

SINKHOLES AND KARST-RELATED FEATURES
OF DAUPHIN COUNTY, PENNSYLVANIA

OPEN-FILE REPORT: 8901

by W.E.Kochanov

1989
STATE OF PENNSYLVANIA
DEPARTMENT OF INTERNAL AFFAIRS
TOPOGRAPHIC AND GEOLOGIC SURVEY

0690
MIDDLETOWN QUADRANGLE
PENNSYLVANIA
7.5 MINUTE SERIES (TOPOGRAPHIC)
NW/4 MIDDLETOWN 15' QUADRANGLE

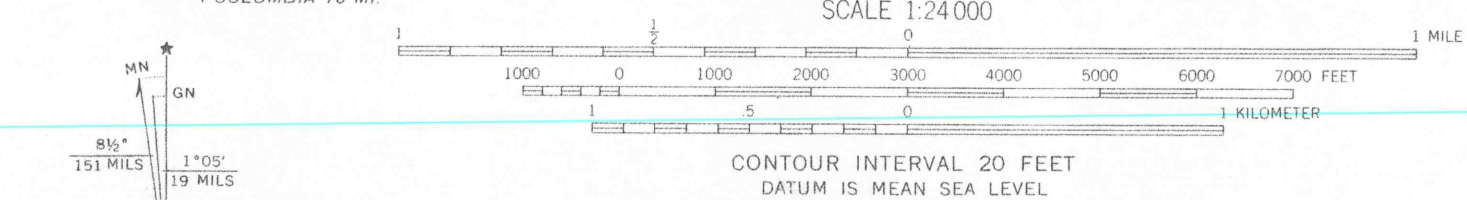
UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY



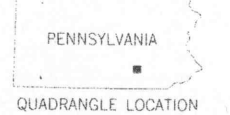
SYSTEM	STRATA	FORMATION
UPPER	URRMM	Chambersburg Formation Oc
		Hershey modified entaceles Ohm
MIDDLE	MIDML	St. Paul Group Oap
		Annville Formation Oan
LOWER	LWRMM	Pineburg Station Formation Ope
		Onclausen Formation Oon
MIDDLE	MIDML	Sper Formation Os
		Rickensbach Formation Ork
UPPER	URRMM	Stonesheng Formation Os
		Richland Formation Or
MIDDLE	MIDML	Hillbush Formation Oh
		Schaefferstown Formation Os
LOWER	LWRMM	Saize Creek Formation Ose
		Buffalo Springs Formation Obs

SYMBOLS	
	individual sinkhole
	or sinkhole group
	closed depressions
	surface mine, iron
	surface mine limestone/dolomite
	surface mine type unknown
	cave entrance
	bedding orientation strike and dip
	approximate strike and dip
	overturned, bed strike and dip
	joint orientation strike and dip
	joint orientation strike and 90° dip
	fault contact
	formation contact

Mapped, edited, and published by the Geological Survey
Control by USGS and USC&GS
Topography by photogrammetric methods from aerial
photographs taken 1961. Field checked 1963.
Polyconic projection. 1927 North American datum
10,000-foot grid based on Pennsylvania coordinate system,
south zone
1000-meter Universal Transverse Mercator grid ticks,
zone 18, shown in blue
Fine red dashed lines indicate selected fence and field lines where
generally visible on aerial photographs. This information is unchecked
Red tint indicates areas in which only landmark buildings are shown



ROAD CLASSIFICATION
Heavy-duty ——— Light-duty ———
Medium-duty ——— Unimproved dirt ———
Interstate Route U.S. Route State Route



0690
MIDDLETOWN, PA.
NW/4 MIDDLETOWN 15' QUADRANGLE
N4007.5—W7637.5/7.5
1963
PHOTOREVISED 1972
AMS 5664 II NW—SERIES V831
TOPOGRAPHIC & GEOLOGIC SURVEY
P. O. BOX 2357, EXECUTIVE HOUSE
HARRISBURG, PA 17120
Compiled by W.E.Kochanov
1988

THIS MAP COMPLIES WITH NATIONAL MAP ACCURACY STANDARDS
FOR SALE BY U.S. GEOLOGICAL SURVEY, WASHINGTON, D.C. 20242
A FOLDER DESCRIBING TOPOGRAPHIC MAPS AND SYMBOLS IS AVAILABLE ON REQUEST

Revisions shown in purple compiled in cooperation with
State of Pennsylvania agencies from aerial photographs
taken 1972. This information not field checked

The work presented here has not been
reviewed for formal publication.

Bureau of Topographic and Geologic Survey
P.O. Box 8453, Harrisburg, PA 17105-8453