

Table 1—Geologic units in northeastern Worcester County and their geohydrologic characteristics.<sup>1</sup>  
(adapted from Weigle, 1974)

System	Series	Group	Geologic unit	Thickness (Feet)	Hydrologic unit(s)	Lithologic character	Water-bearing characteristics and hydrology <sup>2/</sup>
	Holocene	---	Holocene deposits	0 - 40 average 5	---	Soil, alluvial sand and silt, dune sand, and peat. Disconformable base.	Commonly unsaturated, but permits water to percolate downward to underlying units. Possibly provides water locally for a few wells near the coast.
Quaternary	Pleistocene		Upper Pleistocene deposits	90 - 160	---	Lenticular deposits of sand, silt, clay, and peat. Some beds of coarse sand and fine gravel. Tan; some gray, and blue.	Functions as a partial confining bed. Generally capable of yielding supplies of water sufficient for household needs, but water "irony" locally. Susceptible to local salt-water contamination near coast.
			Beaverdam Sand			Pleistocene aquifer	In lower half of Pleistocene deposits. Lensoidal or rudely stratified deposits of medium-to-very-coarse sand and gravel. Color generally tan, green brown, white, or gray. Near coast, the bottom 10 or 20 feet is stratified blue clay and gray sand. Aquifer is 25 - 90 feet thick.
Quaternary (?)	Pleistocene (?)		Pleistocene (?) deposits	0 - 20			
Tertiary	Miocene	Chesapeake		0 - 50	Upper confining bed	Lenticular silts, clays, and fine sands. Green-blue silt and fine gray sand most common, but occasionally includes blue-green pebbly clay.	Confining bed, providing partial hydraulic separation of the Pleistocene and Pocomoke aquifers. Pinches out in extreme northwestern part of area, and absent locally elsewhere. Effectiveness as a confining bed is good to poor.
				0 - 80	Pocomoke aquifer	Sand, gray or tan-gray; coarse and pebbly generally, but locally fine.	Important aquifer generally 30 to 60 feet thick, but absent under northern Ocean City. Where present, generally has a potential for large short-term yields. Potential yields and transmissivity greatest from Newark to Isle-of-Wight Bay; less to northwest, southeast, and northeast. Water confined except in extreme northwestern part of area.
				15 - 85	Lower	Blue and gray clayey silt and sand; some peat. Some beds of shell and calcite and/or limestone in top and bottom parts. Middle generally sandy; bottom part sandy in much of area; material in upper part (15 - 20 feet thick) fine.	Leaky confining layer. In much of the area only the upper part (15 - 20 feet thick) persists as a confining layer and the middle and lower parts are an aquifer (the Ocean City aquifer).
					Ocean City aquifer	Coarse gray sand, fine gravel.	Important aquifer at Ocean City; provided the entire public supply in 1972. Hydraulically connected with Manokin.
					confining bed		
				< 100 - 240	Manokin aquifer	Fine to very coarse gray sand, and some lignite or peat. Some silty sand and clay, especially in middle part of aquifer, toward southeast. Occasional beds of shell and/or "rock".	Very important artesian aquifer. The Ocean City-Manokin aquifer system has a potential for large to very large short-term yields except in the southeastern part of the area, where the potential is for moderate to large yields. Transmissivities of the Ocean City-Manokin aquifer system increase north-northwestward, and range from about 1,000 to more than 10,000 feet squared per day. At the coast, the Manokin may be susceptible to salt-water invasion in response to large-scale ground-water withdrawals there.
				160 - 190	Confining layer	Compact, gray, fossiliferous clay, silt, silty clay, and sandy clay. Possibly some very fine sand.	Confines the base of the Manokin aquifer, preventing or retarding movement of salt water from the Choptank Formation to the Manokin. In this area, saturated with brackish or salty water and generally unproductive of water.
	130 - 240	Frederica aquifer	Gray fine sand. Thin beds of shell and calcite or limestone.	The aquifer could yield supplies of water at least sufficient for domestic needs, but the water is salty.			
		Confining layer	Green or brown clay and fine sand. Thin beds of shell and calcite or limestone.				
		Calvert Formation	430 - 680	Aquifers and confining layers	Gray sand and diatomaceous silt and clay. Shell beds.	The aquifers could probably yield individual supplies of water measurable in hundreds of gallons per minute, but the water is salty.	

<sup>1/</sup> The nomenclature is that of the Maryland Geological Survey and does not necessarily agree with that of the U. S. Geological Survey.

<sup>2/</sup> "Moderate" indicates yields of 100 - 300 gpm; "large", 300 - 1,000 gpm; "very large", more than 1,000 gpm. Short-term yields are maintainable for several hours at a time with longer intervening periods of no pumping, and assume optimum conditions of well construction and spacing.