UNITED STATES DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

PROFESSIONAL PAPER 267 PLATE 1

GEOLOGIC MAP OF BRANDYWINE AREA, SOUTHERN MARYLAND

EXPLANATION

Recent

Qal — Alluvium
Clay, silt, sand, and gravel on flood plains of minor streams. In places includes small areas of low terrace deposits

Qt — Terrace deposits bordering minor streams
Undifferentiated clay, silt, sand, and gravel

Pleistocene

Qn_1 Qn_2 Qn_3 Qn_4 — Terrace deposits of Patuxent River
Chiefly sand and gravel in lower part, loam in upper part. Qn_1, Nottingham terrace 1. In northern part sub-divided into Qn_{1a}, 8 feet above river and Qn_{1b}, 20 feet above river. Mostly loamy gravel. Qn_2, Nottingham terrace 2. Corresponds to Talbot terrace of Shattuck. Qn_3, Nottingham terrace 3. Qn_4, Nottingham terrace 4. Includes deposits of one or more high-level terrace deposits

Qd — Dune sand
Shown only where resting on Brandywine formation. Fine sand and sandy loam. Remnants of system of ancient dunes considerably modified by soil-forming processes and erosion. May have wide range in age

QUATERNARY

Pliocene (?)

Tbl Tbg — Brandywine formation
Tbl, upper loam member, predominantly silt loam and loam; includes small areas of clay and sand. Tbg, lower gravel member, predominantly sand and gravel; contains interbedded fine sand and in places lenses of silt. In Patuxent River valley may include some high-level terrace deposits of the river

Miocene (?)

Tnk — North Keys sand
Sand, very fine, massive, well-sorted. Loamy at base; grades downward into clay of Calvert formation. Generally light orange

Miocene

Tc — Calvert formation
Clay, sand, and diatomaceous earth. Topmost bed is generally diatomaceous clay, 15-30 feet thick

Eocene

Tn — Nanjemoy formation
Glauconitic sand and clay. Exposed only in northeastern part of area

TERTIARY

Contact
Dashed where approximately located

Lyons Creek Wharf

Duley

St Cheltenham

Cheltenham

Brandywine

Brandywine Heights

Townshend

Mattawoman

Ashbox

Cedarville

Baden

Westwood

Horsehead

Orme

Naylor

North Keys

Nottingham

Jones Point

White Landing

Lower Marlboro

Magruder Landing

Milltown Landing

CEDARVILLE STATE FOREST

PRINCE GEORGES CO
CHARLES CO
CALVERT CO

PATUXENT RIVER

Piscataway Creek
Mattawoman Creek
Timothy Branch
Rock Creek
Broad Creek
Kings Creek
Hotschkins Branch
Black Swamp
Deep Creek

76° 50'
76° 45'
76° 40'
38° 45'
38° 40'

TRUE NORTH
MAGNETIC NORTH
7° 7'

Base from U. S. Army Map Service Brandywine quadrangle, Maryland, 1946 and Lower Marlboro quadrangle, Maryland, 1950

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Geology by John T. Hack and Robert M. Lindvall, 1946-50
Cedarville State Forest modified from soil mapping by C. C. Nikiforoff

1 0 1 Mile

Contour interval 20 feet
Datum is mean sea level