone, tends to coarsen upward; can be silty to sandy near base. Lower contact sharp to gradational.
		ELV			Cora		30–75 (9–23) 6	т	stone and packstone, cherty and argillaceous, contains brachiopods and bryozoans. Lower contact is sharp.	JJ Cypress Formation generally includes lower bluff-forming sandstone
				Palestine			-105	U	N Goreville Member , limestone is light to medium gray and brownish gray and is dominantly wackestone and packstone with crinoids, bryozo-ans, foraminifera, brachiopods, mollusks, ostracods, trilobites, and rugose	50 to 100 feet (15 to 30 m) thick and upper slope-forming succession of shale, mudstone, siltstone, and thinly layered sandstone. Lower sand- stone is white to light gray, very fine to medium-grained guartz arenite with
					upper shale		0-25 (0-8)		corals. Oolitic and crinoidal grainstone occurs in upper part. Unusually large specimens of <i>Archimedes</i> are characteristic. Both contacts are	prominent crossbedding and soft-sediment deformation. Upper Cypress shows ripple marks, trace fossils, and casts and molds of brachiopods and
				Menard Limestone Waltersburg	Allard Ls middle shale		32–50 (10–15) 14–25 (4–8)	w	sharp. O Cave Hill Member at the top is red and green, blocky claystone 13	crinoid fragments. Lower contact is erosive in most places. KK Ridenhower Formation and Sample Sandstone Ridenhower is
					Scottsburg Ls lower Shale		25-60 (8-18) 3-15 (1-4.5) 6-8 (2-3)	Y Z AA	to 18 feet (4.0 to 5.5 m) thick. At the base is gray to greenish gray, silty, fossiliferous shale 12 to 16 feet (3.7 to 4.9 m) thick. The remainder is	largely shale with a few limestone interbeds. Shale is dark gray, greenish and olive gray, clayey to silty, and contains common marine invertebrates.
					Walche Ls			BB	limestone of variable texture, but dominantly lime mudstone that is partly dolomitic and cherty and contains thin layers of shale. Both contacts are sharp.	Limestone is mostly skeletal wackestone and packstone containing oolites and quartz sand. Sample Sandstone intergrades laterally with Ridenhower in southeastern Johnson County; it is fine to medium-grained with scat-
				Vienna Ls	-		5–50 (1.5–15){	CC	P Negli Creek Limestone Member limestone is medium to dark gray, generally a transition from lime mudstone and wackestone in the lower	tered quartz granules and lacks marine indicators. Lower contact of Riden- hower is sharp but conformable; base of Sample Sandstone is erosive.
	_			Tar Springs			60-130 60-130		part to packstone or grainstone near the top. Bedding is wavy, chert nodules common in the lower part. Gastropods, brachiopods, bryozoans,	LL Bethel Sandstone sandstone is white to light gray, well sorted, very fine to fine-grained quartz arenite. Calcite cement, oolites, and marine
	TERIAN)PE		_				corals, algal oncoids, and sponges are common. Both contacts are sharp to rapidly gradational.	bioclasts are prevalent. Planar, ripple, and cross-lamination including her- ringbone style are developed. Contacts are sharp to rapidly gradation. The sandstone has a nearly flat base and convex upper surface.
	CHES		PC	Glen Dean Limestone			40–120 (12–36)		Q Degonia Sandstone at the top is mottled and variegated claystone 10 to 15 feet (3 to 4.5 m) thick. Remainder is gray, brown, and olive silty shale siltstone and very fine sandstone. These rocks exhibit planar and	MM Downeys Bluff Limestone Member limestone is white, light gray
					-		•		shale, siltstone, and very fine sandstone. These rocks exhibit planar and ripple lamination, burrows, roots, and plant fragments. Both contacts are sharp to rapidly gradational.	and brown, and pink; oolitic grainstone with pink crinoid fragments and fine quartz sand. Gray to green shale is interbedded. Contacts may be sharp or gradational.
		ERGIAN		Hardinsburg			50-185 115-56)	FF	R Ford Station Member interbedded limestone and shale. Massive limestone 5 to 16 feet (1.5 to 4.9 m) thick occurs widely at the base. Limestone	NN Yankeetown Member interbedded claystone, shale, siltstone, lime- stone, and dolomite. Clastic rocks are variegated red, green, purple, and
		IOMBE							is light to dark gray lime mudstone and wackestone with crinoid fragments and brachiopods. Shale is dark gray and greenish gray, clayey to silty, cal-	gray. Carbonate rocks vary from microgranular to oolitic and skeletal pack- stone and grainstone. Lower contact is gradational and may intertongue.
				Golconda	Haney Ls		12–125 (3.6–38) 6 6	GG	careous, and fossiliferous. Contacts are sharp to rapidly gradational. S Tygett Sandstone Member comprises one to three intervals of sand-	OO Shetlerville Limestone Member mostly dark gray to brown lime- stone, lime mudstone to wackestone, packstone, and oolitic and crinoidal
					Fraileys Shale		50–120 (15–36)	НН	stone separated by limestone and shale. Sandstone generally caps up- ward-coarsening sequences of shale and siltstone. Limestone resembles	grainstone. Dark gray shale is interbedded. <i>Talarocrinus, Pentremites,</i> brachiopods, and bryozoans are common. Local thin sandstone at base; a
					Beech Creek Ls		0–12 (0–3.6)		that of the Cora Member below. Contacts are sharp to rapidly gradational.T Cora Member shale with limestone interbeds. Shale is dark gray,	subtle disconformity. PP Levias Limestone Member Limestone is light to medium gray, also
				Cypress				LL JJ	greenish gray, and olive gray, thinly fissile, silt-free to finely silty, and fos- siliferous. Limestone beds are mostly thinner than 3.3 feet (1.0 m) and are argillaceous lime mudstone and wackestone containing plentiful brachio-	purple, red, orange, and brown; commonly oolitic and sandy packstone to grainstone with red-centered oolites. Lower contact may be sharp or gradational.
				SS			60- 60-		pods, bryozoans, gastropods, and echinoderms. Contacts are sharp to gradational.	QQ Aux Vases Formation calcareous sandstone and sandy limestone
		_		Bader	-		45-105 (13-32)		U Palestine Formation variable proportions of sandstone, siltstone, and shale, plus thin coal and non-fissile mudstone. Sandstone is white to light	intergrade laterally and vertically; sandstone is light gray, brown, greenish and reddish gray, very fine to fine-grained, calcareous, glauconitic, and fossiliferous. Interbeds of red, green, and gray shale are present. Lower
		RIAN		រត្ត Ridenhower	·				gray, very fine to fine-grained quartz arenite, laminated and crossbed-	contact may be sharp to gradational.

Sandstone--/ AChertShaleCoalCarbonaceous ShaleCoalConglomeritic SandstoneCordSilty ShaleConglomeritic SandstoneDolomiteConglomeritic SandstoneSolopicConglomeritic SandstoneSilty ShaleConglomeritic SandstoneConglomeritic SandstoneConglomeritic SandstoneSolopicConglomeritic SandstoneSolopicConglomeritic SandstoneConglomeritic SandstoneConglomeritic SandstoneSolopicConglomeritic SandstoneConglomeritic SandstoneConglomer

Symbology

Limestone

 \sim Ripple Marks





