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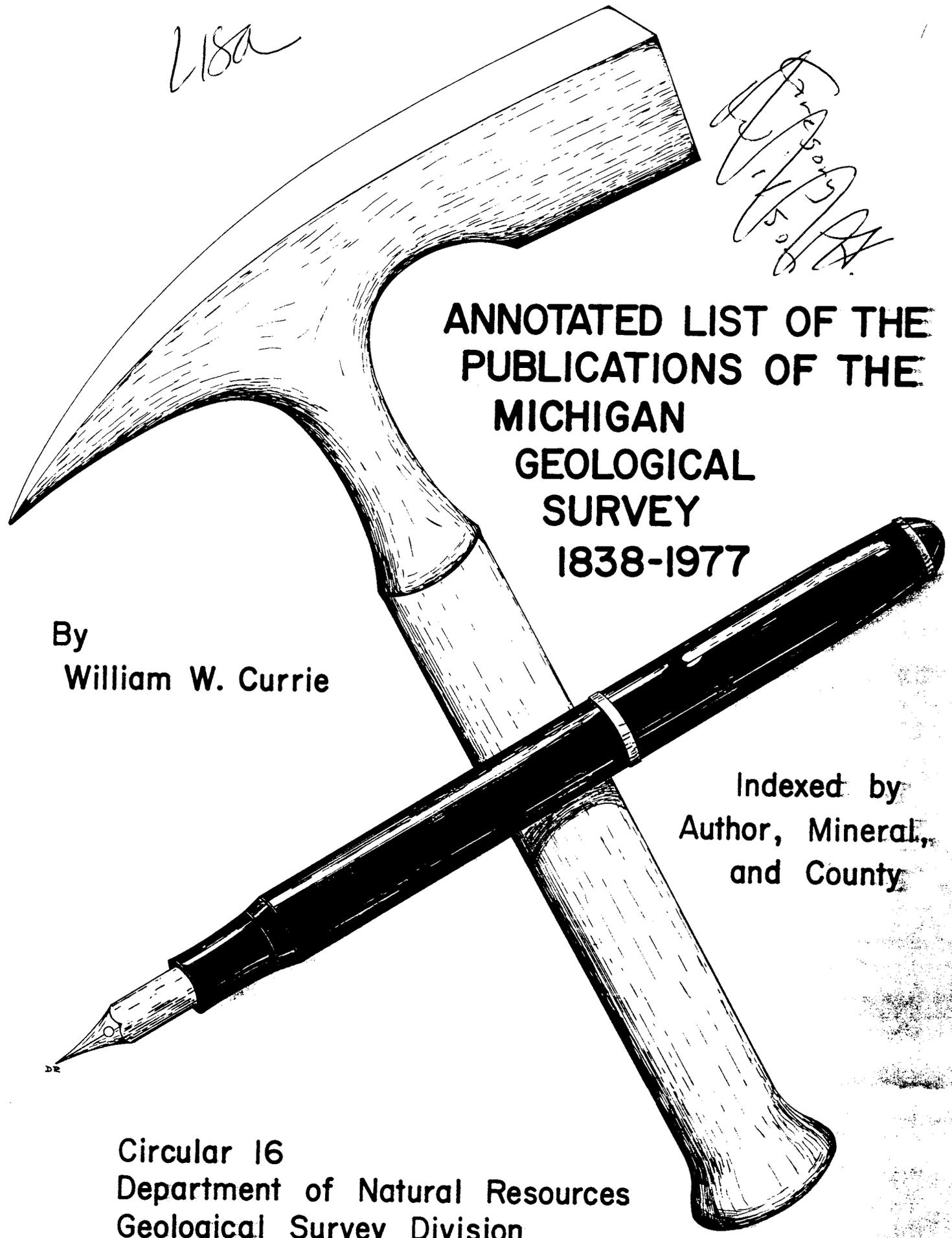
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**ANNOTATED LIST OF THE
PUBLICATIONS OF THE
MICHIGAN
GEOLOGICAL
SURVEY
1838-1977**

**By
William W. Currie**

**Indexed by
Author, Mineral,
and County**

**Circular 16
Department of Natural Resources
Geological Survey Division
1978**





GEOLOGICAL SURVEY DIVISION

Circular 16

ANNOTATED LIST OF THE
PUBLICATIONS OF THE
MICHIGAN GEOLOGICAL SURVEY
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INDEXED BY AUTHOR, MINERAL AND COUNTY

by
William W. Currie

Lansing, Michigan
1978

STATE OF MICHIGAN
William G. Milliken, Governor

DEPARTMENT OF NATURAL RESOURCES
Howard A. Tanner, Director

GEOLOGICAL SURVEY DIVISION
Arthur E. Slaughter, Chief
and State Geologist

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Published by authority of State of Michigan CL '70 s.321.6
Printed by Reproduction Services Section, Office Services Division, Department of Management and Budget

Available from the Information Services Center, Michigan Department of Natural Resources,
Box 30028, Lansing, Michigan 48909

On deposit in public libraries, state libraries, and university libraries in Michigan and other
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CONTENTS

	Page		Page
Introduction	1	Research Publication	18
Using This List	2	Secondary Recovery Report	19
Early Reports	3	Small Scale Map	19
Annual Directory	4	Summary of Operations	19
Annual Reports	5	Technical Report	20
Annual Statistical Summary	6	Volume	20
Biennial Reports	8	Water Information Series	21
Bulletin	8	Water Investigation	21
Chart	8	Water Supply Report	22
Circular	8	Well Logs	22
Geologic Map	9	Non-series Reports	23
Intra-department Report	9	Field Trip Guidebooks	23
Intra-division File	10	Appendix	28
Intra-divisional Information Circular	10	Mineral Resource Map	28
Michigan's Mineral Industries	10	Miscellaneous Base Map	28
Miscellany	11	Miscellaneous Grid	28
Open File Report	11	Miscellaneous Maps and Charts	29
Pamphlet	11	Oil and Gas Maps	29
Price List	11	River Basin and Drainage Map	29
Progress Report	12	Indices	30
Publication	13	Author Index	30
Publications List	17	Mineral Index	34
Report of Investigation	17	Michigan County Names and Locations (Map)	36
Reprint	18	County Index	37

INTRODUCTION

Less than one month after admission to the Union as the 26th state, Michigan had its first State Geologist, Douglass Houghton, and its first "geological survey". With only a few interruptions the Geological Survey has been in existence under a variety of names since 1837. The following is a list of Michigan's State Geologists and the various names by which the Survey has been known:

"FIRST SURVEY"		
Douglass Houghton	State Geologist	1837-1845
"SECOND SURVEY"		
Alexander Winchell	State Geologist	1859-1862
MICHIGAN GEOLOGICAL AND BIOLOGICAL SURVEY		
Alexander Winchell	State Geologist	1869-1871
Carl L. Rominger	State Geologist	1871-1885
Charles E. Wright	State Geologist	1885-1888
M. E. Wadsworth	State Geologist	1888-1893
Lucius L. Hubbard	State Geologist	1893-1899
Alfred C. Lane	State Geologist	1899-1909
Roland C. Allen	State Geologist	1909-1919
Richard A. Smith	State Geologist	1919-1920
GEOLOGICAL SURVEY DIVISION, DEPARTMENT OF CONSERVATION		
Richard A. Smith	Division Chief and State Geologist	1920-1946
Gerald E. Eddy	Division Chief and State Geologist	1946-1951
Franklin G. Pardee	Division Chief and State Geologist	1951-1952
William L. Daoust	Acting State Geologist	1952-1954
William L. Daoust	Division Chief and State Geologist	1954-1964
GEOLOGICAL SURVEY DIVISION, DEPARTMENT OF NATURAL RESOURCES		
Gerald E. Eddy	State Geologist	1964-1971
Arthur E. Slaughter	State Geologist	1971-1976
DIVISION OF GEOLOGY, DEPARTMENT OF NATURAL RESOURCES		
Arthur E. Slaughter	State Geologist	1976-1977
GEOLOGICAL SURVEY DIVISION, DEPARTMENT OF NATURAL RESOURCES		
Arthur E. Slaughter	State Geologist	1977-

Douglass Houghton was charged "... to make an accurate and complete geological survey ... accompanied with proper maps and diagrams and [to] furnish a full and scientific description of ... rocks, soils, and minerals ...". The functions of today's Geological Survey Division are much broader in scope. For example, the Oil and Gas Section is involved with the issuance of drilling permits; petroleum geology research and reports; the collection and maintenance of geological and engineering data, including well logs, maps, well samples, production and pressure data; the surveillance and regulation of petroleum drilling and production, including secondary recovery. The Economic and Environmental Geology Section evaluates metallic mineral mines for tax purposes, conducts geological research, and collects mineral statistics. In addition, it oversees mine reclamation, sand dune mining, and mineral well operations. The Groundwater Geology Unit's responsibilities cover the evaluation and protection of the groundwater resources in Michigan through liquid waste disposal site evaluations, investigation of pollution problems, and development of water supplies. These are but a few of the many and varied functions of the Survey.

From Houghton's earliest reports to the Michigan Legislature up to the present time a major responsibility of the Survey has been the publication of its research and findings. The purpose of the present work is to present a full list of these publications. It is hoped that this list will benefit not only the Survey, but also other geologists, students and others interested in the geology of Michigan.

USING THIS LIST

Each publication of the Michigan Geological Survey is listed in alphabetical order by series title (e.g., Annual Report, Publication, Report of Investigation, etc.). Each individual work and sections of some specific works have been assigned a four-digit index number for reference from the indices. Each series list is preceded by a statement in the form of one or two short paragraphs which discuss the series in terms of subject areas discussed, inclusive years of publication, format of the series, and the like.

Although this listing is fairly standard throughout, there are some sections (e.g., Houghton's reports) which differ from the main body. With the exception of only a very few pieces listed in the section of non-series publications, the author has had an opportunity to handle at least one copy of each piece listed. Some minor discrepancies such as miss-paging in some editions of the older works were noticed, but have not been noted in this list.

Below are two sample listings with an explanation of the type of information which has been provided for each entry:

<p style="text-align: center;">①</p> <p>ANNUAL REPORT FOR 1902</p>	<p style="text-align: center;">②</p> <p>0150</p>	<p style="text-align: center;">③</p> <p>ANNUAL REPORT OF THE GEOLOGICAL SURVEY OF MICHIGAN: A. C. Lane and G. P. Grimsley, 26p., map, 1903.</p> <p style="text-align: center;">④</p> <p><i>Published in the "Michigan Miner", January, 1903.</i></p>
	<p>0150-A</p>	<p>Preliminary report on the gypsum deposits of Michigan: G. P. Grimsley.</p>
	<p>0150-B</p>	<p>Field and laboratory tests of Bay County waters.</p>
	<p>0150-C</p>	<p>Notes on economic products.</p>
<p style="text-align: center;">①</p> <p>GEOLOGIC MAP 1 (SMALL SCALE MAP 2)</p>	<p>0700</p>	<p style="text-align: center;">③</p> <p>MORAINIC SYSTEMS OF MICHIGAN: R. W. Kelley, 1 sheet (8.5" x 11"), 1967.</p> <p style="text-align: center;">④</p> <p><i>Reprinted and revised in 1975.</i></p>

- ① Series title (and series sub-title, if one exists).
- ② Index number. (Note that there are a few publications which have not been assigned index numbers.) Index numbers followed by a letter indicate specific sections of larger works.
- ③ Title of the work.
- ④ Author(s). Main and secondary authors only; additional authors may be determined from the author index.
- ⑤ Collation (ie. number of pages, presence of maps, etc.).
- ⑥ Date of publication.
- ⑦ Notes (in italics).

The following abbreviations have been used in this list:

col.	colored; refers to maps which are black, white, and at least one other color.
comp.	compiler.
ed.	edition, editor.
illus.	illustrated, illustrations; this includes drawings, figures, plates, photographs, diagrams, graphs, and the like.
n.d.	no date of publication known or listed.
p.	number of pages; no distinction between pages and leaves has been made.
unp.	unpaged; no page numbers given.
var. pgn.	various paging; the work contains more than one set of page numbers.

In addition to page numbers, each page also lists the inclusive index numbers (e.g. 0550-0660).

It should be mentioned that most publications in this list are out-of-print and are not available from the Survey. DO NOT ATTEMPT TO ORDER COPIES OF PUBLICATIONS NOTED IN THIS LIST FROM THE MICHIGAN GEOLOGICAL SURVEY. Many larger libraries have copies of most of these works, and the Geological Survey Division library, which is open to the public, has a complete set. Local libraries can often obtain copies through inter-library loan. Some second-hand book dealers occasionally have copies of the older publications. The Survey's most recent price lists (List 20 and Map List 1) list those publications which are available and include information on price and ordering.

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. These first reports are listed below.

1838

REPORT OF A SELECT COMMITTEE OF THE BOARD OF REGENTS OF THE UNIVERSITY ON THE COLLECTION OF THE STATE GEOLOGIST: House Document, Vol. 1, p. 1-2, 1838; Senate Document No. 1, p. 1, 1838. *House Document No. 55 is a duplicate of Senate Document No. 1.*
STATEMENT OF THE EXPENDITURES OF THE STATE GEOLOGICAL SURVEY FOR 1837: House Document No. 8, p. 115-118, 1838; Senate Document No. 21, p. 315-318, 1838.
FIRST ANNUAL REPORT OF THE STATE GEOLOGIST: House Document No. 24, p. 276-317, 1838. *Also House Document No. 14, p. 1-39, 1838.*
COMMUNICATION FROM THE STATE GEOLOGIST: House Document No. 46, p. 457-460, 1838.

1839

REPORT OF THE STATE GEOLOGIST IN RELATION TO THE IMPROVEMENT OF STATE SALT SPRINGS: House Document No. 2, p. 39-45, 1839; Senate Document No. 1, p. 1-7, 1839.
REPORT OF THE COMMITTEE ON THE STATE GEOLOGIST'S REPORT IN RELATION TO THE IMPROVEMENT OF THE STATE SALT SPRINGS: House Document No. 4, p. 123, 1839.
REPORT OF THE STATE GEOLOGIST IN RELATION TO THE IRON ORE, ETC., ON THE SCHOOL SECTION IN TOWN FIVE SOUTH, RANGE SEVEN WEST, IN BRANCH COUNTY: House Document No. 21, p. 342-344, 1839.
SECOND ANNUAL REPORT OF THE STATE GEOLOGIST: House Document No. 23, p. 380-507, 1839; Senate Document No. 12, p. 264-391, 1839.
REPORT OF THE COMMITTEE OF THE SENATE ON MANUFACTURERS, TO WHOM WAS REFERRED THE COMMUNICATION OF THE STATE GEOLOGIST RELATIVE TO SALT SPRINGS AND THE SALINES OF THE STATE: Senate Document No. 3, p. 85-86, 1839. *Similar to House Document No. 4.*
COMMUNICATION FROM THE STATE GEOLOGIST RELATIVE TO THE STATE GEOLOGICAL SURVEY: Senate Document No. 25, p. 463-466, 1839.

1840

REPORT OF THE STATE GEOLOGIST RELATIVE TO THE IMPROVEMENT OF THE SALT SPRINGS: House Document No. 2, Vol. I, p. 18-23, 1840; Senate Document No. 8, Vol. II, p. 153-158, 1840.
THIRD ANNUAL REPORT OF THE STATE GEOLOGIST (INCLUDING A MAP OF WAYNE COUNTY): House Document No. 27, Vol. II, p. 206-293, 1840; Senate Document No. 7, Vol. II, p. 66-153, 1840. *Also Senate Document No. 8, p. 1-120, 1840.*
REPORT OF THE SELECT COMMITTEE TO WHOM WAS REFERRED THE SEVERAL REPORTS OF THE STATE GEOLOGIST: House Document No. 46, Vol. II, p. 455-461, 1840.
STATE GEOLOGIST'S ACCOUNT FOR THE YEAR 1839, THE SAME BEING THE SUBJECT MATTER OF THE THREE PRECEDING REPORTS: Senate Documents No. 15-18, p. 209-224, 1840.

1841

SPECIAL MESSAGE CONCERNING STATE SALT SPRINGS: Joint Document No. 5, p. 235-254, 1841.
FOURTH ANNUAL REPORT OF THE STATE GEOLOGIST: Joint Document No. 11, Vol. I, p. 472-607, 1841. *Also House Document No. 27, p. 1-184, 1841.*
REPORT OF THE STATE GEOLOGIST RELATIVE TO COUNTY AND STATE MAPS: House Document No. 35, p. 94-98, 1841.

1842

REPORT OF THE STATE GEOLOGIST RELATIVE TO THE STATE SALT SPRINGS: House Document No. 2, p. 15-21, 1842; Senate Document No. 1, p. 1-9, 1842.
REPORT OF THE SELECT COMMITTEE IN RELATION TO THE REPORT OF THE STATE GEOLOGIST: House Document No. 19, p. 77-79, 1842.
FIFTH ANNUAL REPORT OF THE STATE GEOLOGIST: Joint Document No. 9, p. 436-441, 1842.

1843

SIXTH ANNUAL REPORT OF THE STATE GEOLOGIST: Joint Documents No. 8, p. 398-402, 1843.
REPORT OF THE STATE GEOLOGIST RELATIVE TO THE STATE SALT SPRINGS: Joint Documents No. 9, p. 402-408, 1843.

1844

SEVENTH ANNUAL REPORT OF THE STATE GEOLOGIST: Joint Documents No. 11, 3p., 1844.

1846

REPORT FROM THE GEOLOGICAL DEPARTMENT: S. W. Higgins, Joint Document No. 12, 22p., 1846.
REPORT OF THE JOINT COMMITTEE RELATIVE TO THE GEOLOGICAL SURVEY: Joint Document No. 15, 8p., 1846.

Houghton's reports have been collected by G. N. Fuller and published by the Michigan Historical Commission. Although this compilation was not done by the Geological Survey, it is to this volume rather than the individual reports that the indices refer.

Also listed in this section of early reports is a report by Foster and Whitney which was published as a part of the U.S. Senate and the U.S. House of Representatives journals. Reports by Jackson in these same journals should also be mentioned. Finally listed is the first (and only) Biennial Report published during the tenure of Alexander Winchell.

Many of these publications are out-of-print and no longer available from the Survey. Please consult the current price list to determine which are available and how they can be ordered.

0010	GEOLOGICAL REPORTS OF DOUGLASS HOUGHTON, FIRST STATE GEOLOGIST OF MICHIGAN, 1837-1845: G. N. Fuller (ed.), 700p., illus., (Michigan Historical Commission: Lansing), 1928.
0015	GEOLOGICAL REPORT ON THE COPPER LANDS OF LAKE SUPERIOR LAND DISTRICT, MICHIGAN (31st Congress, 1st Session, House of Representatives, Executive Document No. 69): J. W. Foster and J. D. Whitney. 224p., illus., maps, 1850. <i>Although this is indexed here by counties, such political designations had not been made at that time.</i>
0020	FIRST BIENNIAL REPORT OF THE PROGRESS OF THE GEOLOGICAL SURVEY OF MICHIGAN EMBRACING OBSERVATIONS ON THE GEOLOGY, ZOOLOGY AND BOTANY OF THE LOWER PENINSULA: A Winchell and M. Miles, 339p., 1861.
0020-A	Part 1, Geology: A. Winchell, p. 1-210.
0020-B	Part 2, Zoology: M. Miles, p. 211-242.
0020-C	Part 3, Botany: M. Miles, p. 243-330.

The **ANNUAL DIRECTORY** lists the names and addresses of mineral producers in Michigan. The lists are by mineral and county. This series began publication in 1965 and is a supplement to the **Annual Statistical Summary**. Some earlier reports of this type are listed in the section of non-series reports. Included are **Directory of Michigan Mineral Operators** from 1963-1964, by J. Byerlay. Some of the forerunners of the **Annual Statistical Summary** also include some similar information.

Many of these publications are out-of-print and no longer available from the Survey. Please consult the current price list to determine which are available and how they can be ordered.

ANNUAL DIRECTORY 1	0030	DIRECTORY OF MINERAL PRODUCERS, 1965: J. R. Byerlay (comp.), 47p., maps, 1966.
ANNUAL DIRECTORY 2	0040	MICHIGAN MINERAL PRODUCERS, 1966: J. R. Byerlay (comp.), 47p., maps, 1967.
ANNUAL DIRECTORY 3	0050	MICHIGAN MINERAL PRODUCERS, 1968: R. T. Segall (comp.), 48p., maps, 1969.
ANNUAL DIRECTORY 4	0060	MICHIGAN MINERAL PRODUCERS, 1969: R. T. Segall (comp.), 51p., illus., maps, 1970.
ANNUAL DIRECTORY 5	0070	MICHIGAN MINERAL PRODUCERS, 1971: R. T. Segall (comp.), 52p., maps, 1972.
ANNUAL DIRECTORY 6	0080	MICHIGAN MINERAL PRODUCERS, 1972: R. T. Segall (comp.), 52p., maps, 1973.
ANNUAL DIRECTORY 7	0090	MICHIGAN MINERAL PRODUCERS, 1973: R. T. Segall (comp.), 55p., illus., maps, 1974.
ANNUAL DIRECTORY 8	0110	MICHIGAN MINERAL PRODUCERS, 1974: J. D. Lewis (comp.), 60p., illus., maps, 1975.
ANNUAL DIRECTORY 9	0120	MICHIGAN MINERAL PRODUCERS, 1975: J. D. Lewis (comp.), 98p., illus., maps, 1976.
ANNUAL DIRECTORY 10	0130	MICHIGAN MINERAL PRODUCERS, 1976: M. A. Gere, Jr. (comp.), 102p., illus., maps, 1977. <i>Includes corrections on separate yellow sheet.</i>

The series titled **ANNUAL REPORT** was published between 1901 and 1908. These reports contain 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.

Many of these publications are out-of-print and no longer available from the Survey. Please consult the current price list to determine which are available and how they can be ordered.

ANNUAL REPORT FOR 1901	0140	REPORT OF THE STATE BOARD OF GEOLOGICAL SURVEY OF MICHIGAN FOR THE YEAR 1901, BEING THE REPORT OF ALFRED C. LANE, STATE GEOLOGIST: A. C. Lane and others, 304p., illus., maps, 1902.
	0140-A	Notes on the progress of work in Tuscola, Saginaw, Bay, Alpena, Kent, Washtenaw, and Muskegon counties.
	0140-B	Preliminary report on Arenac County: W. M. Gregory.
	0140-C	Report on Alcona County: Surface geology: F. Leverett; Subsurface geology: A. C. Lane.
	0140-D	The distribution of the plant societies of Kent County, Michigan: B. E. Livingston.
	0140-E	Surface geology of Lapeer County, Michigan; Map of surface deposits: F. B. Taylor.
	0140-F	Economic geology.
	0140-G	Limestones; Distribution, character, and analysis of various limestone formations in the state; development of deposits.
	0140-H	Stratigraphy of the Traverse group of Michigan: A. W. Grabau.
	0140-I	Deep wells and borings for oil and gas in Michigan.
	0140-J	Salt.
	0140-K	Meteorites.
	0140-L	Geothermal gradient.
	0140-M	The Port Huron oil field; Wave cutting on west shore of Lake Huron, Sanilac County, Michigan: C. H. Gordon.
ANNUAL REPORT FOR 1902	0150	ANNUAL REPORT OF THE GEOLOGICAL SURVEY OF MICHIGAN: A. C. Lane and G. P. Grimsley, 26p., map, 1903. <i>Published in the "Michigan Miner", January, 1903.</i>
	0150-A	Preliminary report on the gypsum deposits of Michigan: G. P. Grimsley.
	0150-B	Field and laboratory tests of Bay County waters.
	0150-C	Notes on economic products.
ANNUAL REPORT FOR 1903	0160	REPORT OF THE STATE BOARD OF GEOLOGICAL SURVEY OF MICHIGAN FOR THE YEAR 1903, BEING THE REPORT OF ALFRED C. LANE, STATE GEOLOGIST: A. C. Lane and others, 342p., illus., maps, 1905.
	0160-A	Progress reports on county geological surveys.
	0160-B	Relation of soils to natural vegetation in Roscommon and Crawford counties: B. E. Livingston.
	0160-C	Report on progress made in Porcupine Mountains: F. E. Wright.
	0160-D	Water supply of the Lower Peninsula of Michigan: W. F. Cooper.
	0160-E	Waters of the Upper Peninsula of Michigan: A. C. Lane.
	0160-F	Limestone.
	0160-G	Building and road materials.
	0160-H	Analyses.
	0160-I	Transmission of heat into the earth: A. C. Lane.
	0160-J	The theory of copper deposition: A. C. Lane.
	0160-K	The Tamarack mine cross-section and the Keweenaw lodes.
	0160-L	Deep borings for oil and gas (2 well records).
	0160-M	Peat.
	0160-N	Topographical survey.
	0160-O	Recent shore forms.
ANNUAL REPORT FOR 1904	0170	REPORT OF THE STATE BOARD OF GEOLOGICAL SURVEY OF MICHIGAN FOR THE YEAR 1904: A. C. Lane and others, 182p., illus., maps, 1905.
	0170-A	Failure of wells along the lower Huron River, Michigan, in 1904: M. L. Fuller.
	0170-B	A geological reconnaissance along the north shores of lakes Huron and Michigan: I. C. Russell.
	0170-C	Executive report on some non-metals.

	0170-D	Report of special committee on nomenclature and correlation for the Lake Superior region.
	0170-E	Lake Superior gold mining.
	0170-F	Black River work.
	0170-G	Wells and borings.
ANNUAL REPORT FOR 1905	0180	REPORT OF THE STATE BOARD OF GEOLOGICAL SURVEY OF MICHIGAN FOR THE YEAR 1905: A. C. Lane and others. 638p., illus., maps. 1906.
	0180-A	An ecological survey in northern Michigan (Porcupine Mountains and Isle Royale): C. C. Adams and others.
	0180-B	Geological report on Bay County: W. F. Cooper.
	0180-C	An illustrated catalogue of the Mollusca of Michigan: B. Walker.
	0180-D	Annual report of the State Geologist: A. C. Lane.
ANNUAL REPORT FOR 1906	0190	REPORT OF THE STATE BOARD OF GEOLOGICAL SURVEY OF MICHIGAN FOR THE YEAR 1906: A. C. Lane and others. 601p., illus., maps. 1907.
	0190-A	The surface geology of portions of Menominee, Dickinson, and Iron counties, Michigan: I. C. Russell.
	0190-B	Peat; essays on its origin, uses and distribution in Michigan: C. A. Davis.
	0190-C	A geological section from Bessemer down Black River: W. C. Gordan.
	0190-D	Crataegus in southern Michigan: C. S. Sargent.
	0190-E	Annual report of the state Geologist: A. C. Lane.
ANNUAL REPORT FOR 1907	0200	REPORT OF THE STATE BOARD OF GEOLOGICAL SURVEY FOR THE YEAR 1907: A. C. Lane and others. 288p., illus., maps. 1908.
	0200-A	State Geologist's report: A. C. Lane.
	0200-B	Foundry sands: H. Ries and J. A. Rosen.
	0200-C	Summary of the surface geology of Michigan: A. C. Lane.
	0200-D	A biological survey of Walnut Lake (Oakland County), Michigan: T. L. Hankinson, C. A. Davis, and J. G. Needham.
ANNUAL REPORT FOR 1908	0210	REPORT OF THE STATE BOARD OF GEOLOGICAL SURVEY OF MICHIGAN FOR THE YEAR 1908; GEOLOGY: A. C. Lane and others. 402p., illus., maps. 1909.
	0210-A	Annual report of the State Geologist: A. C. Lane.
	0210-B	Notes on the geological section of Michigan, for geologists, teachers and drillers: A. C. Lane and A. E. Seaman.
	0210-C	Report on the geology of Tuscola County: C. A. Davis.
	0210-D	The intrusive rocks of Mount Bohemia, Michigan: F. E. Wright.
	0215	AN ECOLOGICAL SURVEY OF ISLE ROYALE, LAKE SUPERIOR: C. C. Adams (ed.). 468p., illus., maps. 1909. <i>Published as a part of the Report of the Board of the Geological Survey for 1908.</i>

ANNUAL STATISTICAL SUMMARY(s) have been issued in two separate formats since 1964. The first of these, **Mineral Industry of Michigan**, has been assigned consecutive odd numbers (Nos. 1, 3, 5 . . .) while the second format, **Michigan's Oil and Gas Fields**, has been assigned consecutive even numbers (Nos. 2, 4, 6 . . .). Each of these formats has had a long history under a variety of other series and titles.

Some statistics on mineral production are available in the series **Annual Report(s)**, but information most similar to that contained in **Mineral Industries of Michigan** was first published in the **Publication** series under the title of **Mineral Resources of Michigan . . .** (e.g., Publication 13, 16, etc.). In 1933 and 1936 Osgood and Poindexter compiled mineral production statistics in a short-lived series, **Summary Report**. (These works can be found under Osgood in the list of non-series publications.) In 1940 Poindexter produced a work entitled *Mineral Industries of Michigan 1934 to 1938 . . .* This work was a forerunner of a series here called **Michigan's Mineral Industries** which was published between 1948 and 1963. Poindexter's work is listed with that series. In 1964 the series became the **Mineral Industry of Michigan** portion of **ANNUAL STATISTICAL SUMMARY(s)**.

Each number in this format consists of a preprint from the *U.S. Bureau of Mines Yearbook* with an introduction by a member of the Michigan Geological Survey staff.

Although oil and gas statistics are mentioned in both the **Annual Report** and **Publication** series (e.g. *Mineral Resources of Michigan . . .*), it was not until 1932 that they were available in a format separate from mineral statistics. The earliest of these formats was a series of three- or four-page mimeographed reports. The first report was published in 1932, but no report was issued in 1933. From 1934 to 1945 they were published annually. In 1946 a series which is here called **Summary of Operations** developed from these mimeographed reports and was published annually through 1963. In 1964 the series became **Michigan's Oil and Gas Fields**, the second format of the **ANNUAL STATISTICAL SUMMARY(s)**.

Many of these publications are out-of-print and no longer available from the Survey. Please consult the current price list to determine which are available and how they may be ordered.

ANNUAL STATISTICAL SUMMARY	0220	MICHIGAN'S OIL AND GAS FIELDS, 1963: L. W. Price (comp.) and others. 57p., illus., maps, 1964. <i>Although this was the first in the series of Annual Statistical Summaries, it was not assigned a series number.</i>
ANNUAL STATISTICAL SUMMARY 1	0230	MINERAL INDUSTRY OF MICHIGAN, 1963: D. F. Klyce, 25p., illus., maps, 1964. <i>In cooperation with the U.S. Bureau of Mines.</i>
ANNUAL STATISTICAL SUMMARY 2	0240	MICHIGAN'S OIL AND GAS FIELDS, 1964: G. D. Ells, 58p., illus., maps, 1965.
ANNUAL STATISTICAL SUMMARY 3	0250	MINERAL INDUSTRY OF MICHIGAN, 1964: D. F. Klyce and others. 22p., illus., maps, 1966. <i>In cooperation with the U.S. Bureau of Mines.</i>
ANNUAL STATISTICAL SUMMARY 4	0260	MICHIGAN'S OIL AND GAS FIELDS, 1965: G. D. Ells, 66p., illus., maps, 1966.
ANNUAL STATISTICAL SUMMARY 5	0270	MINERAL INDUSTRY OF MICHIGAN, 1965: D. F. Klyce and others. 19p., illus., maps, 1967. <i>In cooperation with the U.S. Bureau of Mines.</i>
ANNUAL STATISTICAL SUMMARY 6	0280	MICHIGAN'S OIL AND GAS FIELDS, 1966: G. D. Ells, 64p., illus., maps, 1967.
ANNUAL STATISTICAL SUMMARY 7	0290	MINERAL INDUSTRY OF MICHIGAN, 1966: D. F. Klyce and others. 19p., illus., maps, 1968. <i>In cooperation with the U.S. Bureau of Mines.</i>
ANNUAL STATISTICAL SUMMARY 8	0300	MICHIGAN'S OIL AND GAS FIELDS, 1967: G. D. Ells, 72p., illus., maps, 1968.
ANNUAL STATISTICAL SUMMARY 9	0310	MINERAL INDUSTRY OF MICHIGAN, 1967: D. F. Klyce and others. 19p., illus., maps, 1969. <i>In cooperation with the U.S. Bureau of Mines.</i>
ANNUAL STATISTICAL SUMMARY 10	0320	MICHIGAN'S OIL AND GAS FIELDS, 1968: G. D. Ells and others. 72p., illus., maps, 1969.
ANNUAL STATISTICAL SUMMARY 11	0330	MINERAL INDUSTRY OF MICHIGAN, 1968: D. F. Klyce and others. 19p., illus., maps, 1970. <i>In cooperation with the U.S. Bureau of Mines.</i>
ANNUAL STATISTICAL SUMMARY 12	0340	MICHIGAN'S OIL AND GAS FIELDS, 1969: G. D. Ells and others. 72p., illus., maps, 1970.
ANNUAL STATISTICAL SUMMARY 13	0350	MINERAL INDUSTRY OF MICHIGAN, 1969: D. F. Klyce and others. 18p., illus., maps, 1971. <i>In cooperation with the U.S. Bureau of Mines.</i>
ANNUAL STATISTICAL SUMMARY 14	0360	MICHIGAN'S OIL AND GAS FIELDS, 1970: G. D. Ells and others. 76p., illus., maps, 1971.
ANNUAL STATISTICAL SUMMARY 15	0370	MINERAL INDUSTRY OF MICHIGAN, 1970: G. N. Broderick, 18p., illus., 1972. <i>In cooperation with the U.S. Bureau of Mines.</i>
ANNUAL STATISTICAL SUMMARY 16	0380	MICHIGAN'S OIL AND GAS FIELDS, 1971: G. D. Ells and others. 44p., illus., maps, 1972.
ANNUAL STATISTICAL SUMMARY 17	0390	MINERAL INDUSTRY OF MICHIGAN, 1971: G. N. Broderick, 16p., illus., 1973. <i>In cooperation with the U.S. Bureau of Mines.</i>
ANNUAL STATISTICAL SUMMARY 18	0400	MICHIGAN'S OIL AND GAS FIELDS, 1972: G. D. Ells and others. 48p., illus., maps, 1973.
ANNUAL STATISTICAL SUMMARY 19	0410	MINERAL INDUSTRY OF MICHIGAN, 1972: G. N. Broderick, 21p., illus., 1974. <i>In cooperation with the U.S. Bureau of Mines.</i>
ANNUAL STATISTICAL SUMMARY 20	0420	MICHIGAN'S OIL AND GAS FIELDS, 1973: G. D. Ells and others. 52p., illus., maps, 1974.
ANNUAL STATISTICAL SUMMARY 21	0430	MINERAL INDUSTRY OF MICHIGAN, 1973: G. N. Broderick, 22p., illus., 1976. <i>In cooperation with the U.S. Bureau of Mines.</i>
ANNUAL STATISTICAL SUMMARY 22	0440	MICHIGAN'S OIL AND GAS FIELDS, 1974: G. D. Ells and others. 60p., illus., maps, 1975.
ANNUAL STATISTICAL SUMMARY 23	0450	MINERAL INDUSTRY OF MICHIGAN, 1974: E. C. Peterson and others. 23p., illus., 1977. <i>In cooperation with the U.S. Bureau of Mines.</i>
ANNUAL STATISTICAL SUMMARY 24	0460	MICHIGAN'S OIL AND GAS FIELDS, 1975: G. D. Ells and others. 64p., illus., maps, 1976.
ANNUAL STATISTICAL SUMMARY 26	0470	MICHIGAN'S OIL AND GAS FIELDS, 1976: G. D. Ells and others. 64p., illus., maps, 1977.

Annual reports and **BIENNIAL REPORTS** have been published under a variety of forms and formats since Douglass Houghton's first survey. Most of these have been listed elsewhere in this work. Between 1914 and 1921 they were a part of the **Publication** series (see below). In 1921 when the Survey became a part of the Michigan Department of Conservation, **BIENNIAL REPORT**(s), were published as a part of the Biennial Report of the Department of Conservation and since 1969-1970 as a part of the Biennial Report of the Department of Natural Resources. These reports, which describe the functions, programs, and activities of the Geological Survey, will not be separately listed or indexed here.

Many of these publications are out-of-print and no longer available from the Survey. Please consult the current price list to determine which are available and how they may be ordered.

Each **BULLETIN** is a comprehensive report bound in book form. It is usually technical in nature, although some are prepared in a more popular style. This series began publication in 1964, and new numbers are published only occasionally.

Many of these publications are out-of-print and no longer available from the Survey. Please consult the current price list to determine which are available and how they may be ordered.

BULLETIN 1	0480	OUR ROCK RICHES: A SELECTED COLLECTION OF RE-PRINTED ARTICLES ON MICHIGAN'S MINERAL RESOURCES BY VARIOUS AUTHORS: R. W. Kelley (ed.), 109p., illus., maps, 1964.
BULLETIN 2	0490	ROCKS AND MINERALS OF MICHIGAN: O. F. Poindexter and others, 103p., illus., maps, 1965. <i>Formerly Publication 42.</i>
BULLETIN 3	0500	MICHIGAN'S AUSABLE RIVER, TODAY AND TOMORROW: G. E. Hendrickson, 80p., illus., maps, 1966. <i>In cooperation with the U.S. Geological Survey.</i>
BULLETIN 4	0510	THE GLACIAL LAKES AROUND MICHIGAN: R. W. Kelley and W. R. Ferrand, 23p., illus., maps, 1967.
BULLETIN 5	0520	METEORITES OF MICHIGAN: V. Chamberlain, 42p., illus., maps, 1968.
BULLETIN 6	0530	THE MINERALOGY OF MICHIGAN: E. W. Heinrich, 225p., illus., 1976.

Up to now only two **CHART**(s) have been published. The second of these is the same as **Chart 1** but in a larger format. Although labeled as **Chart 1**, it is considered to be a separate publication.

Many of these publications are out-of-print and no longer available from the Survey. Please consult the current price list to determine which are available and how they can be ordered.

CHART 1	0540	STRATIGRAPHIC SUCCESSION IN MICHIGAN: PALEOZOIC THROUGH RECENT: Michigan, Geological Survey Division, 1 sheet (8.5" x 11"), 1964. <i>First published as a part of Annual Statistical Summary 2. Second printing, 1972.</i>
CHART 2	0545	STRATIGRAPHIC SUCCESSION IN MICHIGAN: PALEOZOIC THROUGH RECENT: Michigan, Geological Survey Division, 1 sheet (25" x 35"), 1964. <i>Second printing, 1972.</i>

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 mineral statistics or discuss subjects such as seismic disturbances. The series began publication in 1963.

Many of these publications are out-of-print and no longer available from the Survey. Please consult the current price list to determine which are available and how they may be ordered.

CIRCULAR 1	0550	MICHIGAN GEOLOGICAL SOURCEBOOK: R. W. Kelley and E. A. Kirkby, 15p., map, 1963.
CIRCULAR 2	0560	GEOLOGIC CONTRIBUTIONS TO "MICHIGAN CONSERVATION"; CLASSIFIED AND ANNOTATED LIST, 1935-1964: E. A. Kirkby (comp.), 11p., 1964.
CIRCULAR 3	0570	MINERAL RESOURCES, DEPLETION OR DETERIORATION?: W. Been, 8p., 1966.
CIRCULAR 4	0580	OUTLINE OF PROCEDURES FOR DETERMINING GAS-OIL RATIOS AND SUBSURFACE PRESSURES: J. S. Lorenz and T. L. Culver, 47p., illus., 1966.

CIRCULAR 5	0590	SOURCES OF GEOLOGIC INFORMATION IN MICHIGAN: R. W. Kelley and E. A. Kirkby, 24p., map, 1967.
CIRCULAR 6	0600	ROLE OF GEOLOGY IN STATE GOVERNMENT: G. E. Eddy, 6p., 1966.
CIRCULAR 7	0610	INDEX TO MICHIGAN GEOLOGIC THESES: E. A. Kirkby, 32p., 1967.
CIRCULAR 8	0620	GEOLOGIC MAP INDEX OF MICHIGAN 1843-1962: E. A. Kirkby, 56p., 1970.
CIRCULAR 9	0630	GENERAL RULES GOVERNING OIL AND GAS OPERATIONS IN THE STATE OF MICHIGAN: Michigan, Geological Survey Division, 37p., 1972 (?).
CIRCULAR 10	0640	STATE OF MICHIGAN MINERAL WELL ACT AND GENERAL RULES GOVERNING MINERAL WELL OPERATIONS: Michigan, Geological Survey Division, 16p., 1972.
CIRCULAR 11	0650	MICHIGAN'S INDUSTRIAL SAND RESOURCES: J. D. Lewis, 33p., illus., maps, 1975.
CIRCULAR 12	0660	ONE THOUSAND MILLION TONS: MICHIGAN IRON ORE SHIPMENTS THROUGH 1974: R. C. Reed, 12p., 1975.
CIRCULAR 13	0670	MINE RECLAMATION ACT AND RULES: Michigan, Geological Survey Division, 13p., 1976.
CIRCULAR 14	0680	SEISMIC DISTURBANCES IN MICHIGAN: D. M. Bricker, 13p., maps, 1977.
CIRCULAR 15	0690	MICHIGAN'S OIL AND GAS REGULATIONS: Michigan, Division of Geology, 73p., 1977.

For review
 Bill
 1/15/78
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The Survey has published several maps as individual numbers in various series and as parts of other publications. The State's topographic mapping program has completed maps of the entire State with more than 50% of the State covered by 1:24,000 scale maps. For a complete list of all maps currently available, consult **Map List 1 Available Maps of the Michigan Geological Survey**. The maps listed here as the **GEOLOGIC MAP** series are of varied types and subjects. They are not numbered sequentially, and they are grouped together for convenience. Other maps issued by the Survey are listed in the section of non-series publications and in the appendix.

Many of these publications are out-of-print and no longer available from the Survey. Please consult the current price list or Map List 1 to determine which are available and how they can be ordered.

GEOLOGIC MAP 1 (SMALL SCALE MAP 1)	0700	MORAINIC SYSTEMS OF MICHIGAN: R. W. Kelley, 1 sheet (8.5" x 11"), 1967. <i>Revised and reprinted in 1975.</i>
GEOLOGIC MAP 2 (SMALL SCALE MAP 2)	0710	BEDROCK OF MICHIGAN: R. W. Kelley, 1 col. sheet (11" x 15"), 1968. <i>Reprinted in 1977.</i>
GEOLOGIC MAP 4	0720	GEOLOGIC MAP OF THE 1° x 2° CHICAGO QUADRANGLE, INDIANA, ILLINOIS, AND MICHIGAN: A. F. Schneider and S. J. Keller, 2 col. sheets (1:250,000), Bloomington, ind., 1970. <i>Published by the Indiana Geological Survey in cooperation with the Illinois State Geological Survey and the Michigan Geological Survey Division.</i>
	0720-A	Bedrock.
	0720-B	Unconsolidated deposits.
GEOLOGIC MAP 8	0730	GEOLOGIC MAP OF THE 1° x 2° FORT WAYNE QUADRANGLE, INDIANA, MICHIGAN, AND OHIO: G. H. Johnson and S. J. Keller, 3 col. sheets (1:250,000), Bloomington, ind., 1972. <i>Published by the Indiana Geological Survey in cooperation with the Michigan Geological Survey Division.</i>
	0730-A	Bedrock and unconsolidated deposits.
	0730-B	Bedrock.
	0730-C	Unconsolidated deposits.

INTRA-DEPARTMENT REPORT(s) are memoranda on policies, procedures, programs, and functions of the Survey. They are published as in-house documents for the Department of Natural Resources. The series, which is now out-of-print, was succeeded by the series **Intradivisional Information Circular**.

Many of these publications are out-of-print and no longer available from the Survey. Please consult the current price list to determine which are available and how they may be ordered.

INTRA-DEPARTMENTAL REPORT	0740	GREAT LAKES SHORE LINES MEASUREMENTS: R. W. Kelley and W. H. Coburn, 6p., map, 1964. <i>Third revised edition.</i>
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INTRA-DIVISION FILE(s) are like **Intra-Department Report(s)** except that they are for distribution only within the Geological Survey. This series was succeeded by the series **Intradivisional Information Circular**.

Many of these publications are out-of-print and no longer available from the Survey. Please consult the current price list to determine which are available and how they may be ordered.

INTRA-DIVISION FILE 1	0750	CLASSIFICATION OF REPORTS OF THE GEOLOGICAL SURVEY: R. W. Kelley, 8p., Jan. 1965.
INTRA-DIVISION FILE 2	0760	GEOLOGICAL SURVEY ORGANIZATION CHART: Michigan, Geological Survey Division, unpag., 1965.
INTRA-DIVISION FILE 3	0770	PERIODICAL ACQUISITION PROGRAM: R. W. Kelley and others, 6p., Aug., 1965.
INTRA-DIVISION FILE 4	0780	POLICIES AND PROCEDURES ON PUBLISHING REPORTS: R. W. Kelley, 10p., Sept., 1965.
INTRA-DIVISION FILE 5	0790	CLASSIFICATION OF REPORTS OF THE GEOLOGICAL SURVEY: R. W. Kelley, 5p., Dec., 1967.
INTRA-DIVISION FILE 6	0800	GEOLOGICAL SURVEY ORGANIZATION CHART AND ROSTER, 1968: Michigan, Geological Survey Division, unpag., 1968.

INTRADIVISIONAL INFORMATION CIRCULAR(s) are reports which have not as yet been edited for publication, but are available for circulation. This series is an outgrowth of the **Intra-Departmental Report** series and the **Intra-Division File** series.

Many of these publications are out-of-print and no longer available from the Survey. Please consult the current price list to determine which are available and how they may be ordered.

INTRADIVISIONAL INFORMATION CIRCULAR 1	0810	REPORT ON GROUND-WATER CONTAMINATION, SULLIVAN AND COMPANY, J. D. BURKE NO. 1, PENNFIELD TOWNSHIP, CALHOUN COUNTY, MICHIGAN: J. R. Byerly, 48p., illus., maps, Jan. 1976.
INTRADIVISIONAL INFORMATION CIRCULAR 2	0820	REPORT ON MICHIGAN PEAT RESERVES: W. A. Walden, 7p., illus., maps, March 1976.
INTRADIVISIONAL INFORMATION CIRCULAR 3	0830	EARTH SCIENTISTS IN STATE GOVERNMENT: D. M. Skilling, 14p., Feb. 1977.
INTRADIVISIONAL INFORMATION CIRCULAR 4	0840	POTENTIAL OF A GROUNDWATER SUPPLY FOR THE BUMBLETOWN AREA AND THE VILLAGE OF ATLANTIC MINE: E. E. Eitzroth, var. pag., illus., maps, April 1977.

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 (see above) where it continues to be published under the title *Michigan's Mineral Industries*. There was an earlier publication by Poindexter under this title, which is also listed here.

Many of these publications are out-of-print and no longer available from the Survey. Please consult the current price list to determine which are available and how they may be ordered.

	0845	MINERAL INDUSTRIES OF MICHIGAN, 1934-1938 AND PRIOR YEARS: O. F. Poindexter, 53p., illus., 1940.
MICHIGAN'S MINERAL INDUSTRIES, 1948	0850	MICHIGAN'S MINERAL INDUSTRIES, 1948: H. J. Hardenberg and J. C. Rosenau, 7p., map, 1948.
MICHIGAN'S MINERAL INDUSTRIES, 1948	0860	MICHIGAN'S MINERAL INDUSTRIES, 1948: H. J. Hardenberg and J. C. Rosenau, 34p., map, 1950.
MICHIGAN'S MINERAL INDUSTRIES, 1949	0870	MICHIGAN'S MINERAL INDUSTRIES, 1949: H. J. Hardenberg and J. C. Rosenau, 47p., map, 1950.
MICHIGAN'S MINERAL INDUSTRIES, 1951	0880	MICHIGAN'S MINERAL INDUSTRIES, 1951: H. O. Sorensen and E. T. Carlson, 50p., illus., map, 1953.
MICHIGAN'S MINERAL INDUSTRIES, 1952	0890	MICHIGAN'S MINERAL INDUSTRIES, 1952: H. O. Sorensen and E. T. Carlson, 62p., map, 1954.
MICHIGAN'S MINERAL INDUSTRIES, 1953	0900	MICHIGAN'S MINERAL INDUSTRIES, 1953: H. O. Sorensen and E. T. Carlson, 61p., illus., map, 1955.
MICHIGAN'S MINERAL INDUSTRIES, 1954	0910	MICHIGAN'S MINERAL INDUSTRIES, 1954: H. O. Sorensen and E. T. Carlson, 84p., illus., maps, 1955.
MICHIGAN'S MINERAL INDUSTRIES, 1955	0920	MICHIGAN'S MINERAL INDUSTRIES, 1955: H. O. Sorensen and E. T. Carlson, 84p., illus., maps, 1956.
MICHIGAN'S MINERAL INDUSTRIES, 1956	0930	MICHIGAN'S MINERAL INDUSTRIES, 1956: H. O. Sorensen and E. T. Carlson, 89p., illus., maps, 1957.
MICHIGAN'S MINERAL INDUSTRIES, 1957	0940	MICHIGAN'S MINERAL INDUSTRIES, 1957: H. O. Sorensen and E. T. Carlson, 92p., illus., maps, 1958.

MICHIGAN'S MINERAL INDUSTRIES. 1958	0950	MICHIGAN'S MINERAL INDUSTRIES. 1958: H. O. Sorensen and E. T. Carlson, 93p., illus., maps, 1959.
MICHIGAN'S MINERAL INDUSTRIES. 1959	0960	MICHIGAN'S MINERAL INDUSTRIES. 1959: H. O. Sorensen and E. T. Carlson, 107p., illus., maps, 1960.
MICHIGAN'S MINERAL INDUSTRIES. 1960	0970	MICHIGAN'S MINERAL INDUSTRIES. 1960: H. O. Sorensen and E. T. Carlson, 118p., illus., maps, 1961.
MICHIGAN'S MINERAL INDUSTRIES. 1961	0975	MICHIGAN'S MINERAL INDUSTRIES. 1961: H. O. Sorensen and E. T. Carlson, 99p., illus., maps, 1962.
MICHIGAN'S MINERAL INDUSTRIES. 1962	0980	MICHIGAN'S MINERAL INDUSTRIES. 1962: H. O. Sorensen and E. T. Carlson, 97p., illus., maps, 1963.

MISCELLANY is the Survey's shortest series, consisting of only one publication. Reports of directed interest which do not readily qualify for inclusion in other series may be published as **MISCELLANY**.

Many of these publications are out-of-print and no longer available from the Survey. Please consult the current price list to determine which are available and how they may be ordered.

MISCELLANY 1	0990	PAPERS PRESENTED AT THE SIXTH FORUM ON GEOLOGY OF INDUSTRIAL MATERIALS: W. A. Kneller (ed.), 155p., illus., maps, 1970.
	0990-A	Chemical and industrial rocks and minerals.
	0990-B	Building and construction stones and minerals.

OPEN FILE REPORT(s) are unpublished reports, newsletters, field notes, and the like which are added to and subtracted from at various times. Because much of the material is eventually published in other series, they are not individually listed or indexed here. A current list is available upon request.

Each **PAMPHLET** is a short, non-technical report of general interest. This series began publication in 1966, and new numbers are published irregularly.

Many of these publications are out-of-print and no longer available from the Survey. Please consult the current price list to determine which are available and how they can be ordered.

PAMPHLET 1	1000	DOUGLASS HOUGHTON, MICHIGAN'S FIRST STATE GEOLOGIST 1837-1845: H. Wallin, 24p., illus., 1966. <i>Revised edition, 1970.</i>
PAMPHLET 2	1010	"YOU NEVER MISS THE WATER"; A FEW POINTERS ON GROUND WATER SUPPLIES: J. L. Slaughter, unpub., illus., 1952.
PAMPHLET 3	1020	GUIDE TO MICHIGAN FOSSILS: R. W. Kelley, 16p., illus., 1962.
PAMPHLET 4	1030	COLLECTING MINERALS IN MICHIGAN: R. W. Kelley and H. J. Hardenberg, 26p., illus., 1962.
PAMPHLET 5	1040	GEOLOGIC SKETCH OF MICHIGAN SAND DUNES: R. W. Kelley, 19p., illus., maps, 1971.
PAMPHLET 6	1050	COLLECTING ROCKS, MINERALS AND FOSSILS IN MICHIGAN: S. E. Wilson, 12p., illus., map, 1977. <i>Revision and expansion of Pamphlet 4.</i>

Although **PRICE LISTS** have been available since 1910 when they were first printed in numbers of the **Publication** series, it was not until 1964 that the frequency or format were standardized in any way. Since 1964 new **PRICE LISTS** have been published under one of two titles as the number of new Survey publications warranted. One of these titles is *Publications Available from the Geological Survey Division*. It has been published annually in recent years with the most recent being **List 20** (1978). The second format, which has been published less frequently, is called *Available Maps of the Michigan Geological Survey*. The most recent issue is **List 17** (1976).

The publications lists contain titles and prices of Survey publications which are available through the Information and Education Division of the Michigan Department of Natural Resources. They are not individually indexed or listed here.

At this time a new map list, which will be known as *Map List 1 — Available Maps of the Michigan Geological Survey* is in press. The next list of publications which will be issued early in 1979 is tentatively being called *Publication List 1 — Available Publications of the Michigan Geological Survey*.

Copies of both **List 20** (1978) and **Map List 1** (1978) are available free upon request and should be consulted before ordering any of the publications noted in this work.

Twenty-five **PROGRESS REPORT**(s) 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.

Many of these publications are out-of-print and no longer available from the Survey. Please consult the current price list to determine which are available and how they may be ordered.

PROGRESS REPORT 1	1060	GEOLOGY OF THE CRYSTAL OIL FIELD, MONTCALM COUNTY, MICHIGAN: G. E. Eddy, 8p., illus., map, 1936.
PROGRESS REPORT 2	1070	GEOLOGY OF OGEMAW COUNTY AND WEST BRANCH OIL FIELD: E. A. Newman, 17p., maps, 1936.
PROGRESS REPORT 3	1080	GEOLOGY OF ARENAC COUNTY: G. H. Pringle, 31p., illus., maps, 1937.
PROGRESS REPORT 4	1090	GEOLOGY OF ALLEGAN COUNTY: C. H. Riggs, 29p., maps, 1938.
PROGRESS REPORT 5	1100	GEOLOGY OF THE MENOMINEE RANGE, DICKINSON COUNTY: C. E. Dutton and C. A. Lamey, 10p., 1939.
PROGRESS REPORT 6	1110	GEOLOGY OF THE MENOMINEE RANGE, VICINITY OF IRON MOUNTAIN: C. A. Lamey and C. E. Dutton, 14p., maps, 1941.
PROGRESS REPORT 7	1120	DIP-NEEDLE SURVEY OF WYANDOTTE-WINONA AREA, HOUGHTON COUNTY AND CHEROKEE AREA, ONTONGON COUNTY: K. Spiroff, 17p., maps, 1941.
PROGRESS REPORT 8	1130	GEOLOGY OF THE MENOMINEE RANGE, NORWAY TO WAUCEDAH: C. A. Lamey and C. E. Dutton, 20p., maps, 1942.
PROGRESS REPORT 9	1140	ECONOMIC GEOLOGY OF A PART OF THE MENOMINEE RANGE, DICKINSON COUNTY: C. E. Dutton, 27p., 1942.
PROGRESS REPORT 10	1150	STRATEGIC MINERALS INVESTIGATIONS IN MARQUETTE AND BARAGA COUNTIES, 1943: A. K. Snelgrove and others, 69p., illus., maps, 1944. <i>In cooperation with the Michigan State College of Mining and Technology.</i>
PROGRESS REPORT 11	1160	GEOLOGY OF THE SPRUCE RIVER AND PESHEKEE RIVER AREAS, BARAGA AND MARQUETTE COUNTIES, 1944: W. A. Seaman, var. pgn., maps, 1945. <i>In cooperation with the Michigan State College of Mining and Technology.</i>
PROGRESS REPORT 12	1170	GROUND WATER RESOURCES OF THE BENTON HARBOR AREA, MICHIGAN, 1945: W. T. Stuart and R. W. Stallman, 15p., illus., maps, 1945. <i>In cooperation with the U.S. Geological Survey.</i>
PROGRESS REPORT 13	1180	PROGRESS REPORT ON THE GROUND-WATER RESOURCES OF THE LANSING AREA, MICHIGAN, 1945: W. T. Stuart, 33p., illus., maps, 1945. <i>In cooperation with the U.S. Geological Survey.</i>
PROGRESS REPORT 14	1190	GROUND-WATER RESOURCES OF THE GLACIAL DEPOSITS, BESSEMER AREA, GOGEBIC COUNTY, MICHIGAN, 1950: E. A. Brown and W. T. Stuart, 68p., illus., maps, 1951. <i>In cooperation with the U.S. Geological Survey.</i>
PROGRESS REPORT 15	1200	THE RICHFIELD CHALLENGE: G. H. Hautau, 15p., 1952.
PROGRESS REPORT 16	1210	GROUND WATER RESOURCES OF SOUTHEASTERN OAKLAND COUNTY, MICHIGAN: J. G. Ferris and others, 158p., illus., maps, 1954. <i>In cooperation with the U.S. Geological Survey.</i>
PROGRESS REPORT 17	1220	RECONNAISSANCE OF THE GROUND-WATER RESOURCES OF CHIPPEWA COUNTY, MICHIGAN: K. E. Vanlier and M. Deutsch, 56p., illus., maps, 1958. <i>In cooperation with the U.S. Geological Survey.</i>
PROGRESS REPORT 18	1230	NOTES ON THE DEVONIAN-SILURIAN IN THE SUBSURFACE OF SOUTHWEST MICHIGAN: G. D. Ellis, 55p., illus., maps, 1958.
PROGRESS REPORT 19	1240	RECONNAISSANCE OF THE GROUND-WATER RESOURCES OF MACKINAC COUNTY, MICHIGAN: K. E. Vanlier and M. Deutsch, 82p., illus., maps, 1958. <i>In cooperation with the U.S. Geological Survey.</i>
PROGRESS REPORT 20	1250	SUMMARY OF GROUND-WATER INVESTIGATIONS IN THE HOLLAND AREA, MICHIGAN: M. Deutsch and others, 87p., illus., maps, 1958. <i>In cooperation with the U.S. Geological Survey.</i>

PROGRESS REPORT 21	1260	RECONNAISSANCE OF THE GROUND-WATER RESOURCES OF LUCE COUNTY, MICHIGAN: K. E. Vanlier, 76p., illus., maps, 1959. <i>In cooperation with the U.S. Geological Survey.</i>
PROGRESS REPORT 22	1270	RECONNAISSANCE OF THE GROUND-WATER RESOURCES OF SCHOOLCRAFT COUNTY, MICHIGAN: W. C. Sinclair, 84p., illus., maps, 1959. <i>In cooperation with the U.S. Geological Survey.</i>
PROGRESS REPORT 23	1280	GROUND-WATER HYDROLOGY AND GLACIAL GEOLOGY OF THE KALAMAZOO AREA, MICHIGAN: M. Deutsch and others, 122p., illus., maps, 1960. <i>In cooperation with the U.S. Geological Survey.</i>
PROGRESS REPORT 24	1290	RECONNAISSANCE OF THE GROUND-WATER RESOURCES OF DELTA COUNTY, MICHIGAN: W. C. Sinclair, 93p., illus., maps, 1960. <i>In cooperation with the U.S. Geological Survey.</i>
PROGRESS REPORT 25	1300	SUMMARY OF GROUND-WATER CONDITIONS IN THE ELSIE AREA, MICHIGAN: K. E. Vanlier, 35p., illus., maps, 1962. <i>In cooperation with the U.S. Geological Survey.</i>

PUBLICATION(s) contain the greatest number of works of all of the series published by the Survey. Between 1910 and 1958, 51 **PUBLICATION(s)** 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 dropped in 1953. Most **PUBLICATION(s)** were issued in both hardbound and paperbound editions. In some cases separates were also available.

Many of these publications are out-of-print and no longer available from the Survey. Please consult the current price list to determine which are available and how they may be ordered.

PUBLICATION 1 (<i>BIOLOGICAL SERIES 1</i>)	1310	THE CRAWFISHES OF MICHIGAN . . . : A. S. Pearse and others, 95p., illus., map, 1910.
	1310-A	The crawfishes of Michigan: A. S. Pearse.
	1310-B	The insect galls of Michigan: M. T. Cook.
	1310-C	The birds of School Girl's Glen region, Ann Arbor, Michigan; A study in local ornithology: A. D. Tinker.
	1310-D	Preliminary list of the sites of aboriginal remains in Michigan: H. I. Smith.
PUBLICATION 2 (<i>GEOLOGICAL SERIES 1</i>)	1320	THE MONROE FORMATION OF SOUTHERN MICHIGAN AND ADJOINING REGIONS: A. W. Grabau and W. H. Sherzer, 248p., illus., map, 1910.
PUBLICATION 3 (<i>GEOLOGICAL SERIES 2</i>)	1330	THE IRON RIVER IRON-BEARING DISTRICT OF MICHIGAN: R. C. Allen, 151p., illus., maps, 1910.
PUBLICATION 4 (<i>BIOLOGICAL SERIES 2</i>)	1340	A BIOLOGICAL SURVEY OF THE SAND DUNE REGION OF THE SOUTHERN SHORE OF SAGINAW BAY: A. G. Ruthven (ed.), 348p., illus., maps, 1911.
PUBLICATION 5 (<i>GEOLOGICAL SERIES 3</i>)	1350	THE LATE GLACIAL AND POST GLACIAL UPLIFT OF THE MICHIGAN BASIN . . . : W. H. Hobbs, 96p., illus., maps, 1911.
	1350-A	The late glacial and post glacial uplift of the Michigan Basin: W. H. Hobbs.
	1350-B	Earthquakes in Michigan: W. H. Hobbs.
PUBLICATION 6 (<i>GEOLOGICAL SERIES 4</i>)	1360	THE KEWEENAW SERIES OF MICHIGAN: A. C. Lane, 984p., illus., maps, 1911. <i>Some maps and plates in separate envelope.</i>
	1360-A	Volume I, (p. 1-499).
	1360-B	Volume II, (p. 500-984).
PUBLICATION 7 (<i>GEOLOGICAL SERIES 5</i>)	1370	SURFACE GEOLOGY OF THE NORTHERN PENINSULA OF MICHIGAN; WITH NOTES ON AGRICULTURAL CONDITIONS AND WATER POWER: F. Leverett, 91p., illus., maps, 1911.
PUBLICATION 8 (<i>GEOLOGICAL SERIES 6</i>)	1380	MINERAL RESOURCES OF MICHIGAN WITH STATISTICAL TABLES OF PRODUCTION AND VALUE OF MINERAL PRODUCTS FOR 1910 AND PRIOR YEARS: R. C. Allen (comp.) and others, 465p., illus., maps, 1912.
	1380-A	The copper industry: R. E. Hore.
	1380-B	The iron mining industry: R. C. Allen.
	1380-C	The pig iron industry: A. E. White.

	1380-D	The Jones step process: A. E. White.
	1380-E	Michigan coal: R. A. Smith.
	1380-F	Gypsum and gypsum products: R. A. Smith.
	1380-G	The salt industry: C. W. Cook.
	1380-H	Michigan cement: C. W. Cook.
	1380-I	Gold in Michigan: R. C. Allen.
	1380-J	Oil and gas in Michigan: R. A. Smith.
PUBLICATION 9 (GEOLOGICAL SERIES 7)	1390	SURFACE GEOLOGY AND AGRICULTURAL CONDITIONS OF THE SOUTHERN PENINSULA OF MICHIGAN: WITH A CHAPTER ON CLIMATE: R. C. Allen, R. E. Hore, and C. F. Schneider, 144p., illus., maps, 1912.
PUBLICATION 10 (BIOLOGICAL SERIES 3)	1400	THE HERPETOLOGY OF MICHIGAN . . . A. G. Ruthven and others, 190p., illus., maps, 1912.
	1400-A	The herpetology of Michigan: A. G. Ruthven, C. Thompson, and F. Thompson.
	1400-B	Memoranda towards a bibliography of the archaeology of Michigan: H. I. Smith.
PUBLICATION 11 (GEOLOGICAL SERIES 8)	1410	GEOLOGICAL REPORT ON ARENAC COUNTY: W. M. Gregory, 146p., illus., maps, 1912.
PUBLICATION 12 (GEOLOGICAL SERIES 9)	1420	GEOLOGICAL REPORT ON WAYNE COUNTY: W. H. Sherzer, 388p., illus., maps, 1913.
PUBLICATION 13 (GEOLOGICAL SERIES 10)	1430	MINERAL RESOURCES OF MICHIGAN WITH STATISTICAL TABLES OF PRODUCTION AND VALUE OF MINERAL PRODUCTS FOR 1912 AND PRIOR YEARS: R. C. Allen (comp.) and R. E. Hore, 255p., illus., 1913.
	1430-A	The copper industry of Michigan: R. E. Hore.
	1430-B	Potash.
	1430-C	Sand and gravel.
	1430-D	Preliminary statement on limestone.
	1430-E	Statistical tables.
	1430-F	Directory of mineral producers of Michigan.
PUBLICATION 14 (GEOLOGICAL SERIES 11)	1440	THE OCCURRENCE OF OIL AND GAS IN MICHIGAN: R. A. Smith, 218p., illus., maps, 1914.
PUBLICATION 15 (GEOLOGICAL SERIES 12)	1450	THE BRINE AND SALT DEPOSITS OF MICHIGAN: THEIR ORIGIN, DISTRIBUTION AND EXPLOITATION: C. W. Cook, 188p., illus., maps, 1914.
PUBLICATION 16 (GEOLOGICAL SERIES 13)	1460	MINERAL RESOURCES OF MICHIGAN WITH STATISTICAL TABLES OF PRODUCTION AND VALUE OF MINERAL PRODUCTS FOR 1913 AND PRIOR YEARS: R. C. Allen (comp.) and others, 150p., 1914.
	1460-A	Copper industry: R. E. Hore.
	1460-B	Iron ore reserves: R. C. Allen.
	1460-C	Non-metallic minerals: R. A. Smith.
	1460-D	The Michigan slate industry: O. R. Hamilton.
PUBLICATION 17 (GEOLOGICAL SERIES 14)	1470	BIENNIAL REPORT OF THE DIRECTOR: R. C. Allen, 104p., map, 1914.
PUBLICATION 18 (GEOLOGICAL SERIES 15)	1480	CONTRIBUTIONS TO THE PRE-CAMBRIAN GEOLOGY OF NORTHERN MICHIGAN AND WISCONSIN . . .: R. C. Allen and others, 189p., illus., maps, 1915.
	1480-A	Contributions to the pre-Cambrian geology of northern Michigan and Wisconsin: R. C. Allen and L. P. Barrett.
	1480-B	The geology of Limestone Mountain and Sherman Hill in Houghton County, Michigan: E. C. Case and W. I. Robinson.
PUBLICATION 19 (GEOLOGICAL SERIES 16)	1490	MINERAL RESOURCES OF MICHIGAN WITH STATISTICAL TABLES OF PRODUCTION AND VALUE OF MINERAL PRODUCTS FOR 1914 AND PRIOR YEARS; WITH A TREATISE ON MICHIGAN COPPER DEPOSITS: R. C. Allen (comp.) and others, 359p., illus., maps, 1915.
	1490-A	Metallic minerals: R. E. Hore.
	1490-B	Non-metallic minerals: R. A. Smith.
PUBLICATION 20 (BIOLOGICAL SERIES 4)	1500	MISCELLANEOUS PAPERS ON THE ZOOLOGY OF MICHIGAN: A. G. Ruthven (ed.), 179p., illus., maps, 1916.
	1500-A	Observations on the Fishes of Houghton County: T. L. Hankinson.
	1500-B	An ecological study of the fish fauna of the Douglas Lake region: R. J. Colbert.
	1500-C	Dragonflies of the Douglass Lake region: A. T. Evans.
	1500-D	The reptiles and amphibians of Monroe County: C. Thompson.
	1500-E	Results of the Mershon expedition to the Charity Islands, Lake Huron; Coleoptera: A. W. Andrews.
	1500-F	Results of the Shiras expeditions to Whitefish Point; Fishes: T. L. Hankinson.

PUBLICATION 21 (GEOLOGICAL SERIES 17)	1510	MINERAL RESOURCES OF MICHIGAN WITH STATISTICAL TABLES OF PRODUCTION AND VALUE OF MINERAL PRODUCTS FOR 1915 AND PRIOR YEARS; WITH A TREATISE ON LIMESTONE RESOURCES: R. C. Allen (comp.) and others. 402p., illus., maps, 1916.
	1510-A	Metallic minerals: W. E. Hopper and R. C. Allen.
	1510-B	Non-metallic minerals: R. A. Smith.
	1510-C	Limestones of Michigan: R. A. Smith.
PUBLICATION 22 (GEOLOGICAL SERIES 18)	1520	BIENNIAL REPORT OF THE DIRECTOR AND REPORT ON RETRACEMENT AND PERMANENT MONUMENTING OF THE MICHIGAN-OHIO BOUNDARY: R. C. Allen, 118p., illus., maps, 1916.
PUBLICATION 23 (GEOLOGICAL SERIES 19)	1530	GEOLOGICAL MAP OF MICHIGAN: R. C. Allen and others, 1 col. sheet (1:750,000), 1917.
PUBLICATION 24 (GEOLOGICAL SERIES 20)	1540	MINERAL RESOURCES OF MICHIGAN WITH STATISTICAL TABLES OF PRODUCTION AND VALUE OF MINERAL PRODUCTS FOR 1916 AND PRIOR YEARS: R. C. Allen (comp.) and others, 291p., illus., maps, 1917.
	1540-A	Metallic minerals: W. E. Hopper.
	1540-B	Non-metallic minerals: R. A. Smith.
	1540-C	The Portland cement industry: R. A. Smith.
	1540-D	Deep borings in Michigan.
PUBLICATION 25 (GEOLOGICAL SERIES 21)	1550	SURFACE GEOLOGY AND AGRICULTURAL CONDITIONS OF MICHIGAN; WITH A CHAPTER ON CLIMATE: F. Leverett and C. F. Schneider, 223p., illus., maps, 1917.
PUBLICATION 26 (BIOLOGICAL SERIES 5)	1560	THE AGARICACEAE OF MICHIGAN: C. H. Kauffman, 2v., 924p., 172 plates, illus., map, 1918.
	1560-A	Volume I: Text.
	1560-B	Volume II: Plates.
PUBLICATION 27 (GEOLOGICAL SERIES 22)	1570	MINERAL RESOURCES OF MICHIGAN WITH STATISTICAL TABLES OF PRODUCTION AND VALUE OF MINERAL PRODUCTS FOR 1917 AND PRIOR YEARS: R. C. Allen (comp.) and others, 225p., map, 1918.
	1570-A	Metallic minerals: W. E. Hopper.
	1570-B	Non-metallic minerals: R. A. Smith.
	1570-C	Average of analysis of Lake Superior iron ores: W. L. Tinker.
PUBLICATION 28 (GEOLOGICAL SERIES 23)	1580	DRAINAGE IN MICHIGAN: D. G. Miller and P. T. Simons, 133p., illus., maps, 1919.
PUBLICATION 29 (GEOLOGICAL SERIES 24)	1590	MINERAL RESOURCES OF MICHIGAN WITH STATISTICAL TABLES OF PRODUCTION AND VALUE OF MINERAL PRODUCTS FOR 1918 AND PRIOR YEARS: R. C. Allen (comp.) and others, 214p., illus., map, 1920.
	1590-A	Metallic minerals: L. P. Barrett and O. R. Hamilton.
	1590-B	Non-Metallic minerals: H. M. Martin.
PUBLICATION 30 (GEOLOGICAL SERIES 25)	1600	INLAND LAKES OF MICHIGAN: I. D. Scott, 383p., illus., maps, 1921.
PUBLICATION 31 (BIOLOGICAL SERIES 6)	1610	MISCELLANEOUS PAPERS ON THE BOTANY OF MICHIGAN: C. K. Dodge, 234p., illus., map, 1921. <i>Edited by A. G. Ruthven.</i>
PUBLICATION 32 (GEOLOGICAL SERIES 26)	1620	MINERAL RESOURCES OF MICHIGAN WITH STATISTICAL TABLES OF PRODUCTION AND VALUE OF MINERAL PRODUCTS FOR 1920 AND PRIOR YEARS: R. A. Smith (comp.) and others, 145p., 1920.
	1620-A	Metallic minerals: L. P. Barrett.
	1620-B	Non-metallic minerals: H. M. Martin.
	1620-C	Oil and Gas in Michigan: W. I. Robinson.
PUBLICATION 33 (GEOLOGICAL SERIES 26)	1630	MINERAL RESOURCES OF MICHIGAN WITH STATISTICAL TABLES OF PRODUCTION AND VALUE OF MINERAL PRODUCTS FOR 1921 AND PRIOR YEARS: R. A. Smith (comp.), and H. M. Martin, 138p., 1921.
	1630-A	Metallic Minerals.
	1630-B	Non-metallic minerals: H. M. Martin.
PUBLICATION 34 (GEOLOGICAL SERIES 28)	1640	MINERAL RESOURCES OF MICHIGAN WITH STATISTICAL TABLES OF PRODUCTION AND VALUE OF MINERAL PRODUCTS FOR 1922 AND PRIOR YEARS: R. A. Smith (comp.) and L. P. Barrett, 146p., 1922.
	1640-A	Metallic minerals: L. P. Barrett.
	1640-B	Non-metallic minerals.

PUBLICATION 35 (GEOLOGICAL SERIES 29)	1650	MINERAL RESOURCES OF MICHIGAN WITH STATISTICAL TABLES OF PRODUCTION AND VALUE OF MINERAL PRODUCTS FOR 1923 AND PRIOR YEARS: R. A. Smith (comp.) and L. P. Barrett. 115p., illus., maps, 1923.
	1650-A	Metallic minerals: L. P. Barrett.
	1650-B	Non-metallic minerals.
PUBLICATION 36 (GEOLOGICAL SERIES 30)	1660	CLAYS AND SHALES OF MICHIGAN AND THEIR USES: G. G. Brown. 444p., illus., maps, 1924.
PUBLICATION 37 (GEOLOGICAL SERIES 31)	1670	MINERAL RESOURCES OF MICHIGAN WITH STATISTICAL TABLES OF PRODUCTION AND VALUE OF MINERAL PRODUCTS FOR 1924, 1925, 1926 AND PRIOR YEARS WITH A REPORT ON OIL AND GAS DEVELOPMENT: R. B. Newcombe and others. 321p., illus., maps, 1928.
	1670-A	Metallic minerals: F. G. Pardee
	1670-B	Non-metallic minerals: O. F. Poindexter and R. B. Newcombe.
	1670-C	Oil and gas developments in Michigan: R. B. Newcombe.
PUBLICATION 38 (GEOLOGICAL SERIES 32)	1680	OIL AND GAS FIELDS OF MICHIGAN; A DISCUSSION OF DEPOSITIONAL AND STRUCTURAL FEATURES OF THE MICHIGAN BASIN: R. B. Newcombe. 293p., illus., maps, 1932.
PUBLICATION 39 (GEOLOGICAL SERIES 33)	1690	THE CENTENNIAL GEOLOGICAL MAP OF MICHIGAN: H. M. Martin (comp.), 2 col. sheets (1:500,000), 1937.
	1690-A	Northern Peninsula.
	1690-B	Southern Peninsula.
	1695	GEOLOGICAL MAP OF MICHIGAN: H. M. Martin, 1 sheet (1": 20 miles), 1957. <i>Revision of Publication 39. Was also available at a somewhat smaller scale (1": 40 miles).</i>
PUBLICATION 40 (GEOLOGICAL SERIES 34)	1700	OCCASIONAL PAPERS ON THE GEOLOGY OF MICHIGAN: R. A. Smith (ed.), 260p., illus., maps, 1936.
	1700-A	The Pleistocene history of the Tahquamenon and Manistique drainage region of the Northern Peninsula: S. G. Bergquist.
	1700-B	The Pennsylvanian system in Michigan: W. A. Kelly.
	1700-C	The Trenton and Black River rocks of Michigan: R. C. Hussey.
PUBLICATION 41 (GEOLOGICAL SERIES 35)	1710	MOLDING SANDS OF MICHIGAN AND THEIR USES: G. G. Brown. 262p., illus., maps, 1936.
PUBLICATION 42	1720	ROCKS AND MINERALS OF MICHIGAN: O. F. Poindexter and others. 94p., illus., map, 1939.
PUBLICATION 42	1725	ROCKS AND MINERALS OF MICHIGAN: O. F. Poindexter, and others (Revision by H. M. Martin), 124p., illus., map, 1951. <i>Third printing, 1957.</i>
PUBLICATION 43 (GEOLOGICAL SERIES 36)	1730	PRE-HISTORIC MACKINAC ISLAND: G. M. Stanley, 74p., illus., map, 1945.
PUBLICATION 44 (GEOLOGICAL SERIES 37)	1740	GEOLOGY OF THE MACKINAC STRAITS REGION AND SUB-SURFACE GEOLOGY OF THE NORTHERN SOUTHERN PENINSULA: K. K. Landes and others, 204p., illus., maps, 1945.
PUBLICATION 45 (GEOLOGICAL SERIES 38)	1750	OCCASIONAL PAPERS FOR 1946 ON THE GEOLOGY OF MICHIGAN: R. A. Smith (ed.), var. pgn., figs., maps, 1946.
	1750-A	The post-glacial geology of the Grand Marais embayment in Berrien County, Michigan: G. C. Tague.
	1750-B	The glacial and post-glacial history of the Platte and Crystal lake depressions, Benzie County, Michigan: J. L. Calver.
PUBLICATION 46 (GEOLOGICAL SERIES 39)	1760	THE MIDDLE AND UPPER ORDOVICIAN ROCKS OF MICHIGAN: R. C. Hussey, 89p., illus., 1952.
PUBLICATION 47	1770	OIL AND GAS CONSERVATION IN MICHIGAN: L. S. Miller, 29p., 1954.
	1775	OIL AND GAS CONSERVATION IN MICHIGAN: G. H. Hautau and L. S. Miller, 23p., 1960. <i>Supplement to Publication 47.</i>
PUBLICATION 48	1780	OCCASIONAL PAPERS FOR 1954 ON THE GEOLOGY OF MICHIGAN: Michigan. Geological Survey Division. 348p., illus., maps, 1954.
	1780-A	The glacial geology and groundwater resources of Van Buren County, Michigan: F. W. Terwilliger.
	1780-B	A survey of the groundwater resources in Oakland County, Michigan: A. J. Mozola.

PUBLICATION 49	1790	MAP OF THE SURFACE FORMATIONS OF THE SOUTHERN PENINSULA OF MICHIGAN: H. M. Martin, 1 col. sheet (1:500,000), 1955.
PUBLICATION 49	1795	MAP OF THE SURFACE FORMATIONS OF THE NORTHERN PENINSULA OF MICHIGAN: H. M. Martin, 1 col. sheet (1:500,000), 1957.
PUBLICATION 50	1800	AN INDEX OF THE GEOLOGY OF MICHIGAN, 1823-1955: H. M. Martin and M. T. Straight, 461p., illus., maps, 1956.
	1805	BIBLIOGRAPHY OF MICHIGAN GEOLOGY, 1956-60: E. A. Kirkby, 66p., 1961. <i>Supplement to Publication 50.</i>
PUBLICATION 51	1810	THE CAMBRIAN SANDSTONES OF NORTHERN MICHIGAN: W. K. Hamblin, 146p., illus., maps, 1958.

Although they do not seem to constitute a series, three **PUBLICATIONS LIST**(s) have been published prior to this present work. They are listed here, but have not been indexed and therefore have not been assigned index numbers.

Many of these publications are out-of-print and no longer available from the Survey. Please consult the current price list to determine which are available and how they can be ordered.

PUBLICATION LIST 1		CATALOG AND TABLE OF CONTENTS OF THE PUBLICATIONS OF THE GEOLOGICAL AND BIOLOGICAL SURVEY DIVISION OF THE MICHIGAN DEPARTMENT OF CONSERVATION WITH A LIST OF PUBLICATIONS OF THE U.S. GEOLOGICAL SURVEY RELATING TO MICHIGAN: Michigan Geological and Biological Survey, 36p., 1923.
PUBLICATION LIST 2		LIST OF PUBLICATIONS, REVISED: Michigan Geological Survey Division, unpub., 1954.
PUBLICATION LIST 3		REPORTS AND PUBLICATIONS OF THE GEOLOGICAL SURVEY DIVISION, 1838-(1972): Michigan Geological Survey Division, 39p., 1972.

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 in 1963 and is still active.

Many of these publications are out-of-print and no longer available from the Survey. Please consult the current price list to determine which are available and how they may be ordered.

REPORT OF INVESTIGATION 1	1820	REGIONAL GRAVITY AND MAGNETIC ANOMALY MAPS OF THE SOUTHERN PENINSULA OF MICHIGAN: W. J. Hinze, 26p., illus., maps, 1963. <i>In cooperation with Michigan State University, Department of Geology.</i>
REPORT OF INVESTIGATION 2	1830	MICHIGAN'S SILURIAN OIL AND GAS POOLS: G. D. Eils, 49p., illus., maps, 1967.
REPORT OF INVESTIGATION 3	1840	GEOLOGY FOR LAND AND GROUND-WATER DEVELOPMENT IN WAYNE COUNTY, MICHIGAN: A. J. Mozola, 25p., illus., maps, 1969. <i>In cooperation with Wayne State University, Department of Geology.</i>
REPORT OF INVESTIGATION 4	1850	GEOLOGIC AND MAGNETIC DATA FOR NORTHERN IRON RIVER AREA, MICHIGAN: H. L. James and others, 46p., illus., maps, 1967. <i>In cooperation with the U.S. Geological Survey.</i>
REPORT OF INVESTIGATION 5	1860	GEOLOGY AND MAGNETIC DATA FOR THE CENTRAL IRON RIVER AREA, MICHIGAN: C. E. Dutton, 17p., illus., maps, 1969. <i>In cooperation with the U.S. Geological Survey.</i>
REPORT OF INVESTIGATION 6	1870	GEOLOGY AND MAGNETIC DATA FOR THE SOUTHEASTERN IRON RIVER AREA, MICHIGAN: H. L. James and K. L. Wier, 30p., illus., maps, 1969. <i>In cooperation with the U.S. Geological Survey.</i>
REPORT OF INVESTIGATION 7	1880	GEOLOGY AND MAGNETIC DATA BETWEEN IRON RIVER AND CRYSTAL FALLS, MICHIGAN: H. L. James and others, 17p., illus., maps, 1970. <i>In cooperation with the U.S. Geological Survey.</i>
REPORT OF INVESTIGATION 8	1890	GEOLOGY AND MAGNETIC DATA FOR THE NORTHERN CRYSTAL FALLS AREA, MICHIGAN: F. J. Pettijohn, 23p., illus., maps, 1970. <i>In cooperation with the U.S. Geological Survey.</i>

1900-2020

REPORT OF INVESTIGATION 9	1900	GEOLOGY AND MAGNETIC DATA FOR SOUTHERN CRYSTAL FALLS AREA. MICHIGAN: F. J. Pettijohn. 31p., illus., maps, 1972. <i>In cooperation with the U.S. Geological Survey.</i>
REPORT OF INVESTIGATION 10	1910	GEOLOGY AND MAGNETIC DATA FOR ALPHA-BRULE RIVER AND PANOLA PLAINS AREAS, MICHIGAN: F. J. Pettijohn and others. 12p., illus., maps, 1969. <i>In cooperation with the U.S. Geological Survey.</i>
REPORT OF INVESTIGATION 11	1920	GEOLOGY AND MAGNETIC DATA FOR NORTH-CENTRAL CRYSTAL FALLS AREA, MICHIGAN: K. L. ... 14p., illus., maps, 1971. <i>In cooperation with the U.S. Geological Survey.</i>
REPORT OF INVESTIGATION 12	1930	GEOLOGICAL INTERPRETATION OF AEROMAGNETIC DATA IN WESTERN UPPER PENINSULA OF MICHIGAN: W. M. Meshref and W. J. Hinze. 25p., illus., maps, 1970. <i>In cooperation with Michigan State University, Department of Geology.</i>
REPORT OF INVESTIGATION 13	1940	GEOLOGY FOR ENVIRONMENTAL PLANNING IN MONROE COUNTY, MICHIGAN: A. J. Mozola. 34p., illus., maps, 1970. <i>In cooperation with Wayne State University, Department of Geology.</i>
REPORT OF INVESTIGATION 14	1950	GRAVITY AND AEROMAGNETIC ANOMALY MAPS OF THE SOUTHERN PENINSULA OF MICHIGAN: W. J. Hinze and others. 16p., illus., maps, 1971. <i>Revision of Report of Investigation No. 1. In cooperation with Michigan State University, Department of Geology.</i>
REPORT OF INVESTIGATION 15	1960	SUBSURFACE GEOLOGY OF BARRY COUNTY, MICHIGAN: R. T. Lilienthal. 36p., illus., maps, 1974.
REPORT OF INVESTIGATION 16	1970	A GROUND INVESTIGATION OF AN AEROMAGNETIC ANOMALY IN NORTH CENTRAL DICKINSON COUNTY, MICHIGAN. D. W. Snider. 18p., illus., maps, 1977.
REPORT OF INVESTIGATION 17	1980	ESTABLISHING VEGETATION ON ALKALINE IRON AND COPPER TAILINGS: S. G. Shetron and others. 15p., illus., 1977.

Occasionally, the Survey publishes a **REPRINT** of an article of popular interest which has appeared in some periodical. These articles are usually by Survey personnel and are for the most part taken from *Michigan Natural Resources* magazine (formerly *Michigan Conservation*). Because no careful records have been kept of articles reprinted in the past, this list includes only the two **REPRINT(s)** which are currently available.

Many of these publications are out-of-print and no longer available from the Survey. Please consult the current price list to determine which are available and how they may be ordered.

REPRINT 1	1990	MICHIGAN'S BEACH STONES: R. W. Kelley, 4p., illus., 1963. <i>Reprinted from "Michigan Conservation", January, 1963.</i>
REPRINT 2	2000	MICHIGAN'S COLORFUL MINERALS: R. W. Kelley and J. R. Byerley, 4p., illus., 1965. <i>Reprinted from "Michigan Conservation", January, 1965.</i>

Between 1950 and 1952 a series titled **RESEARCH PUBLICATION** was published by the University of Michigan Engineering Institute Lake Hydraulics Laboratory as a part of a cooperative project with the Geological Survey Division. Only three publications were issued.

Many of these publications are out-of-print and no longer available from the Survey. Please consult a current price list to determine which are available and how they can be ordered.

RESEARCH PUBLICATION 1	2010	BIBLIOGRAPHY ON BEACH EROSION AND RELATED SUBJECTS: Michigan, University, Engineering Research Institute, Lake Hydraulics Laboratory, 8p., 1950. <i>In cooperation with Michigan, Geological Survey Division.</i>
RESEARCH PUBLICATION 2	2020	BEACH EROSION IN MICHIGAN: E. F. Bratton, 39p., illus., (Mich., Univ., Eng. Res. Inst., Lake Hydraulics Lab., Ann Arbor.) 1950. <i>In cooperation with Michigan, Geological Survey Division.</i>

RESEARCH PUBLICATION 3	2030	LOW COST SHORE PROTECTION FOR THE GREAT LAKES: Michigan, University, Engineering Research Institute, Lake Hydraulics Laboratory, unpub., 1952. <i>In cooperation with Michigan, Geological Survey Division and Michigan Water Resources Commission.</i>
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SECONDARY RECOVERY REPORT(s) are the newest series to be published by the Survey. Each report discusses the enhanced recovery of oil in a different Michigan field. Reports have been scheduled for a number of Michigan's oil and/or gas fields in which secondary recovery operations have been instituted. At this time plans are to combine these reports into one volume when all of the fields have been reviewed. This series began publication in 1976.

Many of these publications are out-of-print and no longer available from the Survey. Please consult the current price list to determine which are available and how they may be ordered.

SECONDARY RECOVERY REPORT 1	2040	HAMILTON FIELD, RICHFIELD OIL POOL; ENHANCED OIL AND GAS RECOVERY IN MICHIGAN: S. E. Wilson and others, 10p., illus., map, 1976.
SECONDARY RECOVERY REPORT 2	2050	BEAVER CREEK FIELD; ENHANCED OIL AND GAS RECOVERY IN MICHIGAN: R. J. Pollom and others, 10p., illus., map, 1976.
SECONDARY RECOVERY REPORT 3	2060	CRANBERRY LAKE FIELD, RICHFIELD OIL POOL; ENHANCED OIL AND GAS RECOVERY IN MICHIGAN: S. E. Wilson and others, 10p., illus., map, 1976.
SECONDARY RECOVERY REPORT 4	2070	ENTERPRISE FIELD; ENHANCED OIL AND GAS RECOVERY IN MICHIGAN: A. D. Matzkanin and others, 10p., illus., map, 1977.
SECONDARY RECOVERY REPORT 5	2080	ONONDAGA 10 UNIT; ENHANCED OIL AND GAS RECOVERY IN MICHIGAN: R. J. Pollom and others, 12p., illus., map, 1977.
SECONDARY RECOVERY REPORT 6	2090	AURELIUS 35 UNIT; ENHANCED OIL AND GAS RECOVERY IN MICHIGAN: A. D. Matzkanin and others, 12p., illus., map, 1977.

The publications in the **SMALL SCALE MAP** series are listed in the **Geologic Map** series above.

The series **SUMMARY OF OPERATIONS** grew out of a short, mimeographed annual publication which was issued between 1932 and 1945. The series listed here comprises annual reports of much greater depth than those early mimeographed sheets. In 1964 this series was absorbed by the **Annual Statistical Summary** format, where it is now **Michigan's Oil and Gas Fields**.

Many of these publications are out-of-print and no longer available from the Survey. Please consult the current price list to determine which are available and how they may be ordered.

SUMMARY OF OPERATIONS, 1946	2100	SUMMARY OF OPERATIONS, MICHIGAN OIL AND GAS FIELDS, 1946: Michigan, Geological Survey Division, unpub., map, 1946 (?).
SUMMARY OF OPERATIONS, 1947	2110	SUMMARY OF OPERATIONS, OIL AND GAS FIELDS, 1947: Michigan, Geological Survey Division, 21p., map, 1947.
SUMMARY OF OPERATIONS, 1948	2120	SUMMARY OF OPERATIONS, OIL AND GAS FIELDS, 1948: Michigan, Geological Survey Division, 28p., map, 1949.
SUMMARY OF OPERATIONS, 1949	2130	SUMMARY OF OPERATIONS, OIL AND GAS FIELDS, 1949: Michigan, Geological Survey Division, 21p., maps, 1950.
SUMMARY OF OPERATIONS, 1950	2140	SUMMARY OF OPERATIONS, OIL AND GAS FIELDS, 1950: Michigan, Geological Survey Division, unpub., maps, 1951.
SUMMARY OF OPERATIONS, 1951	2150	SUMMARY OF OPERATIONS, OIL AND GAS FIELDS, 1951: Michigan, Geological Survey Division, unpub., maps, 1952.
SUMMARY OF OPERATIONS, 1952	2160	SUMMARY OF OPERATIONS, OIL AND GAS FIELDS, 1952: Michigan, Geological Survey Division, unpub., maps, 1953.
SUMMARY OF OPERATIONS, 1953	2170	SUMMARY OF OPERATIONS, OIL AND GAS FIELDS, 1953: Michigan, Geological Survey Division, unpub., maps, 1954.
SUMMARY OF OPERATIONS, 1954	2180	SUMMARY OF OPERATIONS, OIL AND GAS FIELDS, 1954: Michigan, Geological Survey Division, unpub., maps, 1955.
SUMMARY OF OPERATIONS, 1955	2190	SUMMARY OF OPERATIONS, OIL AND GAS FIELDS, 1955: L. W. Price (comp.) and others, 37p., maps, 1956.
SUMMARY OF OPERATIONS, 1956	2200	SUMMARY OF OPERATIONS, OIL AND GAS FIELDS, 1956: L. W. Price (comp.) and others, 31p., maps, 1957.

2210-2350-A

SUMMARY OF OPERATIONS, 1957	2210	SUMMARY OF OPERATIONS, OIL AND GAS FIELDS, 1957: L. W. Price (comp.) and others, 41p., maps, 1958.
SUMMARY OF OPERATIONS, 1958	2220	SUMMARY OF OPERATIONS, OIL AND GAS FIELDS, 1958: L. W. Price (comp.) and others, 41p., maps, 1959.
SUMMARY OF OPERATIONS, 1959	2230	SUMMARY OF OPERATIONS, OIL AND GAS FIELDS, 1959: L. W. Price (comp.) and others, 44p., illus., maps, 1960.
SUMMARY OF OPERATIONS, 1960	2240	SUMMARY OF OPERATIONS, OIL AND GAS FIELDS, 1960: L. W. Price (comp.) and others, 44p., maps, 1961.
SUMMARY OF OPERATIONS, 1961	2250	SUMMARY OF OPERATIONS, OIL AND GAS FIELDS, 1961: L. W. Price (comp.) and others, 44p., illus., maps, 1962.
SUMMARY OF OPERATIONS, 1962	2260	SUMMARY OF OPERATIONS, OIL AND GAS FIELDS, 1962: L. W. Price (comp.) and others, 44p., illus., maps, 1963.

TECHNICAL REPORT(s), which were published between 1948 and 1954, discuss ground water problems. They are of a technical nature and were published in limited editions. This series is no longer in publication.

Many of these publications are out-of-print and no longer available from the Survey. Please consult the current price list to determine which are available and how they may be ordered.

TECHNICAL REPORT 1	2270	GROUND-WATER HYDRAULICS AS A GEOPHYSICAL AID: J. G. Ferris, 12p., illus., 1948. <i>In cooperation with U.S. Geological Survey.</i>
TECHNICAL REPORT 2	2280	GROUND-WATER PROBLEMS OF THE IRON RIVER DISTRICT, MICHIGAN: W. T. Stuart and others, 59p., illus., maps, 1948. <i>In cooperation with U.S. Geological Survey.</i>
TECHNICAL REPORT 3	2290	GROUND-WATER INVESTIGATIONS OF THE MARQUETTE IRON-MINING DISTRICT, MICHIGAN: W. T. Stuart and others, 92p., illus., maps, 1954. <i>In cooperation with U.S. Geological Survey.</i>

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 in-depth technical reports on the geology of Michigan. The **VOLUME(s)** are bound in green cloth or leather with gold lettering. Paperbound separates of most of the reports were also available.

Many of these publications are out-of-print and no longer available from the Survey. Please consult the current price list to determine which are available and how they may be ordered.

VOLUME 1	2300	UPPER PENINSULA 1869-1873 ACCOMPANIED BY AN ATLAS OF MAPS: T. B. Brooks and others, var. pgn., illus., maps, 1873. <i>See also 2305.</i>
	2300-A	Iron-bearing rocks (economic): T. B. Brooks.
	2300-B	Copper district: R. Pumpelly.
	2300-C	Paleozoic rocks: C. Rominger.
	2305	ATLAS ACCOMPANYING REPORTS ON UPPER PENINSULA 1869-1873: 23 col. sheets (maps and charts), 1873.
VOLUME 2	2310	UPPER PENINSULA 1869-1873: T. B. Brooks, 298p., 1873.
	2310-A	Appendices to Pt. 1, Vol. 1, Iron-bearing rocks (economic): T. B. Brooks.
VOLUME 3	2320	LOWER PENINSULA 1873-1876 ACCOMPANIED BY A GEOLOGICAL MAP: C. Rominger, var. pgn., illus., maps, 1876.
	2320-A	Geology of Lower Peninsula: C. Rominger.
	2320-B	Palaeontology; Fossil corals: C. Rominger.
VOLUME 4	2330	UPPER PENINSULA, 1878-1880 ACCOMPANIED BY A GEOLOGICAL MAP: C. Rominger, 248p., map, 1881.
	2330-A	Marquette iron region: C. Rominger.
	2330-B	Menominee iron region: C. Rominger.
VOLUME 5	2340	UPPER PENINSULA, 1881-1884; LOWER PENINSULA, 1885-1893: C. Rominger and others, var. pgn., illus., maps, 1895.
	2340-A	Geological report on the Upper Peninsula of Michigan, iron and copper regions: C. Rominger.
	2340-B	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, by L. L. Hubbard.
VOLUME 6	2350	UPPER PENINSULA, 1893-1897: A. C. Lane and others, var. pgn., illus., maps, 1898.
	2350-A	Geological report on Isle Royale: A. C. Lane.

	2350-B	Keweenaw Point, with particular reference to the felsites and their associated rocks: L. L. Hubbard.
	2350-C	Appendix; the crystallization of the calcite from the copper mines of Lake Superior: C. Palache.
VOLUME 7	2360	LOWER PENINSULA, 1896-1900: W. H. Sherzer and others. var. pgn., illus., maps, 1900.
	2360-A	Geological report on Monroe County, Michigan: W. H. Sherzer.
	2360-B	Geological report on Huron County, Michigan: A. C. Lane.
	2360-C	Geological report on Sanilac County, Michigan: C. H. Gordon.
VOLUME 8	2370	LOWER PENINSULA, 1900-1903: H. Ries and others. var. pgn., illus., maps, 1900, 1902, 1903.
	2370-A	Clays and shales of Michigan: H. Ries.
	2370-B	Coal of Michigan: A. C. Lane.
	2370-C	Marl (bog lime) and its application to the manufacture of Portland cement: D. J. Hale.
VOLUME 9	2380	MICHIGAN, 1903-1904: L. J. Cole and G. P. Grimsley. var. pgn., illus., maps, 1903, 1904.
	2380-A	The delta of the St. Clair River: L. J. Cole.
	2380-B	The gypsum of Michigan and the plaster industry: G. P. Grimsley.

The U.S. Geological Survey prepares 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. The series began publication in 1971 and is still being published.

Many of these publications are out-of-print and no longer available from the Survey. Please consult a current price list to determine which are available and how they can be ordered.

WATER INFORMATION SERIES (REPORT 1)	2390	UPPER RIFLE RIVER BASIN, NORTHEASTERN LOWER MICHIGAN; AN EVALUATION OF ITS WATER RESOURCES AND HYDROLOGIC ENVIRONMENT: R. L. Knutilla and others, 66p., illus., maps, 1971. <i>In cooperation with the U.S. Geological Survey.</i>
WATER INFORMATION SERIES (REPORT 2)	2400	FLOWING WELLS IN MICHIGAN, 1974: W. B. Allen, 27p., maps, 1977. <i>In cooperation with the U.S. Geological Survey.</i>
WATER INFORMATION SERIES (REPORT 3)	2410	HYDROLOGY AND RECREATION ON THE COLD-WATER RIVERS OF MICHIGAN'S SOUTHERN PENINSULA: G. E. Hendrickson and C. J. Doonan, 83p., illus., maps, 1972. <i>In cooperation with the U.S. Geological Survey.</i>
WATER INFORMATION SERIES (REPORT 4)	2420	HYDROLOGY AND RECREATION ON THE COLD-WATER RIVERS OF MICHIGAN'S UPPER PENINSULA: G. E. Hendrickson and others, 39p., illus., maps, 1973. <i>In cooperation with the U.S. Geological Survey.</i>
WATER INFORMATION SERIES (REPORT 5)	2430	COMPILATION OF MISCELLANEOUS STREAMFLOW MEASUREMENTS IN MICHIGAN THROUGH SEPTEMBER, 1970: R. L. Knutilla, 185p., 1974. <i>In cooperation with the U.S. Geological Survey.</i>

WATER INVESTIGATION reports are comparable to the series **Report of Investigation** except that they focus on the geological aspects of water resources. This series, which is still active, began publication in 1963. All numbers have been published in cooperation with the U.S. Geological Survey.

Many of these publications are out-of-print and no longer available from the Survey. Please consult the current price list to determine which are available and how they may be ordered.

WATER INVESTIGATION 1	2440	RECONNAISSANCE OF THE GROUND-WATER RESOURCES OF ALGER COUNTY, MICHIGAN: K. E. Vanlier, 55p., illus., maps, 1963. <i>In cooperation with the U.S. Geological Survey.</i>
WATER INVESTIGATION 2	2450	GROUND-WATER IN MENOMINEE COUNTY: K. E. Vanlier, 42p., illus., maps, 1963. <i>In cooperation with the U.S. Geological Survey.</i>
WATER INVESTIGATION 3	2460	WATER RESOURCES OF VAN BUREN COUNTY, MICHIGAN: P. R. Giroux and others, 144p., illus., maps, 1964. <i>Reprinted in 1972.</i> <i>In cooperation with the U.S. Geological Survey.</i>

WATER INVESTIGATION 4	2470	GROUND-WATER RESOURCES OF THE BATTLE CREEK AREA, MICHIGAN: K. E. Vanlier, 52p., illus., maps, 1966. <i>In cooperation with the U.S. Geological Survey.</i>
WATER INVESTIGATION 5	2480	GROUND-WATER RESOURCES OF DICKINSON COUNTY, MICHIGAN: G. E. Hendrickson and C. J. Doonan, 49p., illus., maps, 1966. <i>In cooperation with the U.S. Geological Survey.</i>
WATER INVESTIGATION 6	2490	WATER RESOURCES OF BRANCH COUNTY, MICHIGAN: P. R. Giroux and others, 158p., illus., maps, 1966. <i>In cooperation with the U.S. Geological Survey.</i>
WATER INVESTIGATION 7	2500	GROUND WATER IN IRON COUNTY, MICHIGAN: C. J. Doonan and G. E. Hendrickson, 61p., illus., maps, 1967. <i>In cooperation with the U.S. Geological Survey.</i>
WATER INVESTIGATION 8	2510	GROUND WATER IN GOGEBIC COUNTY, MICHIGAN: C. J. Doonan and G. E. Hendrickson, 22p., illus., maps, 1968. <i>In cooperation with the U.S. Geological Survey.</i>
WATER INVESTIGATION 9	2520	GROUND WATER IN ONTONAGON COUNTY, MICHIGAN: C. J. Doonan and G. E. Hendrickson, 29p., maps, 1969. <i>In cooperation with the U.S. Geological Survey.</i>
WATER INVESTIGATION 10	2530	GROUND WATER AND GEOLOGY OF KEWEENAW PENINSULA, MICHIGAN: C. J. Doonan and others, 41p., maps, 1970. <i>In cooperation with the U.S. Geological Survey.</i>
WATER INVESTIGATION 11	2540	GROUND WATER AND GEOLOGY OF BARAGA COUNTY, MICHIGAN: C. J. Doonan and J. R. Byerlay, 26p., maps, 1973. <i>In cooperation with the U.S. Geological Survey.</i>

The series **WATER SUPPLY REPORT** was published annually between 1957 and 1963 in cooperation with the U.S. Geological Survey. Since 1963, the report has been published solely by the U.S.G.S. For that reason only numbers 1 through 7 are indexed here. All are concerned with groundwater conditions in Michigan.

Many of these publications are out-of-print and no longer available from the Survey. Please consult the current price list to determine which are available and how they may be ordered.

WATER SUPPLY REPORT 1	2550	SUMMARY OF GROUND-WATER CONDITIONS IN MICHIGAN, 1956: P. R. Giroux, 49p., illus., map, 1957. <i>In cooperation with the U.S. Geological Survey.</i>
WATER SUPPLY REPORT 2	2560	SUMMARY OF GROUND-WATER CONDITIONS IN MICHIGAN, 1957: P. R. Giroux, 79p., illus., map, 1958. <i>In cooperation with the U.S. Geological Survey.</i>
WATER SUPPLY REPORT 3	2570	SUMMARY OF GROUND-WATER CONDITIONS IN MICHIGAN, 1958: P. R. Giroux and T. Thompson, 77p., illus., maps, 1960. <i>In cooperation with the U.S. Geological Survey.</i>
WATER SUPPLY REPORT 4	2580	SUMMARY OF GROUND-WATER CONDITIONS IN MICHIGAN, 1959: P. R. Giroux and T. Thompson, 69p., illus., map, 1961. <i>In cooperation with the U.S. Geological Survey.</i>
WATER SUPPLY REPORT 5	2590	SUMMARY OF GROUND-WATER CONDITIONS IN MICHIGAN, 1960: P. R. Giroux and T. Thompson, 74p., illus., maps, 1961. <i>In cooperation with the U.S. Geological Survey.</i>
WATER SUPPLY REPORT 6	2600	SUMMARY OF GROUND-WATER CONDITIONS IN MICHIGAN, 1961: P. R. Giroux, 98p., illus., maps, 1962. <i>In cooperation with the U.S. Geological Survey.</i>
WATER SUPPLY REPORT 7	2610	SUMMARY OF GROUND-WATER CONDITIONS IN MICHIGAN, 1962: P. R. Giroux and G. C. Huffman, 80p., illus., maps, 1963. <i>In cooperation with the U.S. Geological Survey.</i>

WELL LOGS from oil, gas, and water wells are available from the Survey. Any attempt to list them is, however, far beyond the scope of this work.

In addition to these 32 series, the Survey has published a number of **NON-SERIES** works, these are listed below in alphabetical order by author, with the exception of the field trip guidebooks. Many of these are related in one form or another to some series publications as rough drafts, revisions, or forerunners of series. Where applicable, these relationships are noted.

The Geological Survey has also served as co-author and/or co-publisher of a number of **FIELD TRIP GUIDEBOOKS**, primarily in conjunction with the Michigan Geological Society (now the Michigan Basic Geological Society) and the Michigan Academy of Science, Arts and Letters. Those guidebooks for which a definite Survey connection can be determined are listed below.

Many of these publications are out-of-print and no longer available from the Survey. Please consult a current price list to determine which are available and how they can be ordered.

FIELD TRIP GUIDEBOOK, 1937	2620	DEVONIAN OF NORTHEASTERN SOUTHERN PENINSULA: Michigan Academy of Science, Arts and Letters, Section of Geology and Mineralogy, Annual Field Excursion, 7th, May 29-30, 1937, unsp. illus., maps, 1937.
FIELD TRIP GUIDEBOOK, 1938	2630	DEVONIAN OF NORTHWESTERN SOUTHERN PENINSULA: Michigan Academy of Science, Arts and Letters, Section of Geology and Mineralogy, Annual Field Excursion, 8th, May 28-29, 1938, 15p., illus., map, 1938.
FIELD TRIP GUIDEBOOK, 1939	2640	MARQUETTE AND MENOMINEE RANGES: J. Zinn and C. E. Dutton (Michigan Academy of Science, Arts and Letters, Section of Geology and Mineralogy, Annual Field Excursion, 9th, May 27-30, 1939), var. pgn., illus., maps, 1939.
FIELD TRIP GUIDEBOOK, 1940	2650	AFTON-ONAWAY DISTRICT: W. A. Kelly (Michigan Academy of Science, Arts and Letters, Section of Geology and Mineralogy, Annual Field Excursion, 10th, May 25-26, 1940), unsp., illus., maps, 1940.
FIELD TRIP GUIDEBOOK, 1941	2660	ST. IGNACE AND MACKINAC ISLAND: Michigan Academy of Science, Arts and Letters, Section of Geology and Mineralogy, Annual Field Excursion, 11th, May 30-June 1, 1941, 22p., illus., maps, 1941.
FIELD TRIP GUIDEBOOK, 1947	2670	MICHIGAN COPPER COUNTRY: Michigan Academy of Science, Arts and Letters (and Michigan Geological Society), Annual Field Trip, June 20-22, 1947, 27p., illus., maps, 1947.
FIELD TRIP GUIDEBOOK, 1948	2680	PLEISTOCENE AND EARLY PALEZOIC OF THE EASTERN PART OF THE NORTHERN PENINSULA OF MICHIGAN: Michigan Academy of Science, Arts and Letters (and Michigan Geological Society), Annual Field Trip, June 18-21, 1948, 28p., illus., maps, 1948.
FIELD TRIP GUIDEBOOK, 1949	2690	NORTHERN PART OF THE SOUTHERN PENINSULA OF MICHIGAN: Michigan Geological Society, Annual Geological Excursion, June, 1949, unsp., illus., maps, 1949.
FIELD TRIP GUIDEBOOK, 1950	2700	THE ORDOVICIAN ROCKS OF THE ESCANABA-STONINGTON AREA: R. C. Hussey (Michigan Geological Society, Annual Field Trip, June 2-3, 1950), 24p., illus., maps, 1950.
FIELD TRIP GUIDEBOOK, 1951	2710	THE DEVONIAN AND SILURIAN ROCKS OF PARTS OF ONTARIO, CANADA AND WESTERN NEW YORK: Michigan Geological Society, Annual Field Trip, June 22-23, 1951, illus., maps, 1951.
FIELD TRIP GUIDEBOOK, 1952	2720	STRATIGRAPHY AND STRUCTURE OF THE DEVONIAN ROCKS IN SOUTHEASTERN MICHIGAN AND NORTHWESTERN OHIO: G. M. Ehlers and others (Michigan Geological Society, Annual Field Excursion, June 20-21, 1952), illus., maps, 1952.
FIELD TRIP GUIDEBOOK, 1953	2730	THE ORDOVICIAN STRATIGRAPHY OF THE CINCINNATI, OHIO AND RICHMOND, INDIANA AREAS: A. E. Slaughter (Michigan Geological Society, Annual Geological Excursion, June 12-13, 1953), var. pgn., illus., 1953.
FIELD TRIP GUIDEBOOK, 1954	2740	THE STRATIGRAPHY OF MANITOULIN ISLAND, ONTARIO, CANADA: Michigan Geological Society, Annual Field Trip, June 19-20, 1954, 30p., illus., map, 1954.
FIELD TRIP GUIDEBOOK, 1955	2750	THE NIAGARA ESCARPMENT OF PENINSULAR ONTARIO, CANADA: Michigan Geological Society, Annual Field Trip, June 18-19, 1955, 49p., illus., maps, 1955.
FIELD TRIP GUIDEBOOK, 1956	2760	THE DEVONIAN STRATA OF THE LONDON-SARNIA AREA, SOUTHWESTERN ONTARIO: E. C. Stumm and others (Michigan Geological Society, Annual Field Trip, June 9-10, 1956), 21p., illus., map, 1956.

- 2770 GEOLOGICAL MAP OF IRON COUNTY: L. P. Barrett (comp.) and others. 1 col. sheet (1": 2 miles), 1929.
- 2780 DIRECTORY OF MICHIGAN MINERAL OPERATORS, 1963: J. R. Byerley (comp.), 65p., maps, 1964.
This and the following work were forerunners of the Annual Directory series.
- 2790 DIRECTORY OF MICHIGAN MINERAL OPERATORS, ... 1964: Michigan, Geological Survey Division, Economic Minerals Section (J. R. Byerley, comp.), 66p., maps, 1965.
- 2800 INVENTORY OF SAMPLE LOGS AND CORE DESCRIPTIONS AVAILABLE AT MICHIGAN GEOLOGICAL SURVEY: B. L. Champion and R. H. Edwards, 85p., 1955.
- 2810 INVENTORY OF SAMPLE LOGS AND CORE DESCRIPTIONS AVAILABLE AT MICHIGAN GEOLOGICAL SURVEY, JANUARY 1956 THROUGH DECEMBER 1959: B. L. Champion, 29p., Dec., 1959.
- 2820 INFORMATION ON MICHIGAN SILURIAN OIL AND GAS POOLS: G. D. Eells (comp.), 34p., illus., maps, 1963.
Revised and reissued as Report of Investigation 2.
- 2830 SILURIAN OIL AND GAS DEVELOPMENTS IN MICHIGAN: G. D. Eells, 11p., illus., maps, 1960.
- 2840 STRUCTURES ASSOCIATED WITH THE ALBION-SCIPPIO OIL FIELD TREND: G. D. Eells, 86p., illus., maps, 1962.
- 2850 KEY TO THE KIT OF ROCKS AND MINERALS OF MICHIGAN (and KIT OF ROCKS AND MINERALS IN MICHIGAN): M. A. Gere, Jr., 5p., 24 rock samples, 1977.
This is the most recent key. Others have been published, but they have generally been the same.
- 2860 MICHIGAN'S GEM STONES: H. J. Hardenberg, 6p., 1951.
- 2870 MICHIGAN'S GEM STONES: H. J. Hardenberg, 5p., 1959.
- 2880 GEOLOGY NOTES FOR UPPER PENINSULA TRAVELING WORKSHOP: R. W. Kelley (comp.), 27p., maps, 1957.
Reprinted in 1959.
- 2890 GLACIAL GEOLOGY OVERPRINTED ON COUNTY MAPS: R. W. Kelley, 19 col. sheets, scale varies, 1956-1958.
Glacial geology and surface formations printed in brown over a county base map. Counties included in this series are Antrim, Beaver Islands, Benzie, Charlevoix, Clare, Crawford, Gladwin, Grand Traverse, Hillsdale, Jackson, Kalkaska, Leelanau, Manistee, Mason, Missaukee, Muskegon, Oceana, Ottawa, and Roscommon. The scale varies slightly between sheets, but is approximately 1": 2 miles. Each sheet is 8½" x 14".
- 2900 THE GLACIAL LAKES SURROUNDING MICHIGAN: R. W. Kelley, 22p., illus., maps, 1960.
Revised and reissued as Bulletin 4.
- 2910 LOOKIN' FOR STONES?: R. W. Kelley, 7p., illus., map, 1961.
- 2920 MICHIGAN'S SAND DUNES, A GEOLOGIC SKETCH: R. W. Kelley, illus., map, 1962.
Revised and reissued as Pamphlet 5 in 1971.
- 2930 MINERALOGICAL GUIDE: R. W. Kelley, 13p., 1958.
- 2940 MINERALOGICAL GUIDE: R. W. Kelley, 22p., 2nd ed., 1959.
- 2950 MINERALOGICAL GUIDE: R. W. Kelley, 31p., illus., maps, 3rd ed., 1960.
Includes Reprint 1 and Reprint 2. Much of this information is now available in Pamphlet 6.
- 2960 A GUIDE TO URANIUM PROSPECTORS IN MICHIGAN: B. E. Kennedy, 16p., 1949.
- 2970 CLASSIFIED AND ANNOTATED LIST OF GEOLOGIC CONTRIBUTIONS TO "MICHIGAN CONSERVATION", 1935-1960: E. A. Kirkby, 1960.
Reissued as Circular 1 in 1964.
- 2980 GEOLOGIC MAP INDEX: MICHIGAN, 1843-1962: E. A. Kirkby, 57p., map, 1960.
Reissued as Circular 8 in 1964.
- 2990 OUTLINE OF THE GEOLOGIC HISTORY OF BRANCH COUNTY: H. M. Martin, 10p., illus., maps, 1958.
- 3000 OUTLINE OF THE GEOLOGIC HISTORY OF CHEBOYGAN COUNTY: H. M. Martin, 10p., illus., map, 1957.
- 3010 OUTLINE OF THE GEOLOGIC HISTORY OF THE GRAND TRAVERSE REGION: H. M. Martin, 9p., illus., maps, 1957.
- 3020 OUTLINE OF THE GEOLOGIC HISTORY OF HILLSDALE COUNTY: H. M. Martin, 11p., illus., maps, 1957.

- 3030 OUTLINE OF THE GEOLOGIC HISTORY OF INGHAM COUNTY: H. M. Martin. 5p., map, 1958.
- 3040 OUTLINE OF THE GEOLOGIC HISTORY OF KALAMAZOO COUNTY: H. M. Martin. unsp., illus., maps, 1957.
- 3050 OUTLINE OF THE GEOLOGIC HISTORY OF LENAWEE COUNTY: H. M. Martin. 5p., illus., maps, 1958.
- 3060 OUTLINE OF THE GEOLOGIC HISTORY OF MECOSTA COUNTY: H. M. Martin. 12p., illus., maps, 1958.
- 3070 OUTLINE OF THE GEOLOGIC HISTORY OF MICHIGAN: H. M. Martin. 12p., 1952.
- 3080 OUTLINE OF THE GEOLOGIC HISTORY OF MIDLAND COUNTY: H. M. Martin. 16p., illus., maps, 1958.
- 3090 OUTLINE OF THE GEOLOGIC HISTORY OF OCEANA COUNTY: H. M. Martin. unsp., illus., maps, 1957.
- 3100 OUTLINE OF THE GEOLOGIC HISTORY OF Ogemaw COUNTY: H. M. Martin. unsp., illus., maps, 1957.
- 3110 OUTLINE OF THE GEOLOGIC HISTORY OF OTTAWA COUNTY: H. M. Martin. 3p., illus., map, 1958.
- 3120 OUTLINE OF THE GEOLOGIC HISTORY OF ROSCOMMON COUNTY: H. M. Martin. 4p., illus., map, 1958.
- 3130 OUTLINE OF THE GEOLOGIC HISTORY OF SAGINAW COUNTY: H. M. Martin. 6p., 1957.
- 3140 OUTLINE OF THE GEOLOGIC HISTORY OF SHIAWASSEE COUNTY: H. M. Martin. 21p., illus., maps, 1958.
- 3150 SOMETHING ABOUT CAVES: H. M. Martin. 8p., illus., map, 1958.
- 3160 DRIFT THICKNESS MAP [OF SOUTHERN PENINSULA]: Michigan, Geological Survey Division, 1 sheet (1": 8 miles), 1938.
- 3170 ELEMENTARY EARTH SCIENCE COURSES AT MICHIGAN COLLEGES, 1963: Michigan, Geological Survey Division, 9p., 1963.
- 3180 LARGE WILDCAT MAP OF SOUTHERN PENINSULA: Michigan, Geological Survey Division, 1 sheet (1": 4 miles), ca. 1954.
- 3190 GEOLOGICAL CROSS SECTION OF LOWER MICHIGAN, FROM SOUTH BEND, INDIANA TO MANITOULIN ISLAND, ONTARIO: Michigan, Geological Survey Division, 1 sheet (vert. scale 1": 500'), 1936.
- 3200 MICHIGAN OIL FIELDS: Michigan, Geological Survey Division, 6p., 1950.
- 3210 NATURAL GAS FIELDS: Michigan, Geological Survey Division, 4p., 1951.
- 3220 MICHIGAN GEOLOGICAL SURVEY NEWSLETTER: Michigan, Geological Survey Division, 1955-1959.
This newsletter, published irregularly, contained primarily personal information about the staff, jokes, etc. It was not circulated outside of the Survey.
- 3230 NORTH-SOUTH CROSS SECTION OF MICHIGAN: Michigan, Geological Survey Division, 1 col. sheet, ca. 1958.
See Geological Map 2 for a reproduction.
- 3240 OIL AND GAS FIELD MAP: Michigan, Geological Survey Division, 1 sheet (1": 8 miles), 1954.
- 3250 STATISTICS COVERING COSTS AND PRODUCTION OF MICHIGAN IRON MINES: Michigan, Geological Survey Division, 1926-
Published annually since 1926.
- 3260 SUMMARY OF OPERATIONS, OIL AND GAS FIELDS: Michigan, Geological Survey Division, 1934-1945.
Issued as mimeographed or printed sheets annually between 1934 and 1945. In 1946 it expanded to become the series Summary of Operations.
- 3270 TOPOGRAPHIC MAP OF THE BEDROCK SURFACE OF THE SOUTHERN PENINSULA OF MICHIGAN: Michigan, Geological Survey Division, 1 sheet (1": 8 miles), 1943.
- 3280 TREND MAP OF ANTICLINAL FOLDING, SOUTHERN PENINSULA: Michigan, Geological Survey Division, 1 sheet (1": 8 miles), 1937.
- 3290 WATER VIEWS: Michigan, Geological Survey Division, 1956-1959.
This newsletter was published for use within the Division between January, 1956 and April, 1959. It was published irregularly.

- 3300 WILDCAT WELL MAP [OF SOUTHERN PENINSULA]: Michigan, Geological Survey Division, 1 sheet (1": 6 miles), 1955.
- 3310 QUARTERLY REPORT TO SUPERVISOR OF WELLS AND OIL AND GAS ADVISORY BOARD: Michigan, Geological Survey Division, Oil and Gas Section, Production and Proration Unit, 1972-
- 3320 SUBSURFACE PRESSURE REPORT ON THE NORTHERN MICHIGAN REEF DEVELOPMENT: Michigan, Geological Survey Division, Production and Proration Unit, unpub., 1975.
- 3330 LAKE GAZETEER OF GOGEBIC COUNTY, MICHIGAN: Michigan, Committee on Geographic Names (and Michigan, Geological Survey Division), 50p., 27p., 1952. *Revised edition, 1954.*
- (Summary Report 1) 3340 PRODUCTION AND VALUE OF MINERALS AND MINERAL PRODUCTS IN MICHIGAN, 1927 TO 1931 AND PRIOR YEARS: W. Osgood and O. F. Poindexter, 46p., 1933. *This and the next publication both carry the series title Summary Report. This is not, however, being treated as a separate series. These two works are among those transition pieces between Publications and Annual Statistical Summaries.*
- (Summary Report 2) 3350 PRODUCTION AND VALUE OF MINERALS AND MINERAL PRODUCTS IN MICHIGAN, 1930 TO 1934 AND PRIOR YEARS: W. Osgood and O. F. Poindexter, 40p., 1936.
- 3360 ROCKS AND MINERALS OF MICHIGAN: O. F. Poindexter and others, 43p., illus., 1971. *Yet another reprint of Publication 42. In addition it contains Reprints 1 and 2.*
- 3370 MICHIGAN IRON MINES: R. C. Reed, 28p., illus., maps, 1957.
- 3380 INVENTORY OF WELL SAMPLE SETS AND CORES AVAILABLE AT THE MICHIGAN GEOLOGICAL SURVEY OFFICE IN ESCANABA: A. E. Slaughter (comp.), unpub., 1963.
- 3390 ANALOG SIMULATION OF GROUND-WATER DEVELOPMENT OF THE SAGINAW FORMATION, LANSING METROPOLITAN AREA, MICHIGAN: K. E. Vanlier and others, 40p., illus., maps, 1968. *In cooperation with the U.S. Geological Survey and the Tri-County Regional Planning Commission.*
- 3400 GENERAL INFORMATION PERTAINING TO MICHIGAN'S OIL AND GAS INDUSTRY: K. G. Walsworth, 14p., 1950.

**APPENDIX
and
INDICES**

APPENDIX

Besides the **Geologic Map** series, maps which are parts of other publications, maps listed as separate numbers of the **Publication** series, and those listed in the section of non-series publications, there are many other maps which belong to one of five map series. These are listed in the Appendix.

All maps listed in this Appendix are assumed to have been authored/compiled/published by the Michigan Geological Survey Division. For this reason only the title, scale, and date of publication (when known) are listed.

All maps listed are single sheet and blueprint on paper.

A new series will soon be instituted which will be called **Map List Available Maps of the Michigan Geological Survey**. It will serve as a price list for these and other maps issued by the Survey.

Many of these maps are out-of-print and no longer available from the Survey. Please consult the current map list to determine which are available and how they may be ordered.

There are currently nine maps in the **MINERAL RESOURCE MAP** series.

MINERAL RESOURCES MAP 100	3410	DEPTH CONTOURS ON FIRST SALT OF DETROIT RIVER GROUP, SOUTHERN PENINSULA: 1949.
MINERAL RESOURCES MAP 101	3420	DEPTH CONTOURS ON FIRST SALT IN SALINA GROUP, SOUTHERN PENINSULA: 1949.
MINERAL RESOURCES MAP	3430	DOLOMITE MAPS: (1": 1 mile), 1937-1939.
	3430-A	Eastern Chippewa County, 1937.
	3430-B	Eastern Mackinac County, 1939.
	3430-C	Western Mackinac County, 1938.
MINERAL RESOURCES MAP 100-A	3440	ISOPACH MAP OF ALL SALT, DETROIT RIVER GROUP, SOUTHERN PENINSULA: 1949.
MINERAL RESOURCES MAP 101-A	3450	ISOPACH OF ALL SALT, SALINA GROUP, SOUTHERN PENINSULA: 1949.
MINERAL RESOURCES MAP 3575	3460	SAND DUNES OF MICHIGAN: (1:1,000,000), 1962.
MINERAL RESOURCES MAP 104	3470	TOWNSHIP PLATS, NORTHERN PENINSULA, SHOWING MAGNETIC ORE OUTCROPS: (4": 1 MILE), n.d. <i>A complete list is available from the Survey.</i>

MISCELLANEOUS BASE MAP(s) and **MISCELLANEOUS GRID(s)** do not show cultural features such as airports or buildings, nor do they show oil and gas well locations. Because they are used as base maps and are in a state of constant revision, no publication dates are given. Fifteen sectional base maps of the Southern Peninsula are also available, but they are not indexed here. Please check Map List for a complete listing.

MISCELLANEOUS BASE MAP 3850	3480	MICHIGAN COUNTY OUTLINE: (1:870,000).
MISCELLANEOUS BASE MAP C32860	3490	MICHIGAN COUNTY OUTLINE: (1:1,000,000). <i>Includes county names and outline.</i>
MISCELLANEOUS BASE MAP 3286	3500	MICHIGAN TOWNSHIP OUTLINE: (1:1,000,000). <i>Includes county names and T. & R. numbers.</i>
MISCELLANEOUS BASE MAP 3521	3510	NORTHERN PENINSULA, COUNTY OUTLINE: (1:500,000). <i>County names and outlines.</i>
MISCELLANEOUS BASE MAP 3648-A	3520	NORTHERN PENINSULA, SECTIONALIZED: (1:500,000). <i>County names, T. & R. numbers, Sections.</i>
MISCELLANEOUS BASE MAP 3503-A	3530	NORTHERN PENINSULA, TOWNSHIP OUTLINE: (1:500,000). <i>Outline and T. & R. numbers.</i>
MISCELLANEOUS BASE MAP 3854	3540	NORTHERN PENINSULA, MINOR CIVIL DIVISIONS: (1:500,000). <i>T. & R. numbers and Township names.</i>
MISCELLANEOUS BASE MAP 3520	3550	SOUTHERN PENINSULA, COUNTY OUTLINE: (1:500,000). <i>County outline and names.</i>
MISCELLANEOUS BASE MAP 3648	3560	SOUTHERN PENINSULA, SECTIONALIZED: (1:500,000). <i>T. & R. numbers and sections.</i>
MISCELLANEOUS BASE MAP 03523	3570	SOUTHERN PENINSULA, SECTIONALIZED: (1": 6 miles). <i>T. & R. numbers and sections.</i>
MISCELLANEOUS BASE MAP 3503	3580	SOUTHERN PENINSULA, TOWNSHIP OUTLINE: (1:500,000). <i>T. & R. numbers and outline.</i>
MISCELLANEOUS BASE MAP 3804	3590	SOUTHERN PENINSULA, TOWNSHIP OUTLINE: (1": 6 miles). <i>T. & R. numbers and outline.</i>

MISCELLANEOUS BASE MAP 3853	3600	SOUTHERN PENINSULA. MINOR CIVIL DIVISIONS: (1:500,000). <i>T. & R. numbers and townships.</i>
MISCELLANEOUS GRID 3636	3610	TOWNSHIP GRID BLANK: (1": 1 mile), 4 townships per sheet.
MISCELLANEOUS GRID 3619	3620	TOWNSHIP GRID BLANK: (2": 1 mile).
MISCELLANEOUS GRID 3450	3630	TOWNSHIP GRID BLANK: (2": 1 mile), 4 townships per sheet.
MISCELLANEOUS GRID 3451	3640	TOWNSHIP GRID BLANK: (4": 1 mile).

This series of **MISCELLANEOUS MAPS AND CHARTS** contains only one map and one chart. Others which have been published in this series are listed in the section on non-series publications.

MISCELLANEOUS MAPS AND CHARTS 3885	3650	BEDROCK SURFACE ELEVATIONS, SOUTHERN PENIN- SULA: (contour interval: 50'), 1943.
MISCELLANEOUS MAPS AND CHARTS	3660	MINOR CIVIL DIVISIONS SHOWING TOWNSHIPS AND COUNTIES: (1": 9 miles), 1970.

OIL AND GAS MAPS have been published for each county in the Southern Peninsula. These maps show oil, gas, brine, and disposal wells, dry holes, and the like, but do not show geologic data or structural contour lines. These county maps are drawn on a scale of 1 inch to 1 mile.

Many field and township maps are also available at a scale of 1 inch to 4 miles. These maps show wells, permit numbers, operators, and lease names.

Since there are well over 350 maps in this series and since they are being constantly revised, they are not indexed or listed in this present work. It is recommended that the reader consult a copy of Map List in order to determine the most up-to-date listing.

Three **RIVER BASIN AND DRAINAGE MAP(s)** have been published.

RIVER BASIN AND DRAINAGE MAP 201	3670	MICHIGAN DRAINAGE MAP SHOWING COUNTIES, MAIN RIVERS AND TRIBUTARIES: (1:500,000), n.d.
RIVER BASIN AND DRAINAGE MAP 200	3680	MICHIGAN RIVER BASINS MAP SHOWING COUNTIES AND RIVER BASINS: (1:500,000), n.d.
RIVER BASIN AND DRAINAGE MAP 204	3690	RIVERS OF MICHIGAN SHOWING COUNTIES, TOWNSHIPS, AND T. AND R. NUMBERS: (1:1,000,000), 1966.

INDICES

All authors whose names appear on either the title page or in the table of contents of each work are listed below. The names are in alphabetical order.

Some agencies and organizations, such as the U.S. Geological Survey and Michigan State University, which co-produced some of the publications, are also listed.

The number(s) following each author's name are index numbers which refer to an individual work listed herein.

- Acker, Robert M.
0200, 2190-2260.
- Adams, Charles C.
0180, 0215.
- Allen, Rolland Craten
1330, 1380, 1430, 1460-1490, 1510-1540,
1570, 1590.
- Allen, William B.
2400.
- Anderson, Raymond J.
0990-A.
- Andrews, A. W.
1500.
- Arnold, C. A.
0480.
- Ayres, Vincent L.
1150.
- Barrett, Leslie Park
1480, 1530, 1590, 1620, 1640, 1650, 2770,
3250.
- Been, Walfrid
0570.
- Bergquist, Stanard Gustaf
0490, 1700, 1720, 1725, 3360.
- Bishop, Richard J.
0350.
- Blakely, Robert F.
0990-B.
- Bourne, H. Lyn
0990-B.
- Boyd, J.
0480.
- Braidech, Lawrence L.
0990-B.
- Brater, Ernest Frederick
2020.
- Bricker, D. Michael
0420, 0440, 0460, 0470, 0680.
- Briggs, Louis I.
0990-A.
- Broderick, Grace N.
0370, 0390, 0410, 0430.
- Brooks, Thomas Benton
2300, 2310.
- Brown, Edward Augustus
1190, 2290.
- Brown, George Granger
1660, 1710.
- Brown, S. T.
0990-B.
- Burt, Edward M.
1210, 1250.
- Byerlay, John R.
0030, 0040, 0250, 0270, 0290, 0810, 2000,
2530, 2540, 2780, 2790.
- Callender, Edward
0990-A.
- Calver, James Lewis
1750.
- Carlson, Emery T.
0490, 0880-0980.
- Carr, Donald D.
0990-B.
- Case, Ermine Cowies
1480.
- Chamberlain, Von Del
0520.
- Champion, Beverly L.
0320, 0340, 0360, 0380, 0400, 0420, 0440,
0460, 2800, 2810.
- Clark, Lorin Delbert
1880.
- Coates, W. E.
0990-A.
- Colbert, R. J.
1500.
- Colburn, W. H.
0740.
- Cole, Leon J.
2380.
- Cook, Charles Wilford
1380, 1450.
- Cook, Mel T.
1310.
- Cooper, William Funk
0160, 0180.
- Crosthwaite, E. G.
1210.
- Culver, Thomas L.
0580.
- Daoust, William Louis
0480.
- Davis, Charles Albert
0190-0210.
- Deutsch, Morris
1220, 1240, 1250, 1280.
- Dodge, Charles Keene
1610.
- Doonan, Charles J.
2410, 2420, 2480, 2500-2540.
- Dunn, J. R.
0990-B.
- Dunn, Robert A.
0380.
- Dutton, Carl Evans
1100, 1110, 1130, 1140, 1850, 1860, 2640.
- Eddy, Gerald Ernest
0600, 0990, 1060, 3250.
- Edwards, Robert H.
2800.
- Egleson, G. C.
0990-A.
- Ehlers, George Marion
1740, 2720.
- Ells, Garland D.
0240, 0260, 0280, 0300, 0320, 0340, 0360,
0380, 0400, 0420, 0440, 0460-0480, 1230,
1830, 2820-2840.
- Eltzroth, Elmore E.
0840.
- Elowski, Ronald C.
0460, 0470.

- Evans, A. T.
1500.
- Farrand, William R.
0510.
- Ferris, John G.
1210, 2270.
- Forum on Geology of Industrial Materials
0990.
- Foster, John Wells
0015.
- French, Robert R.
0990-B.
- Fuller, George N.
0010.
- Fuller, Myron Leslie
0170.
- Gair, J. E.
1910.
- George, Kathryn
0770.
- Gere, Milton Albert, Jr.
0130, 0450, 2850.
- Giardini, A.
0990-A.
- Giroux, Paul R.
1280, 2460, 2490, 2550-2610.
- Gordan, W. C.
0190.
- Gordon, Charles Henry
0140, 2360.
- Grabau, Amadeus William
0140, 1320.
- Gregory, W. M.
0140, 1410.
- Grimsley, G. P.
0150, 2380.
- Hale, David J.
2370.
- Hamblin, William Kenneth
1810.
- Hamil, B. M.
1980.
- Hamilton, O. R.
1460, 1590.
- Hankinson, Thomas L.
0200, 1500.
- Hardenberg, Harry J.
0480, 0850-0870, 1030, 2860, 2870, 2950,
3250.
- Hautau, Gordon Henry
1200, 1775, 2190-2250.
- Heinrich, E. William
0530, 0990-A.
- Hendrickson, Gerth E.
0500, 2410, 2420, 2460, 2480, 2500-2530.
- Herbert, Thomas A.
0990-B.
- Herdendorph, Charles E.
0990-B.
- Hiatt, John L.
0990-A.
- Higgins, S. W.
0010.
- Hinze, William James
1820, 1930, 1950.
- Hobbs, William Herbert
1350.
- Hole, William E., Jr.
0990-B.
- Hopper, Walter E.
1490, 1510, 1540, 1570.
- Hore, Reginald E.
1380, 1430, 1460, 1490.
- Houghton, Douglass
0010.
- Hubbard, Lucius Lee
2340, 2350.
- Hudec, P. P.
0990-B.
- Huffman, G. C.
2610.
- Hussey, Russell Claudius
1700, 1760, 2700.
- Illinois. State Geological Survey
0720.
- Indiana. Geological Survey.
0720, 0730.
- Ives, Robert E.
0220, 0480, 0990-A, 2190-2260.
- James, Harold Lloyd
1850, 1870, 1880.
- Johnson, Gerald H.
0730.
- Jones, L.
1980.
- Jurgensen, M. F.
1980.
- Kauffman, C. H.
1560.
- Keller, Stanley J.
0720, 0730.
- Kelley, Robert W.
0480, 0510, 0550, 0590, 0700, 0710, 0740,
0750, 0770-0790, 1020-1040, 1990, 2000,
2880-2950.
- Kellogg, Richard L.
1950.
- Kellum, Lewis B.
2760.
- Kelly, William Aultin
1700, 2650.
- Kennedy, Bruce E.
2960, 3250.
- Kesling, Robert V.
2720.
- Kirkby, Edward A.
0480, 0550, 0560, 0590, 0610, 0620, 0770,
1805, 2970, 2980.
- Klyce, Donald F.
0230, 0250, 0270, 0290, 0310, 0330, 0350.
- Kneller, William A.
0990.
- Knutilla, Robert L.
2390, 2420, 2430.
- Kramer, David L.
0990-A.
- Lamey, Carl Arthur
1100, 1110, 1130.
- Landes, Kenneth Knight
1740.
- Lane, Alfred Church
0140-0210, 1360, 2340-2370.
- Larson, R. W.
2390.
- Layton, Floyd L.
0320, 0340, 2040-2090.
- Lennox, L.
1980.
- Leverett, Frank
0140, 1370, 1390, 1550.
- Lewis, Jerry D.
0110, 0120, 0650.

AUTHOR

- Lilienthal, Richard T.
0400, 0420, 0440, 1960.
- Livingston, Burton Edward
0140, 0160.
- Lorenz, James S.
0580, 2040-2090.
- Lyons, N. X.
0480.
- Majeske, E. C.
0990-A.
- Martin, Helen Mandeville
0480, 0490, 1590, 1620, 1630, 1690, 1695.
1720, 1725, 1790-1800, 2990-3150, 3360.
- Matthews, R. David
0990-A.
- Matzkanin, Arthur D.
2040-2090.
- Merritt, Donald W.
1950.
- Meshref, Wafik M.
1930.
- Michigan. Committee on Geographic Names
3330.
- Michigan. Division of Geology
0690.
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Pub. List 1.
- Michigan. Geological Survey Division
0540, 0545, 0630, 0640, 0670, 0760, 0800.
1780, Pub. List 2, 3, 2010-2030, 2100-
2180, 2780, 3160-3300, 3330, 3410-3690.
- Michigan. Geological Survey Division. Oil
and Gas Section. Production and Proration
Unit
3310, 3320.
- Michigan. State College of Mining and
Technology
1150, 1160.
- Michigan. State University. Department of
Geology
1820, 1930, 1950.
- Michigan. Technological University See
Michigan. State College of Mining and
Technology
- Michigan. University. Engineering Re-
search Institute. Lake Hydraulics Laborat-
ory
2010, 2030.
- Michigan. Water Resources Commission
2030
- Michigan Academy of Science, Arts and
Letters
2670, 2680.
- Michigan Academy of Science, Arts and
Letters. Section of Geology and Mineralogy
2620-2660.
- Michigan Basin Geological Society See
Michigan Geological Society
- Michigan Geological Society
2670-2760.
- Middlewood, Esther A.
0450.
- Miles, M.
0020.
- Miller, Dalton G.
1580.
- Miller, Lee S.
1770, 1775.
- Mozola, Andrew J.
1780, 1840, 1940.
- Needham, J. G.
0200.
- Newcombe, Robert John Burgoyne
1670, 1680.
- Newman, Einer Adolph
1070.
- Nowlin, J. O.
2490.
- Odom, I. Edgar
0990-A.
- Osgood, Wayland
2770, 3250, 3340, 3350.
- Ostrander, Allan G.
0470.
- Palache, Charles
2350.
- Palmer, W.
0480.
- Pardee, Franklin G.
0480, 1670, 2770, 3250.
- Pearse, A. S.
1310.
- Peterson, Edward C.
0450.
- Pettijohn, Francis John
1880-1910.
- Poindexter, Oscar Floyd
0490, 0845, 1670, 1720, 1725, 3340-3360.
- Pollom, Ronald J.
2040-2090.
- Prather, J.
1980.
- Price, Lyle W.
0220, 2190-2260.
- Pringle, Gordon H.
1080.
- Prinz, William C.
1910.
- Pumpelly, Raphael
2300.
- Reed, Robert C.
0660, 3250, 3370.
- Rhodehamel, Edward Charles
2290.
- Ries, Heinrich
0200, 2370.
- Riggs, Calvin Harold
1090.
- Riley, C. M.
0480.
- Robinson, W. I.
1480, 1620.
- Rominger, Carl Ludwig
2300, 2320-2340.
- Rooney, Lawrence F.
0090.
- Rosen, J. A.
0200.
- Rosenau, Jack C.
0850-0870.
- Rulison, J. G.
2720.
- Russell, Israel Cook
0170, 0190.

AUTHOR

Ruthven, Alexander G.
1340, 1400, 1500, 1610.

Salotti, C. A.
0990-A.

Sargent, C. S.
0190.

Schneider, Alan F.
0720.

Schneider, C. F.
1390, 1550.

Scott, Irving Day
1600.

Seaman, A. E.
0210.

Seaman, Wyllis Arthur
1150, 1160.

Segall, R. Thomas
0050-0090, 0310, 0330, 0350, 0990-B,
1980.

Sherzer, Williamk Hittell
1320, 1420, 2360.

Shetron, Stephen G.
1980.

Simons, Perry T.
1580.

Sinclair, William C.
1270, 1290.

Skillings, Dorothy M.
0830.

Skinner, E. L.
2490.

Slaughter, Arthur Edwin
2730, 3380.

Slaughter, Jean L.
1010.

Smiley, William G.
0220, 2260.

Smith, Harlin I.
1310, 1400.

Smith, Richard A.
1380, 1440, 1460, 1490, 1510, 1530, 1540,
1570, 1620-1650, 1700, 1750.

Snelgrove, Alfred Kitchener
1150.

Snider, David W.
1970.

Sorensen, Harry O.
0250, 0270, 0290, 0310, 0330, 0350,
0880-0980, 0990-B, 3250.

Spiroff, Kiril
0480, 1120.

Stallman, R. W.
1170.

Stanley, George Mahon
1730, 1740, 2280.

Stith, David A.
0990-B.

Stoimenoff, L. E.
2460, 2490.

Straight, Muriel Tara
1800.

Stramel, G. J.
1210.

Stuart, Wilbur Tennant
1170-1190, 2280, 2290.

Stumm, Erwin Charles
2720, 2760.

Sundeen, S. W.
0480.

Tague, Glenn Charles
1750.

Taylor, Frank Bursley
0140.

Tefertiller, Rex A., Jr.
2070-2090.

Terwilliger, F. Wells
1780.

Theis, Charles Vernon
2280.

Thompson, Crystal
1400, 1500.

Thompson, Helen
1400.

Thompson, Ted
2570-2590.

Tinker, A. D.
1310.

Tinker, W. L.
1570.

Tri-County Regional Planning Commission
3390.

Twenter, Floyd R.
2390.

United States. Bureau of Mines
0230, 0250, 0270, 0290, 0310, 0330, 0350,
0370, 0390, 0410, 0450.

United States. Geological Survey
0500, 1170-1190, 1210, 1220, 1240-1300,
1850-1920, 2270-2290, 2390-2610, 3390.

Vanlier, Kenneth Eugene
1220, 1240-1260, 1280, 1300, 2440, 2450,
2470, 3390.

VanPelt, J. R.
0480.

Walden, William A.
0820.

Walker, Bryant
0180.

Wallin, Helen
1000.

Walsworth, Kenneth G.
3400.

Wayne State University. Department of
Geology
1840, 1940.

Whetstone, G. W.
2460.

Wheeler, M. L.
3390.

White, A. E.
1380.

Whitney, Josiah Dwight
0015.

Wier, Kenneth L.
1850, 1870, 1910, 1920.

Wilson, Steven Edward
1050, 2040-2060.

Winchell, Alexander
0020.

Winston, George
2720.

Wright, Charles E.
2340.

Wright, Fred Eugene
0160, 0210.

Wright, Jean Davies
2760.

Zinn, Justin
2640.

This index lists 25 of the major mineral commodities produced in Michigan. Listings under BRINE include bromine and the like. Listings under STONE sometimes duplicate limestone and sandstone listings. This section also refers to building stone such as marble. WATER RESOURCES listings refer for the most part to ground water, but some publications on lakes, rivers, and streams are also indexed here.

The numbers following each commodity are index numbers which refer to individual publications listed in the body of this work.

BRINE

0010-0090, 0110-0140, 0160, 0180-B, 0230, 0250, 0270, 0290, 0310, 0330, 0350, 0370, 0390, 0410, 0430, 0450, 0480, 0490, 0640, 0845, 0850-0980, 0990-A, 1320, 1360, 1380, 1420, 1440, 1450, 1460-C, 1470, 1490-B, 1510-B, 1540-B, 1570-B, 1590-B, 1620-B=1650-B, 1670-B, 1680, 1700-B, 1720, 1725, 1840, 1960, 2320-A, 2340-B, 2360-B, 2370-A, B, 2780, 2790, 3340-3360.

CEMENT

0030-0090, 0110-0140, 0160, 0170, 0200-A, C, 0230, 0250, 0270, 0290, 0310, 0330, 0350, 0370, 0390, 0410, 0430, 0450, 0480, 0845, 0850-0980, 1380-H, 1420, 1430, 1460-C, 1490-B, 1510-B, 1540-C, 1570-B, 1590-B, 1620-B-1650-B, 1660, 1670-B, 1710, 1940, 2340-B, 2360-A, B, C, 2370-A, C, 2380-A, B, 2620, 2630, 2690, 2720, 2780, 2790, 3340, 3350.

CLAY

0010, 0015, 0030-0090, 0110-0140, 0160, 0170, 0180=0290, 0310, 0330, 0350, 0370, 0390, 0430, 0480, 0490, 0845, 0850-0980, 0990-B, 1360, 1380, 1410-1430, 1460-C, 1490-B, 1510-B, 1540-B, 1570-B, 1590-B, 1620-B-1650-B, 1660, 1670-B, 1710, 1720, 1725, 1780-B, 1960, 2300-A, B, C, 2310-A, 2320-A, 2330, 2340-B, 2350-A, 2360-A, B, C, 2370-A, B, C, 2380-A, 2780, 2790, 3340-3360.

COAL

0010, 0020, 0130, 0140, 0160, 0170, 0180-B, 0190-D, 0200-A, 0210-B, C, 0450, 0480, 0490, 0540, 0545, 0845, 0850-0890, 1380-E, 1410-1430, 1460-C, 1490-B, 1510-B, 1540-B, 1570-B, 1590-B, 1620-B-1650-B, 1670-B, 1700-B, 1720, 1725, 2320-A, 2340-B, 2360-A, B, C, 2370-A, B, C, 3340, 3350.

COPPER

0010-0090, 0110-0140, 0160-J, 0170, 0190-B, C, 0200-A, 0210-D, 0230, 0250, 0270, 0290, 0310, 0330, 0350, 0370, 0390, 0410, 0430, 0450, 0480, 0490, 0530, 0845, 0850-0980, 1030, 1120, 1150, 1360, 1380-A, 1430-A, 1460-A, 1470, 1490-A, 1510-A, 1540-A, 1570-A, 1590-A, 1620-A-1650-A, 1670-A, 1720, 1725, 1980, 1990, 2300-A, B, 2305, 2310-A, 2330, 2340-A, 2350-A, B, C, 2360-B, 2530, 2670, 2780, 2790, 2850-2880, 2910, 3340-3360.

DOLOMITE

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GAS

0020, 0140, 0160-L, 0170, 0180-B, 0190-B, E, 0200-A, D, 0210-C, 0220-0480, 0580, 0630, 0690, 0845, 0850-0980, 1060, 1080, 1090, 1200, 1230, 1360, 1380-J, 1420-1440, 1460-C, 1470, 1490-B, 1510-B, 1540-B, 1570-B, 1590-B, 1620-C, 1630-B-1650-B, 1670-C, 1680, 1720, 1725, 1740, 1770, 1775, 1780-B, 1830, 1840, 1940, 1960, 2040-2260, 2320-A, 2340-B, 2360-A, C, 2370-B, 2380-A, 2390, 2820-2840, 3180, 3210, 3240, 3260, 3300-3320, 3340-3360, 3400.

GOLD

0015, 0140, 0170-E, 0190-E, 0480, 0490, 0530, 0845, 1150, 1380-I, 1670-B, 1720, 1725, 3350, 3360.

GRAVEL

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GYPSUM

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IRON

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LIME

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LIMESTONE

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MARL

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OIL

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PEAT

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SAND

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SANDSTONE

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SHALE

0010, 0080, 0090, 0110-0140, 0160, 0170, 0180-B, D, 0200-A, 0210-C, 0350, 0450, 0480, 0490, 0540, 0545, 0850-0980, 0990-B, 1320, 1360, 1380, 1420, 1460-C, 1510-B, 1540-B, 1570-B, 1590-B, 1620-B-1650-B, 1660, 1670-B, 1700-B, 1720, 1725, 1940, 1960, 2310-A, 2320-A, 2340-A, B, 2350-A, 2360-A, B, C, 2370-A, C, 2380-A, 2620, 2630, 2650, 2660, 2680, 2690, 2850, 3360.

SILVER

0015, 0110, 0190-B, 0250, 0270, 0290, 0310, 0330, 0350, 0370, 0390, 0410, 0430, 0450, 0490, 0530, 0845, 0860, 0870, 1150, 1360, 1490-A, 1510-B, 1540-B, 1590-B, 1620-B, 1630-B, 1720, 1725, 1990, 2300-A, B, 2340-A, 3340, 3350.

STONE

0010, 0030-0090, 0110-0140, 0160-G, 0230, 0250, 0270, 0290, 0310, 0330, 0350, 0370, 0390, 0410, 0430, 0450, 0490, 0845, 0850-0980, 1030, 1320, 1540-B, 1570-B, 1590-B, 1620-B-1650-B, 1670-B, 1710, 1720, 1725, 2300-A, C, 2310-A, 2320-A, 2330, 2340-A, B, 2360-A, B, C, 2370-A, C, 2380-B, 2620, 2630, 2650, 2670-2700, 2720, 2780, 2790, 2850-2880, 3340-3360.

SULFUR

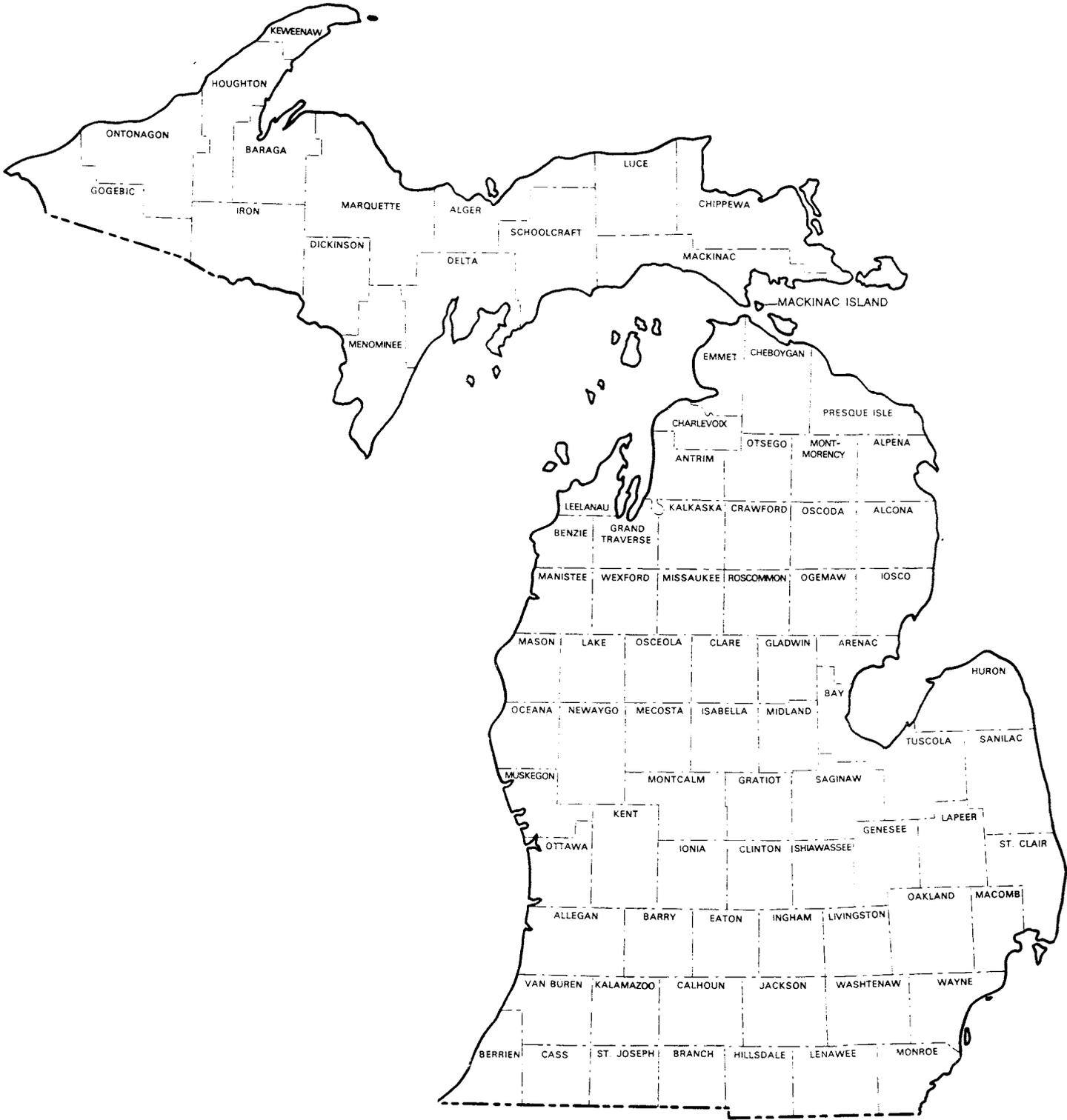
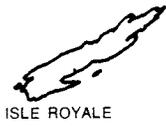
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URANIUM

0130, 0530, 2960.

WATER RESOURCES

0010, 0020, 0140, 0150-B, C, 0160-D, E, 0170-A, 0180-B, D, 0190-C, E, 0200-D, 0210-A, B, C, 0500, 0510, 0570, 0810, 0840, 0920-0940, 1170-1190, 1210, 1220, 1240-1300, 1350-1380, 1410, 1420, 1470, 1550, 1580, 1600, 1660, 1670-C, 1680, 1700-A, 1710, 1720, 1725, 1740, 1780-A, B, 1840, 1940, 2270-2290, 2340-B, 2360-A, B, C, 2370-A, C, 2380-A, 2390-2610, 2680, 2690, 2880, 3290, 3330, 3390, 3670-3690.



Michigan Counties and Locations

Counties are indexed on three levels. When a work, or part of a work, refers to fewer than 13 of the 83 counties (or Isle Royale or Mackinac Island), the individual counties have been indexed. When more than 13 counties are referred to and the following geographic distinction can be made, the work is indexed under either NORTHERN PENINSULA or SOUTHERN PENINSULA. In many cases where a work refers to all of Michigan or to a large number of the counties, the index listing is ALL COUNTIES. A few works, including bibliographies and sourcebooks, are not indexed in this section.

The numbers following each county name are index numbers which refer to individual publications listed in the body of this work.

- ALCONA
0140-C, 1610.
- ALGER
1700-A, C, 1760, 1810, 2300-C, 2305, 2420, 2440, 2680, 3380.
- ALLEGAN
0020, 0180-D, 0200-A, C, 1090, 1230, 1250, 1830, 2820, 2830.
- ALPENA
0140-A, 1030, 1610, 2620, 2690, 3150.
- ANTRIM
0180-D, 0190-E, 2630, 2890, 3010, 3320.
- ARENAC
0140-B, 0180-D, 0190-E, 0200-A, C, 0210-B, 0650, 1030, 1080, 1410, 1610, 1700-B, 2360-B, 2370-A.
- BARAGA
0015, 1150, 1160, 1480-A, 1810, 1930, 2300-A, 2305, 2310-A, 2340-A, 2420, 2540, 2960, 3250, 3370, 3380.
- BARRY
1230, 1960.
- BAY
0020, 0140-A, 0150-B, 0170, 0180-B, D, 0190-B, E, 0200-C, 1450, 1610, 1700-B, 1830, 2820, 2830, 3150.
- BENZIE
1750-B, 2890, 3010.
- BERRIEN
0140, 0200-B, 0650, 0720, 1170, 1230, 1750-A.
- BRANCH
0010, 0020, 0200-C, 0730, 1230, 2360-B, 2370-A, 2490, 2990.
- CALHOUN
0010, 0020, 0200-B, 0730, 0810, 1230, 1700-B, 1830, 2360-B, 2470, 2820-2840.
- CASS
0190-E, 0200-A, 0720, 1230.
- CHARLEVOIX
1030, 1740, 2630, 2690, 2890, 3010.
- CHEBOYGAN
0020, 0170-B, 1030, 1500-B, C, 1610, 1740, 2410, 2420, 2630, 2650, 2690, 3000, 3150.
- CHIPPEWA
0015, 1220, 1500-F, 1610, 1700-A, 1760, 1810, 2300-C, 2305, 2680, 3150, 3380, 3430.
- CLARE
0190-B, 2040, 2060, 2370-A, 2890.
- CLINTON
0020, 1180, 1300, 1700-B, 3390.
- CRAWFORD
0160-B, 0500, 1200, 2050, 2410, 2890, 3320.
- DELTA
0170, 0200-B, 1290, 1700-C, 1760, 2300-C, 2305, 2420, 2680, 2700, 3380.
- DICKINSON
0170, 0190-A, B, 0200-A, 0660, 1030, 1100, 1110, 1130, 1140, 1480-A, 1630-A, 1670, 1760, 1810, 1970, 2300-A, 2305, 2340-A, 2420, 2480, 3250, 3370, 3380.
- EATON
0010, 0020, 1180, 1700-B, 3390.
- EMMET
0020, 0170-B, 1740, 2360-A, 2630, 2690, 3010.
- GENESEE
0140, 0200-B, 1700-B.
- GLADWIN
0170, 2890.
- GOGEBIC
0660, 1030, 1190, 1360, 1480-A, 1630-A, 1670, 1810, 1930, 2300-A, B, 2305, 2310=A, 2340-A, 2420, 2510, 2960, 3250, 3330, 3370, 3380.
- GRAND TRAVERSE
2890, 3010, 3320.
- GRATIOT
0020, 0190-B, 1450, 2360-B.
- HILLSDALE
0020, 0730, 1520, 2360-A, 2840, 2890, 3020.
- HOUGHTON
0015, 0190-C, 0200-C, 0840, 1030, 1120, 1360, 1480, 1500-A, 1810, 1930, 1980, 2300-A, B, 2305, 2310-A, 2340-A, 2350-B, C, 2420, 2530, 2670, 2910, 2960, 3380.
- HURON
0020, 0190-B, E, 0210-B, 1030, 1340, 1450, 1500-E, 2360-B, C, 2370-A, 2380-B.
- INGHAM
0020, 0190-B, 0200-B, 1180, 1700-B, 2080, 2090, 3030, 3390.
- IONIA
0010, 0020, 1700-B.
- IOSCO
1450, 1610, 2360-B, 2380-B.
- IRON
0190-A, B, 0200-A, 0660, 1030, 1330, 1630-A, 1670, 1850-1930, 2280, 2300-A, 2305, 2310-A, 2340-A, 2500, 2770, 3250, 3370, 3380, 3430.
- ISABELLA
0190-B, 1450.
- ISLE ROYALE
0015, 0020, 0180-A, 0190-B, C, E, 0210-B, 0215, 1360, 2350-A.
- JACKSON
0020, 0190-D, 0730, 1700-B, 2360-A, 2840, 2890.
- KALAMAZOO
0010, 0020, 0720, 0730, 1230, 1280, 3040.
- KALKASKA
0500, 2050, 2410, 2890, 3010, 3320.

COUNTY

KENT

0010, 0020, 0140-A, D, 0200-A, 1230, 2380-B.

KEWEENAW

0015, 0160-K, 0190-D, 0210-D, 0840, 1030, 1360, 1520, 1810, 2300-B, 2305, 2340-A, 2350-B, C, 2530, 2670, 2910, 2960, 3380.

LAKE

0020, 2410.

LAPEER

0020, 0140-E, 0200-C, 2360-C.

LEELANAU

0020, 0190-E, 2890, 3010.

LENAWEE

0020, 0730, 2360-A, 3050, 3410, 3440.

LIVINGSTON

0020, 0190-B, E, 1830, 2360-A, 2820, 2830.

LUCE

0190-B, 1260, 1700-A, 1760, 1810, 2300-C, 2305, 2420, 2680, 3380.

MACKINAC

0015, 0650, 1240, 1610, 1740, 2300-C, 2305, 2380-B, 2420, 2660, 2680, 3380, 3430-B, C.

MACKINAC ISLAND

0020, 0170, 0200-C, 1470, 1520, 1610, 1730, 1740, 2660.

MACOMB

0020, 0170, 1450, 1830, 2820, 2830.

MANISTEE

0020, 1450, 1830, 2820, 2830, 2890, 3320.

MARQUETTE

0170, 0660, 1030, 1150, 1160, 1480-A, 1760, 1810, 2290, 2300-A, C, 2305, 2310-A, 2330-A, 2340-A, 2420, 2640, 2960, 3250, 3370, 3380, 3430.

MASON

0020, 0170, 0200-B, 0650, 1450, 1830, 2410, 2820, 2830, 2890, 3320.

MECOSTA

0020, 0190-B, 3060.

MENOMINEE

0170, 0190-A, B, 0200-A, 0660, 1480-A, 1700-C, 1760, 1810, 2300-A, C, 2305, 2310-A, 2330-B, 2340-A, 2450, 2640, 3250, 3380.

MIDLAND

0020, 0170, 1450, 1700-B, 3080.

MISSAUKEE

0020, 0500, 1200, 2070, 2890.

MONROE

0010, 0020, 0200-C, 1320, 1500-D, 1520, 1740, 1940, 2360-A, B, 2370-A, 2380-A, 2720, 3150, 3410, 3420, 3440, 3450.

MONTCALM

0020, 0190-B, 1060.

MONTMORENCY

0500, 2410, 3150, 3320.

MUSKEGON

0140-A, 0650, 1230, 1830, 2820, 2830, 2890.

NEWAYGO

0020, 1230.

NORTHERN PENINSULA

0010-0020, 0170, 0180-A, 1030, 1370, 1470, 1480, 1520, 1690-A, 1760, 1795, 2300, 2305, 2310-A, 2330-2350, 2420, 2880, 3380, 3470, 3510-3540, 3650.

OAKLAND

0020, 0170, 0190-B, E, 0200-C, D, 1210, 1780-B, 1830, 2360-A.

OCEANA

0020, 0200-A, 0650, 1830, 2890, 3090.

OGEMAW

0020, 0500, 1070, 1200, 1700-B, 2390, 2410, 3100.

ONTONAGON

0180-A, 0210-A, 1030, 1120, 1360, 1480-A, 1810, 1930, 2300-A, B, 2305, 2310-A, 2340-A, 2420, 2520, 2960, 3250, 3380.

OSCEOLA

See listings under SOUTHERN PENINSULA and ALL COUNTIES.

OSCODA

0500.

OTSEGO

0500, 1830, 2410, 2820, 2830, 3150, 3320.

OTTAWA

0020, 0650, 1230, 1250, 1830, 2360-B, 2820, 2830, 2890, 3110.

PRESQUE ISLE

0170-B, 1030, 1610, 1740, 2360-A, 2410, 2620, 2630, 2650, 2690, 3150.

ROSCOMMON

0020, 0160-B, 0190-B, 0200-A, 0500, 1200, 1700-B, 2890, 3120.

SAGINAW

0020, 0140-A, 0190-B, 0200-C, 0650, 1450, 1700-B, 3130.

ST. CLAIR

0020, 0190-B, D, 1450, 1830, 2360-A, C, 2380-A, 2820, 2830.

ST. JOSEPH

0020, 0720, 0730, 1230.

SANILAC

0020, 0140-M, 0190-B, 0200-C, 2360-B, C, 2380-A.

SCHOOLCRAFT

1270, 1610, 1700-A, 1760, 1810, 2300-C, 2305, 2420, 2680, 3150, 3380.

SHIAWASSEE

0020, 1700-B, 3140.

SOUTHERN PENINSULA

0010, 0020, 0220, 0240, 0260, 0280, 0300, 0320, 0340, 0360, 0380, 0400, 0420, 0440, 0460, 0470, 1030, 1320, 1350-B, 1390, 1440, 1680, 1690-B, 1790, 1820, 1830, 1950, 2100-2260, 2320-A, B, 2340-B, 2360-2380, 2410, 2800-2830, 3160, 3180=3210, 3240, 3260-3280, 3300, 3310, 3400=3420, 3440, 3450, 3550-3600, 3650.

TUSCOLA

0020, 0140-A, 0170, 0180-D, 0190-B, E, 0200-A, 0210-C, 0650, 1200, 1610, 1700-B, 2360-B, C.

VAN BUREN

0010, 0020, 0720, 1230, 1780-A, 2460.

WASHTENAW

0020, 0140-A, 0170-A, 0190-B, 0730, 1310-C, 1830, 2360-A, 2820, 2830.

WAYNE

0020, 0170, 0190-B, E, 0200-A, B, 0650, 1320, 1420, 1440, 1830, 2300, 2360-A, 2720, 2820, 2830, 3110, 3130, 3440, 3450.

WEXFORD

0020, 0190-B, 0200-C, 0650, 1450.

ALL COUNTIES

0030-0090, 0110-0119, 0150-0159, 0510=0550, 0570, 0580, 0600, 0660, 0710, 0740, 0820, 0845, 0890-0899, 0990, 1010-1050, 1310, 1500-A, 1500, 1600, 1430, 1450, 1460, 1470, 1510-1590, 1620=1680, 1695, 1710, 1720, 1725, 2020, 2030, 2400, 2430, 2550-2610, 2780, 2790, 2860, 2870, 2920-2950, 3070, 3340-3360, 3460, 3480-3500, 3660-3690.

Since this list covers 139 years of publishing by the Michigan Geological Survey, it is possible that some citations may unintentionally have been omitted. Should any reader be able to provide verified additions to this work, the author would be grateful for such information.

William W. Currie, Librarian
Michigan Geological Survey Division
24 July, 1978

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