

# SURFICIAL GEOLOGY OF THE SAFE HARBOR 7.5' QUADRANGLE, PA

Open-File Report 96-03

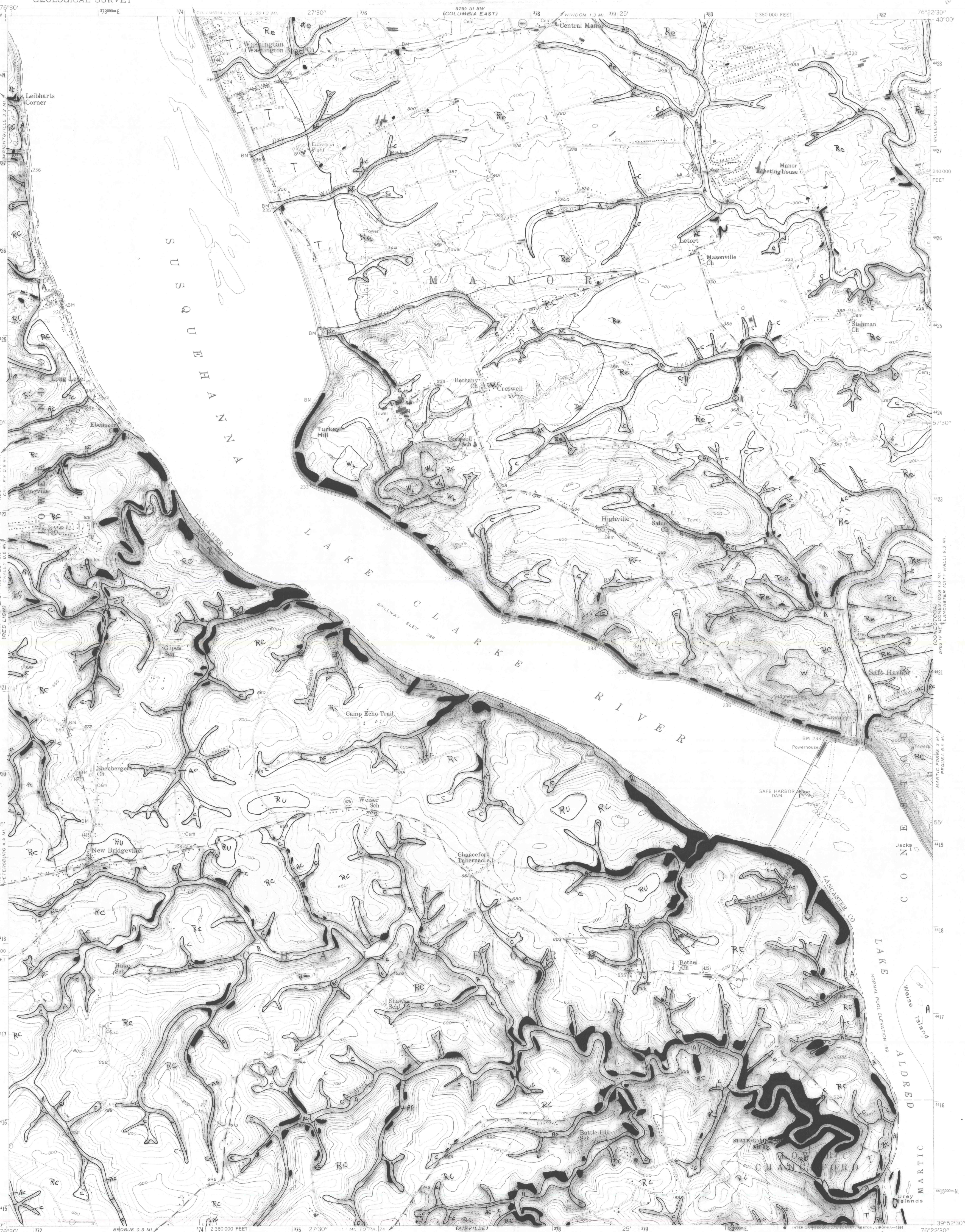
UNITED STATES  
DEPARTMENT OF THE INTERIOR  
GEOLOGICAL SURVEY

by **W. D. Sevon**  
1996

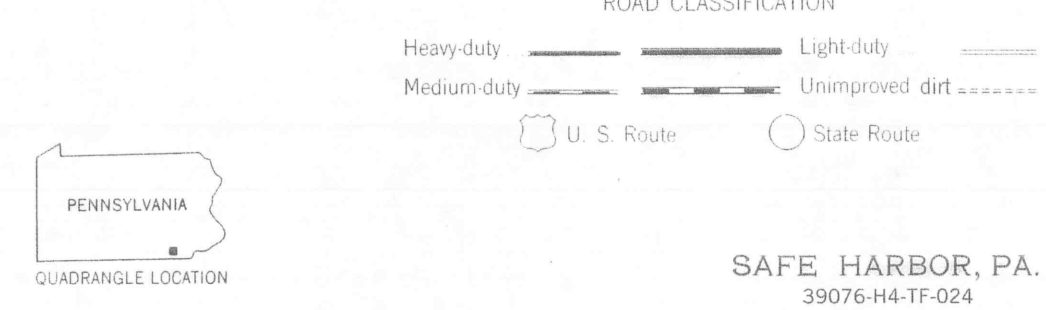
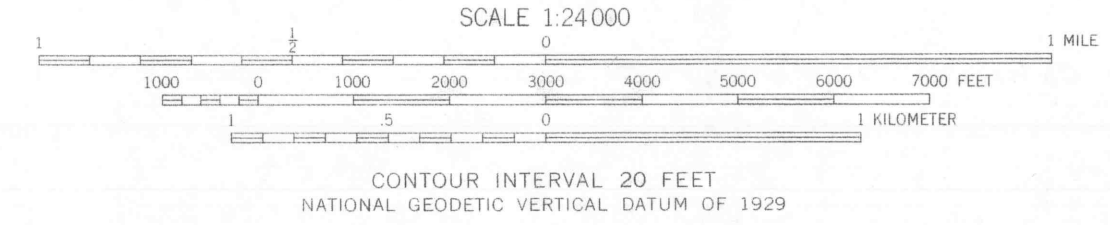
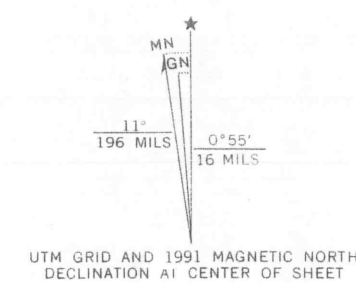
SAFE HARBOR QUADRANGLE  
PENNSYLVANIA  
7.5 MINUTE SERIES (TOPOGRAPHIC)

**EXPLANATION**

- W** = Landfill waste  
Landfill: mounded deposit of waste debris.
- A** = Alluvium  
Material underlies narrow to broad, flat-surfaced floodplains of perennial streams. Comprises stratified sand, silt, and clay in upper part; same plus gravel in lower part. Generally less than 10 feet thick.
- T** = Terrace deposits  
Terrace deposits underlie nearly flat to gently sloping surfaces adjacent to the Susquehanna River. Deposits comprise mainly sand, silt, and clay plus some gravel and a few boulders. More than 6 feet thick.
- C** = Colluvium  
Colluvium is unsorted and unstratified to crudely stratified debris derived from underlying bedrock. Comprises fragments set in finer-grained matrix. Platy fragments in schist bedrock areas (RC). Mapped where greater than 6 feet thick.
- AC** = Alluvium and colluvium undivided  
Alluvium and colluvium are mapped together where the valley in which they occur is too narrow to map the units separately at 1:24,000 scale.
- RC** = Schist bedrock and colluvium undivided  
Surfaces with low to steep slopes underlain by unweathered or weathered schist bedrock and thin (<6 feet), discontinuous deposits of colluvium.
- Re** = Carbonate residuum  
Surface underlain by silt, clay, and some rock fragments produced by dissolution of carbonate bedrock. Thickness variable. Small outcrops of bedrock common.
- RU** = Rock upland  
Nearly flat upland surface underlain usually by weathered schist bedrock, sometimes by unweathered schist bedrock. Little or no colluvium is present.
- R** = Rock  
Surfaces with steep to very steep slopes underlain by unweathered or weathered rock that is at or very close to the surface. Some colluvium may occur at the base of the slope.
- = Outcrop  
Areas with continuous or discontinuous bedrock outcrop.



Mapped, edited, and published by the Geological Survey  
Control by USGS, NOS/NOAA, and USCE  
Topography by photogrammetric methods from aerial photographs taken 1952. Field checked 1955  
Polyconic projection. 1927 North American Datum  
10,000-foot grid ticks based on Pennsylvania coordinate system, south zone  
1000-meter Universal Transverse Mercator grid ticks, zone 18, shown in blue  
To place on the predicted North American Datum 1983 move the projection lines 6 meters south and 28 meters west as shown by dashed corner ticks  
Revisions shown in purple and woodland compiled in cooperation with Commonwealth of Pennsylvania agencies from aerial photographs taken 1988 and other sources. This information not field checked. Map edited 1990



THIS MAP COMPLIES WITH NATIONAL MAP ACCURACY STANDARDS FOR SALE BY U.S. GEOLOGICAL SURVEY DENVER, COLORADO 80225, OR RESTON, VIRGINIA 22092 A FOLDER DESCRIBING TOPOGRAPHIC MAPS AND SYMBOLS IS AVAILABLE ON REQUEST

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30076-H4-TF-024

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