

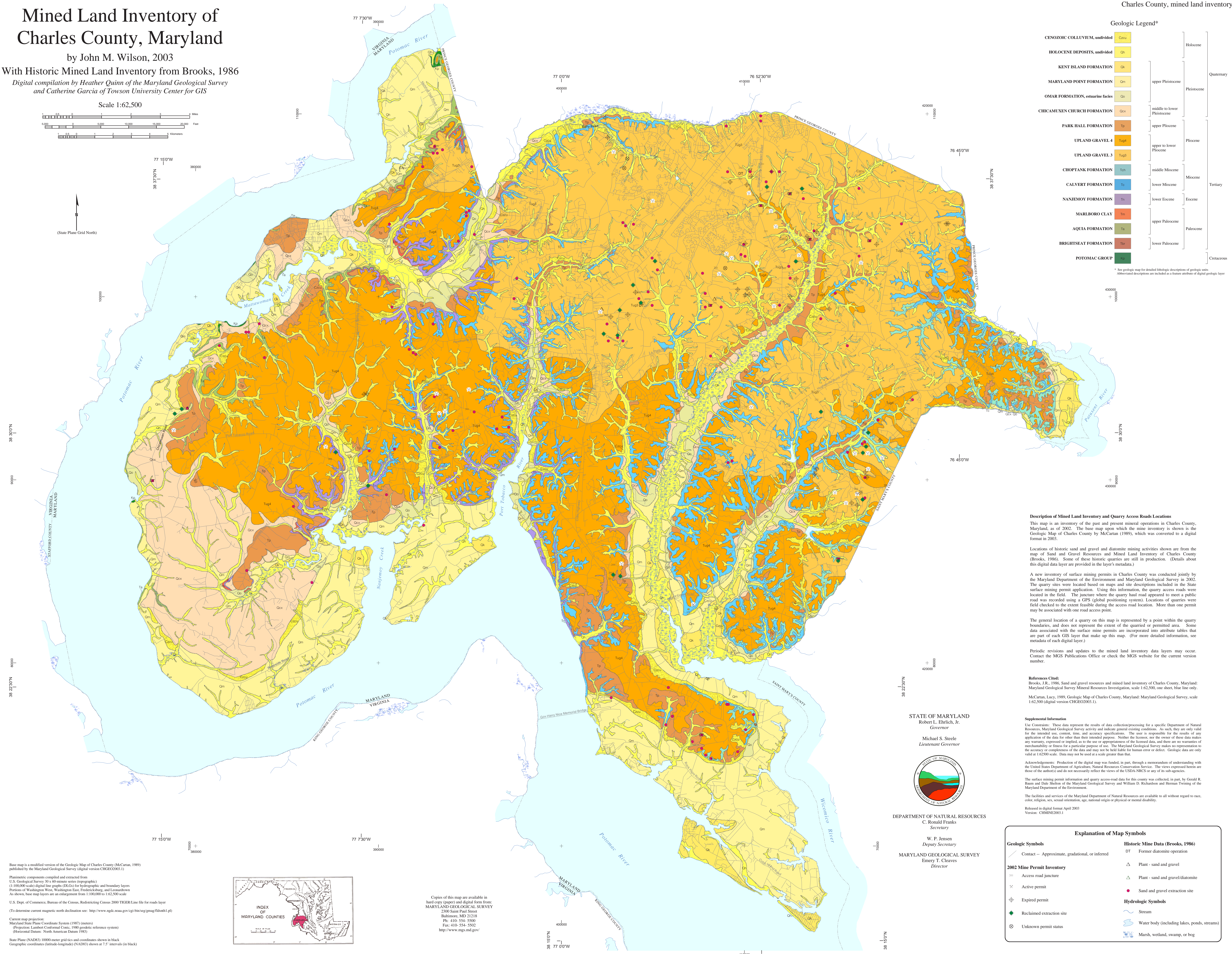
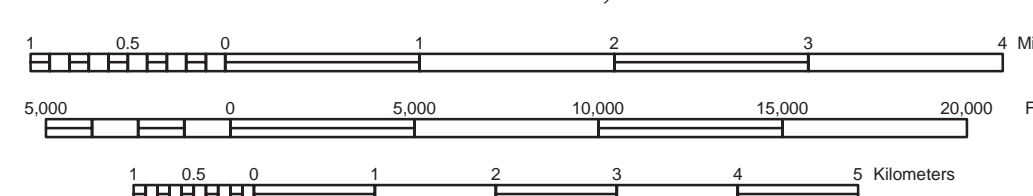
# Mined Land Inventory of Charles County, Maryland

by John M. Wilson, 2003

With Historic Mined Land Inventory from Brooks, 1986

Digital compilation by Heather Quinn of the Maryland Geological Survey and Catherine Garcia of Towson University Center for GIS

Scale 1:62,500



## Geologic Legend\*

Geologic Unit	Symbol	Age Group	Period
CENOZOIC COLLUVIUM, undivided	Czcu	Quaternary	Holocene
HOLOCENE DEPOSITS, undivided	Qn		
KENT ISLAND FORMATION	Ok	Pleistocene	Quaternary
MARYLAND POINT FORMATION	Om		
OMAR FORMATION, estuarine facies	Oo		
CHICAMUXEN CHURCH FORMATION	Ocx		
PARK HALL FORMATION	Tp	Pliocene	Tertiary
UPLAND GRAVEL 4	Tuq4		
UPLAND GRAVEL 3	Tuq3	Miocene	Tertiary
CHOPTANK FORMATION	Tch		
CALVERT FORMATION	Tc	Eocene	Tertiary
NANJEMOY FORMATION	Tn		
MARLBORO CLAY	Tm	Paleocene	Cretaceous
AQUIA FORMATION	Ta		
BRIGHTSEAT FORMATION	Tb		
POTOMAC GROUP	Tp		

\* See geologic map for detailed lithologic descriptions of geologic units. Abbreviated descriptions are included as a feature attribute of digital geologic layer.

### Description of Mined Land Inventory and Quarry Access Roads Locations

This map is an inventory of the past and present mineral operations in Charles County, Maryland, as of 2002. The base map upon which the mine inventory is shown is the Geologic Map of Charles County by McCartan (1989), which was converted to a digital format in 2003.

Locations of historic sand and gravel and diatomite mining activities shown are from the map of Sand and Gravel Resources and Mined Land Inventory of Charles County (Brooks, 1986). Some of these historic quarries are still in production. (Details about this digital data layer are provided in the layer's metadata.)

A new inventory of surface mining permits in Charles County was conducted jointly by the Maryland Department of the Environment and Maryland Geological Survey in 2002. The quarry sites were located based on maps and site descriptions included in the State surface mining permit application. Using this information, the quarry access roads were located in the field. The junction where the quarry haul road appeared to meet a public road was recorded using a GPS (global positioning system). Locations of quarries were field checked to the extent feasible during the access road location. More than one permit may be associated with one road access point.

The general location of a quarry on this map is represented by a point within the quarry boundaries, and does not represent the extent of the quarried or permitted area. Some data associated with the surface mine permits are incorporated into attribute tables that are part of each GIS layer that make up this map. (For more detailed information, see metadata of each digital layer.)

Periodic revisions and updates to the mined land inventory data layers may occur. Contact the MGS Publications Office or check the MGS website for the current version number.

### References Cited:

Brooks, J.R., 1986, Sand and gravel resources and mined land inventory of Charles County, Maryland: Maryland Geological Survey Mineral Resources Investigation, scale 1:62,500, one sheet, blue line only.  
McCartan, Lucy, 1989, Geologic Map of Charles County, Maryland: Maryland Geological Survey, scale 1:62,500 (digital version CHGEO2003.1).

### Supplemental Information

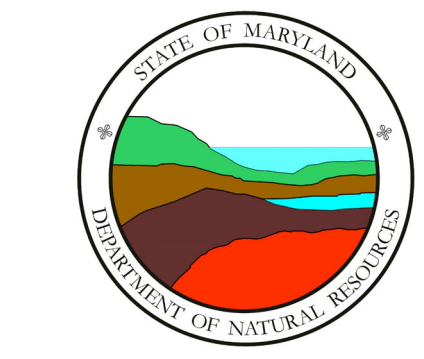
The data represent the results of data collection/processing for a specific Department of Natural Resources, Maryland Geological Survey activity and indicate general existing conditions. As such, they are only valid for the intended use, content, time, and accuracy specifications. The user is responsible for the results of any application of the data for other than their intended purpose. Neither the licensee nor the owner of these data makes any warranty, expressed or implied, as to the use or appropriateness of the licensed data, and there are no warranties of merchantability or fitness for a particular purpose of use. The Maryland Geological Survey makes no representation in the accuracy or completeness of the data and may not be held liable for human error or defect. Geologic data are only valid at 1:62,500 scale. Data may not be used at a scale greater than that.

Acknowledgements: Production of the digital map was funded, in part, through a memorandum of understanding with the United States Department of Agriculture, Natural Resources Conservation Service. The views expressed herein are those of the author(s) and do not necessarily reflect the views of the USDA-NRCS or any of its sub-agencies.

The surface mining permit information and quarry access-road data for this county was collected, in part, by Gerald R. Baum and Dale Shelton of the Maryland Geological Survey and William D. Richardson and Herman Twining of the Maryland Department of the Environment.

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Version: CHMIN2003.1

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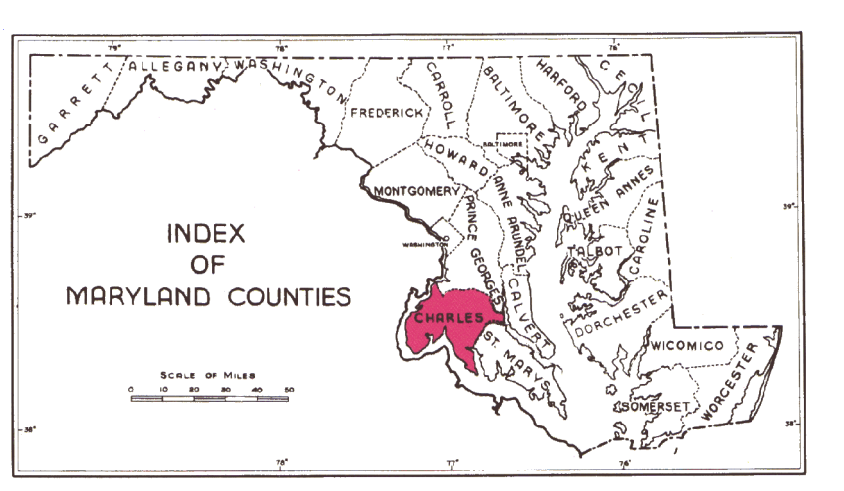


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MARYLAND GEOLOGICAL SURVEY  
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### Explanation of Map Symbols

Geologic Symbols	Historic Mine Data (Brooks, 1986)
— Contact — Approximate, gradational, or inferred	DT Former diatomite operation
— Access road juncture	△ Plant - sand and gravel
× Active permit	△ Plant - sand and gravel/diatomite
⊕ Expired permit	● Sand and gravel extraction site
◆ Reclaimed extraction site	<b>Hydrologic Symbols</b>
⊕ Unknown permit status	— Stream
	— Water body (including lakes, ponds, streams)
	— Marsh, wetland, swamp, or bog

Base map is a modified version of the Geologic Map of Charles County (McCartan, 1989) published by the Maryland Geological Survey (digital version CHGEO2003.1)  
Planimetric components compiled and extracted from U.S. Geological Survey 30 x 60-minute series (topographic) (1:100,000 scale digital line graphs (DLGs) for hydrographic and boundary layers Portions of Washington West, Washington East, Frederickburg, and Leesonsville As shown, base map layers are an enlargement from 1:100,000 to 1:62,500 scale  
U.S. Dept. of Commerce, Bureau of the Census, Redistricting Census 2000 TIGER/Line file for roads layer (To determine current magnetic north declination see: <http://www.ngdc.noaa.gov/cgi-bin/seg/gmag/ldmth1.pl>)  
Current map projection: Maryland State Plane Coordinate System (1987) (meters) (Projection: Lambert Conformal Conic, 1980 geospatial reference system) (Horizontal Datum: North American Datum 1983)  
State Plane (NAD83) 10000-meter grid ticks and coordinates shown in black Geographic coordinates (latitude-longitude) (NAD83) shown at 7.5' intervals (in black)



Copies of this map are available in hard copy (paper) and digital form from: MARYLAND GEOLOGICAL SURVEY 2300 Saint Paul Street Baltimore, MD 21218 Ph: 410-554-5500 Fax: 410-554-5502 <http://www.mgs.md.gov/>