

Table 1.--Summary of geologic units, lithology, and availability and quality of ground water in Sumter County

System	Series	Geologic unit	Thickness (feet)	Lithology	Availability of water	Quality of water	
Quaternary	Holocene and Pleistocene	Alluvium and low terrace deposits	0-50	Sand; gravel; clay; silt.	Yields adequate water for domestic supplies. Potential source of large supplies where sand beds are of sufficient saturated thickness.	Generally soft; locally contains more than 0.3 mg/l iron.	
	Pleistocene	High terrace deposits	0-50	Sand; gravel; clay.	Yields adequate water for domestic supplies.	Generally soft; locally contains more than 0.3 mg/l iron.	
Tertiary	Eocene	Wilcox Group	Tuscaloosa Sand	0-200	Sand, light-gray, fine-grained, and gray clay; yellow fine- to coarse-grained crossbedded sand; fossiliferous glauconitic sandy clay. Locally, basal part consists of about 60 feet of olive-gray and green fine-grained glauconitic sand and sandstone.	Not tapped by wells in Sumter County. Will probably yield 10 gpm to wells where sand beds are of sufficient saturated thickness.	Probably soft to moderately hard and may contain more than 0.3 mg/l iron.
			Nanafalia Formation	120±	Sand, white and yellow, fine- to coarse-grained crossbedded with clay pebbles; light gray to yellowish-orange, very fine to coarse grained, glauconitic, fossiliferous sand and sandstone; dark gray silty clay and claystone.	Wells tapping basal sands in adjoining Choctaw County reportedly produce as much as 100 gpm; may yield 50 gpm to wells in southwestern part of Sumter County.	Soft to moderately hard and usually contains more than 0.3 mg/l iron. Chloride content generally is less than 20 mg/l.
	Paleocene	Milledgeville Group	Naheola Formation	200±	Sand, white and yellow, fine- to coarse-grained chiefly in upper unit; locally is cross-bedded and contains clay pebbles. Basal unit consists of laminated to thin-bedded, very fine to fine-grained sand and silty clay; one or more beds of lignite mark the top of the basal unit.	Yields water for municipal and domestic supply in the southwestern part of the county. Wells tapping the formation at Cuba reportedly produce as much as 40 gpm. Capable of yielding as much as 50 gpm to individual wells.	Water has a dissolved solids content of less than 250 mg/l and is soft. May contain more than 0.3 mg/l iron.
			Porters Creek and Clayton Formations, undifferentiated	330-520	Clay, light- to yellowish-gray, silty, calcareous, light olive-gray, clayey glauconitic sandstone and silty chalk; dark-gray to black micaceous noncalcareous clay. Locally the Porters Creek contains a few thin beds of light-gray very fine to coarse-grained quartzose sand in the upper and middle parts and a thin bed of light gray silty limestone near the base.	Relatively impermeable; not a source of ground water.	
Cretaceous	Upper Cretaceous	Selma Group	Prairie Bluff Chalk	70±	Chalk, white, fossiliferous, sandy.	Relatively impermeable; not a source of ground water.	
			Ripley Formation	35-220	Sand, gray, micaceous, calcareous, fossiliferous, clayey; dark-gray calcareous fossiliferous sandy clay; light gray chalk. Locally contains a few thin beds of micaceous calcareous hard sandstone in lower part.	Not tapped by wells in Sumter County. Probably not a source of ground water.	
			Demopolis Chalk	450-520	Chalk, light-gray, silty, micaceous, fossiliferous.	Relatively impermeable; not a source of ground water.	
			Mooreville Chalk	225-360	Chalk, light-gray, silty, fossiliferous.	Relatively impermeable; not a source of ground water.	
	Upper Cretaceous	Tuscaloosa Group	Eutaw Formation	400±	Sand, light-gray to yellowish-brown, fine- to medium-grained, glauconitic; light-gray to green micaceous laminated clay and shale; thin to massive beds of fine- to coarse-grained glauconitic sand and beds of light-gray to gray shale in lower part. A massive bed of fine- to medium-grained glauconitic sand, containing fossil shells and locally a few thin beds of light-gray glauconitic sandstone and sandy chalk, occurs in the upper part.	Source of domestic supply in northern part of Sumter County; potential source of large supplies; will probably yield 1.5 mgd to individual wells from major aquifer in lower part of unit; will probably yield as much as 100 gpm from sand beds in upper part.	Water is soft to very hard and locally contains more than 0.3 mg/l iron. Chloride content exceeds 500 mg/l in the central and southern parts of Sumter County.
			Gordo Formation	300-450	Sand, light-gray, fine- to very-coarse-grained; light-gray to mottled-red and gray carbonaceous micaceous clay and shale; chert gravel; poorly-sorted coarse-grained sand in lower part of unit; upper part consists of massive clay and lenticular sand beds.	Source of domestic supply in northern part of Sumter County; potential source of large supplies; will probably yield 1.5 mgd to individual wells from major aquifer in lower part of unit.	Soft to moderately hard and locally contains more than 0.3 mg/l iron. Chloride content is less than 250 mg/l in the two northernmost townships of Sumter County, but more than 500 mg/l in the central and southern parts.
			Coker Formation	800-900	Sand, fine- to coarse-grained, glauconitic, micaceous; chert gravel; olive-gray to yellowish-gray carbonaceous clay and shale; fine- to coarse-grained sandstone; basal part consists of massive beds of coarse-grained sand and gravel; clay predominates in upper part, locally sand and gravel beds are present.	Not tapped by wells in Sumter County; potential source of large supplies; will probably yield 1.5 mgd to individual wells from major aquifer in lower part of unit.	Probably soft to moderately hard and, except locally, iron content is less than 0.3 mg/l. Chloride content probably exceeds 500 mg/l in the central and southern parts of Sumter County.