



Mapped, edited, and published by the Geological Survey  
Control by USGS and USACE  
Topography by photogrammetric methods from aerial  
photographs taken 1957. Field checked 1960  
Polyconic projection. 1927 North American datum  
10,000-foot grids based on West Virginia coordinate system, south and  
north zones and Ohio coordinate system, south zone. 1000-meter Universal  
Transverse Mercator grid ticks, zone 17, shown in blue  
Fine red dashed lines indicate selected fence and field lines where  
generally visible on aerial photographs. This information is unchecked  
The state line as shown represents the approximate position of the  
low water line as determined from U. S. Corps of Engineers Ohio  
River charts, surveyed 1913, and supplementary information  
Land lines based on the Ohio River Base. Dotted land lines established  
by private subdivision of the Ohio Company Purchase



ROAD CLASSIFICATION  
Heavy-duty ——— Light-duty ———  
Medium-duty ——— Unimproved dirt ———  
State Route ○

POND CREEK, W. VA.—OHIO  
SW/4 BELLEVILLE 15 QUADRANGLE  
N 39° 00' W 81° 37' 30"  
1960

LANDSLIDES AND RELATED FEATURES  
OF THE POND CREEK, W. VA.—OHIO QUADRANGLE

by  
ROBERT J. HACKMAN  
1978  
U. S. Geological Survey  
OPEN FILE MAP 78-1056 (A-3)

NOTE  
Information shown is intended as a  
general guide to ground conditions as of  
the date of field check. Additional  
landslides and rockfalls should be anticipated  
in all map units. The map unit depicts  
the dominant condition in the area  
delineated and variations in slope stability  
may occur at any point in the unit. This  
map is suitable for general planning  
purposes and as a supplement to more  
detailed studies for site selection. The  
map cannot be used as a substitute for  
detailed geologic and engineering investi-  
gations to establish design and  
construction criteria of specific sites.  
Some symbols may not appear on this map because  
the description is applicable to a series of maps.

- Landslides and related features interpreted  
from aerial photographs:  
1:60,000 scale black and white 1960  
1:130,000 scale color infrared 1973  
1:78,000 scale black and white 1975
- Photointerpretation and field check 1976-77.  
This map has not been edited or reviewed  
for conformity with Geological Survey  
standards and nomenclature.
- ACTIVE OR RECENTLY ACTIVE LANDSLIDE**  
Complex landslide composed of earthflow, debris  
slide, earth and rock slump. Identified from  
historical records, and from scars, debris and  
other field evidence. Ground extremely unstable;  
sliding accelerated by excavation, loading and  
changes in drainage conditions. May include  
areas with several active slides too small to  
be shown separately. Questioned where doubtful.
  - OLD LANDSLIDE**  
Area of extensive hummocky ground caused by  
earthflow and earth and rock slump. Lacks  
clear evidence of active sliding. Relatively  
stable in natural, undisturbed state,  
generally not affected by small structures properly  
sited in areas away from the edge of the toe;  
can be reactivated by extensive, rapid excava-  
tion, loading, and changes in ground water and  
surface water conditions. Area of old landslide  
probably includes recent ones not identified  
from field evidence or otherwise documented.  
Upslope boundary of landslide generally defined  
by modified scarp, but downslope (toe) may be  
gradational and not well defined. Questioned  
where doubtful.
  - COMBINATION LANDSLIDE**  
Area of recent and old slides in which  
individual slides are not identified.
  - COLLUVIAL SLOPE**  
Valley wall along major streams with slope as  
steep as 40° (85%); stony, clayey silt soil up  
to 50 ft. (15 m) thick; commonly buttressed by  
a terrace or bench at the toe of the slope; very  
susceptible to sliding by cutting of the area,  
removal of terrace or bench, and overloading;  
slide commonly activated without apparent cause.

- COLLUVIAL SLOPES WITH LANDSLIDES**  
Landslides too small or obscure to map  
individually.
- AREAS SUSCEPTIBLE TO DEBRIS FLOWS AND DEBRIS  
AVALANCHES**  
Primarily shallow, narrow ravines and chutes with  
accumulation of stony colluvium generally 10 ft.  
(3 m) or less in thickness; susceptible to rapid  
movement during intense rainfall. Most ravines  
and chutes designated show evidence of former  
debris flows and avalanches. Symbol designa-  
tes historical debris flow or debris avalanche.
- AREAS SUSCEPTIBLE TO ROCKFALL**  
Steep, locally vertical, natural and man-made  
slopes and cliffs, 15 ft. (4.5 m) or more high;  
formed dominantly of sandstone, limestone, sandy  
shale, mudstone and claystone. Interbedded mud-  
stone, claystone and shale weather rapidly leaving  
sandstone and limestone rock faces unsupported.
- SOIL AND ROCK SUSCEPTIBLE TO LANDSLIDING**  
Soil and rock similar to that involved in land-  
slides elsewhere in map area; primarily areas  
underlain by claystone, mudstone and shale  
associated with other rock types. Rock weathers  
rapidly on exposure forming clayey soil highly  
susceptible to sliding. Includes coves (U-shaped,  
shallow valleys) containing thick layers of clayey  
soil that are very susceptible to sliding where  
excavation breaks continuity of slope and where  
overloaded by artificial fill.

AREAS LEAST PRONE TO LANDSLIDES  
Map areas in which no patterns or symbols are shown;  
primarily valley floors, ridge tops and broad  
benches; modification by excavation and fill may  
lead to local landslides.

- MAN-MADE FEATURES**
- Strip mines (combination of letter  
symbols indicates complex formed of more  
than one type of strip mine)
  - sh bench with high wall
  - sf furrowed with high wall
  - sd multiple furrows and multiple benches
  - ss hilltop removed
  - srg reclaimed by grading
  - sru reclaimed by secondary use
  - sh/r regraded in part, high wall  
remains
  - Coal refuse banks
  - r identified on aerial photographs;  
not classified in field check
  - rb not burnt nor on fire
  - rbb burnt
  - rbd burning
  - rbs sludge
  - Quarries
  - q quarry site
  - qub spoil bank, quarry waste
  - Gravel pits
  - g site of gravel pit

