Ohio Department of Natural Resources
DIVISION OF GEOLOGICAL SURVEY

Ohio’s 1:100,000 (30 x 60 minute) Quadrangle based derivative map program

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Overview of Topics

- Overview on Ohio’s 1:100,00 scale surficial stack maps
- Overview on the types of derivative maps created
- Future derivative map ideas
Ohio’s 100,000 scale Derivative maps

- Potential for mineable bedrock in the Marion 30 x 60’ Quadrangle
- Potential for mineable bedrock in the Findlay 30 x 60’ Quadrangle
- Sand & Gravel Resources for the Mansfield 30 x 60’ Quadrangle
- Sand & Gravel Resources for the Can 30 x 60’ Quadrangle
- Suitability for Solid-Waste Disposal for the Lorain 30 x 60’ Quadrangle
An example of the standard 30 x g60 minute quadrangle (1:100,000 scale) surficial geology “stack-map” It is colorized based upon the uppermost surficial unit (i.e.- soil parent material)
For derivative maps—a custom query is created. Polygons are then custom-colored based upon the result of the query.

The query may be relatively complicated due to the “many-to-one” nature of the stack of materials for each polygon.

Explanatory text and the inset maps help tell the story on how each map was created.
Derivative Map-Potential for Mineable Bedrock for the Findlay 30 x 60 Minute Quadrangle
View of the inset maps that accompany the main map-In this case quarry locations, bedrock type, and drift thickness help tell the story
Derivative Map-Potential Sand & Gravel Resources of the Canton 30 x 60 Minute Quadrangle
Inset maps for the sand & gravel resources includes the Quaternary geomorphic map, a thickness of fine drift (overburden) and a drift thickness map.
Derivative Map-Suitability for Solid-Waste Disposal in the Lorain 30 x 60 Minute Quadrangle
Inset maps for the Suitability for waste disposal. These include Quaternary (geomorphic) geology, Bedrock type, and drift thickness.

FIGURE 1.—Quaternary geology of the Canton, 30 X 60 minute quadrangle, Ohio.

FIGURE 2.—Ratio of sand-and-gravel resources to overburden of the Canton, 30 X 60 minute quadrangle, Ohio.

FIGURE 3.—Depth thickness of the Canton, 30 X 60 minute quadrangle, Ohio.
Future ideas

• Geohazards—perhaps karst overlain on surficial geology
• Geohazards—slope stability, rock-fall, landslide potential for SE Ohio
• Suitability for well pad construction (Utica play-eastern Ohio)
QUESTIONS?

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