The Ohio Geological Survey has begun a process of consolidating and downsizing our inventory of paper publications. This process reflects our gradual shift to releasing more of these publications in a digital format via our website and other media, but it also is part of an effort to get more of our maps and reports into the hands of individuals and organizations that might benefit from the information provided in them.

Currently, we are offering a number of retail publications for free to organizations with the understanding that the items will need to be either picked up from our <u>Geologic Records Center</u> or shipped/mailed with the recipients paying the cost of shipping only. PLEASE NOTE: At this stage of our inventory downsizing process, these publications are available only to organizations rather than directly to the public. We are also happy to tell you about our educational leaflets and other materials that are always free to the public and may be of interest for your brochure racks or outreach activities.

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The following list includes titles that are available for the Ohio Geological Survey's inventory reduction program. Visit the links below for information about all of our publications. Some titles listed on our website are not available for free distribution because (1) they are out of print; (2) there is a limited quantity remaining; or (3) we are still selling the item regularly, which means that we are depleting our stock and continue to reprint the title as needed. Digital maps and compact disk items are not part of this retail publication reduction program.

### **Ohio Geological Survey Bulletins**

- B 13. The Maxville limestone, by William Clifford Morse. 128 p., 6 figs., 5 pls., 1910.
- B 36. The Lawrence clay of Lawrence County, by Wilber Stout, Myril C. Shaw, G. A. Bole, and Downs Schaaf. 134 p., 22 figs., 4 pls., 1 map, 1931.
- B 40. Clarion clay of Hope and Lincoln Furnace fields, by Wilber Stout. 48 p., 2 tables, 1940.
- B 47, map only. Bedrock geology Map of Holmes County, by George W. White, color bedrock geology map (scale 1:62,500), 1 map, 1949.
- B 56. Geology and mineral resources of Morgan County, by Donald L. Norling. 131 p., 22 figs., color bedrock geology map (scale 1:62,500), 1958. Out of print. Bedrock geology map
- B 56, map only. Bedrock geology Map of Morgan County, by Donald L. Norling. Color bedrock geology map (scale 1:62,500), 1 map, 1958.
- B 57 map only. The bedrock geology Map of Athens County, Ohio, by Myron T. Sturgeon and associates, including color bedrock geology map (scale 1:62,500), 1 map,1958.
- B 59 map only. Bedrock geology Map of Knox County, by Samuel I. Root, Joaquin Rodriguez, and Jane L. Forsyth. bedrock geology map (scale 1:62,500), 1 map, 1961.
- B 62, Pt. 1. Pleistocene Mollusca of Ohio—Introduction, geologic setting, and paleoecology, by Aurèle LaRocque. 111 p., 2 figs., 1966.
- B 62, Pt. 2. Pleistocene Mollusca of Ohio—Naiades and Sphaeriidae, by Aurèle LaRocque. 243 p., 206 figs., 8 pls., 1967.
- B 62, Pt. 3. Pleistocene Mollusca of Ohio—Freshwater Gastropoda, by Aurèle LaRocque. 196 p., 200 figs., 6 pls., 1968
- B 62, Pt. 4. Pleistocene Mollusca of Ohio—Terrestrial Gastropoda, by Aurèle LaRocque. 246 p., 216 figs., 4 pls., 1970.
- B 64. Stratigraphy of the Cambrian and Lower Ordovician rocks in Ohio, by A. Janssens. 197 p., 26 figs., 4 tables, 9 pls., 1973. Reprinted 1982.

- B 66. Geology and mineral resources of Washington County, Ohio, by Horace R. Collins and Bradley E. Smith. 134 p., 41 figs., 21 tables, 11 pls., including color bedrock geology map (scale 1:62,500), 1977. Reprinted 1981.
- B 67. Pennsylvanian marine Bivalvia and Rostroconchia of Ohio, by Richard D. Hoare, Myron T. Sturgeon, and Eugene A. Kindt. 79 p., 32 figs., 28 tables, 18 pls., 1979.
- B 68. Glacial geology of northeastern Ohio, by George W. White. 75 p., 40 figs., 7 tables, color map (scale 1:250,000), 1982.
- B 71. Pennsylvanian cephalopods of Ohio—Part 1: Nautiloid and bactritoid cephalopods, by Myron T. Sturgeon,
  Delbert L. Windle, Royal H. Mapes, and Richard D. Hoare; Part 2: Ammonoid cephalopods, by Royal H. Mapes,
  Delbert L. Windle, Myron T. Sturgeon, and Richard D. Hoare. 260 p., 45 figs., 34 tables, 54 pls., 1997.
- B 73. Geology of the Dunkard Group (Upper Pennsylvanian-Lower Permian) in Ohio, West Virginia, and Pennsylvania, by Wayne D. Martin. 49 p., 30 figures, 2 tables, 1998.

#### Ohio Geological Survey Reports of Investigations

- RI 1. Waynesburg coal in Harrison and northern Belmont Counties, Ohio, and revision of Dunkard (Permian) boundary, by George W. White. 4 p., 2 figs., 2 pls. Reprinted from Ohio Journal of Science, v. 47, p. 55–58, 1947.
- RI 2. Geologic section of the Chillicothe test-core, by J. Ernest Carman, 6 p., 1 fig., 1947. Reprinted from Ohio Journal of Science, v. 47, p. 49–54, 1947.
- RI 7. Shore erosion on Sandusky Bay, by Paul R. Shaffer. 5 p., 1 fig., 1951. Reprinted from Ohio Journal of Science, v. 51, p. 1–5, 1951. Reprinted 1968.
- RI 8. Part 2: Oil and gas production, history, regulation, secondary recovery, and bibliography, by Robert L. Alkire and others. 95 p., 4 figs., 1951. Part 2 reprinted 1968.
- RI 13. Part 1: Oil and gas well drilling statistics for 1951, by R. L. Alkire. 38 p., figs., maps, 1952.
- RI 13. Part 2: Oriskany sand study, by J. F. Hall. Canton gas pool, by Henry Belden., figs., maps, 1952. Hall and Belden papers (1962) reprinted separately.
- RI 17. The Meigs Creek No. 9 coal bed in Ohio: Part 1—Geology and reserves, by William H. Smith, Russell A. Brant, and Fred Amos. 36 p., 2 figs., 7 tables, 2 pls., 5 maps; Part 2—Washability characteristics and other properties, by Peter O. Krumin. 127 p., 11 figs., 18 tables, 84 data sheets, 1952. Reprinted 1965.
- RI 24. Part 2—The possible presence of buried Niagaran reefs in Ohio and their relationship to the Newburg oil and gas zone, by Bernard A. Floto. 18 p., 8 figs., 1955, reprinted 1962.
- RI 27. Petrographic constitution of the Meigs Creek No. 9 coal bed, by Gilbert H. Cady and Gilbert E. Smith. 97 p., 30 figs., 10 tables, 1 pl., 1955.
- RI 41. Petrology of Precambrian rocks of Ohio, by George R. McCormick. 60 p., 42 figs., 17 tables, 1961.
- RI 46. Geology of the Silurian producing zones in the Moreland oil pool, Wayne County, northeastern Ohio, by H. Gray Multer. 48 p., 12 figs., 7 tables, 8 pls., 1963.
- RI 48. A cross section of sub-Trenton rocks from Wood County, West Virginia, to Fayette County, Illinois, by Warren L. Calvert. 33 p., 2 figs., 1 table, 1 pl., 1963. Reprinted 1965.
- RI 51. Upper Niagaran and Cayugan stratigraphy of northeastern Ohio and adjacent areas, by John R. Ulteig. 48 p., 13 figs., 1 table, 8 pls., 1964.
- RI 52. Sub-Trenton rocks from Fayette County, Ohio, to Brant County, Ontario, by Warren L. Calvert. 7 p., 1 fig., 1 table, 1 pl., 1964.
- RI 53. Effects of large structures on the Ohio shore of Lake Erie, by Robert P. Hartley. 30 p., 34 figs., 1964.
- RI 54. Bedrock geology of the Garrettsville quadrangle, by J. Osborn Fuller. 26 p., 13 figs.; color map, scale 1:62,500 (1 inch = about 1 mile), 1965.
- RI 55. Geology of the Kensington quadrangle, Ohio, by Richard M. DeLong. Color map, scale 1:24,000 (1 inch = 2,000 feet), one sheet with text, 1965.
- RI 57. Geology of the Malvern quadrangle, Ohio, by Richard M. DeLong. Color map, scale 1:24,000 (1 inch = 2,000 feet), one sheet with text, 1965.
- RI 58. Synoptic survey of water properties in the western basin of Lake Erie, by Robert P. Hartley, Charles E. Herdendorf, and Myrl Keller. 19 p., 14 figs., 1966.
- RI 59. Glacial map of Licking County, Ohio, by Jane L. Forsyth. Color map, scale 1:62,500 (1 inch = about 1 mile), one sheet with text, 1966.
- RI 62. Glacial geology of Wayne County, Ohio, by George W. White. 39 p., 15 figs.; color map, scale 1:62,500 (1

- inch = about 1 mile), 1967.
- RI 63. Bedrock geology of the South Bloomingville quadrangle, Hocking and Vinton Counties, Ohio (Hocking Hills State Park), by Richard M. DeLong. Color map, scale 1:24,000 (1 inch = 2,000 feet), one sheet with text, 1968.
- RI 65. Bedrock geology of the Minerva quadrangle, Stark, Columbiana, and Carroll Counties, Ohio, by Richard M. DeLong. Color map, scale 1:24,000 (1 inch = 2,000 feet), one sheet with text, 1967.
- RI 66. Glacial geology of the East Liberty quadrangle, Logan and Union Counties, Ohio, by Jane L. Forsyth. Color map, scale 1:24,000 (1 inch = 2,000 feet), one sheet with text, 1967.
- RI 67. Glacial geology of Clinton County, Ohio, by James T. Teller. Color map, scale 1:24,000 (1 inch = about 1 mile), one sheet with text, 1967.
- RI 68. Bedrock geology of the Dellroy quadrangle, Carroll County, Ohio, by Richard M. DeLong. Color map, scale 1:24,000 (1 inch = 2,000 feet), one sheet with text, 1968.
- RI 69. Glacial geology of the West Mansfield quadrangle, Logan and Union Counties, Ohio, by Jane L. Forsyth. Color map, scale 1:24,000 (1 inch = 2,000 feet), one sheet with text, 1968.
- RI 70. Stratigraphy of Silurian and pre-Olentangy Devonian rocks of the South Birmingham Pool area, Erie and Lorain Counties, Ohio, by A. Janssens. 20 p., 8 figs., 1968.
- RI 71. Bedrock geology of the Carrollton quadrangle, Carroll County, Ohio, by Richard M. DeLong. Color map, scale 1:24,000 (1 inch = 2,000 feet), one sheet with text, 1969.
- RI 72. Bedrock geology of the Caldwell North quadrangle, Guernsey and Noble Counties, Ohio, by Bradley E. Smith. Color map, scale 1:24,000 (1 inch = 2,000 feet), one sheet with text, 1969.
- RI 73. Potential use of Ohio limestones and dolomites for architectural aggregate, by David A. Stith. 14 p., 1 fig., 8 tables, 1969.
- RI 74. Water masses and their movements in western Lake Erie, by Charles E. Herdendorf. 7 p., 4 figs., 1969.
- RI 75. The subsurface Silurian-Devonian "Big Lime" of Ohio, by Gordon L. Owens. 17 p., 2 maps, 1970. Reprinted 1981.
- RI 76. Sand and gravel resources of the Maumee River estuary, Toledo to Perrysburg, Ohio, by Charles E. Herdendorf. 19 p., 7 figs., 1970.
- RI 77. Bedrock geology of the Madeira quadrangle, Hamilton and Clermont Counties, Ohio, by Robert H. Osborne. Color map, scale 1:24,000 (1 inch = 2,000 feet), one sheet with text, 1970.
- RI 78. Middle Devonian formations in the subsurface of northwestern Ohio, by A. Janssens. 22 p., 10 figs., 2 tables, 1970.
- RI 79. Lake Erie physical limnology cruise, midsummer 1967, by Charles E. Herdendorf. 77 p., 33 figs., 13 tables, 1970.
- RI 81. Deep-core investigation of low-sulfur coal possibilities in southeastern Ohio, by Richard A. Struble, Horace R. Collins, and Douglas L. Kohout. 29 p., 12 figs., 10 tables, 4 pls., 1971.
- RI 82. Physical characteristics of the reef area of western Lake Erie, by Charles E. Herdendorf and Lawrence L. Braidech. 90 p., 12 figs., 18 tables, 7 pls., 1972.
- RI 83. Bedrock geology of the Addyston quadrangle and part of the Burlington quadrangle, Hamilton County, Ohio, by John P. Ford. Color map, scale 1:24,000 (1 inch = 2,000 feet), one sheet with text, 1972.
- RI 84. Bedrock geology of the Flint Ridge area, Licking and Muskingum Counties, Ohio, by Richard M. DeLong. Color map, scale 1:24,000 (1 inch = 2,000 feet), one sheet with text, 1972. Reprinted 1978.
- RI 85. The high-temperature phase of calcium sulfate in relation to SO2 removal by the dry-limestone injection method, by G. William Kalb. 4 p., 2 figs., 1 table, 1972.
- RI 86. High-calcium limestone facies of the Devonian Dundee Limestone, northwestern Ohio, by David A. Stith. 14 p., 4 figs., 7 tables, 1972. Table of additional analyses (sulfur and phosphorus) added 1975.
- RI 87. Bedrock geology of the Bergholz quadrangle, Carroll and Jefferson Counties, Ohio, by Richard M. DeLong. Color map, scale 1:24,000 (1 inch = 2,000 feet), one sheet with text, 1972.
- RI 88. Glacial geology of Richland County, Ohio, by Stanley M. Totten. 55 p., 36 figs., 5 tables, 2 pls., including color map, scale 1:62,500 (1 inch = about 1 mile), 1973.
- RI 89. Potential use of beneficiated Ohio clay in the rubber industry, by Richard W. Carlton. 11 p., 3 figs., tables, 1973.
- RI 90. Silurian rock salt of Ohio, by Michael J. Clifford. 42 p., 21 figs., 5 tables, 4 pls., 1973.
- RI 91. Glacial geology of Holmes County, Ohio, by George W. White. Color map, scale 1:62,500 (1 inch = about 1 mile), one sheet with text, 1973.
- RI 92. Glacial geology of Highland County, Ohio, by Theodore E. Rosengreen. 36 p., 19 figs., 10 tables, color map, scale 1:62,500 (1 inch = about 1 mile), 1974.

- RI 94. Bedrock geology of the Cincinnati East quadrangle, Hamilton County, Ohio, by Robert H. Osborne. Color map, scale 1:24,000 (1 inch = 2,000 feet), one sheet with text, 1974.
- RI 96. The ground-water situation in the Circleville area, Pickaway County, south-central Ohio, by Stanley E. Norris. 14 p., 6 figs., 1975.
- RI 97. Potential use of Ohio clays in the well-plugging industry, by Richard W. Carlton. 9 p., 2 figs., 4 tables, 1975.
- RI 98. Land areas in Summit County, Ohio—Geologic suitability for solid-waste disposal, by Robert G. Van Horn. Map, scale 1:62,500 (1 inch = about 1 mile), one sheet with text, 1976.
- RI 99. Lake Erie shore erosion, Lake County, Ohio: Setting, processes, and recession rates from 1876 to 1973, by Charles H. Carter. 105 p., 71 figs., 49 tables, 4 pls., 1976.
- RI 100. Silurian rocks in the subsurface of northwestern Ohio, by Adriaan Janssens. 96 p., 26 figs., 1977.
- RI 101. Glacial geology of Ashland County, Ohio, by George W. White. Map, scale 1:62,500 (1 inch = about 1 mile), one sheet with text, 1977.
- RI 102. Sediment-load measurements along the United States shore of Lake Erie, by Charles H. Carter. 24 p., 2 figs., 11 tables, 1977.
- RI 103. Trace elements in Ohio coals, by Norman F. Knapp. 12 p., 2 figs., 8 tables, 1977.
- RI 104. The occurrence of sulfide and associated minerals in Ohio, by George Botoman and Ronald D. Stieglitz. 11 p., 4 figs., 2 tables, 1978.
- RI 105. Resources of the Pittsburgh (No. 8) coal in the Belmont field, Ohio, by Michael L. Couchot. 12 p., 2 figs., 2 tables; 1 pl., scale 1:62,500 (1 inch = about 1 mile); 1978.
- RI 107. Lake Erie shore erosion and flooding, Lucas County, Ohio, by D. Joe Benson. 99 p., 64 figs., 35 tables, 2 pls., 1978.
- RI 108. An evaluation of "Newberry" analysis data on the Brassfield Formation (Silurian), southwestern Ohio, by David A. Stith and Ronald D. Stieglitz. 11 p., 7 figs., 1 table, 1979.
- RI 109. Surficial materials of Summit County, Ohio, by Robert G. Van Horn. Map, scale 1:62,500 (1 inch = about 1 mile), one sheet with text, 1979.
- RI 110. Hydraulic properties of a limestone-dolomite aquifer near Marion, north-central Ohio, by Stanley E. Norris. 23 p., 22 figs., 4 tables, 1979.
- RI 111. Glacial geology of Champaign County, Ohio, by Michael J. Quinn and Richard P. Goldthwait. 17 p., 7 figs., tables; color map, scale 1:62,500 (1 inch = about 1 mile), 1979.
- RI 112. Glacial geology of Ashtabula County, Ohio, by George W. White and Stanley M. Totten. 52 p., 22 figs., 2 tables; color map, scale 1:62,500 (1 inch = about 1 mile), 1979.
- RI 113. Chemical composition, stratigraphy, and depositional environments of the Black River Group (Middle Ordovician), southwestern Ohio, by David A. Stith. 36 p., 8 figs., 4 tables, 3 pls., 1979.
- RI 114. Sand and gravel resources of Portage County, Ohio, by Dennis N. Hull. Map, scale 1:62,500 (1 inch = about 1 mile), one sheet with text, 1980.
- RI 115. Lake Erie shore erosion and flooding, Erie and Sandusky Counties, Ohio: Setting, processes, and recession rates from 1877 to 1973, by Charles H. Carter and Donald E. Guy, Jr. 130 p., 113 figs., 48 tables, 3 pls., 1980.
- RI 117. Glacial geology of Lake County, Ohio, by George W. White. 20 p., 12 figs., 2 tables; color map, scale 1:62,500 (1 inch = about 1 mile), 1980.
- RI 118. Abandoned subsurface coal mines as a source of water for coal conversion in eastern Ohio, by Thomas M. Crouch, Horace R. Collins, and John O. Helgesen. 25 p., 25 figs., 6 tables, 1980.
- RI 119. Sand and gravel resources of Medina County, Ohio, by Michele L. Risser. Map, scale 1:62,500 (1 inch = about 1 mile), one sheet with text, 1981.
- RI 120. Bedrock geology of the Withamsville quadrangle, Hamilton and Clermont Counties, Ohio, by Joseph J. Kohut and Malcolm P. Weiss. Map, scale 1:24,000 (1 inch = 2,000 feet), one sheet with text. 1981.
- RI 121. Physical properties of carbonate aggregate from Ohio, by David A. Stith. 17 p., 1 fig., 2 tables, 1983.
- RI 122. Lake Erie shore erosion, Ashtabula County, Ohio: Setting, processes, and recession rates from 1876 to 1973, by Charles H. Carter and Donald E. Guy, Jr. 107 p., 65 figs., 52 tables, 3 pls., 1983.
- RI 123. Glacial geology of Summit County, Ohio, by George W. White. 25 p., 14 figs., 2 tables; color map, scale 1:62,500 (1 inch = about 1 mile), 1984.
- RI 124. Geology and formation-water quality of the "Big Injun" and "Maxton" sandstones in Coshocton, Guernsey, Muskingum, and southern Tuscarawas Counties, Ohio, by L. Majchszak. 36 p., 12 figs., 2 tables, 6 pls., 1984.
- RI 125. Sand and gravel resources of Trumbull County, Ohio, by Dennis N. Hull. Map, scale 1:62,500 (1 inch

- = about 1 mile), one sheet with text, 1984.
- RI 126. Geologic evaluation of land areas in Portage County, Ohio, for solid-waste disposal, by Dennis N. Hull. Map, scale 1:62,500 (1 inch = about 1 mile), one sheet with text, 1984.
- RI 127. Glacial geology of Ross County, Ohio, by Michael J. Quinn and Richard P. Goldthwait. 42 p., 31 figs., 17 tables; color map, scale 1:62,500 (1 inch = about 1 mile), 1985.
- RI 128. Sand and gravel resources of Ashtabula County, Ohio, by Michele L. Risser. Map, scale 1:62,500 (1 inch = about 1 mile), one sheet with text, 1985.
- RI 129. Glacial geology of Columbiana County, Ohio, by George W. White and Stanley M. Totten. 25 p., 17 figs., 2 tables; color map, scale 1:62,500 (1 inch = about 1 mile), 1985.
- RI 130. Sand and gravel resources of Butler County, Ohio, by Richard A. Struble. Map, scale 1:62,500 (1 inch = about 1 mile), one sheet with text, 1986.
- RI 131. Sand and gravel resources of Columbiana County, Ohio, by Michele L. Risser. Map, scale 1:62,500 (1 inch = about 1 mile), one sheet with text, 1986.
- RI 132. Supplemental core investigations for high-calcium limestones in western Ohio and discussion of natural gas and stratigraphic relationships in the Middle to Upper Ordovician rocks of southwestern Ohio, by David A. Stith. 17 p., 5 figs., 3 tables, 3 pls., 1986.
- RI 133. Surficial materials of Medina County, Ohio, by Michele L. Risser. Map, scale 1:62,500 (1 inch = about 1 mile), one sheet with text, 1987.
- RI 134. Glacial and surficial geology of Cuyahoga County, Ohio, by John P. Ford. 29 p., 17 figs., 3 tables; color map, scale 1:62,500 (1 inch = about 1 mile), 1987. Reprinted 1998.
- RI 135. Sand and gravel resources of Montgomery County, Ohio, by Richard A. Struble. Map, scale 1:62,500 (1 inch = about 1 mile), one sheet with text, 1987.
- RI 136. Sand and gravel resources of Champaign County, Ohio, by Richard A. Struble. Map, scale 1:62,500 (1 inch = about 1 mile), one sheet with text, 1987.
- RI 137. Sand and gravel resources of Clark County, Ohio, by Richard A. Struble. Map, scale 1:62,500 (1 inch = about 1 mile), one sheet with text, 1987.
- RI 138. Surficial materials of Portage County, Ohio, by Dennis N. Hull. Map, scale 1:62,500 (1 inch = about 1 mile), one sheet with text, 1987.
- RI 139. Glacial geology of Mahoning County, Ohio, by Stanley M. Totten and George W. White. 29 p., 21 figs., 3 tables; color map, scale 1:62,500 (1 inch = about 1 mile), 1987.
- RI 140. Glacial geology of Geauga County, Ohio, by Stanley M. Totten. 30 p., 14 figs., 2 tables; color map, scale 1:62,500 (1 inch = about 1 mile), 1988.
- RI 141. Glacial geology of Medina County, Ohio, by Stanley M. Totten. 38 p., 21 figs., 3 tables; color map, scale 1:62,500 (1 inch = about 1 mile), 1988.
- RI 142. Pennsylvanian trilobites of Ohio, by David K. Brezinski, Myron T. Sturgeon, and Richard D. Hoare. 18 p., 4 figs., 4 tables, 2 pls., 1989. Reprinted 1998.
- RI 143. Stratigraphy, structure, and production history of the Trenton Limestone (Ordovician) and adjacent strata in northwestern Ohio, by Lawrence H. Wickstrom, John D. Gray, and Ronald D. Stieglitz. 78 p., 30 figs., 1 pl., 1992.
- RI 144. Geological controls on indoor radon in Ohio, by James A. Harrell, John P. McKenna, and Ashok Kumar. 36 p., 10 figs., 1 table, 1993.
- RI 145. Available coal resources of the Bethesda 7.5-minute quadrangle, Belmont County, Ohio, by Allan G. Axon. 27 p., 12 figs., 4 tables, 1996.
- RI 146. Subsurface geology of the Serpent Mound disturbance, Adams, Highland, and Pike counties, Ohio, by Mark T. Baranoski, Gregory A. Schumacher, Doyle R. Watts, Richard W. Carlton, and Belgasem M. El-Saiti. 60 p., 26 figs., 5 tables, 3 pls., 2003.
- RI 147. Brachiopods from the Maxville Limestone (Mississippian) of Ohio, by Richard D. Hoare. 16 p., 10 figs., 7 tables, 5 pls., 2003.
- RI 148. Archeological search for shipwrecks in the vicinity of Kelleys Island, Lake Erie: A pilot study, by Dale L. Liebenthal, J.A. Fuller, and Constance J. Livchak. 9 p., 7 figs., 4 pls., 2006.

# **Ohio Geological Survey Information Circulars**

- IC 3. Recent information on the Maxville limestone, by Raymond E. Lamborn. 18 p., 1 fig., 1945. Reprinted 1961.
- IC 13. Geology of Lake Hope State Park, by Mildred Fisher Marple. 30 p., 20 figs., 1954. Reprinted 1966, 1996.
- IC 27. Devonian-Mississippian shale sequence in Ohio, by Karl V. Hoover. 154 p., 11 figs., 3 tables, 3 pls., 1960. Reprinted 1965, 1978.
- IC 31. Subsurface information catalog, compiled by Warren L. Calvert. 59 p., 2 pls., 1962. Includes 1963 supplement and map showing locations of wells for which cuttings are on file.
- IC 33. Sauk sequence data sheets, by Warren L. Calvert. 53 p., 2 figs., 1 table, 1964.
- IC 34. Lake Erie bathythermograph recordings, 1952–1966, compiled by Charles E. Herdendorf. 36 p., 1 fig., 1 pl., 1967.
- IC 35. Subsurface information catalog, 1963–1967, compiled by Frederick B. Safford. 58 p., 1969.
- IC 38. Areas of shallow bedrock in part of northwestern Ohio, by David A. Stith. Map, scale 1:125,000 (1 inch = about 2 miles), 1973.
- IC 39. The November 1972 storm on Lake Erie, by Charles H. Carter. 12 p., 4 figs., 1 table, 1973.
- IC 40. Mercury concentrations in sediments of the Lake Erie basin, Ohio, by David A. Stith. 14 p., 7 figs., 2 tables, 1973.
- IC 41. Hydrogeologic and other considerations related to the selection of sanitary-landfill sites in Ohio, by Gerald H. Groenewold. 15 p., 6 figs., 2 tables, 1 pl., 1974.
- IC 42. Catalog of oil and gas wells in "Newburg" (Silurian) of Ohio, by A. Janssens. 19 p., 3 figs., 1975.
- IC 43. Subsurface liquid-waste injection in Ohio, by Michael J. Clifford. 27 p., 19 figs., 3 tables, 1975.
- IC 44. Coal production in Ohio—1800–1974, compiled by Horace R. Collins. 33 p., 7 figs., 1976.
- IC 45. Place names directory: Northeast Ohio, compiled by Madge R. Fitak. 41 p., 1976.
- IC 47. Analyses of Ohio coals, by George Botoman and David A. Stith. 148 p. of tables and 8 folded tables, 1978.
- IC 49. Place names directory: Southeast Ohio, compiled by Madge R. Fitak. 50 p., 1980.
- IC 50. Analyses of Ohio coals, 1977–1978, by George Botoman and David A. Stith. 51 p. of tables and 4 folded tables, 1981.
- IC 51. Report on a continuously cored hole drilled into the Precambrian in Seneca County, northwestern Ohio, by Lawrence H. Wickstrom, George Botoman, and David A. Stith. One sheet with text, 1985.
- IC 52. Analyses of Ohio coals, 1979–1980, by George Botoman and David A. Stith. 26 p. of tables and four folded tables, 1986.
- IC 53. Place names directory, southern Ohio, compiled by Madge R. Fitak. 55 p., 1986.
- IC 54. A historical sketch of the mineral industries in Ohio, by Horace R. Collins. 6 p., photos, 1987. Reprinted 1997.
- IC 55. Analyses of Ohio coals, 1982–1984, by George Botoman and David A. Stith. 17 p. of tables and four folded tables, 1988.
- IC 56. Lithologic and geophysical description of a continuously cored hole in Warren County, Ohio, including description of the Middle Run Formation (Precambrian?) and a seismic profile across the core site, by Douglas L. Shrake and others. 11 p., 4 figs., 2 pls., 1990.
- IC 57. The East Continent Rift Basin: A new discovery, by James A. Drahovzal and others. 25 p., 10 figs., 1 table, 1992.
- IC 59. Limestone and dolomite availability in the Ohio River Valley for sulfur sorbent use, with observations on obtaining reliable chemical analyses, by David A. Stith and others. 16 p., 12 figs., 3 tables, 1997.
- IC 60. Cambrian pre-Knox Group play in the Appalachian Basin, by David C. Harris and Mark T. Baranoski. 26 p., 15 figs., 5 tables, 1997.
- IC 61. Conversion of the Ohio oil- and gas-well township-location maps to a geographical information system:
  History and methodology, by James McDonald, Lawrence H. Wickstrom, Christian D. Steck, and Joseph G. Wells.
  34 p., 24 figs., 2005.
- IC 62. A Reinterpretation of the glacial geology and an assessment of the lithology of glacial sediments in the area of Stage's Pond Nature Preserve, Ashville, Ohio, by Erik R. Venteris and Glenn E. Larsen. 11 p., 8 figs., 1 table, 2009.

# Ohio Geological Survey Guidebooks

- GB 2. Selected field trips in northeastern Ohio, edited by R. A. Heimlich and R. M. Feldmann. Includes 3 field trips: Field trip 1—General geology of the International Salt Company Cleveland mine, Cleveland, Ohio, by R. A. Heimlich, Ronald W. Manus, and C. H. Jacoby; Field trip 2—Sedimentary environments of the Lower Pennsylvanian Sharon Conglomerate near Akron, Ohio, by A. H. Coogan, R. M. Feldmann, E. J. Szmuc, and J. V. Mrakovich; Field trip 3—Engineering and Pleistocene geology of the lower Cuyahoga River valley, by George Gardner, Arthur Wittine, Murray R. McComas, Barry B. Miller, and Ronald W. Manus. 59 p., 45 figs., 4 tables, 1974. Reprinted 1987.
- GB 3. Pennsylvanian conodont localities in northeastern Ohio, by Glen K. Merrill. 25 p., 5 figs., 2 tables, 2 pls., 1974.
- GB 8. Geologic glimpses from around the world—The geology of monuments in Woodland Cemetery and Arboretum, Dayton, Ohio: a self-guided tour, by Michael R. Sandy. 29 p., 10 figs., 1 table, 6 pls., 1992.
- GB 13. Sampling the layer cake that isn't: The stratigraphy and paleontology of the type-Cincinnatian, edited by Richard Arnold Davis and Roger J. Cuffey. 194 p., 107 figs., tables, 2 appendices, 1998.
- GB 15. Sedimentology and provenance of Carboniferous and Permian rocks of Athens County, southeastern Ohio, by Gregory C. Nadon, Elizabeth H. Gierlowski-Kordesch, and Joseph P. Smith. 23 p., 22 figs., 1998.
- GB 16. Quaternary geology along the eastern margin of the Scioto Lobe in central Ohio, by Tod A. Frolking and John P. Szabo. 40 p., 26 figs., 7 tables, 1998.
- GB 17. Acid Mine Drainage in Southeastern Ohio, by Mary W. Stoertz and Dina L. Lopez. 44 p., 49 figs., 3 tables, 2008.
- GB 18. Pennsylvanian Sharon Formation, past and present: Sedimentology, hydrogeology, and historical and environmental significance, edited by Annabelle M. Foos. 93 p., 58 figs., 13 plates., 15 tables, 2004.
- GB 19. Guide to the building stones and cultural geology of Akron, by Joseph T. Hannibal. 75p., 80 figs., 3 tables, 2006.
- GB 20. Quaternary geology of the interlobate area between the Cuyahoga and Grand River lobes, northeastern Ohio, by John P. Szabo. 52 p., 44 figs., 4 tables, 2006.
- GB 21. Geologic setting and processes along Lake Erie from Fairport Harbor to Marblehead, Ohio, by Don E. Guy and Laura J. Moore. 54 p., 53 figs., 2 tables, 2010.

#### **Ohio Geological Survey Miscellaneous Reports**

- MR 1. Tenth Forum on the Geology of Industrial Minerals Proceedings: Part 1, Reclamation of pits and quarries; Part 2, Carbonate rocks in environmental control. 100 p., 38 figs., 24 tables, 1974.
- MR 3. Mississippian paleosols, paleokarst, and eolian carbonates in Indiana, by Donald E. Hattin and J. Robert Dodd. 35 p., 39 figs., 1 table. Guidebook prepared for the 1992 national meeting of the Geological Society of America in Cincinnati, Ohio.
- MR 5. Changing interpretations of Kentucky geology—Layer-cake, facies, flexure, and eustacy, edited by Frank R. Ettensohn. 184 p., 102 figs., 2 tables. Guidebook prepared for the 1992 national meeting of the Geological Society of America in Cincinnati.

### Ohio Geological Survey Map Series (folded, paper copy of maps only)

- BG-1. Bedrock Geologic Map of Ohio, by E. R. Slucher, principal compiler, E. M. Swinford, G. E. Larsen, G. A. Schumacher, D. L. Shrake, C. L. Rice, M. R. Caudill, R. G. Rea, and D. M. Powers. Color map, scale 1:500,000 (1 inch = about 8 miles), 2006.
- SG-1. Quaternary geology of Ohio, compiled by Richard R. Pavey, Richard P. Goldthwait, C. Scott Brockman, Dennis N. Hull, E. Mac Swinford, and Robert G. Van Horn. Color map, scale 1:500,000 (1 inch = about 8 miles), 1999.
- M 6. Regional bedrock geology of the Ohio portion of the Piqua, Ohio-Indiana 30 x 60-minute quadrangle, by Gregory A. Schumacher. Color map, scale 1:100,000 (1 inch = about 1½ miles), 1993.
- M 7. Regional bedrock geology of the Ohio portion of the Lima, Ohio-Indiana 30 x 60-minute quadrangle, by Glenn E. Larsen. Color map, scale 1:100,000 (1 inch = about 1½ miles), 1994.
- M 8. Regional bedrock geology of the Bellefontaine, Ohio, 30 x 60-minute quadrangle, by E. Mac Swinford and Ernie R. Slucher. Color map, scale 1:100,000 (1 inch = about 1½ miles), 1995.
- M 9. Regional bedrock geology of the Marion, Ohio, 30 x 60-minute quadrangle, by Douglas L. Shrake. Color map, scale 1:100,000 (1 inch = about 1½ miles), 1997.

#### **Reprint Series**

- RS 1. Physiographic Features of Southeastern Ohio, by Wilber Stout and G. F. Lamb. 35 p., 7 figs., 1939. Reprinted from Ohio Journal of Science, v. 38, p. 49–83, 1938. Reprinted 1959, 1968, 1985, 1998.
- RS 3. The Geologic Interpretation of Scenic Features in Ohio, by J. Ernest Carman. 42 p., 38 figs., 1946. Reprinted from Ohio Journal of Science, v. 46, p. 241–283, 1946. Reprinted 1964, 1972, 1991.

#### Ohio Cooperative Topographic Survey Publications

OTS 1. The Ohio-Michigan boundary, by C. E. Sherman., Ohio Cooperative Topographic Survey Volume I, 115 p., figs., maps, 1916. Reprinted 1972.

#### Geological Society of America Field-Trip Guidebooks

- GSA 81-1: Stratigraphy, sedimentology. 6 field trips in Kentucky, Ohio, Indiana, Virginia, and West Virginia, p. 1-258.
- GSA 81-2: Economic geology, structure. 4 field trips in Ohio, Kentucky, Tennessee, Virginia, and North Carolina, plus abstracts for two additional trips, p. 259-408.
- GSA 81-3: Geomorphology, hydrogeology, geoarchaeology, engineering geology. 5 field trips in Ohio and Kentucky, plus an abstract for one additional trip, p. 409-572.

#### Rose Run Reservoir Report

Measuring and predicting reservoir heterogeneity in complex deposystems: The Late Cambrian Rose Run sandstone of eastern Ohio and western Pennsylvania, by Ronald A. Riley, John A. Harper, Mark T. Baranoski, Christopher D. Laughrey, and Richard W. Carlton. 257 p., 125 figs. (including numerous maps, cross sections, seismic lines, and photographs of rock thin sections), 6 tables, and five case studies of Rose Run oil and gas fields, 1993.

# **U.S. Geological Survey Publications**

- B 1003-A. The "Clinton" sands in the Canton, Dover, Massillon, and Navarre quadrangles, Ohio, by J. F. Pepper, Wallace de Witt, Jr., and G. M. Everhart. U.S. Geological Survey Bulletin 1003-A, 15 p., 2 figs., 7 pls., 1953.
- B 1294-H. The Foerstia zone of the Ohio and Chattanooga Shales, by J. M. Schopf and J. F. Schwietering. U.S. Geological Survey Bulletin 1294-H, 15 p., 2 figs., 2 pls., 1970.
- PP 1110-E. The Mississippian and Pennsylvanian (Carboniferous) Systems in the United States--Ohio, by H. R. Collins. U.S. Geological Survey Professional Paper 1110-E, 26 p., 8 figs., 8 tables, 1979.
- MF-1862. Preliminary map showing the thickness of glacial deposits in Ohio, by D. R. Soller. U.S. Geological Survey, Miscellaneous Field Studies Map MF-1862. Black and white, scale 1 inch = about 8 miles, 1986.
- GP-491. Aeromagnetic map of the Columbus-Dayton area, Ohio and Indiana, by P. W. Philbin, C. L. Long, and F. C. Moore. U.S. Geological Survey Geophysical Investigations Map GP-491, Black and white, scale 1:250,000 (1 inch = about 4 miles), contour interval 25 gammas, 1965.
- GP-500. Aeromagnetic map of Findlay, Ohio, and vicinity, by R. W. Bromery and W. E. McCaslin. U.S. Geological Survey Geophysical Investigations Map GP-500, Black and white, scale 1:125,000 (1 inch = about 2 miles), 1965.
- GP-961. Residual total intensity magnetic map of Ohio, by T. G. Hildenbrand and R. P. Kucks. U.S. Geological Survey Geophysical Investigations Map GP-961. Black and white, scale: 1 inch = about 8 miles, 1984.
- GP-963. Gravity anomaly maps of Ohio, by T. C. Hildenbrand. U.S. Geological Survey Geophysical Investigations Map GP-963. One sheet, 5 maps, in color, scale: 1 inch = about 16 miles, 1986.
- GP-966. Aerial radiometric color contour maps and composite color map of regional surface concentrations of uranium, potassium, and thorium in Ohio, by Joseph S. Duval. U.S. Geological Survey Geophysical Investigations Map GP-966. One sheet, 4 maps, in color, scale: 1 inch = about 16 miles, 1987.
- GP-967. Filtered magnetic anomaly maps of Ohio, by T. G. Hildenbrand. U.S. Geological Survey Geophysical Investigations Map GP-967. One sheet, 5 maps, in color and black and white, scale: 1 inch = about 16 miles, 1987.

- GP-968. Aerial radiometric contour maps of surface concentrations of uranium, potassium, and thorium in Ohio, by Joseph S. Duval. U.S. Geological Survey Geophysical Investigations Map GP-968. 3 sheets, black and white, scale: 1 inch = about 8 miles, 1985.
- HA-40. Floods at Mount Vernon, Ohio, by G. W. Edelen, Jr., F. H. Ruggles, Jr., and W. P. Cross. U.S. Geological Survey Hydrologic Investigations Atlas HA-40, map, scale 1:12,000 (1 inch = 1,000 feet), with text and illustrations, 1961, revised 1964.
- HA-45. Floods at Chillicothe, Ohio, by G. W. Edelen, Jr., F. H. Ruggles, Jr., and W. P. Cross. U.S. Geological Survey Hydrologic Investigations Atlas HA-45, map, scale 1:24,000 (1 inch = 2,000 feet), with text and illustrations, 1964.
- HA-48. Floods at Circleville, Ohio, by G. W. Edelen, Jr., F. H. Ruggles, Jr., and W. P. Cross. U.S. Geological Survey Hydrologic Investigations Atlas HA-48, map, scale 1:12,000 (1 inch = 1,000 feet), with text and illustrations, 1964.
- HA-49. Floods at Barberton, Ohio, (no authors noted). U.S. Geological Survey Hydrologic Investigations Atlas HA-49, map, scale 1:24,000 (1 inch = 2,000 feet), with text and illustrations, 1962.
- HA-50. Floods at Canton, Ohio, (no authors noted). U.S. Geological Survey Hydrologic Investigations Atlas HA-50, map, scale 1:24,000 (1 inch = 2,000 feet), with text and illustrations, 1962.
- HA-52. Floods at Columbus, Ohio, (no authors noted). U.S. Geological Survey Hydrologic Investigations Atlas HA-52, map, scale 1:31,680 (1 inch = 2,640 feet), with text and illustrations, 1962.
- HA-324. Floods at Amesville, Ohio, by R. I. Mayo and E. E. Webber. U.S. Geological Survey Hydrologic Investigations Atlas HA-324, map, scale 1:12,000 (1 inch = 1,1000 feet), with text and illustrations, 1969.
- HA-341. Hydrogeology of the Berea and Cussewago Sandstones in northeastern Ohio, by J. L. Rau. U.S. Geological Survey Hydrologic Investigations Atlas HA-341, 2 sheets, several maps at scale of 1:250,000 (1 inch = about 4 miles), text, tables, cross sections, 1969.
- HA-366. Saline ground-water resources of Ohio, by A. C. Sedam and R. B. Stein. U.S. Geological Survey Hydrologic Investigations Atlas HA-366, 2 sheets, map, scale 1:500,000 (1 inch = about 8 miles), text, tables, figures, 1970.
- OC-83. Preliminary stratigraphic cross section showing radioactive zones in the Devonian black shales in southeastern Ohio and west-central West Virginia, by L. G. Wallace, J. B. Roen, and Wallace de Witt, Jr. U.S. Geological Survey Oil and Gas Investigations Chart OC-83, one sheet, 1978.
- Bathymetry of Lake Erie and Lake Saint Clair, compiled by National Geophysical Data Center. Color map (scale: 1 inch = about 15 miles), 11 x 17 inches, 1998.

#### **Ground-Water Mapping & Technical Services Publications**

<u>Hydrologic atlas for Ohio</u>: Average annual precipitation, temperature, streamflow, and water loss for 50-year period, 1931–1980, by Leonard J. Harstine, Water Inventory Report no. 28, 1991.

The water resources of Perry County, Ohio, by Paul N Spahr, 1997.

Ground-water resources maps (folded, paper copies only) for the following counties:

<u>Adams</u>	<u>Fulton</u>	<u>Lorain</u>	<u>Richland</u>
<u>Asthtabula</u>	<u>Geauga</u>	<u>Madison</u>	Sandusky
<u>Auglaize</u>	<u>Greene</u>	<u>Medina</u>	<u>Scioto</u>
<u>Belmont</u>	Guernsey	<u>Mercer</u>	<u>Shelby</u>
<u>Brown</u>	<u>Hamilton</u>	<u>Monroe</u>	<u>Stark</u>
Clinton	<u>Hardin</u>	<u>Montgomery</u>	<u>Summit</u>
<u>Columbiana</u>	<u>Henry</u>	<u>Muskingum</u>	<u>Union</u>
<u>Crawford</u>	<u>Highland</u>	<u>Noble</u>	Van Wert
<u>Cuyahoga</u>	<u>Hocking</u>	<u>Ottawa</u>	<u>Warren</u>
<u>Darke</u>	<u>Holmes</u>	<u>Paulding</u>	<u>Wayne</u>
<u>Defiance</u>	Jackson/Vinton	<u>Perry</u>	<u>Williams</u>
<u>Erie</u>	<u>Jefferson</u>	<u>Pickaway</u>	<u>Wood</u>
<u>Fayette</u>	<u>Lake</u>	<u>Pike</u>	<b>Wyandot</b>
<u>Franklin</u>	<u>Licking</u>	<u>Putnam</u>	

# <u>Ground-water pollution potential</u> maps & reports for the following counties:

Ashtabula **Hancock** <u>Miami</u> **Butler** Lake **Montgomery** Clermont Licking **Ottawa** Clinton Logan **Perry** Coshocton **Lorain** <u>Pickaway</u> Cuyahoga **Portage** Madison Erie <u>Preble</u> Medina Geauga Ross Mercer

Sandusky

<u>Seneca</u>

Stark Warren

Wood