

Average Thickness

25' COLUMBIA FORMATION

65' CALVERT FORMATION

15' NANJEMOY FORMATION

25' VINCENTOWN FORMATION

35' HORNERSTOWN FORMATION

100' MT. LAUREL FORMATION

20' MARSHALLTOWN FORMATION

1200' BASEMENT

LOWER TO UPPER CRETACEOUS

LEGEND

GLAUCONITE

FOSSILS

### Geologic History

	Tc		(CHEAPAWAKE)
	<b>CALVERT FORMATION</b>		MIOCENE
	<i>Gray and bluish-gray silt, with some fine sand and shell beds.</i>		
	Tn <sub>a</sub>		
	<b>NANJEMOY FORMATION</b>		
	(Only on cross section)		
	<i>Green and dark gray glauconitic silt and clay, with some fine to medium sand.</i>		
	Tst		
	<b>VINCENTOWN FORMATION</b>		
	<i>Green, gray, and reddish-brown, fine to coarse, highly quartzose glauconic sand with some silt.</i>		(RANOCAS)
	Thr		PALEOCENE-EOCENE
	<b>HORNERSTOWN FORMATION</b>		
	<i>Green, gray, and reddish-brown, fine to medium, silty, highly glauconitic sand and sandy silt. Red sands are found locally in Odessa area.</i>		
	Kmt		(MANNINGH)
	<b>MOUNT LAUREL FORMATION</b>		
	<i>Gray, green and red-brown, glauconitic, fine to medium, quartz and sand with some silt.</i>		
	Kmt		
	<b>MARSHALLTOWN FORMATION</b>		
	<i>Dark greenish-gray, massive, highly glauconitic, very silty, fine sand.</i>		
	<i>The Marshalltown Formation (Kmt) the subsurface equivalent of Merchantville (Kms); English Point (Ket), and Marshalltown (Kent) a dark gray to bluish gray, micaceous, glauconitic, sandy silt. See cross-section.</i>		
	Kmt		(MATAMORA)
			UPPER CRETACEOUS

30— Pleistocene thickness in feet.

Marsh (small un drained depressions are Carolina Bays).

— Approximate boundary of marsh.

父 Sand or gravel pit.

--- Approximate concealed geologic contact.

BATHYMETRIC ELEVATION  
(feet below sea level)

-100  
-1000  
-1100  
-1200  
-1300  
-1400  
-1500  
-1600  
-1700  
-1800  
-1900  
-2000

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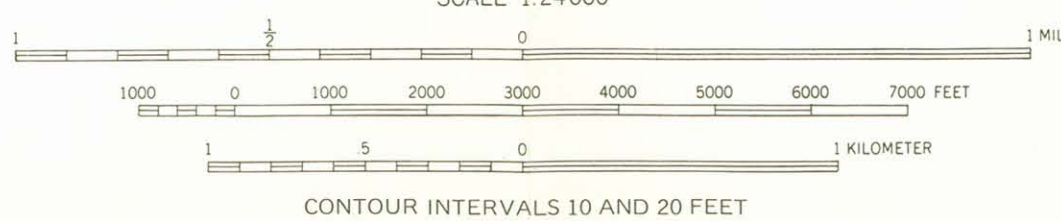
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SCALE 1:24000



**NOTE**

The Columbia Formation (fluvial sands of Pliocene age) and Holocene sediments overlie older units almost everywhere. Columbia thickness is shown by contours (isopachs).



QUADRANGLE LOCATION