

[1]	Annual Directory .....	2
[2]	Annual Report .....	2
[3]	Annual Statistical Summary.....	4
[4]	Biennial Report .....	6
[5]	Bulletin.....	7
[6]	Circular.....	7
[7]	Coal Mine Maps .....	8
[8]	Contribution to Michigan Geology .....	9
[9]	Early Reports .....	9
[10]	General Geology.....	10
[11]	Geological Seminars.....	14
[12]	Proceedings of the Lake Superior Mining Institute.....	14
[13]	Michigan Academy of Science .....	15
[14]	Michigan Academy of Science Arts and Letters .....	15
[15]	Mackinac Bridge Project .....	16
[16]	Michigan's Mineral Industries .....	17
[17]	Miscellaneous .....	18
[18]	Mineral Statistics .....	18
[19]	Open File.....	19
[20]	Open File Report .....	22
[21]	Pamphlet .....	23
[22]	Progress Report .....	23
[23]	Publication.....	25
[24]	Report of Investigation .....	30
[25]	Rules & Regulations .....	32
[26]	Annual Report of the Inspector of Salt.....	32
[27]	Summary of Operations .....	33
[28]	Subsurface Pressure Report .....	33
[29]	Secondary Recovery Report .....	34
[30]	Technical Report .....	34
[31]	UIPC Reports.....	34
[32]	USBM Open File .....	34
[33]	USDOE Open File Reports.....	35
[34]	USGS Bulletins.....	35
[35]	USGS Monographs .....	35
[36]	USGS Open File .....	36
[37]	USGS Professional Paper.....	36
[38]	USGS Water Investigation Reports .....	37
[39]	USGS Other / General.....	37
[40]	Volume.....	37
[41]	Water Investigation .....	38
[42]	Water Information Series.....	39
[43]	Water Supply Report.....	39
[44]	List of Authors .....	40

## Digital Geology Library Overview

The Office of Geological Survey (OGS) has been gathering and disseminating information about Michigan's non-renewable geologic resources since 1837.

Much of the published materials about Michigan geology are out-of-print or difficult to access.

This document is the result of an effort to make geologic information from agency publications available on the web. This is an ongoing project.

The digital files are in Adobe PDF format. Files are based on either text or image files. Text files are presented in a consistent format with a table of contents and bookmarks as well as text searching. Image files are graphic based files which are not computer searchable.

The digital files are good faith reproductions of the material presented for publication. The process used to generate the digital files has not included extensive editing for grammar, syntax, or punctuation. The digital files have been prepared from the best available copy. Original typographic and/or computer-based optical character recognition translation inconsistencies may persist. Errors and omissions are regrettable and unintended. Information such as names, addresses, prices, and the like were valid at the time of publication and may have changed.

These digital versions express the views, opinions and interpretations of the authors. They do not necessarily reflect current thinking or do they necessarily reflect the position of the Office of Geological Survey or the Michigan Department of Environmental Quality.

Interpretation and evaluation of the usefulness, accuracy and/or correlation with contemporary scientific doctrine is the responsibility of the reader.

A special acknowledgement and thanks to Jamie Bohr for her work and attention to the details that make the Digital Geology Library possible. Since the first version in 2005 with about 175 files, Ms. Bohr expanded the collection to over 1,500 files.

**Copyright © 2004 - 2013** by the Michigan Department of Environmental Quality (DEQ), Office of Oil, Gas, and Minerals (OOGM). The DEQ OOGM grants permission to publish or reproduce this document, electronically or in print, all or in part, for educational, non-profit purposes. The contents of this document or associated electronic documents, whole or in part, can be used if, and only if, additional fees are not associated with the use or distribution of this document and credit is given to the DEQ OGS and the authors. This copyright notice must appear on any and all electronic or print documents using this file and or any combinations and or parts thereof.

---

## [1] Annual Directory

*The series "Annual Directory" was a record of the names, addresses, and plant, pit, mine, quarry, or mill locations of all mineral producers during a calendar year. The series was published from 1964 to 1978 when funding was eliminated.*

### **Annual Directory of Michigan Mineral Operators;**

J. R. Byerlay, 1964; This was an unnumbered report in the series. All counties, Brine, Cement, Clay, Copper, Dolomite, Gravel, Gypsum, Iron, Lime, Limestone, Marl, Peat, Salt, Sand, Sandstone, Shale, Silver, Stone, Sulfur  
[] [http://www.michigan.gov/documents/deq/AD\\_1963opt\\_301517\\_7.pdf](http://www.michigan.gov/documents/deq/AD_1963opt_301517_7.pdf)

### **Annual Directory of Michigan Mineral Operators;**

J. R. Byerlay, 1965; This was an unnumbered report in the series. All counties, Brine, Cement, Clay, Copper, Dolomite, Gravel, Gypsum, Iron, Lime, Limestone, Marl, Peat, Salt, Sand, Sandstone, Shale, Silver, Stone, Sulfur  
[] [http://www.michigan.gov/documents/deq/AD\\_1964opt\\_301518\\_7.pdf](http://www.michigan.gov/documents/deq/AD_1964opt_301518_7.pdf)

### **Annual Directory 1: Michigan Mineral Operators;**

J. R. Byerlay, 1966; first numbered Annual Directory All counties, Brine, Cement, Clay, Copper, Dolomite, Gravel, Gypsum, Iron, Lime, Limestone, Marl, Peat, Salt, Sand, Sandstone, Shale, Silver, Stone, Sulfur  
[] [http://www.michigan.gov/documents/deq/GIMDL-AD01\\_303295\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-AD01_303295_7.pdf)  
[] [http://www.michigan.gov/documents/deq/AD\\_01\\_301469\\_7.pdf](http://www.michigan.gov/documents/deq/AD_01_301469_7.pdf)

### **Annual Directory 2: Michigan Mineral Producers;**

J. R. Byerlay, 1967; All counties, Brine, Cement, Clay, Copper, Dolomite, Gravel, Gypsum, Iron, Lime, Limestone, Marl, Peat, Salt, Sand, Sandstone, Shale, Silver, Stone, Sulfur  
[] [http://www.michigan.gov/documents/deq/AD\\_02\\_301472\\_7.pdf](http://www.michigan.gov/documents/deq/AD_02_301472_7.pdf)

### **Annual Directory 3: Michigan Mineral Producers;**

J. R. Byerlay, 1969; All counties, Brine, Cement, Clay, Copper, Dolomite, Gravel, Gypsum, Iron, Lime, Limestone, Marl, Peat, Salt, Sand, Sandstone, Shale, Silver, Stone, Sulfur  
[] [http://www.michigan.gov/documents/deq/AD\\_03opt\\_301475\\_7.pdf](http://www.michigan.gov/documents/deq/AD_03opt_301475_7.pdf)

### **Annual Directory 4: Michigan Mineral Producers;**

J. R. Byerlay, 1970; All counties, Brine, Cement, Clay, Copper, Dolomite, Gravel, Gypsum, Iron, Lime, Limestone, Marl, Peat, Salt, Sand, Sandstone, Shale, Silver, Stone, Sulfur  
[] [http://www.michigan.gov/documents/deq/AD\\_04opt\\_301477\\_7.pdf](http://www.michigan.gov/documents/deq/AD_04opt_301477_7.pdf)

### **Information not prepared in 1971**

### **Annual Directory 5: Michigan Mineral Producers;**

R. T. Segall, 1972; All counties, Brine, Cement, Clay, Copper, Dolomite, Gravel, Gypsum, Iron, Lime, Limestone, Marl, Peat, Salt, Sand, Sandstone, Shale, Silver, Stone, Sulfur  
[] [http://www.michigan.gov/documents/deq/AD\\_05opt\\_301479\\_7.pdf](http://www.michigan.gov/documents/deq/AD_05opt_301479_7.pdf)

### **Annual Directory 6: Michigan Mineral Producers;**

R. T. Segall, 1973; All counties, Brine, Cement, Clay, Copper, Dolomite, Gravel, Gypsum, Iron, Lime, Limestone, Marl, Peat, Salt, Sand, Sandstone, Shale, Silver, Stone, Sulfur  
[] [http://www.michigan.gov/documents/deq/AD\\_06opt\\_301485\\_7.pdf](http://www.michigan.gov/documents/deq/AD_06opt_301485_7.pdf)

### **Annual Directory 7: Michigan Mineral Producers;**

R. T. Segall, 1974; All counties, Brine, Cement, Clay, Copper, Dolomite, Gravel, Gypsum, Iron, Lime, Limestone, Marl, Peat, Salt, Sand, Sandstone, Shale, Silver, Stone, Sulfur  
[] [http://www.michigan.gov/documents/deq/GIMDL-AD07\\_303296\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-AD07_303296_7.pdf)  
[] [http://www.michigan.gov/documents/deq/AD\\_07opt\\_301487\\_7.pdf](http://www.michigan.gov/documents/deq/AD_07opt_301487_7.pdf)

### **Annual Directory 8: Michigan Mineral Producers;**

J. D. Lewis, 1975; All counties, Brine, Cement, Clay, Copper, Dolomite, Gravel, Gypsum, Iron, Lime, Limestone, Marl, Peat, Salt, Sand, Sandstone, Shale, Silver, Stone, Sulfur  
[] [http://www.michigan.gov/documents/deq/AD\\_08opt\\_301489\\_7.pdf](http://www.michigan.gov/documents/deq/AD_08opt_301489_7.pdf)

### **Annual Directory 9: Michigan Mineral Producers;**

J. D. Lewis, 1976; All counties, Brine, Cement, Clay, Copper, Dolomite, Gravel, Gypsum, Iron, Lime, Limestone, Marl, Peat, Salt, Sand, Sandstone, Shale, Silver, Stone, Sulfur  
[] [http://www.michigan.gov/documents/deq/AD\\_09opt\\_301491\\_7.pdf](http://www.michigan.gov/documents/deq/AD_09opt_301491_7.pdf)  
[] [http://www.michigan.gov/documents/deq/GIMDL-AD09\\_303297\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-AD09_303297_7.pdf)

### **Annual Directory 10: Michigan Mineral Producers;**

M. A. Gere, Jr., 1977; All counties, Brine, Cement, Clay, Copper, Dolomite, Gravel, Gypsum, Iron, Lime, Limestone, Marl, Peat, Salt, Sand, Sandstone, Shale, Silver, Stone, Sulfur  
[] [http://www.michigan.gov/documents/deq/AD\\_10opt\\_301493\\_7.pdf](http://www.michigan.gov/documents/deq/AD_10opt_301493_7.pdf)  
[] [http://www.michigan.gov/documents/deq/GIMDL-AD10\\_303298\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-AD10_303298_7.pdf)

### **Annual Directory 11: Michigan Mineral Producers;**

M. A. Gere, Jr., 1978; All counties, Brine, Cement, Clay, Copper, Dolomite, Gravel, Gypsum, Iron, Lime, Limestone, Marl, Peat, Salt, Sand, Sandstone, Shale, Silver, Stone, Sulfur  
[] [http://www.michigan.gov/documents/deq/AD\\_11opt\\_301496\\_7.pdf](http://www.michigan.gov/documents/deq/AD_11opt_301496_7.pdf)  
[] [http://www.michigan.gov/documents/deq/GIMDL-AD11\\_303299\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-AD11_303299_7.pdf)

### **Annual Directory 12: Michigan Mineral Producers;**

M. A. Gere, Jr., 1979; This was the last Annual Directory. All counties, Brine, Cement, Clay, Copper, Dolomite, Gravel, Gypsum, Iron, Lime, Limestone, Marl, Peat, Salt, Sand, Sandstone, Shale, Silver, Stone, Sulfur  
[] [http://www.michigan.gov/documents/deq/AD\\_12\\_opt\\_301499\\_7.pdf](http://www.michigan.gov/documents/deq/AD_12_opt_301499_7.pdf)  
[] [http://www.michigan.gov/documents/deq/GIMDL-AD12\\_303300\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-AD12_303300_7.pdf)

---

## [2] Annual Report

*The series "Annual Report" contains not only the annual report of the State Geologist, but also a number of signed and unsigned articles relating to Michigan geology. Later the State Geologist's reports were made biennially and were published as a part of the Publication series. While a majority of these were published in black cloth, a few paperbound separates were also issued.*

### **First Annual Report of the Commissioner of Mineral Statistics of the State of Michigan, for**

**1877-1878 and Previous Years;** C. E. Wright, 1879; With contributions from: L. G. Emerson, J. H. Forster, S. S. Garrigues, J. R. Grout, C. D. Lawton, E. Reeder, A. P. Swineford, C. E. Wright, Z. W. Wright Ganister or Quartzite, General Historical Sketch Of The Iron Region, Geology of the Lake Superior Iron Region, Gypsum, Iron Mines, Lake Superior Brown Stones, Lake Superior Copper Mining Industry, Marble, Michigan Salt, Slate, The Iron River Silver District  
[] [http://www.michigan.gov/documents/deq/GIMDL-AR1877\\_215871\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-AR1877_215871_7.pdf)  
[] [http://www.michigan.gov/documents/deq/AR\\_1877\\_Historical\\_opt\\_303309\\_7.pdf](http://www.michigan.gov/documents/deq/AR_1877_Historical_opt_303309_7.pdf)  
[] [http://www.michigan.gov/documents/deq/AR\\_1877\\_Iron\\_opt\\_303310\\_7.pdf](http://www.michigan.gov/documents/deq/AR_1877_Iron_opt_303310_7.pdf)  
[] [http://www.michigan.gov/documents/deq/AR\\_1877\\_Copper\\_a\\_opt\\_303313\\_7.pdf](http://www.michigan.gov/documents/deq/AR_1877_Copper_a_opt_303313_7.pdf)  
[] [http://www.michigan.gov/documents/deq/AR\\_1877\\_Copper\\_b\\_opt\\_303314\\_7.pdf](http://www.michigan.gov/documents/deq/AR_1877_Copper_b_opt_303314_7.pdf)  
[] [http://www.michigan.gov/documents/deq/AR\\_1877\\_Other\\_opt\\_303316\\_7.pdf](http://www.michigan.gov/documents/deq/AR_1877_Other_opt_303316_7.pdf)  
[] [http://www.michigan.gov/documents/deq/AR\\_1877\\_Oversize\\_303318\\_7.pdf](http://www.michigan.gov/documents/deq/AR_1877_Oversize_303318_7.pdf)

**Annual Report of the Commissioner of Mineral Statistics of the State Of Michigan, 1884;** A. P. Swineford, 1885; copper, iron, plaster, salt

[] [http://www.michigan.gov/documents/deq/GIMDL-AR1884\\_215895\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-AR1884_215895_7.pdf)  
[] [http://www.michigan.gov/documents/deq/GIMDL-AR1884b\\_215900\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-AR1884b_215900_7.pdf)

**Mine and Mineral Statistics for 1891;** C. D. Lawton, 1891; coal, gold, gypsum, iron, salt, slate, stone

[] [http://www.michigan.gov/documents/deq/GIMDL-AR1891\\_215901\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-AR1891_215901_7.pdf)  
[] [http://www.michigan.gov/documents/deq/GIMDL-AR1891b\\_215902\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-AR1891b_215902_7.pdf)

**Annual Report of the State Geologist Report of the State Board of Geological Survey of Michigan for the Year 1901;** A. C. Lane, 1902; Contributions from; C. H. Gordon, A. W. Grabau, W. M. Gregory, A. C. Lane, F. Leverett, B. E. Livingston, F. B. Taylor

Alcona County, Alpena County, Arenac County, Bay County, Economic Geology, Gas, Geothermal Gradient, Kent County, Lapeer County, Limestone, Meteorites, Muskegon County, Oil, Lake Huron, Saginaw County, Salt, Sanilac County, Stratigraphy, Subsurface Geology, Surface Geology, Traverse Group, Tuscola County, Washtenaw County

[] [http://www.michigan.gov/documents/deq/GIMDL-AR1901A\\_303225\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-AR1901A_303225_7.pdf)  
[] [http://www.michigan.gov/documents/deq/AR\\_1901\\_1opt\\_303353\\_7.pdf](http://www.michigan.gov/documents/deq/AR_1901_1opt_303353_7.pdf)  
[] [http://www.michigan.gov/documents/deq/AR\\_1901\\_2opt\\_303358\\_7.pdf](http://www.michigan.gov/documents/deq/AR_1901_2opt_303358_7.pdf)  
[] [http://www.michigan.gov/documents/deq/AR\\_1901\\_3opt\\_303362\\_7.pdf](http://www.michigan.gov/documents/deq/AR_1901_3opt_303362_7.pdf)  
[] [http://www.michigan.gov/documents/deq/AR\\_1901\\_plates\\_303368\\_7.pdf](http://www.michigan.gov/documents/deq/AR_1901_plates_303368_7.pdf)

**Annual Report of the State Geologist Report of the State Board of Geological Survey of Michigan for the Year 1902;** A. C. Lane, G. P. Grimsley, 1903; All counties, Gypsum, Iron, Limestone, Peat, Sand, Water

[] [http://www.michigan.gov/documents/deq/GIMDL-AR1902\\_215903\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-AR1902_215903_7.pdf)  
[] [http://www.michigan.gov/documents/deq/AR\\_1902\\_303371\\_7.pdf](http://www.michigan.gov/documents/deq/AR_1902_303371_7.pdf)  
[] [http://www.michigan.gov/documents/deq/GIMDL-AR1902b\\_215904\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-AR1902b_215904_7.pdf)

**Annual Report of the State Geologist Report of the State Board of Geological Survey of Michigan for the Year 1903;** A. C. Lane, 1905; All counties, Brine, Building and Road Materials, Cement, Clay, Coal, Copper, Crawford Co., Keweenaw Co, Keweenawan Lodes, Limestone, Marl, Oil and Gas, Peat, Porcupine Mountains, Roscommon Co, Roscommon Co., Salt, Sand, Sandstone, Shale, Stone, Sulfur, The Tamarack Mine Cross-Section Theory of Copper Deposition, Topography, Transmission of Heat into the Earth, Water Supply of the Lower Peninsula, Waters of the Upper Peninsula

[] [http://www.michigan.gov/documents/deq/GIMDL-AR1903A\\_215908\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-AR1903A_215908_7.pdf)  
[] [http://www.michigan.gov/documents/deq/GIMDL-AR1903b\\_215911\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-AR1903b_215911_7.pdf)  
[] [http://www.michigan.gov/documents/deq/AR\\_1903\\_5opt\\_303437\\_7.pdf](http://www.michigan.gov/documents/deq/AR_1903_5opt_303437_7.pdf)  
[] [http://www.michigan.gov/documents/deq/AR\\_1903\\_1opt\\_303432\\_7.pdf](http://www.michigan.gov/documents/deq/AR_1903_1opt_303432_7.pdf)  
[] [http://www.michigan.gov/documents/deq/AR\\_1903\\_2opt\\_303433\\_7.pdf](http://www.michigan.gov/documents/deq/AR_1903_2opt_303433_7.pdf)  
[] [http://www.michigan.gov/documents/deq/AR\\_1903\\_3opt\\_303434\\_7.pdf](http://www.michigan.gov/documents/deq/AR_1903_3opt_303434_7.pdf)  
[] [http://www.michigan.gov/documents/deq/AR\\_1903\\_4opt\\_303435\\_7.pdf](http://www.michigan.gov/documents/deq/AR_1903_4opt_303435_7.pdf)  
[] [http://www.michigan.gov/documents/deq/AR\\_1903\\_platesopt\\_303438\\_7.pdf](http://www.michigan.gov/documents/deq/AR_1903_platesopt_303438_7.pdf)

**Annual Report of the State Geologist Report of the State Board of Geological Survey of Michigan for the Year 1904;** A. C. Lane, 1905; With contributions by M. L. Fuller and I. C. Russell

Bay Co., Cement, Cheboygan Co., Clay, Coal, Copper, Correlation, Delta Co., Dickinson Co., Emmet Co., Gas, Gladwin Co., Gold, Gravel, Gypsum, Huron River, Iron, Lake Huron, Lake Michigan, Limestone, Mackinac Island, Macomb Co., Marquette Co., Mason Co., Menominee Co., Midland Co., Nomenclature, Non-Metallics, Northern Peninsula counties, Oakland Co., Presque Isle Co., Shale, Tuscola Co., Washtenaw Co., Water, Wayne Co., Wells and Borings

[] [http://www.michigan.gov/documents/deq/AR\\_1907\\_Part1\\_314336\\_7.pdf](http://www.michigan.gov/documents/deq/AR_1907_Part1_314336_7.pdf)  
[] [http://www.michigan.gov/documents/deq/AR\\_1907\\_Part2\\_314338\\_7.pdf](http://www.michigan.gov/documents/deq/AR_1907_Part2_314338_7.pdf)  
[] [http://www.michigan.gov/documents/deq/AR\\_1907\\_Part3\\_314340\\_7.pdf](http://www.michigan.gov/documents/deq/AR_1907_Part3_314340_7.pdf)  
[] [http://www.michigan.gov/documents/deq/AR\\_1907\\_Part4\\_314343\\_7.pdf](http://www.michigan.gov/documents/deq/AR_1907_Part4_314343_7.pdf)  
[] [http://www.michigan.gov/documents/deq/AR\\_1904\\_Aopt\\_314316\\_7.pdf](http://www.michigan.gov/documents/deq/AR_1904_Aopt_314316_7.pdf)  
[] [http://www.michigan.gov/documents/deq/AR\\_1904\\_Bopt\\_314317\\_7.pdf](http://www.michigan.gov/documents/deq/AR_1904_Bopt_314317_7.pdf)  
[] [http://www.michigan.gov/documents/deq/AR\\_1904\\_Copt\\_314318\\_7.pdf](http://www.michigan.gov/documents/deq/AR_1904_Copt_314318_7.pdf)  
[] [http://www.michigan.gov/documents/deq/AR\\_1904\\_Plate\\_XVlopt\\_314320\\_7.pdf](http://www.michigan.gov/documents/deq/AR_1904_Plate_XVlopt_314320_7.pdf)

**Annual Report of the State Geologist Report of the State Board of Geological Survey of Michigan for the Year 1905;** A. C. Lane, 1906; C. C. Adams, W. F. Cooper, A. C. Lane, A. G. Ruthven, B. Walker, Allegan Co., Amphibians, Antrim Co., Arenac Co., Bay Co., Birds, Brine, Coal, Dolomite, Ecological, Fish, Gas, Gypsum, Insects, Iron, Isle Royale, Limestone, Marl, Molluscs, Northern Peninsula counties, Oil, Ontonagon, Peat, Porcupine Mountains, Reptiles, Salt, Sandstone, Shale, Sulfur, Tuscola Co., Water

[] [http://www.michigan.gov/documents/deq/AR\\_1905\\_Part4\\_ARtext\\_303550\\_7.pdf](http://www.michigan.gov/documents/deq/AR_1905_Part4_ARtext_303550_7.pdf)  
[] [http://www.michigan.gov/documents/deq/AR\\_1905\\_Part4opt\\_303565\\_7.pdf](http://www.michigan.gov/documents/deq/AR_1905_Part4opt_303565_7.pdf)  
[] [http://www.michigan.gov/documents/deq/AR\\_1905\\_Figures\\_303568\\_7.pdf](http://www.michigan.gov/documents/deq/AR_1905_Figures_303568_7.pdf)  
[] [http://www.michigan.gov/documents/deq/AR\\_1905\\_Part1\\_Adamstext\\_303547\\_7.pdf](http://www.michigan.gov/documents/deq/AR_1905_Part1_Adamstext_303547_7.pdf)  
[] [http://www.michigan.gov/documents/deq/AR\\_1905\\_Part1Aopt\\_303553\\_7.pdf](http://www.michigan.gov/documents/deq/AR_1905_Part1Aopt_303553_7.pdf)  
[] [http://www.michigan.gov/documents/deq/AR\\_1905\\_Part1Bopt\\_303554\\_7.pdf](http://www.michigan.gov/documents/deq/AR_1905_Part1Bopt_303554_7.pdf)  
[] [http://www.michigan.gov/documents/deq/AR\\_1905\\_Tables\\_303569\\_7.pdf](http://www.michigan.gov/documents/deq/AR_1905_Tables_303569_7.pdf)  
[] [http://www.michigan.gov/documents/deq/AR\\_1905\\_Part2\\_Coopertext\\_303548\\_7.pdf](http://www.michigan.gov/documents/deq/AR_1905_Part2_Coopertext_303548_7.pdf)  
[] [http://www.michigan.gov/documents/deq/AR\\_1905\\_Part2Aopt\\_303555\\_7.pdf](http://www.michigan.gov/documents/deq/AR_1905_Part2Aopt_303555_7.pdf)  
[] [http://www.michigan.gov/documents/deq/AR\\_1905\\_Part2Bopt\\_303556\\_7.pdf](http://www.michigan.gov/documents/deq/AR_1905_Part2Bopt_303556_7.pdf)  
[] [http://www.michigan.gov/documents/deq/AR\\_1905\\_Part2Copt\\_303560\\_7.pdf](http://www.michigan.gov/documents/deq/AR_1905_Part2Copt_303560_7.pdf)  
[] [http://www.michigan.gov/documents/deq/AR\\_1905\\_Part3\\_Walkertext\\_303549\\_7.pdf](http://www.michigan.gov/documents/deq/AR_1905_Part3_Walkertext_303549_7.pdf)  
[] [http://www.michigan.gov/documents/deq/AR\\_1905\\_Part3Aopt\\_303562\\_7.pdf](http://www.michigan.gov/documents/deq/AR_1905_Part3Aopt_303562_7.pdf)  
[] [http://www.michigan.gov/documents/deq/AR\\_1905\\_Part3Bopt\\_303563\\_7.pdf](http://www.michigan.gov/documents/deq/AR_1905_Part3Bopt_303563_7.pdf)  
[] [http://www.michigan.gov/documents/deq/AR\\_1905\\_Part5opt\\_303566\\_7.pdf](http://www.michigan.gov/documents/deq/AR_1905_Part5opt_303566_7.pdf)

**Annual Report of the State Geologist Report of the State Board of Geological Survey of Michigan for the Year 1906;** A. C. Lane, 1907; Report of the State Board of Geological Survey of Michigan for the Year 1906, A. C. Lane State Geologist. With contributions from: C. A. Davis, W. C. Gordan, I. C. Russell and C. S. Sargent.

Bayport Limestone, Bessemer, Biological Survey, Black River, Brick, Clare Co., Clay, Coal, Copper, Copper, Crataegus, Dickinson Co., Earthquakes, Gas, Geologic Map, Gold, Gratiot Co., Gravel, Houghton Co., Huron Co., Ingham Co., Iron Co., Iron, Isabella Co., Isle Royale, Lime, Livingston Co., Luce Co., Mecosta Co., Menominee Co., Menominee Co., Montcalm Co., Notes of A. Winchell, Oakland Co., Oil, Peat, Publications, Roscommon Co., Saginaw Co., Salt, Sand, Sandstone, Sanilac Co., Silver, Southern Michigan counties, St Clair Co., Sulfur, Tuscola Co., Washtenaw Co., Water, Wexford Co.

[] [http://www.michigan.gov/documents/deq/AR\\_1906\\_Part1opt\\_303643\\_7.pdf](http://www.michigan.gov/documents/deq/AR_1906_Part1opt_303643_7.pdf)  
[] [http://www.michigan.gov/documents/deq/AR\\_1906\\_Part1\\_text\\_303630\\_7.pdf](http://www.michigan.gov/documents/deq/AR_1906_Part1_text_303630_7.pdf)  
[] [http://www.michigan.gov/documents/deq/AR\\_1906\\_PlatesB\\_303660\\_7.pdf](http://www.michigan.gov/documents/deq/AR_1906_PlatesB_303660_7.pdf)  
[] [http://www.michigan.gov/documents/deq/AR\\_1906\\_Part2A\\_text\\_303632\\_7.pdf](http://www.michigan.gov/documents/deq/AR_1906_Part2A_text_303632_7.pdf)  
[] [http://www.michigan.gov/documents/deq/AR\\_1906\\_Part2Aopt\\_303646\\_7.pdf](http://www.michigan.gov/documents/deq/AR_1906_Part2Aopt_303646_7.pdf)  
[] [http://www.michigan.gov/documents/deq/AR\\_1906\\_Part2B\\_text\\_303635\\_7.pdf](http://www.michigan.gov/documents/deq/AR_1906_Part2B_text_303635_7.pdf)  
[] [http://www.michigan.gov/documents/deq/AR\\_1906\\_Part2Bopt\\_303648\\_7.pdf](http://www.michigan.gov/documents/deq/AR_1906_Part2Bopt_303648_7.pdf)  
[] [http://www.michigan.gov/documents/deq/AR\\_1906\\_Part2C\\_text\\_303637\\_7.pdf](http://www.michigan.gov/documents/deq/AR_1906_Part2C_text_303637_7.pdf)  
[] [http://www.michigan.gov/documents/deq/AR\\_1906\\_Part2Copt\\_303651\\_7.pdf](http://www.michigan.gov/documents/deq/AR_1906_Part2Copt_303651_7.pdf)

[http://www.michigan.gov/documents/deq/AR\\_1906\\_Part3\\_text\\_303639\\_7.pdf](http://www.michigan.gov/documents/deq/AR_1906_Part3_text_303639_7.pdf)  
[http://www.michigan.gov/documents/deq/AR\\_1906\\_Part3opt\\_303652\\_7.pdf](http://www.michigan.gov/documents/deq/AR_1906_Part3opt_303652_7.pdf)  
[http://www.michigan.gov/documents/deq/AR\\_1906\\_PlatesA\\_303657\\_7.pdf](http://www.michigan.gov/documents/deq/AR_1906_PlatesA_303657_7.pdf)  
[http://www.michigan.gov/documents/deq/AR\\_1906\\_Part4\\_text\\_303640\\_7.pdf](http://www.michigan.gov/documents/deq/AR_1906_Part4_text_303640_7.pdf)  
[http://www.michigan.gov/documents/deq/AR\\_1906\\_Part4opt\\_303654\\_7.pdf](http://www.michigan.gov/documents/deq/AR_1906_Part4opt_303654_7.pdf)  
[http://www.michigan.gov/documents/deq/AR\\_1906\\_Part5\\_text\\_303641\\_7.pdf](http://www.michigan.gov/documents/deq/AR_1906_Part5_text_303641_7.pdf)

### **Annual Report of the State Geologist Report of the State Board of Geological Survey of Michigan for the Year 1907;**

A. C. Lane, 1908; Report of the State Board of Geological Survey of Michigan for the Year 1907, A. C. Lane State Geologist. With contributions from: T. L. Hankinson, H. Ries and J. A. Rosen. Allegan Co., Arenac Co., Bay Co., Biological Survey, Branch Co., Calhoun Co., Cass Co., Cement, Coal, Copper, Delta Co., Dickinson Co., Foundry Sands, Gas, Genesee Co., Gravel, Houghton Co., Ingham Co., Iron Co., Iron, Kent Co., Lapeer Co., Lime, Limestone, Mackinac Island, Marl, Mason Co., Menominee Co., Michigan Gas, Monroe Co., Oakland Co., Oceana Co., Oil, Peat, Roscommon Co., Saginaw Co., Sand, Sandstone, Sanilac Co., Shale, Surface Geology, Tuscola Co., Walnut Lake, Water

[http://www.michigan.gov/documents/deq/AR\\_1907\\_Part1opt\\_303874\\_7.pdf](http://www.michigan.gov/documents/deq/AR_1907_Part1opt_303874_7.pdf)  
[http://www.michigan.gov/documents/deq/AR\\_1907\\_Part2opt\\_303875\\_7.pdf](http://www.michigan.gov/documents/deq/AR_1907_Part2opt_303875_7.pdf)  
[http://www.michigan.gov/documents/deq/AR\\_1907\\_Plates4opt\\_303882\\_7.pdf](http://www.michigan.gov/documents/deq/AR_1907_Plates4opt_303882_7.pdf)  
[http://www.michigan.gov/documents/deq/AR\\_1907\\_Part4opt\\_303878\\_7.pdf](http://www.michigan.gov/documents/deq/AR_1907_Part4opt_303878_7.pdf)  
[http://www.michigan.gov/documents/deq/AR\\_1907\\_Part3Aopt\\_303876\\_7.pdf](http://www.michigan.gov/documents/deq/AR_1907_Part3Aopt_303876_7.pdf)  
[http://www.michigan.gov/documents/deq/AR\\_1907\\_Part3Bopt\\_303877\\_7.pdf](http://www.michigan.gov/documents/deq/AR_1907_Part3Bopt_303877_7.pdf)  
[http://www.michigan.gov/documents/deq/AR\\_1907\\_Plates1opt\\_303879\\_7.pdf](http://www.michigan.gov/documents/deq/AR_1907_Plates1opt_303879_7.pdf)  
[http://www.michigan.gov/documents/deq/AR\\_1907\\_Plates2opt\\_303880\\_7.pdf](http://www.michigan.gov/documents/deq/AR_1907_Plates2opt_303880_7.pdf)  
[http://www.michigan.gov/documents/deq/AR\\_1907\\_Plates3opt\\_303881\\_7.pdf](http://www.michigan.gov/documents/deq/AR_1907_Plates3opt_303881_7.pdf)

### **Annual Report of the State Geologist Report of the State Board of Geological Survey of Michigan for the Year 1908;**

A. C. Lane, 1909; Report of the State Board of Geological Survey of Michigan for the Year 1908, A. C. Lane State Geologist. With contributions from: C. A. Davis, A. E. Seaman, and F. E. Wright. Arenac Co., Coal, Copper, Dolomite, Gas, Geological Section, Gravel, Gypsum, Huron Co., Iron, Isle Royale, Keweenaw Co., Marl, Mount Bohemia, Oil, Salt, Sand, Sandstone, Shale, Teachers, Tuscola Co., Water

[http://www.michigan.gov/documents/deq/GIMDL-AR1908A\\_215916\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-AR1908A_215916_7.pdf)  
[http://www.michigan.gov/documents/deq/GIMDL-AR1908B\\_215917\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-AR1908B_215917_7.pdf)  
[http://www.michigan.gov/documents/deq/GIMDL-AR1908C\\_215918\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-AR1908C_215918_7.pdf)  
[http://www.michigan.gov/documents/deq/AR\\_1908\\_3Aopt\\_303456\\_7.pdf](http://www.michigan.gov/documents/deq/AR_1908_3Aopt_303456_7.pdf)  
[http://www.michigan.gov/documents/deq/AR\\_1908\\_3Bopt\\_303457\\_7.pdf](http://www.michigan.gov/documents/deq/AR_1908_3Bopt_303457_7.pdf)  
[http://www.michigan.gov/documents/deq/AR\\_1908\\_FiguresOpt\\_303459\\_7.pdf](http://www.michigan.gov/documents/deq/AR_1908_FiguresOpt_303459_7.pdf)  
[http://www.michigan.gov/documents/deq/GIMDL-AR1908D\\_215920\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-AR1908D_215920_7.pdf)  
[http://www.michigan.gov/documents/deq/AR\\_1908\\_4opt\\_303458\\_7.pdf](http://www.michigan.gov/documents/deq/AR_1908_4opt_303458_7.pdf)  
[http://www.michigan.gov/documents/deq/AR\\_1908\\_1opt\\_303454\\_7.pdf](http://www.michigan.gov/documents/deq/AR_1908_1opt_303454_7.pdf)  
[http://www.michigan.gov/documents/deq/AR\\_1908\\_2opt\\_303455\\_7.pdf](http://www.michigan.gov/documents/deq/AR_1908_2opt_303455_7.pdf)

### **An Ecological Survey of Isle Royale, Lake Superior 1908;**

C. C. Adams, 1909; An Ecological Survey of Isle Royale, Lake Superior: Published As A part of the Report of the Board of the Geological Survey for 1908 Gravel, Isle Royale, Sand

[http://www.michigan.gov/documents/deq/GIMDL-PUIRA\\_302703\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-PUIRA_302703_7.pdf)  
[http://www.michigan.gov/documents/deq/Isle\\_Royale\\_1908\\_Part1Aopt\\_304351\\_7.pdf](http://www.michigan.gov/documents/deq/Isle_Royale_1908_Part1Aopt_304351_7.pdf)  
[http://www.michigan.gov/documents/deq/GIMDL-PUIRB\\_302704\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-PUIRB_302704_7.pdf)  
[http://www.michigan.gov/documents/deq/Isle\\_Royale\\_1908\\_Part1Bopt\\_304352\\_7.pdf](http://www.michigan.gov/documents/deq/Isle_Royale_1908_Part1Bopt_304352_7.pdf)  
[http://www.michigan.gov/documents/deq/GIMDL-PUIRC\\_302706\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-PUIRC_302706_7.pdf)  
[http://www.michigan.gov/documents/deq/Isle\\_Royale\\_1908\\_Part1Copt\\_304353\\_7.pdf](http://www.michigan.gov/documents/deq/Isle_Royale_1908_Part1Copt_304353_7.pdf)  
[http://www.michigan.gov/documents/deq/GIMDL-PUIRD\\_302707\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-PUIRD_302707_7.pdf)  
[http://www.michigan.gov/documents/deq/Isle\\_Royale\\_1908\\_Part1Dopt\\_304354\\_7.pdf](http://www.michigan.gov/documents/deq/Isle_Royale_1908_Part1Dopt_304354_7.pdf)  
[http://www.michigan.gov/documents/deq/Isle\\_Royale\\_1908\\_Part2Aopt\\_304356\\_7.pdf](http://www.michigan.gov/documents/deq/Isle_Royale_1908_Part2Aopt_304356_7.pdf)  
[http://www.michigan.gov/documents/deq/Isle\\_Royale\\_1908\\_Part2Bopt\\_304358\\_7.pdf](http://www.michigan.gov/documents/deq/Isle_Royale_1908_Part2Bopt_304358_7.pdf)  
[http://www.michigan.gov/documents/deq/Isle\\_Royale\\_1908\\_Part3opt\\_304362\\_7.pdf](http://www.michigan.gov/documents/deq/Isle_Royale_1908_Part3opt_304362_7.pdf)  
[http://www.michigan.gov/documents/deq/Isle\\_Royale\\_1908\\_Map\\_304364\\_7.pdf](http://www.michigan.gov/documents/deq/Isle_Royale_1908_Map_304364_7.pdf)

## **[3] Annual Statistical Summary**

*“Annual Statistical Summaries” were issued in two separate theme formats starting in 1964. The first of these, “Mineral Industry of Michigan” has been assigned consecutive odd numbers while the second format, “Michigan's Oil and Gas Fields”, has been assigned consecutive even numbers. Each of these formats has had a long history under a variety of other series and titles. The series “Mineral Industry of Michigan” was published in cooperation with the U. S. Bureau of Mines until 1976. The series “Michigan's Oil and Gas Fields” was published until 1984.*

### **Annual Statistical Summary: Michigan's Oil and Gas Fields 1963;**

L. W. Price, 1964; First in the series, it was not assigned a series number gas, nomenclature, oil. oil fields, petroleum, production, Southern Peninsula counties, stratigraphy

[http://www.michigan.gov/documents/deq/AS\\_00\\_1opt\\_301611\\_7.pdf](http://www.michigan.gov/documents/deq/AS_00_1opt_301611_7.pdf)  
[http://www.michigan.gov/documents/deq/AS\\_00\\_2opt\\_301612\\_7.pdf](http://www.michigan.gov/documents/deq/AS_00_2opt_301612_7.pdf)

### **Annual Statistical Summary 1: Mineral Industry of Michigan, 1963;**

D. F. Klyce, 1964; Brine, Cement, Copper, Gravel, Gypsum, Iron, Lime, Salt, Sand, Silver, Stone, Sulfur

[http://www.michigan.gov/documents/deq/GIMDL-AS01\\_216114\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-AS01_216114_7.pdf)  
[http://www.michigan.gov/documents/deq/GIMDL-AS01b\\_216116\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-AS01b_216116_7.pdf)  
[http://www.michigan.gov/documents/deq/AS\\_01opt\\_303883\\_7.pdf](http://www.michigan.gov/documents/deq/AS_01opt_303883_7.pdf)

### **Annual Statistical Summary 2: Michigan's Oil and Gas Fields 1964;**

G. D. Eills, 1965; gas, nomenclature, oil. oil fields, petroleum, production, Southern Peninsula counties, stratigraphy

[http://www.michigan.gov/documents/deq/GIMDL-AS02\\_303257\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-AS02_303257_7.pdf)  
[http://www.michigan.gov/documents/deq/AS\\_02\\_1opt\\_301613\\_7.pdf](http://www.michigan.gov/documents/deq/AS_02_1opt_301613_7.pdf)  
[http://www.michigan.gov/documents/deq/AS\\_02\\_2opt\\_301614\\_7.pdf](http://www.michigan.gov/documents/deq/AS_02_2opt_301614_7.pdf)

### **Annual Statistical Summary 3: Mineral Industry of Michigan 1964;**

D. F. Klyce, 1966; Brine, Cement, Copper, Gravel, Gypsum, Iron, Lime, Salt, Sand, Silver, Stone, Sulfur

[http://www.michigan.gov/documents/deq/AS\\_03opt\\_301616\\_7.pdf](http://www.michigan.gov/documents/deq/AS_03opt_301616_7.pdf)

### **Annual Statistical Summary 4: Michigan's Oil and Gas Fields 1965;**

G. D. Eills, 1966; gas, nomenclature, oil. oil fields, petroleum, production, Southern Peninsula counties, stratigraphy

[http://www.michigan.gov/documents/deq/GIMDL-AS04\\_303258\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-AS04_303258_7.pdf)  
[http://www.michigan.gov/documents/deq/AS\\_04\\_1opt\\_301617\\_7.pdf](http://www.michigan.gov/documents/deq/AS_04_1opt_301617_7.pdf)  
[http://www.michigan.gov/documents/deq/AS\\_04\\_2opt\\_301618\\_7.pdf](http://www.michigan.gov/documents/deq/AS_04_2opt_301618_7.pdf)

### **Annual Statistical Summary 5: Mineral Industry of Michigan 1965;**

D. F. Klyce, 1967; Brine, Cement, Copper, Gravel, Gypsum, Iron, Lime, Salt, Sand, Silver, Stone, Sulfur

[http://www.michigan.gov/documents/deq/AS\\_05opt\\_301619\\_7.pdf](http://www.michigan.gov/documents/deq/AS_05opt_301619_7.pdf)

### **Annual Statistical Summary 6: Michigan's Oil and Gas Fields 1966;**

G. D. Eills, 1967; gas, nomenclature, oil. oil fields, petroleum, production, Southern Peninsula counties, stratigraphy

[http://www.michigan.gov/documents/deq/GIMDL-AS06\\_303260\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-AS06_303260_7.pdf)  
[http://www.michigan.gov/documents/deq/AS\\_06\\_1opt\\_301622\\_7.pdf](http://www.michigan.gov/documents/deq/AS_06_1opt_301622_7.pdf)  
[http://www.michigan.gov/documents/deq/AS\\_06\\_2opt\\_301624\\_7.pdf](http://www.michigan.gov/documents/deq/AS_06_2opt_301624_7.pdf)

**Annual Statistical Summary 7: Mineral Industry of Michigan 1966**; D. F. Klyce, 1968; Brine, Cement, Copper, Gravel, Gypsum, Iron, Lime, Peat, Salt, Sand, Silver, Stone, Sulfur  
[] [http://www.michigan.gov/documents/deq/AS\\_07opt\\_301627\\_7.pdf](http://www.michigan.gov/documents/deq/AS_07opt_301627_7.pdf)

**Annual Statistical Summary 8: Michigan's Oil and Gas Fields 1967**; G. D. Ells, 1968; gas, nomenclature, oil. oil fields, petroleum, production, Southern Peninsula counties, stratigraphy  
[] [http://www.michigan.gov/documents/deq/GIMDL-AS08\\_303261\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-AS08_303261_7.pdf)  
[] [http://www.michigan.gov/documents/deq/AS\\_08\\_1opt\\_301630\\_7.pdf](http://www.michigan.gov/documents/deq/AS_08_1opt_301630_7.pdf)  
[] [http://www.michigan.gov/documents/deq/AS\\_08\\_2opt\\_301631\\_7.pdf](http://www.michigan.gov/documents/deq/AS_08_2opt_301631_7.pdf)

**Annual Statistical Summary 9: Mineral Industry of Michigan 1967**; D. F. Clyce, 1969; Brine, Cement, Clay, Copper, Gravel, Gypsum, Iron, Lime, Peat, Salt, Sand, Silver, Stone, Sulfur  
[] [http://www.michigan.gov/documents/deq/AS\\_09\\_306018\\_7.pdf](http://www.michigan.gov/documents/deq/AS_09_306018_7.pdf)  
[] [http://www.michigan.gov/documents/deq/AS\\_09\\_opt\\_306020\\_7.pdf](http://www.michigan.gov/documents/deq/AS_09_opt_306020_7.pdf)

**Annual Statistical Summary 10: Michigan's Oil and Gas Fields 1968**; G. D. Ells, 1969; gas, nomenclature, oil. oil fields, petroleum, production, Southern Peninsula counties, stratigraphy  
[] [http://www.michigan.gov/documents/deq/GIMDL-AS10\\_303264\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-AS10_303264_7.pdf)  
[] [http://www.michigan.gov/documents/deq/AS\\_10\\_1opt\\_301632\\_7.pdf](http://www.michigan.gov/documents/deq/AS_10_1opt_301632_7.pdf)  
[] [http://www.michigan.gov/documents/deq/AS\\_10\\_2opt\\_301633\\_7.pdf](http://www.michigan.gov/documents/deq/AS_10_2opt_301633_7.pdf)

**Annual Statistical Summary 11: Mineral Industry of Michigan 1968**; D. F. Klyce, 1970; Brine, Cement, Clay, Copper, Gravel, Gypsum, Iron, Lime, Limestone, Peat, Salt, Sand, Silver, Stone, Sulfur  
[] [http://www.michigan.gov/documents/deq/AS\\_11opt\\_301635\\_7.pdf](http://www.michigan.gov/documents/deq/AS_11opt_301635_7.pdf)

**Annual Statistical Summary 12: Michigan's Oil and Gas Fields 1969**; G. D. Ells, 1970; gas, nomenclature, oil. oil fields, petroleum, production, Southern Peninsula counties, stratigraphy  
[] [http://www.michigan.gov/documents/deq/GIMDL-AS12\\_303266\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-AS12_303266_7.pdf)  
[] [http://www.michigan.gov/documents/deq/AS\\_12\\_1opt\\_301636\\_7.pdf](http://www.michigan.gov/documents/deq/AS_12_1opt_301636_7.pdf)  
[] [http://www.michigan.gov/documents/deq/AS\\_12\\_2opt\\_301637\\_7.pdf](http://www.michigan.gov/documents/deq/AS_12_2opt_301637_7.pdf)

**Annual Statistical Summary 13: Mineral Industry of Michigan 1969**; D. F. Klyce, 1971; Brine, Cement, Clay, Copper, Gravel, Gypsum, Iron, Lime, Peat, Salt, Sand, Shale, Silver, Stone, Sulfur  
[] [http://www.michigan.gov/documents/deq/AS\\_13opt\\_301638\\_7.pdf](http://www.michigan.gov/documents/deq/AS_13opt_301638_7.pdf)

**Annual Statistical Summary 14: Michigan's Oil and Gas Fields 1970**; G. D. Ells, 1971; gas, nomenclature, oil. oil fields, petroleum, production, Southern Peninsula counties, stratigraphy  
[] [http://www.michigan.gov/documents/deq/GIMDL-AS14\\_303268\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-AS14_303268_7.pdf)  
[] [http://www.michigan.gov/documents/deq/AS\\_14\\_1opt\\_301639\\_7.pdf](http://www.michigan.gov/documents/deq/AS_14_1opt_301639_7.pdf)  
[] [http://www.michigan.gov/documents/deq/AS\\_14\\_2opt\\_301640\\_7.pdf](http://www.michigan.gov/documents/deq/AS_14_2opt_301640_7.pdf)

**Annual Statistical Summary 15: Mineral Industry of Michigan 1970**; G. N. Broderick, 1971; Brine, Cement, Clay, Copper, Gravel, Gypsum, Iron, Lime, Marl, Peat, Salt, Sand, Silver, Stone, Sulfur  
[] [http://www.michigan.gov/documents/deq/AS\\_15opt\\_301642\\_7.pdf](http://www.michigan.gov/documents/deq/AS_15opt_301642_7.pdf)

**Annual Statistical Summary 16: Michigan's Oil and Gas Fields 1971**; G. D. Ells, 1972; gas, nomenclature, oil. oil fields, petroleum, production, Southern Peninsula counties, stratigraphy  
[] [http://www.michigan.gov/documents/deq/GIMDL-AS16\\_303270\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-AS16_303270_7.pdf)  
[] [http://www.michigan.gov/documents/deq/AS\\_16opt\\_314456\\_7.pdf](http://www.michigan.gov/documents/deq/AS_16opt_314456_7.pdf)

**Annual Statistical Summary 17: Mineral Industry of Michigan. 1971**; G. N. Broderick, 1973; Brine, Cement, Clay, Copper, Dolomite, Gravel, Gypsum, Iron, Lime, Peat, Salt, Sand, Silver, Stone, Sulfur  
[] [http://www.michigan.gov/documents/deq/GIMDL-AS17\\_303272\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-AS17_303272_7.pdf)  
[] [http://www.michigan.gov/documents/deq/AS\\_17opt\\_301644\\_7.pdf](http://www.michigan.gov/documents/deq/AS_17opt_301644_7.pdf)

**Annual Statistical Summary 18: Michigan's Oil and Gas Fields 1972**; G. D. Ells, 1973; gas, nomenclature, oil. oil fields, petroleum, production, Southern Peninsula counties, stratigraphy  
[] [http://www.michigan.gov/documents/deq/GIMDL-AS18\\_303274\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-AS18_303274_7.pdf)  
[] [http://www.michigan.gov/documents/deq/AS\\_18opt\\_301647\\_7.pdf](http://www.michigan.gov/documents/deq/AS_18opt_301647_7.pdf)

**Annual Statistical Summary 19: Mineral Industry of Michigan. 1972**; G. N. Broderick, 1974; Brine, Cement, Copper, Gravel, Gypsum, Iron, Lime, Limestone, Peat, Salt, Sand, Silver, Stone, Sulfur  
[] [http://www.michigan.gov/documents/deq/GIMDL-AS19\\_303276\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-AS19_303276_7.pdf)  
[] [http://www.michigan.gov/documents/deq/AS\\_19opt\\_301649\\_7.pdf](http://www.michigan.gov/documents/deq/AS_19opt_301649_7.pdf)

**Annual Statistical Summary 20: Michigan's Oil and Gas Fields 1973**; G. D. Ells, 1974; gas, nomenclature, oil. oil fields, petroleum, production, Southern Peninsula counties, stratigraphy  
[] [http://www.michigan.gov/documents/deq/GIMDL-AS20\\_303232\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-AS20_303232_7.pdf)  
[] [http://www.michigan.gov/documents/deq/AS\\_20opt\\_301656\\_7.pdf](http://www.michigan.gov/documents/deq/AS_20opt_301656_7.pdf)

**Annual Statistical Summary 21: Mineral Industry of Michigan 1973**; G. N. Broderick, 1976; Brine, Cement, Clay, Copper, Gravel, Gypsum, Iron, Lime, Peat, Salt, Sand, Silver, Stone, Sulfur  
[] [http://www.michigan.gov/documents/deq/GIMDL-AS21\\_303240\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-AS21_303240_7.pdf)  
[] [http://www.michigan.gov/documents/deq/AS\\_21opt\\_301658\\_7.pdf](http://www.michigan.gov/documents/deq/AS_21opt_301658_7.pdf)

**Annual Statistical Summary 22: Michigan's Oil and Gas Fields 1974**; G. D. Ells, 1975; gas, nomenclature, oil. oil fields, petroleum, production, Southern Peninsula counties, stratigraphy  
[] [http://www.michigan.gov/documents/deq/GIMDL-AS22\\_303242\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-AS22_303242_7.pdf)  
[] [http://www.michigan.gov/documents/deq/AS\\_22opt\\_301659\\_7.pdf](http://www.michigan.gov/documents/deq/AS_22opt_301659_7.pdf)

**Annual Statistical Summary 23: Mineral Industry of Michigan 1974**; E. C. Peterson, 1977; Brine, Cement, Coal, Copper, Gravel, Gypsum, Iron, Lime, Peat, Salt, Sand, Shale, Silver, Stone, Sulfur  
[] [http://www.michigan.gov/documents/deq/GIMDL-AS23\\_303243\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-AS23_303243_7.pdf)  
[] [http://www.michigan.gov/documents/deq/AS\\_23opt\\_301660\\_7.pdf](http://www.michigan.gov/documents/deq/AS_23opt_301660_7.pdf)

**Annual Statistical Summary 24: Michigan's Oil and Gas Fields 1975**; G. D. Ells, 1976; gas, nomenclature, oil. oil fields, petroleum, production, Southern Peninsula counties, stratigraphy  
[] [http://www.michigan.gov/documents/deq/AS\\_24opt\\_301661\\_7.pdf](http://www.michigan.gov/documents/deq/AS_24opt_301661_7.pdf)  
[] [http://www.michigan.gov/documents/deq/GIMDL-AS24\\_303244\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-AS24_303244_7.pdf)

**Annual Statistical Summary 25: Mineral Industry of Michigan 1975**; E. C. Peterson, E. A. Middlewood, 1978; Brine, Cement, Copper, Gravel, Gypsum, Iron, Lime, Salt, Sand, Silver, Stone, Sulfur

[\[\] http://www.michigan.gov/documents/deq/AS\\_25opt\\_301662\\_7.pdf](http://www.michigan.gov/documents/deq/AS_25opt_301662_7.pdf)

**Annual Statistical Summary 26: Michigan's Oil and Gas Fields 1976**; G. D. Ells, 1977; gas, nomenclature, oil. oil fields, petroleum, production, Southern Peninsula counties, stratigraphy

[\[\] http://www.michigan.gov/documents/deq/GIMDL-AS26\\_303245\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-AS26_303245_7.pdf)

[\[\] http://www.michigan.gov/documents/deq/AS\\_26opt\\_301663\\_7.pdf](http://www.michigan.gov/documents/deq/AS_26opt_301663_7.pdf)

**Annual Statistical Summary 27: Mineral Industry of Michigan 1976**; E. C. Peterson, E. A. Middlewood, 1977; This was the last "Mineral Industry of Michigan" series. Subsequent information was in the U. S. Bureau of Mines Mineral Yearbook which became the USGS Minerals Yearbook Brine, Cement, Copper, Gravel, Gypsum, Iron, Lime, Salt, Sand, Silver, Stone, Sulfur

[\[\] http://www.michigan.gov/documents/deq/AS\\_27opt\\_301664\\_7.pdf](http://www.michigan.gov/documents/deq/AS_27opt_301664_7.pdf)

**Annual Statistical Summary 28: Michigan's Oil and Gas Fields 1977**; G. D. Ells, 1978; gas, nomenclature, oil. oil fields, petroleum, production, Southern Peninsula counties, stratigraphy

[\[\] http://www.michigan.gov/documents/deq/GIMDL-AS28\\_303246\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-AS28_303246_7.pdf)

[\[\] http://www.michigan.gov/documents/deq/AS\\_28opt\\_301665\\_7.pdf](http://www.michigan.gov/documents/deq/AS_28opt_301665_7.pdf)

**Annual Statistical Summary 30: Michigan's Oil and Gas Fields 1978**; G. D. Ells, 1979; gas, nomenclature, oil. oil fields, petroleum, production, Southern Peninsula counties, stratigraphy

[\[\] http://www.michigan.gov/documents/deq/GIMDL-AS30\\_303247\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-AS30_303247_7.pdf)

[\[\] http://www.michigan.gov/documents/deq/AS\\_30opt\\_314474\\_7.pdf](http://www.michigan.gov/documents/deq/AS_30opt_314474_7.pdf)

**Annual Statistical Summary 32: Michigan's Oil and Gas Fields 1979**; D. M. Bricker, 1980; gas, nomenclature, oil. oil fields, petroleum, production, Southern Peninsula counties, stratigraphy

[\[\] http://www.michigan.gov/documents/deq/GIMDL-AS32\\_303248\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-AS32_303248_7.pdf)

[\[\] http://www.michigan.gov/documents/deq/AS\\_32opt\\_301667\\_7.pdf](http://www.michigan.gov/documents/deq/AS_32opt_301667_7.pdf)

**Annual Statistical Summary 34: Michigan's Oil and Gas Fields 1980**; D. M. Bricker, 1982; gas, nomenclature, oil. oil fields, petroleum, production, Southern Peninsula counties, stratigraphy

[\[\] http://www.michigan.gov/documents/deq/GIMDL-AS34\\_303252\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-AS34_303252_7.pdf)

**Annual Statistical Summary 36: Michigan's Oil and Gas Fields 1981**; D. M. Bricker, 1983; gas, nomenclature, oil. oil fields, petroleum, production, Southern Peninsula counties, stratigraphy

[\[\] http://www.michigan.gov/documents/deq/GIMDL-AS36\\_303254\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-AS36_303254_7.pdf)

[\[\] http://www.michigan.gov/documents/deq/AS\\_36opt\\_317052\\_7.pdf](http://www.michigan.gov/documents/deq/AS_36opt_317052_7.pdf)

**Annual Statistical Summary 38: Michigan's Oil and Gas Fields 1982**; D. M. Bricker, 1984; This was the last Annual Statistical Summary of Michigan's Oil and Gas Fields. gas, nomenclature, oil. oil fields, petroleum, production, Southern Peninsula counties, stratigraphy

[\[\] http://www.michigan.gov/documents/deq/GIMDL-AS38\\_303255\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-AS38_303255_7.pdf)

[\[\] http://www.michigan.gov/documents/deq/AS\\_38opt\\_301669\\_7.pdf](http://www.michigan.gov/documents/deq/AS_38opt_301669_7.pdf)

[\[\] http://www.michigan.gov/documents/deq/AS\\_38\\_Field\\_Map\\_301670\\_7.pdf](http://www.michigan.gov/documents/deq/AS_38_Field_Map_301670_7.pdf)

**Report of Cumulative Oil Production in the State of Michigan to December 31, 1950**; Oil & Gas Association, 1951; Not part of the Annual Statistical Summary series. Report of oil production for the years 1945 to 1950, gas, nomenclature, oil. oil fields, petroleum, production, Southern Peninsula counties, stratigraphy

[\[\] http://www.michigan.gov/documents/deq/OilProduction\\_1950\\_Part1opt\\_304659\\_7.pdf](http://www.michigan.gov/documents/deq/OilProduction_1950_Part1opt_304659_7.pdf)

[\[\] http://www.michigan.gov/documents/deq/OilProduction\\_1950\\_Part2opt\\_304660\\_7.pdf](http://www.michigan.gov/documents/deq/OilProduction_1950_Part2opt_304660_7.pdf)

[\[\] http://www.michigan.gov/documents/deq/OilProduction\\_1950\\_Part3opt\\_304661\\_7.pdf](http://www.michigan.gov/documents/deq/OilProduction_1950_Part3opt_304661_7.pdf)

[\[\] http://www.michigan.gov/documents/deq/OilProduction\\_1950\\_Part4opt\\_304662\\_7.pdf](http://www.michigan.gov/documents/deq/OilProduction_1950_Part4opt_304662_7.pdf)

**Oil and Gas Statistical Summary 84: Michigan's Oil and Gas Fields, 1983-1984**; D. M. Bricker, 1987; Not part of the Annual Statistical Summary series but it is included here because it relates closely to the series. gas, nomenclature, oil. oil fields, petroleum, production, Southern Peninsula counties, stratigraphy

[\[\] http://www.michigan.gov/documents/deq/GIMDL-AS1983\\_303231\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-AS1983_303231_7.pdf)

## [4] Biennial Report

*"Biennial Reports" have been published under a variety of forms and formats since Douglass Houghton's first survey. Between 1914 and 1921 they were a part of the Publication series. In 1921, when the Geological Survey became a part of the Michigan Department of Conservation, Biennial Reports were published as a part of the Biennial Report of the Department of Conservation then as a part of the Biennial Report of the Department of Natural Resources.*

**First Biennial Report of the Progress of the Geological Survey of Michigan... 1861. Part 1. Geology**; A. Winchell, 1861;

[\[\] http://www.michigan.gov/documents/deq/BR\\_01\\_Part1\\_312701\\_7.pdf](http://www.michigan.gov/documents/deq/BR_01_Part1_312701_7.pdf)

[\[\] http://www.michigan.gov/documents/deq/BR\\_01\\_Part2\\_312702\\_7.pdf](http://www.michigan.gov/documents/deq/BR_01_Part2_312702_7.pdf)

[\[\] http://www.michigan.gov/documents/deq/BR\\_01\\_Part3\\_312703\\_7.pdf](http://www.michigan.gov/documents/deq/BR_01_Part3_312703_7.pdf)

[\[\] http://www.michigan.gov/documents/deq/BR\\_01\\_Mapopt\\_312704\\_7.pdf](http://www.michigan.gov/documents/deq/BR_01_Mapopt_312704_7.pdf)

**Eleventh Biennial Report 1941-1942**

[\[\] http://www.michigan.gov/documents/deq/GIMDL-BR11\\_301927\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-BR11_301927_7.pdf)

**Seventeenth Biennial Report 1953-1954**

[\[\] http://www.michigan.gov/documents/deq/GIMDL-BR17\\_301928\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-BR17_301928_7.pdf)

**Nineteenth Biennial Report 1957-1958**

[\[\] http://www.michigan.gov/documents/deq/GIMDL-BR19\\_301929\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-BR19_301929_7.pdf)

**Twenty-Second Biennial Report 1963-1964**

[\[\] http://www.michigan.gov/documents/deq/GIMDL-BR22\\_301930\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-BR22_301930_7.pdf)

**Twenty-Fourth Biennial Report 1967-1968**

[\[\] http://www.michigan.gov/documents/deq/BR\\_24\\_306024\\_7.pdf](http://www.michigan.gov/documents/deq/BR_24_306024_7.pdf)

[\[\] http://www.michigan.gov/documents/deq/BR\\_24\\_opt\\_306026\\_7.pdf](http://www.michigan.gov/documents/deq/BR_24_opt_306026_7.pdf)

**Twenty-Fifth Biennial Report 1969-1970**

[\[\] http://www.michigan.gov/documents/deq/BR\\_25\\_306028\\_7.pdf](http://www.michigan.gov/documents/deq/BR_25_306028_7.pdf)

**Twenty-Fifth Biennial Report 1969-1970**

[\[\] http://www.michigan.gov/documents/deq/BR\\_25\\_opt\\_306029\\_7.pdf](http://www.michigan.gov/documents/deq/BR_25_opt_306029_7.pdf)

**Twenty-Sixth Biennial Report 1971-1972**

[\[\] http://www.michigan.gov/documents/deq/BR\\_26\\_306030\\_7.pdf](http://www.michigan.gov/documents/deq/BR_26_306030_7.pdf)

**Twenty-Sixth Biennial Report 1971-1972**

[\[\] http://www.michigan.gov/documents/deq/BR\\_26\\_opt\\_306031\\_7.pdf](http://www.michigan.gov/documents/deq/BR_26_opt_306031_7.pdf)

## Twenty-Seventh Biennial Report 1973-1974

[http://www.michigan.gov/documents/deq/BR\\_27\\_306032\\_7.pdf](http://www.michigan.gov/documents/deq/BR_27_306032_7.pdf)

## Twenty-Seventh Biennial Report 1973-1974

[http://www.michigan.gov/documents/deq/BR\\_27\\_opt\\_306033\\_7.pdf](http://www.michigan.gov/documents/deq/BR_27_opt_306033_7.pdf)

### [5] Bulletin

*"Bulletins" are comprehensive reports, usually technical in nature, though some are prepared in a more popular style. This series began publication in 1964. New numbers are issued occasionally.*

**Bulletin 1: Our Rock Riches;** R. W. Kelley, 1964; With contributions from C. A. Arnold, J. Boyd, E. T. Carlson, W. L. Daoust, G. D. Ellis, H. J. Hardenberg, R. E. Ives, E. A. Kirkby, N. X. Lyons, H. M. Martin, H. M. Martin, W. Palmer, F. G. Pardee, C. M. Riley, K. Spiroff, S. W. Sundeen and J. R. Van Pelt. Brine, Cement, Clay Pipe, Coal Basin, Copper, Dolomite, Economics, Gas Storage, Geologic Cross Section, Geologic History, Geologic Map, Geologic Time Scale, Gold Mines, Gravel, Gypsum, Iron Ore, Limestone, Mineral Resources, Oil and Gas, Oil and Gas fields, Oil formations, Production, Salt, Sandstones, Stratigraphic chart

[http://www.michigan.gov/documents/deq/GIMDL-BU01\\_216118\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-BU01_216118_7.pdf)

[http://www.michigan.gov/documents/deq/Bulletin\\_1opt\\_303885\\_7.pdf](http://www.michigan.gov/documents/deq/Bulletin_1opt_303885_7.pdf)

**Bulletin 2: Rocks and Minerals of Michigan;** O. F. Poindexter, H. M. Martin, S. G. Bergquist, 1971; All counties, Brine, Clay, Coal, Copper, Dolomite, Fossils, Gas, Gems, Glacial Drift, Gold, Gravel, Gypsum, Igneous Rocks, Iron, Limestone, Marl, Metamorphic Rocks, Meteorites, Minerals, Oil, Peat, Petroleum, Rocks, Salt, Sand, Sandstone, Sedimentary Rocks, Shale, Silver, Soil, Stone, Sulfur, Water. Many earlier versions exist dating from 1936 to 1971 including Publication 42 from 1939 to 1951 and subsequently as Bulletin 2 in 1965.

[http://www.michigan.gov/documents/deq/GIMDL-GGRMMI\\_302370\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-GGRMMI_302370_7.pdf)

**Bulletin 03: Michigan's Au Sable River - Today and Tomorrow;** G. Hendrickson, 1966; Illustrated by James M. Campbell done in cooperation with the U. S. Geological Survey

Crawford Co., Kalkaska Co., Missaukee Co., Montmorency Co., Ogemaw Co., Oscoda Co., Roscommon Co., Water

[http://www.michigan.gov/documents/deq/BU\\_03\\_313138\\_7.pdf](http://www.michigan.gov/documents/deq/BU_03_313138_7.pdf)

[http://www.michigan.gov/documents/deq/BU\\_03\\_Aopt\\_313139\\_7.pdf](http://www.michigan.gov/documents/deq/BU_03_Aopt_313139_7.pdf)

[http://www.michigan.gov/documents/deq/BU\\_03\\_Bopt\\_313140\\_7.pdf](http://www.michigan.gov/documents/deq/BU_03_Bopt_313140_7.pdf)

**Bulletin 04: The Glacial Lakes around Michigan;** W. R. Farrand, 1988; A good perspective on the ice age history that made Michigan what it is today. All counties, Glaciers, Great Lakes, Landforms

[http://www.michigan.gov/documents/deq/GIMDL-BU04\\_216119\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-BU04_216119_7.pdf)

[http://www.michigan.gov/documents/deq/BU\\_04opt\\_314532\\_7.pdf](http://www.michigan.gov/documents/deq/BU_04opt_314532_7.pdf)

Full page illustrations for student use and reference

[http://www.michigan.gov/documents/deq/GIMDL-BU04pixs\\_216120\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-BU04pixs_216120_7.pdf)

**Bulletin 05: Meteorites of Michigan;** V. Chamberlain, 1968; Michigan has been visited by extraterrestrials All counties, Asteroids, Comets, Meteors, Meteorites

[http://www.michigan.gov/documents/deq/BU05\\_301713\\_7.pdf](http://www.michigan.gov/documents/deq/BU05_301713_7.pdf)

[http://www.michigan.gov/documents/deq/BU\\_05opt\\_314533\\_7.pdf](http://www.michigan.gov/documents/deq/BU_05opt_314533_7.pdf)

**Bulletin 06: Mineralogy of Michigan Revised;** G. Robinson, 2004; Based on earlier version by E. W. Heinrich. Major revision, color illustrations, expanded Mineral occurrences and bibliography, published by A. E. Seaman Museum, Michigan Technological University. All counties. Brine, Cement, Clay, Coal, Copper, Dolomite, Gas, Gold, Gravel, Gypsum, Iron, Lime, Limestone, Marl, Oil, Peat, Salt, Sand, Sandstone, Shale, Silver, Stone, Sulfur, Uranium; Link is to The Mineral Museum of Michigan at MTU

[http://www.museum.mtu.edu/online\\_gift\\_shop/books.htm](http://www.museum.mtu.edu/online_gift_shop/books.htm)

**Bulletin 07: Subsurface Stratigraphy of Cambrian Rocks in the Southern Peninsula of Michigan:**

**Michigan Basin;** R. L. Milstein, 1989; Cambrian, Dolomite, Gas, Limestone, Nomenclature, Oil, Sandstone, Shale, Stratigraphy

[http://www.michigan.gov/documents/deq/GIMDL-BU07\\_301931\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-BU07_301931_7.pdf)

[http://www.michigan.gov/documents/deq/BU\\_07opt\\_314535\\_7.pdf](http://www.michigan.gov/documents/deq/BU_07opt_314535_7.pdf)

**Bulletin 08: Stratigraphic Lexicon for Michigan;** P. A. Catacosinos, 2001; A comprehensive compilation of stratigraphic terms with accompanying stratigraphic chart All counties, Nomenclature, Stratigraphy

[http://www.michigan.gov/documents/deq/GIMDL-BU08\\_216121\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-BU08_216121_7.pdf)

**Bulletin 08: Chart Stratigraphic Nomenclature for**

**Michigan;** P. A. Catacosinos, 2001; 1 colored sheet 17" by 22"

folded to 8.5" by 11", included as part of

Bulletin 8 All counties, Nomenclature, Stratigraphy

[http://www.michigan.gov/documents/deq/2000CHRT\\_301468\\_7.PDF](http://www.michigan.gov/documents/deq/2000CHRT_301468_7.PDF)

### [6] Circular

*Each "Circular" is a short technical or semi-technical paper. Most are either bibliographic in nature or are concerned with the various laws which the Geological Survey enforces. Others give mine; statistics or discuss subjects such as seismic disturbances. The series began publication in 1963.*

**Circular 1: Michigan Geological Sourcebook;** W. Kelley, E. A. Kirkby, 1963; All counties, map

[http://www.michigan.gov/documents/deq/GIMDL-CR01\\_301959\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-CR01_301959_7.pdf)

[http://www.michigan.gov/documents/deq/CR\\_01opt\\_303892\\_7.pdf](http://www.michigan.gov/documents/deq/CR_01opt_303892_7.pdf)

**Circular 2: Geologic Contributions to Michigan**

**Conservation;** E. A. Kirkby, 1964; Classified and Annotated List, 1935-1964

[http://www.michigan.gov/documents/deq/GIMDL-CR02\\_301971\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-CR02_301971_7.pdf)

[http://www.michigan.gov/documents/deq/CR\\_02opt\\_303896\\_7.pdf](http://www.michigan.gov/documents/deq/CR_02opt_303896_7.pdf)

**Circular 3: Mineral Resources Depletion or**

**Deterioration?;** W. Been, 1966; All counties, Iron, Salt, Water

[http://www.michigan.gov/documents/deq/GIMDL-CR03\\_216122\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-CR03_216122_7.pdf)

[http://www.michigan.gov/documents/deq/CR\\_03opt\\_303897\\_7.pdf](http://www.michigan.gov/documents/deq/CR_03opt_303897_7.pdf)

**Circular 4: Outline of Procedures for Determining**

**Gas-Oil Ratios and Subsurface Press;** 1966

[http://www.michigan.gov/documents/deq/CR\\_04opt\\_303908\\_7.pdf](http://www.michigan.gov/documents/deq/CR_04opt_303908_7.pdf)

**Circular 5: Sources of Geological Information in Michigan;** R. W. Kelley, E. A. Kirkby, 1967;

[http://www.michigan.gov/documents/deq/GIMDL-CR05\\_301977\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-CR05_301977_7.pdf)

[http://www.michigan.gov/documents/deq/CR\\_05opt\\_303910\\_7.pdf](http://www.michigan.gov/documents/deq/CR_05opt_303910_7.pdf)

### **Circular 6: Role of Geology in State Government;**

G. E. Eddy, 1966;

[] [http://www.michigan.gov/documents/deq/GIMDL-CR06\\_216123\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-CR06_216123_7.pdf)

[] [http://www.michigan.gov/documents/deq/CR\\_06opt\\_303912\\_7.pdf](http://www.michigan.gov/documents/deq/CR_06opt_303912_7.pdf)

### **Circular 7: Index to Michigan Geologic Theses;**

E. A. Kirkby, 1967;

[] [http://www.michigan.gov/documents/deq/GIMDL-CR07\\_301978\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-CR07_301978_7.pdf)

[] [http://www.michigan.gov/documents/deq/CR\\_07opt\\_314540\\_7.pdf](http://www.michigan.gov/documents/deq/CR_07opt_314540_7.pdf)

### **Circular 8: Geologic Map Index of Michigan 1843-1962;**

E. A. Kirkby, 1970;

[] [http://www.michigan.gov/documents/deq/CR\\_08\\_304325\\_7.pdf](http://www.michigan.gov/documents/deq/CR_08_304325_7.pdf)

[] [http://www.michigan.gov/documents/deq/CR\\_08opt\\_303923\\_7.pdf](http://www.michigan.gov/documents/deq/CR_08opt_303923_7.pdf)

### **Circular 9: See Circular 15**

### **Circular 10: Mineral Well Act and General Rules;**

Geological Survey; Part 625, Mineral Wells regulations

[] [http://www.michigan.gov/documents/deq/ogs-mineral-wells-nrepa-part625\\_261319\\_7.pdf](http://www.michigan.gov/documents/deq/ogs-mineral-wells-nrepa-part625_261319_7.pdf)

### **Part 625, Mineral Wells web page**

[] [http://www.michigan.gov/deq/0,1607,7-135-3311\\_4111\\_4230--,00.htm](http://www.michigan.gov/deq/0,1607,7-135-3311_4111_4230--,00.htm)

### **Circular 11: Michigan's Industrial Sand Resources;**

J. D. Lewis, 1975;

[] [http://www.michigan.gov/documents/deq/GIMDL-CR11\\_216124\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-CR11_216124_7.pdf)

[] [http://www.michigan.gov/documents/deq/CR\\_11opt\\_304327\\_7.pdf](http://www.michigan.gov/documents/deq/CR_11opt_304327_7.pdf)

### **Circular 12: Michigan Iron Ore Shipments**

**Through 1974;** R. C. Reed, 1975; Iron ore production data

Dickinson Co., Gogebic Co., Iron, Iron Co., Marquette Co., Menominee Co

[] [http://www.michigan.gov/documents/deq/GIMDL-CR12\\_216125\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-CR12_216125_7.pdf)

[] [http://www.michigan.gov/documents/deq/Circular12\\_301725\\_7.pdf](http://www.michigan.gov/documents/deq/Circular12_301725_7.pdf)

### **Circular 13: Mine Reclamation Act and Rules 1972;**

Geological Survey; Part 631 Mine Reclamation Act statute

[] <http://www.deq.state.mi.us/documents/deq-ogs-land-mining-metallicmining-lawsandrules-Part631.pdf>

### **Circular 14: Seismic Disturbances in Michigan;**

D. M. Bricker, 1977; An introduction with description of causes and

types of earthquake activity, maps. 2 tables All counties, Earth Quakes

[] [http://www.michigan.gov/documents/deq/GIMDL-CR14\\_216127\\_7.PDF](http://www.michigan.gov/documents/deq/GIMDL-CR14_216127_7.PDF)

[] [http://www.michigan.gov/documents/deq/Circular14\\_301726\\_7.pdf](http://www.michigan.gov/documents/deq/Circular14_301726_7.pdf)

### **Circular 15: Michigan's Oil and Gas Regulations;**

Geological Survey; Part 615 Oil and gas regulations

[] [http://www.michigan.gov/documents/deq/ogs-oilandgas-regs\\_263032\\_7.pdf](http://www.michigan.gov/documents/deq/ogs-oilandgas-regs_263032_7.pdf)

Part 615 Oiland Gas web site

[] [http://www.michigan.gov/deq/0,1607,7-135-3311\\_4111\\_4231-9245--,00.html](http://www.michigan.gov/deq/0,1607,7-135-3311_4111_4231-9245--,00.html)

### **Circular 16: Annotated List of the Publications of the Michigan Geological Survey 1838-1977;**

W. W. Currie, 1978; map, appendix and indices All counties

[] [http://www.michigan.gov/documents/deq/GIMDL-CR16\\_216128\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-CR16_216128_7.pdf)

[] [http://www.michigan.gov/documents/deq/CR\\_16opt\\_309990\\_7.pdf](http://www.michigan.gov/documents/deq/CR_16opt_309990_7.pdf)

### **Circular 17: Blowout Prevention Equipment, Use and Testing;**

D. T. Bertalan, 1979; Illustrated guide to the use of this important tool. Gas, Oil, Safety

[] [http://www.michigan.gov/documents/deq/CR17\\_301739\\_7.pdf](http://www.michigan.gov/documents/deq/CR17_301739_7.pdf)

[] [http://www.michigan.gov/documents/deq/CR\\_17opt\\_304329\\_7.pdf](http://www.michigan.gov/documents/deq/CR_17opt_304329_7.pdf)

### **Circular 18: State of Michigan Designated and**

**Critical Sand Dune Areas;** Geological Survey, 2002; Maps of the designated sand dune areas in an 8.5" by 14" format. Sand Dunes, Southern Peninsula counties

[] [http://www.michigan.gov/documents/deq/CR18\\_301744\\_7.pdf](http://www.michigan.gov/documents/deq/CR18_301744_7.pdf)

### **Circular 19: Michigan's Sand Dune Mining and**

**Administrative Rules;** Geological Survey, 2004; Part637 Sand Dune Mining regulations Sand Dunes, Southern Peninsula counties

[] [http://www.michigan.gov/documents/deq/ogs-sdm-Part-637\\_263371\\_7.pdf](http://www.michigan.gov/documents/deq/ogs-sdm-Part-637_263371_7.pdf)

### **Sand Dune Mining web site**

[] [http://www.michigan.gov/deq/0,1607,7-135-3311\\_4114\\_4235--,00.html](http://www.michigan.gov/deq/0,1607,7-135-3311_4114_4235--,00.html)

---

## **[7] Coal Mine Maps**

*"Coal Mine Maps" show known Coal Mine locations. Maps for the Michigan 'Coal Basin' counties of; Bay, Calhoun, Eaton, Genesee, Ingham, Jackson, Midland, Saginaw, Shiawassee, and Tuscola counties are available. See also USBM Open File Report 76*

### **Map of the coal basin in Michigan**

[] [http://www.michigan.gov/documents/deq/GIMDL-COAL-BASIN\\_307760\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-COAL-BASIN_307760_7.pdf)

### **Coal Map: Bay County Coal Mine**

[] [http://www.michigan.gov/documents/deq/GIMDL-CMBAYA\\_301932\\_7.PDF](http://www.michigan.gov/documents/deq/GIMDL-CMBAYA_301932_7.PDF)

[] [http://www.michigan.gov/documents/deq/BayA\\_301704\\_7.pdf](http://www.michigan.gov/documents/deq/BayA_301704_7.pdf)

[] [http://www.michigan.gov/documents/deq/BayB\\_301706\\_7.pdf](http://www.michigan.gov/documents/deq/BayB_301706_7.pdf)

### **Map: Calhoun County Coal Mines**

[] [http://www.michigan.gov/documents/deq/cal-coalMines\\_301719\\_7.pdf](http://www.michigan.gov/documents/deq/cal-coalMines_301719_7.pdf)

[] [http://www.michigan.gov/documents/deq/Calhoun\\_County\\_coal\\_301721\\_7.pdf](http://www.michigan.gov/documents/deq/Calhoun_County_coal_301721_7.pdf)

[] [http://www.michigan.gov/documents/deq/GIMDL-CMCALB\\_301937\\_7.PDF](http://www.michigan.gov/documents/deq/GIMDL-CMCALB_301937_7.PDF)

### **Coal Map: Eaton County Coal Mine**

[] [http://www.michigan.gov/documents/deq/GIMDL-CMEATA\\_301938\\_7.PDF](http://www.michigan.gov/documents/deq/GIMDL-CMEATA_301938_7.PDF)

[] [http://www.michigan.gov/documents/deq/GIMDL-CMEATB\\_301939\\_7.PDF](http://www.michigan.gov/documents/deq/GIMDL-CMEATB_301939_7.PDF)

### **Coal Map: Genesee County Coal Mine**

[] [http://www.michigan.gov/documents/deq/GIMDL-CMGENA\\_301941\\_7.PDF](http://www.michigan.gov/documents/deq/GIMDL-CMGENA_301941_7.PDF)

[] [http://www.michigan.gov/documents/deq/GIMDL-CMGENB\\_301942\\_7.PDF](http://www.michigan.gov/documents/deq/GIMDL-CMGENB_301942_7.PDF)

### **Coal Map: Ingham County Coal Mine**

[] [http://www.michigan.gov/documents/deq/GIMDL-CMINGB\\_301943\\_7.PDF](http://www.michigan.gov/documents/deq/GIMDL-CMINGB_301943_7.PDF)

### **Coal Map: Jackson County Coal Mine**

[] [http://www.michigan.gov/documents/deq/GIMDL-CMJACA\\_301944\\_7.PDF](http://www.michigan.gov/documents/deq/GIMDL-CMJACA_301944_7.PDF)

[] [http://www.michigan.gov/documents/deq/GIMDL-CMJACB\\_301945\\_7.PDF](http://www.michigan.gov/documents/deq/GIMDL-CMJACB_301945_7.PDF)

### **Coal Map: Midland and Bay counties**

[] [http://www.michigan.gov/documents/deq/MID\\_301816\\_7.pdf](http://www.michigan.gov/documents/deq/MID_301816_7.pdf)

[] [http://www.michigan.gov/documents/deq/GIMDL-CMMIDA\\_301949\\_7.PDF](http://www.michigan.gov/documents/deq/GIMDL-CMMIDA_301949_7.PDF)

[] [http://www.michigan.gov/documents/deq/GIMDL-CMMIDB\\_301950\\_7.PDF](http://www.michigan.gov/documents/deq/GIMDL-CMMIDB_301950_7.PDF)

### **Coal Map: Saginaw County Coal Mine**

[] [http://www.michigan.gov/documents/deq/GIMDL-CMSAGA\\_301951\\_7.PDF](http://www.michigan.gov/documents/deq/GIMDL-CMSAGA_301951_7.PDF)

[] [http://www.michigan.gov/documents/deq/GIMDL-CMSAGB\\_301952\\_7.PDF](http://www.michigan.gov/documents/deq/GIMDL-CMSAGB_301952_7.PDF)

[] [http://www.michigan.gov/documents/deq/GIMDL-CMSAGC\\_301953\\_7.PDF](http://www.michigan.gov/documents/deq/GIMDL-CMSAGC_301953_7.PDF)



## Coal Map: Shiawassee County Coal Mine

[] [http://www.michigan.gov/documents/deq/GIMDL-CMSHIA\\_301955\\_7.PDF](http://www.michigan.gov/documents/deq/GIMDL-CMSHIA_301955_7.PDF)  
[] [http://www.michigan.gov/documents/deq/GIMDL-CMSHIB\\_301956\\_7.PDF](http://www.michigan.gov/documents/deq/GIMDL-CMSHIB_301956_7.PDF)

## Coal Map: Tuscola County Coal Mine

[] [http://www.michigan.gov/documents/deq/GIMDL-CMTUSA\\_301957\\_7.PDF](http://www.michigan.gov/documents/deq/GIMDL-CMTUSA_301957_7.PDF)  
[] [http://www.michigan.gov/documents/deq/GIMDL-CMTUSB\\_301958\\_7.PDF](http://www.michigan.gov/documents/deq/GIMDL-CMTUSB_301958_7.PDF)

## List of available Coal Maps.

[] [http://www.michigan.gov/documents/deq/GIMDL-COAL-MINE-MAPS\\_307762\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-COAL-MINE-MAPS_307762_7.pdf)

## Part 635, "Michigan's Coal Mine Reclamation Regulations," Natural Resources and Environmental Protection Act (NREPA), Act No. 451 of the Public Acts of 1994, as amended

[] [http://www.michigan.gov/documents/deq/ogs-GIMDL-coal-nrepa-part635\\_310235\\_7.pdf](http://www.michigan.gov/documents/deq/ogs-GIMDL-coal-nrepa-part635_310235_7.pdf)

## Magnitude and Quality of Michigan Coal

**Reserves;** J. Kalliokoski, E. J. Welch, 1976; Coal, Southern Peninsula counties

[] [http://www.michigan.gov/documents/deq/deq-ogs-gimdl-USBMOF76\\_311907\\_7.pdf](http://www.michigan.gov/documents/deq/deq-ogs-gimdl-USBMOF76_311907_7.pdf)  
[] [http://www.michigan.gov/documents/deq/GIMDL-COAL-MAPS-USBM76\\_307761\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-COAL-MAPS-USBM76_307761_7.pdf)

## [8] Contribution to Michigan Geology

*"Contributions to Michigan Geology" are reports that have been submitted electronically. Illustrations are scanned and incorporated in the final product. The resulting product is near publication quality. Complete editorial standards have not been applied.*

## Contribution to Michigan Geology 90-01: Precambrian Geology of the Penny Lake Area, Marquette Greenstone...; James R. Small and Theodore J. Bornhorst, 1990;

[] [http://www.michigan.gov/documents/deq/CMG\\_90-1\\_313141\\_7.pdf](http://www.michigan.gov/documents/deq/CMG_90-1_313141_7.pdf)  
[] [http://www.michigan.gov/documents/deq/CMG\\_90-1\\_opt\\_313143\\_7.pdf](http://www.michigan.gov/documents/deq/CMG_90-1_opt_313143_7.pdf)

## Contribution to Michigan Geology 90-2: Platinum;

T. J. Bornhorst, D. A. Baxter, 1990; Dickinson Co., Geochemistry, Geological Environments, Gogebic Co., Hydrothermal Deposits, Keweenaw Peninsula, Kiernan Sills, Marquette Trough, Mineralization, Nickel-Copper Deposits, Northern Complex, Platinum Group Element Deposits, Placer Deposits, Selenium Data, Southern Complex, Western Northern Peninsula counties

[] [http://www.michigan.gov/documents/deq/CMG\\_90\\_02\\_Platinum\\_2\\_301732\\_7.pdf](http://www.michigan.gov/documents/deq/CMG_90_02_Platinum_2_301732_7.pdf)  
[] [http://www.michigan.gov/documents/deq/CMG\\_90\\_02\\_Platinum\\_303886\\_7.pdf](http://www.michigan.gov/documents/deq/CMG_90_02_Platinum_303886_7.pdf)

## Contribution to Michigan Geology 90-03: Geology of the Boise Creek Area, Marquette Greenstone Belt, Michigan

[] [http://www.michigan.gov/documents/deq/CMG\\_90-3\\_313145\\_7.pdf](http://www.michigan.gov/documents/deq/CMG_90-3_313145_7.pdf)  
[] [http://www.michigan.gov/documents/deq/CMG\\_90-3\\_opt\\_313146\\_7.pdf](http://www.michigan.gov/documents/deq/CMG_90-3_opt_313146_7.pdf)

## Contribution to Michigan Geology 90-04: Port Huron Study, Historical Development of Hydrocarbons and Subsequent Problems; W. Danyluk,

[] [http://www.michigan.gov/documents/deq/CMG\\_90-4\\_313148\\_7.pdf](http://www.michigan.gov/documents/deq/CMG_90-4_313148_7.pdf)  
[] [http://www.michigan.gov/documents/deq/CMG\\_90-4\\_opt\\_313150\\_7.pdf](http://www.michigan.gov/documents/deq/CMG_90-4_opt_313150_7.pdf)  
[] [http://www.michigan.gov/documents/deq/CMG\\_90-4\\_maps\\_313159\\_7.pdf](http://www.michigan.gov/documents/deq/CMG_90-4_maps_313159_7.pdf)

## Contribution to Michigan Geology 92 1:

**Michigan's Copper Country;** E. W. Courter, 1992; History of Michigan's copper country and the development of copper in Michigan Copper, History, Keweenaw Peninsula, Western Northern Peninsula,

[] [http://www.michigan.gov/documents/deq/CMG92\\_301731\\_7.pdf](http://www.michigan.gov/documents/deq/CMG92_301731_7.pdf)

## Contribution to Michigan Geology 94 1:

**Michilic Time Line;** Midwest Mineralogical and Lapidary Society, 1994; Combine Michigan and geologic and you get "Michilic." Learn about fossils with a Michigan perspective and how they have changed through geologic time. All counties, fossils, geologic time Students Teachers

[] [http://www.michigan.gov/documents/deq/GIMDL-CMG94\\_307757\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-CMG94_307757_7.pdf)  
Full page 8. 5" by 11" versions of just the illustrations, black and white All counties, fossils, geologic time Students Teachers

[] [http://www.michigan.gov/documents/deq/GIMDL-CMG94PIX\\_307758\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-CMG94PIX_307758_7.pdf)

## [9] Early Reports

*The earliest reports of the Michigan Geological Survey under Douglass Houghton were made directly to the State Legislature. They were issued as 25 legislative documents in the House and Senate Journals of the Michigan Legislature between 1838 and 1844. The work which was completed following Houghton's death was similarly published in Joint Documents of the House and Senate in 1846.*

## Report of the State Geologist 1838

[House No. 14]; Douglass Houghton, 1838; House Document No. 14

[] [http://www.michigan.gov/documents/deq/1838\\_House\\_14\\_306036\\_7.pdf](http://www.michigan.gov/documents/deq/1838_House_14_306036_7.pdf)  
[] [http://www.michigan.gov/documents/deq/1838\\_House\\_14\\_opt\\_306037\\_7.pdf](http://www.michigan.gov/documents/deq/1838_House_14_opt_306037_7.pdf)

## Annual Report of the State Geologist 1839

[House No. 23]; Douglass Houghton, 1839; House Document No. 23. p. 380-507. 1839; Senate Document No. 12. p. 264-391, 1839

[] [http://www.michigan.gov/documents/deq/1839\\_House\\_23\\_306861\\_7.pdf](http://www.michigan.gov/documents/deq/1839_House_23_306861_7.pdf)  
[] [http://www.michigan.gov/documents/deq/1839\\_House\\_23A\\_opt\\_306864\\_7.pdf](http://www.michigan.gov/documents/deq/1839_House_23A_opt_306864_7.pdf)  
[] [http://www.michigan.gov/documents/deq/1839\\_House\\_23B\\_opt\\_306866\\_7.pdf](http://www.michigan.gov/documents/deq/1839_House_23B_opt_306866_7.pdf)

## Annual Report of the State Geologist 1840

[House No. 8]; Douglass Houghton, 1840;

[] [http://www.michigan.gov/documents/deq/1840\\_House\\_8\\_306038\\_7.pdf](http://www.michigan.gov/documents/deq/1840_House_8_306038_7.pdf)  
[] [http://www.michigan.gov/documents/deq/1840\\_House\\_8\\_opt\\_306039\\_7.pdf](http://www.michigan.gov/documents/deq/1840_House_8_opt_306039_7.pdf)  
[] [http://www.michigan.gov/documents/deq/1840\\_Senate\\_8\\_306040\\_7.pdf](http://www.michigan.gov/documents/deq/1840_Senate_8_306040_7.pdf)  
[] [http://www.michigan.gov/documents/deq/1840\\_Senate\\_8\\_opt\\_306041\\_7.pdf](http://www.michigan.gov/documents/deq/1840_Senate_8_opt_306041_7.pdf)

## Annual Report of the State Geologist 1841

[Joint Doc. 11]; Douglass Houghton, 1841;

[] [http://www.michigan.gov/documents/deq/1841\\_Joint\\_11\\_306047\\_7.pdf](http://www.michigan.gov/documents/deq/1841_Joint_11_306047_7.pdf)  
[] [http://www.michigan.gov/documents/deq/1841\\_Joint\\_11A\\_opt\\_306048\\_7.pdf](http://www.michigan.gov/documents/deq/1841_Joint_11A_opt_306048_7.pdf)  
[] [http://www.michigan.gov/documents/deq/1841\\_Joint\\_11B\\_opt\\_306049\\_7.pdf](http://www.michigan.gov/documents/deq/1841_Joint_11B_opt_306049_7.pdf)

## Annual Report of the State Geologist 1841

[House No. 27]; Douglass Houghton, 1841;

[] [http://www.michigan.gov/documents/deq/1841\\_House\\_27\\_306042\\_7.pdf](http://www.michigan.gov/documents/deq/1841_House_27_306042_7.pdf)  
[] [http://www.michigan.gov/documents/deq/1841\\_House\\_27A\\_opt\\_306044\\_7.pdf](http://www.michigan.gov/documents/deq/1841_House_27A_opt_306044_7.pdf)  
[] [http://www.michigan.gov/documents/deq/1841\\_House\\_27B\\_opt\\_306046\\_7.pdf](http://www.michigan.gov/documents/deq/1841_House_27B_opt_306046_7.pdf)

## Annual Report of the State Geologist 1842

[House No. 14]; Douglass Houghton, 1842;

[[http://www.michigan.gov/documents/deq/1842\\_House\\_14\\_306052\\_7.pdf](http://www.michigan.gov/documents/deq/1842_House_14_306052_7.pdf)

[[http://www.michigan.gov/documents/deq/1842\\_House\\_14\\_opt\\_306053\\_7.pdf](http://www.michigan.gov/documents/deq/1842_House_14_opt_306053_7.pdf)

## Annual Report of the State Geologist 1843

[Senate No. 8]; Douglass Houghton, 1843;

[[http://www.michigan.gov/documents/deq/1843\\_Senate\\_8\\_306054\\_7.pdf](http://www.michigan.gov/documents/deq/1843_Senate_8_306054_7.pdf)

[[http://www.michigan.gov/documents/deq/1843\\_Senate\\_8\\_opt\\_306055\\_7.pdf](http://www.michigan.gov/documents/deq/1843_Senate_8_opt_306055_7.pdf)

## The Mineral Region of Lake Superior: Compiling Its Early History; J. Houghton, 1846;

[http://www.michigan.gov/documents/deq/Mineral\\_Region\\_of\\_Lake\\_Superior\\_A\\_306907\\_7.pdf](http://www.michigan.gov/documents/deq/Mineral_Region_of_Lake_Superior_A_306907_7.pdf)

[http://www.michigan.gov/documents/deq/Mineral\\_Region\\_of\\_Lake\\_Superior\\_B\\_306912\\_7.pdf](http://www.michigan.gov/documents/deq/Mineral_Region_of_Lake_Superior_B_306912_7.pdf)

[http://www.michigan.gov/documents/deq/Mineral\\_Region\\_of\\_Lake\\_Superior\\_C\\_306916\\_7.pdf](http://www.michigan.gov/documents/deq/Mineral_Region_of_Lake_Superior_C_306916_7.pdf)

[http://www.michigan.gov/documents/deq/Mineral\\_Region\\_of\\_Lake\\_Superior\\_D\\_306919\\_7.pdf](http://www.michigan.gov/documents/deq/Mineral_Region_of_Lake_Superior_D_306919_7.pdf)

## Geological Report on the Copper Lands of Lake Superior Land District, Michigan; J. W. Foster, J. D. Whitney, 1850; Report on the Geology and Topography of a Portion of the Lake Superior Land District, in the State of Michigan counties designations as such had not been made at that time Clay, Gold, Silver, Baraga Co., Chippewa Co., Houghton Co., Isle Royale, Keweenaw Co., Mackinac Co. 31st US Congress, 1st Session, House of Representatives, Executive Document No. 69

[[http://www.michigan.gov/documents/deq/GIMDL-ED69A\\_301993\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-ED69A_301993_7.pdf)

[[http://www.michigan.gov/documents/deq/GIMDL-ED69B\\_301994\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-ED69B_301994_7.pdf)

[[http://www.michigan.gov/documents/deq/GIMDL-ED69C\\_301995\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-ED69C_301995_7.pdf)

## Geological Reports of Douglass Houghton, First State Geologist of Michigan. 1837-1845; G. N. Fuller, 1928; illustrated, (Michigan Historical Commission: Lansing) Branch Co., Brine, Calhoun Co., Clay, Coal, Copper, Eaton Co., Gypsum, Ionia Co., Iron, Kalamazoo Co., Kent Co., Lime, Limestone, Marl, Monroe Co., Northern Peninsula counties, Peat, Salt, Sand, Sandstone, Shale, Southern Peninsula counties, Stone, Van Buren Co., Water

[[http://www.michigan.gov/documents/deq/Geological\\_Reports\\_306870\\_7.pdf](http://www.michigan.gov/documents/deq/Geological_Reports_306870_7.pdf)

[[http://www.michigan.gov/documents/deq/Geological\\_Reports\\_lopt\\_306903\\_7.pdf](http://www.michigan.gov/documents/deq/Geological_Reports_lopt_306903_7.pdf)

[[http://www.michigan.gov/documents/deq/Geological\\_Reports\\_Aopt\\_306873\\_7.pdf](http://www.michigan.gov/documents/deq/Geological_Reports_Aopt_306873_7.pdf)

[[http://www.michigan.gov/documents/deq/Geological\\_Reports\\_Bopt\\_306875\\_7.pdf](http://www.michigan.gov/documents/deq/Geological_Reports_Bopt_306875_7.pdf)

[[http://www.michigan.gov/documents/deq/Geological\\_Reports\\_Copt\\_306876\\_7.pdf](http://www.michigan.gov/documents/deq/Geological_Reports_Copt_306876_7.pdf)

[[http://www.michigan.gov/documents/deq/Geological\\_Reports\\_Dopt\\_306879\\_7.pdf](http://www.michigan.gov/documents/deq/Geological_Reports_Dopt_306879_7.pdf)

[[http://www.michigan.gov/documents/deq/Geological\\_Reports\\_Eopt\\_306882\\_7.pdf](http://www.michigan.gov/documents/deq/Geological_Reports_Eopt_306882_7.pdf)

[[http://www.michigan.gov/documents/deq/Geological\\_Reports\\_Fopt\\_306887\\_7.pdf](http://www.michigan.gov/documents/deq/Geological_Reports_Fopt_306887_7.pdf)

[[http://www.michigan.gov/documents/deq/Geological\\_Reports\\_Gopt\\_306894\\_7.pdf](http://www.michigan.gov/documents/deq/Geological_Reports_Gopt_306894_7.pdf)

[[http://www.michigan.gov/documents/deq/Geological\\_Reports\\_Hopt\\_306898\\_7.pdf](http://www.michigan.gov/documents/deq/Geological_Reports_Hopt_306898_7.pdf)

---

## [10] General Geology

*"General Geology" is a group of various materials that are advanced drafts or non-serial publications that cover a wide range of topics and interest levels. Publication standards may have not been applied.*

## A Glacier Passed This Way – Michigan Conservation July-August; Kelley, 1960;

[[http://www.michigan.gov/documents/deq/NSAGLAC\\_304646\\_7.pdf](http://www.michigan.gov/documents/deq/NSAGLAC_304646_7.pdf)

## Bibliography - Michigan Gold

[[http://www.michigan.gov/documents/deq/GIMDL-GGBAU\\_301998\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-GGBAU_301998_7.pdf)

## Copper Wire

[[http://www.michigan.gov/documents/deq/Bulletin\\_MCMT\\_CopperWire\\_opt\\_301717\\_7.pdf](http://www.michigan.gov/documents/deq/Bulletin_MCMT_CopperWire_opt_301717_7.pdf)

## Saginaw Valley Brines Pose Problems; R. A. Smith, 1946;

[[http://www.michigan.gov/documents/deq/GIMDL-GGBRINE\\_301999\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-GGBRINE_301999_7.pdf)

## A Billion Tons of Iron Ore; J. Weber,

[[http://www.michigan.gov/documents/deq/GIMDL-GGBTFE\\_302000\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-GGBTFE_302000_7.pdf)

## Activity: Create a Fossil - Mammoth Cave National Park

[[http://www.michigan.gov/documents/deq/p06create\\_304664\\_7.pdf](http://www.michigan.gov/documents/deq/p06create_304664_7.pdf)

## Something About Caves in Michigan; H. M. Martin, 1958; Alpena Co., Bay Co., Cheboygan Co., Chippewa Co., Monroe Co., Montmorency Co., Oscoda Co., Presque Isle Co., Schoolcraft Co. illustrated by J. Campbell

[[http://www.michigan.gov/documents/deq/GIMDL-GGCaves\\_302029\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-GGCaves_302029_7.pdf)

## Michigan's Clay Deposits and Industry; H. O. Sorensen,

[[http://www.michigan.gov/documents/deq/GIMDL-GGCLAY\\_302031\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-GGCLAY_302031_7.pdf)

## Geology Notes for Upper Peninsula Traveling Workshop; R. W. Kelley, 1957;

[[http://www.michigan.gov/documents/deq/GIMDL-GGCNUP\\_302032\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-GGCNUP_302032_7.pdf)

[[http://www.michigan.gov/documents/deq/Geology\\_Notes\\_UP\\_TravellingWorkshop-Kelley\\_301749\\_7.pdf](http://www.michigan.gov/documents/deq/Geology_Notes_UP_TravellingWorkshop-Kelley_301749_7.pdf)

## The Rock Collector's Code of Ethics

[[http://www.michigan.gov/documents/deq/GIMDL-GGCOE\\_302033\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-GGCOE_302033_7.pdf)

## Inventory of Sample Logs and Core Descriptions Available at Michigan Geological Survey; B. L. Champion, 1955; Southern Peninsula counties

[[http://www.michigan.gov/documents/deq/Sample\\_Log\\_Inventory\\_1955\\_opt\\_306717\\_7.pdf](http://www.michigan.gov/documents/deq/Sample_Log_Inventory_1955_opt_306717_7.pdf)

## Michigan Today Its Human and Physical Resources... E. Elliot, 1938;

[[http://www.michigan.gov/documents/deq/MIToday\\_BU\\_307\\_Excerpt\\_313193\\_7.pdf](http://www.michigan.gov/documents/deq/MIToday_BU_307_Excerpt_313193_7.pdf)

[[http://www.michigan.gov/documents/deq/MIToday\\_BU\\_307\\_Aopt\\_313194\\_7.pdf](http://www.michigan.gov/documents/deq/MIToday_BU_307_Aopt_313194_7.pdf)

[[http://www.michigan.gov/documents/deq/MIToday\\_BU\\_307\\_Bopt\\_313195\\_7.pdf](http://www.michigan.gov/documents/deq/MIToday_BU_307_Bopt_313195_7.pdf)

[[http://www.michigan.gov/documents/deq/MIToday\\_BU\\_307\\_Copt\\_313199\\_7.pdf](http://www.michigan.gov/documents/deq/MIToday_BU_307_Copt_313199_7.pdf)

[[http://www.michigan.gov/documents/deq/MIToday\\_BU\\_307\\_Dopt\\_313201\\_7.pdf](http://www.michigan.gov/documents/deq/MIToday_BU_307_Dopt_313201_7.pdf)

## Dimension Stone Feasibility Study; Bourque and Associates, 1999; Locations and descriptions of dimension, building and or landscaping materials

[www.michigan.gov/documents/deq/Dimension\\_Stone\\_Feasibility\\_Study\\_419285\\_7.pdf](http://www.michigan.gov/documents/deq/Dimension_Stone_Feasibility_Study_419285_7.pdf)

## Early Land Claims in Michigan -; Reynolds, 1940; General Geology;

[[http://www.michigan.gov/documents/deq/GIMDL-GGLAND\\_302344\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-GGLAND_302344_7.pdf)

## Earth Scientists in State Government; G. E. Eddy,

[[http://www.michigan.gov/documents/deq/GIMDL-GGESSG\\_302326\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-GGESSG_302326_7.pdf)

## Iron in Michigan; J. Wieber,

[[http://www.michigan.gov/documents/deq/GIMDL-GGFE\\_302327\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-GGFE_302327_7.pdf)

## Figure it out. You can do it!; S. E. Wilson; Handout;

[[http://www.michigan.gov/documents/deq/Figure\\_it\\_out\\_you\\_can\\_do\\_it\\_309996\\_7.pdf](http://www.michigan.gov/documents/deq/Figure_it_out_you_can_do_it_309996_7.pdf)

**Fossils Graphics Index**; S. E. Wilson,  
[] [http://www.michigan.gov/documents/deq/00\\_Fossils\\_graphics\\_index\\_301305\\_7.pdf](http://www.michigan.gov/documents/deq/00_Fossils_graphics_index_301305_7.pdf)

## **Generic Environmental Impact Statement Sand**

**Dune Mining**; Geological Survey, 2001; Alternatives, Barrier Dunes, Conflicting Use, Ecology, Economics, Enforcement, Environmental, Erosion, Generic, Hazard, Impact Statement, Impacts, Industry, Mining, Processing, Mining Plan, Mitigation, Practices, Preservation, Reclamation, Restoration, Risk, Sand Dune Mining, Sensitive, Stabilization, Statutes, Surveillance  
[] [http://www.michigan.gov/documents/deq/GIMDL-GGGEIS\\_216135\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-GGGEIS_216135_7.pdf)  
[] [http://www.michigan.gov/documents/deq/GIMDL-GGGEIS\\_302329\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-GGGEIS_302329_7.pdf)

**Michigan's Gem Stones**; H. J. Hardenberg, 1951;  
[] [http://www.michigan.gov/documents/deq/GIMDL-GGGEM\\_302330\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-GGGEM_302330_7.pdf)

**Geologic History of Michigan**; K. Spiroff,  
[] [http://www.michigan.gov/documents/deq/GIMDL-GGGHM\\_302331\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-GGGHM_302331_7.pdf)

**Grand Ledge Field Trip Lansing Teachers**; H. M. Martin, E. C. Cole, 1947;  
[] [http://www.michigan.gov/documents/deq/GIMDL-GGGL\\_302332\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-GGGL_302332_7.pdf)

**Great Lakes Shore Lines Measurements**; R. W. Kelley, 1964;  
[] [http://www.michigan.gov/documents/deq/GIMDL-GGGLS\\_302334\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-GGGLS_302334_7.pdf)

**Geology of Michigan, more detailed** The more detailed and therefore a little harder to read explanation of the geologic history of Michigan. Statewide  
[] [http://www.michigan.gov/documents/deq/GIMDL-GGGM\\_307771\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-GGGM_307771_7.pdf)

**Bedrock Geology Map 1987**; S. E. Wilson, 1987; Colored map of the aerial extent of geologic formations. Includes both Peninsulas; 2 colored sheets, 1:500, 000 map of Northern Peninsula  
[http://www.michigan.gov/documents/deq/1987\\_Bedrock\\_Geology\\_Map\\_301466\\_7.pdf](http://www.michigan.gov/documents/deq/1987_Bedrock_Geology_Map_301466_7.pdf)

**Bedrock and Cross Section**  
[] [http://www.michigan.gov/documents/deq/Bedrock\\_and\\_cross\\_section\\_301678\\_7.pdf](http://www.michigan.gov/documents/deq/Bedrock_and_cross_section_301678_7.pdf)

**Michigan Geology Maps**  
[] [http://www.michigan.gov/documents/deq/GIMDL-MAPS\\_216151\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-MAPS_216151_7.pdf)

**Quaternary Geology of Michigan**; W. R. Farrand, 1982; Colored map of the aerial extent of geologic formations. Includes both Peninsulas; 2 colored sheets, 1:500, 000 map of Northern Peninsula (55 x 34 inches) and Southern Peninsula (48 x 39 inches)  
[] [http://www.michigan.gov/documents/deq/1982\\_Quaternary\\_Geology\\_Map\\_301467\\_7.pdf](http://www.michigan.gov/documents/deq/1982_Quaternary_Geology_Map_301467_7.pdf)

**Geology of Michigan - Simplified**  
[] [http://www.michigan.gov/documents/deq/deq-ogs-gimdl-GGGMB\\_313567\\_7.pdf](http://www.michigan.gov/documents/deq/deq-ogs-gimdl-GGGMB_313567_7.pdf)

**Geologic Resources**; 1989,  
[] [http://www.michigan.gov/documents/deq/GIMDL-GGGR\\_302336\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-GGGR_302336_7.pdf)

**Green Stone**; S. E. Wilson; Information about the State Gem Stone pumpellyite variety chlorastrolite. Greenstone Michigan State Gem  
[] [http://www.michigan.gov/documents/deq/ogs-gimdl-GGGS\\_263212\\_7.pdf](http://www.michigan.gov/documents/deq/ogs-gimdl-GGGS_263212_7.pdf)

**A Brief History of the Michigan Geological Survey**; R. T. Segall,  
[] [http://www.michigan.gov/documents/deq/GIMDL-GGSDH\\_302337\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-GGSDH_302337_7.pdf)

**Geologic Time chart**; A one page handout of the geologic time scale Students Teachers geologic time  
[] [http://www.michigan.gov/documents/deq/GIMDL-GGGT\\_307772\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-GGGT_307772_7.pdf)

**Geologic Time Line Helper**; S. E. Wilson, 2006; You can learn more about Geologic Time, fossils, evolution and non-renewable geologic resources found in Michigan by making a Time Line. Students Teachers geologic time  
[] [http://www.michigan.gov/documents/deq/GIMDL-GTLH-GEN\\_307780\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-GTLH-GEN_307780_7.pdf)

**Geologic Time Line Helper**; A document that lets students jump from one part of Geologic Time to another. The file can be printed and used by students for various activities like making your own Geologic Time Line. Students Teachers geologic time  
[] [http://www.michigan.gov/documents/deq/ogs-gimdl-GTLH\\_con\\_307672\\_7.pdf](http://www.michigan.gov/documents/deq/ogs-gimdl-GTLH_con_307672_7.pdf)

**Geologic Time Line Helper**; See the changes in the distribution of Michigan bedrock geology Students Teachers geologic time  
[] [http://www.michigan.gov/documents/deq/ogs-gimdl-GTLH\\_geo\\_307674\\_7.pdf](http://www.michigan.gov/documents/deq/ogs-gimdl-GTLH_geo_307674_7.pdf)

**Geologic Time Line Helper**; This is a set of graphics to help students create their own model or as flashcards just to name a couple of uses, Students Teachers, geologic time  
[] [http://www.michigan.gov/documents/deq/ogs-gimdl-GTLH\\_Gpdf\\_307675\\_7.pdf](http://www.michigan.gov/documents/deq/ogs-gimdl-GTLH_Gpdf_307675_7.pdf)

**Geologic Time Line Helper**; This is a set of full sized graphics to help student create their own model or as flashcards just to name a couple of uses Students Teachers geologic time  
[] [http://www.michigan.gov/documents/deq/ogs-gimdl-GTLH\\_Gzip\\_307677\\_7.zip](http://www.michigan.gov/documents/deq/ogs-gimdl-GTLH_Gzip_307677_7.zip)

**Geologic Time Line Helper**; Set of eight Microsoft Excel worksheets to help in developing your own Geologic Time Line. The worksheets include: ♦ Events in Geologic Time ♦ an Example □ Blank / Make Your Own > 1 cent basics > 1 cent plus > coin info > conversion factors > size of numbers, Students Teachers, geologic time  
[] [http://www.michigan.gov/documents/deq/ogs-gimdl-GTLH\\_xls\\_307678\\_7.xls](http://www.michigan.gov/documents/deq/ogs-gimdl-GTLH_xls_307678_7.xls)

**Geologic Timeline Illustrations**; S. E. Wilson, 2006;  
[] [http://www.michigan.gov/documents/deq/GIMDL-GTLH\\_216150\\_7.zip](http://www.michigan.gov/documents/deq/GIMDL-GTLH_216150_7.zip)

**History of the Geological Survey**; Martin,  
[] [http://www.michigan.gov/documents/deq/GIMDL-GGHIST\\_313569\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-GGHIST_313569_7.pdf)

**A Brief History of the Geological and Biological Survey of Michigan: 1837 to 1872**; H. M. Martin,  
[] [http://www.michigan.gov/documents/deq/GIMDL-GGHIST\\_216136\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-GGHIST_216136_7.pdf)

**Honey, I Shrank the Glacier**; S. E. Wilson, 2005; An on-line PowerPoint presentation to answer some questions about glaciers and Michigan. learn about glaciers and landforms that can be found in Michigan. What would happen if you were to shrink a glacier? Do not try this at home. Check this out first - learn about glaciers and landforms found in Michigan. All counties, glaciers, Students, Teachers. Download the zip file for local, off-line use.  
[] [http://www.michigan.gov/documents/deq/HISTG\\_307641\\_7.ppt](http://www.michigan.gov/documents/deq/HISTG_307641_7.ppt)

**Honey, I Shrank the Glacier**; S. E. Wilson, 2005; Compressed PowerPoint file provided so program can be downloaded for off-line, local use  
[] [http://www.michigan.gov/documents/deq/GIMDL-HISTG\\_307755\\_7.zip](http://www.michigan.gov/documents/deq/GIMDL-HISTG_307755_7.zip)

**Honey, I Shrunk the Glacier;** S. E. Wilson, 2005;  
Information relating to each slide can be used when presenting the  
'Honey, I Shrunk the Glacier' program.

[] [http://www.michigan.gov/documents/deq/HISTG-notes\\_307643\\_7.pdf](http://www.michigan.gov/documents/deq/HISTG-notes_307643_7.pdf)

**Geologic Time Columns;** H. M. Martin; Amphibians,  
Atmosphere, Banded Iron Formation, Brachiopods, Brine, Cambrian,  
Cenozoic, Clay, Copper, Corals, Cretaceous, Crinoids, Devonian,  
Dinosaurs, Earth Forms, Eukaryotic Algae, Extinct, Fishes, Flowering  
Plants, Gas, Geologic Time, Gravel, Gypsum, Humans, Insects, Iron,  
Jurassic, Land Plants, Life Form, Limestone, Mammals, Mammoth,  
Marl, Mastodons, Mesozoic, Mississippian, Modern Humans, Moon  
Forms, Non-Renewable Mineral Resources, Oceans, Oil, Oldest Life,  
Ordovician, Oxygen, Ozone, Paleozoic, Peat, Pennsylvanian,  
Permian, Pleistocene, Precambrian, Recent, Reptiles, Salt, Sand,  
Shale, Silurian, Stromatolite, Student, Teacher, Triassic, Trilobites,  
Water, work sheets, Illustrated by James Campbell, revised by S. E.  
Wilson

[] [http://www.michigan.gov/documents/deq/ogs-gimdl-GGHM\\_307679\\_7.pdf](http://www.michigan.gov/documents/deq/ogs-gimdl-GGHM_307679_7.pdf)

**How thick - How big - How much;** S. E. Wilson, 2003;  
Microsoft Excel spreadsheet that goes along with "Honey I Shrunk  
the Glacier" All counties, glaciers Students, Teachers

[] [http://www.michigan.gov/documents/deq/GIMDL-GGHTbHM\\_216138\\_7.xls](http://www.michigan.gov/documents/deq/GIMDL-GGHTbHM_216138_7.xls)

**Injection of Water Into Underground Reservoirs in  
Michigan;** W. E. Schoeneck, 1945;

[] [http://www.michigan.gov/documents/deq/GIMDL-GGIW\\_302341\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-GGIW_302341_7.pdf)

**How Kitchitiki Came To Be;** H. M. Martin,

[] [http://www.michigan.gov/documents/deq/GIMDL-GGKITCH\\_302343\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-GGKITCH_302343_7.pdf)

**Michigan Localities of General Interest;** H. O.  
Sorensen; Places to go, things to see

[] [http://www.michigan.gov/documents/deq/GIMDL-GGLOC\\_302345\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-GGLOC_302345_7.pdf)

**From Mineral to Rock;** Learn about the relationships  
between minerals and rocks.

[] [http://www.michigan.gov/documents/deq/GIMDL-GGM2R\\_302346\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-GGM2R_302346_7.pdf)

**Michigan Basin Bedrock Cross Section Figure:**

[] [http://www.michigan.gov/documents/deq/CrossSection\\_301745\\_7.pdf](http://www.michigan.gov/documents/deq/CrossSection_301745_7.pdf)

**A Short History of the Michigan Basin**

**Geological Society;** Fowler,

[] [http://www.michigan.gov/documents/deq/MBGSHist\\_301798\\_7.pdf](http://www.michigan.gov/documents/deq/MBGSHist_301798_7.pdf)

**Michigan Beach Stones;** R. W. Kelley, 1977;

[] [http://www.michigan.gov/documents/deq/GIMDL-GGMBS\\_302347\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-GGMBS_302347_7.pdf)

**Michigan's Colorful Minerals;** R. W. Kelley, 1960;

[] [http://www.michigan.gov/documents/deq/GIMDL-GGMCM\\_302348\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-GGMCM_302348_7.pdf)

**Minerals found in Michigan;** S. E. Wilson; Michigan  
Minerals Listed by Mineral Name, by County and Mineral Names and  
Chemical Formulas from Bulletin 6 "Mineralogy of Michigan"

[] [http://www.michigan.gov/documents/deq/GIMDL-GGMF\\_307773\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-GGMF_307773_7.pdf)

**Michigan Fossils – many incarnations of the fossil**

**poster;** for individual student or team use. Students Teachers,  
Fossils

[] [http://www.michigan.gov/documents/deq/GIMDL-GGMFPB\\_314875\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-GGMFPB_314875_7.pdf)

[] [http://www.michigan.gov/documents/deq/GIMDL-GGMFPF\\_216140\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-GGMFPF_216140_7.pdf)  
>[] [http://www.michigan.gov/documents/deq/MFP\\_2004\\_11\\_by\\_17\\_301811\\_7.pdf](http://www.michigan.gov/documents/deq/MFP_2004_11_by_17_301811_7.pdf)  
>[] [http://www.michigan.gov/documents/deq/GIMDL-GGMFPB\\_216139\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-GGMFPB_216139_7.pdf)  
>[] [http://www.michigan.gov/documents/deq/MFP\\_1b\\_Poster\\_Big\\_301803\\_7.pdf](http://www.michigan.gov/documents/deq/MFP_1b_Poster_Big_301803_7.pdf)  
>[] [http://www.michigan.gov/documents/deq/MFP\\_3a\\_Flash\\_Cards\\_Small\\_301805\\_7.pdf](http://www.michigan.gov/documents/deq/MFP_3a_Flash_Cards_Small_301805_7.pdf)  
>[] [http://www.michigan.gov/documents/deq/MFP\\_3b\\_Flash\\_Cards\\_Big\\_301806\\_7.pdf](http://www.michigan.gov/documents/deq/MFP_3b_Flash_Cards_Big_301806_7.pdf)  
>[] [http://www.michigan.gov/documents/deq/MFP\\_5\\_Fill\\_In\\_The\\_Blanks\\_301808\\_7.pdf](http://www.michigan.gov/documents/deq/MFP_5_Fill_In_The_Blanks_301808_7.pdf)  
>[] [http://www.michigan.gov/documents/deq/GIMDL-GGMFPS\\_216141\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-GGMFPS_216141_7.pdf)  
>[] [http://www.michigan.gov/documents/deq/MFP\\_1a\\_Poster\\_Small\\_301802\\_7.pdf](http://www.michigan.gov/documents/deq/MFP_1a_Poster_Small_301802_7.pdf)

**Mineralogical Guide;** R. W. Kelley, 1960; 3rd edition,  
Includes Reprint 1 and Reprint 2 All counties

[] [http://www.michigan.gov/documents/deq/MG\\_60\\_301813\\_7.pdf](http://www.michigan.gov/documents/deq/MG_60_301813_7.pdf)

**Michigan Iron Mines;** R. C. Reed, 1957;

[] [http://www.michigan.gov/documents/deq/NSFE\\_304650\\_7.pdf](http://www.michigan.gov/documents/deq/NSFE_304650_7.pdf)

[] [http://www.michigan.gov/documents/deq/IronMines\\_301779\\_7.pdf](http://www.michigan.gov/documents/deq/IronMines_301779_7.pdf)

**Michigan's Gem Stones;** H. J. Hardenberg, 1959; MI  
gemstones All counties, Copper, Dolomite, Iron, Gypsum, Stone

[] [http://www.michigan.gov/documents/deq/GIMDL-GGMIGS\\_216142\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-GGMIGS_216142_7.pdf)

**How Manitou Island Got This Way;** H. M. Martin, 1956;

[] [http://www.michigan.gov/documents/deq/GIMDL-GGMIGTW\\_302353\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-GGMIGTW_302353_7.pdf)

**Michigan Story;** H. M. Martin, 1950;

[] [http://www.michigan.gov/documents/deq/GIMDL-GGMS\\_302356\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-GGMS_302356_7.pdf)

**Natural Gas Fields of Michigan;** R. B. Newcombe, 1935;  
Reprinted American Association of Petroleum  
Geologists, June, 1935 Southern Peninsula, Oil and Gas

[] [http://www.michigan.gov/documents/deq/GIMDL-GGngf\\_216144\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-GGngf_216144_7.pdf)

[] [http://www.michigan.gov/documents/deq/GIMDL-GGngfb\\_216145\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-GGngfb_216145_7.pdf)

**A Summary of Ideas on the Origin of Native**

**Copper Deposits;** H. R. Cornwall, 1956;

[] [http://www.michigan.gov/documents/deq/GIMDL-GGNCD\\_302360\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-GGNCD_302360_7.pdf)

**6th Annual Conference Michigan Natural**

**Resources Council 1961;** various, 1961; W. Been, J. Boyd,

R. G. Hill, R. W. Kelley, E. W. Pehrson, B. T. Sandefur, F. W.

Suggitt, S. W. Sundeen; The Role of Government in Mineral

Resource Development; The Economic Role of Michigan Iron Ores;

The Economic Environment of the Michigan Copper Industry; Some

Worldwide Aspects of Copper and Iron Ore; Multiple Use and

Conflicting Interests in Mineral Resource Development; Iron and

Copper in Michigan's Economy

[] [http://www.michigan.gov/documents/deq/MNRC\\_Conf1961\\_306077\\_7.pdf](http://www.michigan.gov/documents/deq/MNRC_Conf1961_306077_7.pdf)

[] [http://www.michigan.gov/documents/deq/MNRC\\_Conf1961\\_opt\\_306081\\_7.pdf](http://www.michigan.gov/documents/deq/MNRC_Conf1961_opt_306081_7.pdf)

**Key to Rocks & Minerals Collections;** H. O. Sorensen,  
1968; key to a collection of twenty-four rock samples with mineral  
identification information. Copper, Gypsum, Iron, Limestone, Salt,  
Sandstone, Shale, Stone, Sulfur

[] [http://www.michigan.gov/documents/deq/NSRAM\\_304651\\_7.pdf](http://www.michigan.gov/documents/deq/NSRAM_304651_7.pdf)

**The Story of the Ontonagon Copper Boulder;** H.

Pantell, 1976;

[] [http://www.michigan.gov/documents/deq/GIMDL-GGOCB\\_302361\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-GGOCB_302361_7.pdf)

**Oil and Gas Accumulations;** G. D. Eills, 1971;

[] [http://www.michigan.gov/documents/deq/GIMDL-GGOGA\\_302363\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-GGOGA_302363_7.pdf)

**Oil and Gas Map 2001**

[] [http://www.michigan.gov/documents/deq/deq-ogs-gimdl-GGOGM\\_313589\\_7.pdf](http://www.michigan.gov/documents/deq/deq-ogs-gimdl-GGOGM_313589_7.pdf)

## Oil and Gas Map 2005

[\[\] http://www.michigan.gov/documents/deq/deq-ogs-gimdl-GGMOG05\\_310107\\_7.PDF](http://www.michigan.gov/documents/deq/deq-ogs-gimdl-GGMOG05_310107_7.PDF)

## Oldest Fossil Found in Michigan; S. E. Wilson, 1996;

[\[\] http://www.michigan.gov/documents/deq/Oldest\\_Fossil\\_304663\\_7.pdf](http://www.michigan.gov/documents/deq/Oldest_Fossil_304663_7.pdf)

## Report on Michigan Peat Reserves; W. A. Walden, 1976;

[\[\] http://www.michigan.gov/documents/deq/GIMDL-GGPEAT\\_216146\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-GGPEAT_216146_7.pdf)

[\[\] http://www.michigan.gov/documents/deq/PeatRes\\_reportopt\\_304678\\_7.pdf](http://www.michigan.gov/documents/deq/PeatRes_reportopt_304678_7.pdf)

## Geology of the Proud Lake Area; R. W. Kelley, 1956;

[\[\] http://www.michigan.gov/documents/deq/GIMDL-GGPL\\_302365\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-GGPL_302365_7.pdf)

## Petosky Stone; S. E. Wilson, 2002; A four page handout about the lore, history and geologic information regarding the State stone Hexagonaria percarinata. Petoskey Stone handout Students Teachers Fossils

[\[\] http://www.michigan.gov/documents/deq/ogs-gimdl-GGPS\\_263213\\_7.pdf](http://www.michigan.gov/documents/deq/ogs-gimdl-GGPS_263213_7.pdf)

## Paper And Egg Carton Mammoth & Mastodon

**Teeth;** S. E. Wilson, 2006, Make and use models of Mammoth and Mastodon teeth Egg Carton with review questions Students, Teachers, Fossils, Mammoth, Mastodon

[\[\] http://www.michigan.gov/documents/deq/GIMDL-PT-EC\\_307781\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-PT-EC_307781_7.pdf)

[\[\] http://www.michigan.gov/documents/deq/GIMDL-PT-PT\\_307782\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-PT-PT_307782_7.pdf)

[\[\] http://www.michigan.gov/documents/deq/GIMDL-PTWT\\_216207\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-PTWT_216207_7.pdf)

## The Use of Oil Field Brine on Michigan Roadways;

J. E. Herrold, 1984;

[\[\] http://www.michigan.gov/documents/deq/Oil\\_Field\\_Brine\\_306996\\_7.pdf](http://www.michigan.gov/documents/deq/Oil_Field_Brine_306996_7.pdf)

[\[\] http://www.michigan.gov/documents/deq/Oil\\_Field\\_Brine\\_opt\\_306999\\_7.pdf](http://www.michigan.gov/documents/deq/Oil_Field_Brine_opt_306999_7.pdf)

## Rock Classification Chart; S. E. Wilson, 2000; Find out what rocks (igneous metamorphic and sedimentary) are found in Michigan. Rock\_Classification\_Chart.

[\[\] http://www.michigan.gov/documents/deq/GIMDL-GGRC\\_307776\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-GGRC_307776_7.pdf)

## Rock Cycle in Michigan PowerPoint; S. E. Wilson, 2000; learn about this geological principal which explains how the rock types are related with Michigan references. All counties, Students, Teachers

[\[\] http://www.michigan.gov/documents/deq/RCIM\\_307644\\_7.ppt](http://www.michigan.gov/documents/deq/RCIM_307644_7.ppt)

[\[\] http://www.michigan.gov/documents/deq/GIMDL-RCIM\\_307756\\_7.zip](http://www.michigan.gov/documents/deq/GIMDL-RCIM_307756_7.zip)

[\[\] http://www.michigan.gov/documents/deq/RCIM-notes\\_307645\\_7.pdf](http://www.michigan.gov/documents/deq/RCIM-notes_307645_7.pdf)

## The Romance of Copper; H. M. Martin, 1944;

[\[\] http://www.michigan.gov/documents/deq/GIMDL-GGRCU\\_302367\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-GGRCU_302367_7.pdf)

## Rocks Found In Michigan; List of rocks found in Michigan Rocks\_Found\_In\_Michigan.,

[\[\] http://www.michigan.gov/documents/deq/GIMDL-GGRF\\_307777\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-GGRF_307777_7.pdf)

## Typical Rocks and Minerals of Michigan; 1936; Information included with the boxed set of 36 specimens done in cooperation with the Civilian Conservation Corps (CCC) and the Geological Survey

[\[\] http://www.michigan.gov/documents/deq/GIMDL-GGRMM\\_302369\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-GGRMM_302369_7.pdf)

## Rocks and Minerals of Michigan; O. F. Poindexter, H. M. Martin, S. G. Bergquist, 1971; All counties, Brine, Clay, Coal, Copper, Dolomite, Fossils, Gas, Gems, Glacial Drift, Gold, Gravel, Gypsum, Igneous Rocks, Iron, Limestone, Marl, Metamorphic Rocks, Meteorites, Minerals, Oil, Peat, Petroleum, Rocks, Salt, Sand, Sandstone, Sedimentary Rocks, Shale, Silver, Soil, Stone, Sulfur, Water. Many earlier versions exist dating from 1936 to 1971 including Publication 42 from 1939 to 1951 and subsequently as Bulletin 2 in 1965.

[\[\] http://www.michigan.gov/documents/deq/GIMDL-GGRMMI\\_302370\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-GGRMMI_302370_7.pdf)

## Rambling Rocks; H. M. Martin, 1971;

[\[\] http://www.michigan.gov/documents/deq/GIMDL-GGRR\\_302371\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-GGRR_302371_7.pdf)

## Something About Caves in Michigan; H. M. Martin, 1958; Alpena Co., Bay Co., Cheboygan Co., Chippewa Co., Monroe Co., Montmorency Co., Oscoda Co., Presque Isle Co., Schoolcraft Co. illustrated by J. Campbell

[\[\] http://www.michigan.gov/documents/deq/Something\\_About\\_Caves\\_309307\\_7.pdf](http://www.michigan.gov/documents/deq/Something_About_Caves_309307_7.pdf)

## History of the Salt, Brine and Paper Industries and Their Probable Effect on the Ground Water

**Quality in the Manistee Lake Area of Michigan;** K. E. Childs, 1970; Hydrological Survey Division Water Resources Commission Bureau of Water Management Michigan Department of Natural Resources, Manistee Co.

[\[\] http://www.michigan.gov/documents/deq/GIMDL-GGCHILDS\\_302030\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-GGCHILDS_302030_7.pdf)

## Salt; H. M. Martin,

[\[\] http://www.michigan.gov/documents/deq/GIMDL-GGSALT\\_302372\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-GGSALT_302372_7.pdf)

## Salt a Michigan Resources; Brief introduction to the geology and history of this unique and very important resource. Salt Brochure

[\[\] http://www.michigan.gov/documents/deq/GIMDL-GGSB\\_307778\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-GGSB_307778_7.pdf)

## Michigan Silurian Oil and Gas Pools; G. D. Eills, 1963; Revised and reissued as Report of Investigation 2

Allegan Co., Bay Co., Calhoun Co., Gas, Livingston Co., Macomb Co., Manistee Co., Mason Co., Muskegon Co., Oil, Oscoda Co., Ottawa Co., Southern Peninsula counties, St Clair Co., Washtenaw Co., Wayne Co

[\[\] http://www.michigan.gov/documents/deq/GIMDL-GGSOGP\\_302373\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-GGSOGP_302373_7.pdf)

## Formation of Soil; H. M. Martin,

[\[\] http://www.michigan.gov/documents/deq/GIMDL-GGSOIL\\_302374\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-GGSOIL_302374_7.pdf)

## Geology, or Earth History and Mineral Resources - Suggested Projects for Classroom; MI DNR, 1953;

[\[\] http://www.michigan.gov/documents/deq/GIMDL-GGSP\\_302376\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-GGSP_302376_7.pdf)

## Something Rare Yet Common - The Petoskey

**Stone;** S. E. Wilson, 2002; Do you know what the state stone is? If you want to learn more about the Petoskey stone, then this is worth checking out. All counties, fossils, Students, Teachers

[\[\] http://www.michigan.gov/documents/deq/GIMDL-GGSRYC\\_216148\\_7.ppt](http://www.michigan.gov/documents/deq/GIMDL-GGSRYC_216148_7.ppt)

[\[\] http://www.michigan.gov/documents/deq/SRYC-notes\\_307650\\_7.pdf](http://www.michigan.gov/documents/deq/SRYC-notes_307650_7.pdf)

[\[\] http://www.michigan.gov/documents/deq/GIMDL-SRYC-1-OF-3\\_307754\\_7.zip](http://www.michigan.gov/documents/deq/GIMDL-SRYC-1-OF-3_307754_7.zip)

[\[\] http://www.michigan.gov/documents/deq/GIMDL-SRYC-2-OF-3\\_307752\\_7.zip](http://www.michigan.gov/documents/deq/GIMDL-SRYC-2-OF-3_307752_7.zip)

[\[\] http://www.michigan.gov/documents/deq/GIMDL-SRYC-3-OF-3\\_307753\\_7.zip](http://www.michigan.gov/documents/deq/GIMDL-SRYC-3-OF-3_307753_7.zip)

[\[\] http://www.michigan.gov/documents/deq/SRYC-how-2\\_307652\\_7.pdf](http://www.michigan.gov/documents/deq/SRYC-how-2_307652_7.pdf)

## Simple Test for Meteorites

[\[\] http://www.michigan.gov/documents/deq/GIMDL-GGT4M\\_302378\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-GGT4M_302378_7.pdf)

**Trenton-Black River Formation Developments;** R. E. Ives, 1960;

[] [http://www.michigan.gov/documents/deq/GIMDL-GGTBR\\_302379\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-GGTBR_302379_7.pdf)

**Suggestions for Teaching Mineralogy;** S. E. Wilson,

[] [http://www.michigan.gov/documents/deq/GIMDL-GGTM\\_302380\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-GGTM_302380_7.pdf)

**They Need Not Vanish;** H. M. Martin, 1942; Ideas and information for teaching about responsible resource development

[] [http://www.michigan.gov/documents/deq/GIMDL-GGTNNVA\\_302382\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-GGTNNVA_302382_7.pdf)  
[] [http://www.michigan.gov/documents/deq/They\\_Need\\_Not\\_Vanish\\_Aopt\\_309377\\_7.pdf](http://www.michigan.gov/documents/deq/They_Need_Not_Vanish_Aopt_309377_7.pdf)  
[] [http://www.michigan.gov/documents/deq/They\\_Need\\_Not\\_Vanish\\_Bopt\\_309379\\_7.pdf](http://www.michigan.gov/documents/deq/They_Need_Not_Vanish_Bopt_309379_7.pdf)  
[] [http://www.michigan.gov/documents/deq/They\\_Need\\_Not\\_Vanish\\_Copt\\_309382\\_7.pdf](http://www.michigan.gov/documents/deq/They_Need_Not_Vanish_Copt_309382_7.pdf)  
[] [http://www.michigan.gov/documents/deq/They\\_Need\\_Not\\_Vanish\\_Dopt\\_309386\\_7.pdf](http://www.michigan.gov/documents/deq/They_Need_Not_Vanish_Dopt_309386_7.pdf)  
[] [http://www.michigan.gov/documents/deq/They\\_Need\\_Not\\_Vanish\\_Eopt\\_309389\\_7.pdf](http://www.michigan.gov/documents/deq/They_Need_Not_Vanish_Eopt_309389_7.pdf)  
[] [http://www.michigan.gov/documents/deq/They\\_Need\\_Not\\_Vanish\\_Fopt\\_309393\\_7.pdf](http://www.michigan.gov/documents/deq/They_Need_Not_Vanish_Fopt_309393_7.pdf)  
[] [http://www.michigan.gov/documents/deq/GIMDL-GGTNNVB\\_302385\\_7.PDF](http://www.michigan.gov/documents/deq/GIMDL-GGTNNVB_302385_7.PDF)  
[] [http://www.michigan.gov/documents/deq/GIMDL-GGTNNVC\\_302389\\_7.PDF](http://www.michigan.gov/documents/deq/GIMDL-GGTNNVC_302389_7.PDF)  
[] [http://www.michigan.gov/documents/deq/GIMDL-GGTNNVD\\_302393\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-GGTNNVD_302393_7.pdf)

**Uranium in Michigan;** 1982; Department of Natural Resources and Public Health

[] [http://www.michigan.gov/documents/deq/GIMDL-GGU\\_302395\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-GGU_302395_7.pdf)  
[] [http://www.michigan.gov/documents/deq/Uranium\\_in\\_Michigan\\_Aopt\\_309415\\_7.pdf](http://www.michigan.gov/documents/deq/Uranium_in_Michigan_Aopt_309415_7.pdf)  
[] [http://www.michigan.gov/documents/deq/Uranium\\_in\\_Michigan\\_Bopt\\_309416\\_7.pdf](http://www.michigan.gov/documents/deq/Uranium_in_Michigan_Bopt_309416_7.pdf)

**Waterfalls in Michigan;** 1956

[] [http://www.michigan.gov/documents/deq/GIMDL-GGWOM\\_302397\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-GGWOM_302397_7.pdf)

**Water Suggested Projects;** 1956,

[] [http://www.michigan.gov/documents/deq/GIMDL-GGWP\\_302398\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-GGWP_302398_7.pdf)

**Wonder Where the Copper Went;** Bloom, 1972;

[] [http://www.michigan.gov/documents/deq/GIMDL-GGCUW\\_302324\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-GGCUW_302324_7.pdf)

---

## [11] Geological Seminars

*From 1989 to 2000 the Geological Survey hosted a series of six "Geological Seminars" focused on the Geology in Michigan. The proceedings have been scanned bookmarked.*

**A Symposium Michigan Its Geology and Geologic Resources Program and Abstracts 1989;** Geological Survey, 1989

[] [http://www.michigan.gov/documents/deq/GS89\\_301756\\_7.pdf](http://www.michigan.gov/documents/deq/GS89_301756_7.pdf)

**Michigan Its Geology & Geologic Resources a Second Symposium 1991;** Geological Survey, 1991;

[] [http://www.michigan.gov/documents/deq/GS91\\_opt\\_301762\\_7.pdf](http://www.michigan.gov/documents/deq/GS91_opt_301762_7.pdf)

**Michigan Its Geology & Geologic Resources Program & Abstracts 1993;** Geological Survey, 1993

[] [http://www.michigan.gov/documents/deq/GS93\\_opt\\_301766\\_7.pdf](http://www.michigan.gov/documents/deq/GS93_opt_301766_7.pdf)

**Michigan Its Geology & Geologic Resources Fourth Symposium 1996;** Geological Survey, 1996

[] [http://www.michigan.gov/documents/deq/GS96\\_opt\\_301770\\_7.pdf](http://www.michigan.gov/documents/deq/GS96_opt_301770_7.pdf)

**Michigan Its Geology & Geologic Resources Fifth Symposium 1998;** Geological Survey, 1998;

[] [http://www.michigan.gov/documents/deq/GS98\\_opt\\_301777\\_7.pdf](http://www.michigan.gov/documents/deq/GS98_opt_301777_7.pdf)

**Great Lakes Region Geological Conference;** Geological Survey, 2000;

[] [http://www.michigan.gov/documents/deq/GS00\\_opt\\_301753\\_7.pdf](http://www.michigan.gov/documents/deq/GS00_opt_301753_7.pdf)

---

## [12] Proceedings of the Lake Superior Mining Institute

*The Lake Superior Mining Institute held its inaugural meeting in 1893. The Proceeding documented information that was presented at the annual meetings. These materials document much of the information about this historic mining area.*

**Proc. Lake Superior Mining Institute;** 1893,

[] [http://www.michigan.gov/documents/deq/GIMDL-LSMI1893\\_301821\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-LSMI1893_301821_7.pdf)

**Proc. Lake Superior Mining Institute;** 1901,

[] [http://www.michigan.gov/documents/deq/GIMDL-LSMI1901\\_301822\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-LSMI1901_301822_7.pdf)

**Proc. Lake Superior Mining Institute;** 1908,

[] [http://www.michigan.gov/documents/deq/GIMDL-LSMI1908A\\_301823\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-LSMI1908A_301823_7.pdf)

[] [http://www.michigan.gov/documents/deq/GIMDL-LSMI1908B\\_301824\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-LSMI1908B_301824_7.pdf)

**Proc. Lake Superior Mining Institute;** 1911,

[] [http://www.michigan.gov/documents/deq/GIMDL-LSMI1911A\\_301825\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-LSMI1911A_301825_7.pdf)

[] [http://www.michigan.gov/documents/deq/GIMDL-LSMI1911B\\_301826\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-LSMI1911B_301826_7.pdf)

[] [http://www.michigan.gov/documents/deq/GIMDL-LSMI1911C\\_301829\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-LSMI1911C_301829_7.pdf)

**Proc. Lake Superior Mining Institute;** 1913,

[] [http://www.michigan.gov/documents/deq/GIMDL-LSMI1913A\\_301833\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-LSMI1913A_301833_7.pdf)

[] [http://www.michigan.gov/documents/deq/GIMDL-LSMI1913B\\_301838\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-LSMI1913B_301838_7.pdf)

**Proc. Lake Superior Mining Institute;** 1914,

[] [http://www.michigan.gov/documents/deq/GIMDL-LSMI1914\\_301843\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-LSMI1914_301843_7.pdf)

**Proc. Lake Superior Mining Institute;** 1915,

[] [http://www.michigan.gov/documents/deq/GIMDL-LSMI1915\\_301846\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-LSMI1915_301846_7.pdf)

**Proc. Lake Superior Mining Institute;** 1916,

[] [http://www.michigan.gov/documents/deq/GIMDL-LSMI1916\\_301847\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-LSMI1916_301847_7.pdf)

**Proc. Lake Superior Mining Institute;** 1922,

[] [http://www.michigan.gov/documents/deq/GIMDL-LSMI1922\\_301848\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-LSMI1922_301848_7.pdf)

**Proc. Lake Superior Mining Institute;** 1923,

[] [http://www.michigan.gov/documents/deq/GIMDL-LSMI1923A\\_301849\\_7.PDF](http://www.michigan.gov/documents/deq/GIMDL-LSMI1923A_301849_7.PDF)

[] [http://www.michigan.gov/documents/deq/GIMDL-LSMI1923B\\_301850\\_7.PDF](http://www.michigan.gov/documents/deq/GIMDL-LSMI1923B_301850_7.PDF)

[] [http://www.michigan.gov/documents/deq/GIMDL-LSMI1923C\\_301851\\_7.PDF](http://www.michigan.gov/documents/deq/GIMDL-LSMI1923C_301851_7.PDF)

**Proc. Lake Superior Mining Institute;** 1925,

[] [http://www.michigan.gov/documents/deq/GIMDL-LSMI1925A\\_301852\\_7.PDF](http://www.michigan.gov/documents/deq/GIMDL-LSMI1925A_301852_7.PDF)

[] [http://www.michigan.gov/documents/deq/GIMDL-LSMI1925B\\_301853\\_7.PDF](http://www.michigan.gov/documents/deq/GIMDL-LSMI1925B_301853_7.PDF)

**Proc. Lake Superior Mining Institute;** 1926,

[] [http://www.michigan.gov/documents/deq/GIMDL-LSMI1926A\\_301854\\_7.PDF](http://www.michigan.gov/documents/deq/GIMDL-LSMI1926A_301854_7.PDF)

[] [http://www.michigan.gov/documents/deq/GIMDL-LSMI1926B\\_301855\\_7.PDF](http://www.michigan.gov/documents/deq/GIMDL-LSMI1926B_301855_7.PDF)

**Proc. Lake Superior Mining Institute;** 1928,

[] [http://www.michigan.gov/documents/deq/GIMDL-LSMI1928A\\_301856\\_7.PDF](http://www.michigan.gov/documents/deq/GIMDL-LSMI1928A_301856_7.PDF)

[] [http://www.michigan.gov/documents/deq/GIMDL-LSMI1928B\\_301863\\_7.PDF](http://www.michigan.gov/documents/deq/GIMDL-LSMI1928B_301863_7.PDF)

**Proc. Lake Superior Mining Institute;** 1929,

[] [http://www.michigan.gov/documents/deq/GIMDL-LSMI1929A\\_301865\\_7.PDF](http://www.michigan.gov/documents/deq/GIMDL-LSMI1929A_301865_7.PDF)

[ ] [http://www.michigan.gov/documents/deq/GIMDL-LSMI1929B\\_301866\\_7.PDF](http://www.michigan.gov/documents/deq/GIMDL-LSMI1929B_301866_7.PDF)

### **Proc. Lake Superior Mining Institute; 1930,**

[ ] [http://www.michigan.gov/documents/deq/GIMDL-LSMI1930A\\_301867\\_7.PDF](http://www.michigan.gov/documents/deq/GIMDL-LSMI1930A_301867_7.PDF)

[ ] [http://www.michigan.gov/documents/deq/GIMDL-LSMI1930B\\_301869\\_7.PDF](http://www.michigan.gov/documents/deq/GIMDL-LSMI1930B_301869_7.PDF)

### **Proc. Lake Superior Mining Institute; 1936,**

[ ] [http://www.michigan.gov/documents/deq/GIMDL-LSMI1936A\\_301871\\_7.PDF](http://www.michigan.gov/documents/deq/GIMDL-LSMI1936A_301871_7.PDF)

[ ] [http://www.michigan.gov/documents/deq/GIMDL-LSMI1936B\\_301874\\_7.PDF](http://www.michigan.gov/documents/deq/GIMDL-LSMI1936B_301874_7.PDF)

### **Proc. Lake Superior Mining Institute; 1939,**

[ ] [http://www.michigan.gov/documents/deq/GIMDL-LSMI1939A\\_301879\\_7.PDF](http://www.michigan.gov/documents/deq/GIMDL-LSMI1939A_301879_7.PDF)

[ ] [http://www.michigan.gov/documents/deq/GIMDL-LSMI1939B\\_301881\\_7.PDF](http://www.michigan.gov/documents/deq/GIMDL-LSMI1939B_301881_7.PDF)

## **[13] Michigan Academy of Science**

*Selected materials from various proceedings of the Academy that relate to Michigan geology or geography are available. The "Michigan Academy of Science" held its first meeting in 1895. The Academy of Science became the "Michigan Academy of Science Arts and Letters" in 1920. More information about this organization go to <http://themichiganacademy.org/>*

### **Second Annual Report; 1900,**

[ ] [http://www.michigan.gov/documents/deq/GIMDL-MAS02\\_302431\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-MAS02_302431_7.pdf)

### **Fourth Annual Report; 1902,**

[ ] [http://www.michigan.gov/documents/deq/GIMDL-MAS04\\_302432\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-MAS04_302432_7.pdf)

### **Fifth Annual Report; 1903,**

[ ] [http://www.michigan.gov/documents/deq/GIMDL-MAS05\\_302434\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-MAS05_302434_7.pdf)

### **Sixth Annual Report; 1904,**

[ ] [http://www.michigan.gov/documents/deq/GIMDL-MAS06\\_302435\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-MAS06_302435_7.pdf)

### **Seventh Annual Report; 1905,**

[ ] [http://www.michigan.gov/documents/deq/GIMDL-MAS07\\_302436\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-MAS07_302436_7.pdf)

### **Eighth Annual Report; 1906,**

[ ] [http://www.michigan.gov/documents/deq/GIMDL-MAS08\\_302437\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-MAS08_302437_7.pdf)

### **Ninth Annual Report; 1907,**

[ ] [http://www.michigan.gov/documents/deq/GIMDL-MAS09\\_302438\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-MAS09_302438_7.pdf)

### **Tenth Annual Report; 1908,**

[ ] [http://www.michigan.gov/documents/deq/GIMDL-MAS10\\_302439\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-MAS10_302439_7.pdf)

### **Eleventh Annual Report; 1909,**

[ ] [http://www.michigan.gov/documents/deq/GIMDL-MAS11\\_302441\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-MAS11_302441_7.pdf)

### **Twelfth Annual Report; 1910,**

[ ] [http://www.michigan.gov/documents/deq/GIMDL-MAS12\\_302442\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-MAS12_302442_7.pdf)

### **Thirteenth Annual Report; 1911,**

[ ] [http://www.michigan.gov/documents/deq/GIMDL-MAS13\\_302443\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-MAS13_302443_7.pdf)

### **Fourteenth Annual Report; 1912,**

[ ] [http://www.michigan.gov/documents/deq/GIMDL-MAS14\\_302445\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-MAS14_302445_7.pdf)

### **Fifteenth Annual Report; 1913,**

[ ] [http://www.michigan.gov/documents/deq/GIMDL-MAS15\\_302446\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-MAS15_302446_7.pdf)

### **Sixteenth Annual Report; 1914,**

[ ] [http://www.michigan.gov/documents/deq/GIMDL-MAS16\\_302447\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-MAS16_302447_7.pdf)

### **Seventeenth Annual Report; 1915,**

[ ] [http://www.michigan.gov/documents/deq/GIMDL-MAS17\\_302448\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-MAS17_302448_7.pdf)

### **Nineteenth Annual Report; 1917,**

[ ] [http://www.michigan.gov/documents/deq/GIMDL-MAS19\\_302449\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-MAS19_302449_7.pdf)

### **Twentieth Annual Report; 1918,**

[ ] [http://www.michigan.gov/documents/deq/GIMDL-MAS20\\_302452\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-MAS20_302452_7.pdf)

### **Twenty-First Annual Report; 1919,**

[ ] [http://www.michigan.gov/documents/deq/GIMDL-MAS21\\_302454\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-MAS21_302454_7.pdf)

### **Twenty-Second Annual Report; 1920,**

[ ] [http://www.michigan.gov/documents/deq/GIMDL-MAS22\\_302455\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-MAS22_302455_7.pdf)

## **[14] Michigan Academy of Science Arts and Letters**

*Selected materials from various proceedings of the Academy that relate to Michigan geology or geography are available. The "Michigan Academy of Science" held its first meeting in 1895. The Academy of Science became the "Michigan Academy of Science Arts and Letters" in 1920. More information about this organization go to <http://themichiganacademy.org/>*

### **Seventh Annual Field Excursion; 1937;**

[ ] [http://www.michigan.gov/documents/deq/MASAL\\_FT1937\\_opt\\_313204\\_7.pdf](http://www.michigan.gov/documents/deq/MASAL_FT1937_opt_313204_7.pdf)

### **Eighth Annual Field Excursion; 1938;**

[ ] [http://www.michigan.gov/documents/deq/MASAL\\_FT1938\\_opt\\_313205\\_7.pdf](http://www.michigan.gov/documents/deq/MASAL_FT1938_opt_313205_7.pdf)

### **Tenth Annual Excursion; W. A. Kelley, 1940;**

[ ] [http://www.michigan.gov/documents/deq/MASAL\\_FT1940\\_306074\\_7.pdf](http://www.michigan.gov/documents/deq/MASAL_FT1940_306074_7.pdf)

[ ] [http://www.michigan.gov/documents/deq/MASAL\\_FT1940\\_opt\\_306075\\_7.pdf](http://www.michigan.gov/documents/deq/MASAL_FT1940_opt_306075_7.pdf)

### **Annual Field Trip; 1947,**

[ ] [http://www.michigan.gov/documents/deq/GIMDL-MASALFT\\_302457\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-MASALFT_302457_7.pdf)

### **Volume 1; 1921,**

[ ] [http://www.michigan.gov/documents/deq/GIMDL-MASALV01\\_302458\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-MASALV01_302458_7.pdf)

### **Volume 2; 1922,**

[ ] [http://www.michigan.gov/documents/deq/GIMDL-MASALV02\\_302459\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-MASALV02_302459_7.pdf)

### **Volume 3; 1923,**

[ ] [http://www.michigan.gov/documents/deq/GIMDL-MASALV03\\_302460\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-MASALV03_302460_7.pdf)

### **Volume 4; 1923,**

[ ] [http://www.michigan.gov/documents/deq/GIMDL-MASALV04\\_302461\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-MASALV04_302461_7.pdf)

### **Volume 5; 1925,**

[ ] [http://www.michigan.gov/documents/deq/GIMDL-MASALV05\\_302462\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-MASALV05_302462_7.pdf)

### **Volume 7; 1926,**

[ ] [http://www.michigan.gov/documents/deq/GIMDL-MASALV07\\_302463\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-MASALV07_302463_7.pdf)

### **Volume 8; 1927,**

[ ] [http://www.michigan.gov/documents/deq/GIMDL-MASALV08\\_302464\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-MASALV08_302464_7.pdf)

**Volume 9;** 1928,  
[] [http://www.michigan.gov/documents/deq/GIMDL-MASALV09\\_302466\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-MASALV09_302466_7.pdf)

**Volume 10;** 1928,  
[] [http://www.michigan.gov/documents/deq/GIMDL-MASALV10\\_302467\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-MASALV10_302467_7.pdf)

**Volume 12;** 1929,  
[] [http://www.michigan.gov/documents/deq/GIMDL-MASALV12\\_302469\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-MASALV12_302469_7.pdf)

**Volume 14;** 1930,  
[] [http://www.michigan.gov/documents/deq/GIMDL-MASALV14\\_302474\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-MASALV14_302474_7.pdf)

**Volume 15;** 1931,  
[] [http://www.michigan.gov/documents/deq/GIMDL-MASALV15\\_302475\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-MASALV15_302475_7.pdf)

**Volume 16;** 1931,  
[] [http://www.michigan.gov/documents/deq/GIMDL-MASALV16A\\_302476\\_7.PDF](http://www.michigan.gov/documents/deq/GIMDL-MASALV16A_302476_7.PDF)

**Volume 16;** 1931,  
[] [http://www.michigan.gov/documents/deq/GIMDL-MASALV16B\\_302477\\_7.PDF](http://www.michigan.gov/documents/deq/GIMDL-MASALV16B_302477_7.PDF)

**Volume 17;** 1932,  
[] [http://www.michigan.gov/documents/deq/GIMDL-MASALV17\\_302478\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-MASALV17_302478_7.pdf)

**Volume 18;** 1932,  
[] [http://www.michigan.gov/documents/deq/GIMDL-MASALV18\\_302479\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-MASALV18_302479_7.pdf)

**Volume 19;** 1933,  
[] [http://www.michigan.gov/documents/deq/GIMDL-MASALV19\\_302480\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-MASALV19_302480_7.pdf)

**Volume 20;** 1934,  
[] [http://www.michigan.gov/documents/deq/GIMDL-MASALV20\\_302482\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-MASALV20_302482_7.pdf)

**Volume 21;** 1935,  
[] [http://www.michigan.gov/documents/deq/GIMDL-MASALV21A\\_302484\\_7.PDF](http://www.michigan.gov/documents/deq/GIMDL-MASALV21A_302484_7.PDF)  
[] [http://www.michigan.gov/documents/deq/GIMDL-MASALV21B\\_302486\\_7.PDF](http://www.michigan.gov/documents/deq/GIMDL-MASALV21B_302486_7.PDF)

**Volume 22;** 1936,  
[] [http://www.michigan.gov/documents/deq/GIMDL-MASALV22\\_302490\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-MASALV22_302490_7.pdf)

**Volume 23;** 1937,  
[] [http://www.michigan.gov/documents/deq/GIMDL-MASALV23A\\_302494\\_7.PDF](http://www.michigan.gov/documents/deq/GIMDL-MASALV23A_302494_7.PDF)  
[] [http://www.michigan.gov/documents/deq/GIMDL-MASALV23B\\_302495\\_7.PDF](http://www.michigan.gov/documents/deq/GIMDL-MASALV23B_302495_7.PDF)  
[] [http://www.michigan.gov/documents/deq/GIMDL-MASALV23C\\_302498\\_7.PDF](http://www.michigan.gov/documents/deq/GIMDL-MASALV23C_302498_7.PDF)

**Volume 24;** 1938,  
[] [http://www.michigan.gov/documents/deq/GIMDL-MASALV24\\_302501\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-MASALV24_302501_7.pdf)

**Volume 25;** 1939,  
[] [http://www.michigan.gov/documents/deq/GIMDL-MASALV25\\_302503\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-MASALV25_302503_7.pdf)

**Volume 26;** 1940,  
[] [http://www.michigan.gov/documents/deq/GIMDL-MASALV26\\_302506\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-MASALV26_302506_7.pdf)

**Volume 27;** 1941,  
[] [http://www.michigan.gov/documents/deq/GIMDL-MASALV27\\_302507\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-MASALV27_302507_7.pdf)

**Volume 28;** 1942,  
[] [http://www.michigan.gov/documents/deq/GIMDL-MASALV28\\_302508\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-MASALV28_302508_7.pdf)

**Volume 29;** 1943,  
[] [http://www.michigan.gov/documents/deq/GIMDL-MASALV29\\_302510\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-MASALV29_302510_7.pdf)

**Volume 30;** 1944,  
[] [http://www.michigan.gov/documents/deq/GIMDL-MASALV30A\\_302512\\_7.PDF](http://www.michigan.gov/documents/deq/GIMDL-MASALV30A_302512_7.PDF)  
[] [http://www.michigan.gov/documents/deq/GIMDL-MASALV30B\\_302515\\_7.PDF](http://www.michigan.gov/documents/deq/GIMDL-MASALV30B_302515_7.PDF)

**Volume 31;** 1945,  
[] [http://www.michigan.gov/documents/deq/GIMDL-MASALV31\\_302517\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-MASALV31_302517_7.pdf)

**Volume 32;** 1946,  
[] [http://www.michigan.gov/documents/deq/GIMDL-MASALV32A\\_302520\\_7.PDF](http://www.michigan.gov/documents/deq/GIMDL-MASALV32A_302520_7.PDF)  
[] [http://www.michigan.gov/documents/deq/GIMDL-MASALV32B\\_302525\\_7.PDF](http://www.michigan.gov/documents/deq/GIMDL-MASALV32B_302525_7.PDF)

**Volume 34;** 1948,  
[] [http://www.michigan.gov/documents/deq/GIMDL-MASALV34A\\_302529\\_7.PDF](http://www.michigan.gov/documents/deq/GIMDL-MASALV34A_302529_7.PDF)  
[] [http://www.michigan.gov/documents/deq/GIMDL-MASALV34B\\_302530\\_7.PDF](http://www.michigan.gov/documents/deq/GIMDL-MASALV34B_302530_7.PDF)

**Volume 35;** 1949,  
[] [http://www.michigan.gov/documents/deq/GIMDL-MASALV35\\_302531\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-MASALV35_302531_7.pdf)

**Volume 36;** 1950,  
[] [http://www.michigan.gov/documents/deq/GIMDL-MASALV36\\_302533\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-MASALV36_302533_7.pdf)

**Volume 37;** 1951,  
[] [http://www.michigan.gov/documents/deq/GIMDL-MASALV37\\_302536\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-MASALV37_302536_7.pdf)

**Volume 38;** 1952,  
[] [http://www.michigan.gov/documents/deq/GIMDL-MASALV38\\_302537\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-MASALV38_302537_7.pdf)

**Volume 40;** 1954,  
[] [http://www.michigan.gov/documents/deq/GIMDL-MASALV40\\_302539\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-MASALV40_302539_7.pdf)

**Volume 41;** 1955,  
[] [http://www.michigan.gov/documents/deq/GIMDL-MASALV41\\_302540\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-MASALV41_302540_7.pdf)

**Volume 43;** 1957,  
[] [http://www.michigan.gov/documents/deq/GIMDL-MASALV43\\_302541\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-MASALV43_302541_7.pdf)

---

## [15] Mackinac Bridge Project

*A collection of geological information gathered as part of the process that lead to the building the original 'Big Mac' - Mackinaw Bridge.*

**Proposed Mackinac Straits Bridge Preliminary Report;** O. H. Ammann, D. B. Steinman, G. B. Woodruff, 1951;  
[http://www.michigan.gov/documents/deq/Proposed\\_Prelim\\_Report\\_306067\\_7.pdf](http://www.michigan.gov/documents/deq/Proposed_Prelim_Report_306067_7.pdf)  
[http://www.michigan.gov/documents/deq/Proposed\\_Prelim\\_Report\\_opt\\_306071\\_7.pdf](http://www.michigan.gov/documents/deq/Proposed_Prelim_Report_opt_306071_7.pdf)

**Pier Foundations for a Proposed Bridge Across the Straits of Mackinac;** C. P. Berkey, S. Paige, ND;  
[] [http://www.michigan.gov/documents/deq/Pier\\_Foundations\\_306062\\_7.pdf](http://www.michigan.gov/documents/deq/Pier_Foundations_306062_7.pdf)  
[] [http://www.michigan.gov/documents/deq/Pier\\_Foundations\\_opt\\_306063\\_7.pdf](http://www.michigan.gov/documents/deq/Pier_Foundations_opt_306063_7.pdf)

**Mackinac Bridge Final Geological Report;** J. C. Rosenau, 1956;  
[http://www.michigan.gov/documents/deq/Final\\_Geological\\_Report\\_306059\\_7.pdf](http://www.michigan.gov/documents/deq/Final_Geological_Report_306059_7.pdf)  
[http://www.michigan.gov/documents/deq/Final\\_Geological\\_Report\\_opt\\_306060\\_7.pdf](http://www.michigan.gov/documents/deq/Final_Geological_Report_opt_306060_7.pdf)



## [16] Michigan's Mineral Industries

*The series "Michigan's Mineral Industries" began publication in 1950 with a review of the year 1948. It was published annually, with the exception that no review of the year 1950 was published. In 1963, with the issue reviewing 1962, the report became a part of the Annual Statistical Summary series AS. This series is no longer active.*

### Summary Report Number 1 Production and Value of Minerals and Mineral Products in Michigan

**1927 to 1931 and Prior Years;** W. Osgood, O. F. Poindexter, 1933; All counties, Brick, Bromine, Calcium, Cement, Chloride, Clay, Coal, Copper, Dolomite, Granite, Gypsum, Iodine, Iron, Lime, Limestone, Magnesium, Oil and Gas, Salt, Sand, Sand and Gravel, Sandstone, Slate, Stone

[\[\] http://www.michigan.gov/documents/deq/SS\\_01\\_1933\\_309343\\_7.pdf](http://www.michigan.gov/documents/deq/SS_01_1933_309343_7.pdf)

[\[\] http://www.michigan.gov/documents/deq/SS\\_01\\_1933opt\\_309347\\_7.pdf](http://www.michigan.gov/documents/deq/SS_01_1933opt_309347_7.pdf)

### Statistical Summary Report 2: Production and Value of Minerals and Mineral Products in

**Michigan 1930 to 1934 and Prior Years;** W. Osgood, O. F. Poindexter, 1936; All counties, Brick, Bromine, Calcium, Cement, Chloride, Clay, Coal, Copper, Dolomite, Granite, Gypsum, Iodine, Iron, Lime, Limestone, Magnesium, Oil and Gas, Salt, Sand, Sand and Gravel, Sandstone, Slate, Stone

[\[\] http://www.michigan.gov/documents/deq/GIMDL-SS021936\\_302968\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-SS021936_302968_7.pdf)

[\[\] http://www.michigan.gov/documents/deq/SS\\_02\\_1936opt\\_309350\\_7.pdf](http://www.michigan.gov/documents/deq/SS_02_1936opt_309350_7.pdf)

**Mineral Industries of Michigan 1934 to 1938 and Prior Years;** W. Osgood, O. F. Poindexter, 1940; All counties, Brick, Bromine, Calcium, Cement, Chloride, Clay, Coal, Copper, Dolomite, Granite, Gypsum, Iodine, Iron, Lime, Limestone, Magnesium, Oil and Gas, Salt, Sand, Sand and Gravel, Sandstone, Slate, Stone

[\[\] http://www.michigan.gov/documents/deq/GIMDL-GGMIN\\_216143\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-GGMIN_216143_7.pdf)

[\[\] http://www.michigan.gov/documents/deq/Mineral\\_Industries\\_opt\\_304428\\_7.pdf](http://www.michigan.gov/documents/deq/Mineral_Industries_opt_304428_7.pdf)

**Mineral Industries of Michigan. ...;** O. F. Poindexter, H. J. Hardenberg, J. C. Rosenau, 1940 - 1953; Illustrated All counties, Brine, Cement, Clay, Coal, Copper, Gas, Gold, Gravel, Gypsum, Iron, Lime, Limestone, Oil, Salt, Sand, Sandstone, Silver, Stone, not digitized.

**Michigan's Mineral Industries 1952;** H. O. Sorensen, E. T. Carlson, 1954; Brine, Cement, Clay, Coal, Copper, Gas, Gravel, Gypsum, Iron, Lime, Oil, Peat, Salt, Sand, Shale, Stone

[\[\] http://www.michigan.gov/documents/deq/GIMDL-MI1952\\_302551\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-MI1952_302551_7.pdf)

[\[\] http://www.michigan.gov/documents/deq/MI\\_1952opt\\_304397\\_7.pdf](http://www.michigan.gov/documents/deq/MI_1952opt_304397_7.pdf)

**Michigan's Mineral Industries 1953;** H. O. Sorensen, E. T. Carlson, 1955; Brine, Cement, Clay, Copper, Gas, Gravel, Gypsum, Iron, Lime, Oil, Peat, Salt, Sand, Shale, Stone

[\[\] http://www.michigan.gov/documents/deq/GIMDL-MI1953\\_302552\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-MI1953_302552_7.pdf)

[\[\] http://www.michigan.gov/documents/deq/MI\\_1953opt\\_304398\\_7.pdf](http://www.michigan.gov/documents/deq/MI_1953opt_304398_7.pdf)

**Michigan's Mineral Industries 1954;** H. O. Sorensen, E. T. Carlson, 1955; Brine, Cement, Clay, Copper, Gas, Gravel, Gypsum, Iron, Lime, Oil, Peat, Salt, Sand, Shale, Stone

[\[\] http://www.michigan.gov/documents/deq/GIMDL-MI1954\\_302554\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-MI1954_302554_7.pdf)

[\[\] http://www.michigan.gov/documents/deq/MI\\_1954opt\\_304400\\_7.pdf](http://www.michigan.gov/documents/deq/MI_1954opt_304400_7.pdf)

**Michigan's Mineral Industries 1955;** H. O. Sorensen, E. T. Carlson, 1956; Brine, Cement, Clay, Copper, Gas, Gravel, Gypsum, Iron, Lime, Oil, Peat, Salt, Sand, Shale, Stone, Water

[\[\] http://www.michigan.gov/documents/deq/GIMDL-MI1955\\_302555\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-MI1955_302555_7.pdf)

[\[\] http://www.michigan.gov/documents/deq/MI\\_1955opt\\_304405\\_7.pdf](http://www.michigan.gov/documents/deq/MI_1955opt_304405_7.pdf)

**Michigan's Mineral Industries 1956;** H. O. Sorensen, E. T. Carlson, 1957; Brine, Cement, Clay, Copper, Gas, Gravel, Gypsum, Iron, Lime, Oil, Peat, Salt, Sand, Shale, Stone, Water

[\[\] http://www.michigan.gov/documents/deq/GIMDL-MI1956\\_302556\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-MI1956_302556_7.pdf)

[\[\] http://www.michigan.gov/documents/deq/MI\\_1956opt\\_304406\\_7.pdf](http://www.michigan.gov/documents/deq/MI_1956opt_304406_7.pdf)

**Michigan's Mineral Industries 1957;** H. O. Sorensen, E. T. Carlson, 1958; Brine, Cement, Clay, Copper, Gas, Gravel, Gypsum, Iron, Lime, Oil, Peat, Salt, Sand, Shale, Stone, Water

[\[\] http://www.michigan.gov/documents/deq/GIMDL-MI1957\\_302557\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-MI1957_302557_7.pdf)

[\[\] http://www.michigan.gov/documents/deq/MI\\_1957opt\\_304407\\_7.pdf](http://www.michigan.gov/documents/deq/MI_1957opt_304407_7.pdf)

**Michigan's Mineral Industries 1958;** H. O. Sorensen, E. T. Carlson, 1959; Brine, Cement, Clay, Copper, Gas, Gravel, Gypsum, Iron, Lime, Oil, Peat, Salt, Sand, Shale, Stone

[\[\] http://www.michigan.gov/documents/deq/GIMDL-MI1958\\_302558\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-MI1958_302558_7.pdf)

[\[\] http://www.michigan.gov/documents/deq/MI\\_1958opt\\_304408\\_7.pdf](http://www.michigan.gov/documents/deq/MI_1958opt_304408_7.pdf)

**Michigan's Mineral Industries 1959;** H. O. Sorensen, E. T. Carlson, 1960; Brine, Cement, Clay, Copper, Gas, Gravel, Gypsum, Iron, Lime, Oil, Peat, Salt, Sand, Shale, Stone

[\[\] http://www.michigan.gov/documents/deq/GIMDL-MI1959\\_302559\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-MI1959_302559_7.pdf)

[\[\] http://www.michigan.gov/documents/deq/MI\\_1959opt\\_304410\\_7.pdf](http://www.michigan.gov/documents/deq/MI_1959opt_304410_7.pdf)

**Michigan's Mineral Industries 1960;** H. O. Sorensen, E. T. Carlson, 1961; Brine, Cement, Clay, Copper, Gas, Gravel, Gypsum, Iron, Lime, Oil, Peat, Salt, Sand, Shale, Stone, Sulfur

[\[\] http://www.michigan.gov/documents/deq/GIMDL-MI1960\\_302560\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-MI1960_302560_7.pdf)

[\[\] http://www.michigan.gov/documents/deq/MI\\_1960opt\\_304413\\_7.pdf](http://www.michigan.gov/documents/deq/MI_1960opt_304413_7.pdf)

**Michigan's Mineral Industries 1961;** H. O. Sorensen, E. T. Carlson, 1962; Brine, Cement, Clay, Copper, Gas, Gravel, Gypsum, Iron, Lime, Marl, Oil, Peat, Salt, Sand, Shale, Stone, Sulfur

[\[\] http://www.michigan.gov/documents/deq/GIMDL-MI1961\\_302564\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-MI1961_302564_7.pdf)

[\[\] http://www.michigan.gov/documents/deq/MI\\_1961opt\\_304417\\_7.pdf](http://www.michigan.gov/documents/deq/MI_1961opt_304417_7.pdf)

**Michigan's Mineral Industries 1962;** H. O. Sorensen, E. T. Carlson, 1963; Brine, Cement, Clay, Copper, Gas, Gravel, Gypsum, Iron, Lime, Marl, Oil, Peat, Salt, Sand, Shale, Stone, Sulfur

[\[\] http://www.michigan.gov/documents/deq/GIMDL-MI1962\\_302565\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-MI1962_302565_7.pdf)

[\[\] http://www.michigan.gov/documents/deq/MI\\_1962opt\\_304420\\_7.pdf](http://www.michigan.gov/documents/deq/MI_1962opt_304420_7.pdf)

## [17] Miscellaneous

*"Miscellany" is one report about non-metallic Minerals.*

**Miscellany 1: Papers presented at Sixth Forum on Geology of Industrial Minerals**; W. A. Kneller, 1970; All counties Brine, Gypsum, Limestone, Salt Clay, Dolomite, Gravel, Sand, Sandstone, Shale

- [] [http://www.michigan.gov/documents/deq/GIMDL-MISC11\\_216152\\_7.PDF](http://www.michigan.gov/documents/deq/GIMDL-MISC11_216152_7.PDF)
- [] [http://www.michigan.gov/documents/deq/Misc\\_1\\_T1opt\\_304632\\_7.pdf](http://www.michigan.gov/documents/deq/Misc_1_T1opt_304632_7.pdf)
- [] [http://www.michigan.gov/documents/deq/Misc\\_1\\_T2opt\\_304633\\_7.pdf](http://www.michigan.gov/documents/deq/Misc_1_T2opt_304633_7.pdf)
- [] [http://www.michigan.gov/documents/deq/GIMDL-MISC11B\\_216153\\_7.PDF](http://www.michigan.gov/documents/deq/GIMDL-MISC11B_216153_7.PDF)
- [] [http://www.michigan.gov/documents/deq/GIMDL-MISC12\\_216154\\_7.PDF](http://www.michigan.gov/documents/deq/GIMDL-MISC12_216154_7.PDF)
- [] [http://www.michigan.gov/documents/deq/GIMDL-MISC12B\\_216155\\_7.PDF](http://www.michigan.gov/documents/deq/GIMDL-MISC12B_216155_7.PDF)

## [18] Mineral Statistics

*"Mineral Statistics" are early reports on the Mineral Industry in Michigan. These include discussion about the commodities, mines and volumes produced.*

**Annual Report of the Commissioner of Mineral Statistics for 1880**; C. E. Wright, 1881; Mineral products, production and value Brine, Cement, Clay, Copper, Gas, Gravel, Gypsum, Iron, Lime, Marl, Oil, Peat, Salt, Sand, Shale, Stone, Sulfur

- [] [http://www.michigan.gov/documents/deq/GIMDL-MS1880\\_302574\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-MS1880_302574_7.pdf)
- [] [http://www.michigan.gov/documents/deq/MinStats\\_1880\\_Part1opt\\_304530\\_7.pdf](http://www.michigan.gov/documents/deq/MinStats_1880_Part1opt_304530_7.pdf)
- [] [http://www.michigan.gov/documents/deq/MinStats\\_1880\\_Part2opt\\_304532\\_7.pdf](http://www.michigan.gov/documents/deq/MinStats_1880_Part2opt_304532_7.pdf)
- [] [http://www.michigan.gov/documents/deq/MinStats\\_1880\\_Part3opt\\_304533\\_7.pdf](http://www.michigan.gov/documents/deq/MinStats_1880_Part3opt_304533_7.pdf)
- [] [http://www.michigan.gov/documents/deq/MinStats\\_1880\\_tables\\_304534\\_7.pdf](http://www.michigan.gov/documents/deq/MinStats_1880_tables_304534_7.pdf)

**Annual Report of the Commissioner of Mineral Statistics for 1881**; C. E. Wright, 1882; Mineral products, production and value Brine, Cement, Clay, Copper, Gas, Gravel, Gypsum, Iron, Lime, Marl, Oil, Peat, Salt, Sand, Shale, Stone, Sulfur

- [] [http://www.michigan.gov/documents/deq/GIMDL-MS1881\\_302575\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-MS1881_302575_7.pdf)
- [] [http://www.michigan.gov/documents/deq/MinStats\\_1881\\_Part1opt\\_304554\\_7.pdf](http://www.michigan.gov/documents/deq/MinStats_1881_Part1opt_304554_7.pdf)
- [] [http://www.michigan.gov/documents/deq/MinStats\\_1881\\_Part2opt\\_304557\\_7.pdf](http://www.michigan.gov/documents/deq/MinStats_1881_Part2opt_304557_7.pdf)
- [] [http://www.michigan.gov/documents/deq/MinStats\\_1881\\_Part3opt\\_304560\\_7.pdf](http://www.michigan.gov/documents/deq/MinStats_1881_Part3opt_304560_7.pdf)
- [] [http://www.michigan.gov/documents/deq/MinStats\\_1881\\_Part4opt\\_304564\\_7.pdf](http://www.michigan.gov/documents/deq/MinStats_1881_Part4opt_304564_7.pdf)

**Annual Report of the Commissioner of Mineral Statistics for 1882**; C. E. Wright, 1883; Mineral products, production and value Brine, Cement, Clay, Copper, Gas, Gravel, Gypsum, Iron, Lime, Marl, Oil, Peat, Salt, Sand, Shale, Stone, Sulfur

- [] [http://www.michigan.gov/documents/deq/GIMDL-MS1882\\_302577\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-MS1882_302577_7.pdf)

**Annual Report of the Commissioner of Mineral Statistics for 1883**; C. E. Wright, 1884; Mineral products, production and value Brine, Cement, Clay, Copper, Gas, Gravel, Gypsum, Iron, Lime, Marl, Oil, Peat, Salt, Sand, Shale, Stone, Sulfur

- [] [http://www.michigan.gov/documents/deq/Mineral\\_Statistics\\_1883\\_tables\\_304452\\_7.pdf](http://www.michigan.gov/documents/deq/Mineral_Statistics_1883_tables_304452_7.pdf)
- [] [http://www.michigan.gov/documents/deq/Mineral\\_Statistics\\_1883opt\\_304451\\_7.pdf](http://www.michigan.gov/documents/deq/Mineral_Statistics_1883opt_304451_7.pdf)

**Annual Report of the Commissioner of Mineral Statistics for 1884**; C. E. Wright, 1885; Mineral products, production and value Brine, Cement, Clay, Copper, Gas, Gravel, Gypsum, Iron, Lime, Marl, Oil, Peat, Salt, Sand, Shale, Stone, Sulfur

- [] [http://www.michigan.gov/documents/deq/Mineral\\_Statistics\\_1884\\_304454\\_7.pdf](http://www.michigan.gov/documents/deq/Mineral_Statistics_1884_304454_7.pdf)
- [] [http://www.michigan.gov/documents/deq/Mineral\\_Statistics\\_1884\\_tables\\_304457\\_7.pdf](http://www.michigan.gov/documents/deq/Mineral_Statistics_1884_tables_304457_7.pdf)

**Mineral Resources 1885**; C. D. Lawton, 1886; Mineral products, production and value Brine, Cement, Clay, Copper, Gas, Gold, Gravel, Gypsum, Iron, Lime, Marl, Oil, Peat, Salt, Sand, Shale, Stone, Sulfur

- [] [http://www.michigan.gov/documents/deq/GIMDL-MS1885A\\_216156\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-MS1885A_216156_7.pdf)
- [] [http://www.michigan.gov/documents/deq/GIMDL-MS1885B\\_216157\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-MS1885B_216157_7.pdf)
- [] [http://www.michigan.gov/documents/deq/MinStats\\_1885\\_Part1Aopt\\_304510\\_7.pdf](http://www.michigan.gov/documents/deq/MinStats_1885_Part1Aopt_304510_7.pdf)
- [] [http://www.michigan.gov/documents/deq/MinStats\\_1885\\_Part1Bopt\\_304513\\_7.pdf](http://www.michigan.gov/documents/deq/MinStats_1885_Part1Bopt_304513_7.pdf)
- [] [http://www.michigan.gov/documents/deq/MinStats\\_1885\\_Part2opt\\_304515\\_7.pdf](http://www.michigan.gov/documents/deq/MinStats_1885_Part2opt_304515_7.pdf)
- [] [http://www.michigan.gov/documents/deq/MinStats\\_1885\\_Part3Aopt\\_304517\\_7.pdf](http://www.michigan.gov/documents/deq/MinStats_1885_Part3Aopt_304517_7.pdf)
- [] [http://www.michigan.gov/documents/deq/MinStats\\_1885\\_Part3Bopt\\_304521\\_7.pdf](http://www.michigan.gov/documents/deq/MinStats_1885_Part3Bopt_304521_7.pdf)
- [] [http://www.michigan.gov/documents/deq/MinStats\\_1885\\_Part4opt\\_304523\\_7.pdf](http://www.michigan.gov/documents/deq/MinStats_1885_Part4opt_304523_7.pdf)

**Mines and Mineral Statistics for 1886**; C. D. Lawton, 1887; Mineral products, production and value Brine, Cement, Clay, Copper, Gas, Gold, Gravel, Gypsum, Iron, Lime, Marl, Oil, Peat, Salt, Sand, Shale, Stone, Sulfur

- [] [http://www.michigan.gov/documents/deq/GIMDL-MS1886A\\_302578\\_7.PDF](http://www.michigan.gov/documents/deq/GIMDL-MS1886A_302578_7.PDF)
- [] [http://www.michigan.gov/documents/deq/GIMDL-MS1886B\\_302581\\_7.PDF](http://www.michigan.gov/documents/deq/GIMDL-MS1886B_302581_7.PDF)

**Mines and Mineral Statistics 1887**; C. D. Lawton, 1888; Mineral products, production and value Brine, Cement, Clay, Copper, Gas, Gold, Gravel, Gypsum, Iron, Lime, Marl, Oil, Peat, Salt, Sand, Shale, Stone, Sulfur

- [] [http://www.michigan.gov/documents/deq/GIMDL-MS1887a\\_302582\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-MS1887a_302582_7.pdf)
- [] [http://www.michigan.gov/documents/deq/GIMDL-MS1887b\\_302583\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-MS1887b_302583_7.pdf)
- [] [http://www.michigan.gov/documents/deq/GIMDL-MS1887c\\_302584\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-MS1887c_302584_7.pdf)
- [] [http://www.michigan.gov/documents/deq/MinStats\\_1887\\_Part1opt\\_304573\\_7.pdf](http://www.michigan.gov/documents/deq/MinStats_1887_Part1opt_304573_7.pdf)
- [] [http://www.michigan.gov/documents/deq/MinStats\\_1887\\_Part2opt\\_304576\\_7.pdf](http://www.michigan.gov/documents/deq/MinStats_1887_Part2opt_304576_7.pdf)
- [] [http://www.michigan.gov/documents/deq/MinStats\\_1887\\_Part3opt\\_304578\\_7.pdf](http://www.michigan.gov/documents/deq/MinStats_1887_Part3opt_304578_7.pdf)
- [] [http://www.michigan.gov/documents/deq/MinStats\\_1887\\_Figures\\_304579\\_7.pdf](http://www.michigan.gov/documents/deq/MinStats_1887_Figures_304579_7.pdf)

**Mines and Mineral Statistics 1888**; C. D. Lawton, 1889; Mineral products, production and value Brine, Cement, Clay, Copper, Gas, Gold, Gravel, Gypsum, Iron, Lime, Marl, Oil, Peat, Salt, Sand, Shale, Stone, Sulfur

- [] [http://www.michigan.gov/documents/deq/GIMDL-MS1888A\\_216159\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-MS1888A_216159_7.pdf)
- [] [http://www.michigan.gov/documents/deq/GIMDL-MS1888B\\_216160\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-MS1888B_216160_7.pdf)
- [] [http://www.michigan.gov/documents/deq/MinStats\\_1888\\_Figuresopt\\_304601\\_7.pdf](http://www.michigan.gov/documents/deq/MinStats_1888_Figuresopt_304601_7.pdf)
- [] [http://www.michigan.gov/documents/deq/MinStats\\_1888\\_Copperopt\\_304597\\_7.pdf](http://www.michigan.gov/documents/deq/MinStats_1888_Copperopt_304597_7.pdf)
- [] [http://www.michigan.gov/documents/deq/MinStats\\_1888\\_Gold-Indexopt\\_304598\\_7.pdf](http://www.michigan.gov/documents/deq/MinStats_1888_Gold-Indexopt_304598_7.pdf)

**Mines and Mineral Statistics 1889**; C. D. Lawton, 1890; Mineral products, production and value Brine, Cement, Clay, Copper, Gas, Gold, Gravel, Gypsum, Iron, Lime, Marl, Oil, Peat, Salt, Sand, Shale, Stone, Sulfur

- [] [http://www.michigan.gov/documents/deq/GIMDL-MS1889\\_216161\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-MS1889_216161_7.pdf)

**Mines and Mineral Statistics 1890**; J. P. Edwards, 1891; Mineral products, production and value Brine, Cement, Clay, Copper, Gas, Gold, Gravel, Gypsum, Iron, Lime, Marl, Oil, Peat, Salt, Sand, Shale, Stone, Sulfur

- [] [http://www.michigan.gov/documents/deq/MinStats\\_1890\\_Copper-Goldopt\\_304602\\_7.pdf](http://www.michigan.gov/documents/deq/MinStats_1890_Copper-Goldopt_304602_7.pdf)
- [] [http://www.michigan.gov/documents/deq/MinStats\\_1890\\_Gypsum-Indexopt\\_304603\\_7.pdf](http://www.michigan.gov/documents/deq/MinStats_1890_Gypsum-Indexopt_304603_7.pdf)

**Mines and Mineral Statistics 1891**; J. P. Edwards, 1892; Mineral products, production and value Brine, Cement, Clay, Copper, Gas, Gold, Gravel, Gypsum, Iron, Lime, Marl, Oil, Peat, Salt, Sand, Shale, Stone, Sulfur

- [] [http://www.michigan.gov/documents/deq/GIMDL-MS1891\\_216162\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-MS1891_216162_7.pdf)
- [] [http://www.michigan.gov/documents/deq/Mineral\\_Statistics\\_1891opt\\_304460\\_7.pdf](http://www.michigan.gov/documents/deq/Mineral_Statistics_1891opt_304460_7.pdf)

**Mines and Mineral Statistics 1892**; J. P. Edwards, 1893; Mineral products, production and value Brine, Cement, Clay, Copper, Gas, Gold, Gravel, Gypsum, Iron, Lime, Marl, Oil, Peat, Salt, Sand, Shale, Stone, Sulfur

- [] [http://www.michigan.gov/documents/deq/GIMDL-MS1892\\_216163\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-MS1892_216163_7.pdf)

[ ] [http://www.michigan.gov/documents/deq/MinStats\\_1892\\_Copperopt\\_304606\\_7.pdf](http://www.michigan.gov/documents/deq/MinStats_1892_Copperopt_304606_7.pdf)  
[ ] [http://www.michigan.gov/documents/deq/MinStats\\_1892\\_Iron-Indexopt\\_304621\\_7.pdf](http://www.michigan.gov/documents/deq/MinStats_1892_Iron-Indexopt_304621_7.pdf)

**Mines and Mineral Statistics 1896**; G. A. Newett, 1897; Mineral products, production and value Brine, Cement, Clay, Copper, Gas, Gold, Gravel, Gypsum, Iron, Lime, Marl, Oil, Peat, Salt, Sand, Shale, Stone, Sulfur  
[ ] [http://www.michigan.gov/documents/deq/GIMDL-MS1896\\_302587\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-MS1896_302587_7.pdf)

**Mines and Mineral Statistics 1897**; G. A. Newett, 1898; Mineral products, production and value Brine, Cement, Clay, Copper, Gas, Gold, Gravel, Gypsum, Iron, Lime, Marl, Oil, Peat, Salt, Sand, Shale, Stone, Sulfur  
[ ] [http://www.michigan.gov/documents/deq/GIMDL-MS1897\\_302593\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-MS1897_302593_7.pdf)

**Mines and Mineral Statistics 1898**; G. A. Newett, 1899; Mineral products, production and value Brine, Cement, Clay, Copper, Gas, Gold, Gravel, Gypsum, Iron, Lime, Marl, Oil, Peat, Salt, Sand, Shale, Stone, Sulfur  
[ ] [http://www.michigan.gov/documents/deq/GIMDL-MS1898\\_302594\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-MS1898_302594_7.pdf)

**Mines and Mineral Statistics 1899**; G. A. Newett, 1899; Mineral products, production and value Brine, Cement, Clay, Copper, Gas, Gold, Gravel, Gypsum, Iron, Lime, Marl, Oil, Peat, Salt, Sand, Shale, Stone, Sulfur  
[ ] [http://www.michigan.gov/documents/deq/GIMDL-MS1899\\_302595\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-MS1899_302595_7.pdf)

**Mines and Mineral Statistics 1900**; T. A. Hanna, 1901; Mineral products, production and value Brine, Cement, Clay, Copper, Gas, Gold, Gravel, Gypsum, Iron, Lime, Marl, Oil, Peat, Salt, Sand, Shale, Stone, Sulfur  
[ ] [http://www.michigan.gov/documents/deq/GIMDL-MS1900\\_302596\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-MS1900_302596_7.pdf)

**Mines and Mineral Statistics 1901**; T. A. Hanna, 1902; Mineral products, production and value Brine, Cement, Clay, Copper, Gas, Gold, Gravel, Gypsum, Iron, Lime, Marl, Oil, Peat, Salt, Sand, Shale, Stone, Sulfur  
[ ] [http://www.michigan.gov/documents/deq/GIMDL-MS1901\\_302597\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-MS1901_302597_7.pdf)

**Mines and Mineral Statistics 1902**; T. A. Hanna, 1903; Mineral products, production and value Brine, Cement, Clay, Copper, Gas, Gold, Gravel, Gypsum, Iron, Lime, Marl, Oil, Peat, Salt, Sand, Shale, Stone, Sulfur  
[ ] [http://www.michigan.gov/documents/deq/GIMDL-MS1902\\_302599\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-MS1902_302599_7.pdf)

**Mines and Mineral Statistics 1903**; T. A. Hanna, 1904; Mineral products, production and value Brine, Cement, Clay, Copper, Gas, Gold, Gravel, Gypsum, Iron, Lime, Marl, Oil, Peat, Salt, Sand, Shale, Stone, Sulfur  
[ ] [http://www.michigan.gov/documents/deq/GIMDL-MS1903\\_302600\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-MS1903_302600_7.pdf)

**Mines and Mineral Statistics 1905**; J. L. Nankervis, 1906; Mineral products, production and value Brine, Cement, Clay, Copper, Gas, Gold, Gravel, Gypsum, Iron, Lime, Marl, Oil, Peat, Salt, Sand, Shale, Stone, Sulfur  
[ ] [http://www.michigan.gov/documents/deq/GIMDL-MS1905\\_302601\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-MS1905_302601_7.pdf)

**Mines and Mineral Statistics 1906**; J. L. Nankervis, 1907; Mineral products, production and value Brine, Cement, Clay, Copper, Gas, Gold, Gravel, Gypsum, Iron, Lime, Marl, Oil, Peat, Salt, Sand, Shale, Stone, Sulfur  
[ ] [http://www.michigan.gov/documents/deq/GIMDL-MS1906\\_302602\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-MS1906_302602_7.pdf)

**Mines and Mineral Statistics 1907**; J. L. Nankervis, 1908; Mineral products, production and value Brine, Cement, Clay, Copper, Gas, Gold, Gravel, Gypsum, Iron, Lime, Marl, Oil, Peat, Salt, Sand, Shale, Stone, Sulfur  
[ ] [http://www.michigan.gov/documents/deq/GIMDL-MS1907\\_302603\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-MS1907_302603_7.pdf)

**Mines and Mineral Statistics 1908**; R. M. Andrews, 1909; Mineral products, production and value Brine, Cement, Clay, Copper, Gas, Gold, Gravel, Gypsum, Iron, Lime, Marl, Oil, Peat, Salt, Sand, Shale, Stone, Sulfur  
[ ] [http://www.michigan.gov/documents/deq/GIMDL-MS1908\\_302605\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-MS1908_302605_7.pdf)

**Mines and Mineral Statistics 1909**; R. M. Andrews, 1910; Mineral products, production and value Brine, Cement, Clay, Copper, Gas, Gold, Gravel, Gypsum, Iron, Lime, Marl, Oil, Peat, Salt, Sand, Shale, Stone, Sulfur  
[ ] [http://www.michigan.gov/documents/deq/GIMDL-MS1909\\_302606\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-MS1909_302606_7.pdf)

---

## [19] Open File

*The "Open File" group listed here are transcriptions of a wide range of field work done by geologist working for the Geological Survey. Quality and amount of material varies. This is not a complete collection of all of the notebooks. Much of this information was used in subsequent publications. Many of the original documents are in other archive collections. This is different from the more contemporary 'Open File Report' listing that follows this group*

### The Glacial History and Development of Michigan

S. G. Bergquist, not dated;  
[ ] [http://www.michigan.gov/documents/deq/Glacial\\_History\\_Bergquist\\_306034\\_7.pdf](http://www.michigan.gov/documents/deq/Glacial_History_Bergquist_306034_7.pdf)  
[ ] [http://www.michigan.gov/documents/deq/Glacial\\_History\\_Bergquist\\_opt\\_306035\\_7.pdf](http://www.michigan.gov/documents/deq/Glacial_History_Bergquist_opt_306035_7.pdf)

**Open File 85: The Grand Traverse Region**; A. Winchell, 1866; Geological, Industrial Resources Antrim Co., Grand Traverse Co., Benzie Co., Leelanaw Co.  
[ ] [http://www.michigan.gov/documents/deq/OFR\\_85\\_306706\\_7.pdf](http://www.michigan.gov/documents/deq/OFR_85_306706_7.pdf)  
[ ] [http://www.michigan.gov/documents/deq/OFR\\_85\\_opt\\_306707\\_7.pdf](http://www.michigan.gov/documents/deq/OFR_85_opt_306707_7.pdf)

### Open File 19: Field Notebook-Diaries of C. L. Rominger, State Geologist 1871-1874

C. L. Rominger, 1875;  
[http://www.michigan.gov/documents/deq/OFR\\_19\\_Rominger\\_1871-1874\\_Aopt\\_306084\\_7.pdf](http://www.michigan.gov/documents/deq/OFR_19_Rominger_1871-1874_Aopt_306084_7.pdf)  
[http://www.michigan.gov/documents/deq/OFR\\_19\\_Rominger\\_1871-1874\\_Bopt\\_306085\\_7.pdf](http://www.michigan.gov/documents/deq/OFR_19_Rominger_1871-1874_Bopt_306085_7.pdf)

**Open File 19: Field Notebook-Diaries of C. L. Rominger, State Geologist 1871-1874**; C. L. Rominger, 1875;  
[http://www.michigan.gov/documents/deq/OFR\\_19\\_Rominger\\_1871-1874\\_Copt\\_306086\\_7.pdf](http://www.michigan.gov/documents/deq/OFR_19_Rominger_1871-1874_Copt_306086_7.pdf)

**Open File 19: Field Notebook-Diaries of C. L. Rominger, State Geologist 1871-1874**; C. L. Rominger, 1875;  
[http://www.michigan.gov/documents/deq/OFR\\_19\\_Rominger\\_1871-1874\\_Dopt\\_306089\\_7.pdf](http://www.michigan.gov/documents/deq/OFR_19_Rominger_1871-1874_Dopt_306089_7.pdf)

**Open File 19: Field Notebook-Diaries of C. L. Rominger, State Geologist 1871-1874**; C. L. Rominger, 1875;  
[http://www.michigan.gov/documents/deq/OFR\\_19\\_Rominger\\_1871-1874\\_Eopt\\_306091\\_7.pdf](http://www.michigan.gov/documents/deq/OFR_19_Rominger_1871-1874_Eopt_306091_7.pdf)  
[http://www.michigan.gov/documents/deq/OFR\\_19\\_Rominger\\_1871-1874\\_Fopt\\_306094\\_7.pdf](http://www.michigan.gov/documents/deq/OFR_19_Rominger_1871-1874_Fopt_306094_7.pdf)

**Open File 20: Field Notebook-Diaries of C. L. Rominger, State Geologist 1875-1884;** C. L. Rominger, 1875;  
[http://www.michigan.gov/documents/deq/OFR\\_20\\_Rominger\\_1875-1884\\_Aopt\\_306146\\_7.pdf](http://www.michigan.gov/documents/deq/OFR_20_Rominger_1875-1884_Aopt_306146_7.pdf)  
[http://www.michigan.gov/documents/deq/OFR\\_20\\_Rominger\\_1875-1884\\_Bopt\\_306147\\_7.pdf](http://www.michigan.gov/documents/deq/OFR_20_Rominger_1875-1884_Bopt_306147_7.pdf)

**Open File 20: Field Notebook-Diaries of C. L. Rominger, State Geologist 1875-1884;** C. L. Rominger, 1875;  
[http://www.michigan.gov/documents/deq/OFR\\_20\\_Rominger\\_1875-1884\\_Copt\\_306148\\_7.pdf](http://www.michigan.gov/documents/deq/OFR_20_Rominger_1875-1884_Copt_306148_7.pdf)  
[http://www.michigan.gov/documents/deq/OFR\\_20\\_Rominger\\_1875-1884\\_Dopt\\_306149\\_7.pdf](http://www.michigan.gov/documents/deq/OFR_20_Rominger_1875-1884_Dopt_306149_7.pdf)

**Open File 20: Field Notebook-Diaries of C. L. Rominger, State Geologist 1875-1884;** C. L. Rominger, 1875;  
[http://www.michigan.gov/documents/deq/OFR\\_20\\_Rominger\\_1875-1884\\_Eopt\\_306151\\_7.pdf](http://www.michigan.gov/documents/deq/OFR_20_Rominger_1875-1884_Eopt_306151_7.pdf)  
[http://www.michigan.gov/documents/deq/OFR\\_20\\_Rominger\\_1875-1884\\_Fopt\\_306153\\_7.pdf](http://www.michigan.gov/documents/deq/OFR_20_Rominger_1875-1884_Fopt_306153_7.pdf)

**Open File 22: Field Notes of Frank Leverett Notebook 169;** F. Leverett, 1901;  
[http://www.michigan.gov/documents/deq/Leverett\\_NB169\\_305002\\_7.pdf](http://www.michigan.gov/documents/deq/Leverett_NB169_305002_7.pdf)  
[http://www.michigan.gov/documents/deq/Leverett\\_NB169\\_indexed\\_305004\\_7.pdf](http://www.michigan.gov/documents/deq/Leverett_NB169_indexed_305004_7.pdf)  
[http://www.michigan.gov/documents/deq/Leverett\\_NB170\\_306016\\_7.pdf](http://www.michigan.gov/documents/deq/Leverett_NB170_306016_7.pdf)

**Open File 23: Field Notes of Frank Leverett Notebook 170;** F. Leverett, 1901;  
[http://www.michigan.gov/documents/deq/Leverett\\_NB170\\_indexed\\_306017\\_7.pdf](http://www.michigan.gov/documents/deq/Leverett_NB170_indexed_306017_7.pdf)

**Open File 24: Field Notes of Frank Leverett Notebook 171;** F. Leverett, 1901;  
[http://www.michigan.gov/documents/deq/Leverett\\_NB171\\_306056\\_7.pdf](http://www.michigan.gov/documents/deq/Leverett_NB171_306056_7.pdf)  
[http://www.michigan.gov/documents/deq/Leverett\\_NB171\\_indexed\\_306058\\_7.pdf](http://www.michigan.gov/documents/deq/Leverett_NB171_indexed_306058_7.pdf)

**Open File 25: Field Notes of Frank Leverett Notebook 172;** F. Leverett, 1901;  
[http://www.michigan.gov/documents/deq/OFR\\_25\\_Leverett\\_NB172\\_306154\\_7.pdf](http://www.michigan.gov/documents/deq/OFR_25_Leverett_NB172_306154_7.pdf)  
[http://www.michigan.gov/documents/deq/OFR\\_25\\_Leverett\\_NB172\\_indexed\\_306155\\_7.pdf](http://www.michigan.gov/documents/deq/OFR_25_Leverett_NB172_indexed_306155_7.pdf)

**Open File 26: Field Notes of Frank Leverett Notebook 175;** F. Leverett, 1902;  
[http://www.michigan.gov/documents/deq/OFR\\_26\\_Leverett\\_NB175\\_306370\\_7.pdf](http://www.michigan.gov/documents/deq/OFR_26_Leverett_NB175_306370_7.pdf)  
[http://www.michigan.gov/documents/deq/OFR\\_26\\_Leverett\\_NB175\\_indexed\\_306374\\_7.pdf](http://www.michigan.gov/documents/deq/OFR_26_Leverett_NB175_indexed_306374_7.pdf)

**Open File 27: Field Notes of Frank Leverett Notebook 176;** F. Leverett, 1902;  
[http://www.michigan.gov/documents/deq/OFR\\_27\\_Leverett\\_NB176\\_306377\\_7.pdf](http://www.michigan.gov/documents/deq/OFR_27_Leverett_NB176_306377_7.pdf)

**Open File 27: Field Notes of Frank Leverett Notebook 176;** F. Leverett, 1902;  
[http://www.michigan.gov/documents/deq/OFR\\_27\\_Leverett\\_NB176\\_opt\\_306380\\_7.pdf](http://www.michigan.gov/documents/deq/OFR_27_Leverett_NB176_opt_306380_7.pdf)  
[http://www.michigan.gov/documents/deq/OFR\\_28\\_Leverett\\_NB177\\_306381\\_7.pdf](http://www.michigan.gov/documents/deq/OFR_28_Leverett_NB177_306381_7.pdf)

**Open File 28: Field Notes of Frank Leverett Notebook 177;** F. Leverett, 1902;  
[http://www.michigan.gov/documents/deq/OFR\\_28\\_Leverett\\_NB177\\_opt\\_306383\\_7.pdf](http://www.michigan.gov/documents/deq/OFR_28_Leverett_NB177_opt_306383_7.pdf)  
[http://www.michigan.gov/documents/deq/OFR\\_29\\_Leverett\\_NB178\\_306385\\_7.pdf](http://www.michigan.gov/documents/deq/OFR_29_Leverett_NB178_306385_7.pdf)

**Open File 29: Field Notes of Frank Leverett Notebook 178;** F. Leverett, 1902;  
[http://www.michigan.gov/documents/deq/OFR\\_29\\_Leverett\\_NB178\\_opt\\_306386\\_7.pdf](http://www.michigan.gov/documents/deq/OFR_29_Leverett_NB178_opt_306386_7.pdf)

**Open File 30: Field Notes of Frank Leverett Notebook 179;** F. Leverett, 1902;  
[http://www.michigan.gov/documents/deq/OFR\\_30\\_Leverett\\_NB179\\_306390\\_7.pdf](http://www.michigan.gov/documents/deq/OFR_30_Leverett_NB179_306390_7.pdf)  
[http://www.michigan.gov/documents/deq/OFR\\_30\\_Leverett\\_NB179\\_opt\\_306392\\_7.pdf](http://www.michigan.gov/documents/deq/OFR_30_Leverett_NB179_opt_306392_7.pdf)

**Open File 31: Field Notes of Frank Leverett Notebook 180;** F. Leverett, 1902;  
[http://www.michigan.gov/documents/deq/OFR\\_31\\_Leverett\\_NB180\\_306394\\_7.pdf](http://www.michigan.gov/documents/deq/OFR_31_Leverett_NB180_306394_7.pdf)  
[http://www.michigan.gov/documents/deq/OFR\\_31\\_Leverett\\_NB180\\_opt\\_306397\\_7.pdf](http://www.michigan.gov/documents/deq/OFR_31_Leverett_NB180_opt_306397_7.pdf)

**Open File 32: Field Notes of Frank Leverett Notebook 181;** F. Leverett, 1902;  
[http://www.michigan.gov/documents/deq/OFR\\_32\\_Leverett\\_NB181\\_306400\\_7.pdf](http://www.michigan.gov/documents/deq/OFR_32_Leverett_NB181_306400_7.pdf)  
[http://www.michigan.gov/documents/deq/OFR\\_32\\_Leverett\\_NB181\\_indexed\\_306402\\_7.pdf](http://www.michigan.gov/documents/deq/OFR_32_Leverett_NB181_indexed_306402_7.pdf)

**Open File 33: Field Notes of Frank Leverett Notebook 182;** F. Leverett, 1902;  
[http://www.michigan.gov/documents/deq/OFR\\_33\\_Leverett\\_NB182\\_306404\\_7.pdf](http://www.michigan.gov/documents/deq/OFR_33_Leverett_NB182_306404_7.pdf)  
[http://www.michigan.gov/documents/deq/OFR\\_33\\_Leverett\\_NB182\\_indexed\\_306405\\_7.pdf](http://www.michigan.gov/documents/deq/OFR_33_Leverett_NB182_indexed_306405_7.pdf)

**Open File 34: Field Notes of Frank Leverett Notebook 202;** F. Leverett, 1905;  
[http://www.michigan.gov/documents/deq/OFR\\_34\\_Leverett\\_NB202\\_306407\\_7.pdf](http://www.michigan.gov/documents/deq/OFR_34_Leverett_NB202_306407_7.pdf)  
[http://www.michigan.gov/documents/deq/OFR\\_34\\_Leverett\\_NB202\\_opt\\_306408\\_7.pdf](http://www.michigan.gov/documents/deq/OFR_34_Leverett_NB202_opt_306408_7.pdf)

**Open File 35: Field Notes of Frank Leverett Notebook 203;** F. Leverett, 1905;  
[http://www.michigan.gov/documents/deq/OFR\\_35\\_Leverett\\_NB203\\_306410\\_7.pdf](http://www.michigan.gov/documents/deq/OFR_35_Leverett_NB203_306410_7.pdf)  
[http://www.michigan.gov/documents/deq/OFR\\_35\\_Leverett\\_NB203\\_opt\\_306412\\_7.pdf](http://www.michigan.gov/documents/deq/OFR_35_Leverett_NB203_opt_306412_7.pdf)

**Open File 36: Field Notes of Frank Leverett Notebook 204;** F. Leverett, 1905;  
[http://www.michigan.gov/documents/deq/OFR\\_36\\_Leverett\\_NB204\\_306414\\_7.pdf](http://www.michigan.gov/documents/deq/OFR_36_Leverett_NB204_306414_7.pdf)  
[http://www.michigan.gov/documents/deq/OFR\\_36\\_Leverett\\_NB204\\_opt\\_306416\\_7.pdf](http://www.michigan.gov/documents/deq/OFR_36_Leverett_NB204_opt_306416_7.pdf)

**Open File 37: Field Notes of Frank Leverett Notebook 205;** F. Leverett, 1905;  
[http://www.michigan.gov/documents/deq/OFR\\_37\\_Leverett\\_NB205\\_306418\\_7.pdf](http://www.michigan.gov/documents/deq/OFR_37_Leverett_NB205_306418_7.pdf)  
[http://www.michigan.gov/documents/deq/OFR\\_37\\_Leverett\\_NB205\\_opt\\_306420\\_7.pdf](http://www.michigan.gov/documents/deq/OFR_37_Leverett_NB205_opt_306420_7.pdf)

**Open File 38: Field Notes of Frank Leverett Notebook 206;** F. Leverett, 1905;  
[http://www.michigan.gov/documents/deq/OFR\\_38\\_Leverett\\_NB206\\_306421\\_7.pdf](http://www.michigan.gov/documents/deq/OFR_38_Leverett_NB206_306421_7.pdf)

**Open File 38: Field Notes of Frank Leverett Notebook 206;** F. Leverett, 1905;  
[http://www.michigan.gov/documents/deq/OFR\\_38\\_Leverett\\_NB206\\_opt\\_306422\\_7.pdf](http://www.michigan.gov/documents/deq/OFR_38_Leverett_NB206_opt_306422_7.pdf)

**Open File 39: Field Notes of Frank Leverett Notebook 207;** F. Leverett, 1905;  
[http://www.michigan.gov/documents/deq/OFR\\_39\\_Leverett\\_NB207\\_306423\\_7.pdf](http://www.michigan.gov/documents/deq/OFR_39_Leverett_NB207_306423_7.pdf)  
[http://www.michigan.gov/documents/deq/OFR\\_39\\_Leverett\\_NB207\\_opt\\_306429\\_7.pdf](http://www.michigan.gov/documents/deq/OFR_39_Leverett_NB207_opt_306429_7.pdf)

**Open File 40: Field Notes of Frank Leverett Notebook 208;** F. Leverett, 1905;  
[http://www.michigan.gov/documents/deq/OFR\\_40\\_Leverett\\_NB208\\_306433\\_7.pdf](http://www.michigan.gov/documents/deq/OFR_40_Leverett_NB208_306433_7.pdf)  
[http://www.michigan.gov/documents/deq/OFR\\_40\\_Leverett\\_NB208\\_opt\\_306434\\_7.pdf](http://www.michigan.gov/documents/deq/OFR_40_Leverett_NB208_opt_306434_7.pdf)

**Open File 41: Field Notes of Frank Leverett Notebook 215;** F. Leverett, 1906;  
[http://www.michigan.gov/documents/deq/OFR\\_41\\_Leverett\\_NB215\\_306435\\_7.pdf](http://www.michigan.gov/documents/deq/OFR_41_Leverett_NB215_306435_7.pdf)

[\[\] http://www.michigan.gov/documents/deq/OFR\\_41\\_Leverett\\_NB215\\_opt\\_306439\\_7.pdf](http://www.michigan.gov/documents/deq/OFR_41_Leverett_NB215_opt_306439_7.pdf)

**Open File 42: Field Notes of Frank Leverett Notebook 228**; F. Leverett, 1909;

[\[\] http://www.michigan.gov/documents/deq/OFR\\_42\\_Leverett\\_NB228\\_306440\\_7.pdf](http://www.michigan.gov/documents/deq/OFR_42_Leverett_NB228_306440_7.pdf)  
[\[\] http://www.michigan.gov/documents/deq/OFR\\_42\\_Leverett\\_NB228\\_opt\\_306442\\_7.pdf](http://www.michigan.gov/documents/deq/OFR_42_Leverett_NB228_opt_306442_7.pdf)

**Open File 42A: Field Notes of Frank Leverett Notebook 229**; F. Leverett, 1909;

[\[\] http://www.michigan.gov/documents/deq/OFR\\_42a\\_Leverett\\_NB229\\_306622\\_7.pdf](http://www.michigan.gov/documents/deq/OFR_42a_Leverett_NB229_306622_7.pdf)  
[\[\] http://www.michigan.gov/documents/deq/OFR\\_42a\\_Leverett\\_NB229\\_opt\\_306623\\_7.pdf](http://www.michigan.gov/documents/deq/OFR_42a_Leverett_NB229_opt_306623_7.pdf)

**Open File 43: Field Notes of Frank Leverett Notebook 230**; F. Leverett, 1909;

[\[\] http://www.michigan.gov/documents/deq/OFR\\_43\\_Leverett\\_NB230\\_306624\\_7.pdf](http://www.michigan.gov/documents/deq/OFR_43_Leverett_NB230_306624_7.pdf)  
[\[\] http://www.michigan.gov/documents/deq/OFR\\_43\\_Leverett\\_NB230\\_opt\\_306625\\_7.pdf](http://www.michigan.gov/documents/deq/OFR_43_Leverett_NB230_opt_306625_7.pdf)

**Open File 44: Field Notes of Frank Leverett Notebook 231**; F. Leverett, 1909;

[\[\] http://www.michigan.gov/documents/deq/OFR\\_44\\_Leverett\\_NB231\\_306626\\_7.pdf](http://www.michigan.gov/documents/deq/OFR_44_Leverett_NB231_306626_7.pdf)  
[\[\] http://www.michigan.gov/documents/deq/OFR\\_44\\_Leverett\\_NB231\\_scan\\_306627\\_7.pdf](http://www.michigan.gov/documents/deq/OFR_44_Leverett_NB231_scan_306627_7.pdf)

**Open File 45: Field Notes of Frank Leverett Notebook 232**; F. Leverett, 1909;

[\[\] http://www.michigan.gov/documents/deq/OFR\\_45\\_Leverett\\_NB232\\_306628\\_7.pdf](http://www.michigan.gov/documents/deq/OFR_45_Leverett_NB232_306628_7.pdf)  
[\[\] http://www.michigan.gov/documents/deq/OFR\\_45\\_Leverett\\_NB232\\_opt\\_306629\\_7.pdf](http://www.michigan.gov/documents/deq/OFR_45_Leverett_NB232_opt_306629_7.pdf)

**Open File 46: Field Notes of Frank Leverett Notebook 233**; F. Leverett, 1909;

[\[\] http://www.michigan.gov/documents/deq/OFR\\_46\\_Leverett\\_NB233\\_306630\\_7.pdf](http://www.michigan.gov/documents/deq/OFR_46_Leverett_NB233_306630_7.pdf)  
[\[\] http://www.michigan.gov/documents/deq/OFR\\_46\\_Leverett\\_NB233\\_scan\\_306631\\_7.pdf](http://www.michigan.gov/documents/deq/OFR_46_Leverett_NB233_scan_306631_7.pdf)

**Open File 47: Field Notes of Frank Leverett Notebook 242**; F. Leverett, 1911;

[\[\] http://www.michigan.gov/documents/deq/OFR\\_47\\_Leverett\\_NB242\\_306632\\_7.pdf](http://www.michigan.gov/documents/deq/OFR_47_Leverett_NB242_306632_7.pdf)  
[\[\] http://www.michigan.gov/documents/deq/OFR\\_47\\_Leverett\\_NB242\\_opt\\_306633\\_7.pdf](http://www.michigan.gov/documents/deq/OFR_47_Leverett_NB242_opt_306633_7.pdf)

**Open File 48: Field Notes of Frank Leverett Notebook 243**; F. Leverett, 1912;

[\[\] http://www.michigan.gov/documents/deq/OFR\\_48\\_Leverett\\_NB243\\_306634\\_7.pdf](http://www.michigan.gov/documents/deq/OFR_48_Leverett_NB243_306634_7.pdf)  
[\[\] http://www.michigan.gov/documents/deq/OFR\\_48\\_Leverett\\_NB243\\_scan\\_306636\\_7.pdf](http://www.michigan.gov/documents/deq/OFR_48_Leverett_NB243_scan_306636_7.pdf)

**Open File 76: A Summary of the Stratigraphy of the Southern Peninsula of Michigan**; E. J. Baltrusaites, 1918; C. K. Clark, G. V. Cohee, R. P. Grant W. A. Kelly, K. K. Landes, G. D. Lindberg, R. B. Newcombe

[\[\] http://www.michigan.gov/documents/deq/OFR\\_76\\_Baltrusaites\\_et\\_al\\_306699\\_7.pdf](http://www.michigan.gov/documents/deq/OFR_76_Baltrusaites_et_al_306699_7.pdf)  
[\[\] http://www.michigan.gov/documents/deq/OFR\\_76\\_Baltrusaites\\_et\\_al\\_opt\\_306701\\_7.pdf](http://www.michigan.gov/documents/deq/OFR_76_Baltrusaites_et_al_opt_306701_7.pdf)

**Open File 50: Field Notes of Frank Leverett Notebook 269**; F. Leverett, 1919;

[\[\] http://www.michigan.gov/documents/deq/OFR\\_50\\_Leverett\\_NB269\\_306637\\_7.pdf](http://www.michigan.gov/documents/deq/OFR_50_Leverett_NB269_306637_7.pdf)

**Open File 50: Field Notes of Frank Leverett Notebook 269**; F. Leverett, 1919;

[\[\] http://www.michigan.gov/documents/deq/OFR\\_50\\_Leverett\\_NB269\\_opt\\_306638\\_7.pdf](http://www.michigan.gov/documents/deq/OFR_50_Leverett_NB269_opt_306638_7.pdf)  
[\[\] http://www.michigan.gov/documents/deq/OFR\\_51\\_Leverett\\_NB270\\_306640\\_7.pdf](http://www.michigan.gov/documents/deq/OFR_51_Leverett_NB270_306640_7.pdf)

**Open File 51: Field Notes of Frank Leverett Notebook 270**; F. Leverett, 1919;

[\[\] http://www.michigan.gov/documents/deq/OFR\\_51\\_Leverett\\_NB270\\_opt\\_306642\\_7.pdf](http://www.michigan.gov/documents/deq/OFR_51_Leverett_NB270_opt_306642_7.pdf)

**Open File 52: Field Notes of Frank Leverett Notebook 271**; F. Leverett, 1919;

[\[\] http://www.michigan.gov/documents/deq/OFR\\_52\\_Leverett\\_NB271\\_306644\\_7.pdf](http://www.michigan.gov/documents/deq/OFR_52_Leverett_NB271_306644_7.pdf)  
[\[\] http://www.michigan.gov/documents/deq/OFR\\_52\\_Leverett\\_NB271\\_opt\\_306647\\_7.pdf](http://www.michigan.gov/documents/deq/OFR_52_Leverett_NB271_opt_306647_7.pdf)

**Open File 52A: Field Notes of Frank Leverett Notebook 272**; F. Leverett, 1919;

[\[\] http://www.michigan.gov/documents/deq/OFR\\_52a\\_Leverett\\_NB272\\_306649\\_7.pdf](http://www.michigan.gov/documents/deq/OFR_52a_Leverett_NB272_306649_7.pdf)  
[\[\] http://www.michigan.gov/documents/deq/OFR\\_52a\\_Leverett\\_NB272\\_opt\\_306650\\_7.pdf](http://www.michigan.gov/documents/deq/OFR_52a_Leverett_NB272_opt_306650_7.pdf)

**Open File 53: Field Notes of Frank Leverett Notebook 275**; F. Leverett, 1921;

[\[\] http://www.michigan.gov/documents/deq/OFR\\_53\\_Leverett\\_NB275\\_306651\\_7.pdf](http://www.michigan.gov/documents/deq/OFR_53_Leverett_NB275_306651_7.pdf)  
[\[\] http://www.michigan.gov/documents/deq/OFR\\_53\\_Leverett\\_NB275\\_opt\\_306654\\_7.pdf](http://www.michigan.gov/documents/deq/OFR_53_Leverett_NB275_opt_306654_7.pdf)

**Open File 54: Field Notes of Frank Leverett Notebook 278**; F. Leverett, 1922;

[\[\] http://www.michigan.gov/documents/deq/OFR\\_54\\_Leverett\\_NB278\\_306655\\_7.pdf](http://www.michigan.gov/documents/deq/OFR_54_Leverett_NB278_306655_7.pdf)  
[\[\] http://www.michigan.gov/documents/deq/OFR\\_54\\_Leverett\\_NB278\\_opt\\_306659\\_7.pdf](http://www.michigan.gov/documents/deq/OFR_54_Leverett_NB278_opt_306659_7.pdf)

**Open File 54A: Field Notes of Frank Leverett Notebook 280**; F. Leverett, 1923;

[\[\] http://www.michigan.gov/documents/deq/OFR\\_54a\\_Leverett\\_NB280\\_306660\\_7.pdf](http://www.michigan.gov/documents/deq/OFR_54a_Leverett_NB280_306660_7.pdf)  
[\[\] http://www.michigan.gov/documents/deq/OFR\\_54a\\_Leverett\\_NB280\\_indexed\\_306661\\_7.pdf](http://www.michigan.gov/documents/deq/OFR_54a_Leverett_NB280_indexed_306661_7.pdf)

**Open File 55: Field Notes of Frank Leverett Notebook 283**; F. Leverett, 1924;

[\[\] http://www.michigan.gov/documents/deq/OFR\\_55\\_Leverett\\_NB283\\_306662\\_7.pdf](http://www.michigan.gov/documents/deq/OFR_55_Leverett_NB283_306662_7.pdf)  
[\[\] http://www.michigan.gov/documents/deq/OFR\\_55\\_Leverett\\_NB283\\_indexed\\_306663\\_7.pdf](http://www.michigan.gov/documents/deq/OFR_55_Leverett_NB283_indexed_306663_7.pdf)

**Open File 65: Geology of Chippewa County, Michigan**; W. A. Ver Wiebe, 1927;

[\[\] http://www.michigan.gov/documents/deq/OFR\\_65\\_VerWiebe\\_306685\\_7.pdf](http://www.michigan.gov/documents/deq/OFR_65_VerWiebe_306685_7.pdf)  
[\[\] http://www.michigan.gov/documents/deq/OFR\\_65\\_VerWiebe\\_opt\\_306686\\_7.pdf](http://www.michigan.gov/documents/deq/OFR_65_VerWiebe_opt_306686_7.pdf)

**Open File 56: Field Notes of Frank Leverett Notebook 293**; F. Leverett, 1929;

[\[\] http://www.michigan.gov/documents/deq/OFR\\_56\\_Leverett\\_NB293\\_306664\\_7.pdf](http://www.michigan.gov/documents/deq/OFR_56_Leverett_NB293_306664_7.pdf)

**Open File 56: Field Notes of Frank Leverett Notebook 293**; F. Leverett, 1929;

[\[\] http://www.michigan.gov/documents/deq/OFR\\_56\\_Leverett\\_NB293\\_scan\\_306665\\_7.pdf](http://www.michigan.gov/documents/deq/OFR_56_Leverett_NB293_scan_306665_7.pdf)

**Open File 57: Field Notes of Frank Leverett Notebook 294**; F. Leverett, 1930;

[\[\] http://www.michigan.gov/documents/deq/OFR\\_57\\_Leverett\\_NB294\\_306670\\_7.pdf](http://www.michigan.gov/documents/deq/OFR_57_Leverett_NB294_306670_7.pdf)  
[\[\] http://www.michigan.gov/documents/deq/OFR\\_57\\_Leverett\\_NB294\\_indexed\\_306672\\_7.pdf](http://www.michigan.gov/documents/deq/OFR_57_Leverett_NB294_indexed_306672_7.pdf)

**Open File 58: Field Notes of Frank Leverett Notebook 296**; F. Leverett, 1931;

[\[\] http://www.michigan.gov/documents/deq/OFR\\_58\\_Leverett\\_NB296\\_306673\\_7.pdf](http://www.michigan.gov/documents/deq/OFR_58_Leverett_NB296_306673_7.pdf)  
[\[\] http://www.michigan.gov/documents/deq/OFR\\_58\\_Leverett\\_NB296\\_scan\\_306674\\_7.pdf](http://www.michigan.gov/documents/deq/OFR_58_Leverett_NB296_scan_306674_7.pdf)

**Open File 59: Field Notes of Frank Leverett Notebook 297**; F. Leverett, 1931;

[\[\] http://www.michigan.gov/documents/deq/OFR\\_59\\_Leverett\\_NB297\\_306675\\_7.pdf](http://www.michigan.gov/documents/deq/OFR_59_Leverett_NB297_306675_7.pdf)  
[\[\] http://www.michigan.gov/documents/deq/OFR\\_59\\_Leverett\\_NB297\\_opt\\_306676\\_7.pdf](http://www.michigan.gov/documents/deq/OFR_59_Leverett_NB297_opt_306676_7.pdf)

**Open File 60: Field Notes of Frank Leverett Notebook 298**; F. Leverett, 1933;

[\[\] http://www.michigan.gov/documents/deq/OFR\\_60\\_Leverett\\_NB298\\_306677\\_7.pdf](http://www.michigan.gov/documents/deq/OFR_60_Leverett_NB298_306677_7.pdf)

[http://www.michigan.gov/documents/deq/OFR\\_60\\_Leverett\\_NB298\\_indexed\\_306679\\_7.pdf](http://www.michigan.gov/documents/deq/OFR_60_Leverett_NB298_indexed_306679_7.pdf)

**Open File 80: Geology of Michigan;** O. F. Poindexter, 1934;

[http://www.michigan.gov/documents/deq/OFR\\_80\\_Poindexter\\_306704\\_7.pdf](http://www.michigan.gov/documents/deq/OFR_80_Poindexter_306704_7.pdf)

[http://www.michigan.gov/documents/deq/OFR\\_80\\_Poindexter\\_opt\\_306705\\_7.pdf](http://www.michigan.gov/documents/deq/OFR_80_Poindexter_opt_306705_7.pdf)

**Open File 61: Field Notes of Frank Leverett**

**Notebook 299;** F. Leverett, 1934;

[http://www.michigan.gov/documents/deq/OFR\\_61\\_Leverett\\_NB299\\_306681\\_7.pdf](http://www.michigan.gov/documents/deq/OFR_61_Leverett_NB299_306681_7.pdf)

[http://www.michigan.gov/documents/deq/OFR\\_61\\_Leverett\\_NB299\\_opt\\_306682\\_7.pdf](http://www.michigan.gov/documents/deq/OFR_61_Leverett_NB299_opt_306682_7.pdf)

**Open File 79: Geology of Schoolcraft County;** O. F. Poindexter, 1936;

[http://www.michigan.gov/documents/deq/OFR\\_79\\_Poindexter\\_opt\\_306703\\_7.pdf](http://www.michigan.gov/documents/deq/OFR_79_Poindexter_opt_306703_7.pdf)

**Open File 67: Appalachian Field Trip;** S. G Bergquist, 1938;

[http://www.michigan.gov/documents/deq/OFR\\_67\\_Bergquist\\_Aopt\\_306687\\_7.pdf](http://www.michigan.gov/documents/deq/OFR_67_Bergquist_Aopt_306687_7.pdf)

[http://www.michigan.gov/documents/deq/OFR\\_67\\_Bergquist\\_Bopt\\_306688\\_7.pdf](http://www.michigan.gov/documents/deq/OFR_67_Bergquist_Bopt_306688_7.pdf)

**Open File 62: Field Notes of Frank Leverett**

**Notebook 300;** F. Leverett, 1938;

[http://www.michigan.gov/documents/deq/OFR\\_60\\_Leverett\\_NB300\\_306683\\_7.pdf](http://www.michigan.gov/documents/deq/OFR_60_Leverett_NB300_306683_7.pdf)

**Open File 62: Field Notes of Frank Leverett**

**Notebook 300;** F. Leverett, 1938;

[http://www.michigan.gov/documents/deq/OFR\\_62\\_Leverett\\_NB300\\_indexed\\_306684\\_7.pdf](http://www.michigan.gov/documents/deq/OFR_62_Leverett_NB300_indexed_306684_7.pdf)

**Open File 22: Indexes to Field Notebooks No. 92-368;** A. C. Lane, L. L. Hubbard, R. A. Smith, 1940;

[www.michigan.gov/documents/deq/OFR\\_22\\_Indexes\\_to\\_Field\\_Notebooks\\_A\\_306925\\_7.pdf](http://www.michigan.gov/documents/deq/OFR_22_Indexes_to_Field_Notebooks_A_306925_7.pdf)

[www.michigan.gov/documents/deq/OFR\\_22\\_Indexes\\_to\\_Field\\_Notebooks\\_B\\_306930\\_7.pdf](http://www.michigan.gov/documents/deq/OFR_22_Indexes_to_Field_Notebooks_B_306930_7.pdf)

[www.michigan.gov/documents/deq/OFR\\_22\\_Indexes\\_to\\_Field\\_Notebooks\\_C\\_306933\\_7.pdf](http://www.michigan.gov/documents/deq/OFR_22_Indexes_to_Field_Notebooks_C_306933_7.pdf)

[www.michigan.gov/documents/deq/OFR\\_22\\_Indexes\\_to\\_Field\\_Notebooks\\_C\\_306951\\_7.pdf](http://www.michigan.gov/documents/deq/OFR_22_Indexes_to_Field_Notebooks_C_306951_7.pdf)

[www.michigan.gov/documents/deq/OFR\\_22\\_Indexes\\_to\\_Field\\_Notebooks\\_D\\_306958\\_7.pdf](http://www.michigan.gov/documents/deq/OFR_22_Indexes_to_Field_Notebooks_D_306958_7.pdf)

[www.michigan.gov/documents/deq/OFR\\_22\\_Indexes\\_to\\_Field\\_Notebooks\\_E\\_306965\\_7.pdf](http://www.michigan.gov/documents/deq/OFR_22_Indexes_to_Field_Notebooks_E_306965_7.pdf)

[www.michigan.gov/documents/deq/OFR\\_22\\_Indexes\\_to\\_Field\\_Notebooks\\_F\\_306969\\_7.pdf](http://www.michigan.gov/documents/deq/OFR_22_Indexes_to_Field_Notebooks_F_306969_7.pdf)

[www.michigan.gov/documents/deq/OFR\\_22\\_Indexes\\_to\\_Field\\_Notebooks\\_G\\_306972\\_7.pdf](http://www.michigan.gov/documents/deq/OFR_22_Indexes_to_Field_Notebooks_G_306972_7.pdf)

**Open File 68: Geology of the Lake Michigan Area Baraga and Marquette;** W. A. Seaman, 1947;

[http://www.michigan.gov/documents/deq/OFR\\_68\\_Seaman\\_306689\\_7.pdf](http://www.michigan.gov/documents/deq/OFR_68_Seaman_306689_7.pdf)

[http://www.michigan.gov/documents/deq/OFR\\_68\\_Seaman\\_opt\\_306690\\_7.pdf](http://www.michigan.gov/documents/deq/OFR_68_Seaman_opt_306690_7.pdf)

**Open File 69: Geology of the Lake Michigan Area;** W. A. Seaman, 1947;

[http://www.michigan.gov/documents/deq/OFR\\_69\\_Seaman\\_A\\_306982\\_7.pdf](http://www.michigan.gov/documents/deq/OFR_69_Seaman_A_306982_7.pdf)

[http://www.michigan.gov/documents/deq/OFR\\_69\\_Seaman\\_B\\_306987\\_7.pdf](http://www.michigan.gov/documents/deq/OFR_69_Seaman_B_306987_7.pdf)

[http://www.michigan.gov/documents/deq/OFR\\_69\\_Seaman\\_C\\_306989\\_7.pdf](http://www.michigan.gov/documents/deq/OFR_69_Seaman_C_306989_7.pdf)

[http://www.michigan.gov/documents/deq/OFR\\_69\\_Seaman\\_Aopt\\_306990\\_7.pdf](http://www.michigan.gov/documents/deq/OFR_69_Seaman_Aopt_306990_7.pdf)

[http://www.michigan.gov/documents/deq/OFR\\_69\\_Seaman\\_Bopt\\_306992\\_7.pdf](http://www.michigan.gov/documents/deq/OFR_69_Seaman_Bopt_306992_7.pdf)

[http://www.michigan.gov/documents/deq/OFR\\_69\\_Seaman\\_Copt\\_306994\\_7.pdf](http://www.michigan.gov/documents/deq/OFR_69_Seaman_Copt_306994_7.pdf)

**Open File 71: Geomorphology of the Lake**

**Michigan Shoreline;** W. E. Powers, 1958;

[http://www.michigan.gov/documents/deq/OFR\\_71\\_Powers\\_indexed\\_306692\\_7.pdf](http://www.michigan.gov/documents/deq/OFR_71_Powers_indexed_306692_7.pdf)

[http://www.michigan.gov/documents/deq/OFR\\_71\\_Powers\\_plates\\_opt\\_306693\\_7.pdf](http://www.michigan.gov/documents/deq/OFR_71_Powers_plates_opt_306693_7.pdf)

**Open File 74: Supposed medusoid molds from the Mississippian Napoleon;** N. W. Melvin, 1963;

[http://www.michigan.gov/documents/deq/OFR\\_74\\_Melvin\\_indexed\\_306696\\_7.pdf](http://www.michigan.gov/documents/deq/OFR_74_Melvin_indexed_306696_7.pdf)

**Open File 75: Locations of Outcrops, for the Most Part with Areas Mapped as Marshall;** G. M. Ehlers, 1963;

[http://www.michigan.gov/documents/deq/OFR\\_75\\_Ehlers\\_indexed\\_306698\\_7.pdf](http://www.michigan.gov/documents/deq/OFR_75_Ehlers_indexed_306698_7.pdf)

**Open File 78: Geologic History of Michigan and Guide to Glacial Geology;** C. H. Finster, 1948;

[http://www.michigan.gov/documents/deq/OFR\\_78\\_Finster\\_306702\\_7.pdf](http://www.michigan.gov/documents/deq/OFR_78_Finster_306702_7.pdf)

---

## [20] Open File Report

*"Open File Reports" are unpublished reports, newsletters, field notes, and the like which are added to and subtracted from at various times. Some of the material is eventually published in other series.*

**Open File Report AST: Structures Associated with the Albion-Scipio Oil Field Trend;** G. D. Ellis, 1962;

[http://www.michigan.gov/documents/deq/GIMDL-OFRAST\\_302620\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-OFRAST_302620_7.pdf)

**Open File Report 77-2: Investigation of a Reported Copper-Silver Showing in Section 30, T50N, R26W, Marquette County, Michigan;** 1977;

[http://www.michigan.gov/documents/deq/GIMDL-OFR772\\_302607\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-OFR772_302607_7.pdf)

**Open File Report 78-3: Geological Study of Sand Deposits . . . Phase I;** S. P. Sundeen, 1978; Information and data about sand deposits in Michigan All counties, Sand, Sand Dunes

[http://www.michigan.gov/documents/deq/deq-ogs-gimdl-OFR7803\\_311905\\_7.pdf](http://www.michigan.gov/documents/deq/deq-ogs-gimdl-OFR7803_311905_7.pdf)

**Open File Report 78-4: Geological Study of Sand Deposits . . . Phase II;** S. P. Sundeen, 1978; Information and data about sand deposits in Michigan All counties, Sand, Sand Dunes

[http://www.michigan.gov/documents/deq/deq-ogs-gimdl-OFR7804\\_311906\\_7.pdf](http://www.michigan.gov/documents/deq/deq-ogs-gimdl-OFR7804_311906_7.pdf)

**Open File Report 78-5: Criteria and Methodology for assessing the Impact of Sand Dune Mining;**

Geological Survey, 1978; Information about what to include in an environmental impact study (EIS) All counties, Environmental Impact Study, Sand, Sand Dunes

[http://www.michigan.gov/documents/deq/GIMDL-OFR7805\\_216164\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-OFR7805_216164_7.pdf)

**Open-File Report: 80-1 MGSD OFR GOLD;** Various, 1980; Reprints of various Geological Survey reports All counties, Gold

[http://www.michigan.gov/documents/deq/GIMDL-OFR8001\\_216165\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-OFR8001_216165_7.pdf)

**Open File Report 81-1: Report Accompanying Ground Magnetic Map of Homer and Spring**

**Arbor . . ;** W. A. Sauck, B. K. Parker, S. J. Hoin, 1981;

[http://www.michigan.gov/documents/deq/GIMDL-OFR811\\_302610\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-OFR811_302610_7.pdf)

**Open File Report 81-2: Rare Earth and Related Elements in the Goodrich Quartzite . . ;** B. K. Parker, 1981;

[http://www.michigan.gov/documents/deq/GIMDL-OFR812\\_302611\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-OFR812_302611_7.pdf)

**Open File Report 85-2: Geology and Precious Mineralization of the Fire Center . . .**; E. O. Owens, T. J. Bornhorst, 1985;  
[] [http://www.michigan.gov/documents/deq/GIMDL-OFR852\\_302612\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-OFR852_302612_7.pdf)

**Open File Report 86-1: Detailed Geological Study of Three Precious Metal Prospects in Marquette County and One in Gogebic County, Michigan;** C. L. Boben, T. J. Bornhorst, J. L. VanAlstine, 1986;  
[] [http://www.michigan.gov/documents/deq/GIMDL-OFR861\\_302613\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-OFR861_302613_7.pdf)

**Open File Report 86-6: Patterns of Regional Subsurface Fluid Movement in the Michigan Basin;** R. Vugrinovich, 1986;  
[] [http://www.michigan.gov/documents/deq/GIMDL-OFR866\\_302614\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-OFR866_302614_7.pdf)

**Open File Report 87-4: Geologic Setting of Precious Metal Mineralization . . .**; R. C. Johnson, T. J. Bornhorst, J. L. VanAlstine, 1987;  
[] [http://www.michigan.gov/documents/deq/GIMDL-OFR874\\_302615\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-OFR874_302615_7.pdf)

**Open File Report 87-6: Cobalt, Nickel, and Vanadium Contents of Pyrite Concentrates . . .**; T. J. Bornhorst, 1987;  
[] [http://www.michigan.gov/documents/deq/GIMDL-OFR876\\_302616\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-OFR876_302616_7.pdf)

**Open File Report 87-8: Geology, Structure, and Associated Precious Metal Mineralization . . .**; D. A. Baxter, T. J. Bornhorst, J. L. VanAlstine, 1987;  
[] [http://www.michigan.gov/documents/deq/GIMDL-OFR878\\_302617\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-OFR878_302617_7.pdf)

**Open File Report 88-2: Manganese Investigation in Keweenaw County, Michigan;** A. R. Blaske, T. J. Bornhorst, A. M. Johnson, G. E. Rantti, R. C. Reed, 1988;  
[] [http://www.michigan.gov/documents/deq/GIMDL-OFR882\\_302618\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-OFR882_302618_7.pdf)

**Open File Report 89-2: Bedrock Geology of the Reany Lake Area, Marquette County, Michigan;** M. L. MacLellan, T. J. Bornhorst, 1989;  
[] [http://www.michigan.gov/documents/deq/GIMDL-OFR892\\_302619\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-OFR892_302619_7.pdf)

---

## [21] Pamphlet

*Each "Pamphlet" is a short, non-technical report of general interest. This series began publication in 1966.*

**Pamphlet 1: Douglass Houghton, State Geologist;** H. A. Wallin, 1977; Biographic sketch of eminent early state scientist and citizen; Revised from 1966 and 1970 versions illustrated All counties, History  
[] [http://www.michigan.gov/documents/deq/GIMDL-PA01\\_216188\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-PA01_216188_7.pdf)

**Pamphlet 2: "You'll Never Miss the Water---" A Few Pointers on Ground Water Supplies;** J. L. Slaughter, 1952; A general description of water resources All counties  
[] [http://www.michigan.gov/documents/deq/PA02\\_304665\\_7.pdf](http://www.michigan.gov/documents/deq/PA02_304665_7.pdf)  
[] [http://www.michigan.gov/documents/deq/Pamphlet2opt\\_304676\\_7.pdf](http://www.michigan.gov/documents/deq/Pamphlet2opt_304676_7.pdf)

**Pamphlet 3: Guide to Michigan Fossils;** R. W. Kelley, 1962; All counties, fossils  
[] [http://www.michigan.gov/documents/deq/GIMDL-PA03\\_216189\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-PA03_216189_7.pdf)  
[] [http://www.michigan.gov/documents/deq/PA03opt\\_304672\\_7.pdf](http://www.michigan.gov/documents/deq/PA03opt_304672_7.pdf)

**Pamphlet 4: Collecting Minerals in Michigan;** R. W. Kelley, H. J. Hardenberg, 1962; All counties, Alpena Co., Arenac Co., Charlevoix Co., Cheboygan Co., Copper, Dickinson Co., Dolomite, Gogebic Co., Houghton Co., Huron Co., Iron Co., Keweenaw Co., Marquette Co., Northern Peninsula counties, Ontonagon Co., Presque Isle Co., Southern Peninsula counties, Stone  
[] [http://www.michigan.gov/documents/deq/PA04\\_304666\\_7.pdf](http://www.michigan.gov/documents/deq/PA04_304666_7.pdf)  
[] [http://www.michigan.gov/documents/deq/Pamphlet4opt\\_304677\\_7.pdf](http://www.michigan.gov/documents/deq/Pamphlet4opt_304677_7.pdf)

**Pamphlet 5: Geological Sketch of Michigan Sand Dunes;** R. W. Kelley, 1971; All counties, Sand  
[] [http://www.michigan.gov/documents/deq/PA05\\_304667\\_7.pdf](http://www.michigan.gov/documents/deq/PA05_304667_7.pdf)

**Pamphlet 6: Collecting Rocks, Minerals and Fossils in Michigan;** S. E. Wilson, 1976; Illustrated introduction to this enjoyable hobby; collecting rocks, Minerals and fossils All counties  
[] [http://www.michigan.gov/documents/deq/PA06\\_304668\\_7.pdf](http://www.michigan.gov/documents/deq/PA06_304668_7.pdf)

**Pamphlet 7: Michigan's Sand Dunes;** S. E. Wilson, 1980; An illustrated introduction to the sand dune environment; block diagrams, illustrated All counties, Sand, Sand Dunes  
[] [http://www.michigan.gov/documents/deq/PA07\\_304669\\_7.pdf](http://www.michigan.gov/documents/deq/PA07_304669_7.pdf)

---

## [22] Progress Report

*Twenty-five "Progress Reports" were issued between 1936 and 1962. Many of them were produced in cooperation with the U. S. Geological Survey. While most deal with water resources of Michigan, others report on the general geology of the State. Since 1962, reports which would normally have been published in this series have been issued as the Water Investigation series.*

**Progress Report 1: Geology of the Crystal Oil & Gas Field Montcalm County, Michigan;** G. E. Eddy, 1936; Gas, Montcalm Co., Oil  
[] [http://www.michigan.gov/documents/deq/PR01\\_304682\\_7.pdf](http://www.michigan.gov/documents/deq/PR01_304682_7.pdf)  
[] [http://www.michigan.gov/documents/deq/PR01\\_Figures\\_304687\\_7.pdf](http://www.michigan.gov/documents/deq/PR01_Figures_304687_7.pdf)  
[] [http://www.michigan.gov/documents/deq/PR01opt\\_304686\\_7.pdf](http://www.michigan.gov/documents/deq/PR01opt_304686_7.pdf)

**Progress Report 2: Geology of Ogemaw County and West Branch Oil Field;** E. A. Newman, 1936; Ogemaw Co., Oil  
[] [http://www.michigan.gov/documents/deq/GIMDL-PR02\\_216191\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-PR02_216191_7.pdf)  
[] [http://www.michigan.gov/documents/deq/PR02\\_Figures\\_304691\\_7.pdf](http://www.michigan.gov/documents/deq/PR02_Figures_304691_7.pdf)  
[] [http://www.michigan.gov/documents/deq/PR02opt\\_304690\\_7.pdf](http://www.michigan.gov/documents/deq/PR02opt_304690_7.pdf)

**Progress Report 3: Geology of Arenac County;** G. H. Pringle, 1937; Arenac Co., Gas, Oil  
[] [http://www.michigan.gov/documents/deq/GIMDL-PR03\\_216192\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-PR03_216192_7.pdf)  
[] [http://www.michigan.gov/documents/deq/PR03\\_Plates1-3\\_304696\\_7.pdf](http://www.michigan.gov/documents/deq/PR03_Plates1-3_304696_7.pdf)  
[] [http://www.michigan.gov/documents/deq/PR03opt\\_304695\\_7.pdf](http://www.michigan.gov/documents/deq/PR03opt_304695_7.pdf)

**Progress Report 4: The Geology of Allegan County;** C. H. Riggs, 1938; Allegan Co., Gas, Oil  
[] [http://www.michigan.gov/documents/deq/GIMDL-PR04\\_216193\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-PR04_216193_7.pdf)  
[] [http://www.michigan.gov/documents/deq/PR04opt\\_304702\\_7.pdf](http://www.michigan.gov/documents/deq/PR04opt_304702_7.pdf)  
[] [http://www.michigan.gov/documents/deq/GIMDL-PR04b\\_216196\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-PR04b_216196_7.pdf)

**Progress Report 05: Geology of the Menominee Range, Dickinson County;** C. E. Dutton, C. A. Lamey, 1939; Dickinson Co., Iron

[http://www.michigan.gov/documents/deq/PR\\_05\\_315964\\_7.pdf](http://www.michigan.gov/documents/deq/PR_05_315964_7.pdf)  
[http://www.michigan.gov/documents/deq/PR\\_05opt\\_315965\\_7.pdf](http://www.michigan.gov/documents/deq/PR_05opt_315965_7.pdf)

**Progress Report 06: Geology of the Menominee Range Vicinity of Iron Mountain;** C. A. Lamey, C. E. Dutton, 1941; maps Dickinson Co., Iron

[http://www.michigan.gov/documents/deq/PR\\_06\\_315967\\_7.pdf](http://www.michigan.gov/documents/deq/PR_06_315967_7.pdf)  
[http://www.michigan.gov/documents/deq/PR\\_06opt\\_315968\\_7.pdf](http://www.michigan.gov/documents/deq/PR_06opt_315968_7.pdf)  
[http://www.michigan.gov/documents/deq/PR\\_06\\_Mapopt\\_315971\\_7.pdf](http://www.michigan.gov/documents/deq/PR_06_Mapopt_315971_7.pdf)

**Progress Report 07: Dip-Needle Survey of Wyandotte-Winona Area, Houghton County and Cherokee Area.;** K. Spiroff, 1941; maps Copper, Houghton Co., Ontonagon Co

[http://www.michigan.gov/documents/deq/PR\\_07\\_315973\\_7.pdf](http://www.michigan.gov/documents/deq/PR_07_315973_7.pdf)  
[http://www.michigan.gov/documents/deq/PR\\_07opt\\_315975\\_7.pdf](http://www.michigan.gov/documents/deq/PR_07opt_315975_7.pdf)  
[http://www.michigan.gov/documents/deq/PR\\_07\\_Map1opt\\_315978\\_7.pdf](http://www.michigan.gov/documents/deq/PR_07_Map1opt_315978_7.pdf)  
[http://www.michigan.gov/documents/deq/PR\\_07\\_Map2opt\\_315979\\_7.pdf](http://www.michigan.gov/documents/deq/PR_07_Map2opt_315979_7.pdf)  
[http://www.michigan.gov/documents/deq/PR\\_07\\_Map3\\_315980\\_7.pdf](http://www.michigan.gov/documents/deq/PR_07_Map3_315980_7.pdf)

**Progress Report 08: Geology of the Menominee Range, Norway to Waucedah;** C. A. Lamey, C. E. Dutton, 1942; maps Dickinson Co., Iron

[http://www.michigan.gov/documents/deq/PR\\_08\\_315982\\_7.pdf](http://www.michigan.gov/documents/deq/PR_08_315982_7.pdf)  
[http://www.michigan.gov/documents/deq/PR\\_08opt\\_315983\\_7.pdf](http://www.michigan.gov/documents/deq/PR_08opt_315983_7.pdf)  
[http://www.michigan.gov/documents/deq/PR\\_08\\_Mapopt\\_315984\\_7.pdf](http://www.michigan.gov/documents/deq/PR_08_Mapopt_315984_7.pdf)

**Progress Report 09: Economic Geology of a part of the Menominee Range, Dickinson County;** C. E. Dutton, 1942; Dickinson Co., Iron

[http://www.michigan.gov/documents/deq/PR\\_09\\_315986\\_7.pdf](http://www.michigan.gov/documents/deq/PR_09_315986_7.pdf)  
[http://www.michigan.gov/documents/deq/PR\\_09opt\\_315987\\_7.pdf](http://www.michigan.gov/documents/deq/PR_09opt_315987_7.pdf)  
[http://www.michigan.gov/documents/deq/PR\\_09\\_Plate1opt\\_315988\\_7.pdf](http://www.michigan.gov/documents/deq/PR_09_Plate1opt_315988_7.pdf)  
[http://www.michigan.gov/documents/deq/PR\\_09\\_Plate2opt\\_315991\\_7.pdf](http://www.michigan.gov/documents/deq/PR_09_Plate2opt_315991_7.pdf)  
[http://www.michigan.gov/documents/deq/PR\\_09\\_Plate3opt\\_315992\\_7.pdf](http://www.michigan.gov/documents/deq/PR_09_Plate3opt_315992_7.pdf)

**Progress Report 10: Strategic Minerals Investigations in Marquette and Baraga counties;** A. K. Snelgrove, 1944; done in cooperation with the Michigan State College of Mining and Technology Baraga Co., Copper, Gold, Iron, Marquette Co., Silver

[http://www.michigan.gov/documents/deq/GIMDL-PR10\\_216197\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-PR10_216197_7.pdf)  
[http://www.michigan.gov/documents/deq/PR10\\_Tables\\_304713\\_7.pdf](http://www.michigan.gov/documents/deq/PR10_Tables_304713_7.pdf)  
[http://www.michigan.gov/documents/deq/PR10opt\\_304712\\_7.pdf](http://www.michigan.gov/documents/deq/PR10opt_304712_7.pdf)

**Progress Report 11: Geology of the Spruce River and Peshekee River Areas.;** W. A. Seaman, 1945; maps, done in cooperation with the Michigan State College of Mining and Technology Baraga Co., Iron, Marquette Co

[http://www.michigan.gov/documents/deq/PR\\_11\\_316001\\_7.pdf](http://www.michigan.gov/documents/deq/PR_11_316001_7.pdf)  
[http://www.michigan.gov/documents/deq/PR\\_11opt\\_316003\\_7.pdf](http://www.michigan.gov/documents/deq/PR_11opt_316003_7.pdf)

**Progress Report 12: Ground Water Resources of the Benton Harbor Area, Michigan;** W. T. Stuart, R. W. Stallman, 1945; done in cooperation with the U. S. Geological Survey Berrien Co., Water

[http://www.michigan.gov/documents/deq/PR\\_12\\_316005\\_7.pdf](http://www.michigan.gov/documents/deq/PR_12_316005_7.pdf)  
[http://www.michigan.gov/documents/deq/PR\\_12opt\\_316006\\_7.pdf](http://www.michigan.gov/documents/deq/PR_12opt_316006_7.pdf)

**Progress Report 13: Progress Report on the Ground-water Resources of the Lansing Area, Michigan;** W. T. Stuart, 1945; done in cooperation with the USGS Clinton Co., Eaton Co., Ingham Co., Water

[http://www.michigan.gov/documents/deq/GIMDL-PR13\\_216199\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-PR13_216199_7.pdf)  
[http://www.michigan.gov/documents/deq/PR13opt\\_304727\\_7.pdf](http://www.michigan.gov/documents/deq/PR13opt_304727_7.pdf)

**Progress Report 14: Ground-Water Resources of the Glacial Deposits, Bessemer Area, Michigan;** E. A. Brown, W. T. Stuart, 1951; done in cooperation with the USGS Gogebic Co., Water

[http://www.michigan.gov/documents/deq/PR14\\_304706\\_7.pdf](http://www.michigan.gov/documents/deq/PR14_304706_7.pdf)  
[http://www.michigan.gov/documents/deq/PR14\\_Figure\\_304708\\_7.pdf](http://www.michigan.gov/documents/deq/PR14_Figure_304708_7.pdf)  
[http://www.michigan.gov/documents/deq/PR14opt\\_304707\\_7.pdf](http://www.michigan.gov/documents/deq/PR14opt_304707_7.pdf)

**Progress Report 15: The Richfield Challenge;** G. H. Hautau, 1952; Information about an oil and gas producing zone in Michigan Crawford Co., Gas, Missaukee Co., Ogemaw Co., Oil, Roscommon Co., Tuscola Co

[http://www.michigan.gov/documents/deq/PR15\\_304728\\_7.pdf](http://www.michigan.gov/documents/deq/PR15_304728_7.pdf)  
[http://www.michigan.gov/documents/deq/PR15opt\\_304729\\_7.pdf](http://www.michigan.gov/documents/deq/PR15opt_304729_7.pdf)

**Progress Report 16: Ground-water Resources of Southeastern Oakland County, Michigan;** J. G. Ferris, 1954; done in cooperation with the USGS Oakland Co., Water

[http://www.michigan.gov/documents/deq/GIMDL-PR16\\_216200\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-PR16_216200_7.pdf)  
[http://www.michigan.gov/documents/deq/PR16\\_Aopt\\_304733\\_7.pdf](http://www.michigan.gov/documents/deq/PR16_Aopt_304733_7.pdf)  
[http://www.michigan.gov/documents/deq/PR16\\_Bopt\\_304734\\_7.pdf](http://www.michigan.gov/documents/deq/PR16_Bopt_304734_7.pdf)  
[http://www.michigan.gov/documents/deq/PR16\\_Copt\\_304736\\_7.pdf](http://www.michigan.gov/documents/deq/PR16_Copt_304736_7.pdf)

**Progress Report 17: Reconnaissance of the Ground-Water Resources of Chippewa County, Michigan;** K. E. Vanlier, M. Deutsch, 1958; done in cooperation with the USGS Chippewa Co., Water

[http://www.michigan.gov/documents/deq/GIMDL-PR17\\_216201\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-PR17_216201_7.pdf)  
[http://www.michigan.gov/documents/deq/PR\\_17\\_plates\\_304742\\_7.pdf](http://www.michigan.gov/documents/deq/PR_17_plates_304742_7.pdf)  
[http://www.michigan.gov/documents/deq/PR17opt\\_304739\\_7.pdf](http://www.michigan.gov/documents/deq/PR17opt_304739_7.pdf)

**Progress Report 18: Notes on the Devonian-Silurian in the Subsurface of Southwest Michigan;**

G. D. Ellis, 1958; Illustrated review of the subsurface geology Allegan Co., Barry Co., Berrien Co., Branch Co., Calhoun Co., Cass Co., Gas, Kalamazoo Co., Kent Co., Muskegon Co., Newaygo Co., Oil, Ottawa Co., St Joseph Co., Van Buren Co

[http://www.michigan.gov/documents/deq/PR18\\_304745\\_7.pdf](http://www.michigan.gov/documents/deq/PR18_304745_7.pdf)  
[http://www.michigan.gov/documents/deq/PR18opt\\_304746\\_7.pdf](http://www.michigan.gov/documents/deq/PR18opt_304746_7.pdf)

**Progress Report 19: Reconnaissance of the Ground-Water Resources of Mackinac County, Michigan;** K. E. Vanlier, M. Deutsch, 1958; done in cooperation with the USGS Mackinac Co., Water

[http://www.michigan.gov/documents/deq/GIMDL-PR19\\_216202\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-PR19_216202_7.pdf)  
[http://www.michigan.gov/documents/deq/PR19plates\\_304748\\_7.pdf](http://www.michigan.gov/documents/deq/PR19plates_304748_7.pdf)  
[http://www.michigan.gov/documents/deq/PR19opt\\_304747\\_7.pdf](http://www.michigan.gov/documents/deq/PR19opt_304747_7.pdf)

**Progress Report 20: Summary of Ground-Water Investigations in the Holland Area, Michigan;** M. Deutsch, 1958; done in cooperation with the USGS Allegan Co., Ottawa Co., Water

[http://www.michigan.gov/documents/deq/PR20\\_304752\\_7.pdf](http://www.michigan.gov/documents/deq/PR20_304752_7.pdf)  
[http://www.michigan.gov/documents/deq/PR20tables\\_304754\\_7.pdf](http://www.michigan.gov/documents/deq/PR20tables_304754_7.pdf)  
[http://www.michigan.gov/documents/deq/PR20opt\\_304756\\_7.pdf](http://www.michigan.gov/documents/deq/PR20opt_304756_7.pdf)



**Progress Report 21: Reconnaissance of the Ground-Water Resources of Luce County, Michigan;** K. E. Vanlier, 1959; done in cooperation with the USGS Luce Co., Water

[] [http://www.michigan.gov/documents/deq/GIMDL-PR21\\_216203\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-PR21_216203_7.pdf)

[] [http://www.michigan.gov/documents/deq/GIMDL-PR21b\\_216204\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-PR21b_216204_7.pdf)

[] [http://www.michigan.gov/documents/deq/PR21opt\\_304762\\_7.pdf](http://www.michigan.gov/documents/deq/PR21opt_304762_7.pdf)

**Progress Report 22: Reconnaissance of the Ground-Water Resources of Schoolcraft County, Michigan;** W. C. Sinclair, 1959; done in cooperation with the USGS Schoolcraft Co., Water

[] [http://www.michigan.gov/documents/deq/PR22\\_304764\\_7.pdf](http://www.michigan.gov/documents/deq/PR22_304764_7.pdf)

[] [http://www.michigan.gov/documents/deq/PR\\_22opt\\_316043\\_7.pdf](http://www.michigan.gov/documents/deq/PR_22opt_316043_7.pdf)

**Progress Report 23: Ground-Water Hydrology and Glacial Geology of the Kalamazoo Area, Michigan;** M. Deutsch, 1960; done in cooperation with the USGS Kalamazoo Co., Water

[] [http://www.michigan.gov/documents/deq/GIMDL-PR23\\_216205\\_7.PDF](http://www.michigan.gov/documents/deq/GIMDL-PR23_216205_7.PDF)

[] [http://www.michigan.gov/documents/deq/PR23opt\\_304771\\_7.pdf](http://www.michigan.gov/documents/deq/PR23opt_304771_7.pdf)

**Progress Report 24: Reconnaissance of the Ground-water Resources of Delta County, Michigan;** W. C. Sinclair, 1960; done in cooperation with the USGS Delta Co., Water

[] [http://www.michigan.gov/documents/deq/GIMDL-PR24\\_216206\\_7.PDF](http://www.michigan.gov/documents/deq/GIMDL-PR24_216206_7.PDF)

[] [http://www.michigan.gov/documents/deq/PR24opt\\_304774\\_7.pdf](http://www.michigan.gov/documents/deq/PR24opt_304774_7.pdf)

**Progress Report 25: Summary of Ground-Water Conditions in the Elsie Area, Michigan;** K. E. Vanlier, 1962; Clinton Co., Water

[] [http://www.michigan.gov/documents/deq/PR\\_25\\_316323\\_7.pdf](http://www.michigan.gov/documents/deq/PR_25_316323_7.pdf)

[] [http://www.michigan.gov/documents/deq/PR25opt\\_304775\\_7.pdf](http://www.michigan.gov/documents/deq/PR25opt_304775_7.pdf)

## [23] Publication

*"Publications" contain the greatest number of works of all of the series published by the Survey. These books were published between 1910 and 1958. A total of 51 Publications were produced. These are reports of a technical nature on the geology and biology of Michigan. Earlier numbers in this series were published under one of two sub-series: either Geological Series or Biological Series. Biological Series 6 (Publication 31) was the final report issued in this sub-series, which was discontinued after 1921. The sub-series heading Geological Series was discontinued in 1953. Most Publications were issued in both hardbound and paperbound editions. In some cases separates were also available. In that they were wall sized maps, Publications 23, 39 and 49 are not digitized.*

**Publication 01: Biological Series 1. The Crawfishes, the insect Galls and Birds of School Girl's Glen Region, Ann Arbor, Michigan;** A. S. Pearse, M. T. Cook, A. D. Tinker, H. I. Smith, 1910; The Crawfishes, the insect Galls and Birds of School Girl's Glen Region, Ann Arbor, Michigan All counties

[] [http://www.michigan.gov/documents/deq/GIMDL-PU01\\_216208\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-PU01_216208_7.pdf)

[] [http://www.michigan.gov/documents/deq/PU\\_01opt\\_304776\\_7.pdf](http://www.michigan.gov/documents/deq/PU_01opt_304776_7.pdf)

[] [http://www.michigan.gov/documents/deq/PU\\_01\\_Plate09opt\\_304777\\_7.pdf](http://www.michigan.gov/documents/deq/PU_01_Plate09opt_304777_7.pdf)

**Publication 02. Geological Series 1. The Monroe Formation of Southern Michigan and Adjoining Regions;** A. W. Grabau, W. H. Sherzer, 1910; Brine, Correlation, Dolomite, Fossils, Limestone, Monroe Co., Monroe Formation, Palaeogeography, Palaeontology, Salt, Sand, Shale, Southern Peninsula counties, Stratigraphic, Stone, Sylvania sandstone, Wayne Co.

[] [http://www.michigan.gov/documents/deq/GIMDL-PU02\\_216209\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-PU02_216209_7.pdf)

[] [http://www.michigan.gov/documents/deq/GIMDL-PU02b\\_216210\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-PU02b_216210_7.pdf)

[] [http://www.michigan.gov/documents/deq/PU\\_02\\_Aopt\\_308398\\_7.pdf](http://www.michigan.gov/documents/deq/PU_02_Aopt_308398_7.pdf)

[] [http://www.michigan.gov/documents/deq/PU\\_02\\_Bopt\\_308401\\_7.pdf](http://www.michigan.gov/documents/deq/PU_02_Bopt_308401_7.pdf)

[] [http://www.michigan.gov/documents/deq/PU\\_02\\_Copt\\_308405\\_7.pdf](http://www.michigan.gov/documents/deq/PU_02_Copt_308405_7.pdf)

**Publication 03: Geological Series 2. The Iron River Iron-Bearing District of Michigan;** R. C. Allen, 1910; Iron, Iron Co, Western Northern Peninsula counties

[] [http://www.michigan.gov/documents/deq/GIMDL-PU03\\_216211\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-PU03_216211_7.pdf)

[] [http://www.michigan.gov/documents/deq/PU\\_03\\_Part1opt\\_304798\\_7.pdf](http://www.michigan.gov/documents/deq/PU_03_Part1opt_304798_7.pdf)

[] [http://www.michigan.gov/documents/deq/PU\\_03\\_Figure15\\_304806\\_7.pdf](http://www.michigan.gov/documents/deq/PU_03_Figure15_304806_7.pdf)

[] [http://www.michigan.gov/documents/deq/PU\\_03\\_Part2opt\\_304802\\_7.pdf](http://www.michigan.gov/documents/deq/PU_03_Part2opt_304802_7.pdf)

[] [http://www.michigan.gov/documents/deq/PU\\_03\\_Part3opt\\_304804\\_7.pdf](http://www.michigan.gov/documents/deq/PU_03_Part3opt_304804_7.pdf)

**Publication 04: Biological Series 2. A Biological Survey of the Sand Dune Region on the South Shore of Saginaw Bay;** A. G. Ruthven, 1911; Amphibians,

Biota, Birds, Climate, Dunes, Ecological, Environmental Conditions, Fauna, Fish, Flora, Fungus, Grass, Habitat Study, Habitats, List of Species, Mallophaga, Mammals, Mollusca, Orthoptera, Phragmites, Physiography, Plants, Ponds, Precipitation, Reptiles, Saginaw Bay, Sedge, Soil, Streams, Swamps, Temperature, Topography, Trees,

[] [http://www.michigan.gov/documents/deq/GIMDL-PU04A\\_302625\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-PU04A_302625_7.pdf)

[] [http://www.michigan.gov/documents/deq/GIMDL-PU04B\\_302626\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-PU04B_302626_7.pdf)

**Publication 05: Geological Series 3. The Late Glacial and Post Glacial Uplift of the Michigan Basin, Earthquakes in Michigan;** W. H. Hobbs 1911;

Abandoned Shore Lines, Ancient Lakes, Bay De Noc Peninsula, Beaches, Burnt Bluff, Chicago Outlet, Continental Glacier, Earthquakes Hinge Lines, Mackinac Island, Northern Countries, St. Lawrence River, St. Martins Island, Southern Peninsula counties, Summer Island, The Garden Peninsula, Tilting, Uplift

[] [http://www.michigan.gov/documents/deq/GIMDL-PU05A\\_302628\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-PU05A_302628_7.pdf)

[] [http://www.michigan.gov/documents/deq/GIMDL-PU05B\\_302629\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-PU05B_302629_7.pdf)

**Publication 06: Geological Series 4. Volume 1.**

**The Keweenaw Series of Michigan;** A. C. Lane, 1911; Some maps and plates in separate envelope. Brine, Clay, Copper, Dolomite, Gas, Gogebic Co., Gypsum, Houghton Co., Iron, Isle Royale, Keweenaw Co., Lime, Limestone, Ontonagon Co., Salt, Sandstone, Shale, Silver, Sulfur, Water

[] [http://www.michigan.gov/documents/deq/PU\\_06\\_VI\\_Ch1-4\\_Aopt\\_307001\\_7.pdf](http://www.michigan.gov/documents/deq/PU_06_VI_Ch1-4_Aopt_307001_7.pdf)

[] [http://www.michigan.gov/documents/deq/deq-ogs-gimdl-PU06A\\_304809\\_7.PDF](http://www.michigan.gov/documents/deq/deq-ogs-gimdl-PU06A_304809_7.PDF)

[] [http://www.michigan.gov/documents/deq/PU\\_06\\_VI\\_Ch1-4\\_Bopt\\_307002\\_7.pdf](http://www.michigan.gov/documents/deq/PU_06_VI_Ch1-4_Bopt_307002_7.pdf)

[] [http://www.michigan.gov/documents/deq/PU\\_06\\_VI\\_Ch1-4\\_Copt\\_307003\\_7.pdf](http://www.michigan.gov/documents/deq/PU_06_VI_Ch1-4_Copt_307003_7.pdf)

[] [http://www.michigan.gov/documents/deq/PU\\_06\\_V1\\_Ch5Aopt\\_307005\\_7.pdf](http://www.michigan.gov/documents/deq/PU_06_V1_Ch5Aopt_307005_7.pdf)

[] [http://www.michigan.gov/documents/deq/PU\\_06\\_V1\\_Ch5Bopt\\_307007\\_7.pdf](http://www.michigan.gov/documents/deq/PU_06_V1_Ch5Bopt_307007_7.pdf)

[] [http://www.michigan.gov/documents/deq/PU\\_06\\_V1\\_Ch5Copt\\_307009\\_7.pdf](http://www.michigan.gov/documents/deq/PU_06_V1_Ch5Copt_307009_7.pdf)

[] [http://www.michigan.gov/documents/deq/PU\\_06\\_V1\\_Ch5Dopt\\_307012\\_7.pdf](http://www.michigan.gov/documents/deq/PU_06_V1_Ch5Dopt_307012_7.pdf)

[] [http://www.michigan.gov/documents/deq/PU\\_06\\_V1\\_Ch5Eopt\\_307013\\_7.pdf](http://www.michigan.gov/documents/deq/PU_06_V1_Ch5Eopt_307013_7.pdf)

**Publication 06: Geological Series 4. Volume 2.**

[] [http://www.michigan.gov/documents/deq/PU\\_06\\_V2\\_Ch5Aopt\\_307014\\_7.pdf](http://www.michigan.gov/documents/deq/PU_06_V2_Ch5Aopt_307014_7.pdf)

[] [http://www.michigan.gov/documents/deq/PU\\_06\\_V2\\_Ch5Bopt\\_307015\\_7.pdf](http://www.michigan.gov/documents/deq/PU_06_V2_Ch5Bopt_307015_7.pdf)

[] [http://www.michigan.gov/documents/deq/PU\\_06\\_V2\\_Ch5Copt\\_307016\\_7.pdf](http://www.michigan.gov/documents/deq/PU_06_V2_Ch5Copt_307016_7.pdf)

[] [http://www.michigan.gov/documents/deq/PU\\_06\\_V2\\_Ch5Dopt\\_307017\\_7.pdf](http://www.michigan.gov/documents/deq/PU_06_V2_Ch5Dopt_307017_7.pdf)

[] [http://www.michigan.gov/documents/deq/PU\\_06\\_V2\\_Ch6-10\\_307018\\_7.pdf](http://www.michigan.gov/documents/deq/PU_06_V2_Ch6-10_307018_7.pdf)

[http://www.michigan.gov/documents/deq/PU\\_06\\_V2\\_Ch6-10\\_Aopt\\_307019\\_7.pdf](http://www.michigan.gov/documents/deq/PU_06_V2_Ch6-10_Aopt_307019_7.pdf)  
[http://www.michigan.gov/documents/deq/PU\\_06\\_V2\\_Ch6-10\\_Bopt\\_307020\\_7.pdf](http://www.michigan.gov/documents/deq/PU_06_V2_Ch6-10_Bopt_307020_7.pdf)  
[http://www.michigan.gov/documents/deq/PU\\_06\\_V2\\_Ch6-10\\_Copt\\_307022\\_7.pdf](http://www.michigan.gov/documents/deq/PU_06_V2_Ch6-10_Copt_307022_7.pdf)

**Publication 07: Surface Geology of the Northern Peninsula of Michigan;** F. Leverett, 1911; Black River, Carp River, Dead River, Drainage Systems, Drumlins, Escanaba River, Eskers, General Geology, Glacial Features, Huron Mountains, Kames, Keweenaw Peninsula, Lake Algonquin, Lake Duluth, Lake Huron, Lake Michigan, Lake Ontonagon, Limestone, Manistique River, Menominee River, Montreal River, Moraines, Nipissing Great Lakes, Northern Peninsula counties, Ontonagon River, Outwash, Physiography, Presque Isle River, Rapid River, Sandstone, Shore Lines, Soils, St. Mary's River, Sturgeon River, Sturgeon River, Tahquamenon River, Topography, Water, Water Power, Whitefish River  
[http://www.michigan.gov/documents/deq/GIMDL-PU07\\_302630\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-PU07_302630_7.pdf)

**Publication 08: Geological Series 6. Mineral Resources of Michigan with Statistical Tables of Production and Value of Mineral Products for 1910 and Prior Years;** R. C. Allen, 1912; With contributions from: R. E. Hore R. A. Smith and A. E. White Brine, Cement, Clay, Coal, Copper, Gas, Gold, Gravel, Gypsum, Iron, Lime, Limestone, Marl, Oil, Salt, Sand, Sandstone, Shale, Water  
[http://www.michigan.gov/documents/deq/GIMDL-PU08A\\_216212\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-PU08A_216212_7.pdf)  
[http://www.michigan.gov/documents/deq/PU\\_08\\_Aopt\\_307298\\_7.pdf](http://www.michigan.gov/documents/deq/PU_08_Aopt_307298_7.pdf)  
[http://www.michigan.gov/documents/deq/GIMDL-PU08B\\_216213\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-PU08B_216213_7.pdf)  
[http://www.michigan.gov/documents/deq/PU\\_08\\_Bopt\\_307301\\_7.pdf](http://www.michigan.gov/documents/deq/PU_08_Bopt_307301_7.pdf)  
[http://www.michigan.gov/documents/deq/GIMDL-PU08C\\_216214\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-PU08C_216214_7.pdf)  
[http://www.michigan.gov/documents/deq/PU\\_08\\_Copt\\_307305\\_7.pdf](http://www.michigan.gov/documents/deq/PU_08_Copt_307305_7.pdf)  
[http://www.michigan.gov/documents/deq/PU\\_08\\_Dopt\\_307306\\_7.pdf](http://www.michigan.gov/documents/deq/PU_08_Dopt_307306_7.pdf)  
[http://www.michigan.gov/documents/deq/PU\\_08\\_Eopt\\_307307\\_7.pdf](http://www.michigan.gov/documents/deq/PU_08_Eopt_307307_7.pdf)  
[http://www.michigan.gov/documents/deq/PU\\_08\\_figures\\_opt\\_307308\\_7.pdf](http://www.michigan.gov/documents/deq/PU_08_figures_opt_307308_7.pdf)

**Publication 09: Geological Series 7. Surface Geology and Agricultural Conditions of the Southern Peninsula of Michigan;** with A Chapter on Climate; F. Leverett, 1912; Drumlins, Eskers, General Geology, Glacial Features, Kames, Moraines, Great Lakes, Southern Peninsula counties, Outwash, Shore Lines, Soils, Topography, Water  
[http://www.michigan.gov/documents/deq/GIMDL-PU09\\_302632\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-PU09_302632_7.pdf)

**Publication 10: Biological Series 3. The Herpetology of Michigan;** The Archaeology of Michigan; A. G. Ruthven, 1912; All counties  
[http://www.michigan.gov/documents/deq/GIMDL-PU10A\\_302633\\_7.PDF](http://www.michigan.gov/documents/deq/GIMDL-PU10A_302633_7.PDF)  
[http://www.michigan.gov/documents/deq/PU\\_10\\_Aopt\\_307345\\_7.pdf](http://www.michigan.gov/documents/deq/PU_10_Aopt_307345_7.pdf)  
[http://www.michigan.gov/documents/deq/GIMDL-PU10B\\_302634\\_7.PDF](http://www.michigan.gov/documents/deq/GIMDL-PU10B_302634_7.PDF)  
[http://www.michigan.gov/documents/deq/PU\\_10\\_Bopt\\_307348\\_7.pdf](http://www.michigan.gov/documents/deq/PU_10_Bopt_307348_7.pdf)  
[http://www.michigan.gov/documents/deq/GIMDL-PU10C\\_302635\\_7.PDF](http://www.michigan.gov/documents/deq/GIMDL-PU10C_302635_7.PDF)  
[http://www.michigan.gov/documents/deq/GIMDL-PU10D\\_302636\\_7.PDF](http://www.michigan.gov/documents/deq/GIMDL-PU10D_302636_7.PDF)

**Publication 11: Geological Series 8. Geological Report on Arenac County;** W. M. Gregory, 1912; Arenac Co., Clay, Coal, Gravel, Gypsum, Limestone, Salt, Sand, Sandstone, Water  
[http://www.michigan.gov/documents/deq/GIMDL-PU11\\_302637\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-PU11_302637_7.pdf)

**Publication 12: Geological Series 9. Geological Report on Wayne County;** W. H. Sherzer, 1913; Brine, Cement, Clay, Coal, Dolomite, Gas, Gravel, Lime, Limestone, Oil, Peat, Sand, Shale, Water, Wayne Co. Salt  
[http://www.michigan.gov/documents/deq/GIMDL-PU12A\\_302638\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-PU12A_302638_7.pdf)

[http://www.michigan.gov/documents/deq/PU\\_12\\_Aopt\\_307350\\_7.pdf](http://www.michigan.gov/documents/deq/PU_12_Aopt_307350_7.pdf)  
[http://www.michigan.gov/documents/deq/GIMDL-PU12B\\_302640\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-PU12B_302640_7.pdf)  
[http://www.michigan.gov/documents/deq/PU\\_12\\_Bopt\\_307351\\_7.pdf](http://www.michigan.gov/documents/deq/PU_12_Bopt_307351_7.pdf)  
[http://www.michigan.gov/documents/deq/PU\\_12\\_Copt\\_307352\\_7.pdf](http://www.michigan.gov/documents/deq/PU_12_Copt_307352_7.pdf)  
[http://www.michigan.gov/documents/deq/PU\\_12\\_Dopt\\_307354\\_7.pdf](http://www.michigan.gov/documents/deq/PU_12_Dopt_307354_7.pdf)

**Publication 13: Geological Series 10. Mineral Resources of Michigan with Statistical Tables of Production and Value of Mineral Products for 1912 and Prior Years;** R. C. Allen, R. E. Hore., 1913; All counties, Cement, Clay, Coal, Copper, Gas, Gravel, Gypsum, Iron, Lime, Limestone, Oil, Potash, Salt, Sand, Sandstone  
[http://www.michigan.gov/documents/deq/GIMDL-PU13\\_216215\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-PU13_216215_7.pdf)  
[http://www.michigan.gov/documents/deq/PU\\_13\\_Aopt\\_307358\\_7.pdf](http://www.michigan.gov/documents/deq/PU_13_Aopt_307358_7.pdf)  
[http://www.michigan.gov/documents/deq/PU\\_13\\_Bopt\\_307361\\_7.pdf](http://www.michigan.gov/documents/deq/PU_13_Bopt_307361_7.pdf)  
[http://www.michigan.gov/documents/deq/PU\\_13\\_Copt\\_307362\\_7.pdf](http://www.michigan.gov/documents/deq/PU_13_Copt_307362_7.pdf)  
[http://www.michigan.gov/documents/deq/PU\\_13\\_plates\\_opt\\_307363\\_7.pdf](http://www.michigan.gov/documents/deq/PU_13_plates_opt_307363_7.pdf)

**Publication 14: Geological Series 11. The Occurrence of Oil and Gas in Michigan;** R. A. Smith, 1914; Brine, Gas, Oil, Southern Peninsula counties  
[http://www.michigan.gov/documents/deq/GIMDL-PU140105\\_216216\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-PU140105_216216_7.pdf)  
[http://www.michigan.gov/documents/deq/PU\\_14\\_Aopt\\_307397\\_7.pdf](http://www.michigan.gov/documents/deq/PU_14_Aopt_307397_7.pdf)  
[http://www.michigan.gov/documents/deq/GIMDL-PU140510\\_216217\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-PU140510_216217_7.pdf)  
[http://www.michigan.gov/documents/deq/PU\\_14\\_Bopt\\_307399\\_7.pdf](http://www.michigan.gov/documents/deq/PU_14_Bopt_307399_7.pdf)  
[http://www.michigan.gov/documents/deq/GIMDL-PU14b-1\\_217040\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-PU14b-1_217040_7.pdf)  
[http://www.michigan.gov/documents/deq/PU\\_14\\_Copt\\_307403\\_7.pdf](http://www.michigan.gov/documents/deq/PU_14_Copt_307403_7.pdf)  
[http://www.michigan.gov/documents/deq/GIMDL-PU14b-2\\_217042\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-PU14b-2_217042_7.pdf)  
[http://www.michigan.gov/documents/deq/GIMDL-PU14b-3\\_217043\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-PU14b-3_217043_7.pdf)

**Publication 15: Geological Series 12. The Brine and Salt Deposits of Michigan;** C. W. Cook, 1914; Brine Origin, Distribution and Exploitation, All counties, Bay Co., Brine, Gratiot Co., Huron Co., Iosco Co., Isabella Co., Macomb Co., Manistee Co., Mason Co., Midland Co., Saginaw Co., Salt, St Clair Co  
[http://www.michigan.gov/documents/deq/GIMDL-PU150103\\_216219\\_7.PDF](http://www.michigan.gov/documents/deq/GIMDL-PU150103_216219_7.PDF)  
[http://www.michigan.gov/documents/deq/PU\\_15\\_Aopt\\_307446\\_7.pdf](http://www.michigan.gov/documents/deq/PU_15_Aopt_307446_7.pdf)  
[http://www.michigan.gov/documents/deq/GIMDL-PU150406\\_216223\\_7.PDF](http://www.michigan.gov/documents/deq/GIMDL-PU150406_216223_7.PDF)  
[http://www.michigan.gov/documents/deq/PU\\_15\\_Bopt\\_307448\\_7.pdf](http://www.michigan.gov/documents/deq/PU_15_Bopt_307448_7.pdf)  
[http://www.michigan.gov/documents/deq/GIMDL-PU15b\\_216227\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-PU15b_216227_7.pdf)

**Publication 16: Geological Series 13. Mineral Resources of Michigan with Statistical Tables of Production and Value of Mineral Products for 1913 and Prior Years;** R. C. Allen, 1914; with Statistical Tables of Production and Value of Mineral Products for 1913 and Prior Years, All counties  
[http://www.michigan.gov/documents/deq/GIMDL-PU16\\_216228\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-PU16_216228_7.pdf)  
[http://www.michigan.gov/documents/deq/PU\\_16\\_opt\\_307452\\_7.pdf](http://www.michigan.gov/documents/deq/PU_16_opt_307452_7.pdf)  
[http://www.michigan.gov/documents/deq/GIMDL-PU16b\\_216229\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-PU16b_216229_7.pdf)

**Publication 17: Geological Series 14. Mineral Resources of Michigan with Statistical Tables of Production and Value of Mineral Products for 1912 to 1914;** R. C. Allen, 1914;  
[http://www.michigan.gov/documents/deq/GIMDL-PU17\\_216230\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-PU17_216230_7.pdf)  
[http://www.michigan.gov/documents/deq/PU\\_17\\_opt\\_307453\\_7.pdf](http://www.michigan.gov/documents/deq/PU_17_opt_307453_7.pdf)  
[http://www.michigan.gov/documents/deq/GIMDL-PU17b\\_216231\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-PU17b_216231_7.pdf)  
[http://www.michigan.gov/documents/deq/PU\\_17\\_mapopt\\_307454\\_7.pdf](http://www.michigan.gov/documents/deq/PU_17_mapopt_307454_7.pdf)

**Publication 18: Geological Series 15. Contributions to the Pre-Cambrian Northern Michigan;** R. C. Allen, L. P. Barrett, E. C. Case, W. I. Robinson, 1915; Contributions to the Pre-Cambrian Geology of Northern Michigan and Wisconsin; The Geology of Limestone Mountain and Sherman Hill in Houghton County, Michigan; Baraga Co., Dickinson Co., Dolomite, Gogebic Co., Houghton Co., Iron, Marquette Co., Menominee Co., Northern Peninsula counties, Ontonagon Co

- [http://www.michigan.gov/documents/deq/GIMDL-PU18A\\_216232\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-PU18A_216232_7.pdf)
- [http://www.michigan.gov/documents/deq/PU\\_18\\_Aopt\\_307458\\_7.pdf](http://www.michigan.gov/documents/deq/PU_18_Aopt_307458_7.pdf)
- [http://www.michigan.gov/documents/deq/GIMDL-PU18B\\_216233\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-PU18B_216233_7.pdf)
- [http://www.michigan.gov/documents/deq/PU\\_18\\_Bopt\\_307459\\_7.pdf](http://www.michigan.gov/documents/deq/PU_18_Bopt_307459_7.pdf)
- [http://www.michigan.gov/documents/deq/PU\\_18\\_FiguresOpt\\_307460\\_7.pdf](http://www.michigan.gov/documents/deq/PU_18_FiguresOpt_307460_7.pdf)

**Publication 19: Geological Series 16. Mineral Resources of Michigan with Statistical Tables of Production and Value of Mineral Products for 1914 and Prior Years;** R. E. Hore, R. A. Smith, 1915; Treatise on Michigan Copper Deposits, Non-Metallic Minerals, Brine, Cement, Clay, Coal, Gas, Gravel, Gypsum, Lime, Limestone, Oil, Salt, Sand, Sandstone

- [http://www.michigan.gov/documents/deq/GIMDL-PU19A\\_216234\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-PU19A_216234_7.pdf)
- [http://www.michigan.gov/documents/deq/PU\\_19\\_Aopt\\_307461\\_7.pdf](http://www.michigan.gov/documents/deq/PU_19_Aopt_307461_7.pdf)
- [http://www.michigan.gov/documents/deq/GIMDL-PU19B\\_216235\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-PU19B_216235_7.pdf)
- [http://www.michigan.gov/documents/deq/PU\\_19\\_Bopt\\_307464\\_7.pdf](http://www.michigan.gov/documents/deq/PU_19_Bopt_307464_7.pdf)
- [http://www.michigan.gov/documents/deq/PU\\_19\\_Copt\\_307465\\_7.pdf](http://www.michigan.gov/documents/deq/PU_19_Copt_307465_7.pdf)
- [http://www.michigan.gov/documents/deq/PU\\_19\\_Dopt\\_307469\\_7.pdf](http://www.michigan.gov/documents/deq/PU_19_Dopt_307469_7.pdf)
- [http://www.michigan.gov/documents/deq/PU\\_19\\_FiguresOpt\\_308192\\_7.pdf](http://www.michigan.gov/documents/deq/PU_19_FiguresOpt_308192_7.pdf)
- [http://www.michigan.gov/documents/deq/PU\\_19\\_PlatesOpt\\_308193\\_7.pdf](http://www.michigan.gov/documents/deq/PU_19_PlatesOpt_308193_7.pdf)

**Publication 20. Biological Series 04: Miscellaneous Papers on the Zoology of Michigan. Part 1;** A. T. Evans, 1916; Contributions from A. G. Ruthven, R. J. Colbert, T. L. Hankinson, T. L. Hankinson, A. W. Andrews, C. Thompson; Dragonflies of the Douglass Lake Region, An Ecological Study of the Fish Fauna of the Douglas Lake Region, Results of the Shiras Expeditions to Whitefish Point; Fishes, Observations on the Fishes of Houghton Co., Results of the Mershon Expedition to the Charity Islands, Lake Huron; Coleoptera, The Reptiles and Amphibians of Monroe Co.

- [http://www.michigan.gov/documents/deq/PU\\_20\\_A\\_308390\\_7.pdf](http://www.michigan.gov/documents/deq/PU_20_A_308390_7.pdf)
- [http://www.michigan.gov/documents/deq/PU\\_20\\_B\\_308394\\_7.pdf](http://www.michigan.gov/documents/deq/PU_20_B_308394_7.pdf)
- [http://www.michigan.gov/documents/deq/PU\\_20\\_Aopt\\_308194\\_7.pdf](http://www.michigan.gov/documents/deq/PU_20_Aopt_308194_7.pdf)
- [http://www.michigan.gov/documents/deq/PU\\_20\\_Bopt\\_308195\\_7.pdf](http://www.michigan.gov/documents/deq/PU_20_Bopt_308195_7.pdf)
- [http://www.michigan.gov/documents/deq/PU\\_20\\_Copt\\_308196\\_7.pdf](http://www.michigan.gov/documents/deq/PU_20_Copt_308196_7.pdf)

**Publication 21: Geological Series 17. Mineral Resources of Michigan with Statistical Tables of Production and Value of Mineral Products for 1915 and Prior Years;** R. A. Smith, W. E. Hopper, R. C. Allen, 1916; Brine, Cement, Clay, Coal, Copper, Dolomite, Gas, Gravel, Gypsum, Iron, Lime, Limestone, Marl, Oil, Salt, Sand, Sandstone, Shale, Silver, Sulfur

- [http://www.michigan.gov/documents/deq/GIMDL-PU21A\\_216236\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-PU21A_216236_7.pdf)
- [http://www.michigan.gov/documents/deq/GIMDL-PU21B\\_216237\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-PU21B_216237_7.pdf)
- [http://www.michigan.gov/documents/deq/GIMDL-PU21C\\_216238\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-PU21C_216238_7.pdf)
- [http://www.michigan.gov/documents/deq/PU\\_21\\_Aopt\\_308197\\_7.pdf](http://www.michigan.gov/documents/deq/PU_21_Aopt_308197_7.pdf)
- [http://www.michigan.gov/documents/deq/PU\\_21\\_Bopt\\_308200\\_7.pdf](http://www.michigan.gov/documents/deq/PU_21_Bopt_308200_7.pdf)
- [http://www.michigan.gov/documents/deq/PU\\_21\\_Copt\\_308201\\_7.pdf](http://www.michigan.gov/documents/deq/PU_21_Copt_308201_7.pdf)
- [http://www.michigan.gov/documents/deq/PU\\_21\\_Dopt\\_308202\\_7.pdf](http://www.michigan.gov/documents/deq/PU_21_Dopt_308202_7.pdf)
- [http://www.michigan.gov/documents/deq/PU\\_21\\_Figuresopt\\_308204\\_7.pdf](http://www.michigan.gov/documents/deq/PU_21_Figuresopt_308204_7.pdf)

**Publication 22: Geological Series 18. Biennial Report of the Director and Report on Retracement and Permanent Monumenting of the Michigan-Ohio Boundary;** R. C. Allen, 1916; Hillsdale Co., Keweenaw Co., Limestone, Mackinac Island, Monroe Co., Northern Peninsula counties

- [http://www.michigan.gov/documents/deq/GIMDL-PU22\\_216239\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-PU22_216239_7.pdf)
- [http://www.michigan.gov/documents/deq/GIMDL-PU22b\\_216240\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-PU22b_216240_7.pdf)
- [http://www.michigan.gov/documents/deq/PU\\_22\\_Aopt\\_308205\\_7.pdf](http://www.michigan.gov/documents/deq/PU_22_Aopt_308205_7.pdf)
- [http://www.michigan.gov/documents/deq/PU\\_22\\_Bopt\\_308206\\_7.pdf](http://www.michigan.gov/documents/deq/PU_22_Bopt_308206_7.pdf)
- [http://www.michigan.gov/documents/deq/PU\\_22\\_Mapsopt\\_308207\\_7.pdf](http://www.michigan.gov/documents/deq/PU_22_Mapsopt_308207_7.pdf)

**Publication 23: Geological Series 19. Geological Map of Michigan;** R. C. Allen, 1917; 1 colored sheet (1:750,000), (Geological Series 19). Not digitized.

**Publication 24: Geological Series 20. Mineral Resources of Michigan with Statistical Tables of Production and Value of Mineral Products for 1916 and Prior Years;** R. A. Smith, R. C. Allen, W. E. Hopper, 1917; Brine, Cement, Clay, Coal, Copper, Dolomite, Gas, Gravel, Gypsum, Iron, Lime, Limestone, Marl, Oil, Salt, Sand, Sandstone, Shale, Silver, Stone

- [http://www.michigan.gov/documents/deq/GIMDL-PU24\\_216241\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-PU24_216241_7.pdf)
- [http://www.michigan.gov/documents/deq/PU\\_24\\_Aopt\\_308208\\_7.pdf](http://www.michigan.gov/documents/deq/PU_24_Aopt_308208_7.pdf)
- [http://www.michigan.gov/documents/deq/PU\\_24\\_Bopt\\_308210\\_7.pdf](http://www.michigan.gov/documents/deq/PU_24_Bopt_308210_7.pdf)
- [http://www.michigan.gov/documents/deq/PU\\_24\\_Copt\\_308212\\_7.pdf](http://www.michigan.gov/documents/deq/PU_24_Copt_308212_7.pdf)
- [http://www.michigan.gov/documents/deq/PU\\_24\\_Platesopt\\_308214\\_7.pdf](http://www.michigan.gov/documents/deq/PU_24_Platesopt_308214_7.pdf)

**Publication 25: Geological Series 21. Surface Geology and Agricultural Conditions of Michigan;** F. Leverett, C. F. Schneider, 1917; Water

- [http://www.michigan.gov/documents/deq/GIMDL-PU25A\\_302641\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-PU25A_302641_7.pdf)
- [http://www.michigan.gov/documents/deq/GIMDL-PU25B\\_302642\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-PU25B_302642_7.pdf)

**Publication 26. Biological Series 05: The Agaraceae of Michigan. Volume I;** C. H. Kauffman, 1918;

- [http://www.michigan.gov/documents/deq/PU\\_26\\_A\\_308234\\_7.PDF](http://www.michigan.gov/documents/deq/PU_26_A_308234_7.PDF)
- [http://www.michigan.gov/documents/deq/PU\\_26\\_B\\_308236\\_7.PDF](http://www.michigan.gov/documents/deq/PU_26_B_308236_7.PDF)
- [http://www.michigan.gov/documents/deq/PU\\_26\\_C\\_308237\\_7.PDF](http://www.michigan.gov/documents/deq/PU_26_C_308237_7.PDF)
- [http://www.michigan.gov/documents/deq/PU\\_26\\_D\\_308238\\_7.pdf](http://www.michigan.gov/documents/deq/PU_26_D_308238_7.pdf)
- [http://www.michigan.gov/documents/deq/PU\\_26\\_Aopt\\_308217\\_7.pdf](http://www.michigan.gov/documents/deq/PU_26_Aopt_308217_7.pdf)
- [http://www.michigan.gov/documents/deq/PU\\_26\\_Bopt\\_308220\\_7.pdf](http://www.michigan.gov/documents/deq/PU_26_Bopt_308220_7.pdf)
- [http://www.michigan.gov/documents/deq/PU\\_26\\_Copt\\_308222\\_7.pdf](http://www.michigan.gov/documents/deq/PU_26_Copt_308222_7.pdf)
- [http://www.michigan.gov/documents/deq/PU\\_26\\_Dopt\\_308225\\_7.pdf](http://www.michigan.gov/documents/deq/PU_26_Dopt_308225_7.pdf)
- [http://www.michigan.gov/documents/deq/PU\\_26\\_Eopt\\_308226\\_7.pdf](http://www.michigan.gov/documents/deq/PU_26_Eopt_308226_7.pdf)
- [http://www.michigan.gov/documents/deq/PU\\_26\\_Fopt\\_308228\\_7.pdf](http://www.michigan.gov/documents/deq/PU_26_Fopt_308228_7.pdf)
- [http://www.michigan.gov/documents/deq/PU\\_26\\_Gopt\\_308230\\_7.pdf](http://www.michigan.gov/documents/deq/PU_26_Gopt_308230_7.pdf)
- [http://www.michigan.gov/documents/deq/PU\\_26\\_Hopt\\_308232\\_7.pdf](http://www.michigan.gov/documents/deq/PU_26_Hopt_308232_7.pdf)

**Publication 27: Geological Series 22. Mineral Resources of Michigan with Statistical Tables of Production and Value of Mineral Products for 1917 and Prior Years;** R. A. Smith, W. E. Hopper, W. L. Tinker, R. C. Allen, 1918; Brine, Cement, Clay, Coal, Copper, Dolomite, Gas, Gravel, Gypsum, Iron, Lime, Limestone, Marl, Oil, Salt, Sand, Sandstone, Shale, Stone

- [http://www.michigan.gov/documents/deq/GIMDL-PU27\\_216242\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-PU27_216242_7.pdf)
- [http://www.michigan.gov/documents/deq/PU\\_27\\_Aopt\\_308257\\_7.pdf](http://www.michigan.gov/documents/deq/PU_27_Aopt_308257_7.pdf)
- [http://www.michigan.gov/documents/deq/PU\\_27\\_Bopt\\_308258\\_7.pdf](http://www.michigan.gov/documents/deq/PU_27_Bopt_308258_7.pdf)

**Publication 28: Geological Series 23. Drainage in Michigan;** D. G. Miller, P. T. Simons, 1919; Water

[\[\] http://www.michigan.gov/documents/deq/GIMDL-PU28\\_216243\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-PU28_216243_7.pdf)  
[\[\] http://www.michigan.gov/documents/deq/PU\\_28\\_Aopt\\_308260\\_7.pdf](http://www.michigan.gov/documents/deq/PU_28_Aopt_308260_7.pdf)  
[\[\] http://www.michigan.gov/documents/deq/PU\\_28\\_Bopt\\_308261\\_7.pdf](http://www.michigan.gov/documents/deq/PU_28_Bopt_308261_7.pdf)  
[\[\] http://www.michigan.gov/documents/deq/PU\\_28\\_Figuresopt\\_308262\\_7.pdf](http://www.michigan.gov/documents/deq/PU_28_Figuresopt_308262_7.pdf)

**Publication 29: Geological Series 24. Mineral Resources of Michigan with Statistical Tables of Production and Value of Mineral Products for 1918 and Prior Years;** R. C. Allen, H. M. Martin, L. P. Barrett, O. R. Hamilton, 1920; Brine, Cement, Clay, Coal, Copper, Dolomite, Gas, Gravel, Gypsum, Iron, Lime, Limestone, Marl, Oil, Salt, Sand, Sandstone, Shale, Stone

[\[\] http://www.michigan.gov/documents/deq/GIMDL-PU29\\_216244\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-PU29_216244_7.pdf)  
[\[\] http://www.michigan.gov/documents/deq/PU\\_29\\_Aopt\\_308264\\_7.pdf](http://www.michigan.gov/documents/deq/PU_29_Aopt_308264_7.pdf)  
[\[\] http://www.michigan.gov/documents/deq/PU\\_29\\_Bopt\\_308266\\_7.pdf](http://www.michigan.gov/documents/deq/PU_29_Bopt_308266_7.pdf)

**Publication 30. Geological Series 25: Inland Lakes of Michigan;** I. D. Scott, 1921; Water, inland lakes

[\[\] http://www.michigan.gov/documents/deq/PU\\_30\\_Ch1-4\\_308414\\_7.PDF](http://www.michigan.gov/documents/deq/PU_30_Ch1-4_308414_7.PDF)  
[\[\] http://www.michigan.gov/documents/deq/PU\\_30\\_Ch5-8\\_308421\\_7.PDF](http://www.michigan.gov/documents/deq/PU_30_Ch5-8_308421_7.PDF)  
[\[\] http://www.michigan.gov/documents/deq/PU\\_30\\_Ch9-12\\_308422\\_7.PDF](http://www.michigan.gov/documents/deq/PU_30_Ch9-12_308422_7.PDF)  
[\[\] http://www.michigan.gov/documents/deq/PU\\_30\\_Aopt\\_308426\\_7.pdf](http://www.michigan.gov/documents/deq/PU_30_Aopt_308426_7.pdf)  
[\[\] http://www.michigan.gov/documents/deq/PU\\_30\\_Bopt\\_308430\\_7.pdf](http://www.michigan.gov/documents/deq/PU_30_Bopt_308430_7.pdf)  
[\[\] http://www.michigan.gov/documents/deq/PU\\_30\\_Copt\\_308434\\_7.pdf](http://www.michigan.gov/documents/deq/PU_30_Copt_308434_7.pdf)  
[\[\] http://www.michigan.gov/documents/deq/PU\\_30\\_Dopt\\_308440\\_7.pdf](http://www.michigan.gov/documents/deq/PU_30_Dopt_308440_7.pdf)

**Publication 31: Biological Series 6. Miscellaneous Papers on the Botany of Michigan;** C. K. Dodge, 1921; Edited by A. G. Ruthven, Alcona Co., Alpena Co., Arenac Co., Bay Co., Cheboygan Co., Chippewa Co., Iosco Co., Mackinac Co., Mackinac Island, Presque Isle Co., Schoolcraft Co., Tuscola Co

[\[\] http://www.michigan.gov/documents/deq/GIMDL-PU31\\_302645\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-PU31_302645_7.pdf)  
[\[\] http://www.michigan.gov/documents/deq/PU\\_31\\_Aopt\\_308448\\_7.pdf](http://www.michigan.gov/documents/deq/PU_31_Aopt_308448_7.pdf)  
[\[\] http://www.michigan.gov/documents/deq/PU\\_31\\_Bopt\\_308451\\_7.pdf](http://www.michigan.gov/documents/deq/PU_31_Bopt_308451_7.pdf)

**Publication 32: Geological Series 26. Mineral Resources of Michigan with Statistical Tables of Production and Value of Mineral Products for 1920 and Prior Years;** R. A. Smith, 1920; All counties, Copper, Iron Gas, Oil

[\[\] http://www.michigan.gov/documents/deq/GIMDL-PU32\\_216245\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-PU32_216245_7.pdf)  
[\[\] http://www.michigan.gov/documents/deq/PU\\_32\\_opt\\_308456\\_7.pdf](http://www.michigan.gov/documents/deq/PU_32_opt_308456_7.pdf)

**Publication 33: Geological Series 27. Mineral Resources of Michigan with Statistical Tables of Production and Value of Mineral Products for 1921 and Prior Years;** R. A. Smith, H. M. Martin, 1921; Brine, Cement, Clay, Coal, Copper, Dolomite, Gas, Gravel, Gypsum, Iron, Lime, Limestone, Marl, Oil, Salt, Sand, Sandstone, Shale, Stone

[\[\] http://www.michigan.gov/documents/deq/GIMDL-PU33\\_216246\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-PU33_216246_7.pdf)  
[\[\] http://www.michigan.gov/documents/deq/PU\\_33\\_opt\\_308462\\_7.pdf](http://www.michigan.gov/documents/deq/PU_33_opt_308462_7.pdf)

**Publication 34: Geological Series 28. Mineral Resources of Michigan with Statistical Tables of Production and Value of Mineral Products for 1922 and Prior Years;** R. A. Smith (comp.), L. P. Barrett, 1922; Brine, Cement, Clay, Coal, Copper, Dolomite, Gas, Gravel, Gypsum, Iron, Lime, Limestone, Marl, Oil, Salt, Sand, Sandstone, Shale, Stone

[\[\] http://www.michigan.gov/documents/deq/GIMDL-PU34\\_216247\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-PU34_216247_7.pdf)  
[\[\] http://www.michigan.gov/documents/deq/PU\\_34\\_Aopt\\_308465\\_7.pdf](http://www.michigan.gov/documents/deq/PU_34_Aopt_308465_7.pdf)

[\[\] http://www.michigan.gov/documents/deq/PU\\_34\\_Bopt\\_308467\\_7.pdf](http://www.michigan.gov/documents/deq/PU_34_Bopt_308467_7.pdf)

**Publication 35: Geological Series 29. Mineral Resources of Michigan with Statistical Tables of Production and Value of Mineral Products for**

**1923 and Prior Years;** R. A. Smith, L. P. Barrett, 1923; Brine, Cement, Clay, Coal, Copper, Dolomite, Gas, Gravel, Gypsum, Iron, Lime, Limestone, Marl, Oil, Salt, Sand, Sandstone, Shale, Stone

[\[\] http://www.michigan.gov/documents/deq/GIMDL-PU35A\\_302646\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-PU35A_302646_7.pdf)  
[\[\] http://www.michigan.gov/documents/deq/GIMDL-PU35B\\_302647\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-PU35B_302647_7.pdf)  
[\[\] http://www.michigan.gov/documents/deq/PU\\_35\\_opt\\_308471\\_7.pdf](http://www.michigan.gov/documents/deq/PU_35_opt_308471_7.pdf)

**Publication 36: Geological Series 30. Clays and Shales of Michigan and Their Uses;** G. G. Brown, 1924; All counties, Cement, Clay, Dolomite, Gypsum, Iron, Limestone, Marl, Sand, Shale, Sulfur, Water

[\[\] http://www.michigan.gov/documents/deq/GIMDL-PU36B\\_216248\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-PU36B_216248_7.pdf)  
[\[\] http://www.michigan.gov/documents/deq/PU\\_36\\_Aopt\\_308480\\_7.pdf](http://www.michigan.gov/documents/deq/PU_36_Aopt_308480_7.pdf)  
[\[\] http://www.michigan.gov/documents/deq/PU\\_36\\_Bopt\\_308481\\_7.pdf](http://www.michigan.gov/documents/deq/PU_36_Bopt_308481_7.pdf)  
[\[\] http://www.michigan.gov/documents/deq/PU\\_36\\_Copt\\_308484\\_7.pdf](http://www.michigan.gov/documents/deq/PU_36_Copt_308484_7.pdf)  
[\[\] http://www.michigan.gov/documents/deq/PU\\_36\\_Dopt\\_308489\\_7.pdf](http://www.michigan.gov/documents/deq/PU_36_Dopt_308489_7.pdf)  
[\[\] http://www.michigan.gov/documents/deq/PU\\_36\\_Eopt\\_308491\\_7.pdf](http://www.michigan.gov/documents/deq/PU_36_Eopt_308491_7.pdf)  
[\[\] http://www.michigan.gov/documents/deq/PU\\_36\\_Fopt\\_308492\\_7.pdf](http://www.michigan.gov/documents/deq/PU_36_Fopt_308492_7.pdf)  
[\[\] http://www.michigan.gov/documents/deq/PU\\_36\\_Gopt\\_308494\\_7.pdf](http://www.michigan.gov/documents/deq/PU_36_Gopt_308494_7.pdf)  
[\[\] http://www.michigan.gov/documents/deq/PU\\_36\\_Platesopt\\_308496\\_7.pdf](http://www.michigan.gov/documents/deq/PU_36_Platesopt_308496_7.pdf)  
[\[\] http://www.michigan.gov/documents/deq/PU\\_36\\_A2\\_308503\\_7.pdf](http://www.michigan.gov/documents/deq/PU_36_A2_308503_7.pdf)  
[\[\] http://www.michigan.gov/documents/deq/PU\\_36\\_A1\\_308502\\_7.pdf](http://www.michigan.gov/documents/deq/PU_36_A1_308502_7.pdf)

**Publication 37. Geological Series 31: Mineral Resources of Michigan ... 1924, 1925, 1926 and Prior..;** R. B. Newcombe, O. F. Poindexter, F. G. Pardee, 1928;

Mineral Production and Value Statistics All counties, Dickinson Co., Gogebic Co., Iron Co Brine, Cement, Clay, Coal, Gold, Gravel, Gypsum, Lime, Limestone, Marl, Peat, Salt, Sand, Sandstone, Shale, Stone, Copper, Iron Gas, Oil, Water

[\[\] http://www.michigan.gov/documents/deq/PU\\_37\\_Aopt\\_308504\\_7.pdf](http://www.michigan.gov/documents/deq/PU_37_Aopt_308504_7.pdf)  
[\[\] http://www.michigan.gov/documents/deq/PU\\_37\\_Bopt\\_308506\\_7.pdf](http://www.michigan.gov/documents/deq/PU_37_Bopt_308506_7.pdf)  
[\[\] http://www.michigan.gov/documents/deq/PU\\_37\\_Copt\\_308507\\_7.pdf](http://www.michigan.gov/documents/deq/PU_37_Copt_308507_7.pdf)  
[\[\] http://www.michigan.gov/documents/deq/PU\\_37\\_Dopt\\_308508\\_7.pdf](http://www.michigan.gov/documents/deq/PU_37_Dopt_308508_7.pdf)  
[\[\] http://www.michigan.gov/documents/deq/PU\\_37\\_Eopt\\_308509\\_7.pdf](http://www.michigan.gov/documents/deq/PU_37_Eopt_308509_7.pdf)

**Publication 38: Geological Series 32. Oil and Gas Fields of Michigan;** A Discussion of Depositional and Structural Features of the Michigan Basin; R. B. Newcombe, 1932; All counties, Brine, Gas, Iron, Oil, Salt, Southern Peninsula counties, Water

[\[\] http://www.michigan.gov/documents/deq/GIMDL-PU38A\\_302649\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-PU38A_302649_7.pdf)  
[\[\] http://www.michigan.gov/documents/deq/GIMDL-PU38B\\_302650\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-PU38B_302650_7.pdf)  
[\[\] http://www.michigan.gov/documents/deq/PU\\_38\\_Aopt\\_308510\\_7.pdf](http://www.michigan.gov/documents/deq/PU_38_Aopt_308510_7.pdf)  
[\[\] http://www.michigan.gov/documents/deq/PU\\_38\\_Bopt\\_308514\\_7.pdf](http://www.michigan.gov/documents/deq/PU_38_Bopt_308514_7.pdf)  
[\[\] http://www.michigan.gov/documents/deq/PU\\_38\\_Copt\\_308515\\_7.pdf](http://www.michigan.gov/documents/deq/PU_38_Copt_308515_7.pdf)  
[\[\] http://www.michigan.gov/documents/deq/PU\\_38\\_Dopt\\_308516\\_7.pdf](http://www.michigan.gov/documents/deq/PU_38_Dopt_308516_7.pdf)  
[\[\] http://www.michigan.gov/documents/deq/PU\\_38\\_Eopt\\_308519\\_7.pdf](http://www.michigan.gov/documents/deq/PU_38_Eopt_308519_7.pdf)  
[\[\] http://www.michigan.gov/documents/deq/PU\\_38\\_Platesopt\\_308520\\_7.pdf](http://www.michigan.gov/documents/deq/PU_38_Platesopt_308520_7.pdf)

**Publication 39: Geological Series 33. The Centennial Geological Map of Michigan;** H. M. Martin, 1937; 2 colored sheets (1:500, 000) all counties. Large maps not digitized.

**Publication 40: Geological Series 34. Occasional Papers on the Geology of Michigan;** R. A. Smith, S. G. Bergquist, R. C. Hussey, W. A. Kelly, 1936; The Pleistocene History of the Tahquamenon and Manistique Drainage Region of the Northern Peninsula; The Trenton and Black River Rocks of Michigan; The Pennsylvanian System in Michigan; Alger Co., Arenac Co., Bay Co., Brine, Calhoun Co., Chippewa Co., Clinton Co., Coal, Delta Co., Eaton Co., Genesee Co., Gypsum, Ingham Co., Ionia Co., Jackson Co., Limestone, Luce Co., Menominee Co., Midland Co., Ogemaw Co., Roscommon Co., Saginaw Co., Sandstone, Schoolcraft Co., Shale, Shiawassee Co., Tuscola Co., Water

[http://www.michigan.gov/documents/deq/GIMDL-PU40A\\_216249\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-PU40A_216249_7.pdf)  
[http://www.michigan.gov/documents/deq/GIMDL-PU40B\\_216250\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-PU40B_216250_7.pdf)  
[http://www.michigan.gov/documents/deq/PU\\_40\\_Aopt\\_308526\\_7.pdf](http://www.michigan.gov/documents/deq/PU_40_Aopt_308526_7.pdf)  
[http://www.michigan.gov/documents/deq/PU\\_40\\_Bopt\\_308534\\_7.pdf](http://www.michigan.gov/documents/deq/PU_40_Bopt_308534_7.pdf)  
[http://www.michigan.gov/documents/deq/PU\\_40\\_Copt\\_308540\\_7.pdf](http://www.michigan.gov/documents/deq/PU_40_Copt_308540_7.pdf)  
[http://www.michigan.gov/documents/deq/PU\\_40\\_Dopt\\_308546\\_7.pdf](http://www.michigan.gov/documents/deq/PU_40_Dopt_308546_7.pdf)  
[http://www.michigan.gov/documents/deq/PU\\_40\\_Figures\\_Aopt\\_308550\\_7.pdf](http://www.michigan.gov/documents/deq/PU_40_Figures_Aopt_308550_7.pdf)  
[http://www.michigan.gov/documents/deq/PU\\_40\\_Figures\\_Bopt\\_308554\\_7.pdf](http://www.michigan.gov/documents/deq/PU_40_Figures_Bopt_308554_7.pdf)

**Publication 41. Geological Series 35: Molding Sands of Michigan and their Uses;** G. G. Brown, 1936; All counties, Cement, Clay, Dolomite, Gypsum, Iron, Lime, Limestone, Sand, Stone, Sulfur, Water

[http://www.michigan.gov/documents/deq/PU\\_41\\_A\\_308560\\_7.PDF](http://www.michigan.gov/documents/deq/PU_41_A_308560_7.PDF)  
[http://www.michigan.gov/documents/deq/PU\\_41\\_B\\_308561\\_7.PDF](http://www.michigan.gov/documents/deq/PU_41_B_308561_7.PDF)  
[http://www.michigan.gov/documents/deq/PU\\_41\\_Aopt\\_308565\\_7.pdf](http://www.michigan.gov/documents/deq/PU_41_Aopt_308565_7.pdf)  
[http://www.michigan.gov/documents/deq/PU\\_41\\_Bopt\\_308567\\_7.pdf](http://www.michigan.gov/documents/deq/PU_41_Bopt_308567_7.pdf)  
[http://www.michigan.gov/documents/deq/PU\\_41\\_Copt\\_308568\\_7.pdf](http://www.michigan.gov/documents/deq/PU_41_Copt_308568_7.pdf)  
[http://www.michigan.gov/documents/deq/PU\\_41\\_Dopt\\_308569\\_7.pdf](http://www.michigan.gov/documents/deq/PU_41_Dopt_308569_7.pdf)  
[http://www.michigan.gov/documents/deq/PU\\_41\\_Figuresopt\\_308571\\_7.pdf](http://www.michigan.gov/documents/deq/PU_41_Figuresopt_308571_7.pdf)

**Publication 42: Rocks and Minerals of Michigan;** O. F. Poindexter, H. M. Martin, S. G. Bergquist; All counties, Brine, Clay, Coal, Copper, Dolomite, Fossils, Gas, Gems, Glacial Drift, Gold, Gravel, Gypsum, Igneous Rocks, Iron, Limestone, Marl, Metamorphic Rocks, Meteorites, Minerals, Oil, Peat, Petroleum, Rocks, Salt, Sand, Sandstone, Sedimentary Rocks, Shale, Silver, Soil, Stone, Sulfur, Water. Many earlier versions exist dating from 1936 to 1971 including Publication 42 from 1939 to 1951 and subsequently as Bulletin 2 in 1965.

[http://www.michigan.gov/documents/deq/GIMDL-GGRMMI\\_302370\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-GGRMMI_302370_7.pdf)

**Publication 43: Geological Series 36. Pre- Historic Mackinac Island;** G. M. Stanley, 1945; Mackinac Island

[http://www.michigan.gov/documents/deq/GIMDL-PU43\\_216251\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-PU43_216251_7.pdf)  
[http://www.michigan.gov/documents/deq/GIMDL-PU43b\\_216252\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-PU43b_216252_7.pdf)  
[http://www.michigan.gov/documents/deq/PU\\_43\\_opt\\_308579\\_7.pdf](http://www.michigan.gov/documents/deq/PU_43_opt_308579_7.pdf)  
[http://www.michigan.gov/documents/deq/PU\\_43\\_map\\_308582\\_7.pdf](http://www.michigan.gov/documents/deq/PU_43_map_308582_7.pdf)

**Publication 44: Geological Series 37. Geology of the Mackinac Straits Region and Sub Surface Geology of the Northern Southern Peninsula;** K. K. Landes, 1945; Charlevoix Co., Cheboygan Co., Dolomite, Emmet Co., Gas, Gypsum, Limestone, Mackinac Co., Mackinac Island, Monroe Co., Oil, Presque Isle Co., Salt, Water

[http://www.michigan.gov/documents/deq/GIMDL-PU44A\\_302655\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-PU44A_302655_7.pdf)  
[http://www.michigan.gov/documents/deq/GIMDL-PU44B\\_302676\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-PU44B_302676_7.pdf)  
[http://www.michigan.gov/documents/deq/GIMDL-PU44C\\_302679\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-PU44C_302679_7.pdf)  
[http://www.michigan.gov/documents/deq/PU\\_44\\_Aopt\\_308594\\_7.pdf](http://www.michigan.gov/documents/deq/PU_44_Aopt_308594_7.pdf)  
[http://www.michigan.gov/documents/deq/PU\\_44\\_Bopt\\_308595\\_7.pdf](http://www.michigan.gov/documents/deq/PU_44_Bopt_308595_7.pdf)  
[http://www.michigan.gov/documents/deq/PU\\_44\\_Copt\\_308597\\_7.pdf](http://www.michigan.gov/documents/deq/PU_44_Copt_308597_7.pdf)

[http://www.michigan.gov/documents/deq/PU\\_44\\_Map\\_308598\\_7.pdf](http://www.michigan.gov/documents/deq/PU_44_Map_308598_7.pdf)

**Publication 45: Geological Series 38. Occasional Papers for 1946 on the Geology of Michigan;** J. L. Calver, G. C. Tague, R. A. Smith, 1946; The Glacial and Post-Glacial History of the Platte and Crystal Lake Depressions, Benzie County, Michigan; The Post-Glacial Geology of the Grand Marais embayment in Berrien County, Michigan; Benzie Co., Berrien Co.

[http://www.michigan.gov/documents/deq/GIMDL-PU45A\\_302684\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-PU45A_302684_7.pdf)  
[http://www.michigan.gov/documents/deq/GIMDL-PU45B\\_302687\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-PU45B_302687_7.pdf)

**Publication 46: Geological Series 39. The Middle and Upper Ordovician Rocks of Michigan;** R. C. Hussey, 1952; Alger Co., Chippewa Co., Delta Co., Dickinson Co., Luce Co., Marquette Co., Menominee Co., Northern Peninsula counties, Schoolcraft Co

[http://www.michigan.gov/documents/deq/GIMDL-PU46\\_216253\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-PU46_216253_7.pdf)  
[http://www.michigan.gov/documents/deq/PU\\_46\\_opt\\_308602\\_7.pdf](http://www.michigan.gov/documents/deq/PU_46_opt_308602_7.pdf)

**Publication 47: Oil and Gas Conservation in Michigan;** G. H. Hautau, L. S. Miller, 1954; Gas, Oil

[http://www.michigan.gov/documents/deq/GIMDL-PU47\\_302692\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-PU47_302692_7.pdf)  
[http://www.michigan.gov/documents/deq/PU\\_47\\_opt\\_308605\\_7.pdf](http://www.michigan.gov/documents/deq/PU_47_opt_308605_7.pdf)

**Publication 48: Occasional Papers for 1954 on the Geology of Michigan;** F. W. Terwilliger, A. J. Mozola, 1954; Environmental Geology, Clay, Gas, Gravel, Groundwater, Hydrology, Iron, Oakland Co., Salt, Sand, Van Buren Co., Water, Water

[http://www.michigan.gov/documents/deq/GIMDL-PU48b\\_216254\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-PU48b_216254_7.pdf)  
[http://www.michigan.gov/documents/deq/GIMDL-PU48II\\_216256\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-PU48II_216256_7.pdf)  
[http://www.michigan.gov/documents/deq/GIMDL-PU48bb-1\\_217045\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-PU48bb-1_217045_7.pdf)  
[http://www.michigan.gov/documents/deq/GIMDL-PU48bb-2\\_217046\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-PU48bb-2_217046_7.pdf)  
[http://www.michigan.gov/documents/deq/GIMDL-PU48bb-3\\_217049\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-PU48bb-3_217049_7.pdf)  
[http://www.michigan.gov/documents/deq/PU\\_48\\_Aopt\\_308621\\_7.pdf](http://www.michigan.gov/documents/deq/PU_48_Aopt_308621_7.pdf)  
[http://www.michigan.gov/documents/deq/PU\\_48\\_Bopt\\_308622\\_7.pdf](http://www.michigan.gov/documents/deq/PU_48_Bopt_308622_7.pdf)  
[http://www.michigan.gov/documents/deq/PU\\_48\\_Copt\\_308623\\_7.pdf](http://www.michigan.gov/documents/deq/PU_48_Copt_308623_7.pdf)  
[http://www.michigan.gov/documents/deq/PU\\_48\\_Dopt\\_308625\\_7.pdf](http://www.michigan.gov/documents/deq/PU_48_Dopt_308625_7.pdf)  
[http://www.michigan.gov/documents/deq/PU\\_48\\_Map\\_308626\\_7.pdf](http://www.michigan.gov/documents/deq/PU_48_Map_308626_7.pdf)  
[http://www.michigan.gov/documents/deq/PU\\_48\\_Figures\\_308627\\_7.pdf](http://www.michigan.gov/documents/deq/PU_48_Figures_308627_7.pdf)

**Publication 49: Map of the Surface Formations of the Northern Peninsula of Michigan;** H. M. Martin, 1957; 1 colored Sheet, scale 1:500, 000, Northern Peninsula counties. Large map not digitized

**Publication 49: Map of the Surface Formations of the Southern Peninsula of Michigan;** H. M. Martin, 1955; 1 colored Sheet, scale 1:500, 000, Southern Peninsula counties. Large map not digitized.

**Publication 50: An Index of the Geology of Michigan 1823-1955;** H. M. Martin, M. T. Straight, 1956; Authors index, Laws, Map Index, Nomenclature Index, Publications Index, Rock Exposures, Statutes, Subject Index,

[http://www.michigan.gov/documents/deq/GIMDL-PU50A\\_302696\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-PU50A_302696_7.pdf)  
[http://www.michigan.gov/documents/deq/GIMDL-PU50B\\_302698\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-PU50B_302698_7.pdf)  
[http://www.michigan.gov/documents/deq/GIMDL-PU50C\\_302699\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-PU50C_302699_7.pdf)  
[http://www.michigan.gov/documents/deq/PU\\_50\\_Aopt\\_308629\\_7.pdf](http://www.michigan.gov/documents/deq/PU_50_Aopt_308629_7.pdf)  
[http://www.michigan.gov/documents/deq/PU\\_50\\_Bopt\\_308630\\_7.pdf](http://www.michigan.gov/documents/deq/PU_50_Bopt_308630_7.pdf)  
[http://www.michigan.gov/documents/deq/PU\\_50\\_Copt\\_308638\\_7.pdf](http://www.michigan.gov/documents/deq/PU_50_Copt_308638_7.pdf)  
[http://www.michigan.gov/documents/deq/PU\\_50\\_Dopt\\_308640\\_7.pdf](http://www.michigan.gov/documents/deq/PU_50_Dopt_308640_7.pdf)

**Publication 51: The Cambrian Sandstones of Northern Michigan;** W. K. Hamblin, 1958; Alger Co., Baraga Co., Chippewa Co., Dickinson Co., Gogebic Co., Houghton Co., Keweenaw Co., Luce Co., Marquette Co., Menominee Co., Ontonagon Co., Sandstone, Schoolcraft Co

[] [http://www.michigan.gov/documents/deq/PU\\_51\\_A\\_308645\\_7.pdf](http://www.michigan.gov/documents/deq/PU_51_A_308645_7.pdf)  
[] [http://www.michigan.gov/documents/deq/PU\\_51\\_B\\_308646\\_7.pdf](http://www.michigan.gov/documents/deq/PU_51_B_308646_7.pdf)  
[] [http://www.michigan.gov/documents/deq/PU\\_51\\_C\\_308647\\_7.pdf](http://www.michigan.gov/documents/deq/PU_51_C_308647_7.pdf)  
[] [http://www.michigan.gov/documents/deq/GIMDL-PU51b-1\\_217050\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-PU51b-1_217050_7.pdf)  
[] [http://www.michigan.gov/documents/deq/GIMDL-PU51b-2\\_217051\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-PU51b-2_217051_7.pdf)  
[] [http://www.michigan.gov/documents/deq/GIMDL-PU51b-3\\_217052\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-PU51b-3_217052_7.pdf)  
[] [http://www.michigan.gov/documents/deq/PU\\_51\\_Aopt\\_308835\\_7.pdf](http://www.michigan.gov/documents/deq/PU_51_Aopt_308835_7.pdf)  
[] [http://www.michigan.gov/documents/deq/PU\\_51\\_Bopt\\_308837\\_7.pdf](http://www.michigan.gov/documents/deq/PU_51_Bopt_308837_7.pdf)  
[] [http://www.michigan.gov/documents/deq/PU\\_51\\_Copt\\_308838\\_7.pdf](http://www.michigan.gov/documents/deq/PU_51_Copt_308838_7.pdf)  
[] [http://www.michigan.gov/documents/deq/PU\\_51\\_FiguresOpt\\_308839\\_7.pdf](http://www.michigan.gov/documents/deq/PU_51_FiguresOpt_308839_7.pdf)

## [24] Report of Investigation

*Geological and geophysical investigations which may be of immediate public interest are released in the series "Report of Investigation". These reports are generally short and are paperbound. The series began publication from 1963 to 1988.*

**Report of Investigation 01: Regional Gravity and Magnetic Anomaly Maps of the Southern Peninsula of Michigan;** W. J. Hinze, 1963;

[] [http://www.michigan.gov/documents/deq/RI\\_01\\_306709\\_7.pdf](http://www.michigan.gov/documents/deq/RI_01_306709_7.pdf)  
[] [http://www.michigan.gov/documents/deq/RI\\_01\\_Maps\\_opt\\_306711\\_7.pdf](http://www.michigan.gov/documents/deq/RI_01_Maps_opt_306711_7.pdf)  
[] [http://www.michigan.gov/documents/deq/RI\\_01\\_opt\\_306712\\_7.pdf](http://www.michigan.gov/documents/deq/RI_01_opt_306712_7.pdf)

**Report of Investigation 02: Michigan's Silurian Oil and Gas Pools;** G. D. Eills, 1967;

[] [http://www.michigan.gov/documents/deq/RI\\_02\\_306714\\_7.pdf](http://www.michigan.gov/documents/deq/RI_02_306714_7.pdf)  
[] [http://www.michigan.gov/documents/deq/RI\\_02\\_opt\\_306715\\_7.pdf](http://www.michigan.gov/documents/deq/RI_02_opt_306715_7.pdf)

**Report of Investigation 03: Geology for Land and Groundwater Development in Wayne County, Michigan. Part 1;** A. J. Mozola, 1969;

[] [http://www.michigan.gov/documents/deq/GIMDL-RI03\\_362876\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-RI03_362876_7.pdf)  
[] [http://www.michigan.gov/documents/deq/GIMDL-RI03MBG\\_362877\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-RI03MBG_362877_7.pdf)  
[] [http://www.michigan.gov/documents/deq/GIMDL-RI03MBT\\_362878\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-RI03MBT_362878_7.pdf)  
[] [http://www.michigan.gov/documents/deq/GIMDL-RI03MDT\\_362879\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-RI03MDT_362879_7.pdf)  
[] [http://www.michigan.gov/documents/deq/GIMDL-RI03MGG\\_362880\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-RI03MGG_362880_7.pdf)

**Report of Investigation 04: Geology and Magnetic Data for Northern Iron River Area, MI;** H. L. James, 1967; done in cooperation with the U. S. Geological Survey Iron, Iron Co

[] [http://www.michigan.gov/documents/deq/GIMDL-RI04\\_302709\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-RI04_302709_7.pdf)  
[] [http://www.michigan.gov/documents/deq/RI\\_04\\_opt\\_308878\\_7.pdf](http://www.michigan.gov/documents/deq/RI_04_opt_308878_7.pdf)

**Report of Investigation 05: Geology and Magnetic Data for the Central Iron River Area, Michigan;** C. E. Dutton, 1969; done in cooperation with the USGS Iron, Iron Co

[] [http://www.michigan.gov/documents/deq/GIMDL-RI05\\_307790\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-RI05_307790_7.pdf)  
[] [http://www.michigan.gov/documents/deq/RI\\_05\\_opt\\_308880\\_7.pdf](http://www.michigan.gov/documents/deq/RI_05_opt_308880_7.pdf)

**Report of Investigation 06: Geology and Magnetic Data for Southeastern Iron River Area, MI;** H. L. James, K. L. Wier, 1969; done in cooperation with the U. S. G. S; Iron, Iron Co

[] [http://www.michigan.gov/documents/deq/GIMDL-RI06\\_216259\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-RI06_216259_7.pdf)  
[] [http://www.michigan.gov/documents/deq/RI\\_06\\_opt\\_308884\\_7.pdf](http://www.michigan.gov/documents/deq/RI_06_opt_308884_7.pdf)

**Report of Investigation 07: Geology and Magnetic Data Between Iron River and Crystal Falls,**

**Michigan;** H. L. James, 1970; done in cooperation with the USGS Iron, Iron Co

[] [http://www.michigan.gov/documents/deq/RI\\_07\\_308886\\_7.PDF](http://www.michigan.gov/documents/deq/RI_07_308886_7.PDF)  
[] [http://www.michigan.gov/documents/deq/RI\\_07opt\\_308887\\_7.pdf](http://www.michigan.gov/documents/deq/RI_07opt_308887_7.pdf)

**Report of Investigation 08: Geology and Magnetic Data for the Northern Crystal Falls Area,**

**Michigan;** F. J. Pettijohn, 1970; done in cooperation with the USGS Iron, Iron Co

[] [http://www.michigan.gov/documents/deq/GIMDL-RI08\\_307793\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-RI08_307793_7.pdf)  
[] [http://www.michigan.gov/documents/deq/GIMDL-RI08T\\_307794\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-RI08T_307794_7.pdf)  
[] [http://www.michigan.gov/documents/deq/RI\\_08opt\\_308889\\_7.pdf](http://www.michigan.gov/documents/deq/RI_08opt_308889_7.pdf)

**Report of Investigation 09: Geology and Magnetic Data for Southern Crystal Falls Area, Michigan;** F. J. Pettijohn, 1972; done in cooperation with the USGS Iron, Iron Co

[] [http://www.michigan.gov/documents/deq/GIMDL-RI09\\_307795\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-RI09_307795_7.pdf)  
[] [http://www.michigan.gov/documents/deq/GIMDL-RI09T\\_307796\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-RI09T_307796_7.pdf)

**Report of Investigation 10: Geology and Magnetic Data for Alpha-Brule River and Panola Plains**

**Areas, Michigan;** F. J. Pettijohn, 1969; done in cooperation with the USGS Iron, Iron Co

[] [http://www.michigan.gov/documents/deq/GIMDL-RI10\\_307797\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-RI10_307797_7.pdf)  
[] [http://www.michigan.gov/documents/deq/RI\\_10opt\\_308901\\_7.pdf](http://www.michigan.gov/documents/deq/RI_10opt_308901_7.pdf)

**Report of Investigation 11: Geology and Magnetic Data for Northern Crystal Falls Area. Michigan;** K. L. Wier, 1971; done in cooperation with the USGS Iron

[] [http://www.michigan.gov/documents/deq/GIMDL-RI11\\_307803\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-RI11_307803_7.pdf)  
[] [http://www.michigan.gov/documents/deq/RI\\_11opt\\_308911\\_7.pdf](http://www.michigan.gov/documents/deq/RI_11opt_308911_7.pdf)

**Report of Investigation 12: Geological interpretation of Aeromagnetic Data in Western Upper Peninsula of Michigan;** W. M. Meshref, W. J. Hinze, 1970; done in cooperation with Michigan State University, Department of Geology Baraga Co., Gogebic Co., Houghton Co., Iron Co., Ontonagon Co

[] [http://www.michigan.gov/documents/deq/GIMDL-RI12\\_307805\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-RI12_307805_7.pdf)  
[] [http://www.michigan.gov/documents/deq/RI\\_12opt\\_308916\\_7.pdf](http://www.michigan.gov/documents/deq/RI_12opt_308916_7.pdf)

**Report of Investigation 13: Geology for Environmental Planning in Monroe County,**

**Michigan;** A. J. Mozola, 1970; Geologic Maps are included with printed version Cement, Dolomite, Gas, Limestone, Monroe Co., Oil, Salt, Sand, Shale, Water

[] [http://www.michigan.gov/documents/deq/GIMDL-RI13\\_307808\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-RI13_307808_7.pdf)  
[] [http://www.michigan.gov/documents/deq/GIMDL-RI13MBR\\_307810\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-RI13MBR_307810_7.pdf)  
[] [http://www.michigan.gov/documents/deq/GIMDL-RI13MBT\\_307811\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-RI13MBT_307811_7.pdf)  
[] [http://www.michigan.gov/documents/deq/GIMDL-RI13MDT\\_307812\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-RI13MDT_307812_7.pdf)  
[] [http://www.michigan.gov/documents/deq/GIMDL-RI13MGG\\_307876\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-RI13MGG_307876_7.pdf)  
[] [http://www.michigan.gov/documents/deq/GIMDL-RI13MPL\\_307813\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-RI13MPL_307813_7.pdf)  
[] [http://www.michigan.gov/documents/deq/GIMDL-RI13MXS\\_307815\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-RI13MXS_307815_7.pdf)

**Report of Investigation 14: Gravity and Aeromagnetic Anomaly Maps of the Southern Peninsula of Michigan;** W. J. Hinze, 1971; Revision of Report of Investigation No. 1. done in cooperation with Michigan State University, Department of Geology Southern Peninsula counties

[] [http://www.michigan.gov/documents/deq/GIMDL-RI14\\_216260\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-RI14_216260_7.pdf)  
[] [http://www.michigan.gov/documents/deq/RI\\_14opt\\_308943\\_7.pdf](http://www.michigan.gov/documents/deq/RI_14opt_308943_7.pdf)  
[] [http://www.michigan.gov/documents/deq/RI\\_14\\_Platesopt\\_308944\\_7.pdf](http://www.michigan.gov/documents/deq/RI_14_Platesopt_308944_7.pdf)

**Report of Investigation 15: Subsurface Geology of Barry County, Michigan;** R. T. Lilienthal, 1974; Description of the stratigraphy and structure based on electric and driller's logs; Barry Co., Brine, Clay, Gas, Gravel, Gypsum, Limestone, Marl, Oil, Salt, Sand, Shale

[] [http://www.michigan.gov/documents/deq/GIMDL-RI15\\_216262\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-RI15_216262_7.pdf)  
[] [http://www.michigan.gov/documents/deq/RI\\_15\\_opt\\_308946\\_7.pdf](http://www.michigan.gov/documents/deq/RI_15_opt_308946_7.pdf)

**Report of Investigation 16: A Ground investigation of An Aeromagnetic Anomaly in North Central Dickinson County, Michigan;** D. W. Snider, 1977; Report of a ground geological and geophysical study. Includes 8 tables, 18 figures; illustrated maps Dickinson Co

[] [http://www.michigan.gov/documents/deq/GIMDL-RI16\\_302711\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-RI16_302711_7.pdf)  
[] [http://www.michigan.gov/documents/deq/RI\\_16\\_opt\\_308963\\_7.pdf](http://www.michigan.gov/documents/deq/RI_16_opt_308963_7.pdf)

**Report of Investigation 17: Establishing Vegetation on Alkaline Iron and Copper Tailings;** S. G. Shetron, 1977; A report on mine reclamation research. Includes 6 tables, 10 figures Copper, Houghton Co., Iron

[] [http://www.michigan.gov/documents/deq/GIMDL-RI17\\_307816\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-RI17_307816_7.pdf)  
[] [http://www.michigan.gov/documents/deq/RI\\_17opt\\_308968\\_7.pdf](http://www.michigan.gov/documents/deq/RI_17opt_308968_7.pdf)

**Report of Investigation 18: Drill Core investigation of the Fiborn Limestone Member in Schoolcraft, Mackinac, and Chippewa counties, Michigan;** A. D. Johnson, H. O. Sorensen, 1978; Study of the Fiborn limestone member in Schoolcraft, Mackinac, and Chippewa counties, 3 tables, 7 figures; maps, illustrated

[] [http://www.michigan.gov/documents/deq/GIMDL-RI18\\_302714\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-RI18_302714_7.pdf)  
[] [http://www.michigan.gov/documents/deq/RI\\_18opt\\_308970\\_7.pdf](http://www.michigan.gov/documents/deq/RI_18opt_308970_7.pdf)

**Report of Investigation 19: Stratigraphic Cross-Sections of the Michigan Basin;** R. T. Lilienthal, 1978; 89 electric log cross sections

[] [http://www.michigan.gov/documents/deq/GIMDL-RI19A\\_302717\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-RI19A_302717_7.pdf)  
[] [http://www.michigan.gov/documents/deq/GIMDL-RI19J\\_302736\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-RI19J_302736_7.pdf)  
[] [http://www.michigan.gov/documents/deq/GIMDL-RI19B\\_302720\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-RI19B_302720_7.pdf)  
[] [http://www.michigan.gov/documents/deq/GIMDL-RI19C\\_302723\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-RI19C_302723_7.pdf)  
[] [http://www.michigan.gov/documents/deq/GIMDL-RI19D\\_302725\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-RI19D_302725_7.pdf)  
[] [http://www.michigan.gov/documents/deq/GIMDL-RI19E\\_302726\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-RI19E_302726_7.pdf)  
[] [http://www.michigan.gov/documents/deq/GIMDL-RI19F\\_302728\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-RI19F_302728_7.pdf)  
[] [http://www.michigan.gov/documents/deq/GIMDL-RI19G\\_302730\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-RI19G_302730_7.pdf)  
[] [http://www.michigan.gov/documents/deq/GIMDL-RI19H\\_302732\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-RI19H_302732_7.pdf)  
[] [http://www.michigan.gov/documents/deq/GIMDL-RI19I\\_302734\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-RI19I_302734_7.pdf)

**Report of Investigation 20: An Economic Study of Coastal Sand Dune Mining in Michigan;** M. J. Chapman, 1978; Information about Michigan's Dune Sand resources, Consuming Industries, Dune Sand Consumption, Foundries, Future Demand and Potential Substitutes, Glass Manufacturer, Land Holdings and Sand Reserves, Mining Methods, Other Industries, Physical and Chemical Specifications, Processing Methods, Production, Production Cost, Purchasing and Transportation Costs, Questionnaire forms used, Reclamation, Recycling

[] [http://www.michigan.gov/documents/deq/RI\\_20\\_309202\\_7.pdf](http://www.michigan.gov/documents/deq/RI_20_309202_7.pdf)  
[] [http://www.michigan.gov/documents/deq/RI\\_20opt\\_309203\\_7.pdf](http://www.michigan.gov/documents/deq/RI_20opt_309203_7.pdf)

**Report of Investigation 21: Economic Geology of the Sand and Sandstone Resources of Michigan;** E. W. Heinrich, 1979; All counties, Ajibik Quartzite, Building Stone, Cement, Chemical Composition, Composition, Distribution And Thickness, Dune Sands, Economic Geology, Exposures, Geology, Glass Sand, Grindstone Industry, Ionia Sandstone, Jacobsville Sandstone, Marshall Sandstone, Mesnard Quartzite, Middle Precambrian Quartzites, Mineralogy, Molding Sands, Munising Formation, Napoleon Sandstone, Petrology, Pleistocene Deposits, Quarries, Stratigraphy, Structure, Subsurface Distribution, Sylvania Sandstone

[] [http://www.michigan.gov/documents/deq/GIMDL-RI21\\_216264\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-RI21_216264_7.pdf)  
[] [http://www.michigan.gov/documents/deq/RI\\_21opt\\_309204\\_7.pdf](http://www.michigan.gov/documents/deq/RI_21opt_309204_7.pdf)

**Report of Investigation 22: Stratigraphic Cross- Sections Extending from Devonian Antrim Shale to Mississippi Sunbury Shale in the Michigan Basin;** G. D. Eils, 1979; A detailed look at the stratigraphy of Michigan's oil shale; from Devonian Antrim shale to Mississippian Sunbury shale, 22plates; maps, illustrated, with 6 gamma-ray log cross-sections Southern Peninsula counties

[] [http://www.michigan.gov/documents/deq/GIMDL-RI22\\_307881\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-RI22_307881_7.pdf)  
[] [http://www.michigan.gov/documents/deq/RI\\_22\\_CrossSections\\_opt\\_309207\\_7.pdf](http://www.michigan.gov/documents/deq/RI_22_CrossSections_opt_309207_7.pdf)  
[] [http://www.michigan.gov/documents/deq/RI\\_22opt\\_309206\\_7.pdf](http://www.michigan.gov/documents/deq/RI_22opt_309206_7.pdf)

**Report of Investigation 23: Dune Type inventory and Barrier Dune Classification Study of Michigan's Lake Michigan Shore;** W. R. Buckler, 1979; Dune type Inventory and barrier dune classification study of Michigan's Lake Michigan shore All counties, Sand, Sand Dunes

[] [http://www.michigan.gov/documents/deq/GIMDL-RI23\\_216265\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-RI23_216265_7.pdf)

[] [http://www.michigan.gov/documents/deq/RI\\_23opt\\_309209\\_7.pdf](http://www.michigan.gov/documents/deq/RI_23opt_309209_7.pdf)

**Report of Investigation 24: The Yellow Dog Peridotite and A Possible Buried Igneous Complex of Lower Keweenawan Age in the Northern Peninsula of Michigan;** J. S. Klasner, 1979; A detailed study a possibly economic geologic complex; maps, illustrated Marquette Co.

[] [http://www.michigan.gov/documents/deq/GIMDL-RI24\\_307817\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-RI24_307817_7.pdf)  
[] [http://www.michigan.gov/documents/deq/RI\\_24opt\\_309211\\_7.pdf](http://www.michigan.gov/documents/deq/RI_24opt_309211_7.pdf)

**Report of Investigation 25: Potassium Salts - Potash - of the Salina A1 Evaporite in the Michigan Basin;** R. C. Elowski, 1980; Potassium salts (potash) of the Salina A1 evaporate in the Michigan Basin. 8 maps and cross sections Salt, Southern Peninsula counties

[] [http://www.michigan.gov/documents/deq/GIMDL-RI25\\_216266\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-RI25_216266_7.pdf)  
[] [http://www.michigan.gov/documents/deq/RI\\_25\\_Figure2opt\\_309218\\_7.pdf](http://www.michigan.gov/documents/deq/RI_25_Figure2opt_309218_7.pdf)  
[] [http://www.michigan.gov/documents/deq/RI\\_25\\_Figure3opt\\_309219\\_7.pdf](http://www.michigan.gov/documents/deq/RI_25_Figure3opt_309219_7.pdf)  
[] [http://www.michigan.gov/documents/deq/RI\\_25\\_Figure4opt\\_309222\\_7.pdf](http://www.michigan.gov/documents/deq/RI_25_Figure4opt_309222_7.pdf)  
[] [http://www.michigan.gov/documents/deq/RI\\_25\\_Figure5opt\\_309226\\_7.pdf](http://www.michigan.gov/documents/deq/RI_25_Figure5opt_309226_7.pdf)  
[] [http://www.michigan.gov/documents/deq/RI\\_25\\_Figure6opt\\_309229\\_7.pdf](http://www.michigan.gov/documents/deq/RI_25_Figure6opt_309229_7.pdf)

[http://www.michigan.gov/documents/deq/RI\\_25\\_Figure7opt\\_309232\\_7.pdf](http://www.michigan.gov/documents/deq/RI_25_Figure7opt_309232_7.pdf)  
[http://www.michigan.gov/documents/deq/RI\\_25\\_Figure8opt\\_309237\\_7.pdf](http://www.michigan.gov/documents/deq/RI_25_Figure8opt_309237_7.pdf)  
[http://www.michigan.gov/documents/deq/RI\\_25\\_Figure9opt\\_309238\\_7.pdf](http://www.michigan.gov/documents/deq/RI_25_Figure9opt_309238_7.pdf)  
[http://www.michigan.gov/documents/deq/RI\\_25opt\\_309215\\_7.pdf](http://www.michigan.gov/documents/deq/RI_25opt_309215_7.pdf)

### **Report of Investigation 26: Selected Studies of Cambro-Ordovician Sediments within the Michigan Basin;** D. M. Bricker, 1983; maps, illustrated, 12 large size gamma-ray log cross-sections

[http://www.michigan.gov/documents/deq/RI\\_26\\_308842\\_7.pdf](http://www.michigan.gov/documents/deq/RI_26_308842_7.pdf)  
[http://www.michigan.gov/documents/deq/RI\\_26\\_opt\\_308844\\_7.pdf](http://www.michigan.gov/documents/deq/RI_26_opt_308844_7.pdf)  
[http://www.michigan.gov/documents/deq/RI\\_26\\_Illustrations\\_opt\\_308847\\_7.pdf](http://www.michigan.gov/documents/deq/RI_26_Illustrations_opt_308847_7.pdf)

### **Report of Investigation 27; Upper Carboniferous Rocks of the Michigan Basin: Lithostratigraphy and Depositional Environments of the Pennsylvanian Rocks and the Bayport Formation of the Michigan Basin;** R. Vugrinovich, 1984;

[http://www.michigan.gov/documents/deq/GIMDL-RI27\\_302944\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-RI27_302944_7.pdf)  
[http://www.michigan.gov/documents/deq/RI\\_27opt\\_309240\\_7.pdf](http://www.michigan.gov/documents/deq/RI_27opt_309240_7.pdf)

### **Report of Investigation 28: Cryptoexplosive Disturbance, Calvin 28, Cass County, Michigan;** R. L. Milstein, 1988; Impact origin a cryptoexplosive disturbance, Cass County, Michigan

[http://www.michigan.gov/documents/deq/GIMDL-RI28\\_302946\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-RI28_302946_7.pdf)  
[http://www.michigan.gov/documents/deq/RI\\_28opt\\_309241\\_7.pdf](http://www.michigan.gov/documents/deq/RI_28opt_309241_7.pdf)

---

## **[25] Rules & Regulations**

*Listed below is information about the administrative rules and regulations under the direct purview of the Office of Geological Survey.*

### **Part 615: Oil and Gas Part 615;** "Michigan's Oil and Gas Regulations, " Natural Resources and Environmental Protection Act (NREPA), Act No. 451, Public Acts of 1994, as amended

[http://www.michigan.gov/documents/deq/ogs-oilandgas-regs\\_263032\\_7.pdf](http://www.michigan.gov/documents/deq/ogs-oilandgas-regs_263032_7.pdf)

### **Part 615: Oil and Gas web page**

[http://www.michigan.gov/deq/0,1607,7-135-3311\\_4111\\_4231-9245--,00.html](http://www.michigan.gov/deq/0,1607,7-135-3311_4111_4231-9245--,00.html)

### **Part 625: Mineral Wells;** Part 625, Mineral Wells, Natural Resources and Environmental Protection Act (NREPA), Act No. 451 of the Public Acts of 1994, as amended

[http://www.michigan.gov/documents/deq/ogs-mineral-wells-2004-Rules\\_261318\\_7.pdf](http://www.michigan.gov/documents/deq/ogs-mineral-wells-2004-Rules_261318_7.pdf)

### **Part 625, Mineral Wells web page**

[http://www.michigan.gov/deq/0,1607,7-135-3311\\_4111\\_4230--,00.htm](http://www.michigan.gov/deq/0,1607,7-135-3311_4111_4230--,00.htm)

### **General Mining web page**

[http://www.michigan.gov/deq/0,1607,7-135-3311\\_4111\\_18442--,00.html](http://www.michigan.gov/deq/0,1607,7-135-3311_4111_18442--,00.html)

### **Part 631: Mine Reclamation;** Part 631, Metallic Mine Reclamation, Natural Resources and Environmental Protection Act (NREPA), Act No. 451 of the Public Acts of 1994, as amended

[http://www.michigan.gov/documents/deq/DEQ-OGS-metallic-mining-Part631\\_308858\\_7.pdf](http://www.michigan.gov/documents/deq/DEQ-OGS-metallic-mining-Part631_308858_7.pdf)

### **Part 631: Mine Reclamation web page**

[http://www.michigan.gov/deq/0,1607,7-135-3311\\_4111\\_18442--,00.html](http://www.michigan.gov/deq/0,1607,7-135-3311_4111_18442--,00.html)

### **Part 632 Nonferrous Metallic Mining;** Part 632, Non-Ferrous Metallic Mining, Natural Resources and Environmental Protection Act (NREPA), Act No. 451 of the Public Acts of 1994, as amended

[http://www.michigan.gov/documents/deq/DEQ-OGS-metallic-mining-Part632\\_308856\\_7.pdf](http://www.michigan.gov/documents/deq/DEQ-OGS-metallic-mining-Part632_308856_7.pdf)

### **Part 632 Nonferrous Metallic Mining web page**

[http://www.michigan.gov/deq/0,1607,7-135-3311\\_4111\\_18442-109930--,00.html](http://www.michigan.gov/deq/0,1607,7-135-3311_4111_18442-109930--,00.html)

### **Part 635: Coal Mine;** Part 635. Natural Resources Michigan's Coal Mine Reclamation Regulations, and Environmental Protection Act (NREPA), Act No. 451 of the Public Acts of 1994, as amended

[http://www.michigan.gov/documents/deq/ogs-GIMDL-coal-nrepa-part635\\_310235\\_7.pdf](http://www.michigan.gov/documents/deq/ogs-GIMDL-coal-nrepa-part635_310235_7.pdf)

### **Part 635: Coal Mine web page**

[http://www.michigan.gov/deq/0,1607,7-135-3311\\_4111\\_18442-83810--,00.html](http://www.michigan.gov/deq/0,1607,7-135-3311_4111_18442-83810--,00.html)

### **Part 637: Sand Dune Mining;** Part 637, Sand Dune Mining, Natural Resources and Environmental Protection Act (NREPA), Act No. 451 of the Public Acts of 1994, as amended

[http://www.michigan.gov/documents/deq/ogs-sdm-Part-637\\_263371\\_7.pdf](http://www.michigan.gov/documents/deq/ogs-sdm-Part-637_263371_7.pdf)

### **Part 637: Sand Dune Mining web page**

[http://www.michigan.gov/deq/0,1607,7-135-3311\\_4111\\_4235--,00.html](http://www.michigan.gov/deq/0,1607,7-135-3311_4111_4235--,00.html)

---

## **[26] Annual Report of the Inspector of Salt**

*The "Annual Reports of the Inspector of Salt" were annual reports on salt well locations and production. Salt is often overlooked as an important resource that is used in many products as well as being critical to the early development of the state.*

### **35th Annual Report of the Inspector of Salt - for the year ending November 30th, 1903;** Bay Co., Iosco Co., Manistee Co., Mason Co., Midland Co., Saginaw Co., Salt, St. Clair Co., Wayne Co.

[http://www.michigan.gov/documents/deq/GIMDL-SAR35\\_302947\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-SAR35_302947_7.pdf)

### **37th Annual Report of the Inspector of Salt - for the year ending November 30th, 1905;** Bay Co., Iosco Co., Manistee Co., Mason Co., Midland Co., Saginaw Co., Salt, St. Clair Co., Wayne Co.

[http://www.michigan.gov/documents/deq/GIMDL-SAR37\\_302948\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-SAR37_302948_7.pdf)

### **38th Annual Report of the Inspector of Salt - for the year ending November 30th, 1906;** Bay Co., Iosco Co., Manistee Co., Mason Co., Midland Co., Saginaw Co., Salt, St. Clair Co., Wayne Co.

[http://www.michigan.gov/documents/deq/GIMDL-SAR38\\_302950\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-SAR38_302950_7.pdf)

### **39th Annual Report of the Inspector of Salt - for the year ending November 30th, 1907;** Bay Co., Iosco Co., Manistee Co., Mason Co., Midland Co., Saginaw Co., Salt, St. Clair Co., Wayne Co.

[http://www.michigan.gov/documents/deq/GIMDL-SAR39\\_302951\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-SAR39_302951_7.pdf)



**40th Annual Report of the Inspector of Salt - for the year ending November 30th, 1908;** Bay Co., Iosco Co., Manistee Co., Mason Co., Midland Co., Saginaw Co., Salt, St. Clair Co., Wayne Co.

[http://www.michigan.gov/documents/deq/GIMDL-SAR40\\_302952\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-SAR40_302952_7.pdf)

**41st Annual Report of the Inspector of Salt – for the year ending November 30th, 1909;** Bay Co., Iosco Co., Manistee Co., Mason Co., Midland Co., Saginaw Co., Salt, St. Clair Co., Wayne Co.

[http://www.michigan.gov/documents/deq/GIMDL-SAR41\\_302953\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-SAR41_302953_7.pdf)

**42nd Annual Report of the Inspector of Salt - for the year ending November 30th, 1910;** Bay Co., Iosco Co., Manistee Co., Mason Co., Midland Co., Saginaw Co., Salt, St. Clair Co., Wayne Co.

[http://www.michigan.gov/documents/deq/GIMDL-SAR42\\_302954\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-SAR42_302954_7.pdf)

**43rd Annual Report of the Inspector of Salt - for the year ending November 30th, 1911;** Bay Co., Iosco Co., Manistee Co., Mason Co., Midland Co., Saginaw Co., Salt, St. Clair Co., Wayne Co.

[http://www.michigan.gov/documents/deq/GIMDL-SAR43\\_302955\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-SAR43_302955_7.pdf)

**44th Annual Report of the Inspector of Salt - for the year ending November 30th, 1912;** Bay Co., Iosco Co., Manistee Co., Mason Co., Midland Co., Saginaw Co., Salt, St. Clair Co., Wayne Co.

[http://www.michigan.gov/documents/deq/GIMDL-SAR44\\_302956\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-SAR44_302956_7.pdf)

---

## [27] Summary of Operations

*“Summary of Operations” is a brief summary of selected statistics for oil and gas operations for a calendar year period. These summaries were prepared from 1946 to 1962.*

**Summary of Operations, Oil and Gas Fields, 1946 to 1952;** Geological Survey, 1946; Brine, Gas, Oil, Petroleum, Southern Peninsula counties. Not digitized.

**Summary of Operations, Oil and Gas Fields;** Geological Survey, 1953; Brine, Gas, Oil, Petroleum, Southern Peninsula counties

[http://www.michigan.gov/documents/deq/GIMDL-SO1953\\_302957\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-SO1953_302957_7.pdf)

[http://www.michigan.gov/documents/deq/SO\\_1953opt\\_309293\\_7.pdf](http://www.michigan.gov/documents/deq/SO_1953opt_309293_7.pdf)

**Summary of Operations, Oil and Gas Fields;** Geological Survey, 1954; Brine, Gas, Oil, Petroleum, Southern Peninsula counties

[http://www.michigan.gov/documents/deq/GIMDL-SO1954\\_302958\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-SO1954_302958_7.pdf)

[http://www.michigan.gov/documents/deq/SO\\_1954opt\\_309295\\_7.pdf](http://www.michigan.gov/documents/deq/SO_1954opt_309295_7.pdf)

**Summary of Operations, Oil and Gas Fields;** Geological Survey, 1955; Brine, Gas, Oil, Petroleum, Southern Peninsula counties

[http://www.michigan.gov/documents/deq/GIMDL-SO1955\\_302960\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-SO1955_302960_7.pdf)

[http://www.michigan.gov/documents/deq/SO\\_1955opt\\_309296\\_7.pdf](http://www.michigan.gov/documents/deq/SO_1955opt_309296_7.pdf)

**Summary of Operations, Oil and Gas Fields;** L. W. Price, 1956; Brine, Gas, Oil, Petroleum, Southern Peninsula counties

[http://www.michigan.gov/documents/deq/GIMDL-SO1956\\_302961\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-SO1956_302961_7.pdf)

[http://www.michigan.gov/documents/deq/SO\\_1956opt\\_309297\\_7.pdf](http://www.michigan.gov/documents/deq/SO_1956opt_309297_7.pdf)

**Summary of Operations, Oil and Gas Fields 1957;** L. W. Price, 1958; Brine, Gas, Oil, Petroleum, Southern Peninsula counties

[http://www.michigan.gov/documents/deq/GIMDL-SO1957\\_302962\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-SO1957_302962_7.pdf)

[http://www.michigan.gov/documents/deq/SO\\_1957opt\\_309300\\_7.pdf](http://www.michigan.gov/documents/deq/SO_1957opt_309300_7.pdf)

**Summary of Operations, Oil and Gas Fields 1958;** L. W. Price, 1959; Brine, Gas, Oil, Petroleum, Southern Peninsula counties

[http://www.michigan.gov/documents/deq/GIMDL-SO1958\\_302963\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-SO1958_302963_7.pdf)

[http://www.michigan.gov/documents/deq/SO\\_1958opt\\_309302\\_7.pdf](http://www.michigan.gov/documents/deq/SO_1958opt_309302_7.pdf)

**Summary of Operations, Oil and Gas Fields, 1959;** L. W. Price, 1960; Brine, Gas, Oil, Petroleum, Southern Peninsula counties. Not digitized.

**Summary of Operations, Oil and Gas Fields 1960;** L. W. Price, 1961; Brine, Gas, Oil, Petroleum, Southern Peninsula counties

[http://www.michigan.gov/documents/deq/GIMDL-SO1960\\_302964\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-SO1960_302964_7.pdf)

[http://www.michigan.gov/documents/deq/SO\\_1960opt\\_309303\\_7.pdf](http://www.michigan.gov/documents/deq/SO_1960opt_309303_7.pdf)

**Summary of Operations, Oil and Gas Fields;** L. W. Price, 1962; Brine, Gas, Oil, Petroleum, Southern Peninsula counties

[http://www.michigan.gov/documents/deq/GIMDL-SO1961\\_302965\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-SO1961_302965_7.pdf)

[http://www.michigan.gov/documents/deq/SO\\_1961opt\\_309305\\_7.pdf](http://www.michigan.gov/documents/deq/SO_1961opt_309305_7.pdf)

**Summary of Operations, Oil and Gas Fields;** L. W. Price, 1963; Brine, Gas, Oil, Petroleum, Southern Peninsula counties

[http://www.michigan.gov/documents/deq/GIMDL-SO1962\\_302966\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-SO1962_302966_7.pdf)

[http://www.michigan.gov/documents/deq/SO\\_1962opt\\_309306\\_7.pdf](http://www.michigan.gov/documents/deq/SO_1962opt_309306_7.pdf)

---

## [28] Subsurface Pressure Report

*“Subsurface Pressure Reports” include bottom hole pressure information that was made available to the Geological Survey.*

**Subsurface Pressure Report on the Southern Michigan Reef Development September 1982;** G. Schmidt, 1982;

[http://www.michigan.gov/documents/deq/SPR\\_S\\_1982opt\\_317018\\_7.pdf](http://www.michigan.gov/documents/deq/SPR_S_1982opt_317018_7.pdf)

**Subsurface Pressure Report on the Northern Michigan Reef Development March 1984;** G. Schmidt, 1984;

[http://www.michigan.gov/documents/deq/SPR\\_N\\_1984\\_A\\_306720\\_7.pdf](http://www.michigan.gov/documents/deq/SPR_N_1984_A_306720_7.pdf)

[http://www.michigan.gov/documents/deq/SPR\\_N\\_1984\\_B\\_306723\\_7.pdf](http://www.michigan.gov/documents/deq/SPR_N_1984_B_306723_7.pdf)

[http://www.michigan.gov/documents/deq/SPR\\_N\\_1984\\_C\\_306726\\_7.pdf](http://www.michigan.gov/documents/deq/SPR_N_1984_C_306726_7.pdf)

[http://www.michigan.gov/documents/deq/SPR\\_N\\_1984\\_D\\_306729\\_7.pdf](http://www.michigan.gov/documents/deq/SPR_N_1984_D_306729_7.pdf)

[http://www.michigan.gov/documents/deq/SPR\\_N\\_1984\\_E\\_306731\\_7.pdf](http://www.michigan.gov/documents/deq/SPR_N_1984_E_306731_7.pdf)

[http://www.michigan.gov/documents/deq/SPR\\_N\\_1986\\_Addendum\\_306733\\_7.pdf](http://www.michigan.gov/documents/deq/SPR_N_1986_Addendum_306733_7.pdf)

**Subsurface Pressure Report on the Southern Michigan Reef Development December 1984;** G. Schmidt, 1984;

[http://www.michigan.gov/documents/deq/SPR\\_S\\_1984opt\\_317019\\_7.pdf](http://www.michigan.gov/documents/deq/SPR_S_1984opt_317019_7.pdf)

**Subsurface Pressure Report on the Northern Michigan Reef Development December 1986;** G. Schmidt, 1986;

[http://www.michigan.gov/documents/deq/SPR\\_N\\_1986\\_Addendum\\_306733\\_7.pdf](http://www.michigan.gov/documents/deq/SPR_N_1986_Addendum_306733_7.pdf)

## Subsurface Pressure Report on the Northern Michigan Reef Development - 1990 Addendum; G. Schmidt, 1990;

[] [http://www.michigan.gov/documents/deq/SPR\\_N\\_1990\\_Addendum\\_A\\_306734\\_7.pdf](http://www.michigan.gov/documents/deq/SPR_N_1990_Addendum_A_306734_7.pdf)  
[] [http://www.michigan.gov/documents/deq/SPR\\_N\\_1990\\_Addendum\\_B\\_306736\\_7.pdf](http://www.michigan.gov/documents/deq/SPR_N_1990_Addendum_B_306736_7.pdf)

## [29] Secondary Recovery Report

*"Secondary Recovery Reports" discuss the enhanced recovery of oil in a selected Michigan fields. This series began publication in 1976 and ended in 1981.*

### Secondary Recovery Report 1: Hamilton Field, Richfield Oil Pool; Enhanced Oil and Gas Recovery in Michigan; S. E. Wilson, 1976; Secondary recovery study and data Includes maps & illustrations, Enhanced Recovery, Gas, Oil, Clare Co.

[] [http://www.michigan.gov/documents/deq/GIMDL-SR01\\_216268\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-SR01_216268_7.pdf)  
[] [http://www.michigan.gov/documents/deq/SR\\_01opt\\_309338\\_7.pdf](http://www.michigan.gov/documents/deq/SR_01opt_309338_7.pdf)

### Secondary Recovery Report 2: Beaver Creek Field; Enhanced Oil and Gas Recovery in Michigan; R. J. Pollom, 1976; Secondary recovery study and data Includes maps & illustrations, Enhanced Recovery, Gas, Oil, Crawford Co., Kalkaska Co.

[] [http://www.michigan.gov/documents/deq/GIMDL-SR02\\_307818\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-SR02_307818_7.pdf)  
[] [http://www.michigan.gov/documents/deq/SR\\_02opt\\_309340\\_7.pdf](http://www.michigan.gov/documents/deq/SR_02opt_309340_7.pdf)

### Secondary Recovery Report No. 3: Cranberry Lake Field, Richfield Oil Pool; Enhanced Oil and Gas Recovery in Michigan; S. E. Wilson, 1976; Secondary recovery study and data Includes maps & illustrations, Enhanced Recovery, Gas, Oil, Clare Co

[] [http://www.michigan.gov/documents/deq/GIMDL-SR03\\_302967\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-SR03_302967_7.pdf)  
[] [http://www.michigan.gov/documents/deq/SR\\_03opt\\_309309\\_7.pdf](http://www.michigan.gov/documents/deq/SR_03opt_309309_7.pdf)

### Secondary Recovery Report 4: Enterprise Field; Enhanced Oil and Gas Recovery in Michigan; A. D. Matzkanin, 1977; Secondary recovery study and data Includes maps & illustrations, Enhanced Recovery, Gas, Oil, Missaukee Co.

[] [http://www.michigan.gov/documents/deq/GIMDL-SR04\\_307819\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-SR04_307819_7.pdf)  
[] [http://www.michigan.gov/documents/deq/SR\\_04opt\\_309342\\_7.pdf](http://www.michigan.gov/documents/deq/SR_04opt_309342_7.pdf)

### Secondary Recovery Report 5: Onondaga 10 Unit; Enhanced Oil and Gas Recovery in Michigan; R. J. Pollom, 1977; Secondary recovery study and data Includes maps & illustrations Enhanced Recovery, Gas, Oil, Ingham Co.

[] [http://www.michigan.gov/documents/deq/GIMDL-SR05\\_216270\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-SR05_216270_7.pdf)  
[] [http://www.michigan.gov/documents/deq/SR\\_05opt\\_309311\\_7.pdf](http://www.michigan.gov/documents/deq/SR_05opt_309311_7.pdf)

### Secondary Recovery Report 6: Aurelius 35 Unit; Enhanced Oil and Gas Recovery in Michigan; A. D. Matzkanin, 1977; Secondary recovery study and data Includes maps & illustrations, Enhanced Recovery, Gas, Oil, Ingham Co.

[] [http://www.michigan.gov/documents/deq/GIMDL-SR06\\_307820\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-SR06_307820_7.pdf)  
[] [http://www.michigan.gov/documents/deq/SR\\_06opt\\_309314\\_7.pdf](http://www.michigan.gov/documents/deq/SR_06opt_309314_7.pdf)

### Secondary Recovery Report 7: Columbus 3 Unit; A. D. Matzkanin, 1978; Secondary recovery study and data Includes maps & illustrations, Enhanced Recovery, Gas, Oil, Saint Clair Co.

[] [http://www.michigan.gov/documents/deq/GIMDL-SR07\\_216271\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-SR07_216271_7.pdf)  
[] [http://www.michigan.gov/documents/deq/SR\\_07opt\\_309316\\_7.pdf](http://www.michigan.gov/documents/deq/SR_07opt_309316_7.pdf)

## Secondary Recovery Report 08: West Branch Field Dundee Oil Pool Enhanced Oil & Gas Recovery in Michigan; R. G. Vugrinovich, Secondary recovery study and data Includes maps & illustrations, Enhanced Recovery, Gas, Oil, Ogemaw Co.

[] [http://www.michigan.gov/documents/deq/SR\\_08\\_313960\\_7.pdf](http://www.michigan.gov/documents/deq/SR_08_313960_7.pdf)  
[] [http://www.michigan.gov/documents/deq/SR\\_08\\_opt\\_313962\\_7.pdf](http://www.michigan.gov/documents/deq/SR_08_opt_313962_7.pdf)

## [30] Technical Report

*"Technical Reports", were published between 1948 and 1954 to discuss ground water problems. They are of a technical nature and were published in limited editions.*

### Technical Report 1: Ground Water Hydraulics as a Geophysical Aid 1948; J. G. Ferris, 1948; illustrated, done in cooperation with U. S. Geological Survey Water

[] [http://www.michigan.gov/documents/deq/GIMDL-TR01\\_302969\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-TR01_302969_7.pdf)  
[] [http://www.michigan.gov/documents/deq/TR\\_01opt\\_309401\\_7.pdf](http://www.michigan.gov/documents/deq/TR_01opt_309401_7.pdf)

### Technical Report 2: Ground-Water Problems of the Iron River District, Michigan; W. T. Stuart, 1948; done in cooperation with USGS Iron, Iron Co., Water

[] [http://www.michigan.gov/documents/deq/GIMDL-TR02\\_216272\\_7.PDF](http://www.michigan.gov/documents/deq/GIMDL-TR02_216272_7.PDF)  
[] [http://www.michigan.gov/documents/deq/GIMDL-TR02B\\_216274\\_7.PDF](http://www.michigan.gov/documents/deq/GIMDL-TR02B_216274_7.PDF)

### Technical Report 3: Ground-Water investigations of the Marquette Iron-Mining District, Michigan; W. T. Stuart, 1954; done in cooperation with the USGS. Iron, Marquette Co., Water

[] [http://www.michigan.gov/documents/deq/GIMDL-TR03\\_216275\\_7.PDF](http://www.michigan.gov/documents/deq/GIMDL-TR03_216275_7.PDF)  
[] [http://www.michigan.gov/documents/deq/GIMDL-TR03B\\_216277\\_7.PDF](http://www.michigan.gov/documents/deq/GIMDL-TR03B_216277_7.PDF)

## [31] UIPC Reports

*The Underground Injection Practices Council (UIPC) has produced reports that relate to Michigan.*

### UIPC Class I Injection Well Survey Phase I Report: Survey of Selected Sites April, 1986; UIPC, 1986;

[http://www.michigan.gov/documents/deq/UIPC\\_ClassIInjWellSurvPI\\_1986\\_Aopt\\_306739\\_7.pdf](http://www.michigan.gov/documents/deq/UIPC_ClassIInjWellSurvPI_1986_Aopt_306739_7.pdf)  
[http://www.michigan.gov/documents/deq/UIPC\\_ClassIInjWellSurvPI\\_1986\\_Bopt\\_306741\\_7.pdf](http://www.michigan.gov/documents/deq/UIPC_ClassIInjWellSurvPI_1986_Bopt_306741_7.pdf)

### UIPC Class I Injection Well Survey Phase II Report: Survey of Operations 1987; UIPC, 1987;

[http://www.michigan.gov/documents/deq/UIPC\\_ClassIInjWellSurvPII\\_1987\\_opt\\_306742\\_7.pdf](http://www.michigan.gov/documents/deq/UIPC_ClassIInjWellSurvPII_1987_opt_306742_7.pdf)

### UIPC Class I Injection Well Survey April; UIPC, 1990;

[] [http://www.michigan.gov/documents/deq/UIPC\\_ClassIInjWellSurv\\_1990\\_306737\\_7.pdf](http://www.michigan.gov/documents/deq/UIPC_ClassIInjWellSurv_1990_306737_7.pdf)

## [32] USBM Open File

*The United States Bureau of Mines (USBM) Open File Reports are unpublished reports. Some of the material is eventually published in other series.*

### USBM Information Circular 7738: Limestone and Dolomite; O. Bowles, 1956;

[] [http://www.michigan.gov/documents/deq/USDI\\_IC7738\\_306750\\_7.pdf](http://www.michigan.gov/documents/deq/USDI_IC7738_306750_7.pdf)  
[] [http://www.michigan.gov/documents/deq/USDI\\_IC7738\\_opt\\_306751\\_7.pdf](http://www.michigan.gov/documents/deq/USDI_IC7738_opt_306751_7.pdf)

**USBM OFR 76: Magnitude and Quality of Michigan Coal Reserves**; J. Kalliokoski, E. J. Welch, 1976; Coal, Reserves, Southern Peninsula counties

[] [http://www.michigan.gov/documents/deq/deq-ogs-gimdl-USBMOF76\\_311907\\_7.pdf](http://www.michigan.gov/documents/deq/deq-ogs-gimdl-USBMOF76_311907_7.pdf)  
[] [http://www.michigan.gov/documents/deq/GIMDL-COAL-MAPS-USBM76\\_307761\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-COAL-MAPS-USBM76_307761_7.pdf)

**USBM OFR: The Copper Resources of Northern Michigan**; J. T. Wilband, 1978

[] [http://www.michigan.gov/documents/deq/GIMDL-USBMOFR1978\\_302972\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-USBMOFR1978_302972_7.pdf)

## [33] USDOE Open File Reports

*The United States Department of Energy (USDOE) Open File Reports are unpublished reports. Some of the material is eventually published. Reports about kimberlite exploration are available.*

**Open File UDOE G3BX-162(79)**: J. Trow, 1979; Final Report Diamond-Drilling for Geologic Information in the Middle Precambrian Basins in the Western Portion of Northern Michigan.

[] [http://www.michigan.gov/documents/deq/GIMDL-OFRGJBX16379\\_302621\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-OFRGJBX16379_302621_7.pdf)

**US DOE OFR 78-1**; J. Trow, 1978; Preliminary Geologic Data Diamond-Drilling for Geologic Information in the Middle Precambrian Basins in the Western Portion of Northern Michigan

[] [http://www.michigan.gov/documents/deq/GIMDL-DOE OFR78A\\_301981\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-DOE OFR78A_301981_7.pdf)

**US DOE OFR 78-3, 4, 5, 6, & 7**; J. Trow, 1978; Preliminary Geologic Data Diamond-Drilling for Geologic Information in the Middle Precambrian Basins in the Western Portion of Northern Michigan

[] [http://www.michigan.gov/documents/deq/GIMDL-DOE OFR78B\\_301982\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-DOE OFR78B_301982_7.pdf)

[] [http://www.michigan.gov/documents/deq/GIMDL-DOE OFR78C\\_301984\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-DOE OFR78C_301984_7.pdf)

[] [http://www.michigan.gov/documents/deq/GIMDL-DOE OFR78D\\_301987\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-DOE OFR78D_301987_7.pdf)

[] [http://www.michigan.gov/documents/deq/GIMDL-DOE OFR78E\\_301989\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-DOE OFR78E_301989_7.pdf)

[] [http://www.michigan.gov/documents/deq/GIMDL-DOE OFR78F\\_301991\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-DOE OFR78F_301991_7.pdf)

## [34] USGS Bulletins

*Selected United States Geological Survey (USGS) Bulletin relate to Michigan geology. Report number include: 1044, 1077, 1274-F, 1314-B, 1354-F, 1407, and 1460.*

**Bulletin of the United States Geological Survey No. 23**; E. D. Irving, T. C. Chamberlin, 1885;

[] [http://www.michigan.gov/documents/deq/USGS\\_BU23\\_306752\\_7.pdf](http://www.michigan.gov/documents/deq/USGS_BU23_306752_7.pdf)

[] [http://www.michigan.gov/documents/deq/USGS\\_BU23\\_Aopt\\_306755\\_7.pdf](http://www.michigan.gov/documents/deq/USGS_BU23_Aopt_306755_7.pdf)

[] [http://www.michigan.gov/documents/deq/USGS\\_BU23\\_Bopt\\_306756\\_7.pdf](http://www.michigan.gov/documents/deq/USGS_BU23_Bopt_306756_7.pdf)

[] [http://www.michigan.gov/documents/deq/USGS\\_BU23\\_Copt\\_306757\\_7.pdf](http://www.michigan.gov/documents/deq/USGS_BU23_Copt_306757_7.pdf)

[] [http://www.michigan.gov/documents/deq/USGS\\_BU23\\_Dopt\\_306758\\_7.pdf](http://www.michigan.gov/documents/deq/USGS_BU23_Dopt_306758_7.pdf)

**USGS Bulletin 1044: Geology of the Kiernan Quadrangle Iron County, Michigan**; J. E. Gair, K. L. Wier, 1956;

[] [http://www.michigan.gov/documents/deq/GIMDL-USGSBU1044\\_302973\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-USGSBU1044_302973_7.pdf)

**USGS Bulletin 1077: Geology of the Lake Mary**

**Quadrangle Iron County, Michigan**; R. W. Bayley, 1959;

[] [http://www.michigan.gov/documents/deq/GIMDL-USGSBU1077\\_302974\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-USGSBU1077_302974_7.pdf)

**USGS Bulletin 1226: Geology of the Kelso Junction Quadrangle, Iron County, Michigan**; K. L. Wier, 1967;

[] [http://www.michigan.gov/documents/deq/GIMDL-GSB1226\\_302422\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-GSB1226_302422_7.pdf)

[] [http://www.michigan.gov/documents/deq/GSB\\_1226opt\\_304332\\_7.pdf](http://www.michigan.gov/documents/deq/GSB_1226opt_304332_7.pdf)

**USGS Bulletin 1274-F: The Reany Creek Formation Marquette County Michigan**; W. P. Puffett, 1959;

[] [http://www.michigan.gov/documents/deq/GIMDL-USGSBU1274\\_302975\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-USGSBU1274_302975_7.pdf)

**United States Geological Survey Bulletin 1294-G: Age of the Bedford Shale, Berea Sandstone, and Sunbury Shale in the Appalachian and Michigan Basins, Pennsylvania, Ohio, and Michigan**; W. Dewitt, 1970;

[] [http://www.michigan.gov/documents/deq/USGS\\_BU1294G\\_306760\\_7.pdf](http://www.michigan.gov/documents/deq/USGS_BU1294G_306760_7.pdf)

[] [http://www.michigan.gov/documents/deq/USGS\\_BU1294G\\_opt\\_306762\\_7.pdf](http://www.michigan.gov/documents/deq/USGS_BU1294G_opt_306762_7.pdf)

**USGS Bulletin 1354-F: The Base of the Upper Keweenawan, Michigan and Wisconsin**; W. S. White, 1972;

[] [http://www.michigan.gov/documents/deq/GIMDL-USGSBU1354\\_302977\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-USGSBU1354_302977_7.pdf)

**USGS Bulletin 1407: Geology of the Precambrian W (Lower Precambrian) Rocks in Western Gogebic County, Michigan**; R. G. Schmidt, 1976;

[] [http://www.michigan.gov/documents/deq/GIMDL-GSB1407\\_302425\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-GSB1407_302425_7.pdf)

[] [http://www.michigan.gov/documents/deq/GSB\\_1407opt\\_304337\\_7.pdf](http://www.michigan.gov/documents/deq/GSB_1407opt_304337_7.pdf)

**USGS Bulletin 1460: The Marquette Range**

**Supergroup in the Gogebic Iron District . . . , 1980**; R. G. Schmidt, 1976;

[] [http://www.michigan.gov/documents/deq/GIMDL-GSB1460\\_302428\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-GSB1460_302428_7.pdf)

[] [http://www.michigan.gov/documents/deq/GSB\\_1460opt\\_304340\\_7.pdf](http://www.michigan.gov/documents/deq/GSB_1460opt_304340_7.pdf)

## [35] USGS Monographs

*The United States Geological Survey (USGS) published three early Monographs to help define Michigan geology. Includes: Monograph Volumes, XXXVI, XLVI and LIII.*

**Monographs of the USGS Volume XXXVI: The Crystal Falls Iron-Bearing District Of Michigan**; J. M. Clements, H. L. Smyth, W. S. Bayley, C. R. Van Hise, 1899;

[] [http://www.michigan.gov/documents/deq/GIMDL-USGSMGXXXVIA\\_303005\\_7.PDF](http://www.michigan.gov/documents/deq/GIMDL-USGSMGXXXVIA_303005_7.PDF)

[] [http://www.michigan.gov/documents/deq/GIMDL-USGSMGXXXVIB\\_303006\\_7.PDF](http://www.michigan.gov/documents/deq/GIMDL-USGSMGXXXVIB_303006_7.PDF)

[] [http://www.michigan.gov/documents/deq/GIMDL-USGSMGXXXVIC\\_303008\\_7.PDF](http://www.michigan.gov/documents/deq/GIMDL-USGSMGXXXVIC_303008_7.PDF)

[] [http://www.michigan.gov/documents/deq/GIMDL-USGSMGXXXVID\\_303012\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-USGSMGXXXVID_303012_7.pdf)

[] [http://www.michigan.gov/documents/deq/GIMDL-USGSMGXXXVIE\\_303016\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-USGSMGXXXVIE_303016_7.pdf)

[] [http://www.michigan.gov/documents/deq/GIMDL-USGSMGXXXVIF\\_303020\\_7.PDF](http://www.michigan.gov/documents/deq/GIMDL-USGSMGXXXVIF_303020_7.PDF)

**Monographs of the USGS Volume XLVI: The Menominee Iron-Bearing District of Michigan**; W. S. Bayley, 1904;

[] [http://www.michigan.gov/documents/deq/GIMDL-USGSMGXLVIA\\_302989\\_7.PDF](http://www.michigan.gov/documents/deq/GIMDL-USGSMGXLVIA_302989_7.PDF)

[] [http://www.michigan.gov/documents/deq/GIMDL-USGSMGXLVIB\\_302990\\_7.PDF](http://www.michigan.gov/documents/deq/GIMDL-USGSMGXLVIB_302990_7.PDF)

[] [http://www.michigan.gov/documents/deq/GIMDL-USGSMGXLVIC\\_302991\\_7.PDF](http://www.michigan.gov/documents/deq/GIMDL-USGSMGXLVIC_302991_7.PDF)

[] [http://www.michigan.gov/documents/deq/GIMDL-USGSMGXLVID\\_302992\\_7.PDF](http://www.michigan.gov/documents/deq/GIMDL-USGSMGXLVID_302992_7.PDF)

[] [http://www.michigan.gov/documents/deq/GIMDL-USGSMGXLVIE\\_302993\\_7.PDF](http://www.michigan.gov/documents/deq/GIMDL-USGSMGXLVIE_302993_7.PDF)

[] [http://www.michigan.gov/documents/deq/GIMDL-USGSMGXLVIF\\_302994\\_7.PDF](http://www.michigan.gov/documents/deq/GIMDL-USGSMGXLVIF_302994_7.PDF)

[] [http://www.michigan.gov/documents/deq/GIMDL-USGSMGXLVIG\\_302997\\_7.PDF](http://www.michigan.gov/documents/deq/GIMDL-USGSMGXLVIG_302997_7.PDF)

[] [http://www.michigan.gov/documents/deq/GIMDL-USGSMGXLVIH\\_303000\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-USGSMGXLVIH_303000_7.pdf)

[] [http://www.michigan.gov/documents/deq/GIMDL-USGSMGXLVII\\_303002\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-USGSMGXLVII_303002_7.pdf)

**Monographs of the USGS Volume LIII: Pleistocene of Indiana and Michigan And The History Of The Great Lakes;** F. Leverett, F. B. Taylor, 1915;

[] [http://www.michigan.gov/documents/deq/GIMDL-USGSMGLIIIA\\_302984\\_7.PDF](http://www.michigan.gov/documents/deq/GIMDL-USGSMGLIIIA_302984_7.PDF)  
[] [http://www.michigan.gov/documents/deq/GIMDL-USGSMGLIIIB\\_302985\\_7.PDF](http://www.michigan.gov/documents/deq/GIMDL-USGSMGLIIIB_302985_7.PDF)  
[] [http://www.michigan.gov/documents/deq/GIMDL-USGSMGLIIID\\_302987\\_7.PDF](http://www.michigan.gov/documents/deq/GIMDL-USGSMGLIIID_302987_7.PDF)  
[] [http://www.michigan.gov/documents/deq/GIMDL-USGSMGXXVIC\\_302986\\_7.PDF](http://www.michigan.gov/documents/deq/GIMDL-USGSMGXXVIC_302986_7.PDF)

---

## [36] USGS Open File

*USGS "Open File Reports" are unpublished reports from the United States Geological Survey. Much of the material is eventually published in other series.*

**USGS Open File Map 80-297** Description and Preliminary Map of Airborne Electromagnetic Survey of Parts of Iron, Baraga, And Dickinson counties Michigan; W. D. Heran, B. D. Smith, 1980;

[] [http://www.michigan.gov/documents/deq/GIMDL-USGSOFM80297\\_303022\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-USGSOFM80297_303022_7.pdf)

**USGS Open File 75-152:** Keweenawan Geology of the North Ironwood, Ironwood, & Little Girl Point Quads., Gogebic Co., Michigan; H. Hubbard, 1975;

[] [http://www.michigan.gov/documents/deq/GIMDL-USGSOFR75152\\_303026\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-USGSOFR75152_303026_7.pdf)

**USGS Open File 79-1564:** Simple Bouguer Gravity Anomaly Map and Geologic Interpretation; Iron River 1° by 2° Quadrangle Northern Michigan and Wisconsin; J. S. Klasner, W. J. Jones, 1979;

[] [http://www.michigan.gov/documents/deq/GIMDL-USGSOFR791564\\_303033\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-USGSOFR791564_303033_7.pdf)

**USGS Open File 80-390: Copper-Bearing Quartzite Near Watersmeet, Michigan;** F. W. Cannon, 1980;

[] [http://www.michigan.gov/documents/deq/GIMDL-USGSOFR80390\\_303037\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-USGSOFR80390_303037_7.pdf)

**USGS Open File 80-591: Ground Water of Coal Deposits, Bay County, Michigan;** J. R. Stark, M. G. McDonald, 1980;

[] [http://www.michigan.gov/documents/deq/GIMDL-USGSOFR80591\\_303038\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-USGSOFR80591_303038_7.pdf)

**USGS Open File 80-773:** Hydraulic Characteristics of an Underdrained Irrigation Circle, Muskegon Co. Wastewater Disposal System, Michigan; M. G. McDonald, 1980;

[] [http://www.michigan.gov/documents/deq/GIMDL-USGSOFR80773\\_303042\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-USGSOFR80773_303042_7.pdf)

**USGS Open File 80-902: Review of Lake Michigan Seismic Reflection Data;** R. Wold, 1980;

[] [http://www.michigan.gov/documents/deq/GIMDL-USGSOFR80902\\_303044\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-USGSOFR80902_303044_7.pdf)

**USGS Open File 80-1081:** Preliminary investigations of Radioelement Distribution in Archean Granite Gneiss, Republic Area, Michigan; J. S. Stuckless, 1980;

[] [http://www.michigan.gov/documents/deq/GIMDL-USGSOFR801081\\_303035\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-USGSOFR801081_303035_7.pdf)

**USGS Open File Report: Geology and Hydrology For Environmental Planning in Washtenaw County, Michigan;** W. Fleck, 1980;

[] [http://www.michigan.gov/documents/deq/GIMDL-USGSOFR80G\\_303050\\_7.PDF](http://www.michigan.gov/documents/deq/GIMDL-USGSOFR80G_303050_7.PDF)

**USGS Open File 82-223: Mineral- Resource Assessment of the Iron River 1° x 2° Quadrangle, Michigan and Wisconsin;** W. F. Cannon, 1982;

[] [http://www.michigan.gov/documents/deq/GIMDL-USGSOFR82223\\_303052\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-USGSOFR82223_303052_7.pdf)

**USGS Open File 82-301: Preliminary surficial geologic map of the Iron River 1° x 2° quadrangle, Michigan and Wisconsin;** W. L. Peterson, 1982;

[] [http://www.michigan.gov/documents/deq/GIMDL-USGSOFR82301\\_303055\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-USGSOFR82301_303055_7.pdf)

**USGS Open File 95-75K: An Initial Resource Assessment of the Upper Devonian Antrim Shale in the Michigan basin;** G. L. Dolton, J. C. Quinn, 1996;

[] [http://www.michigan.gov/documents/deq/GIMDL-USGSOFR9575K\\_303059\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-USGSOFR9575K_303059_7.pdf)

---

## [37] USGS Professional Paper

*The United States Geological Survey (USGS) published selected reports about Michigan in this prestigious series. Specifically, Professional Paper 144 and Professional Paper 1110-j are listed.*

**USGS Professional Paper 144: The Copper**

**Deposits of Michigan;** B. S. Butler, W. S. Burbank, 1929; In collaboration with T. M. Broderick, L. C. Graton, C. D. Hohl, C. Palache, M. J. Scholz, A. Wandke, and R. C. Wells. Maps not digitized. One of the main references about copper and copper mining in Michigan.

[] [http://www.michigan.gov/documents/deq/GIMDL-USGSPP144A\\_303062\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-USGSPP144A_303062_7.pdf)

[] [http://www.michigan.gov/documents/deq/GIMDL-USGSPP144B\\_303065\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-USGSPP144B_303065_7.pdf)

[] [http://www.michigan.gov/documents/deq/GIMDL-USGSPP144C\\_303066\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-USGSPP144C_303066_7.pdf)

[] [http://www.michigan.gov/documents/deq/GIMDL-USGSPP144D\\_303067\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-USGSPP144D_303067_7.pdf)

[] [http://www.michigan.gov/documents/deq/GIMDL-USGSPP144E\\_303070\\_7.PDF](http://www.michigan.gov/documents/deq/GIMDL-USGSPP144E_303070_7.PDF)

[] [http://www.michigan.gov/documents/deq/GIMDL-USGSPP144F\\_303072\\_7.PDF](http://www.michigan.gov/documents/deq/GIMDL-USGSPP144F_303072_7.PDF)

[] [http://www.michigan.gov/documents/deq/GIMDL-USGSPP144G\\_303158\\_7.PDF](http://www.michigan.gov/documents/deq/GIMDL-USGSPP144G_303158_7.PDF)

[] [http://www.michigan.gov/documents/deq/GIMDL-USGSPP144H\\_303160\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-USGSPP144H_303160_7.pdf)

**USGS Professional Paper 154-A: Moraines and Shore Lines of the Lake Superior Basin;** Frank Leverett, 1929;

[] [http://www.michigan.gov/documents/deq/GIMDL-USGSPP154A\\_303163\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-USGSPP154A_303163_7.pdf)

**USGS Professional Paper 184: Precambrian Rocks of the Lake Superior Region;** C. K. Leith, R. J. Lund, A. Leith, 1935;

[] [http://www.michigan.gov/documents/deq/GIMDL-USGSPP184\\_303164\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-USGSPP184_303164_7.pdf)

**USGS Professional Paper 186-H:** Inferences about the Origin of Oil As Indicated by the Composition of the Organic Constituents of Sediments; P. D. Trask, 1935;

[] [http://www.michigan.gov/documents/deq/GIMDL-USGSPP186H\\_303165\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-USGSPP186H_303165_7.pdf)

**USGS Professional Paper 1110-J: The Mississippian and Pennsylvanian (Carboniferous) Systems in the United States— Michigan;** G. D. ELLS, 1979;

[] [http://www.michigan.gov/documents/deq/GIMDL-USGSPP1110J\\_303061\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-USGSPP1110J_303061_7.pdf)

## [38] USGS Water Investigation Reports

### **Geohydrology and Water Quality of Kalamazoo County, Michigan, 1986-88**; S. J. Rheaume, 1990;

[] [http://www.michigan.gov/documents/deq/GIMDL-USGSWIR904028\\_303166\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-USGSWIR904028_303166_7.pdf)

### **USGS Water-Resources Investigations Report 90-4122: Hydrology and Land Use in Grand Traverse..**; T. R. Cummings, J. L. Gillespie, N. G. Grannemann, 1990;

[] [http://www.michigan.gov/documents/deq/GIMDL-USGSWIR904122\\_303167\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-USGSWIR904122_303167_7.pdf)

[] [http://www.michigan.gov/documents/deq/USGS\\_WIR904122\\_opt\\_316779\\_7.pdf](http://www.michigan.gov/documents/deq/USGS_WIR904122_opt_316779_7.pdf)  
http://www.michigan.gov/documents/deq/USGS\_WIR904122\_Plate2\_opt\_316786\_7.pdf  
http://www.michigan.gov/documents/deq/USGS\_WIR904122\_Plate3\_opt\_316787\_7.pdf

## [39] USGS Other / General

### **USGS Circular 842: The Potential for Diamond- Bearing Kimberlite in Michigan and Wisconsin**; W. F. Cannon, M. G. Mudrey, Jr., 1981;

[] [http://www.michigan.gov/documents/deq/GIMDL-USGSCR842\\_302982\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-USGSCR842_302982_7.pdf)

### **USGS INF-64-4: Collecting Rocks**

[] [http://www.michigan.gov/documents/deq/GIMDL-USGSCR\\_302981\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-USGSCR_302981_7.pdf)

### **USGS INF-67-2(R6): Suggestions for Prospecting**

[] [http://www.michigan.gov/documents/deq/GIMDL-USGSINF672R6\\_302983\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-USGSINF672R6_302983_7.pdf)

### **Use and Conservation of Minerals**

[] [http://www.michigan.gov/documents/deq/GIMDL-GGCOM\\_302034\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-GGCOM_302034_7.pdf)

### **USGS Pamphlet: Prospecting for Gold in the United States**

[] [http://www.michigan.gov/documents/deq/GIMDL-USGSPAGold\\_303060\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-USGSPAGold_303060_7.pdf)

## [40] Volume

*The first major publication series of the Survey was titled "Volume". Between 1873 and 1904 nine numbers and an atlas of maps were produced. Each Volume consists of several in-depth technical reports on the geology of Michigan. The Volume series was bound in green cloth or leather with gold lettering. Paperbound separates of most of the reports were also available. Volumes were numbered with Roman numerals.*

### **Volume I: Part I. Iron-Bearing Rocks (Economic).**

**Chapters 1-4**; T. B. Brooks, 1873; Baraga Co., Clay, Copper, Dickinson Co., Dolomite, Gogebic Co., Houghton Co., Iron, Iron Co., Lime, Limestone, Marquette Co., Menominee Co., Ontonagon Co., Peat, Sand, Sandstone, Silver, Stone, Sulfur

[] [http://www.michigan.gov/documents/deq/GIMDL-VOLIA\\_303169\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-VOLIA_303169_7.pdf)

[] [http://www.michigan.gov/documents/deq/GIMDL-VOLIB\\_303171\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-VOLIB_303171_7.pdf)

**Volume I: Part II. Copper District**; R. Pumpelly, 1873; Clay, Copper, Gogebic Co., Houghton Co., Iron, Keweenaw Co., Ontonagon Co., Sandstone, Silver

[] [http://www.michigan.gov/documents/deq/GIMDL-VOLIC\\_303172\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-VOLIC_303172_7.pdf)

**Volume I: Part III. Palaeozoic Rocks**; C. Rominger, 1873; Alger Co., Chippewa Co., Clay, Delta Co., Gypsum, Limestone, Luce Co., Mackinac Co., Marquette Co., Menominee Co., Peat, Sandstone, Schoolcraft Co., Stone

[] [http://www.michigan.gov/documents/deq/GIMDL-VOLID\\_303173\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-VOLID_303173_7.pdf)

### **Volume I: Atlas Accompanying Reports on Upper Peninsula 1869-1873**; T. B. Brooks, 1873; 23 colored sheets (maps and charts) Alger Co., Baraga Co., Chippewa Co., Copper, Delta Co., Dickinson Co., Gogebic Co., Houghton Co., Iron, Iron Co., Keweenaw Co., Luce Co., Mackinac Co., Marquette Co., Menominee Co., Northern Peninsula counties, Ontonagon Co., Schoolcraft Co., not digitized.

### **Volume I: Part I. Iron-Bearing Rocks (Economic).**

**Part 1**; T. B. Brooks, 1873; Baraga Co., Clay, Copper, Dolomite, Gogebic Co., Houghton Co., Iron, Iron Co., Limestone, Marquette Co., Menominee Co., Northern Peninsula counties, Ontonagon Co., Sandstone, Shale, Stone

[] [http://www.michigan.gov/documents/deq/Vol\\_I\\_Part1\\_Aopt\\_309527\\_7.pdf](http://www.michigan.gov/documents/deq/Vol_I_Part1_Aopt_309527_7.pdf)

[] [http://www.michigan.gov/documents/deq/Vol\\_I\\_Part1\\_Bopt\\_309531\\_7.pdf](http://www.michigan.gov/documents/deq/Vol_I_Part1_Bopt_309531_7.pdf)

[] [http://www.michigan.gov/documents/deq/Vol\\_I\\_Part1\\_Copt\\_309532\\_7.pdf](http://www.michigan.gov/documents/deq/Vol_I_Part1_Copt_309532_7.pdf)

[] [http://www.michigan.gov/documents/deq/Vol\\_I\\_Part1\\_Dopt\\_309533\\_7.pdf](http://www.michigan.gov/documents/deq/Vol_I_Part1_Dopt_309533_7.pdf)

[] [http://www.michigan.gov/documents/deq/Vol\\_I\\_Part1\\_Eopt\\_309535\\_7.pdf](http://www.michigan.gov/documents/deq/Vol_I_Part1_Eopt_309535_7.pdf)

### **Volume I: Part II. Copper District**

[] [http://www.michigan.gov/documents/deq/Vol\\_I\\_Part2\\_Aopt\\_309536\\_7.pdf](http://www.michigan.gov/documents/deq/Vol_I_Part2_Aopt_309536_7.pdf)

[] [http://www.michigan.gov/documents/deq/Vol\\_I\\_Part2\\_Bopt\\_309539\\_7.pdf](http://www.michigan.gov/documents/deq/Vol_I_Part2_Bopt_309539_7.pdf)

[] [http://www.michigan.gov/documents/deq/Vol\\_I\\_Part3\\_opt\\_309541\\_7.pdf](http://www.michigan.gov/documents/deq/Vol_I_Part3_opt_309541_7.pdf)

### **Volume II: Iron-Bearing Rocks (Economic)**

[] [http://www.michigan.gov/documents/deq/GIMDL-VOLIIA\\_303176\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-VOLIIA_303176_7.pdf)

[] [http://www.michigan.gov/documents/deq/GIMDL-VOLIIB\\_303177\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-VOLIIB_303177_7.pdf)

[] [http://www.michigan.gov/documents/deq/Vol\\_II\\_Aopt\\_309545\\_7.pdf](http://www.michigan.gov/documents/deq/Vol_II_Aopt_309545_7.pdf)

[] [http://www.michigan.gov/documents/deq/Vol\\_II\\_Bopt\\_309710\\_7.pdf](http://www.michigan.gov/documents/deq/Vol_II_Bopt_309710_7.pdf)

[] [http://www.michigan.gov/documents/deq/Vol\\_II\\_Copt\\_309711\\_7.pdf](http://www.michigan.gov/documents/deq/Vol_II_Copt_309711_7.pdf)

[] [http://www.michigan.gov/documents/deq/Vol\\_II\\_Dopt\\_309714\\_7.pdf](http://www.michigan.gov/documents/deq/Vol_II_Dopt_309714_7.pdf)

### **Volume III: Lower Peninsula 1873-1876 - Part I.**

**Geology**; C. Rominger, 1876; Brine, Clay, Coal, Dolomite, Gas, Gypsum, Peat, Salt, Sand, Sandstone, Shale, Southern Peninsula counties, Stone Palaeontology

[] [http://www.michigan.gov/documents/deq/GIMDL-VOLIIIA\\_303182\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-VOLIIIA_303182_7.pdf)

[] [http://www.michigan.gov/documents/deq/GIMDL-VOLIIB\\_303185\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-VOLIIB_303185_7.pdf)

[] [http://www.michigan.gov/documents/deq/Vol\\_III\\_Part1\\_Aopt\\_310291\\_7.pdf](http://www.michigan.gov/documents/deq/Vol_III_Part1_Aopt_310291_7.pdf)

[] [http://www.michigan.gov/documents/deq/Vol\\_III\\_Part1\\_Bopt\\_310292\\_7.pdf](http://www.michigan.gov/documents/deq/Vol_III_Part1_Bopt_310292_7.pdf)

[] [http://www.michigan.gov/documents/deq/Vol\\_III\\_Part1\\_Copt\\_310293\\_7.pdf](http://www.michigan.gov/documents/deq/Vol_III_Part1_Copt_310293_7.pdf)

[] [http://www.michigan.gov/documents/deq/Vol\\_III\\_Part2\\_Aopt\\_310294\\_7.pdf](http://www.michigan.gov/documents/deq/Vol_III_Part2_Aopt_310294_7.pdf)

[] [http://www.michigan.gov/documents/deq/Vol\\_III\\_Part2\\_Bopt\\_310295\\_7.pdf](http://www.michigan.gov/documents/deq/Vol_III_Part2_Bopt_310295_7.pdf)

[] [http://www.michigan.gov/documents/deq/Vol\\_III\\_Part2\\_Plates\\_Aopt\\_310297\\_7.pdf](http://www.michigan.gov/documents/deq/Vol_III_Part2_Plates_Aopt_310297_7.pdf)

[] [http://www.michigan.gov/documents/deq/Vol\\_III\\_Part2\\_Plates\\_Bopt\\_310298\\_7.pdf](http://www.michigan.gov/documents/deq/Vol_III_Part2_Plates_Bopt_310298_7.pdf)

[] [http://www.michigan.gov/documents/deq/Vol\\_III\\_Part2\\_Mapopt\\_310299\\_7.pdf](http://www.michigan.gov/documents/deq/Vol_III_Part2_Mapopt_310299_7.pdf)

### **Volume IV: Upper Peninsula 1878-1880 .... - Part I.**

**Marquette Iron Region**; C. Rominger, 1881; Clay, Copper, Dolomite, Iron, Limestone, Sandstone, Stone, Northern Peninsula counties

[] [http://www.michigan.gov/documents/deq/GIMDL-VOLIVA\\_303191\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-VOLIVA_303191_7.pdf)

[] [http://www.michigan.gov/documents/deq/GIMDL-VOLIVB\\_303192\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-VOLIVB_303192_7.pdf)

[] [http://www.michigan.gov/documents/deq/Vol\\_IV\\_Part1\\_Aopt\\_309732\\_7.pdf](http://www.michigan.gov/documents/deq/Vol_IV_Part1_Aopt_309732_7.pdf)

[] [http://www.michigan.gov/documents/deq/Vol\\_IV\\_Part1\\_Bopt\\_309735\\_7.pdf](http://www.michigan.gov/documents/deq/Vol_IV_Part1_Bopt_309735_7.pdf)

[] [http://www.michigan.gov/documents/deq/Vol\\_IV\\_Part2\\_Aopt\\_309737\\_7.pdf](http://www.michigan.gov/documents/deq/Vol_IV_Part2_Aopt_309737_7.pdf)

[] [http://www.michigan.gov/documents/deq/Vol\\_IV\\_Part2\\_Bopt\\_309738\\_7.pdf](http://www.michigan.gov/documents/deq/Vol_IV_Part2_Bopt_309738_7.pdf)

**Volume V: - Part I. Geological Report on the Upper Peninsula .... Iron & Copper Regions;** C. Rominger, 1895; Geological Report on the Upper Peninsula of Michigan, Iron and Copper Regions Baraga Co., Copper, Dickinson Co., Dolomite, Gogebic Co., Houghton Co., Iron, Iron Co., Keweenaw Co., Limestone, Marquette Co., Menominee Co., Ontonagon Co., Sandstone, Shale, Silver, Stone

[] [http://www.michigan.gov/documents/deq/GIMDL-VOLVA\\_303201\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-VOLVA_303201_7.pdf)  
[] [http://www.michigan.gov/documents/deq/Vol\\_V\\_Part1\\_Aopt\\_309746\\_7.pdf](http://www.michigan.gov/documents/deq/Vol_V_Part1_Aopt_309746_7.pdf)  
[] [http://www.michigan.gov/documents/deq/Vol\\_V\\_Part1\\_Bopt\\_309748\\_7.pdf](http://www.michigan.gov/documents/deq/Vol_V_Part1_Bopt_309748_7.pdf)  
[] [http://www.michigan.gov/documents/deq/Vol\\_V\\_Plates\\_A\\_309766\\_7.pdf](http://www.michigan.gov/documents/deq/Vol_V_Plates_A_309766_7.pdf)  
[] [http://www.michigan.gov/documents/deq/Vol\\_V\\_Plates\\_B\\_309772\\_7.pdf](http://www.michigan.gov/documents/deq/Vol_V_Plates_B_309772_7.pdf)  
[] [http://www.michigan.gov/documents/deq/Vol\\_V\\_Plates\\_C\\_309774\\_7.pdf](http://www.michigan.gov/documents/deq/Vol_V_Plates_C_309774_7.pdf)  
[] [http://www.michigan.gov/documents/deq/Vol\\_V\\_Plates\\_D\\_309776\\_7.pdf](http://www.michigan.gov/documents/deq/Vol_V_Plates_D_309776_7.pdf)

**Volume V. - Part II. Geological Report . Lower Peninsula ...;** A. C. Lane, 1895; The Geology of Lower Michigan with Reference to Deep Borings, Edited by A. C. Lane from Notes of C. F. Wright; with An introduction on the Origin of Salt, Gypsum and Petroleum, L. L. Hubbard; Brine, Cement, Clay, Coal, Dolomite, Gas, Gravel, Gypsum, Lime, Limestone, Marl, Oil, Peat, Salt, Sand, Sandstone, Shale, Southern Peninsula counties, Stone, Sulfur, Water

[] [http://www.michigan.gov/documents/deq/GIMDL-VOLVB\\_303202\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-VOLVB_303202_7.pdf)  
[] [http://www.michigan.gov/documents/deq/Vol\\_V\\_Part2\\_Aopt\\_309750\\_7.pdf](http://www.michigan.gov/documents/deq/Vol_V_Part2_Aopt_309750_7.pdf)  
[] [http://www.michigan.gov/documents/deq/Vol\\_V\\_Part2\\_Bopt\\_309752\\_7.pdf](http://www.michigan.gov/documents/deq/Vol_V_Part2_Bopt_309752_7.pdf)

**Volume VI: Part I;** A. C. Lane, 1898; Clay, Copper, Dolomite, Iron, Isle Royale, Sandstone, Shale

[] [http://www.michigan.gov/documents/deq/GIMDL-VOLVIB\\_303205\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-VOLVIB_303205_7.pdf)

**Volume VI: Upper Peninsula 1893-1897. Part I. Geological Report Isle Royale;** A. C. Lane, 1898; Clay, Copper, Dolomite, Iron, Isle Royale, Sandstone, Shale

[] [http://www.michigan.gov/documents/deq/GIMDL-VOLVIA\\_303204\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-VOLVIA_303204_7.pdf)

**Volume VI;** L. L. Hubbard, 1898; Upper Peninsula 1893-1897. - Part II. Keweenaw Point Copper, Houghton Co., Iron, Keweenaw Co., Sandstone

[] [http://www.michigan.gov/documents/deq/GIMDL-VOLVIC\\_303206\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-VOLVIC_303206_7.pdf)

**Volume VI;** C. Palache, 1898; Upper Peninsula 1893-1897. - Part II-Appendix. the Crystallization of the Calcite from the Copper Mines of Lake Superior, Charles Palache was a renowned and accomplished professor of geology, mineralogy and morphological crystallography, the study of the external shapes of crystals.

[] [http://www.michigan.gov/documents/deq/GIMDL-VOLVID\\_303207\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-VOLVID_303207_7.pdf)  
[] [http://www.michigan.gov/documents/deq/Vol\\_VI\\_Part1\\_Aopt\\_309783\\_7.pdf](http://www.michigan.gov/documents/deq/Vol_VI_Part1_Aopt_309783_7.pdf)  
[] [http://www.michigan.gov/documents/deq/Vol\\_VI\\_Part1\\_Bopt\\_309785\\_7.pdf](http://www.michigan.gov/documents/deq/Vol_VI_Part1_Bopt_309785_7.pdf)  
[] [http://www.michigan.gov/documents/deq/Vol\\_VI\\_Part1\\_Copt\\_309787\\_7.pdf](http://www.michigan.gov/documents/deq/Vol_VI_Part1_Copt_309787_7.pdf)  
[] [http://www.michigan.gov/documents/deq/Vol\\_VI\\_Part1\\_Dopt\\_309789\\_7.pdf](http://www.michigan.gov/documents/deq/Vol_VI_Part1_Dopt_309789_7.pdf)  
[] [http://www.michigan.gov/documents/deq/Vol\\_VI\\_Part2\\_Aopt\\_309793\\_7.pdf](http://www.michigan.gov/documents/deq/Vol_VI_Part2_Aopt_309793_7.pdf)  
[] [http://www.michigan.gov/documents/deq/Vol\\_VI\\_Part2\\_Bopt\\_309798\\_7.pdf](http://www.michigan.gov/documents/deq/Vol_VI_Part2_Bopt_309798_7.pdf)  
[] [http://www.michigan.gov/documents/deq/Vol\\_VI\\_Plates\\_Aopt\\_309801\\_7.pdf](http://www.michigan.gov/documents/deq/Vol_VI_Plates_Aopt_309801_7.pdf)  
[] [http://www.michigan.gov/documents/deq/Vol\\_VI\\_Plates\\_Bopt\\_309805\\_7.pdf](http://www.michigan.gov/documents/deq/Vol_VI_Plates_Bopt_309805_7.pdf)

**Volume VI;** C. Palache, 1898; The illustrations, suitable for printing as single sheets. The illustrations, are not only technically accurate but aesthetically pleasing as well. Calcite, copper, mineralogy, crystals set of five plates showing the crystal forms of some 24 calcite crystals from Lake Superior Copper mines.

[] [http://www.michigan.gov/documents/deq/deq-ogs-gimdl-V6xldrawings\\_311908\\_7.PDF](http://www.michigan.gov/documents/deq/deq-ogs-gimdl-V6xldrawings_311908_7.PDF)

**Volume VII: Geological Survey of Michigan Lower Peninsula 1896-1900;** A. C. Lane, W. H. Sherzer, C. H. Gordon, 1900; Arenac Co., Branch Co., Brine, Calhoun Co., Cement, Clay, Coal, Copper, Dolomite, Emmet Co., Gas, Gratiot Co., Gravel, Gypsum, Hillsdale Co., Huron Co., Iosco Co., Iron, Jackson Co., Lapeer Co., Lenawee Co., Lime, Limestone, Livingston Co., Monroe Co., Oakland Co., Oil, Ottawa Co., Peat, Presque Isle Co., Salt, Sand, Sandstone, Sanilac Co., Shale, St Clair Co., Stone, Sulfur, Tuscola Co., Washtenaw Co., Water, Wayne Co.

[] [http://www.michigan.gov/documents/deq/Vol\\_VII\\_Part1\\_Ch1-5\\_307023\\_7.pdf](http://www.michigan.gov/documents/deq/Vol_VII_Part1_Ch1-5_307023_7.pdf)  
[] [http://www.michigan.gov/documents/deq/Vol\\_VII\\_Part1\\_Ch6-10\\_307024\\_7.pdf](http://www.michigan.gov/documents/deq/Vol_VII_Part1_Ch6-10_307024_7.pdf)  
[] [http://www.michigan.gov/documents/deq/Vol\\_VII\\_Part2-1\\_307026\\_7.pdf](http://www.michigan.gov/documents/deq/Vol_VII_Part2-1_307026_7.pdf)  
[] [http://www.michigan.gov/documents/deq/Vol\\_VII\\_Part2-2\\_307028\\_7.pdf](http://www.michigan.gov/documents/deq/Vol_VII_Part2-2_307028_7.pdf)  
[] [http://www.michigan.gov/documents/deq/Vol\\_VII\\_Part2-3\\_307029\\_7.pdf](http://www.michigan.gov/documents/deq/Vol_VII_Part2-3_307029_7.pdf)  
[] [http://www.michigan.gov/documents/deq/Vol\\_VII\\_Part3\\_307030\\_7.pdf](http://www.michigan.gov/documents/deq/Vol_VII_Part3_307030_7.pdf)  
[] [http://www.michigan.gov/documents/deq/Vol\\_VII\\_Part1Aopt\\_307031\\_7.pdf](http://www.michigan.gov/documents/deq/Vol_VII_Part1Aopt_307031_7.pdf)  
[] [http://www.michigan.gov/documents/deq/Vol\\_VII\\_Part1Bopt\\_307032\\_7.pdf](http://www.michigan.gov/documents/deq/Vol_VII_Part1Bopt_307032_7.pdf)  
[] [http://www.michigan.gov/documents/deq/Vol\\_VII\\_Part1Copt\\_307033\\_7.pdf](http://www.michigan.gov/documents/deq/Vol_VII_Part1Copt_307033_7.pdf)  
[] [http://www.michigan.gov/documents/deq/Vol\\_VII\\_Part2Aopt\\_307034\\_7.pdf](http://www.michigan.gov/documents/deq/Vol_VII_Part2Aopt_307034_7.pdf)  
[] [http://www.michigan.gov/documents/deq/Vol\\_VII\\_Part2Bopt\\_307036\\_7.pdf](http://www.michigan.gov/documents/deq/Vol_VII_Part2Bopt_307036_7.pdf)  
[] [http://www.michigan.gov/documents/deq/Vol\\_VII\\_Part2Copt\\_307037\\_7.pdf](http://www.michigan.gov/documents/deq/Vol_VII_Part2Copt_307037_7.pdf)  
[] [http://www.michigan.gov/documents/deq/Vol\\_VII\\_Part2Dopt\\_307038\\_7.pdf](http://www.michigan.gov/documents/deq/Vol_VII_Part2Dopt_307038_7.pdf)  
[] [http://www.michigan.gov/documents/deq/Vol\\_VII\\_Part2\\_Figuresopt\\_307039\\_7.pdf](http://www.michigan.gov/documents/deq/Vol_VII_Part2_Figuresopt_307039_7.pdf)  
[] [http://www.michigan.gov/documents/deq/Vol\\_VII\\_Part3opt\\_307041\\_7.pdf](http://www.michigan.gov/documents/deq/Vol_VII_Part3opt_307041_7.pdf)  
[] [http://www.michigan.gov/documents/deq/Monroe\\_Maps\\_304636\\_7.pdf](http://www.michigan.gov/documents/deq/Monroe_Maps_304636_7.pdf)

**Volume VIII: Lower Peninsula 1900-1903. Part I. Clays and Shales of Michigan, Their Properties and Uses;** A. C. Lane, D. J. Hale, 1903; Brine, Cement, Clay, Coal, Dolomite, Gas, Gypsum, Iron, Lime, Limestone, Marl, Peat, Salt, Sand, Sandstone, Shale, Stone, Sulfur, Water

[] [http://www.michigan.gov/documents/deq/GIMDL-VOLVIIIA\\_303208\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-VOLVIIIA_303208_7.pdf)  
[] [http://www.michigan.gov/documents/deq/GIMDL-VOLVIIIB\\_303209\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-VOLVIIIB_303209_7.pdf)  
[] [http://www.michigan.gov/documents/deq/GIMDL-VOLVIIIC\\_303210\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-VOLVIIIC_303210_7.pdf)  
[] [http://www.michigan.gov/documents/deq/GIMDL-VOLVIID\\_303213\\_7.PDF](http://www.michigan.gov/documents/deq/GIMDL-VOLVIID_303213_7.PDF)  
[] [http://www.michigan.gov/documents/deq/GIMDL-VOLVIIE\\_303214\\_7.PDF](http://www.michigan.gov/documents/deq/GIMDL-VOLVIIE_303214_7.PDF)  
[] [http://www.michigan.gov/documents/deq/Vol\\_VIII\\_Part1\\_opt\\_309810\\_7.pdf](http://www.michigan.gov/documents/deq/Vol_VIII_Part1_opt_309810_7.pdf)  
[] [http://www.michigan.gov/documents/deq/Vol\\_VIII\\_Part2\\_Aopt\\_309816\\_7.pdf](http://www.michigan.gov/documents/deq/Vol_VIII_Part2_Aopt_309816_7.pdf)  
[] [http://www.michigan.gov/documents/deq/Vol\\_VIII\\_Part2\\_Bopt\\_309821\\_7.pdf](http://www.michigan.gov/documents/deq/Vol_VIII_Part2_Bopt_309821_7.pdf)  
[] [http://www.michigan.gov/documents/deq/Vol\\_VIII\\_Part2\\_Platesopt\\_309823\\_7.pdf](http://www.michigan.gov/documents/deq/Vol_VIII_Part2_Platesopt_309823_7.pdf)  
[] [http://www.michigan.gov/documents/deq/Vol\\_VIII\\_Part3\\_Aopt\\_309825\\_7.pdf](http://www.michigan.gov/documents/deq/Vol_VIII_Part3_Aopt_309825_7.pdf)  
[] [http://www.michigan.gov/documents/deq/Vol\\_VIII\\_Part3\\_Bopt\\_309828\\_7.pdf](http://www.michigan.gov/documents/deq/Vol_VIII_Part3_Bopt_309828_7.pdf)  
[] [http://www.michigan.gov/documents/deq/Vol\\_VIII\\_Part3\\_Copt\\_309830\\_7.pdf](http://www.michigan.gov/documents/deq/Vol_VIII_Part3_Copt_309830_7.pdf)  
[] [http://www.michigan.gov/documents/deq/Vol\\_VIII\\_Part3\\_Dopt\\_309833\\_7.pdf](http://www.michigan.gov/documents/deq/Vol_VIII_Part3_Dopt_309833_7.pdf)

**Volume IX. - Part I. The Delta of the St. Clair River;** L. J. Cole, G. P. Grimsley, 1904; Cement, Clay, Gas, Gypsum, Huron Co., Iosco Co., Kent Co., Limestone, Mackinac Co., Marl, Monroe Co., Sanilac Co., Sand, Shale, Stone, St Clair Co., Water

[] [http://www.michigan.gov/documents/deq/GIMDL-VOLIXA\\_303193\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-VOLIXA_303193_7.pdf)  
[] [http://www.michigan.gov/documents/deq/GIMDL-VOLIXB\\_303194\\_7.PDF](http://www.michigan.gov/documents/deq/GIMDL-VOLIXB_303194_7.PDF)  
[] [http://www.michigan.gov/documents/deq/GIMDL-VOLIXC\\_303196\\_7.PDF](http://www.michigan.gov/documents/deq/GIMDL-VOLIXC_303196_7.PDF)  
[] [http://www.michigan.gov/documents/deq/GIMDL-VOLIXD\\_303197\\_7.PDF](http://www.michigan.gov/documents/deq/GIMDL-VOLIXD_303197_7.PDF)

---

## [41] Water Investigation

*"Water Investigation" reports were comparable to the series Report of Investigation with a focus on the geological aspects of water resources.*

**Water Investigation 01: Reconnaissance of the Ground-Water Resources of Alger County, Michigan;** K. E. Vanlier, 1963; Illustrations, maps, in cooperation with USGS Alger Co., Dolomite, Gravel, Water

[] [http://www.michigan.gov/documents/deq/GIMDL-WI01\\_216278\\_7.PDF](http://www.michigan.gov/documents/deq/GIMDL-WI01_216278_7.PDF)  
[] [http://www.michigan.gov/documents/deq/WI\\_01opt\\_309836\\_7.pdf](http://www.michigan.gov/documents/deq/WI_01opt_309836_7.pdf)  
[] [http://www.michigan.gov/documents/deq/WI\\_01\\_figuresopt\\_309837\\_7.pdf](http://www.michigan.gov/documents/deq/WI_01_figuresopt_309837_7.pdf)

**Water Investigation 02: Ground-Water in Menominee County;** K. E. Vanlier, 1963; Illustrations, maps, in cooperation with USGS Menominee Co., Water

[] [http://www.michigan.gov/documents/deq/GIMDL-WI02I\\_216279\\_7.PDF](http://www.michigan.gov/documents/deq/GIMDL-WI02I_216279_7.PDF)  
[] [http://www.michigan.gov/documents/deq/WI\\_02opt\\_309839\\_7.pdf](http://www.michigan.gov/documents/deq/WI_02opt_309839_7.pdf)

**Water Investigation 03: Water Resources of Van Buren County, Michigan;** P. R. Giroux, 1964; Hydrogeology and water resources of Van Buren County, Michigan. Includes 15 figures, 24 tables, 31 maps; Reprinted in 1972 Van Buren Co., Water

[] [http://www.michigan.gov/documents/deq/GIMDL-WI03\\_216280\\_7.PDF](http://www.michigan.gov/documents/deq/GIMDL-WI03_216280_7.PDF)  
[] [http://www.michigan.gov/documents/deq/GIMDL-WI03B\\_216286\\_7.PDF](http://www.michigan.gov/documents/deq/GIMDL-WI03B_216286_7.PDF)  
[] [http://www.michigan.gov/documents/deq/GIMDL-WI03C\\_216287\\_7.PDF](http://www.michigan.gov/documents/deq/GIMDL-WI03C_216287_7.PDF)  
[] [http://www.michigan.gov/documents/deq/WI\\_03opt\\_309850\\_7.pdf](http://www.michigan.gov/documents/deq/WI_03opt_309850_7.pdf)

**Water Investigation 04: Ground-Water Resources of the Battle Creek Area, Michigan;** K. E. Vanlier, 1966; Illustrations, maps in cooperation with USGS Calhoun Co., Water

[] [http://www.michigan.gov/documents/deq/GIMDL-WI04\\_303216\\_7.PDF](http://www.michigan.gov/documents/deq/GIMDL-WI04_303216_7.PDF)  
[] [http://www.michigan.gov/documents/deq/GIMDL-WI04B\\_303217\\_7.PDF](http://www.michigan.gov/documents/deq/GIMDL-WI04B_303217_7.PDF)  
[] [http://www.michigan.gov/documents/deq/WI\\_04opt\\_309857\\_7.pdf](http://www.michigan.gov/documents/deq/WI_04opt_309857_7.pdf)

**Water Investigation 05: Ground-Water Resources of Dickinson County, Michigan;** G. E. Hendrickson, C. J. Doonan, 1966; Hydrogeological investigation of Dickinson County, Michigan. Dickinson Co., Iron, Water

[] [http://www.michigan.gov/documents/deq/GIMDL-WI05\\_216291\\_7.PDF](http://www.michigan.gov/documents/deq/GIMDL-WI05_216291_7.PDF)  
[] [http://www.michigan.gov/documents/deq/GIMDL-WI05B\\_216292\\_7.PDF](http://www.michigan.gov/documents/deq/GIMDL-WI05B_216292_7.PDF)  
[] [http://www.michigan.gov/documents/deq/WI\\_05opt\\_309862\\_7.pdf](http://www.michigan.gov/documents/deq/WI_05opt_309862_7.pdf)

**Water Investigation 06: Water Resources of Branch County, Michigan;** P. R. Giroux, 1966; done in cooperation with the U. S. Geological Survey Branch Co., Water

[] [http://www.michigan.gov/documents/deq/GIMDL-WI06\\_303218\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-WI06_303218_7.pdf)  
[] [http://www.michigan.gov/documents/deq/WI\\_06\\_Aopt\\_309864\\_7.pdf](http://www.michigan.gov/documents/deq/WI_06_Aopt_309864_7.pdf)  
[] [http://www.michigan.gov/documents/deq/WI\\_06\\_Bopt\\_309866\\_7.pdf](http://www.michigan.gov/documents/deq/WI_06_Bopt_309866_7.pdf)

**Water Investigation 07: Ground Water in Iron County, Michigan;** C. J. Doonan, G. E. Hendrickson, 1968; Illustrations, maps, in cooperation with USGS Iron Co., Water

[] [http://www.michigan.gov/documents/deq/GIMDL-WI07\\_307822\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-WI07_307822_7.pdf)  
[] [http://www.michigan.gov/documents/deq/WI\\_07opt\\_309868\\_7.pdf](http://www.michigan.gov/documents/deq/WI_07opt_309868_7.pdf)

**Water Investigation 08: Ground Water in Gogebic County, Michigan;** C. J. Doonan, G. E. Hendrickson, 1968; done in cooperation with the USGS Gogebic Co., Iron, Water

[] [http://www.michigan.gov/documents/deq/GIMDL-WI08\\_307823\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-WI08_307823_7.pdf)  
[] [http://www.michigan.gov/documents/deq/WI\\_08opt\\_309870\\_7.pdf](http://www.michigan.gov/documents/deq/WI_08opt_309870_7.pdf)  
[] [http://www.michigan.gov/documents/deq/WI\\_08\\_Map1opt\\_309871\\_7.pdf](http://www.michigan.gov/documents/deq/WI_08_Map1opt_309871_7.pdf)  
[] [http://www.michigan.gov/documents/deq/WI\\_08\\_Map2opt\\_309872\\_7.pdf](http://www.michigan.gov/documents/deq/WI_08_Map2opt_309872_7.pdf)

**Water Investigation 09: Ground Water in Ontonagon County, Michigan;** C. J. Doonan, G. E. Hendrickson, 1969; maps, done in cooperation with the USGS Ontonagon Co., Water

[] [http://www.michigan.gov/documents/deq/GIMDL-WI09\\_307824\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-WI09_307824_7.pdf)  
[] [http://www.michigan.gov/documents/deq/WI\\_09opt\\_309874\\_7.pdf](http://www.michigan.gov/documents/deq/WI_09opt_309874_7.pdf)  
[] [http://www.michigan.gov/documents/deq/WI\\_09\\_Plate\\_309875\\_7.pdf](http://www.michigan.gov/documents/deq/WI_09_Plate_309875_7.pdf)

**Water Investigation 10: Ground Water and Geology of Keweenaw Peninsula, Michigan;** C. J. Doonan, 1970; maps, done in cooperation with the USGS Copper, Houghton Co., Keweenaw Co., Water

[] [http://www.michigan.gov/documents/deq/GIMDL-WI10\\_307825\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-WI10_307825_7.pdf)  
[] [http://www.michigan.gov/documents/deq/WI\\_10opt\\_309877\\_7.pdf](http://www.michigan.gov/documents/deq/WI_10opt_309877_7.pdf)

**Water Investigation 11: Ground Water and Geology of Baraga County, Michigan;** C. J. Doonan, J. R. Byerlay, 1973; Hydrogeology study of Baraga County, Michigan. Includes 2 figures, 2plates; maps, done in cooperation with the USGS Baraga Co., Water

[] [http://www.michigan.gov/documents/deq/GIMDL-WI11\\_216293\\_7.PDF](http://www.michigan.gov/documents/deq/GIMDL-WI11_216293_7.PDF)  
[] [http://www.michigan.gov/documents/deq/WI\\_11opt\\_309910\\_7.pdf](http://www.michigan.gov/documents/deq/WI_11opt_309910_7.pdf)

---

## [42] Water Information Series

*The U.S. Geological Survey prepared the WATER INFORMATION SERIES reports in cooperation with the Michigan Geological Survey. The series is included in this listing because the individual numbers show Lansing, Michigan, rather than Washington. D. C. as the place of publication.*

**Water Information Series Report 1: Upper Rifle River Basin;** R. L. Knutilla and others, 1971;

[] [http://www.michigan.gov/documents/deq/WIS\\_01\\_309912\\_7.PDF](http://www.michigan.gov/documents/deq/WIS_01_309912_7.PDF)  
[] [http://www.michigan.gov/documents/deq/WIS\\_01opt\\_309915\\_7.pdf](http://www.michigan.gov/documents/deq/WIS_01opt_309915_7.pdf)

**Water Information Series Report 2: Flowing Wells in Michigan, 1974;** W. B. Allen, 1977;

[] [http://www.michigan.gov/documents/deq/GIMDL-WIS02\\_216294\\_7.PDF](http://www.michigan.gov/documents/deq/GIMDL-WIS02_216294_7.PDF)  
[] [http://www.michigan.gov/documents/deq/WIS\\_02opt\\_309918\\_7.pdf](http://www.michigan.gov/documents/deq/WIS_02opt_309918_7.pdf)

**Water Information Series Report 3: Hydrology and Recreation on the Cold-Water Rivers;** G. E. Hendrickson C. J. Doonan, 1972;

[] [http://www.michigan.gov/documents/deq/WIS\\_03\\_309923\\_7.PDF](http://www.michigan.gov/documents/deq/WIS_03_309923_7.PDF)  
[] [http://www.michigan.gov/documents/deq/WIS\\_03opt\\_309926\\_7.pdf](http://www.michigan.gov/documents/deq/WIS_03opt_309926_7.pdf)

**Water Information Series Report 4: Hydrology and Recreation on the Cold-Water Rivers;** G. E. Hendrickson, 1973;

[] [http://www.michigan.gov/documents/deq/GIMDL-WIS04\\_303219\\_7.pdf](http://www.michigan.gov/documents/deq/GIMDL-WIS04_303219_7.pdf)  
[] [http://www.michigan.gov/documents/deq/WIS\\_04opt\\_309928\\_7.pdf](http://www.michigan.gov/documents/deq/WIS_04opt_309928_7.pdf)

**Water Information Series Report 05: Compilation of Miscellaneous Streamflow Measurements in Michigan...**

[] [http://www.michigan.gov/documents/deq/WIS\\_05\\_opt\\_313565\\_7.pdf](http://www.michigan.gov/documents/deq/WIS_05_opt_313565_7.pdf)

---

## [43] Water Supply Report

*The series "Water Supply Report" was published annually between 1957 and 1963 in cooperation with the USGS. Since 1963, the report has been published solely by the USGS For that reason only numbers 1 through 7 are indexed here. All are concerned with groundwater conditions in Michigan.*

**Water Supply Report 01: Summary of Ground-water Conditions in Michigan 1956**

[] [http://www.michigan.gov/documents/deq/GIMDL-WSR01\\_216296\\_7.PDF](http://www.michigan.gov/documents/deq/GIMDL-WSR01_216296_7.PDF)  
[] [http://www.michigan.gov/documents/deq/GIMDL-WSR01B\\_216297\\_7.PDF](http://www.michigan.gov/documents/deq/GIMDL-WSR01B_216297_7.PDF)  
[] [http://www.michigan.gov/documents/deq/WSR\\_01opt\\_309931\\_7.pdf](http://www.michigan.gov/documents/deq/WSR_01opt_309931_7.pdf)

## Water Supply Report 02: Summary of Ground-water Conditions in Michigan 1957

[] [http://www.michigan.gov/documents/deq/GIMDL-WSR02\\_216298\\_7.PDF](http://www.michigan.gov/documents/deq/GIMDL-WSR02_216298_7.PDF)  
[] [http://www.michigan.gov/documents/deq/GIMDL-WSR02B\\_216299\\_7.PDF](http://www.michigan.gov/documents/deq/GIMDL-WSR02B_216299_7.PDF)  
[] [http://www.michigan.gov/documents/deq/WSR\\_02opt\\_309935\\_7.pdf](http://www.michigan.gov/documents/deq/WSR_02opt_309935_7.pdf)

## Water Supply Report 03: Summary of Ground-water Conditions in Michigan 1958

[] [http://www.michigan.gov/documents/deq/GIMDL-WSR03\\_216300\\_7.PDF](http://www.michigan.gov/documents/deq/GIMDL-WSR03_216300_7.PDF)  
[] [http://www.michigan.gov/documents/deq/GIMDL-WSR03B\\_216301\\_7.PDF](http://www.michigan.gov/documents/deq/GIMDL-WSR03B_216301_7.PDF)  
[] [http://www.michigan.gov/documents/deq/WSR\\_03opt\\_309940\\_7.pdf](http://www.michigan.gov/documents/deq/WSR_03opt_309940_7.pdf)

## Water Supply Report 04: Summary of Ground-water Conditions in Michigan 1959

[] [http://www.michigan.gov/documents/deq/GIMDL-WSR04\\_216303\\_7.PDF](http://www.michigan.gov/documents/deq/GIMDL-WSR04_216303_7.PDF)  
[] [http://www.michigan.gov/documents/deq/GIMDL-WSR04\\_216288\\_7.PDF](http://www.michigan.gov/documents/deq/GIMDL-WSR04_216288_7.PDF)  
[] [http://www.michigan.gov/documents/deq/GIMDL-WSR04B\\_216304\\_7.PDF](http://www.michigan.gov/documents/deq/GIMDL-WSR04B_216304_7.PDF)  
[] [http://www.michigan.gov/documents/deq/WSR\\_04opt\\_309951\\_7.pdf](http://www.michigan.gov/documents/deq/WSR_04opt_309951_7.pdf)  
[] [http://www.michigan.gov/documents/deq/GIMDL-WSR04B\\_216290\\_7.PDF](http://www.michigan.gov/documents/deq/GIMDL-WSR04B_216290_7.PDF)

## Water Supply Report 05: Summary of Ground-water Conditions in Michigan 1960

[] [http://www.michigan.gov/documents/deq/GIMDL-WSR05\\_216305\\_7.PDF](http://www.michigan.gov/documents/deq/GIMDL-WSR05_216305_7.PDF)  
[] [http://www.michigan.gov/documents/deq/GIMDL-WSR05B\\_216306\\_7.PDF](http://www.michigan.gov/documents/deq/GIMDL-WSR05B_216306_7.PDF)  
[] [http://www.michigan.gov/documents/deq/WSR\\_05opt\\_309954\\_7.pdf](http://www.michigan.gov/documents/deq/WSR_05opt_309954_7.pdf)

## Water Supply Report 06: Summary of Ground-water Conditions in Michigan 1961

[] [http://www.michigan.gov/documents/deq/GIMDL-WSR06\\_216307\\_7.PDF](http://www.michigan.gov/documents/deq/GIMDL-WSR06_216307_7.PDF)  
[] [http://www.michigan.gov/documents/deq/GIMDL-WSR06B\\_216308\\_7.PDF](http://www.michigan.gov/documents/deq/GIMDL-WSR06B_216308_7.PDF)  
[] [http://www.michigan.gov/documents/deq/WSR\\_06opt\\_309959\\_7.pdf](http://www.michigan.gov/documents/deq/WSR_06opt_309959_7.pdf)

## Water Supply Report 07: Summary of Ground-water Conditions in Michigan 1962

[] [http://www.michigan.gov/documents/deq/GIMDL-WSR07\\_216310\\_7.PDF](http://www.michigan.gov/documents/deq/GIMDL-WSR07_216310_7.PDF)  
[] [http://www.michigan.gov/documents/deq/GIMDL-WSR07B\\_216312\\_7.PDF](http://www.michigan.gov/documents/deq/GIMDL-WSR07B_216312_7.PDF)  
[] [http://www.michigan.gov/documents/deq/WSR\\_07opt\\_309966\\_7.pdf](http://www.michigan.gov/documents/deq/WSR_07opt_309966_7.pdf)

---

## [44] List of Authors

Adams, C. C.; Allen, R. C.; Andrews, R. M.; Arnold, C. A.; Barrett, L. P.; Baxter, D. A.; Been, W.; Bergquist, S. G.; Blaske, A. R.; Boben, C. L.; Bornhorst, T. J.; Boyd, J.; Bricker, D. M.; Broderick, G. N.; Brooks, T. B.; Brown, G. G.; Buckler, W. R.; Byerlay, J. R.; Calver, J. L.; Carlson, E. T.; Case, E. C.; Catacosinos, P. A.; Chamberlain, V.; Chapman, M. J.; Childs, K. E.; Clyce, F. D.; Cole, E. C.; Cook, C. W.; Cooper, W. F.; Cornwall, H. R.; Courter, E. W.; Daoust, W. L.; Davis, C. A.; Dutton, C. E.; Edwards, J. P.; Ehlers, G. M.; Eils, G. D.; Elowski, R. C.; Emerson, L. G.; Farrand, W. R.; Forster, J. H.; Foster, J. W.; Fuller, G. N.; Garrigues, S. S.; Gere, M. A.; Gordan, W. C.; Gordon, C. H.; Grabau, A. W.; Gregory, W. M.; Grimsley, G. P.; Grout, J. R.; Hale, D. J.; Hamblin, W. K.; Hamilton, O. R.; Hankinson, T. L.; Hanna, T. A.; Hardenberg, H. J.; Hautau, G. H.; Heinrich, E. W.; Hill, R. G.; Hinze, W. J.; Hobbs, W. H.; Hoin, S. J.; Hopper, W. E.; Hore, R. E.; Houghton, J.; Houghton, D.; Hubbard, L. L.; Hussey, R. C.; Ives, R. E.; James, H. L.; Johnson, A. M.; Kalliokoski, J.; Kelley, R. W.; Kelly, W. A.; Kirkby, E. A.; Klasner, J. S.; Klyce, D. F.; Kneller, W. A.; Lamey, C. A.; Landes, K.; Lane, A. C.; Lawton, C. D.; Leverett, F.; Lewis, J. D.; Lilienthal, R. T.; Livingston, B. E.; Lyons, N. X.; MacLellan, M. L.; Martin, H. M.; Meshref, W. M.; Middlewood, E. A.; Miller, D. G.; Milstein, R. L.; Mozola, A. J.; Nankervis, J. L.; Newcombe, R. B.; Newett, G. A.; Osgood, W.; Owens, E. O.; Palache, C.; Palmer, W.; Pantell, H.; Pardee, F. G.; Parker, B. K.; Pehrson, E. W.; Peterson, E. C.; Pettijohn, F. J.; Poindexter, O. F.; Pumpelly, R.; Rantti, G. E.; Reed, R. C.; Reeder, E.; Ries, H.; Riley, C. M.; Robinson, W. I.; Rominger, C.; Rosen, J. A.; Rosenau, J. C.; Russell, I. C.; Ruthven, A. G.; Sandefur, B. T.; Sargent., C. S.; Sauck, W. A.; Schneider, C. F.; Scott, I. D.; Seaman, A. E.; Segall, R. T.; Sherzer, W. H.; Shetron, S. G.; Simons, P. T.; Smith, R. A.; Snelgrove, A. K.; Snider, D. W.; Sorensen, H. O.; Spiroff, K.; Spiroff,, K.; Stallman, R. W.; Stanley, G. M.; Straight, M. T.; Stuart, W. T.; Suggitt, F. W.; Sundeen, S. P.; Sundeen, S. W.; Swineford, A. P.; Tague, G. C.; Taylor, F. B.; Terwilliger, F. W.; Tinker, W. L.; Van Pelt, J. R.; VanAlstine, J. L.; Vugrinovich, R.; Walker, B.; Wallin, H. A.; Welch, E. J.; White, A. E.; Whitney, J. D.; Wieber, J.; Wier, K. L.; Wilson, S. E.; Winchell, A.; Wright, C. E.; Wright, F. E.; Wright, Z. W.;