STATE of OHIO
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF GEOLOGICAL SURVEY
D. Mark Jones, Chief

STRUCTURE CONTOUR MAP ON TOP OF THE SILURIAN SALINA D IN OHIO

by

Michael P. Solis and Julie M. Bloxson

with cartography by Shawn R. Bleiler

Open-File Map 365
VERSION 1.0
1/24

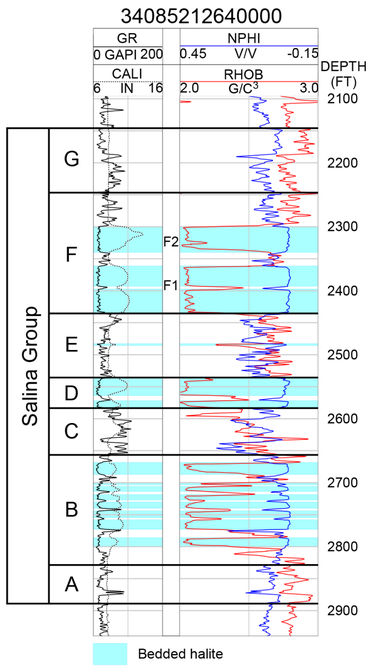
STRATIGRAPHY

The Silurian Salina Group consists of interbedded anhydrite, dolomite, halite, and shale (Clifford, 1973). The Salina is broken into seven units in eastern Ohio (see type log below). These units, in ascending order, are A, B, C, D, E, F, and G. Halite-bearing units are the B, D, E, and F units. Halite is most abundant in the F unit and occurs in four zones, identified as the F1, F2, F3, and F4 units. Typically, salts in the F1 and F2 units are mined.

STRUCTURE

This map shows structure contours hand-drawn on the surface of the Salina D unit of the Silurian Salina Group (see type log below). Within the area of interest, the D unit ranges in elevation from 302 ft (92 m) in Ottawa County to −6,718 ft (−2,048 m) in Monroe County.

TYPE LOG FOR THE SALINA D



The Salina Group units were identified using Clifford's (1973) Salina unit definitions, as shown on the geophysical log above. Halite beds were picked using gamma-ray (GR), caliper (CALI), bulk-density (RHOB), and porosity (NPHI) curves when available. Halite has a relatively low gamma-ray value and is relatively soft, so the caliper shows borehole rugosity in the halite measures. Halite has a relatively consistent density of 2.16 g/cm^3, and has low porosity; however, because of the borehole rugosity the halite appears to have a higher porosity, causing the density and porosity curves to cross. After the halite beds in each salt-bearing unit were picked, the beds in each unit were added together and the thickness values were hand contoured.

EXPLANATION OF MAP SYMBOLS

- Type log
- Well locations
- 50-ft contour
- 100-ft index contour

Elevation in ft*
302 (92 m)
–6,718 (–2,048 m)
*Relative to mean sea level

REFERENCES

Clifford, M.J., 1973, Silurian rock salt of Ohio: Columbus, Ohio Department of Natural Resources, Division of Geological Survey Report of Investigations 90, 21 p., 4 pl.

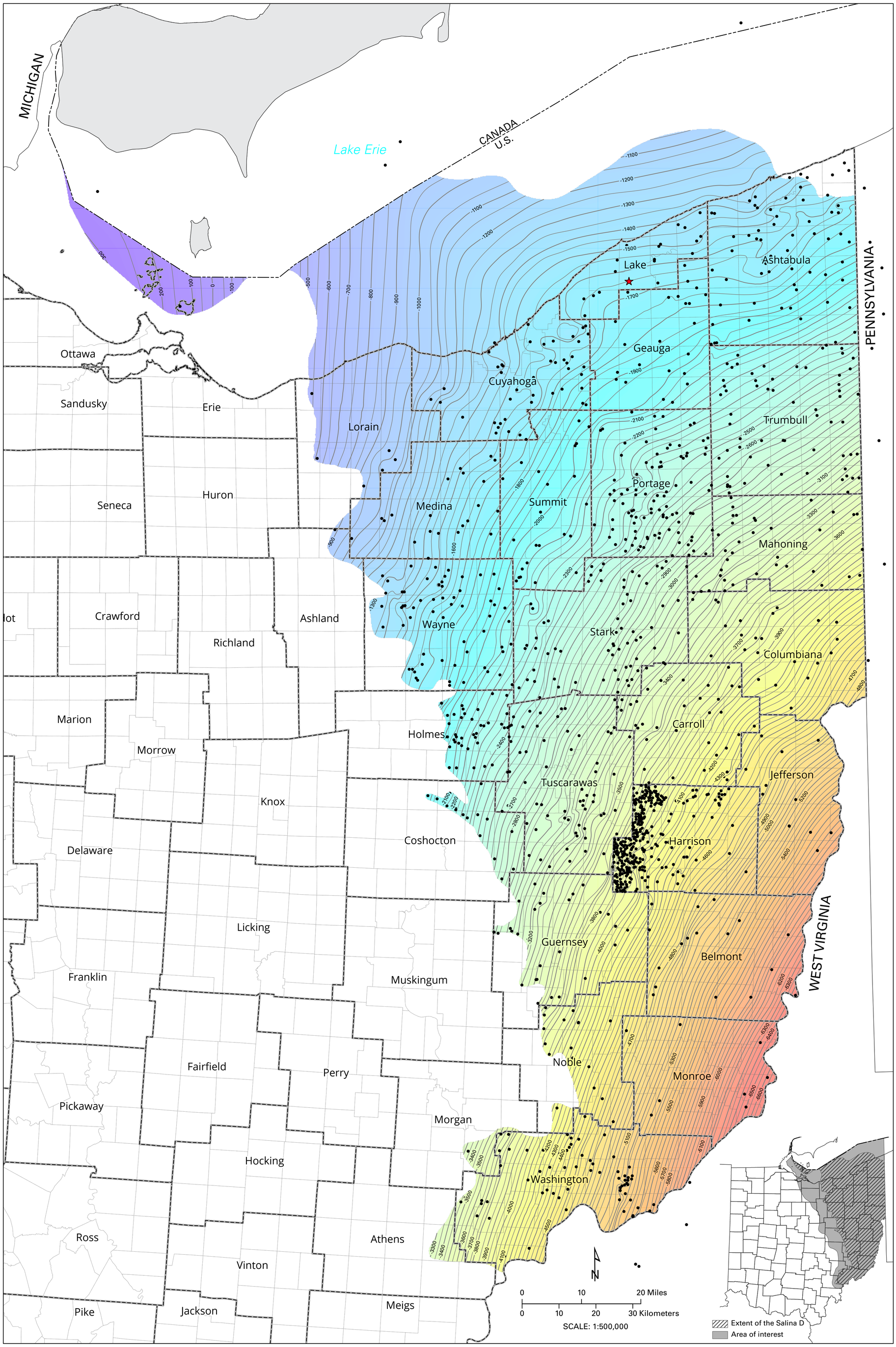
DISCLAIMER

The products of the Ohio Department of Natural Resources (ODNR), Division of Geological Survey, including digital and printed maps and any other associated documents, are intended to provide general geological information only and should not be used for any other purpose. They are not intended for resale or to replace site-specific investigations. These data were compiled by the ODNR Division of Geological Survey, which reserves the publication right to this material. If these data are used in the compilation of other data sets or maps for distribution or publication, this source must be referenced.

Neither the Ohio Department of Natural Resources, nor any agency thereof, nor any of their employees, contractors, or subcontractors, make any warranty, express or implied, nor assume any legal liability or responsibility for the accuracy, completeness, or usefulness of this product. Any use thereof for a purpose other than for which said information or product was intended shall be solely at the risk of the user.

Recommended bibliographic citation for this map:

Solis, M.P., and Bloxson, J.M., 2024, Structure contour map on top of the Silurian Salina D in Ohio: Columbus, Ohio Department of Natural Resources, Division of Geological Survey Open-File Map 365, scale 1:500,000.



geology.ohiodnr.gov