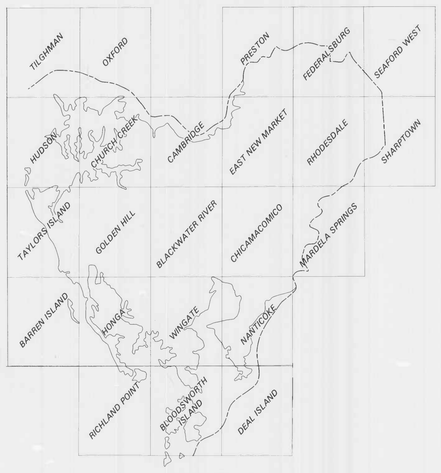
INDEX TO USGS
7.5 MINUTE TOPOGRAPHIC QUADRANGLE MAPS



State of Maryland
DEPARTMENT OF NATURAL RESOURCES
MARYLAND GEOLOGICAL SURVEY
Emery T. Cleaves, Director

MINERAL RESOURCES OF DORCHESTER COUNTY, MARYLAND

by
James R. Brooks

1994

Scale 1:62,500

1 ½ 0 1 2 3 4 Miles
1 ½ 0 1 2 3 4 5 Kilometers

Base map, Dorchester County Topographic Map, published by the Maryland Geological Survey, 1986

Contour interval 20 feet
Numbered ticks indicate the 10,000-foot State grid of 1939 (The last three digits of the grid numbers are omitted)
Datum is mean sea level

SAND AND GRAVEL RESOURCES OF DORCHESTER COUNTY

Introduction

This map shows past and present mining operations and areas of potential mineral resources in Dorchester County. Sand and, to a lesser extent, gravel are the county's only mineral resources. Because the county is located at a considerable distance from the major population centers, most all of the material is used locally. The gravels of the Eastern Shore counties tend to be finer grained than those west of Chesapeake Bay. In most pits 90% of the material will pass 16mm.

The sand and gravel industry has grown from but one operator in 1966 to seven in 1992. Production from Dorchester County in 1993 was 175,847 tons, down from 323,789 tons in 1992 and 446,325 tons in 1991.

Many hundreds of acres have been disturbed by mining since the Surface Mining Act of 1975. The following chart summarizes the current mining activity as of mid-1994:

Total Acreage Under Permit	*Actual Working Acreage*	*Reclaimed Acreage*
220.0	*111.4*	*84.4*

These acreage data were compiled by the Minerals, Oil & Gas Division of the Water Resources Administration, Maryland Department of Natural Resources. They were derived from surface-mining permits, field investigations, aerial photographs, and information furnished by various sand and gravel operators. Numerous small pits, some not found and some obliterated by time, are not reflected in these figures.

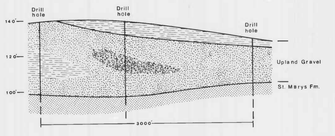
Geology

The sand and gravel deposits of Dorchester County are confined principally to three stratigraphic units. In decreasing order of importance, these are the Parsonsburg Sand (Pleistocene), the Kent Island Formation (Pleistocene), and the Beaverdam Sand, (Upper? and Middle? Pliocene). These units, depending on their locations, can be in excess of 30 feet thick.

These formations are not everywhere suitable for aggregate or fill. The quality of the material is variable and its use is often determined by its location and by tbe particular specifications of the job for which the material is needed. In addition, suitable aggregate or fill material may be sometimes found outside the area outlined as potential sand and gravel resources.

During the course of this investigation, 17 exposures and a number of drill hole logs were examined. Using sand and gravel thickness from these sources, an attempt was made to delineate those areas in which economic sand and gravel deposits are most likely to occur, but deposits tend to be site specific and no continuity could be established. No attempt was made to examine quality or overburden thickness. The information on this map should be used with great caution because sand and gravel deposits commonly change in thickness and composition over short distances, and in some cases location is the determining factor as to whether or not a particular deposit can be used. Islands, some low areas facing the Chesapeake Bay and most marshy areas were excluded from the resource area. Some of these localities may contain sand and gravel, but were excluded because of environmental considerations. Specific site investigations must be made before any actual reserve estimates or economic projections can be made.

The following cross section from a site west of Leonardtown, Maryland serves to illustrate both the lateral and vertical facies changes that can occur over relatively short distances.



Resource Pre-emption

Other factors not considered here influence economic viability of sand and gravel operations in certain areas. Important among these are both the proximity to and pre-emption by urban development.

SELECTED REFERENCES

Bachman, L. J. and Wilson, J. M., 1984, The Columbia aquifer of the Eastern Shore of Maryland: Maryland Geological Survey Rept. of Invest. No. 40, 144 p.

Cleaves, Emery T. et al., 1987, Quaternary geologic map of the Chesapeake Bay 4° x 6° quadrangle, United States: U.S. Geological Survey, map I-1420, scale 1:1,000,000.

Denny, C. S. et al., 1979, The Parsonsburg Sand in the central Delmarva Peninsula, Maryland and Delaware: U.S. Geological Survey Prof. Paper 1067-B, 15 p.

Hess, Melodie, 1977, Drill hole logs and location map of surface and shallow subsurface materials, central and southern Delmarva Peninsula, Maryland, Delaware, and Virginia: U.S. Geological Survey, map MF-899, scale 1:250,000.

Owens, J.P. and Denny, C. S., 1979, Surface and shallow subsurface geologic studies in the emerged coastal plain of the Middle Atlantic States: U.S. Geological Survey Prof. Paper 1067-A, 28 p.

_____, 1986, Geologic map of Dorchester County: Maryland Geological Survey, scale 1:62,500.

ACTIVE OPERATIONS

(numbers 1-7 are keyed to locations on map)

1.	Barnett, Thomas L.	Sand & gravel
2.	Barnett, Thomas L.	Sand & gravel
3.	Eastern Corp.	Sand & gravel
4.	Eastern Shore Concrete & Building Products, Inc.	Sand
5.	Burton Hastings, Inc.	Sand
6.	Middletown Branch Gravel Pit	Sand & gravel
7.	Shufelt Sand and Gravel	Sand

MAP SYMBOLS

Active sand and gravel, sand, or borrow pit (Number refers to operator; see text.)

Abandoned sand and gravel, sand or borrow pit

Areas of potential sand or sand and gravel

Copies of this map may be purchased from the Maryland Geological Survey, 7300 St. Paul Street, Baltimore, Maryland 21218.

County Boundary Line
13 Apr. 76, Md. Court of Appeals
D.N.R. vs France, 277 Md. 432 (79)

Williams & Heintz Map Corporation, Wash., D.C. 20027