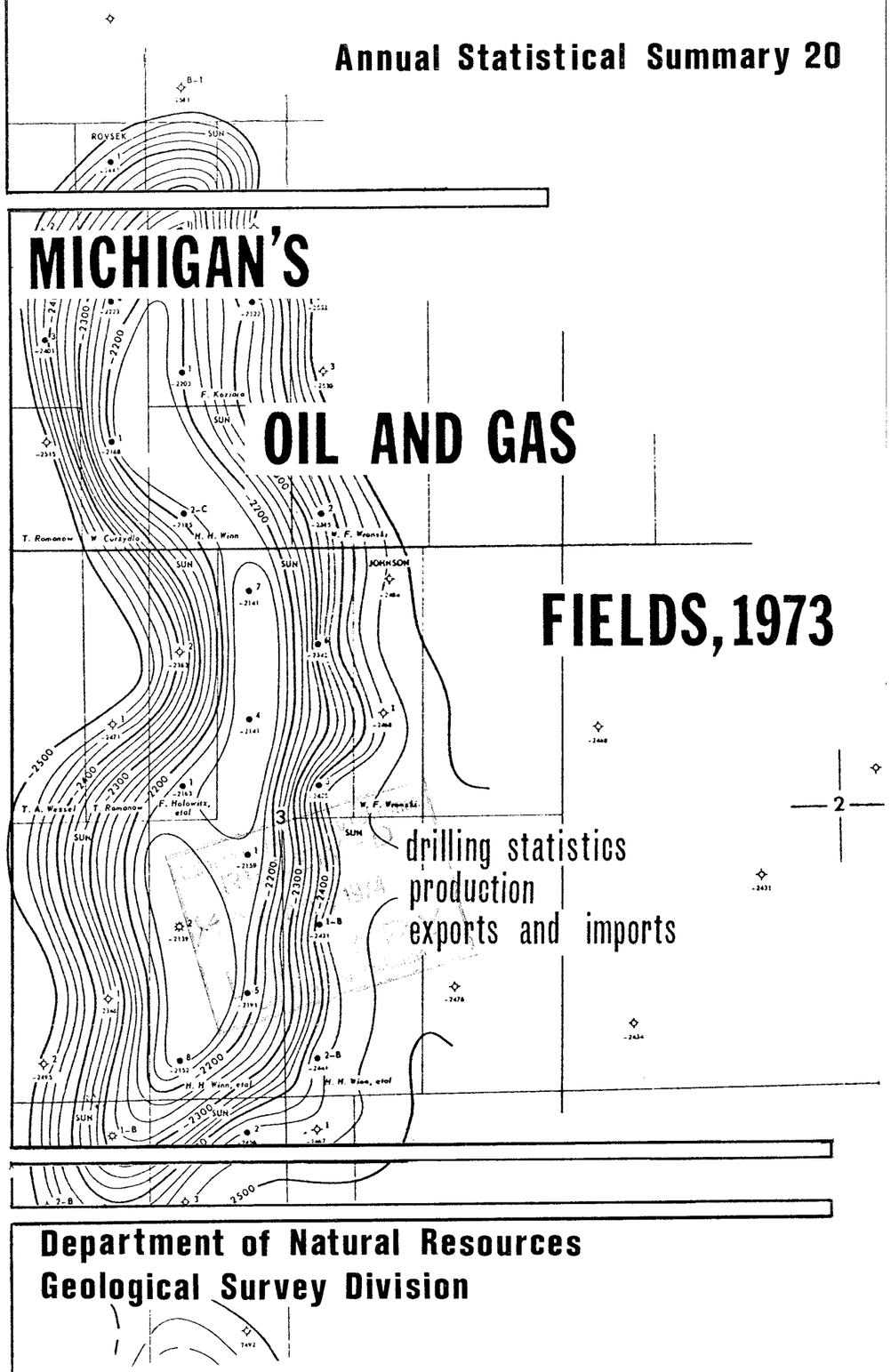
Annual Statistical Summary 20

MICHIGAN'S OIL AND GAS FIELDS, 1973



drilling statistics
production
exports and imports

1974

Department of Natural Resources
Geological Survey Division

STATE OF MICHIGAN
William G. Milliken, *Governor*

DEPARTMENT OF NATURAL RESOURCES
A. Gene Gazlay, *Director*

GEOLOGICAL SURVEY DIVISION
Arthur E. Slaughter
State Geologist and Assistant Supervisor of Wells

NATURAL RESOURCES COMMISSION

Hilary F. Snell, *Chairman* Grand Rapids
Carl T. Johnson, Cadillac
E. M. Laitala, Hancock
Dean Pridgeon, Montgomery
(Mrs.) Joan L. Wolfe, Belmont
Harry H. Whiteley, Rogers City
Charles G. Younglove, Allen Park
Charles J. Guenther, Executive Assistant

OIL AND GAS ADVISORY BOARD

Vance W. Orr, *Chairman,* McClure Oil Co.
K. P. Wood, *Vice Chairman,* Independent Producer
C. John Miller, Miller Brothers
William J. H. Wilde, General Public
G. D. Simon, Patrick Petroleum Co.
J. A. Vary, Michigan Consolidated Gas Co.
Claude J. Osbourne, Shell Oil Co.
(Mrs.) Mary Anne Williams, General Public
William G. Smiley, Department of Natural Resources, *Secretary*

Published by Authority of State of Michigan CL '48 s.321.6

Any part of this publication may be quoted
or reprinted with appropriate credit

Available from Publications Room, Department of Natural Resources, Lansing, Michigan 48926

MICHIGAN'S OIL AND GAS FIELDS, 1973

CONTENTS

PART 1
GENERAL STATISTICAL INFORMATION

	Page
Acknowledgements	2
Introduction	3
Oil and Gas Permits	3
Permits Terminated in 1973	3
Permits for Service Wells	4
Well Completions	4
Drilled Footage	5
Oil and Gas Production	5-6
LPG Production	6
Condensate Production	6
Oil and Gas Production by County	6
Oil and Gas Valuation	6
Oil and Gas Imports and Exports	6-8
Special Orders: No-Flare, Spacing and Proration, Explanation	7
Analysis of Discovery Wells by Geologic System	8
Drilling Objectives	8
State Oil and Gas Revenue	8
Well Records and Oil and Gas Maps	8
New Field and Pool Discoveries	8-10
Permits, Well Completions, Drilled Footage, Table 1	11
Northern Michigan Reef Reservoirs	12

PART 2
OIL AND GAS FIELDS

Part 2, Oil and Gas Fields, Explanation	13
Oil and Gas Fields, Table 2	14-37
Oil and Gas Field Map (Center Spread)	26-27
Developed Gas Storage Reservoirs, Table 3	38-39
Undeveloped Gas Storage Reservoirs, Table 4	39
Miscellaneous Oil Wells, Table 5	40
State Oil and Gas Revenue	40
Gas Plant Operations, Table 6	41
LPG Storage, Table 7	41
Michigan Refineries	42

PART 3
CUMULATIVE RECORDS

Part 3, Cumulative Records, Explanation	42
Oil Production by Geologic System, Table 8	43
Gas Production by Geologic System, Table 9	44
Cumulative Oil by Geologic System, Table 10	45
Average Daily Oil Production by County	45
Cumulative Gas by Geologic System, Table 11	46
Average Daily Gas Production by County	46
Cumulative Oil and Gas by County, Table 12	47
Cumulative Well Completions by County, Table 13	48
Permits, Discoveries, Well Completions, 1973 and Prior Years, Table 14	49
Precambrian Tests in Southern Peninsula	50
Abbreviations	51
Index	52
Stratigraphic Succession in Michigan	Inside Back Cover

ACKNOWLEDGEMENTS

Functional elements within the Geological Survey Division are being reorganized. The Oil and Gas Conservation Group will be called the Oil and Gas Section and will be composed of a Regulatory Control Unit, a Proration-Production Unit, and a Petroleum Geology Unit.

The several Units of the Oil and Gas Section are responsible for the collection and maintenance of certain kinds of oil and gas field data. The compilation and assembly of the various data into a yearly report is done by the Petroleum Geology Unit. Unit supervisors, under the general guidance of R. M. Acker, Assistant State Geologist and Chief of the Oil and Gas Section, directed staff members in the gathering and maintenance of basic records. Unit supervisors who contributed specific data are:

V. F. Sargent, Supervisor, and S. L. Alguire, Field Coordinator, Regulatory Control Unit. Contribution: All data in columns under the headings "Number of Oil and Gas Wells" and "Brine Production" on Tables 2, 3, and 4.

W. G. Smiley, Supervisor, and J. S. Lorenz, Production and Proration Unit. Contribution: All Michigan oil and gas production data, oil import and export figures, monetary valuations, refinery and LPG storage data, and oil recovery per acre drilled (on Table 2). Oil and gas production figures are compiled from records obtained from the Michigan Department of Treasury.

Gas import figures are obtained from the Gas Section, Public Utilities Division, Department of Commerce.

All hydrocarbon production figures are preliminary and subject to correction as warranted.

G. D. Ells, Supervisor and B. L. Champion, Petroleum Geology Unit. Contribution: All general drilling statistics and well completion data, discovery well and deep-test data, drilled acreage figures, cumulative records, and all other summary information not specifically provided by those mentioned above.

Inquiries concerning information contained in this summary should be directed to the appropriate personnel as noted above.

The annual oil and gas summaries are not printed in large volume. They are distributed to various federal government agencies and to various government agencies in all 50 states, to numerous libraries in the United States and several abroad, and to many individuals and companies engaged in petroleum or other mineral industries.

Current issues are available from Publications Room, Department of Natural Resources. A limited number of back issues are available from the Geological Survey Division.

Manuscript preparation by staff members of the Petroleum Geology Unit: G. D. Ells, Beverly L. Champion, Richard T. Lilienthal, D. Michael Bricker, and Margaret Schineman.

Compilers: G. D. Ells
B. L. Champion
R. T. Lilienthal
D. M. Bricker

Lansing, Michigan
June, 1974

COVER ILLUSTRATION

The cover illustration shows structure contours on the top of the Niagaran formation, Columbus Section 3 reef, St. Clair County. This multi-pinnacle reef, discovered in 1968, produced 387,212 barrels of oil in 1973. Cumulative production through 1973 amounted to 1,750,017 barrels. Developed on 20-acre stand-up drilling units, the field has been under proration since early 1970. Daily oil allowable per producing well is 75 barrels of oil and/or not more than 100,000 cubic feet of gas per day. According to public hearing testimony in March 1974, immediate initiation of Unit operation, and recycling of gas and pressure maintenance would result in a calculated additional recovery of over 2-1/4 million barrels of oil.

MICHIGAN'S OIL AND GAS FIELDS, 1973

INTRODUCTION

Oil and gas are one of Michigan's important natural resources. The estimated value of these raw products produced during 1973 amounted to about $76,907,437. In addition, monies spent in leasing, exploration and development and other auxiliary activities connected with the exploitation of these natural resources contribute substantially to the State's economy each year. To help further the orderly development of these hydrocarbon resources, statistical and other useful data have been maintained and published for many years.

This issue of the oil and gas field statistical summary brings together data on various facets of Michigan's oil and gas industry during 1973. Certain indices which show the trend of activities from year to year are shown in chart form along with figures for prior years. Other charts show cumulative figures and other information of an historical nature, useful in oil and gas field evaluation. Furthermore, the gathering, maintenance and compilation of the data reflect, in part, the varied functions of the Oil and Gas Conservation Group, Geological Survey Division.

Certain figures for 1973, such as the number of exploratory, development and service wells drilled, and the number of new field and pool discoveries, may differ from figures reported for that year by regional or national trade journals or by industry reporting services. Preliminary 1973 oil and gas production and valuation figures cited in other publications may differ slightly from those shown herein. The differences in the various statistics are generally minor and due to methods of gathering and reporting well data, determining cut-off dates for reporting statistics on a yearly basis, and the necessity of making estimates and projections of data for some types of reports.

Statistical data on Michigan oil and gas activities are also published by Oil and Gas News, Mt. Pleasant, Michigan; Petroleum Information, Incorporated, Denver, Colorado; American Petroleum Institute, Washington, D.C.; American Association of Petroleum Geologists, Tulsa, Oklahoma; Interstate Oil Compact Commission, Oklahoma City, Oklahoma; World Oil, Houston, Texas; and the Oil and Gas Journal, Tulsa, Oklahoma. The differences in figures which may occur in these publications from time-to-time are almost always due to the factors stated in the preceding paragraph.

The kinds of data listed herein are mainly derived from records received and maintained by the Oil and Gas Conservation Group, Geological Survey Division. None of the data is obtained from aforementioned publications. The data contained in this and previous oil and gas summaries have been treated uniformly as near as possible from year to year, so they reflect as accurately as possible the actual figures and other information that should be credited to the year in review.

This publication is essentially divided into three parts. The first summarizes significant statistics on oil and gas field activities for 1973 and includes other related records kept by the Oil and Gas Conservation Group. Part 2 contains specific information on the State's oil and gas fields, gas storage fields and other related subjects. Part 3 contains cumulative records of importance to the industry. Data for 1973 have been included in the Part 3 cumulative records.

PART I

1973 STATISTICAL DATA

* * * OIL AND GAS PERMITS * * *

Oil and gas drilling permits issued during 1973 began with number 29170 and ended with number 29612. The same permit number (29549) was inadvertently assigned to another well location but was then corrected by adding the suffix "A" (29549A). Thus the total number issued during 1973 was 444 as compared with 423 in 1972. The initial classification of wells to be drilled under these permits was as follows:

INITIAL CLASSIFICATION	1971	1972	1973
Exploratory wells	173	211	225
Development wells	179	133	149*
Gas storage facility wells .	60	74	66
LPG storage operations . .	13	5	4
	425	423	444

*Includes 4 water injection and 1 water supply well

In addition to regular permits, 1 brine disposal permit (BDW 155) was issued. The single BDW permit issued in 1972 was No. 154 rather than 155 as reported. Deepening permits were issued for 24 wells during 1973 as compared with 26 the previous year. Deepening permit numbers began with number 1688 and ended with number 1711. There were no geological test permits issued in connection with oil and gas exploration during 1973.

The distribution of oil and gas permits according to oil and gas districts (See oil and gas districts map) through a five-year period including 1973 was as follows:

DRILLING PERMITS BY DISTRICT

DISTRICTS	Permits Issued				
	1969	1970	1971	1972	1973
Basin	113	169	138	154	120
Northern	32	52	81	137	173
Southeastern	126	121	130	62	67
Southwestern	41	33	30	32	28
Western	67	50	46	38	56
Totals	379	425	425	423*	444**

Permits issued under Act No. 61, Public Acts of 1939, as amended, are terminated six months after date of issue if actual drilling operations have not begun. Terminated permits were cited for the first time in Annual Statistical Summary 16, 1972. Permits issued for wells drilled under previous permits were cited for the first time in Annual Statistical Summary 18, 1973. The following lists relate to permits issued in 1972 and 1973.

*The following permits issued in 1972 were terminated in 1972 or 1973 after operators failed to commence drilling operations within 6 months of issue date:

28750(1972)	28851(1972)	28945(1973)	29077(1973)
28751 "	28855 "	28958 "	29098 "
28754 "	28867 "	28963 "	29134 "
28779 "	28871 "	28994 "	29139 "
28836 "	28908 "	29005 "	29145 "
28844 "	28933 "	29017 "	28890 "
28849 "	28944(1973)	29044 "	

**In addition to the 27 permits issued in 1972 and subsequently terminated, 6 of the 1973 permits were issued for wells either drilled under a previous number or for well locations previously permitted and then terminated. They are:

29233	issued	for	well	drilled	or	permitted	under 26506
29249	"	"	"	"	"	"	" 19046
29357	"	"	"	"	"	"	" 22419
29359	"	"	"	"	"	"	" 22159
29550	"	"	"	"	"	"	" 29496
29577	"	"	"	"	"	"	" 29496 & 29550

**The following permits issued in 1973 were also terminated in 1973:

29177	29184	29210	29231	29287
29180	29185	29228	29257	29290
29181	29190	29229	29266	

**Included in the 444 permits issued in 1973 were 16 issued for directionally-drilled holes. They were:

29175	29363	29474	29550
29344	29366	29487	29573
29345	29393	29536	29577
29354	29433	29549A	29600

The fluctuation in the number of permits issued for gas storage wells and other service well types over a five-year period is as follows:

TYPE OF SERVICE WELL	1969	1970	1971	1972	1973
Gas storage	48	115	60	74	66
LPG, Water Injection	10	1	16	9	8
Brine disposal, etc.	-	-	3	1	1
	58	116	79	84	75

The distribution, by county, of oil and gas permits issued in 1973 is shown in Table 1.

In addition to issuance of permits for various types of wells, 145 applications were received and approved for rework operations on existing wells. Transfers of ownership were processed for 418 wells plus blanket transferal of wells from Humble Oil and Refining Company to Exxon Corporation, and from Melvin F. Lanphar and Company to Lanphar's, Inc. Corrections of location, well name or other detail involving specific permits were made for 44 wells, and cancel and transfer of permit were made for 10 other wells.

* * * WELL COMPLETIONS * * *

There were 301 new-hole exploratory and development wells which reached total depth and were completed as producers or dry holes during 1973. The 301 well completions do not include service wells, old wells drilled to deeper objectives, or reworked wells. The fluctuation in the number of new-hole completions and the resulting number of oil, gas, or dry holes over a five-year period is as follows:

EXPLORATORY AND DEVELOPMENT WELL COMPLETIONS

Year	Exploratory Wells			Development Wells			Totals
	Oil	Gas	Dry	Oil	Gas	Dry	
1969	7	3	148	66	6	91	321
1970	8	6	139	43	9	72	277
1971	28	11	122	55	20	64	300
1972	34	23	124	50	15	62	308
1973	38	37	117	43	10	56	301

The number of new-hole service well completions, mainly facility wells in gas storage reservoirs, amounted to 68 in 1973. The figure does not include reworked wells or old wells converted to service wells of various types. The fluctuation of service well completions over a five-year period is as follows:

SERVICE WELL COMPLETIONS

Year	GS	INJ	LPG	BDW	Totals
1969	20	5	0	1	26
1970	110	0	3	0	113
1971	81	0	13	2	96
1972	57	3	4	2	66
1973	60	5	2	1	68

Well completion figures for individual counties are shown in Table 1. The number of well completions within the several oil and gas districts is shown in the Chart below.

Certain kinds of completion data for exploratory, development and other types of wells are provided to the American Association of Petroleum Geologists (AAPG) and the American Petroleum Institute (API) during the year. Statistical data published for Michigan by these agencies are correct according to data submitted and approved, but sometimes differ from Geological Survey figures published later in the year. The differences are primarily due to determining a cut-off date for handling statistics on a yearly basis as required by these agencies. Another factor is internal decisions of the Geological Survey in regards to final year-end status of a completed well and decisions stemming from public hearings on oil and gas matters. For example, a well originally classified as a development well may be designated as the discovery well for a new pool or field or a gas well might be declared an oil well completion. Frequently, these changes of well status cannot be readily passed on to other agencies so that their records can be up-dated.

Figures for Michigan exploratory and development well completions were provided to the American Petroleum Institute during 1973. Completion figures, shown below, have been extracted from the Quarterly Review of Drilling Statistics for the United States, Fourth Quarter 1973, and Annual Summary 1973, American Petroleum Institute Vol. VII, No. 4, March 1974, Tables I, II, III and V, pages 14-22. Geological Survey figures for 1973 are shown for comparison. Wells not included in 1973 API figures will be accounted for in 1974 figures.

API EXPLORATORY AND DEVELOPMENT WELL COMPLETIONS

Year	Exploratory Wells			Development Wells			Totals
	Oil	Gas	Dry	Oil	Gas	Dry	
1973	38	31	107	35	10	57	278
M.G.S.	38	37	117	43	10	56	301

NEW WELL COMPLETIONS BY DISTRICTS, 1973

Classification of New Well Completions	Basin		Northern		Western		Southwestern		Southeastern		Total	
	1972	1973	1972	1973	1972	1973	1972	1973	1972	1973	1972	1973
Exploratory wells												
Oil	7	5	24	24	3	6	0	2	0	1*	34	38**
Gas	2	2	14	22	2	10	4	3	1	0	23	37
D&A	35	31	34	51***	7	10	12	7	36	18	124	117
Total	44	38	72	97	12	26	16	12	37	19	181	192
Development wells												
Oil	15	11	26	23	2	4	2	2	5	3	50	43
Gas	10	1	2	5	0	2	2	1	1	1	15	10
D&A	25	13	13	26	1	3	8	7	15	7	62	56
Total	50	25	41	54	3	9	12	10	21	11	127	109
Service wells												
WI	3	5	0	0	0	0	0	0	0	0	3	5
BDW	0	0	0	0	0	0	2	0	0	1	2	1
Miscellaneous wells												
GS	47	29	0	0	9	17	1	3	0	12	57	61
LPG	0	0	0	0	0	0	0	0	4	1	4	1
Total completions	144	97	113	151	24	52	31	25	62	44	374	369

*This was an old well re-opened and made a significant extension discovery; no new footage drilled.
**Does not include one new shallower pool oil discovery.
***Includes 1 well drilled in Chippewa County, Northern Peninsula.

* * * DRILLED FOOTAGE * * *

The average depth, statewide, of exploratory wells drilled in 1973 was 5,278 feet compared with 5,050 feet in 1972 and 4,374 feet in 1971. Development well depths averaged 5,262 feet as compared with 4,580 feet in 1972 and 3,992 feet in 1971. Service well depths, mostly gas storage facility wells completed in shallow Mississippian Stray Sandstone reservoirs, averaged 1,768 feet. Drilled footage figures and average well depths for specific counties are shown in Table 1.

Drilled footage figures extracted from the aforementioned API publication and tables are as follows:

1973 API DRILLED FOOTAGE FIGURES

Exploratory Wells			Development Wells		
Oil	Gas	Dry	Oil	Gas	Dry
217,984	192,010	543,317	190,217	57,753	267,681
Total Exploratory Footage: 953,311			Total Development Footage: 515,651		

Differences in total drilled footage figures as reported by API and by the Geological Survey are due to factors previously mentioned. Total drilled footage figures from Survey records for 1973 and several prior years are as follows:

Well Class	1970	1971	1972	1973
Exploratory	615,952	704,192	913,797	1,013,470
Development	559,936	454,016	554,968	573,522
Service Well (all types)	162,344	180,418	110,177	132,577
Totals:	1,232,312	1,439,578	1,605,860	1,719,569

* * * 1973 OIL AND GAS PRODUCTION * * *

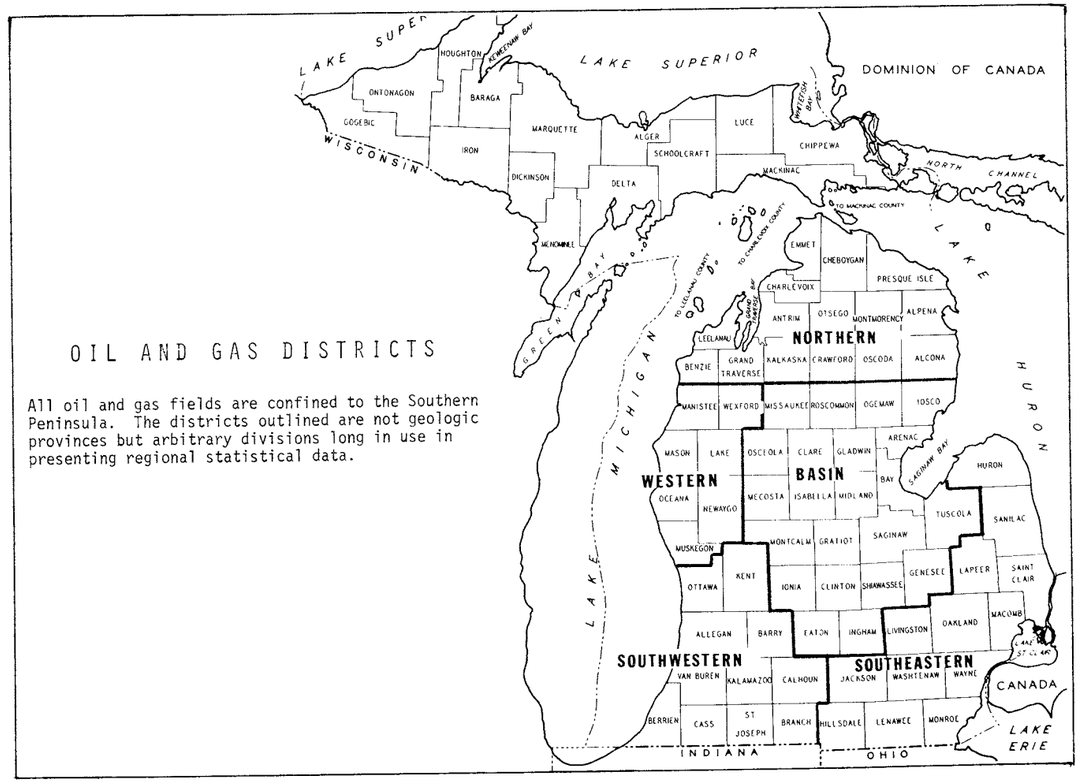
Final year-end oil and gas production figures for 1973 include estimates for the last several months of the year. Oil figures are based on records for January through August, then projected to January 1, 1974. Gas figures are based on records through October, then projected to January 1, 1974. Figures shown on the several charts in this publication and in Table 2, Part 2, which covers production for individual fields and pools, include estimates. The current production record system is being revised, so adjustments are anticipated in oil and gas figures cited in previous statistical summaries. Corrected figures will be shown in the 1975 edition covering 1974 oil and gas activities.

Oil production, including condensate, was estimated to be 14,529,952 barrels in 1973 as compared with 12,989,977 barrels produced in 1972. Gas production for 1973 is estimated to be 43,703,215 Mcf as compared with 33,567,638 Mcf in 1972. These figures differ slightly from estimates published elsewhere (14,613,854 bbls. oil and 44,799,317 Mcf gas). Increase in oil and gas production is primarily due to new Niagaran reef reservoirs found since 1969 in the northern and southern parts of the Lower Peninsula. A number of newly discovered reef fields, mostly single-well pools, are shut-in awaiting gathering facilities, or are shut-in due to prohibition of flaring of oil well gas and lack of market connections. When these wells are put on production, a significant increase in annual oil and gas production is expected. Production by month and by oil and gas district during 1973 is shown in charts below.

OIL AND GAS PRODUCTION BY DISTRICT

District	Barrels Oil	MCF Gas
*Basin	4,766,953	6,795,292
*Northern	5,151,573	16,698,325
*Southeastern	3,164,993	16,118,470
*Southwestern	1,229,006	4,069,485
*Western	217,427	21,643
Totals	14,529,952	43,703,215

*Includes estimated production



OIL AND GAS PRODUCTION BY MONTH

	Barrels Oil	MCF Gas
January	1,169,404	3,234,696
February	1,068,056	2,938,726
March	1,101,018	3,005,086
April	1,138,777	3,492,313
May	1,271,719	3,834,509
June	1,201,635	3,554,970
July	1,254,683	4,174,674
August	1,270,223	3,859,955
September	*1,186,634	3,803,218
October	*1,287,216	4,179,233
November	*1,224,358	*3,765,797
December	*1,356,229	*3,860,038
Totals	14,529,952	43,703,215

*Production estimated from tax revenue data

* * * LPG PRODUCTION * * *

Total LPG production in 1973 amounted to 1,160,530 barrels as compared with 1,312,642 barrels in 1972. LPG's are stripped from Michigan produced gas and gas imported via pipeline from western sources. Additional data on LPG production and gas plant operations are found in Part 2 of this publication.

* * * CONDENSATE PRODUCTION * * *

Condensate is a new Michigan resource, the first having been produced from the northern Michigan retrograde reservoirs found the past few years. There were 74 definite gas-condensate fields located in the reef belt running through counties of the Lower Peninsula as of April 1, 1974. Some are 1974 discoveries and thus not listed in this report. Condensate production is shown in Part 2 for pools classified as gas-condensate but is included in the yearly oil production total cited in various tabulations in this publication. Condensate production is as follows:

CONDENSATE PRODUCTION

Year	Barrels
1969	0
1970	18,946
1971	98,668
1972	125,768
1973	335,041
Total	578,423

* * * OIL AND GAS PRODUCTION BY COUNTY * * *

Oil and gas production by counties in 1973 is tabulated below. Production by individual field and pool within a county is found in Part 2, Table 2. Annual and cumulative production figures by year and geologic formation is found in Part 3. As noted, the figures for 1973 include estimates for the last few months of the year.

Significant gains were again made in certain northern Lower Peninsula counties during the year. But conservation measures (the no-flare order) tend to temporarily curtail production. The no-flare order in effect since late 1971 prohibits the flaring of oil well gas and requires Niagaran oil wells in specified counties to be closed in until a market connection is achieved or an exception to the order is granted. Another special order put into effect in April, 1973, deals with spacing and proration of Niagaran oil wells in specified counties. The counties covered by the no-flare order and spacing-proration order are shown on the inset map. This latter order established 80-acre spacing for Niagaran oil wells and statewide proration for Niagaran oil reservoirs in these specified counties. Drilling unit, well spacing, and oil-gas allowables are shown on the inset map. Both orders may be rescinded or revised as warranted. These prudent and justifiable conservation measures effectively prevent waste of millions of cubic feet of needed gas, and should ultimately result in more efficient drainage of reef reservoirs and a greater recovery of the liquid hydrocarbons.

OIL AND GAS PRODUCTION BY COUNTY IN 1973

County	Barrels Oil	MCF Gas
Allegan	102,961	56,407
Antrim	189	---
Arenac	189,677	---
Barry	10,994	---
Bay	201,535	---
Calhoun	994,957	3,676,651
Clare	346,372	166,019
Crawford	771,045	504,075
Eaton	18,933	515,692
Genesee	45,348	---
Gladwin	267,787	---
Grand Traverse	186,651	3,822,693
Gratiot	521	1,556
Hillsdale	1,600,225	4,465,431
Huron	135	---
Ingham	1,419,626	4,794,117
Isabella	177,322	---
Jackson	600,308	3,116,296
Kalkaska	1,613,911	9,394,607
Kent	47,307	10,560
Lake	99,953	---
Lapeer	86,428	36,468
Lenawee	---	---
Macomb	389	1,753,892
Manistee	3,281	---
Mason	47,726	---
Mecosta	42,499	45,706
Midland	99,609	---
Missaukee	657,509	724,409
Monroe	4,772	---
Montcalm	87,846	---
Muskegon	13,912	---
Newaygo	11,134	---
Oakland	612	---
Oceana	40,072	---
Ogemaw	426,279	290,562
Osceola	418,151	---
Oscoda	1,121	---
Otsego	2,578,656	2,976,950
Ottawa	66,679	325,867
Presque Isle	---	---
Roscommon	296,705	257,231
Saginaw	17,917	---
Shiawassee	1,760	---
St. Clair	848,898	6,746,383
Tuscola	51,557	---
Van Buren	6,108	---
Washtenaw	3,159	---
Wayne	20,067	---
Wexford	1,349	21,643
Totals	14,529,952	43,703,215

* * * OIL AND GAS VALUATION * * *

The average price paid at the wellhead for Michigan produced crude, including condensate, was $4.07 per barrel compared with $3.20 per barrel in 1972. The gross value of these products amounted to $59,412,710 as compared with $41,556,432 in 1972.

The average price of Michigan produced gas sold at the wellhead was $.39 per Mcf. The gross value of this product amounted to $17,494,727 as compared with $10,314,222 in 1972.

The price of LPG's varied during the year. Butane and iso-butane reportedly ranged from $.17 to $.24 per gallon and pentanes as high as $.40 per gallon. The average price per gallon for all components was about $.07 per gallon, the same as last year. Estimates of the total value of LPG's produced in gas plant operations in 1973 were not available. The 1972 gross value was estimated as $3,859,167, but was probably higher for 1973.

* * * OIL AND GAS IMPORTS AND EXPORTS * * *

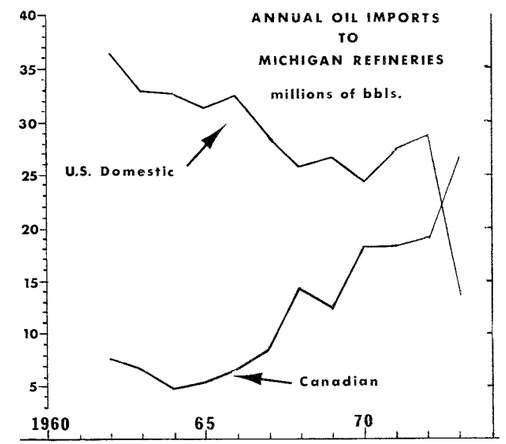
Imports of U.S. domestic crude oil to Michigan refineries via pipeline from western and midwestern states decreased during 1973. Imports of domestic crude amounted to 13,949,230 barrels in 1973 compared with 28,522,233 barrels in 1972.

Imports of Canadian crude via pipeline from western Canada oil fields continued to increase. Canadian imports to Michigan refineries amounted to 26,826,153 barrels in 1973 compared with 18,959,192 barrels in 1972.

Total imports, Canadian and domestic, decreased substantially. Imports for 1973 amounted to 39,775,383 barrels in 1973 as compared with 47,481,425 barrels the prior year.

1973 CRUDE OIL IMPORTS (Bbls.)

	Domestic	Canadian	Total
January	1,104,149	2,307,231	3,411,380
February	909,422	1,904,261	2,813,683
March	1,157,297	2,089,913	3,247,210
April	1,135,483	2,022,718	3,158,201
May	1,213,178	2,103,419	2,316,597
June	1,287,882	1,825,363	3,113,245
July	1,362,674	2,264,966	3,627,240
August	1,339,481	2,197,996	3,537,477
September	1,346,220	2,399,340	3,745,560
October	1,287,505	2,750,066	4,037,571
November	854,337	2,488,960	3,343,297
December	951,602	2,471,920	3,423,522
Totals	13,949,230	26,826,153	39,775,383



Gas imports to Michigan markets and gas storage fields via pipelines, primarily from Texas, Louisiana, Oklahoma and Kansas fields, amounted to 907,122,475 Mcf in 1973, an increase over the 906,684,020 Mcf imported in 1972. Compilations by the Gas Section, Michigan Public Service Commission, show the following imports, by month, during 1973:

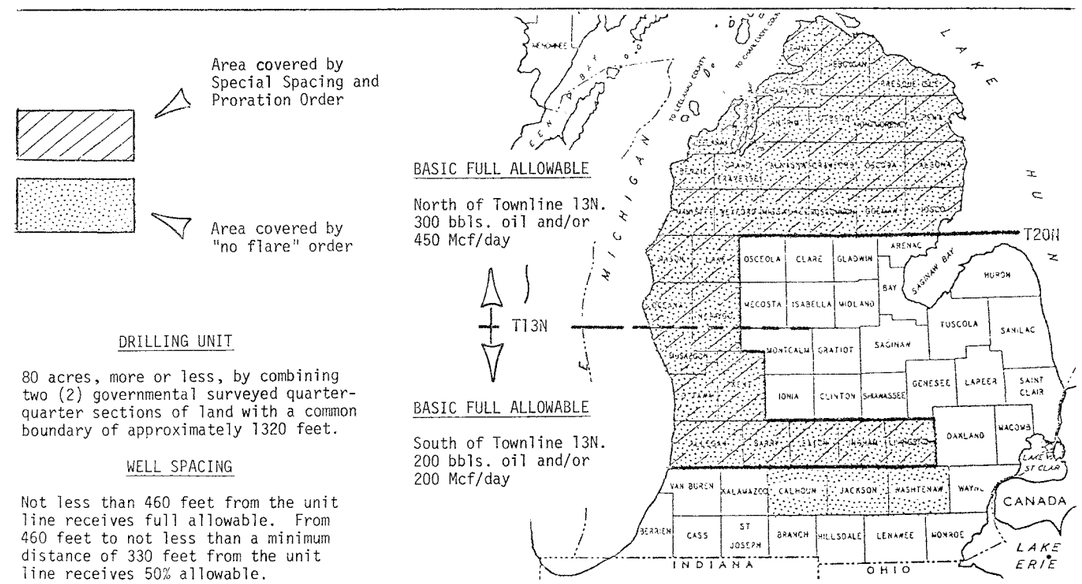
1973 PIPELINE GAS IMPORTS (Mcf)

January	48,292,345
February	45,839,672
March	78,058,981
April	78,327,326
May	88,056,292
June	94,623,887
July	100,047,066
August	88,954,467
September	91,607,332
October	88,717,861
November	58,656,696
December	45,940,550
Total	907,122,475

1973 CRUDE OIL EXPORTS (Bbls.)

January	82,230
February	98,230
March	131,730
April	101,296
May	388,887
June	305,750
July	311,990
August	204,745
September	227,321
October	220,622
November	181,033
December	407,699
Total	2,661,533

The bulk of Michigan produced crude goes to Michigan refineries, but some is exported. The export mechanism is largely a "paper work - credit" type affair involving pipeline transportation. Last year's exports amounted to about 18% of the state's total production. The amount of Michigan produced crude credited to terminals in Indiana, Ohio, Pennsylvania and New York amounted to 2,661,533 barrels in 1973 as compared with 1,013,637 barrels in 1972. All Mobil Oil Corporation crude produced from reef reservoirs in southern Michigan is credited to export. Shell Oil



pipeline runs from northern Michigan reef reservoirs go not only to Michigan refineries but to a terminal in Buffalo, New York.

* * * NEW FIELD AND POOL DISCOVERIES * * *

Statewide, 39% of the wildcat wells completed in 1973 resulted in new discoveries as compared with about 32% in 1972, 24% in 1971, 10% in 1970 and 6% in 1969 when the Niagaran reef play began in northern Michigan. In the 15-county Northern District, the discovery-to-exploratory dry-hole ratio was about 1:1 in 1973, 1:2 in 1972, 1:3 in 1971, and 1:3 in 1970. About 60% of the new discoveries were made in this District. In the Western District where the reef play spread in 1972, 9 new reefs were found in Manistee County, 3 in Mason County, and 3 in northwestern Wexford County. Again, all new Niagaran reefs were located by seismic surveys.

Most of the new discoveries are tentatively classified as Class E pools having possible oil and gas recoveries as defined by the Committee on Statistics of Drilling, American Association of Petroleum Geologists. These classes, as follows, are used to give some estimate or measure of reserves found by a discovery well.

Class A - Over 50 million barrels oil or 300 BCF gas
Class B - 25-50 million barrels oil or 150-300 BCF gas
Class C - 10-25 million barrels oil or 60-150 BCF gas
Class D - 1-10 million barrels oil or 6-60 BCF gas
Class E - 1 million barrels or less oil or less than 6 BCF gas
Class F - Abandoned as non-profitable

An analysis of discovery wells according to geologic system and an analysis of drilling objectives penetrated by wells completed in 1973 is shown below. The sizeable percentage of wells drilled only to Niagaran rocks, as shown in the latter analysis, reflects the high interest in reef exploration in the northern counties and around the southern edge of the basin.

ANALYSIS OF DISCOVERY WELLS BY GEOLOGIC SYSTEM

System	Formation or Pay	Number of Discoveries 1971	1972	1973
Pennsylvanian		-	-	-
Mississippian	"Michigan Stray Ss."	1	-	-
	"Berea Sandstone"	-	-	-
Devonian	Antrim Shale	-	-	-
	"Traverse Lime"	4	1	-
	Dundee	4	1	-
	"Reed City"	-	-	-
	Detroit River "Sour Zone"	-	1	-
	Richfield	1	-	-
Silurian	Salina A-1 or A-2	-	2	6
	Niagaran reef*	30	53	69
Ordovician	Trenton-Black River	1	-	1
	Prairie du Chien	-	-	-
Cambrian	(Gas shows reported in past years)			

*Most reefs also have associated Salina A-1 oil or gas pays.

DRILLING OBJECTIVES IN MICHIGAN

System	Formation or Pay	Percentage 1972	1973
Pennsylvanian		-	-
Mississippian	"Michigan Stray Sandstone"	15.0	11.1
	"Berea Sandstone"	-	-
Devonian	Antrim Shale	-	-
	"Traverse Lime"	3.2	1.6
	Dundee	4.6	3.2
	"Reed City"	1.9	1.9
	Detroit River "Sour Zone"-Richfield	4.3	1.4
Silurian	Salina-Niagaran	61.9	74.1
Ordovician	Trenton-Black River	3.2	3.0
	St. Peter Sandstone or Prairie du Chien	4.8	3.0
Cambrian or Precambrian	Undifferentiated	1.2	.8

* * * STATE OIL AND GAS REVENUE * * *

Public lands in the northern part of the Southern Peninsula have been heavily leased for oil and gas as a result of successful Niagaran reef exploration. At the end of May 1974, State land leased for oil and gas in the Southern Peninsula amounted to 1,416,605 acres, most of it in the northern counties.

The amount of land under lease for oil and gas has varied from year to year, and revenues closely follow the high and low points. Records show a previous high of about 935,000 acres under lease in 1951 and 1952 and then a gradual decline to about 150,000 in 1958. From 1958 the amount increased to about 640,000 in 1962. From 1962 the amount of acres under lease decreased to about 290,000 in 1966. From 1966 leasing increased to its present high level.

At a State oil and gas lease sale held in June 1974, there were 348,405 additional acres offered but only 217,506 acres were leased. The total bid amounted to $7,131,540.00 and the average bid per acre amounted to $32.79. The highest bid per acre was $16,250.00. A record bid of $1,300,000 was received for an 80-acre parcel in Grand Traverse County.

Total State revenues from royalty, rentals, bonus, and application-assignment fees from 1927 through 1973 amounted to $46,888,044.11. Revenue figures according to year and source are shown on page 40.

* * * WELL RECORDS AND OIL AND GAS MAPS * * *

OIL AND GAS WELL RECORDS. Descriptive geological logs and drillers logs are available for over 29,000 oil and gas tests, including exploratory, development, facility and other types of wells. Individual logs may be purchased at small cost from the Geological Survey Division. Electric or radiation logs of any type are not available for distribution or sale.

OIL AND GAS FIELD MAPS. Blueprint copies of county oil and gas field maps are available for every county in the Southern Peninsula. The maps show locations of oil and gas tests but do not show geological data or structural contour lines. County map scales are 1" = 1 mile. Blueprint field maps are available for many oil and gas fields. These maps show well locations, well permit numbers, operators and lease names. They do not show geological data or structural contour lines. Field map scales are mainly 4" = 1 mile. All manuscript maps from which blueprint copies are made are posted on a regular basis. An oil and gas field maps list may be obtained from the Geological Survey upon request.

1973 DISCOVERY WELLS

County Location	Field Name	Operator and Lease	Permit Number	Depth to Pay	Total Depth	Initial Production n=(N)IP BOPD	t=(T)IP MCFGPD	Producing Formation	Basis for Loc.	AAPG Pool Class
NEW FIELDS										
Alpena 12-31N-8E	Alpena 12-31N-8E	Miller Brothers etal Huron Cement Co. #1-12	29138	3680	3875		SIGW-Est. 150	Salina A-1 Carb.	Seis.	E
Antrim 25-29N-5W	Mancelona 25-29N-5W	Shell Oil Co. St-Mancelona #2-25	29524	6449	6764	F370 +178 Mcf^t		Niagaran	Seis.	E
Calhoun 2-1S-5W	Lee 2-1S-5W	Peninsular Oil etal Harris #1	29367	3377	3660		1680^t	Niagaran	Seis.	E
Calhoun 10-1S-5W	Lee 10-1S-5W	MGU-Mask-Markel-Wood Lloyd Koyl #2	29166	3172	3329		Est. 20,000^t	Niagaran	Seis.	E
Calhoun 13-1S-5W	Lee 13-1S-5W	MGU-Mask-Markel-Wood A. Mymachod #1	29264	3184	3632	F129 +1.914 Mcf^t		Niagaran	Seis.	E
Calhoun 29-1S-7W	Pennfield 29-1S-7W	Cotton Pet. Corp. Joseph McCluskey #1A	29389	2676	2806	F200^t		Niagaran	Seis.	E
Crawford 2-28N-4W	Frederic 2-28N-4W	Shell Oil Co. Wood #2-2	29247	6390	7010	F396 +532 Mcf^t		Niagaran	Seis.	D
Crawford 7-28N-4W	Frederic 7-28N-4W	Amoco Production Co. St-Frederic "A" #1-7	29483	7000	7125	F252 +320 Mcf^t		Niagaran	Seis.	E
Crawford 22-28N-4W	Frederic 22-28N-4W	Shell Oil Co. St-Frederic #1-22	29071	6950	7615		84.7 Cond./MMcf +4954	Niagaran	Seis.	E
Eaton 17-2N-3W	Eaton Rapids 17-2N-3W	Shell Oil Co. Twork #1-17	29225	3985	4316	F45 +2000 Mcf^t		Salina A-1 Carb.	Seis.	D
Grand Traverse 33-26N-11W	Blair 33-26N-11W	Shell Oil Co. Friauff #2-33	29208	5844	6123	F360 +464 Mcf^t		Niagaran	Seis.	E
Grand Traverse 24-25N-12W	Grant 24-25N-12W	Shell Oil Co. Pavlis-St-Grant #1-24	29349	5815	6413		475 Cond. +6145^t	Salina-Niagaran	Seis.	E
Grand Traverse 29-25N-12W	Grant 29-25N-12W	Shell Oil Co. Stack-Jewell #1-29	29497	5720	6135	F641 +419 Mcf^t		Niagaran	Seis.	E
Grand Traverse 3-25N-11W	Mayfield 3-25N-11W	Shell Oil Co. Schmuckal #1-3	29205	5940	6424		30.8 Cond./MMcf +9120^t	Niagaran	Seis.	E
Grand Traverse 19-25N-11W	Mayfield 19-25N-11W	Shell Oil Co. St-Mayfield #1-19	29155	5829	6470		107.4 Cond./MMcf +6257^t	Salina-Niagaran	Seis.	E
Grand Traverse 24-25N-11W	Mayfield 24-25N-11W	Shell Oil Co. Howard #1-24	29242	6508	6783		624 Cond. +8979^t	Niagaran	Seis.	E
Grand Traverse 30-25N-11W	Mayfield 30-25N-11W	Shell Oil Co. Osband #1-30	29385	6329	6630	F312 +610 Mcf^t		Niagaran	Seis.	E
Grand Traverse 18-25N-10W	Paradise 18-25N-10W	Shell Oil Co. Egeler #1-18	29450	6455	6841		1200^t	Niagaran	Seis.	E
Grand Traverse 5-26N-9W	Union 5-26N-9W	Shell Oil Co. Green-State-Union #1-5	29393*	6118	6494		32.5 Cond./MMcf +4615^t	Niagaran	Seis.	E
Grand Traverse 14-26N-9W	Union 14-26N-9W	Amoco Production Co. Prizy & Schiff #1-14	29392	6660	6860		76 Cond. +2000^t	Niagaran	Seis.	E
Grand Traverse 18-26N-9W	Union 18-26N-9W	Amoco Production Co. Montgomery-Beers #1-18	29542	6298	6471		13 Cond. +1100^t	Niagaran	Seis.	E
Grand Traverse 22-27N-9W	Whitewater 22-27N-9W	Amoco Production Co. St-Whitewater E #1-22	29100	Unknown	6192 PTD	Pay section cemented off		Niagaran	Seis.	E
Ingham 12-2N-1E	Ingham 12-2N-1E	Mobil Oil Corp. Maggie Scripter #1	29294	4186	4450	F218 +121 Mcf^t		Salina-Niagaran	Seis.	E
Ingham 25-2N-1E	Ingham 25-2N-1E	Mobil Oil Corp. Leland Townsend #1	29378	4048	4600	F54/6 Hrs. +122 Mcf^t		Niagaran	Seis.	E
Ingham 4-1N-1W	Leslie 4-1N-1W	Mobil Oil Corp. Leo Chick #1	29292	3775	4390	F240 +50 Mcf^t		Salina-Niagaran	Seis.	E
Ingham 17-1N-2W	Onondaga 17-1N-2W	Mobil Oil Corp. Trefry Unit #1	29295	3620	3850	F90 +55 Mcf^t		Salina-Niagaran	Seis.	E
Ingham 32-2N-2E	White Oak 32-2N-2E	Mobil Oil Corp. H. B. Townsend #1	29158	3970	4515	F236 +117 Mcf^t		Salina-Niagaran	Seis.	E
Kalkaska 3-26N-8W	Boardman 3-26N-8W	Amoco Production Co. State-Boardman #1-3	29437	6570	6980		4 Cond. +310^t	Niagaran	Seis.	E
Kalkaska 6-26N-8W	Boardman 6-26N-8W	Shell Oil Co. State-Boardman #1-6	29381	6477	6975	F595 +566 Mcf^t		Niagaran	Seis.	E
Kalkaska 1-28N-6W	Cold Springs 1-28N-6W	Amoco Production Co. St-Cold Springs C #1-1	29431	6578	6950		72 Cond. +1500^t	Salina-Niagaran	Seis.	E
Kalkaska 12-28N-6W	Cold Springs 12-28N-6W	Amoco Production Co. St-Cold Springs #1-12	29169	6564	6970		F173 Cond. +3000^t	Salina-Niagaran	Seis.	E
Kalkaska 3-27N-6W	Excelsior 3-27N-6W	Shell Oil Co. Paxson #1-3	29375	7211	7402		25 Cond./MMcf +6770^t	Niagaran	Seis.	E
Kalkaska 6-27N-6W	Excelsior 6-27N-6W	Shell Oil Co. D. E. Wood #1-6	29243	6740	7070		F81 Cond./MMcf +7449 Mcf^t	Niagaran	Seis.	D
Kalkaska 18-27N-6W	Excelsior 7-27N-6W	Shell Oil Co. Fudge-Brown #1-7	29366*	7076	7333		F14.4 Cond./MMcf +2500^t	Niagaran	Seis.	E
Kalkaska 17-27N-6W	Excelsior 17-27N-6W	Shell Oil Co. Schuler #1-17	29216	7165	7365		59 Cond./MMcf +2678^t	Niagaran	Seis.	E
Kalkaska 3-27N-7W	Kalkaska 3-27N-7W	Amoco Production Co. St-Kalkaska "H" #1-3	29245	6396	6850	F128 +835 Mcf^t		Salina-Niagaran	Seis.	E
Kalkaska 16-27N-7W	Kalkaska 16-27N-7W	Amoco Production Co. D. M. Hunter #1-16	29124	6572	7077	Shut-In oil well		Niagaran	Seis.	E
Kalkaska 11-27N-8W	Kalkaska 11-27N-8W	Northern Mich. Explor. Broadwell etal #1-11	29209	6449	6776	16 BOPH +500 Mcf^t		Niagaran	Seis.	E
Kalkaska 24-27N-8W	Kalkaska 24-27N-8W	Amoco Production Co. St-Kalkaska "F" #1-24	29239	6380	6852	F447 +2200 Mcf^t		Salina-Niagaran	Seis.	E
Kalkaska 26-27N-8W	Kalkaska 26-27N-8W	Amoco Production Co. St-Kalkaska "G" #1-26	29263	6372	6968		265 Cond. +1550^t	Salina-Niagaran	Seis.	E
Kalkaska 35-28N-7W	Rapid River 35-28N-7W	Shell Oil Co. St-Rapid River #1-35	29422	6719	6886		F39.8 Cond./MMcf +6034^t	Niagaran	Seis.	E
Manistee 23-23N-15W	Bear Lake 23-23N-15W	Shell Oil Co. Marshall #1-23	29395	4786	5035		F99.6 Cond./MMcf +4036^t	Niagaran	Seis.	E
Manistee 11-24N-13W	Cleon 11-24N-13W	Shell Oil Co. Carpenter #1-11	29373	5745	6167	F504 +375 Mcf^t		Niagaran	Seis.	E
Manistee 1-22N-16W	Manistee 1-22N-16W	Shell Oil Co. Greve #1-1	29120	4283	4807		5.6 Cond./MMcf +8253^t	Niagaran	Seis.	E

1973 DISCOVERY WELLS CONTINUED

Manistee 2-23N-14W	Maple Grove 2-23N-14W	Shell Oil Co. Wuori #1-2	29064	5055	5498		20.9 Cond./MMcf +6609^{t}	Niagaran	Seis.	E
Manistee 6-23N-14W	Maple Grove 6-23N-14W	Shell Oil Co. Girven #1-6	29311	4514	4908	F685 +491 Mcf^{t}		Niagaran	Seis.	E
Manistee 9-23N-14W	Maple Grove 9-23N-14W	Shell Oil Co. Pahkanen-Lowes #1-9	29336	4590	5295		310 Cond. +6776^{t}	Salina- Niagaran	Seis.	E
Manistee 10-23N-14W	Maple Grove 10-23N-14W	Shell Oil Co. Smith-Siivon #1-10	29262	4832	5457	F72 +3220 Mcf^{t}		Niagaran	Seis.	E
Manistee 16-23N-14W	Maple Grove 16-23N-14W	Shell Oil Co. Johnson #1-16	29171	4950	5409	F336 +489.5 Mcf^{t}		Niagaran	Seis.	E
Manistee 28-24N-14W	Springdale 28-24N-14W	Shell Oil Co. Plagany #1-28	29170	4719	5180	F456 +480 Mcf^{t}		Salina- Niagaran	Seis.	E
Mason 7-19N-17W	Victory 7-19N-17W	Shell Oil Co. Swanson #1-7	29399	4052	4730		F156 Cond. +5146 Mcf^{t}	Niagaran	Seis.	E
Mason 18-19N-17W	Victory 18-19N-17W	Miller Brothers etal Williams etal #2-18	29301	4344	4580	F20/Hr.		Niagaran	Seis.	E
Otsego 23-30N-3W	Bagley 23-30N-3W	Mich. Consol. Gas etal Gornick #1-23	29085	5868	6194	F70/Hr.		Niagaran	Seis.	E
Otsego 12-30N-1W	Charlton 12-30N-1W	Shell Oil Co. Black-Cooley #1-12	29438	5936	6330	F576 +660 Mcf^{t}		Niagaran	Seis.	E
Otsego 24-30N-1W	Charlton 24-30N-1W	Great Lakes Explor. E. J. Hahn #1-24	29202	6234	6335	F180 +225 Mcf^{t}		Niagaran	Seis.	E
Otsego 31-31N-1W	Charlton 31-31N-1W	Shell Oil Co. Salling-Hanson #1-31	29073	5391	5770	F336 +240 Mcf^{t}		Niagaran	Seis.	E
Otsego 21-29N-2W	Chester 21-29N-2W	Miller Brothers Leacock etal #2-21	29028	6273	6770		Est. 20,000^{t}	Niagaran	Seis.	E
Otsego 6-30N-2W	Chester 6-30N-2W	Shell Oil Co. Borowiak #1-6	29067	5659	6022	F426 +35 Mcf^{t}		Salina A-1 Carb.	Seis.	E
Otsego 30-30N-2W	Chester 30-30N-2W	Amoco Production Co. State-Chester #3-30	29544	6232	6350	F560/46 Hrs.		Niagaran	Seis.	E
Otsego 35-31N-2W	Dover 35-31N-2W	Shell Oil Co. Salling-Hanson #1-35	29236	5475	5780	F384 +172 Mcf^{t}		Niagaran	Seis.	E
Otsego 36-31N-2W	Dover 36-31N-2W	Shell Oil Co. Kubacki #1-36	29235	5485	5835	F408 +264.5 Mcf^{t}		Niagaran	Seis.	D
Otsego 15-29N-4W	Hayes 15-29N-4W	Shell Oil Co. Lake Horicon #1-15	29154	6350	6615	F600 +406 Mcf^{t}		Niagaran	Seis.	E
Otsego 29-29N-4W	Hayes 29-29N-4W	Shell Oil Co. N. Mich. Ld & Oil #1-29	29207	6474	6982	F600 +516 Mcf^{t}		Salina- Niagaran	Seis.	E
Wexford 9-24N-12W	Wexford 9-24N-12W	Miller Brothers Wm. W. Brehm Jr. #1-9	29188	6232	6265		1110^{t}	Niagaran	Seis.	E
Wexford 18-24N-12W	Wexford 18-24N-12W	Traverse Corp. Herschel Wells #1-18	29084	5842	6130		63 Cond./8 Hrs +1500^{t}	Niagaran	Seis.	E

NOTE: One new oil field discovery created by revision of a spacing order does not appear in this list. (Rapid River 32-28N-7W)

EXTENSION DISCOVERIES

Hillsdale 14-6S-2W	Albion-Scipio Trend	United Petroleum, Inc. H. May et ux #1	29357	3954	4100	F60/Hr.		Blk. River	Other	E

NEW POOL DISCOVERIES

Calhoun 13-1S-5W	Lee 13-1S-5W Pool A	MGU Development Co. Leon Faulkner #1-13	29350	3165	3623		5500^{t}	Niagaran	Seis.	E
Crawford 20-28N-4W	Frederic 29-28N-4W Pool A	Shell Oil Co. State-Frederic #1-20	29186	6907	7535		55 Cond./MMcf +8692^{t}	Niagaran	Seis.	E
Kalkaska 19-28N-6W	Cold Springs 19-28N-6W Pool A	Amoco Production Co. St-Cold Springs #1-19	29226	6628	6767	F301 +700 Mcf^{t}		Niagaran	Seis.	E
Kalkaska 3-27N-6W	Excelsior 3-27N-6W Pool A	Shell Oil Co. Nicklesen #2-3 (Pool A created by hearing held March 21, 1974)	29442	6952	7346		10.4 Cond./MMcf +2018^{t}	Niagaran	Seis.	E
Kalkaska 3-27N-7W	Kalkaska 3-27N-7W Pool A	Amoco Production Co. Michael Shemo #1-3	29383	6538	6888	F285 +710 Mcf^{t}		Niagaran	Seis.	E
Mason 13-19N-18W	Hamlin 13-19N-18W Pool A	Miller Brothers etal Miller #2-13	29126	4392	4460		Est. 5000^{t}	Niagaran	Seis.	E
Oceana 8-16N-17W	Pentwater	Wenner Oil & Gas, Inc. Bugbee #1-8	29168	3470	4253		SIGW	Salina A-2 Carb.	Sub.	E
Otsego 10-30N-2W	Chester 10-30N-2W Pool A	Shell Oil Co. Butka #1-10	29298	5898	6240	F360 +193.7 Mcf^{t}		Niagaran	Seis.	E
Tuscola 32-14N-8E	Akron	E. Edwin Brehm Downing #1	28891	7452	7837		6600^{t}	Salina A-1 Carb.	Sub.	E
Tuscola 33-14N-8E	Akron	E. Edwin Brehm Alan Latimer etal #1	29237	6868	7852	F40 +1000 Mcf^{t}		Salina A-2 Carb.	Sub.	E
Wexford 9-24N-12W	Wexford 9-24N-12W Pool A	Shell Oil Co. Fox-Hoesl #1-9	29429	6041	6414		56 Cond./MMcf +6203^{t}	Niagaran	Seis.	E

*Directionally drilled hole; total depth listed is measured total depth, not true vertical depth.

NOTE: t=(T)IP refers to initial production after acid, sand-fracture, or a combination of well stimulation methods. n=(N)IP refers to natural potential or production. Cond.=barrels condensate.

TABLE 1 DRILLING PERMITS, WELL COMPLETIONS, DRILLED FOOTAGE BY COUNTY, 1973

Classification of New Hole Completions
Does not include reworked wells or old wells drilled deeper

COUNTY	OIL/GAS PERMITS ISSUED	OIL AND GAS TESTS Completed Explor.	OIL AND GAS TESTS Completed Devel.	RESULTS Oil Wells	RESULTS Gas Wells	RESULTS Dry Holes	SERVICE WELLS Completed G.S.	SERVICE WELLS Completed B.D.W.	TOTAL WELLS DRILLED	TOTAL DRILLED FOOTAGE Explor.	TOTAL DRILLED FOOTAGE Devel.	TOTAL DRILLED FOOTAGE Fac.	Average Well Depth
Allegan	1	0	1	0	0	1	0	0	1	0	1,161	0	1161
Alpena	2	1	1	0	1	1	0	0	2	3,875	3,900	0	3888
Antrim	3	3	0	1	0	2	0	0	3	18,599	0	0	6200
Barry	2	1	0	0	0	1	1(1)	0	2	3,410	0	3,301	3356
Bay	1	2	0	0	0	2	0	0	2	7,494	0	0	3747
Calhoun	22	11	8	4	4	11	2	0	21	39,013	34,146	3,400	3646
Charlevoix	0	2	0	0	0	2	0	0	2	10,048	0	0	5024
Cheboygan	1	0	0	0	0	0	0	0	0	0	0	0	0
Chippewa	0	1	0	0	0	1	0	0	1	1,305	0	0	1305
Clare	18	2	1	1	0	2	16	0	19	8,075	5,265	24,431	1988
Crawford	6	5	0	2	2	1	0	0	5	36,836	0	0	7372
Eaton	18	7	4	2	2	7	0	0	11	28,964	15,187	0	3671
Gladwin	2	0	2	0	0	2	0	0	2	0	7,808	0	3904
Grand Traverse	43	24	8	4	10	18	0	0	32	143,838	51,433	0	6102
Hillsdale	16	6	3	3	0	6	0	0	9	19,925	12,222	0	4018
Huron	1	1	0	0	0	1	0	0	1	9,038	0	0	9038
Ingham	56	18	16	12	0	22	4(2)	0	38	77,795	66,294	14,905	4184
Isabella	1	0	0	0	0	0	0	0	0	0	0	0	0
Jackson	5	3	0	0	0	3	0	0	3	11,765	0	0	3922
Kalkaska	57	29	26	19	13	23	0	0	55	202,201	176,040	0	6877
Kent	3	0	0	0	0	0	0	0	0	0	0	0	0
Lake	0	0	0	0	0	0	2	0	2	0	0	7,478	3739
Livingston	3	0	6	0	1	5	0	0	6	0	25,395	0	4233
Macomb	21	6	0	0	0	6	12	0	18	21,517	0	39,697	3401
Manistee	28	13	3	7	4	5	0	0	16	65,786	15,978	0	5110
Mason	12	7	3	3	3	4	0	0	10	35,497	13,515	0	4901
Mecosta	1	3	0	0	0	3	0	0	3	10,901	0	0	3634
Missaukee	3	0	0	0	0	0	0	0	0	0	0	0	0
Montcalm	15	4	1	0	0	5	10	0	15	12,790	4,739	11,371	1927
Montmorency	2	1	0	0	0	1	0	0	1	5,375	0	0	5375
Muskegon	1	0	1	0	0	1	0	0	1	0	1,710	0	1710
Newaygo	3	0	0	0	0	0	15	0	15	0	0	12,111	932
Oakland	1	0	0	0	0	0	0	0	0	0	0	0	0
Oceana	8	2	1	0	1	2	0	0	3	6,212	2,299	0	2837
Ogemaw	0	0	0	0	0	0	1(2)	0	1	0	0	2,670	2670
Osceola	4	1	0	0	0	1	3	0	4	2,505	1,630	10,926	3765
Otsego	55	28	19	21	1	25	0	0	47	175,435	111,329	0	6101
Presque Isle	3	3	0	0	0	3	0	0	3	13,248	0	0	4416
Sanilac	0	1	0	0	0	1	0	0	1	7,554	0	0	7554
St. Clair	20	2	2	1	0	3	0	0	4	5,273	4,590	0	2466
Tuscola	2	1	1	1	1	0	0	0	2	4,137	11,538	0	7838
Van Buren	0	0	1	0	0	1	0	0	1	0	1,196	0	1196
Wayne	1	0	0	0	0	0	1(1)	1	2	0	0	2,287	1144
Wexford	4	4	1	0	4	1	0	0	5	25,059	6,147	0	6241
Totals	445	192	109	81	47	173	67	1	369	1,013,470	573,522	132,577	

44 Counties

Includes 1 permit number issued twice (29549 and 29549A) and 1 BDW permit

(1) Actually LPG Storage cavern wells.

(2) Actually water-injection wells in secondary recovery projects.

Both (1) and (2) are not related to gas storage fields.

NORTHERN MICHIGAN REEF RESERVOIRS

This compilation shows the classification of Niagaran reef reservoirs found along the northern reef trend from 1969 through 1973. Nearly all are one-well fields or pools. Additional data on these reservoirs are listed in Table 2, Part 2.

ALPENA COUNTY	
Alpena 12-31N-8E	1973 Gas (A-1 only)
ANTRIM COUNTY	
Mancelona 25-29N-5W	1973 Oil
Mancelona 26-29N-5W	1972 Oil
CRAWFORD COUNTY	
Frederic 2-28N-4W	1973 Oil
Frederic 7-28N-4W	1973 Oil
Frederic 10-28N-4W	1971 Oil
Frederic 13-28N-4W	1972 Gas-Condensate
Frederic 22-28N-4W	1973 Gas-Condensate
Frederic 29-28N-4W	1972 Gas-Condensate
Frederic 29-28N-4W Pool A	1973 Gas-Condensate
GRAND TRAVERSE COUNTY	
Blair 33-26N-11W	1973 Oil
Blair 34-26N-11W	1970 Gas-Condensate
Blair 36-26N-11W	1972 Gas-Condensate
Grant 24-25N-12W	1973 Gas-Condensate
Grant 26-25N-12W	1971 Oil
Grant 29-25N-12W	1973 Oil
Mayfield 3-25N-11W	1973 Gas-Condensate
Mayfield 16-25N-11W	1972 Oil
Mayfield 19-25N-11W	1973 Gas-Condensate
Mayfield 24-25N-11W	1973 Gas-Condensate
Mayfield 30-25N-11W	1973 Oil
Paradise 18-25N-10W	1973 Gas-Condensate
Union 1-26N-9W	1972 Gas-Condensate
Union 3-26N-9W	1972 Gas-Condensate
Union 5-26N-9W	1973 Gas-Condensate
Union 8-26N-9W	1970 Gas-Condensate
Union 11-26N-9W	1972 Gas-Condensate
Union 12-26N-9W	1969 Gas-Condensate
Union 14-26N-9W	1973 Gas-Condensate
Union 18-26N-9W	1973 Gas-Condensate
Whitewater 22-27N-9W	1973 Gas-Condensate
Whitewater 32-27N-9W	1972 Oil
Whitewater 34-27N-9W	1972 Oil
Whitewater 35-27N-9W	1972 Oil
Whitewater 36-27N-9W	1971 Gas-Condensate
KALKASKA COUNTY	
Blue Lake 1-28N-5W	1971 Oil
Blue Lake 12-28N-5W	1971 Oil
Blue Lake 27-28N-5W	1972 Gas-Condensate
Blue Lake 28-28N-5W	1970 Gas-Condensate
Blue Lake 33-28N-5W	1971 Gas-Condensate
Boardman 3-26N-8W	1973 Gas-Condensate
Boardman 6-26N-8W	1973 Oil
Cold Springs 1-28N-6W	1973 Gas-Condensate
Cold Springs 12-28N-6W	1973 Gas-Condensate
Cold Springs 19-28N-6W	1971 Oil
Cold Springs 19-28N-6W Pool A	1973 Oil
Cold Springs 20-28N-6W	1971 Oil
Cold Springs 21-28N-6W	1970 Oil
Cold Springs 25-28N-6W	1971 Gas-Condensate
Cold Springs 25-28N-6W Pool A	1972 Oil
Excelsior 3-27N-6W	1973 Gas-Condensate
Excelsior 6-27N-6W	1973 Gas-Condensate
Excelsior 7-27N-6W	1973 Gas-Condensate
Excelsior 9-27N-6W	1972 Gas-Condensate
Excelsior 17-27N-6W	1973 Gas-Condensate
Kalkaska 3-27N-7W	1973 Oil
Kalkaska 3-27N-7W Pool A	1973 Oil
Kalkaska 5-27N-7W	1970 Oil
Kalkaska 7-27N-7W	1972 Oil
Kalkaska 9-27N-7W	1972 Gas-Condensate
Kalkaska 10-27N-7W	1972 Gas-Condensate
Kalkaska 12-27N-7W	1972 Oil
Kalkaska 13-27N-7W	1972 Gas-Condensate
Kalkaska 16-27N-7W	1973 Oil
Kalkaska 28-27N-7W	1970 Gas-Condensate
Kalkaska 28-27N-7W Pool A	1972 Gas-Condensate
Kalkaska 32-27N-7W	1971 Gas-Condensate
Kalkaska 11-27N-8W	1973 Oil
Kalkaska 13-27N-8W	1972 Oil
Kalkaska 21-27N-8W	1971 Oil
Kalkaska 24-27N-8W	1973 Oil
Kalkaska 25-27N-8W	1972 Gas-Condensate
Kalkaska 26-27N-8W	1973 Gas-Condensate
Kalkaska 28-27N-8W	1971 Oil
Kalkaska 33-27N-8W	1972 Gas-Condensate
Rapid River 24-28N-7W	1970 Oil
Rapid River 24-28N-7W Pool A	1972 Oil
Rapid River 27-28N-7W	1972 Oil
Rapid River 27-28N-7W Pool A	1972 Oil
Rapid River 32-28N-7W	1973 Oil
Rapid River 35-28N-7W	1973 Gas-Condensate
South Boardman Unit Pool A	1971 Gas-Condensate
South Boardman Unit Pool B	1971 Gas-Condensate
South Boardman Unit Pool C	1972 Gas-Condensate
MANISTEE COUNTY	
Bear Lake 23-23N-15W	1973 Gas-Condensate
Cleon 11-24N-13W	1973 Oil
Manistee 1-22N-16W	1973 Gas-Condensate
Maple Grove 2-23N-14W	1973 Gas-Condensate
Maple Grove 6-23N-14W	1973 Oil
Maple Grove 9-23N-14W	1973 Gas-Condensate
Maple Grove 10-23N-14W	1973 Oil
Maple Grove 16-23N-14W	1973 Oil
Springdale 25-24N-14W	1972 Oil
Springdale 28-24N-14W	1973 Oil
MASON COUNTY	
Hamlin 13-19N-18W	1972 Oil
Hamlin 13-19N-18W Pool A	1973 Gas-Condensate
Hamlin 25-19N-18W	1972 Oil
Victory 7-19N-17W	1973 Gas-Condensate
Victory 18-19N-17W	1973 Oil
Victory 19-19N-17W	1972 Oil
OTSEGO COUNTY	
Bagley 23-30N-3W	1973 Oil
Bagley 25-30N-3W	1972 Oil
Bagley 25-30N-3W Pool A	1972 Oil
Charlton 9-30N-1W	1972 Oil
Charlton 12-30N-1W	1973 Oil
Charlton 24-30N-1W	1973 Oil
Charlton 31-30N-1W	1972 Gas-Condensate
Charlton 4-31N-1W	1970 Oil
Charlton 4-31N-1W Pool A	1973 Oil
Charlton 9-31N-1W	1972 Oil
Charlton 27-31N-1W	1972 Oil & Condensate
Charlton 31-31N-1W	1973 Oil
Chester 15-29N-2W	1970 Gas-Condensate
Chester 21-29N-2W	1973 Gas-Condensate
Chester 2-30N-2W	1971 Oil
Chester 5-30N-2W	1972 Oil
Chester 6-30N-2W	1973 Oil
Chester 10-30N-2W	1972 Oil
Chester 10-30N-2W Pool A	1973 Oil
Chester 16-30N-2W	1971 Oil
Chester 18-30N-2W	1971 Oil
Chester 19-30N-2W	1971 Oil
Chester 21-30N-2W	1970 Oil
Chester 30-30N-2W	1973 Oil
Dover 35-31N-2W	1973 Oil
Dover 36-31N-2W	1973 Oil
Hayes 11-29N-4W	1969 Oil
Hayes 15-29N-4W	1973 Oil
Hayes 21-29N-4W	1972 Oil
Hayes 29-29N-4W	1973 Oil
Hayes 32-29N-4W	1972 Oil
Otsego Lake 3-29N-3W	1971 Oil
PRESQUE ISLE COUNTY	
North Allis 29-35N-2E	1969 Oil
WEXFORD COUNTY	
Wexford 9-24N-12W	1973 Gas-Condensate
Wexford 9-24N-12W Pool A	1973 Gas-Condensate
Wexford 10-24N-12W	1972 Gas-Condensate
Wexford 18-24N-12W	1973 Gas-Condensate

NOTE: Excelsior 3-27N-6W field also includes an Excelsior 3-27N-6W Pool A. This one-well pool was declared a separate reservoir after public hearings in March, 1974. The discovery well, Shell's Nicklesen #2-3, does not appear on the list of 1974 discoveries, page 9. Also not included in the above list is Charlton 4-31N-1W Pool A. The Pool A discovery well is Shell's State-Charlton #1-5 completed as a development well in 1972. Reservoir data shows this well to be in a separate reservoir. Both of these pools are listed in Table 2.

PART 2
EXPLANATION

Part 2 brings together general information on Michigans oil and gas fields, gas storage reservoirs, LPG storage facilities, gas plant operations, refinery facilities and other items.

TABLE 2, MICHIGAN OIL AND GAS FIELDS. The symbol on the left margin of the table indicates the official classification of fields and pools at the end of the year. Classifications may be changed as warranted. Official field names are listed alphabetically in the first column and the producing pool, or pools, are shown under the heading Producing Formation or Pool. Most fields consist of one pool with oil or gas production coming from a single reservoir within a formation. Some fields have two or more separate pools, each producing from a different formation or stratigraphic interval and at a different depth. Most multi-pool fields are associated with a common structural feature. Salina-Niagaran reef oil or gas accumulations are mostly single-pool fields. Some, however, have several separate reef reservoirs designated as Pool A, Pool B and so on. Most have been so designated by administrative action following public hearings. Also, a few of the listed fields actually consist of two or more hydrocarbon accumulations which for administrative purposes have been consolidated under one field name.

TABLE 2, MICHIGAN OIL AND GAS FIELDS. The symbol on the left margin of the table indicates the official classification of fields and pools at the end of the year. Classifications may be changed as warranted. Official field names are listed alphabetically in the first column and the producing pool, or pools, are shown under the heading Producing Formation or Pool. Most fields consist of one pool with oil or gas production coming from a single reservoir within a formation. Some fields have two or more separate pools, each producing from a different formation or stratigraphic interval and at a different depth. Most multi-pool fields are associated with a common structural feature. A few of the listed fields actually consist of two or more hydrocarbon accumulations which for administrative purposes have been consolidated under one field name.

Location of fields according to township, range and sections are found at the bottom of the field block. The listed sections are those which have, or have had, producing wells assigned to the field or pool. The geographic location of fields and pools can be found by township and range on the center-spread oil and gas field map. Due to space limitations, all field names are not shown on the map.

The Pay Zone part of the table generally refers to data for the discovery well for the field or pool. The indicated pay thickness relates to the amount of pay opened or perforated in the discovery well and does not necessarily indicate total net or gross pay for the reservoir.

The Deepest Formation or Pool Tested column indicates the stratigraphically oldest formation penetrated and the deepest total depth reached beneath the field area. Data in these columns are updated periodically.

The Number of Wells column indicates the number of successful field wells drilled in the field to the end of the specified year, the number completed as producing wells during the specified year, the number abandoned during the year and the number of active wells at the end of the specified year.

The Drilled Acres column indicates the total number of acres assigned to the field or pool according to individual well drilling units assigned to each producing well completed in the field or pool. A field may have a 10 or 20-acre drilling unit for one pool and a 40-acre unit for a deeper formation pool. During the development of a field or pool the drilling unit size may change. Subsequent wells are assigned acreage values in accordance with the new unit size. In past years drilling units have been 10, 20 or 40 acres. Reef reservoirs, especially in the Northern District, have been assigned 40, 80, 160 and 640-acre units. Gas well units, especially for Michigan Stray Sandstone reservoirs, have generally been 160-acre units. Other sizes currently in use for gas wells are 40, 80, 320 and 640-acre units. Changes in drilling units, off-pattern wells, etc. complicate the maintenance of accurate acreage figures during the lifetime of a given field or pool. Though figures cited in the column are not entirely accurate, they do provide as near as possible an indication of the areal size of the field. The figures do not indicate the areal extent of the oil or gas reservoir.

Recovery Per Acre Drilled figures for oil pools are derived by dividing the cumulative production figure by the drilled acres figure.

GAS FIELDS. Because of slow field development, small reserves or lack of marketing facilities, some fields are listed as "shut-in" and show no production figures. Other fields, not considered to have commercial size gas accumulations, produce small quantities of unmetered gas which is used for domestic purposes and in some cases, lease fuel.

GAS STORAGE RESERVOIRS. Most gas storage reservoirs were originally classified as gas fields or pools. Upon depletion or near depletion of native gas they were converted to storage reservoirs. Undeveloped gas storage reservoirs are gas pools that have been designated to become storage reservoirs at some future time. The producing sections listed on gas storage reservoir tables do not necessarily relate to current gas storage area or boundaries. The sections or parts of sections listed are those which contained at least one producible oil or gas well assigned to the field or pool prior to conversion to storage operations. Further, the listed sections do not necessarily relate to potential or future gas storage area or boundary.

LPG STORAGE. Surface and underground storage facilities for liquified petroleum gas.

OIL WELL GAS. This is casinghead gas produced incidental to the production of oil from pools or fields generally classified as oil accumulations.

NATURAL GAS LIQUIDS (CONDENSATE). Natural gas liquids are those portions of reservoir gas which are liquified at the surface in lease separators, field facilities, or gas processing plants. These liquids include but are not limited to: ethane, propane, butanes, pentanes, natural gasoline and condensate. On Table 2 of this report, condensates from Michigan gas-condensate fields are shown under the oil production column.

WELL SAMPLE SETS. Well cuttings for over 9,000 wells are available for inspection at the Geological Survey, Lansing, Michigan. Samples are contained in glass vials arranged in open trays. In addition, several thousand shallow geological test samples are also available for inspection. The Survey does not maintain a core collection. Other sample and core repositories, not connected with the Survey, are located at: Subsurface Laboratory, Department of Geology, The University of Michigan, Ann Arbor, Michigan.

Department of Geology, Wayne State University, Detroit, Michigan.

Department of Geology, Western Michigan University, Kalamazoo, Michigan.

Department of Geology, Michigan State University, East Lansing, Michigan.

Department of Geology, Central Michigan University, Mt. Pleasant, Michigan.

TABLE 2 MICHIGAN OIL AND GAS FIELDS

POOL CLASSIFICATION

- ● ACTIVE OIL FIELD OR POOL
- ◐ ABANDONED OIL FIELD OR POOL
- ☼ ACTIVE GAS FIELD OR POOL
- ☼ ABANDONED GAS FIELD OR POOL
- ☼ GAS-CONDENSATE FIELD OR POOL
- ☼ ABANDONED GAS-CONDENSATE FIELD OR POOL
- ⊕ GAS STORAGE RESERVOIR
- ⊖ UNDEVELOPED GAS STORAGE RESERVOIR

FIELD NAME	PRODUCING FORMATION OR POOL	YEAR OF DISC.	COUNTY TOWNSHIP / PRODUCING SECTIONS	PAY ZONE: DEPTH IN FEET	PAY ZONE: THICKNESS AND LITHOLOGY	PAY ZONE: OIL GRAVITY A.P.I.	DEEPEST FORMATION OR POOL TESTED	DEPTH IN FEET	NUMBER OF WELLS 1973: TO END	NUMBER OF WELLS 1973: COMP. IN	NUMBER OF WELLS 1973: ABAND. IN	NUMBER OF WELLS 1973: ACTIVE AT END	DRILLED ACRES	OIL PRODUCTION—BBLS.: PRODUCED IN 1973	OIL PRODUCTION—BBLS.: CUMULATIVE THROUGH 1973	GAS PRODUCTION—Mcf.: PRODUCED IN 1973	GAS PRODUCTION—Mcf.: CUMULATIVE THROUGH 1973	RECOVERY PER ACRE DRILLED (BBLS.)	TOTAL BARRELS BRINE PER DAY
● ADAIR	SALINA-NIAGARAN	1961	ST. CLAIR	2,719	10 D	41.4	NIAGARAN	2,755	15	0	0	12	560	5,210	312,494	0	468,773	558	112
			CHINA TWP., 4N-16E, SECTION 7 CASCO TWP., 4N-15E, SECTION 12, 13 3 OF ORIGINAL 18 WELLS TRANSFERRED TO PUTTYGUT																
● ADAMS	TRAVERSE	1937	ARENAC-BAY	2,032	15 L	37.0	BOIS BLANC	3,079	24	0	0	8	240	1,364					22
● DUNDEE		1937		2,958	15 L	34.7			31	0	0	17	310	10,458					12
● DETROIT RIVER SZ		1956		3,943	5 L	39.6								CUMULATIVE PRODUCTION FROM ALL POOLS COMBINED					
● RICHFIELD		1941		4,278	5 L	35.5			31	0	0	8	1,080	3,334	1,510,723			927	2
			ADAMS TWP., 19N-3E, SECTIONS 21, 23 THROUGH 27, 34, 35, 36 DEEP RIVER TWP., 19N-4E THE 8 WELLS INCLUDE 5 RICHFIELD, 1 SOUR ZONE, AND 2 DUAL COMPLETIONS, SECTION 31 GIBSON TWP., 18N-3E, SECTIONS 1, 2 RICHFIELD & SOUR ZONE																
☼ ADAMS, NORTH	BEREA	1962	ARENAC	1,605	1 S		DUNDEE	3,101	1	ABANDONED 1948			40				1,280		
● DUNDEE		1940		2,905	15 D	32.0	DETROIT RIVER	4,489	49	0	0	19	470	17,568	9,316,544			19,822	3,933
			ADAMS TWP., 19N-3E, SECTIONS 11, 14, 15, 22, 23, 27 BEREA PRODUCTION - SECTION 4																
☼ ADAMS, SEC. 8	TRAVERSE	1962	HILLSDALE	1,420	4 L		PRAIRIE DU CHIEN	4,169	1	ABANDONED 1965			20				18,919		
			ADAMS TWP., 6S-2W, SECTION 8																
● AKRON	DUNDEE	1936	TUSCOLA	2,678	17 L	37.3	NIAGARAN	7,941	50	0	0	34	1,100	15,555					130
● DETROIT RIVER SZ		1938		3,422	11 D	35.9			27	0	0	19	500	16,851	1,953,006			1,220	73
● RICHFIELD		1954		3,774	6 D	39.2							THE 19 WELLS INCLUDE 2 RICHFIELD, 13 SOUR ZONE AND 4 DUAL COMPLETIONS - SZ & DD						
● A-2 CARBONATE		1973		6,868	107 D	46.9			1	1	0	1	160						
☼ A-1 CARBONATE		1973		7,452	60 D				1	1	0	1	160						
			AKRON TWP., 14N-8E, SECTIONS 19, 20, 21, 28, 29, 30 WISNER TWP., 14N-7E, SECTIONS 22, 23, 24, 25, 26 SALINA PRODUCTION - SECTIONS 32, 33, 14N-8E																
● ALAMO	TRAVERSE	1949	KALAMAZOO	1,310	2 L		TRAVERSE	1,420	16	ABANDONED 1962			160		27,545			172	
			ALAMO TWP., 1S-12W, SECTIONS 19, 29, 30																
☼ ALBION	TRAVERSE	1941	CALHOUN	1,610	7 L		PRAIRIE DU CHIEN	4,623	4	ABANDONED 1948			120				6,114		
			ALBION TWP., 3S-4W, SECTIONS 14, 15																
			ALBION-PULASKI-SCIPIO TREND: FIELD AND PRODUCTION DATA LISTED BY TOWNSHIP AND COUNTY																
☼ CAL-LEE	NIAGARAN REEF	1962	CALHOUN	3,036	8 D		PRAIRIE DU CHIEN	4,912	7	0	0	4	400			329,634	1,621,494		
			LEE TWP., 1S-5W, SECTIONS 9, 15, 16, 22 1 WELL TRANSFERRED TO LEE 16, 1S-5W GAS STORAGE FIELD																
● LEE TWP.	NIAGARAN REEF	1961	CALHOUN	3,060	20 D	24.2	PRAIRIE DU CHIEN	4,926	1	ABANDONED 1972			80	0	5,269			66	
● TRENT.-BLK. RIVER		1960		4,600	24+ D				27	0	0	18	410	121,088	2,328,722			5,680	907
			LEE TWP., 1S-5W, SECTIONS 17, 22, 23, 25, 26, 36																
● SHERIDAN TWP.	TRENT.-BLK. RIVER	1960	CALHOUN	4,179	10+ D	40.0	PRAIRIE DU CHIEN	4,791	45	0	0	38	810	114,948	4,494,255	235,827	2,746,715	5,548	614
			SHERIDAN TWP., 2S-4W, SECTIONS 17, 18, 19, 20, 21, 28, 33																
● ALBION TWP.	TRENT.-BLK. RIVER	1958	CALHOUN	3,952	? D	44.0	PRAIRIE DU CHIEN	4,623	143	0	0	136	2,760	685,352	21,846,126	2,308,690	38,131,284	7,915	2,752
			ALBION TWP., 3S-4W, SECTIONS 3, 4, 10, 11, 14, 15, 22, 23, 26, 27, 35, 36																
● PULASKI-HOMER TWPS.	TRENT.-BLK. RIVER	1959	JACKSON-CALHOUN	3,766	66+ D	39.6	PRAIRIE DU CHIEN	4,595	140	0	0	134	2,680	667,453	24,770,165	3,116,296	38,501,563	9,243	7,335
			PULASKI TWP., 4S-3W, SECTIONS 6, 7, 8, 17, 18, 19, 20, 21, 28, 29, 32, 33, 34 HOMER TWP., 4S-4W, SECTIONS 1, 12																
● SCIPIO-FAYETTE-MOSCOW TWPS.	TRENT.-BLK. RIVER	1957	HILLSDALE	3,576	50+ D	41.4	PRAIRIE DU CHIEN	4,202	205	0	0	188	3,560	1,422,135	44,850,695	3,644,689	48,774,132	12,599	5,082
			SCIPIO TWP., 5S-3W, SECTIONS 3, 4, 10 THROUGH 15, 23, 24, 25, 26 FAYETTE TWP., 5S-3W, SECTIONS 35, 36 MOSCOW TWP., 5S-2W, SECTIONS 19, 31, 32																
● ADAMS TWP.	TRENT.-BLK. RIVER	1959	HILLSDALE	3,984	6+ D	42.0	PRAIRIE DU CHIEN	4,162	58	3	0	44	1,010	177,220	6,998,581	820,742	9,515,475	6,929	678
			ADAMS TWP., 6S-2W, SECTIONS 3, 4, 5, 6, 7, 8, 10, 14, 16, 17																
TREND TOTAL (NOTE: CAL-LEE FIGURES NOT INCLUDED IN TREND TOTALS)----------									618	3	0	558	11,230	3,188,196	105,288,544	10,126,244	137,669,169	9,376	17,368
			SEE CENTER SPREAD MAP FOR TOWNSHIPS ASSOCIATED WITH ALBION-SCIPIO TREND																
☼ ALGONAC	ANTRIM	1947	ST. CLAIR	302	6 SH		CABOT HEAD	2,504	2	ABANDONED 1951			80				7,830		
			CLAY TWP., 3N-16E, SECTIONS 20, 29																
● ALLEGAN	TRAVERSE	1937	ALLEGAN	1,563	2 L	38.0	CINCINNATIAN	2,987	19	0	0	1	190	0	16,404	FIELD REACTIVATED - 1971		86	6
			ALLEGAN TWP., 2N-13W, SECTIONS 2, 5, 9, 10, 13, 22, 23, 26, 27, 34, 35, 36																
☼ ALPENA 12-31N-8E	A-1 CARBONATE	1973	ALPENA	3,685	22 L		NIAGARAN	3,875	1	1	0	1	160						
			ALPENA TWP., 31N-8E, SECTION 12																
☼ ALPINE	NIAGARAN REEF	1963	ST. CLAIR	3,151	25 D		CLINTON	3,470	3	0	0	3	120			229,674	1,214,628		1
			WALES TWP., 6N-15E, SECTION 32																
● ARBELA	DUNDEE	1946	TUSCOLA	2,557	7 L	35.3	DETROIT RIVER	3,375	35	0	0	2	350	2,976	334,469			956	
			ARBELA TWP., 10N-7E, SECTIONS 28, 33, 34																
● ASHLAND, SEC. 8	TRAVERSE	1959	NEWAYGO	2,238	1 L		TRAVERSE	2,239	1	ABANDONED 1962			10		267			27	
			ASHLAND TWP., 11N-13W, SECTION 8																
☼ ASHTON	MICHIGAN STRAY	1946	OSCEOLA	1,215	2 S		DETROIT RIVER	3,779	3	0	0	1	400						
● TRAVERSE		1945		2,950	4 L	42.0			4	0	0	3	80	4,043	CUMULATIVE PRODUCTION INCLUDED WITH DUNDEE				80
● DUNDEE		1945		3,645	5 L	40.0			4	0	0	4	200	1,816	467,879			1,671	
			LINCOLN TWP., 18N-10W, SECTIONS 5, 6																
☼ ASHTON, EAST	MICHIGAN STRAY	1962	OSCEOLA	1,297	5 S		REED CITY	3,750	1	ABANDONED 1970			160						
			LINCOLN TWP., 18N-10W, SECTION 3																
● ATLANTA	DETROIT RIVER	1945	MONTMORENCY	2,183	5 D	36.2	DETROIT RIVER	2,550	3	0	0	1	30	0	7,688			256	
			AVERY TWP., 30N-3E, SECTIONS 10, 15																

POOL CLASSIFICATION

- ● ACTIVE OIL FIELD OR POOL
- ◐ ABANDONED OIL FIELD OR POOL
- ☼ ACTIVE GAS FIELD OR POOL
- ☼ ABANDONED GAS FIELD OR POOL
- ☼ GAS-CONDENSATE FIELD OR POOL
- ☼ ABANDONED GAS-CONDENSATE FIELD OR POOL
- ⊕ GAS STORAGE RESERVOIR
- ⊖ UNDEVELOPED GAS STORAGE RESERVOIR

FIELD NAME	PRODUCING FORMATION OR POOL	YEAR OF DISC.	COUNTY TOWNSHIP / PRODUCING SECTIONS	PAY ZONE: DEPTH IN FEET	PAY ZONE: THICKNESS AND LITHOLOGY	PAY ZONE: OIL GRAVITY A.P.I.	DEEPEST FORMATION OR POOL TESTED	DEPTH IN FEET	NUMBER OF WELLS 1973: TO END	NUMBER OF WELLS 1973: COMP. IN	NUMBER OF WELLS 1973: ABAND. IN	NUMBER OF WELLS 1973: ACTIVE AT END	DRILLED ACRES	OIL PRODUCTION—BBLS.: PRODUCED IN 1973	OIL PRODUCTION—BBLS.: CUMULATIVE THROUGH 1973	GAS PRODUCTION—Mcf.: PRODUCED IN 1973	GAS PRODUCTION—Mcf.: CUMULATIVE THROUGH 1973	RECOVERY PER ACRE DRILLED (BBLS.)	TOTAL BARRELS BRINE PER DAY
● AU GRES	DETROIT RIVER SZ	1956	ARENAC	3,822	14 L	31.4	RICHFIELD	4,315	DETROIT RIVER SZ COMBINED WITH RICHFIELD										
● RICHFIELD		1953		4,152	11 L	36.5			4	0	0	3	160	228	52,740			330	
			AU GRES TWP., 19N-6E, SECTIONS 2, 3, 10, 11 THE 3 WELLS INCLUDE 2 RICHFIELD AND 1 RICHFIELD AND SOUR ZONE																
● AURELIUS 35-2N-2W	NIAGARAN REEF	1971	INGHAM	3,942	60 D	37.3	NIAGARAN	4,395	4	0	0	4	320	147,320	275,305	68,140	131,808	860	
			AURELIUS TWP., 2N-2W, SECTIONS 26, 35, 36																
⊕ AUSTIN	REFER TO TABLE 3 DEVELOPED GAS STORAGE RESERVOIRS																		
● BAGLEY 23-30N-3W	NIAGARAN REEF	1973	OTSEGO	5,868	13 D		NIAGARAN	6,194	1	1	0	1	80	5,307	5,307			66	
			BAGLEY TWP., 30N-3W, SECTION 23																
● BAGLEY 25-30N-3W	NIAGARAN REEF	1972	OTSEGO	6,090	55 D	44.9	NIAGARAN	6,372	1	0	0	1	80	88,769	106,717	72,076	84,209	1,334	
			BAGLEY TWP., 30N-3W, SECTION 25																
● BAGLEY 25-30N-3W POOL A	A-1 CARBONATE & NIAGARAN REEF	1972	OTSEGO	6,070	30 D	41.8	NIAGARAN	6,451	2	1	0	2	160	108,375	115,818	114,734	114,734	724	
			BAGLEY TWP., 30N-3W, SECTION 25																
● BANGOR	TRAVERSE	1939	VAN BUREN	1,002	2 L	29.5	TRENTON	2,552	65	ABANDONED 1959			610		933,965			1,531	
			BANGOR TWP., 2S-16W, SECTIONS 4, 5, 9, 10, 14, 15, 16, 21, 28, 29																
● BARD	DUNDEE	1949	GLADWIN	3,933	6 L	42.8	DUNDEE	4,017	17	0	1	2	170	1,281	575,303			3,384	80
			BEAVERTON TWP., 17N-2W, SECTIONS 5, 6 GROUT TWP., 18N-2W, SECTIONS 31, 32																
● BARTON	TRAVERSE	1947	NEWAYGO	3,097	1 L	30.0	DETROIT RIVER	3,745	3	ABANDONED 1963			50		20,227			405	
			BARTON TWP., 16N-11W, SECTION 16																
☼ BEAR LAKE 23-23N-15W	NIAGARAN REEF	1973	MANISTEE	4,786	7 D	49.6	NIAGARAN	5,035	1	1	0	1	160						
			BEAR LAKE TWP., 23N-15W, SECTION 23																
● BEAVER, SEC. 31	BEREA	1954	BAY	2,413	16 SL		SYLVANIA	4,754	*	ABANDONED 1961			10		1,053			105	
			BEAVER TWP., 15N-3E, SECTION 31																
● BEAVER CREEK UNIT	RICHFIELD	1947	CRAWFORD-KALKASKA	4,160	20 D	44.7	ST. PETER	10,142	105	0	0	52	4,240	574,050	3,719,236	309,355	18,459,526	2,292	936
			BEAVER CREEK TWP., 25N-4W, SECTIONS 7, 8, 16 THROUGH 21, 27, 28, 29 GARFIELD TWP., 25N-5W, SECTIONS 12, 13																
● BEAVERTON	DUNDEE	1934	GLADWIN	3,929	12 L	41.3	RICHFIELD	5,225	26	0	0	4	330	2,694	882,253			2,673	85
			BEAVERTON TWP., 17N-2W, SECTIONS 2, 3, 11, 13																
● BEAVERTON, SOUTH	TRAVERSE	1956	GLADWIN	3,231	6 L	41.0	DETROIT RIVER	4,977	TRAVERSE COMBINED WITH DUNDEE										
● DUNDEE		1936		3,845	12 L	34.5			33	0	0	19	700	18,833	1,700,529			2,429	39
			BEAVERTON TWP., 17N-2W, SECTIONS 26, 27, 35, 36 TOBACCO TWP., 17N-1W, SECTION 31 THE 19 WELLS INCLUDE 18 DUNDEE & 1 DUNDEE & TRAVERSE																
● BEAVERTON, WEST	DUNDEE	1943	GLADWIN	3,876	2 L	41.2	DETROIT RIVER	5,094	7	0	0	4	260	9,545	195,466			752	10
			BEAVERTON TWP., 17N-2W, SECTION 19																
⊕ BELLE RIVER MILLS	REFER TO TABLE 3 DEVELOPED GAS STORAGE RESERVOIRS																		
● BELLY ACHERS	DUNDEE	1944	MONTCALM	3,470	1.3 D	48.2	DUNDEE	3,615	7	0	0	3	220	1,446	339,986			1,545	50
			HOME TWP., 12N-6W, SECTIONS 11, 14																
● BENONA, SEC. 13	TRAVERSE	1949	OCEANA	1,640	3 L		DETROIT RIVER	2,276	2	ABANDONED 1956			20		4,951			248	
			BENONA TWP., 14N-18W, SECTION 13																
● BENTLEY	TRAVERSE	1952	GLADWIN	2,855	6 L	34.1	SYLVANIA	5,114	TRAVERSE COMBINED WITH DUNDEE & RICHFIELD										
● DUNDEE		1937		3,510	13 L	42.1			87	0	0	40	1,920	27,885	2,925,447				181
● RICHFIELD		1952		4,440	14 L	40.0			1	0	0	1						1,524	
			BENTLEY TWP., 17N-2E, SECTIONS 16 THROUGH 21, 27, 28, 29, 34, 35 THE 41 WELLS INCLUDE 40 DUNDEE AND 1 MULTIPLE COMPLETION TRAVERSE, DUNDEE, & RICHFIELD																
● BERLIN	NIAGARAN	1960	ST. CLAIR	3,800	25 D	42.8	CINCINNATIAN	4,310	4	0	0	3	140	12,297	354,257			2,530	40
			BERLIN TWP., 6N-13E, SECTIONS 32, 33																
☼ BEVENS LAKE	MICHIGAN STRAY	1952	MECOSTA	1,244	6 S		REED CITY	3,731	3	ABANDONED 1969							515,405		
● TRAVERSE		1951		2,997	1 L	44.2			4	0	0	1	40	1,613	94,646			2,366	100
☼ DUNDEE		1951		3,536	11 L				3	0	0	1	320			31,634	964,187		
			GREEN TWP., 16N-10W, SECTION 13																
● BIG HAND	NIAGARAN	1961	ST. CLAIR	2,898	5+ D	39.5	CLINTON	3,097	10	0	0	10	200	42,169	798,933	140,298	464,525	3,995	37
			COLUMBUS TWP., 5N-15E, SECTION 24																
☼ BIG PRAIRIE	MICHIGAN STRAY	1944	NEWAYGO	1,030	5 S		REED CITY	3,322	1	ABANDONED 1961			160				152,864		
			BIG PRAIRIE TWP., 13N-11W, SECTION 16																
☼ BIG PRAIRIE, SEC. 33	DUNDEE	1947	NEWAYGO	2,896	2 L		DUNDEE	2,900	1	ABANDONED 1952			40				62,324		
			BIG PRAIRIE TWP., 13N-11W, SECTION 33																
☼ BIG RAPIDS	MICHIGAN STRAY	1943	MECOSTA	1,145	7 S		REED CITY	3,595	9	ABANDONED 1969			1,440				2,393,033		
☼ DUNDEE		1965		3,420	6 L				1	0	0	1	160			0	44,498		
			BIG RAPIDS TWP., 15N-10W, SECTIONS 3, 9, 10, 11, 13																
◐ BILLINGS	DUNDEE	1949	GLADWIN	3,549	6 L	39.7	RICHFIELD	4,995	20	0	0	19	400	5,970	CUMULATIVE PRODUCTION COMBINED WITH DETROIT RIVER				
◐ DETROIT RIVER		1950		4,070	7 D	43.5			10	0	0	9	200	3,980	806,714			1,345	2
			BILLINGS TWP., 17N-1E, SECTIONS 2, 3, 10, 11 THE 9 WELLS INCLUDE 8 SOUR ZONE & 1 SOUR ZONE & DUNDEE																
◐ BILLINGS, SOUTH	DUNDEE	1957	GLADWIN	3,540	5 ?	39.5	DETROIT RIVER	4,152	8	0	0	8	70	8,282	177,691			2,538	2
			BILLINGS TWP., 17N-1E, SECTIONS 12, 13 BENTLEY TWP., 17N-2E, SECTION 18																
◐ BIRCH-BELA	DUNDEE	1951	SAGINAW-TUSCOLA	2,504	7 L	36.0	DETROIT RIVER	3,263	30	0	0	30	340	12,977	317,826			935	1
			BIRCH RUN TWP., 10N-6E, SECTIONS 25, 36 ARBELA TWP., 10N-7E, SECTIONS 30, 31, 32																
◐ BIRCH RUN	BEREA	1934	SAGINAW	1,530	5 S	43.3	DUNDEE	2,646	26	ABANDONED 1951			250		215,876			864	
● DUNDEE		1954		2,536	10 L	36.2	DUNDEE	2,716	34	0	0	32	480	13,442	550,716			1,147	1
			BIRCH RUN TWP., 10N-6E, SECTIONS 19, 20, 21 (BEREA) BIRCH RUN TWP., 10N-6E, SECTIONS 19, 20, 29 TAYMOUTH TWP., 10N-5E, SECTION 13 (DUNDEE)																

POOL CLASSIFICATION

● ACTIVE OIL FIELD OR POOL
◐ ABANDONED OIL FIELD OR POOL
☼ ACTIVE GAS FIELD OR POOL
☼ ABANDONED GAS FIELD OR POOL
☼ GAS-CONDENSATE FIELD OR POOL
☼ ABANDONED GAS-CONDENSATE FIELD OR POOL
⊕ GAS STORAGE RESERVOIR
⊖ UNDEVELOPED GAS STORAGE RESERVOIR

	FIELD NAME	PRODUCING FORMATION OR POOL	YEAR OF DISC.	COUNTY TOWNSHIP / PRODUCING SECTIONS	PAY ZONE: DEPTH IN FEET	PAY ZONE: THICKNESS AND LITHOLOGY	PAY ZONE: OIL GRAVITY A.P.I.	DEEPEST FORMATION OR POOL TESTED	DEPTH IN FEET	NUMBER OF WELLS: TO END	NUMBER OF WELLS: COMP. IN 1973	NUMBER OF WELLS: ABAND. IN 1973	NUMBER OF WELLS: ACTIVE AT END	DRILLED ACRES	OIL PRODUCTION—BBLS.: PRODUCED IN 1973	OIL PRODUCTION—BBLS.: CUMULATIVE THROUGH 1973	GAS PRODUCTION—Mcf.: PRODUCED IN 1973	GAS PRODUCTION—Mcf.: CUMULATIVE THROUGH 1973	RECOVERY PER ACRE DRILLED (BBLS.)	TOTAL BARRELS BRINE PER DAY
●	BISHOP	TRAVERSE	1950	NEWAYGO	2,226	3 L		TRAVERSE	2,238	7	ABANDONED 1952			110		33,327			303	
	GARFIELD TWP., 12N-13W, SECTIONS 19, 20, 30																			
●	BLAIR 33-26N-11W	NIAGARAN REEF	1973	GRAND TRAVERSE	5,844	11 D	45.8	NIAGARAN	6,123	1	1	0	1	80	110	110			1	
	BLAIR TWP., 26N-11W, SECTION 33																			
☼	BLAIR 34-26N-11W (BLAIR)	NIAGARAN REEF	1970	GRAND TRAVERSE	5,826	124 D	60 COND.	CLINTON	6,316	2	0	0	2	320	7,005	7,680	256,526	301,366	24	
	BLAIR TWP., 26N-11W, SECTION 34																			
☼	BLAIR 36-26N-11W	NIAGARAN REEF	1972	GRAND TRAVERSE	6,205	14 D		NIAGARAN	6,389	1	0	0	1	160	6,940	6,940	187,355	187,355	43	
	BLAIR TWP., 26N-11W, SECTION 36																			
☼	BLISSFIELD	TRENT.-BLK. RIVER	1963	LENAWEE	2,686	9 D		GLENWOOD	3,251	1	0	0	1	40	0	567	0	52,905		
	BLISSFIELD TWP., 7S-5E, SECTION 5														GAS RESERVOIR PRODUCING SMALL QUANTITIES OF OIL					
●	BLOOMER	TRAVERSE	1944	MONTCALM-IONIA	2,640	3.3 L	42.3	DETROIT RIVER	3,271	29	0	0	4	530	2,915	1,955,050			3,689	340
	BLOOMER TWP., 9N-5W, SECTIONS 31, 32 BUSHNELL TWP., 9N-6W, SECTION 36 NORTH PLAINS TWP., 8N-5W, SECTIONS 5, 6																			
◐	BLOOMER, SEC. 18	TRAVERSE	1936	MONTCALM	2,717	6 L		DUNDEE	3,138	1	ABANDONED 1936			10		814			81	
	BLOOMER TWP., 9N-5W, SECTION 18																			
●	BLOOMINGDALE	TRAVERSE	1938	VAN BUREN	1,244	4 L	42.0	ST. PETER SS.	3,422	431	0	2	19	4,040	5,586	10,002,621			2,476	177
	BLOOMINGDALE TWP., 1S-14W, SECTIONS 1, 2, 3, 6 THROUGH 18, 24 COLUMBIA TWP., 1S-15W, SECTIONS 1, 2, 10 THROUGH 16, 23, 24 PINE GROVE TWP., 1S-13W, SECTION 18																			
●	BLUE LAKE 1-28N-5W	NIAGARAN REEF	1971	KALKASKA	6,481	43 D	43.0	NIAGARAN	6,980	2	1	0	2	160	137,797	264,354	41,887	66,299	1,652	
	BLUE LAKE TWP., 28N-5W, SECTION 1																			
●	BLUE LAKE 12-28N-5W	NIAGARAN REEF	1971	KALKASKA	6,852	20 D	45.0	NIAGARAN	7,079	2	1	0	2	160	1,708	12,283	10,622	39,932	77	
	BLUE LAKE TWP., 28N-5W, SECTION 12																			
☼	BLUE LAKE 27-28N-5W	NIAGARAN REEF	1972	KALKASKA	7,131	37 D		NIAGARAN	7,350	1	0	0	1	160	65	229			1	
	BLUE LAKE TWP., 28N-5W, SECTION 27																			
☼	BLUE LAKE 28-28N-5W (BLUE LAKE)	NIAGARAN REEF	1970	KALKASKA	7,105	30 D	60 COND.	CLINTON	7,450	1	0	0	1	160	14,209	45,622	967,583	1,818,385	285	
	BLUE LAKE TWP., 28N-5W, SECTION 28																			
☼	BLUE LAKE 33-28N-5W	LOWER NIAGARAN	1971	KALKASKA	7,350	25 D		CLINTON	7,610	1	0	0	1	160	1,635	6,036			38	
	BLUE LAKE TWP., 28N-5W, SECTION 33																			
☼	BOARDMAN 3-26N-8W	NIAGARAN REEF	1973	KALKASKA	6,570	60 D	53.4	NIAGARAN	6,980	1	1	0	1	160	0	0				
	BOARDMAN TWP., 26N-8W, SECTION 3																			
●	BOARDMAN 6-26N-8W	NIAGARAN REEF	1973	KALKASKA	6,477	180 D	46.1	NIAGARAN	6,975	1	1	0	1	80	3,017	3,017			38	
	BOARDMAN TWP., 26N-8W, SECTION 6																			
●	BOYD	SALINA-NIAGARAN	1958	ST. CLAIR	2,457	292 D	37.7	PRECAMBRIAN	4,634	49	0	0	37	1,840	68,888	1,892,172	764,860	15,442,411	1,028	153
	CASCO TWP., 4N-15E, SECTIONS 29, 31, 32, W½ 28, W½ 33 IRA TWP., 3N-15E, SECTIONS 5, 6																			
●	BREEDSVILLE	TRAVERSE	1943	VAN BUREN	1,061	2 L	33.0	DETROIT RIVER	1,445	32	ABANDONED 1961			300		285,584			952	
	GENEVA TWP., 1S-16W, SECTIONS 23, 24, 25, 26																			
●	BRINTON	DUNDEE	1967	ISABELLA	4,082	3 D		DUNDEE	4,085	1	0	0	1	40	0	19,308			483	
	COLDWATER TWP., 16N-6W, SECTION 5																			
⊖	BROOMFIELD-DEERFIELD REFER TO TABLE 4 UNDEVELOPED GAS STORAGE RESERVOIRS																			
●	BUCKEYE, NORTH	DUNDEE	1936	GLADWIN	3,615	14 L	39.0	SYLVANIA	5,351	287	0	1	53	3,030	98,498	19,439,020		9,834	6,416	2,534
	BUCKEYE TWP., 18N-1W, SECTIONS 1, 2, 3, 4, 9 THROUGH 15 HAY TWP., 18N-1E, SECTIONS 15, 16, 21, 22																			
◐	BUCKEYE, SOUTH	TRAVERSE	1956	GLADWIN	2,891	3 D	42.0	DETROIT RIVER	4,802	7	ABANDONED 1960 - PRODUCTION COMBINED WITH BUCKEYE, SOUTH DUNDEE									
		DUNDEE	1936		3,570	11 L	39.0			197	0	0	27	2,270	18,803	5,035,038			2,218	32
●		DETROIT RIVER SZ	1964		4,481	14 D	46.0			1	0	0	1	40	4,964	91,671			2,292	
	BUCKEYE TWP., 18N-1W, SECTIONS 22 THROUGH 27, 35, 36 HAY TWP., 18N-1E, SECTION 33 BILLINGS TWP., 17N-1E, SECTIONS 4, 9, 10 TOBACCO TWP., 17N-1W, SECTION 1																			
●	BURDELL	DUNDEE	1959	OSCEOLA	3,678	4 L		REED CITY	3,804	6	0	0	2	120	1,238	153,357			1,278	160
◐		REED CITY	1960		3,802	2 D				1	ABANDONED 1969			40						
	BURDELL TWP., 20N-10W, SECTION 19																			
◐	BUSHNELL	DUNDEE	1935	MONTCALM	3,105	2 L	33.9	DUNDEE	3,125	1	ABANDONED 1939			10		4,035			403	
	BUSHNELL TWP., 9N-6W, SECTION 1																			
◐	BUTMAN	TRAVERSE	1950	GLADWIN	2,789	2 L		SYLVANIA	5,027	1	ABANDONED 1953 - PRODUCTION COMBINED WITH BUTMAN RICHFIELD									
◐		DUNDEE	1949		3,598	6 L	41.4			1	ABANDONED 1963 - PRODUCTION COMBINED WITH BUTMAN RICHFIELD									
●		RICHFIELD	1949	GLADWIN	4,921	10 D	41.6			5	0	0	5	240	4,958	318,301			1,327	23
	BUTMAN TWP., 20N-1W, SECTION 12 (TRAVERSE) BUTMAN TWP., 20N-1W, SECTIONS 11, 12, 13, 14 (DUNDEE & RICHFIELD)																			
☼	CAL-LEE	REFER TO ALBION-PULASKI-SCIPIO TREND		PRIMARILY NIAGARAN OIL AND GAS PRODUCTION - LEE TOWNSHIP																
⊘	CANNON CREEK	TRAVERSE	1950	MISSAUKEE-KALKASKA	2,695	11 L		RICHFIELD	4,810	21	ABANDONED 1956			3,360				851,369		
	NORWICH TWP., 24N-6W, SECTIONS 6, 7, 18 PIONEER TWP., 24N-7W, SECTIONS 1, 2, 12, 13 GARFIELD TWP., 25N-6W, SECTION 31 GARFIELD TWP., 25N-7W, SECTIONS 25, 36																			
☼	CAPAC	NIAGARAN	1961	ST. CLAIR	4,505	6 D		MT. SIMON SS.	6,337	54	0	0	48	9,120	157	5,983	1,199,270	20,799,467		
	MUSSEY TWP., 7N-13E, SECTIONS 4, 5, 8, 9, 16 THROUGH 21, 28, 29, 30, 32, 33 LYNN TWP., 8N-13E, SECTIONS 21, 27, 28, 29, 32, 33, 34 GAS RESERVOIR PRODUCING SMALL QUANTITIES OF COND.																			
●	CAREY LAKE	REED CITY	1966	NEWAYGO	3,411	2 D		REED CITY	3,413	2	0	0	2	80	0	19,021			238	
	GOODWELL TWP., 14N-11W, SECTION 26																			
◐	CASCO	TRAVERSE	1940	ALLEGAN-VAN BUREN	1,095	1.5 L	38.6	TRAVERSE	1,115	9	ABANDONED 1959			50		17,382			348	
	CASCO TWP., 1N-16W, SECTIONS 34, 35 GENEVA TWP., 1S-16W, SECTION 4																			
●	CAT CREEK	DUNDEE	1968	OSCEOLA	3,696	4 L		DUNDEE	3,890	8	0	0	8	300	29,798	389,791			1,299	1,477
	HERSEY TWP., 17N-9W, SECTIONS 4, 9																			
●	CATO	REED CITY	1944	MONTCALM-MECOSTA	3,542	3 D	44.7	DETROIT RIVER	3,731	21	0	0	10	630	21,677	1,067,900			1,695	1,515
	CATO TWP., 12N-8W, SECTIONS 3, 4, 6, 8, 9 DEERFIELD TWP., 13N-9W, SECTION 36																			

POOL CLASSIFICATION

● ACTIVE OIL FIELD OR POOL
◐ ABANDONED OIL FIELD OR POOL
☼ ACTIVE GAS FIELD OR POOL
☼ ABANDONED GAS FIELD OR POOL
☼ GAS-CONDENSATE FIELD OR POOL
☼ ABANDONED GAS-CONDENSATE FIELD OR POOL
⊕ GAS STORAGE RESERVOIR
⊖ UNDEVELOPED GAS STORAGE RESERVOIR

	FIELD NAME	PRODUCING FORMATION OR POOL	YEAR OF DISC.	COUNTY TOWNSHIP / PRODUCING SECTIONS	PAY ZONE: DEPTH IN FEET	PAY ZONE: THICKNESS AND LITHOLOGY	PAY ZONE: OIL GRAVITY A.P.I.	DEEPEST FORMATION OR POOL TESTED	DEPTH IN FEET	NUMBER OF WELLS: TO END	NUMBER OF WELLS: COMP. IN 1973	NUMBER OF WELLS: ABAND. IN 1973	NUMBER OF WELLS: ACTIVE AT END	DRILLED ACRES	OIL PRODUCTION—BBLS.: PRODUCED IN 1973	OIL PRODUCTION—BBLS.: CUMULATIVE THROUGH 1973	GAS PRODUCTION—Mcf.: PRODUCED IN 1973	GAS PRODUCTION—Mcf.: CUMULATIVE THROUGH 1973	RECOVERY PER ACRE DRILLED (BBLS.)	TOTAL BARRELS BRINE PER DAY
☼	CEDAR	MICHIGAN STRAY	1945	OSCEOLA	1,490	7 S		SYLVANIA	5,165	5	0	0	4	800				1,402,820		LEASE OPERATION
●		DUNDEE	1943		3,810	2 L	46.0			10	0	0	6	400	5,630	CUMULATIVE PRODUCTION COMBINED WITH RICHFIELD				650
●		RICHFIELD	1945		5,060	6 L	44.7			2	0	0	2	60	2,650	1,133,866			2,465	
	CEDAR TWP., 18N-9W, SECTIONS 27, 28, 32, 33 (MICHIGAN STRAY) CEDAR TWP., 18N-9W, SECTIONS 10, 27, 28, 33, 34 (DUNDEE AND RICHFIELD)																			
☼	CEDAR CREEK	"BEREA"	1940	MUSKEGON	1,125	7 D		DUNDEE	2,252	7	ABANDONED 1960			1,120				624,528		
	CEDAR CREEK TWP., 11N-15W, SECTIONS 7, 17, 18, 19, 20, 32																			
◐	CEDAR CREEK, SEC. 23	TRAVERSE	1949	MUSKEGON	1,951	2 L		DUNDEE	2,453	2	ABANDONED 1968			50		2,652			53	
	CEDAR CREEK TWP., 11N-15W, SECTION 23																			
●	CHARLTON 9-30N-1W	NIAGARAN REEF	1972	OTSEGO	5,832	226 D	46.4	NIAGARAN	6,170	1	0	0	1	80	0	408			5	
	CHARLTON TWP., 30N-1W, SECTION 9																			
●	CHARLTON 12-30N-1W	NIAGARAN REEF	1973	OTSEGO	5,936	129 D	50.3	NIAGARAN	6,330	1	1	0	1	80	197	197			2	
	CHARLTON TWP., 30N-1W, SECTION 12																			
●	CHARLTON 24-30N-1W	NIAGARAN REEF	1973	OTSEGO	6,234	26 D		NIAGARAN	6,335	1	1	0	1	80	6,438	6,438			80	
	CHARLTON TWP., 30N-1W, SECTION 24																			
☼	CHARLTON 31-30N-1W	A-2 CARBONATE & NIAGARAN REEF	1972	OTSEGO	5,676 6,168	13 D 104 D		NIAGARAN	6,381	1	0	0	1	215	572	572			3	
	CHARLTON TWP., 30N-1W, SECTION 31																			
●	CHARLTON 4-31N-1W (PIGEON RIVER)	NIAGARAN REEF	1970	OTSEGO	4,766	116 D	55	CLINTON	5,270	*3	0	0	2	480	289,462	560,723	200,887	200,887	1,168	
	CHARLTON TWP., 31N-1W, SECTIONS 4, 5 CENTRAL FACILITY -- GAS PRODUCTION COMBINED WITH CHARLTON 9-31N-1W																			
●	CHARLTON 4-31N-1W POOL A*	NIAGARAN REEF	1973	OTSEGO	4,780	15 D	44.3	NIAGARAN	4,860	1	0	0	1	320						
	*DETERMINED A SEPARATE POOL IN 1974 CHARLTON TWP., 31N-1W, SECTION 4 DIRECTIONAL HOLE IN WHICH THE SURFACE LOCATION IS 4-31N-1W AND THE SUBSURFACE LOCATION IS 5-31N-1W																			
●	CHARLTON 9-31N-1W	SALINA-NIAGARAN REEF	1972	OTSEGO	4,843	3 D		NIAGARAN	5,045	2	1	0	2	160	92,574	92,910	70,393	149,028	581	
	CHARLTON TWP., 31N-1W, SECTION 9																			
●	CHARLTON 27-31N-1W	NIAGARAN REEF	1972	OTSEGO	5,202	26 D		NIAGARAN	5,228	4	3	0	4	280	126,004	149,969	85,447	98,635	536	
	CHARLTON TWP., 31N-1W, SECTION 27																			
●	CHARLTON 31-31N-1W	NIAGARAN REEF	1973	OTSEGO	5,391	54 D	41.9	NIAGARAN	5,770	1	1	0	1	80	395	395			5	
	CHARLTON TWP., 31N-1W, SECTION 31																			
●	CHASE	"BEREA"	1943	LAKE	2,460	4 SL		DETROIT RIVER	3,734	2	0	0	1	20	0	8,487			424	
	CHASE TWP., 17N-11W, SECTIONS 19, 29																			
●	CHERRY GROVE	TRAVERSE	1952	WEXFORD	3,145	4 D		DUNDEE	3,998	1	ABANDONED 1953			10		4,814			481	
	CHERRY GROVE TWP., 21N-10W, SECTION 27																			
☼	CHERRY GROVE, SEC.13	MICHIGAN STRAY	1957	WEXFORD	1,326	35 S		DUNDEE	4,080	5	0	1	5	640			0	924,719		
	CHERRY GROVE TWP., 21N-10W, SECTION 13 CLAM LAKE TWP., 21N-9W, SECTIONS 7, 18																			
●	CHESHIRE	TRAVERSE	1947	ALLEGAN	1,289	2 L	35	TRAVERSE	1,348	3	ABANDONED 1958			30		9,290			310	
	CHESHIRE TWP., 1N-14W, SECTIONS 26, 27																			
☼	CHESTER	ANTRIM	1965	OTSEGO	1,360	? SH		NIAGARAN	6,870	16	0	0	16	640			117,470	649,018		270
	CHESTER TWP., 29N-2W, SECTIONS 10, 11, 14, 15, 16																			
●		A-2 CARBONATE & LOWER NIAGARAN	1951	OTSEGO	6,610	5 D	41.0	NIAGARAN	6,870	2	0	0	1	80	7,483	24,232	48,515	48,698	303	
	CHESTER TWP., 29N-2W, SECTION 15, 22																			
☼	CHESTER	NIAGARAN REEF	1970	OTSEGO	5,930	348 D	COND.	CLINTON	6,697	1	0	0	1	160	30,711	176,105	1,138,701	4,111,569	1,101	
	CHESTER TWP., 29N-2W, SECTION 15																			
☼	CHESTER 21-29N-2W	NIAGARAN REEF	1973	OTSEGO	6,273	29 D		NIAGARAN	6,770	1	1	0	1	160	4,665	4,665	74,842	74,842	29	
	CHESTER TWP., 29N-2W, SECTION 21																			
●	CHESTER 2-30N-2W	NIAGARAN REEF	1971	OTSEGO	5,653	247 D		NIAGARAN	6,051	2	1	0	2	160	9,161	22,720			142	
	CHESTER TWP., 30N-2W, SECTION 2																			
●	CHESTER 5-30N-2W	NIAGARAN REEF	1972	OTSEGO	5,538	10 D		NIAGARAN	5,750	1	0	0	1	40	341	3,182			80	500
	CHESTER TWP., 30N-2W, SECTION 5																			
●	CHESTER 6-30N-2W	A-1 CARBONATE	1973	OTSEGO	5,659	21 D	43.0	NIAGARAN	6,022	2	2	0	2	160	459	459			3	
	CHESTER TWP., 30N-2W, SECTION 6																			
●	CHESTER 10-30N-2W	NIAGARAN REEF	1972	OTSEGO	5,986	28 D		NIAGARAN	6,200	1	0	0	1	80	109,794	137,918	37,451	44,529	1,724	
	CHESTER TWP., 30N-2W, SECTION 10																			
●	CHESTER 10-30N-2W POOL A	NIAGARAN REEF	1973	OTSEGO	5,898	66 D	42.6	NIAGARAN	6,240	1	1	0	1	80						
	CHESTER TWP., 30N-2W, SECTION 10																			
●	CHESTER 16-30N-2W	NIAGARAN REEF	1971	OTSEGO	5,760	300 D		NIAGARAN	6,350	5	0	0	5	360	PRODUCTION COMBINED WITH CHESTER 21					6
	CHESTER TWP., 30N-2W, SECTIONS 16, 21																			
●	CHESTER 18-30N-2W	NIAGARAN REEF	1971	OTSEGO	5,930	20 D	45	NIAGARAN	6,330	10	0	0	10	680	PRODUCTION COMBINED WITH CHESTER 21					32
	CHESTER TWP., 30N-2W, SECTIONS 17, 18, 19																			
●	CHESTER 19-30N-2W	NIAGARAN REEF	1971	OTSEGO	6,054	30 D		NIAGARAN	6,512	1	0	0	1	80	94,372	166,099	36,800	56,925	2,076	
	CHESTER TWP., 30N-2W, SECTION 19																			
●	CHESTER 21-30N-2W (JOHANNESBURG)	NIAGARAN REEF	1970	OTSEGO	5,772	283 D		CLINTON	6,483	3	0	0	3	200	1,189,323	2,498,030	702,627	1,257,503	2,015	9
	CHESTER TWP., 30N-2W, SECTION 21 CENTRAL FACILITY -- PRODUCTION FIGURES INCLUDE CHESTER 16 & 18																			
●	CHESTER 30-30N-2W	NIAGARAN REEF	1973	OTSEGO	6,232	39 D	37.7	NIAGARAN	6,350	1	1	0	1	80	639	639			8	
	CHESTER TWP., 30N-2W, SECTION 30																			
●	CHESTERFIELD	NIAGARAN	1962	MACOMB	2,508	7 D	40.3	CLINTON	2,707	7	0	0	2	280	389	49,757	0	124,698	178	
	CHESTERFIELD TWP., 3N-14E, SECTION 28, 29																			

POOL CLASSIFICATION

● ACTIVE OIL FIELD OR POOL
● ABANDONED OIL FIELD OR POOL
☼ ACTIVE GAS FIELD OR POOL
☼ ABANDONED GAS FIELD OR POOL
☼ GAS-CONDENSATE FIELD OR POOL
☼ ABANDONED GAS-CONDENSATE FIELD OR POOL
⊕ GAS STORAGE RESERVOIR
⊖ UNDEVELOPED GAS STORAGE RESERVOIR

	FIELD NAME	PRODUCING FORMATION OR POOL	YEAR OF DISC.	COUNTY TOWNSHIP / PRODUCING SECTIONS	PAY ZONE DEPTH IN FEET	PAY ZONE THICKNESS AND LITHOLOGY	PAY ZONE OIL GRAVITY A.P.I.	DEEPEST FORMATION OR POOL TESTED	DEPTH IN FEET	NUMBER OF WELLS TO END	NUMBER OF WELLS COMP. IN 1973	NUMBER OF WELLS ABAND. IN 1973	NUMBER OF WELLS ACTIVE AT END 1973	DRILLED ACRES	OIL PRODUCTION—BBLS. PRODUCED IN 1973	OIL PRODUCTION—BBLS. CUMULATIVE THROUGH 1973	GAS PRODUCTION—Mcf. PRODUCED IN 1973	GAS PRODUCTION—Mcf. CUMULATIVE THROUGH 1973	RECOVERY PER ACRE DRILLED (BBLS.)	TOTAL BARRELS BRINE PER DAY
☼	CHINA BELLE	NIAGARAN REEF	1963	ST. CLAIR	2,365	15 D		NIAGARAN	2,451	3	ABANDONED 1971			120		2,227		461,508	19	
				CHINA TWP., 4N-16E, SECTIONS 34, 35											GAS RESERVOIR PRODUCING SMALL QUANTITIES OF OIL					
●	CHINA, SEC. 12	NIAGARAN REEF	1962	ST. CLAIR	2,509	11 D	39.1	CLINTON	2,631	2	ABANDONED 1970			80		11,895	0	27,721	149	
				CHINA TWP., 4N-16E, SECTION 12																
●	CHINA, SEC. 31	SALINA	1959	ST. CLAIR	2,378	13 D		CLINTON	2,641	1	ABANDONED 1964			PRODUCTION COMBINED WITH COTTRELLVILLE IN 1962						
				CHINA TWP., 4N-16E, SECTION 31																
☼	CHINA, SOUTH	SALINA-NIAGARAN REEF	1961	ST. CLAIR	2,324	14 D		CLINTON	2,743	11	0	0	5	440	DOMESTIC USE			523,443		
				CHINA TWP., 4N-16E, SECTIONS 28, 33, 34 COTTRELLVILLE TWP., 3N-16E, SECTIONS 3, 4																
●	CHIPPEWA, SEC. 10	TRAVERSE	1961	ISABELLA	3,193	1 L		TRAVERSE	3,220	1	ABANDONED 1964			10		1,250	PRODUCTION CARRIED IN MT. PLEASANT FIELD TOTALS			
				CHIPPEWA TWP., 14N-3W, SECTION 10																
☼	CLARE CITY	MICHIGAN STRAY	1937	CLARE-ISABELLA	1,290	5 S		DUNDEE	3,865	8	0	0	1	720				2,294,990	DOMESTIC USE	
				GRANT TWP., 17N-4W, SECTIONS 25, 26, 35, 36 SHERIDAN TWP., 17N-3W, SECTION 31 WISE TWP., 16N-3W, SECTION 6																
●	CLARE CITY	MICHIGAN STRAY	1938	CLARE-ISABELLA	1,303	2 S	30.2	DUNDEE	3,853	7	0	0	4	120	733	78,742			656	
				GRANT TWP., 17N-4W, SECTIONS 24, 35, 36 WISE TWP., 16N-3W, SECTION 6																
☼	CLARENCE 19-15-4W	NIAGARAN REEF	1971	CALHOUN	3,154	24 D		NIAGARAN	3,240	1	0	0	1	160			360,569	1,057,656		
				CLARENCE TWP., 15-4W, SECTION 19																
☼	CLAYTON	BEREA	1936	ARENAC	1,180	10 S		SYLVANIA	4,163	31	0	0	17	1,560				5,111,048	DOMESTIC USE & LEASE OPERATION	
				CLAYTON TWP., 20N-4E, SECTIONS 4, 5, 8, 9, 10, 11, 14, 15																
●	CLAYTON	DUNDEE	1935	ARENAC-OGEMAW	2,465	12 DL	34.2	SYLVANIA	4,163	80	0	0	47	1,290	38,807	CUMULATIVE PRODUCTION COMBINED WITH RICHFIELD				1,484
●		DETROIT RIVER	1953		3,507	9 D	45.9													
●		RICHFIELD	1947		3,790	9 D	36.2			5	0	0	5	200	4,312	6,466,765			4,340	2
				CLAYTON TWP., 20N-4E, SECTIONS 3, 4, 5, 8, 9, 10, 11 RICHLAND TWP., 21N-4E, SECTION 31 MILLS TWP., 21N-3E, SECTION 36 THE 5 WELLS INCLUDE 3 RICHFIELD, 1 SZ & 1 DUAL COMPLETION RICHFIELD & SZ																
●	CLEAR LAKE	TRAVERSE	1950	VAN BUREN	1,380	1 L		TRAVERSE	1,399	14	ABANDONED 1953			140		12,490			125	
				PINE GROVE TWP., 15-13W, SECTIONS 3, 4, 9, 10																
●	CLEON 11-24N-13W	NIAGARAN REEF	1973	MANISTEE	5,624	121 D	43.5	NIAGARAN	6,167	2	2	0	2	160	868	868			5	
				CLEON TWP., 24N-13W, SECTION 11																
●	CLINTON	TRAVERSE	1953	WASHTENAW	986	2 D		TRENTON	3,606	2	ABANDONED 1962			20		2,093			105	
				BRIDGEWATER TWP., 4S-4E, SECTION 28																
●	COFFEE LAKE	TRAVERSE	1946	VAN BUREN	1,128	1 L		TRAVERSE	1,130	11	ABANDONED 1954			110		34,649			315	
				COLUMBIA TWP., 15-15W, SECTIONS 17, 18																
☼	COLD SPRINGS 1-28N-6W	SALINA-NIAGARAN REEF	1973	KALKASKA	6,578	194 D	61.0	NIAGARAN	6,950	1	1	0	1	160	152	152			1	
				COLD SPRINGS TWP., 28N-6W, SECTION 1																
☼	COLD SPRINGS 12-28N-6W	SALINA-NIAGARAN REEF	1973	KALKASKA	6,564	296 D		NIAGARAN	6,970	1	1	0	1	320	35,899	35,899	586,661	586,661	112	
				COLD SPRINGS TWP., 28N-6W, SECTION 12																
●	COLD SPRINGS 19-28N-6W	NIAGARAN REEF	1971	KALKASKA	6,596	8 D	44.9	CLINTON	6,897	4	1	0	4	320	66,481	148,462	318,315	406,255	464	6
				COLD SPRINGS TWP., 28N-6W, SECTIONS 19, 25, 30																
●	COLD SPRINGS 19-28N-6W POOL A	NIAGARAN REEF	1973	KALKASKA	6,628	14 D		NIAGARAN	6,767	1	1	0	1	80	742	742			9	
				COLD SPRINGS TWP., 28N-6W, SECTION 19																
●	COLD SPRINGS 20-28N-6W	NIAGARAN REEF	1971	KALKASKA	6,737	35 D		NIAGARAN	6,970	2	1	0	2	160	93,589	109,908	105,182	105,182	687	
				COLD SPRINGS TWP., 28N-6W, SECTION 20																
●	COLD SPRINGS 21-28N-6W (COLD SPRINGS)	NIAGARAN REEF	1970	KALKASKA	6,764	45 D	45.6	CLINTON	7,315	2	1	0	2	160	2,075	81,348	14	83,046	508	
				COLD SPRINGS TWP., 28N-6W, SECTION 21																
☼	COLD SPRINGS 25-28N-6W	NIAGARAN REEF	1971	KALKASKA	6,734	544 D		NIAGARAN	7,383	1	0	0	1	160	172	398	6,852	31,191	2	
				COLD SPRINGS TWP., 28N-6W, SECTION 25																
●	COLD SPRINGS 25-28N-6W POOL A	NIAGARAN REEF	1972	KALKASKA	6,950	10 D		NIAGARAN	7,365	1	0	0	1	80	15,049	15,781	9,621	9,621	197	
				COLD SPRINGS TWP., 28N-6W, SECTION 25																
⊕	COLDWATER	REFER TO TABLE 3 DEVELOPED GAS STORAGE RESERVOIRS																		
●	COLDWATER	DUNDEE	1944	ISABELLA	3,692	25 L	48.0	DETROIT RIVER	5,090	81	0	0	52	3,200	41,325	21,939,694		6,311,307	6,856	14,355
				COLDWATER TWP., 16N-6W, SECTIONS 19, 20, 21, 28 THROUGH 34 SHERMAN TWP., 15N-6W, SECTIONS 3, 6																
●	COLDWATER, SOUTH	DUNDEE	1951	ISABELLA	3,739	4 D		DUNDEE	3,743	1	ABANDONED 1959			20		10,941			547	
				SHERMAN TWP., 15N-6W, SECTION 8																
●	COLE LAKE	TRAVERSE	1968	NEWAYGO	2,928	8 L		TRAVERSE	2,938	2	0	0	2	40	1,199	29,825			746	220
				BARTON TWP., 16N-11W, SECTIONS 29, 30																
☼	COLFAX	MICHIGAN STRAY	1945	MECOSTA	1,240	8 S		DETROIT RIVER	4,043	4	0	0	1	640				485,844	DOMESTIC USE	
●		DUNDEE	1964		3,503	25 L	43.0			2	ABANDONED 1967			40		2,260			57	
☼		DUNDEE-REED CITY	1957		3,474	9 D				1	0	0	1	160				5,121	DOMESTIC USE	
				COLFAX TWP., 15N-9W, SECTIONS 4, 5																
☼	COLLIN	SALINA-NIAGARAN REEF	1968	ST. CLAIR	2,196	4 D		NIAGARAN	2,364	2	0	0	2	80	0	2,019	186,677	1,225,779	25	1
				COTTRELLVILLE TWP., 3N-16E, SECTION 20																
⊕	COLUMBUS	REFER TO TABLE 3 DEVELOPED GAS STORAGE RESERVOIRS																		
●	COLUMBUS, SEC. 2	NIAGARAN REEF	1971	ST. CLAIR	2,798	8 D	29	NIAGARAN	3,210	2	0	0	2	80	3,174	4,023	23,062	30,251	50	
				COLUMBUS TWP., 5N-15E, SECTION 2 WALES TWP., 6N-15E, SECTION 35																
●	COLUMBUS, SEC. 3	NIAGARAN REEF	1968	ST. CLAIR	3,105	15 D		NIAGARAN	3,340	23	0	0	23	460	387,212	1,750,017			3,804	54
				COLUMBUS TWP., 5N-15E, SECTIONS 3, 10 WALES TWP., 6N-15E, SECTION 34																

POOL CLASSIFICATION

● ACTIVE OIL FIELD OR POOL
● ABANDONED OIL FIELD OR POOL
☼ ACTIVE GAS FIELD OR POOL
☼ ABANDONED GAS FIELD OR POOL
☼ GAS-CONDENSATE FIELD OR POOL
☼ ABANDONED GAS-CONDENSATE FIELD OR POOL
⊕ GAS STORAGE RESERVOIR
⊖ UNDEVELOPED GAS STORAGE RESERVOIR

	FIELD NAME	PRODUCING FORMATION OR POOL	YEAR OF DISC.	COUNTY TOWNSHIP / PRODUCING SECTIONS	PAY ZONE DEPTH IN FEET	PAY ZONE THICKNESS AND LITHOLOGY	PAY ZONE OIL GRAVITY A.P.I.	DEEPEST FORMATION OR POOL TESTED	DEPTH IN FEET	NUMBER OF WELLS TO END	NUMBER OF WELLS COMP. IN 1973	NUMBER OF WELLS ABAND. IN 1973	NUMBER OF WELLS ACTIVE AT END 1973	DRILLED ACRES	OIL PRODUCTION—BBLS. PRODUCED IN 1973	OIL PRODUCTION—BBLS. CUMULATIVE THROUGH 1973	GAS PRODUCTION—Mcf. PRODUCED IN 1973	GAS PRODUCTION—Mcf. CUMULATIVE THROUGH 1973	RECOVERY PER ACRE DRILLED (BBLS.)	TOTAL BARRELS BRINE PER DAY
☼	COLUMBUS, SEC. 20	NIAGARAN REEF	1972	ST. CLAIR	3,128	5 D		NIAGARAN	3,155	1	0	0	1	160			0	355		
				COLUMBUS TWP., 5N-15E, SECTION 20																
☼	COLUMBUS, SEC. 23	NIAGARAN REEF	1965	ST. CLAIR	2,900	46+ D		CLINTON	3,122	6	0	0	6	240	1,733	16,557	54,657	930,906	69	65
				COLUMBUS TWP., 5N-15E, SECTIONS 23, 25											GAS RESERVOIR PRODUCING SMALL QUANTITIES OF OIL					
☼	COLUMBUS, SEC. 32	NIAGARAN REEF	1970	ST. CLAIR	2,983	16 D		NIAGARAN	3,050	2	0	0	2	80			0	24,735		
				COLUMBUS TWP., 5N-15E, SECTION 32																
●	COLUMBUS, NORTH	NIAGARAN REEF	1968	ST. CLAIR	3,266	8 D		NIAGARAN	3,394	11	0	0	11	260	115,508	626,693			2,410	51
				COLUMBUS TWP., 5N-15E, SECTIONS 5, 6																
☼	COLUMBUS, WEST	SALINA-NIAGARAN REEF	1967	ST. CLAIR	3,183	14+ D		CLINTON	3,447	13	0	0	13	520			1,124,796	16,287,759		
				COLUMBUS TWP., 5N-15E, SECTIONS 7, 17, 18											CONVERTING TO GAS STORAGE					
●	COMSTOCK, SEC. 5	TRAVERSE	1949	KALAMAZOO	1,430	3 L		TRAVERSE	1,480	2	ABANDONED 1952			20		994			49	
				COMSTOCK TWP., 2S-10W, SECTION 5																
●	CONCORD	TRAVERSE	1953	JACKSON	1,627	1 L		SALINA	2,417	5	ABANDONED 1958			50		6,437			129	
				CONCORD TWP., 3S-3W, SECTIONS 35, 36																
☼	COON CREEK	NIAGARAN	1963	MACOMB	3,034	20 D		NIAGARAN	3,093	2	ABANDONED 1968			80				134,116		
				LENOX TWP., 4N-14E, SECTION 18																
☼	COOPERSVILLE	"BREA"	1939	OTTAWA	1,240	5 D		TRAVERSE	1,900	3	ABANDONED 1959			240				108,839		
				WRIGHT TWP., 8N-13W, SECTIONS 7, 19																
●	COTTRELLVILLE	SALINA-NIAGARAN REEF	1961	ST. CLAIR	2,262	6 D	38.7	CLINTON	2,511	12	0	0	7	280	5,375	135,537			464	
				CHINA TWP., 4N-16E, SECTION 31 COTTRELLVILLE TWP., 3N-16E, SECTIONS 6, 7, 8 IRA TWP., 3N-15E, SEK SECTION 1, NEK SECTION 12																
☼	COTTRELLVILLE	NIAGARAN REEF	1959	ST. CLAIR	2,293	37 D		CLINTON	2,511	2	0	0	2	240			168,538	2,467,461		20
				COTTRELLVILLE TWP., 3N-16E, SECTIONS 6, 7, 8																
⊕	CRANBERRY LAKE	REFER TO TABLE 3 DEVELOPED GAS STORAGE RESERVOIRS																		
●	CRANBERRY LAKE	TRAVERSE	1952	CLARE	3,120	7 L	39.0	RICHFIELD	5,223	7	ABANDONED 1965			PRODUCTION COMBINED WITH CRANBERRY LAKE DUNDEE AND RICHFIELD						
●		DUNDEE	1943		3,835	2 L	42.8			8	0	0	3	70	2,636	CUMULATIVE PRODUCTION COMBINED WITH RICHFIELD				400
●		DETROIT RIVER SZ	1953		4,801	16 D	48.8			1	ABANDONED 1962			PRODUCTION COMBINED WITH CRANBERRY LAKE DUNDEE AND RICHFIELD						
●		RICHFIELD	1951		5,048	15 D	51.0			17	0	0	6	680	21,324	1,564,723			2,086	60
				WINTERFIELD TWP., 20N-6W, SECTIONS 1, 2, 11, 12																
●	CRANBERRY LAKE, EAST	TRAVERSE	1963	CLARE	3,057	6 L	39.2	DETROIT RIVER	5,139		REACTIVATED 1972				PRODUCTION COMBINED WITH DUNDEE AND RICHFIELD					
●		DUNDEE	1963		3,760	6 L	43.5							200	12,608	CUMULATIVE PRODUCTION COMBINED WITH RICHFIELD				1,370
●		RICHFIELD	1964		5,087	12 D	44.0			6	0	0	6	80	4,683	608,415			2,173	
				SUMMERFIELD TWP., 20N-5W, SECTIONS 7, 8, 17 THE 6 WELLS INCLUDE 3 DUNDEE, 1 RICHFIELD, 1 DUNDEE & TRAVERSE AND 1 DUNDEE AND RICHFIELD DUAL COMPLETION																
●	CROOKED LAKE	TRAVERSE	1949	ALLEGAN	1,278	1 L		TRAVERSE	1,312	2	ABANDONED 1956			40		115,452			2,886	
				CLYDE TWP., 2N-15W, SECTION 25																
⊕	CROTON	REFER TO TABLE 3 DEVELOPED GAS STORAGE RESERVOIRS																		
●	CROTON	TRAVERSE	1951	NEWAYGO	2,543	2 L		SALINA	3,993	10	ABANDONED 1956			200		91,678			458	
				CROTON TWP., 12N-11W, SECTIONS 20, 29																
●	CRUMP	DUNDEE	1950	BAY	3,294	7 L		DUNDEE	3,354	1	ABANDONED 1951			10		1,043			104	
				GARFIELD TWP., 16N-3E, SECTION 23																
●	CRYSTAL	TRAVERSE	1954	MONTCALM	2,769	4 L	41.8	DETROIT RIVER	3,391	2	0	0	1	20	PRODUCTION COMBINED WITH DUNDEE					
●		DUNDEE	1935		3,187	4 D	43.5			193	0	0	7	2,000	3,556	7,814,546			3,869	1,170
				CRYSTAL TWP., 10N-5W, SECTIONS 1, 2, 3, 4, 10, 11, 12, 13 FERRIS TWP., 11N-5W, SECTIONS 26, 34, 35, 36																
●	CRYSTAL VALLEY	TRAVERSE	1945	OCEANA	1,809	3 L	37.0	ST. PETER SS.	6,062	5	0	0	1	50	PRODUCTION COMBINED WITH DUNDEE					TO PLUG
●		DUNDEE	1957		2,575	12 D	42.5			19	0	0	1	420	0	203,747			434	TO PLUG
				CRYSTAL TWP., 16N-16W, SECTIONS 9, 10, 11, 14, 15, 16																
☼	CRYSTAL VALLEY	DUNDEE	1946	OCEANA	2,400	7 L		TRENTON-BLK. RIVER	5,985	4	ABANDONED 1966			160				*162,079		
☼		SALINA	1961		4,102	10 D				1	ABANDONED 1966			40				*PRODUCTION COMBINED		
				CRYSTAL TWP., 16N-16W, SECTIONS 11, 14, 15, 16																
●	CRYSTAL VALLEY, SEC. 19	TRAVERSE	1971	OCEANA	1,689	1.5 L		DUNDEE	2,233	2	0	0	2	40	3,771	20,321			508	20
☼		DUNDEE	1971		2,222	11 L				1	0	0	1	20						
				CRYSTAL TWP., 16N-16W, SECTION 19																
●	CRYSTAL VALLEY, SOUTH	TRAVERSE	1969	OCEANA	1,739	1 L		TRAVERSE	1,740	1	0	0	1	40	359	8,482			212	8
				CRYSTAL TWP., 16N-16W, SECTION 20																
●	CURRIE	DUNDEE	1936	ISABELLA	3,918	2 D	45.9	DUNDEE	4,042	2	0	0	2	40	900	205,281			5,132	
				VERNON TWP., 16N-4W, SECTIONS 5, 8																
●	DALLAS	TRAVERSE	1942	CLINTON	2,482	2 L		DETROIT RIVER	2,934	3	ABANDONED 1948			40		3,085			770	
				DALLAS TWP., 7N-4W, SECTION 21																
●	DALTON	TRAVERSE	1940	MUSKEGON	1,851	5 L	40.0	DUNDEE	2,515	16	0	0	2	300	0	107,788			359	
				DALTON TWP., 11N-16W, SECTIONS 10, 11, 15																
☼	DAY	MICHIGAN STRAY	1934	MONTCALM	1,352	4 S		MARSHALL	1,395	2	ABANDONED 1944			80				8,464		
				DAY TWP., 11N-6W, SECTION 1 HOME TWP., 12N-6W, SECTION 36																
●	DAY	TRAVERSE	1946	MONTCALM	2,900	2 L	43.0	DUNDEE	3,387	1	ABANDONED 1967			10		3,095			310	
●		DUNDEE	1946		3,337	2 L				2	ABANDONED 1954			20		16,239			812	
				DAY TWP., 11N-6W, SECTION 25 (TRAVERSE) DAY TWP., 11N-6W, SECTION 36 (DUNDEE)																

POOL CLASSIFICATION

● ACTIVE OIL FIELD OR POOL
● ABANDONED OIL FIELD OR POOL
☼ ACTIVE GAS FIELD OR POOL
☼ ABANDONED GAS FIELD OR POOL
☼ GAS-CONDENSATE FIELD OR POOL
☼ ABANDONED GAS-CONDENSATE FIELD OR POOL
⊕ GAS STORAGE RESERVOIR
⊖ UNDEVELOPED GAS STORAGE RESERVOIR

	FIELD NAME	PRODUCING FORMATION OR POOL	YEAR OF DISC.	COUNTY TOWNSHIP / PRODUCING SECTIONS	PAY ZONE DEPTH IN FEET	PAY ZONE THICKNESS AND LITHOLOGY	PAY ZONE OIL GRAVITY A.P.I.	DEEPEST FORMATION OR POOL TESTED	DEPTH IN FEET	NUMBER OF WELLS TO END	NUMBER OF WELLS COMP. IN 1973	NUMBER OF WELLS ABAND. IN 1973	NUMBER OF WELLS ACTIVE AT END	DRILLED ACRES	OIL PRODUCTION—BBLS. PRODUCED IN 1973	OIL PRODUCTION—BBLS. CUMULATIVE THROUGH 1973	GAS PRODUCTION—Mcf. PRODUCED IN 1973	GAS PRODUCTION—Mcf. CUMULATIVE THROUGH 1973	RECOVERY PER ACRE DRILLED (BBLS.)	TOTAL BARRELS BRINE PER DAY
●	DAY, SEC. 13	DUNDEE	1971	MONTCALM	3,434	15 L		DUNDEE	3,475	1	0	0	1	20	3,186	14,372			744	180
	DAY TWP., 11N-6W, SECTION 13																			
☼	DEEP RIVER	BEREA	1936	ARENAC	1,490	10 S		SYLVANIA	4,311	12	0	0	3	1,520				1,609,812	DOMESTIC USE	
	DEEP RIVER TWP., 19N-4E, SECTIONS 2, 8, 16, 17, 18, 20																			
●	DEEP RIVER	DUNDEE	1944	ARENAC	2,795	145 D	35.8	RICHFIELD	4,258	106	0	1	37	1,060	66,848	26,606,182			25,100	7,836
●		RICHFIELD	1953	(CONSOLIDATED WITH STERLING DETROIT RIVER - RICHFIELD IN 1954) THE 38 WELLS INCLUDE 37 DUNDEE AND 1 TRAVERSE																
	DEEP RIVER TWP., 19N-4E, SECTIONS 6, 7, 8, 9, 14, 15, 16, 23, 24																			
●	DEERFIELD	TRENTON	1920	MONROE	2,115	10 L	42.7	CAMBRIAN	3,250	47	0	0	20	450	4,772	720,317			1,601	3
	DUNDEE TWP., 6S-6E, SECTIONS 19, 29, 30 SUMMERFIELD TWP., 6S-6E, SECTION 31																			
☼	DEMINGS LAKE	TRAVERSE	1968	LENAWEE	734	2 L		TRAVERSE	741	1	0	0	1	40					NO MARKET	
	DOVER TWP., 7S-2E, SECTION 27																			
●	DENNISON	TRAVERSE	1963	OTTAWA	1,894	4 L	38.0	SALINA	3,202	15	ABANDONED 1971			300		312,956			1,043	
	POLKTON TWP., 8N-14W, SECTIONS 21, 27, 28																			
☼	DIAMOND CRYSTAL SALT	NIAGARAN REEF	1927	ST. CLAIR	2,483	17 D		NIAGARAN	2,500	1	ABANDONED 1931			40				136,445		
	ST. CLAIR TWP., 5N-17E, SECTION 31																			
●	DIAMOND SPRINGS	TRAVERSE	1938	ALLEGAN	1,461	3 L	41.0	SALINA	2,651	56	0	0	7	420	1,176	1,010,062			2,405	155
●		SALINA-E ZONE	1958		2,389	21 D	25.5			3	0	0	3	30	846	60,214			2,007	10
	OVERISEL TWP., 4N-14W, SECTION 36 SALEM TWP., 4N-13W, SECTION 31 HEATH TWP., 3N-14W, SECTION 1 MONTREY TWP., 3N-13W, SECTION 6																			
●	DORR	TRAVERSE	1938	ALLEGAN	1,617	4 L	41.0	NIAGARAN	3,319	41	0	0	4	410	912	422,135			1,030	13
●		DETROIT RIVER	1955		2,082	6 D	38.0			14	0	0	4	280	157	73,869			264	21
●		SALINA	1956		2,922	7 D	17.0			18	0	0	11	540	5,255	311,243	30,714	1,302,835	576	31
	DORR TWP., 4N-12W, SECTIONS 19, 29, THROUGH 33 SALEM TWP., 4N-13W, SECTION 25																			
☼	DORR	DETROIT RIVER	1957	ALLEGAN	1,918	1 D		NIAGARAN	3,319	1	0	0	1	160				4,710	NO MARKET	
	DORR TWP., 4N-12W, SECTION 33																			
☼	DORR, SEC. 17	"BEREA"	1951	ALLEGAN	953	8 D		TRAVERSE	1,642	1	ABANDONED 1967			40				0		
	DORR TWP., 4N-12W, SECTION 17																			
☼	DORR, SEC. 21	"BEREA"	1940	ALLEGAN	957	1 D		TRAVERSE	1,687	1	0	0	1	40					DOMESTIC USE	
	DORR TWP., 4N-12W, SECTION 21																			
●	DOUGLASS	DUNDEE	1945	MONTCALM	3,400	2 L	47.1	DUNDEE	3,458	6	0	0	1	120	1,766	252,296			2,102	112
	DOUGLASS TWP., 11N-7W, SECTION 1																			
☼	DOUGLASS	MICHIGAN STRAY	1943	MONTCALM	1,190	5 S		DUNDEE	3,423	4	ABANDONED 1951			640				184,806		
	DOUGLASS TWP., 11N-7W, SECTIONS 27, 28																			
●	DOUGLASS, SEC. 3	TRAVERSE	1954	MONTCALM	3,025	8 L		DUNDEE	3,666	1	ABANDONED 1956			20		3,155			158	
	DOUGLASS TWP., 11N-7W, SECTION 3																			
●	DOVER 35-31N-2W	NIAGARAN REEF	1973	OTSEGO	5,475	41 D	42.3	NIAGARAN	5,780	2	2	0	2	160	466	466		3		
	DOVER TWP., 31N-2W, SECTION 35																			
●	DOVER 36-31N-2W	NIAGARAN REEF	1973	OTSEGO	5,485	135 D	42.7	NIAGARAN	5,835	3	3	0	3	240	587	587			2	
	DOVER TWP., 31N-2W, SECTION 36																			
●	DUNNINGVILLE	TRAVERSE	1950	ALLEGAN	1,435	3 L	38.0	TRAVERSE	1,438	5	0	0	1	50	168	120,765			2,415	15
	HEATH TWP., 3N-14W, SECTIONS 22, 27, 33																			
●	DWIGHT	DETROIT RIVER	1945	HURON	2,862	4 L	36.2	SYLVANIA	3,290	1	ABANDONED 1972			40	0	41,165			1,029	
	DWIGHT TWP., 18N-13E, SECTION 21																			
☼	EAST CHINA	NIAGARAN REEF	1969	ST. CLAIR	2,344	19 D		NIAGARAN	2,363	2	1	0	2	80					SHUT-IN FOR MARKET	
	EAST CHINA TWP., 4N-16E, SECTION 25																			
●	EAST NORWICH	TRAVERSE	1944	MISSAUKEE-ROSCOMMON	2,410	1 L		BASS ISLANDS	5,520	1	ABANDONED 1944			PRODUCTION COMBINED WITH EAST NORWICH RICHFIELD						
●		DUNDEE	1942		3,082	4 L	44.2			1	ABANDONED 1947			PRODUCTION COMBINED WITH EAST NORWICH RICHFIELD						
●		RICHFIELD	1942		4,390	14 D	40.9			110	0	0	69	4,400	353,486	9,241,806	599,873	7,843,538	2,100	360
	NORWICH TWP., 24N-5W, SECTION 16 (TRAVERSE), SECTION 14 (DUNDEE) LYON TWP., 24N-4W, SECTIONS 6, 7, 18 (RICHFIELD) THE 69 WELLS INCLUDE 54 RICHFIELD & 14 SOUR ZONE & 1 RICHFIELD & SOUR ZONE																			
	NORWICH TWP., 24N-5W, SECTIONS 1, 2, 3, 9 THROUGH 16, 21, 22 (RICHFIELD)																			
☼	EATON RAPIDS 17-2N-3W	SALINA-NIAGARAN REEF	1973	EATON	3,985	79 D	42.0	CLINTON	4,316	1	1	0	1	160	110	110			1	
	EATON RAPIDS TWP., 2N-3W, SECTION 17																			
●	EATON RAPIDS 35-2N-3W	A-1 CARBONATE & NIAGARAN REEF	1972	EATON	3,750	30 D		NIAGARAN	4,210	1	0	0	1	40	10,340	13,665			342	
	EATON RAPIDS TWP., 2N-3W, SECTION 35																			
☼	EATON RAPIDS 36-2N-3W	NIAGARAN REEF	1971	EATON-INGHAM	3,740	55 D	47	NIAGARAN	4,305	7	1	0	7	1,120	7,502	7,502	2,690,407	2,690,407	7	
	EATON RAPIDS TWP., 2N-3W, SECTION 36 AURELIUS TWP., 2N-2W, SECTION 31 ONONDAGA TWP., 1N-2W, SECTIONS 6, 7																			
●	EDEN	TRAVERSE	1948	MASON	1,679	3 L	34.5	CAMBRIAN	7,249	10	0	0	5	90	PRODUCTION COMBINED WITH REED CITY					200
☼		TRAVERSE	1958		1,960	7 L				1	0	0	1	160					SHUT-IN	
●		DUNDEE	1948		2,240	2 L	45.3			38	0	0	27	380	PRODUCTION COMBINED WITH REED CITY					1,836
●		REED CITY	1948		2,345	8 D	42.8			5	0	0	2	40	13,257	2,971,919	0	275,801	5,827	13
	EDEN TWP., 17N-16W, SECTION 26 (TRAVERSE GAS) SECTIONS 25, 26, 35, 36 (TRAVERSE, DUNDEE, REED CITY OIL COMBINED IN ABOVE FIGURES)																			
●	EDENVILLE	DUNDEE	1938	MIDLAND	3,790	8 L	41.0	DUNDEE	3,962	36	0	0	1	370	0	1,366,382			3,693	
	EDENVILLE TWP., 16N-1W, SECTIONS 5, 26, 27																			
☼	EDENVILLE, SEC. 5	SAGINAW FM.	1956	MIDLAND	382	12 S		DUNDEE	4,028	3	0	0	1	160					TO PLUG	
	EDENVILLE TWP., 16N-1W, SECTION 5																			

POOL CLASSIFICATION

● ACTIVE OIL FIELD OR POOL
● ABANDONED OIL FIELD OR POOL
☼ ACTIVE GAS FIELD OR POOL
☼ ABANDONED GAS FIELD OR POOL
☼ GAS-CONDENSATE FIELD OR POOL
☼ ABANDONED GAS-CONDENSATE FIELD OR POOL
⊕ GAS STORAGE RESERVOIR
⊖ UNDEVELOPED GAS STORAGE RESERVOIR

	FIELD NAME	PRODUCING FORMATION OR POOL	YEAR OF DISC.	COUNTY TOWNSHIP / PRODUCING SECTIONS	PAY ZONE DEPTH IN FEET	PAY ZONE THICKNESS AND LITHOLOGY	PAY ZONE OIL GRAVITY A.P.I.	DEEPEST FORMATION OR POOL TESTED	DEPTH IN FEET	NUMBER OF WELLS TO END	NUMBER OF WELLS COMP. IN 1973	NUMBER OF WELLS ABAND. IN 1973	NUMBER OF WELLS ACTIVE AT END	DRILLED ACRES	OIL PRODUCTION—BBLS. PRODUCED IN 1973	OIL PRODUCTION—BBLS. CUMULATIVE THROUGH 1973	GAS PRODUCTION—Mcf. PRODUCED IN 1973	GAS PRODUCTION—Mcf. CUMULATIVE THROUGH 1973	RECOVERY PER ACRE DRILLED (BBLS.)	TOTAL BARRELS BRINE PER DAY
●	EDMORE	TRAVERSE	1933	MONTCALM	3,102	4 L	43.2	DUNDEE	3,613	35	0	0	8	500	8,307	1,389,669	0	1,094,960	2,779	700
	HOME TWP., 12N-6W, SECTIONS 2, 3, 9, 10, 11																			
⊖	EDMORE-RICHLAND	REFER TO TABLE 4 UNDEVELOPED GAS STORAGE RESERVOIRS																		
●	EDWARDS	DUNDEE	1951	OSEMAW	3,362	10 L		SYLVANIA-BOIS BLANC	5,260	4	0	0	3	90	546	34,511			383	500
	EDWARDS TWP., 23N-1E, SECTION 15																			
☼	EGELSTON	"BEREA"	1951	MUSKEGON	1,120	5 D		DUNDEE	2,282	7	ABANDONED 1966			1,120				291,097		
	EGELSTON TWP., 10N-15W, SECTIONS 3, 4, 9, 10, 15																			
☼	ELBA	MICHIGAN STRAY	1928	GRATIOT	670	10 S		DUNDEE	3,044	10	ABANDONED 1957			520				246,058		
●		TRAVERSE	1927		2,440	2 L	47.0			8	ABANDONED 1962			90		42,925			477	
	ELBA TWP., 9N-7W, SECTIONS 9, 14, 15, 16 (MICHIGAN STRAY) SECTIONS 14, 15, 22, 23 (TRAVERSE)																			
●	ELBRIDGE	TRAVERSE	1961	OCEANA	2,112	2 L	39.4	REED CITY	2,725	19	0	0	5	380	0	414,945	SHUT-IN		1,092	
	ELBRIDGE TWP., 15N-16W, SECTIONS 22, 26, 27, 28																			
●	ELKLAND	DUNDEE	1946	TUSCOLA	2,653	14 L		SYLVANIA	3,735	2	ABANDONED 1947			20		1,546			77	
	ELKLAND TWP., 14N-11E, SECTION 31 NOVESTA TWP., 13N-11E, SECTION 6																			
●	ELMWOOD	DUNDEE	1945	TUSCOLA	2,740	8 L	31.3	BOIS BLANC	3,945	10	0	0	7	90	3,198	89,961			1,000	17
	ELMWOOD TWP., 14N-10E, SECTIONS 17, 20, 21																			
☼	ENSLEY	MARSHALL	1958	NEWAYGO	826	5 S		DETROIT RIVER	3,018	8	0	0	8	1,280	SHUT-IN			906,626	MAY CONVERT TO STORAGE	
●		TRAVERSE	1954		2,439	2 L				6	ABANDONED 1959			120		70,415			587	
	ENSLEY TWP., 11N-11W, SECTIONS 6, 7, 8, 17, 18 GRANT TWP., 11N-12W, SECTION 12 (MARSHALL) ENSLEY TWP., 11N-11W, SECTIONS 6, 7, 8 (TRAVERSE)																			
●	ENTERPRISE	RICHFIELD	1943	MISSAUKEE-ROSCOMMON	4,405	15 D	41.8	RICHFIELD	4,625	32	0	0	18	1,280	115,728	2,652,736	124,536	1,027,197	2,072	74
	ENTERPRISE TWP., 23N-5W, SECTIONS 10 THROUGH 14 LAKE TWP., 23N-4W, SECTION 18																			
☼	ENTERPRISE, SEC. 32	MICHIGAN STRAY	1953	MISSAUKEE	1,986	5 S		DETROIT RIVER	4,200	2	0	0	2	320					DOMESTIC USE	
	ENTERPRISE TWP., 23N-5W, SECTION 32 BUTTERFIELD TWP., 22N-5W, SECTION 4																			
●	ENTRICAN	TRAVERSE	1966	MONTCALM	2,870	4 L		DUNDEE	3,426	1	ABANDONED 1968			40		441			10	
●		DUNDEE	1967		3,312	2 D				2	ABANDONED 1973			40	0	7,517			188	
	DOUGLASS TWP., 11N-7W, SECTION 21																			
●	ESSEXVILLE	DUNDEE	1944	BAY	2,835	17 L	35.3	SYLVANIA	4,130	50	0	0	41	1,730	38,112	3,460,503		3,267	2,000	83
	HAMPTON TWP., 14N-6E, SECTIONS 7, 8, 9, 15, 16, 17, 18 HAMPTON TWP., 14N-5E, SECTION 12																			
●	EVART	DUNDEE	1942	OSCEOLA	3,755	6 L	46.3	SYLVANIA	5,292	29	ABANDONED 1970			1,100		3,812,127			3,466	
	OSCEOLA TWP., 18N-8W, SECTIONS 21, 22, 23, 25, 26, 27, 28																			
⊖	EVART	REFER TO TABLE 4 UNDEVELOPED GAS STORAGE RESERVOIRS																		
●	EXCELSIOR	TRAVERSE	1950	KALKASKA	2,003	2 L	33.4	TRAVERSE	2,136	1	ABANDONED 1970			10		10,455			1,045	
	EXCELSIOR TWP., 27N-6W, SECTION 11																			
☼	EXCELSIOR 3-27N-6W	NIAGARAN REEF	1973	KALKASKA	7,211	10 D	66.0	NIAGARAN	7,402	2	2	0	2	480	53	53				
	EXCELSIOR TWP., 27N-6W, SECTION 3																			
☼	EXCELSIOR 3-27N-6W POOL A	NIAGARAN REEF	1973	KALKASKA	6,952	139 D	71.5	NIAGARAN	7,346	1	1	0	1	160						
	EXCELSIOR TWP., 27N-6W, SECTION 3, SW SW NW DECLARED A SEPARATE POOL AS A RESULT OF PUBLIC HEARINGS																			
☼	EXCELSIOR 6-27N-6W	NIAGARAN REEF	1973	KALKASKA	6,740	105 D	66.0	NIAGARAN	7,070	1	1	0	1	160	180	180			1	
	EXCELSIOR TWP., 27N-6W, SECTION 6																			
☼	EXCELSIOR 7-27N-6W	NIAGARAN REEF	1973	KALKASKA	6,987	27 D		NIAGARAN	7,232	1	1	0	1	160	21	21				
	EXCELSIOR TWP., 27N-6W, SECTION 18 DIRECTIONAL HOLE IN WHICH THE SURFACE LOCATION IS 18-27N-6W AND THE SUBSURFACE LOCATION IS 7-27N-6W																			
☼	EXCELSIOR 9-27N-6W	NIAGARAN REEF	1972	KALKASKA	7,034	47 D		NIAGARAN	7,526	3	2	0	3	480	472	536			1	
	EXCELSIOR TWP., 27N-6W, SECTION 9																			
●	EXCELSIOR 10-27N-6W	DETROIT RIVER	1972	KALKASKA	3,607	20 D		NIAGARAN	7,399	1	0	0	1	80	0	0				
	EXCELSIOR TWP., 27N-6W, SECTION 10																			
☼	EXCELSIOR 17-27N-6W	NIAGARAN REEF	1973	KALKASKA	7,165	53 D	61.5	NIAGARAN	7,365	1	1	0	1	160	203	203			1	
	EXCELSIOR TWP., 27N-6W, SECTION 17																			
☼	FALMOUTH	MICHIGAN STRAY	1962	MISSAUKEE	1,279	3 S		REED CITY	4,035	8	0	0	1	1,280				1,102,815	DOMESTIC USE	
	AETNA TWP., 22N-6W, SECTIONS 30, 31 REEDER TWP., 22N-7W, SECTIONS 25, 36																			
●	FERRY	TRAVERSE	1960	OCEANA	1,949	2 L	41.0	REED CITY	2,581	14	ABANDONED 1970			280		164,263			587	
	FERRY TWP., 14N-16W, SECTIONS 16, 20, 21																			
☼	FERRY, SEC. 25	"BEREA"	1961	OCEANA	1,310	5 D		REED CITY	2,650	1	0	0	1	40					DOMESTIC USE	
	FERRY TWP., 14N-16W, SECTION 25																			
●	FILLMORE	TRAVERSE	1940	ALLEGAN-OTTAWA	1,516	2.7 L	41.1	NIAGARAN	3,045	63	0	5	5	770	1,950	974,803			1,265	1
☼		SALINA A-2 CARB.	1959		2,632	16 D				11	0	0	7	1,500			325,867	4,445,330		
☼		SALINA A-1 CARB.	1959		2,792	16 D								1,600	PRODUCTION COMBINED WITH SALINA A2 ABOVE					
	FILLMORE TWP., 4N-15W, SECTIONS 2, 3, 11, 12 HOLLAND TWP., 5N-15W, SECTIONS 27, 34, 35 (TRAVERSE OIL) FILLMORE TWP., SECTIONS 2, 3 HOLLAND TWP., SECTIONS 34, 35 (SALINA GAS)																			
●	FOREST RIVER	TRAVERSE	1965	OCEANA	1,954	1 L		DUNDEE	2,598	1	ABANDONED 1965			40		781			20	
	COLFAX TWP., 16N-15W, SECTION 12																			
●	FORK	DUNDEE	1942	MECOSTA	3,845	8 L	49.0	BOIS BLANC	5,294	64	ABANDONED 1969			2,700		7,777,026			2,880	
●		RICHFIELD	1945		5,001	11 D	54.8			1	ABANDONED 1966			PRODUCTION COMBINED WITH FORK DUNDEE				854,415		
	FORK TWP., 16N-7W, SECTIONS 4, 5, 6, 7, 8, 16, 18 CHIPPEWA TWP., 16N-8W, SECTIONS 1, 12																			
☼	FORK, EAST	MICHIGAN STRAY	1942	MECOSTA	1,480	5 S		DUNDEE	3,865	4	ABANDONED 1946			640				102,708		
	FORK TWP., 16N-7W, SECTIONS 2, 11																			

POOL CLASSIFICATION

● ACTIVE OIL FIELD OR POOL
● ABANDONED OIL FIELD OR POOL
☼ ACTIVE GAS FIELD OR POOL
☼ ABANDONED GAS FIELD OR POOL
☼ GAS-CONDENSATE FIELD OR POOL
☼ ABANDONED GAS-CONDENSATE FIELD OR POOL
⊕ GAS STORAGE RESERVOIR
⊖ UNDEVELOPED GAS STORAGE RESERVOIR

	FIELD NAME	PRODUCING FORMATION OR POOL	YEAR OF DISC.	COUNTY TOWNSHIP / PRODUCING SECTIONS	PAY ZONE DEPTH IN FEET	PAY ZONE THICKNESS AND LITHOLOGY	PAY ZONE OIL GRAVITY A.P.I.	DEEPEST FORMATION OR POOL TESTED	DEPTH IN FEET	NUMBER OF WELLS 1973 TO END	COMP. IN	ABAND. IN	ACTIVE AT END	DRILLED ACRES	OIL PRODUCTION—BBLS. PRODUCED IN 1973	OIL PRODUCTION—BBLS. CUMULATIVE THROUGH 1973	GAS PRODUCTION—Mcf. PRODUCED IN 1973	GAS PRODUCTION—Mcf. CUMULATIVE THROUGH 1973	RECOVERY PER ACRE DRILLED (BBLS.)	TOTAL BARRELS BRINE PER DAY
☼	FORK, NORTH	MICHIGAN STRAY	1956	OSCEOLA	1,433	19 S		DUNDEE	3,982	1	0	0	1	160				60,178	DOMESTIC USE	
●		DUNDEE	1951		3,788	3 D	45.8			6	0	0	1	120	0	153,661			1,281	
	ORIENT TWP., 17N-7W, SECTION 33 (MICHIGAN STRAY) SECTIONS 28, 33 (DUNDEE)																			
☼	FORK, WEST	MICHIGAN STRAY	1943	MECOSTA	1,490	5 S		SYLVANIA	5,198	17	0	0	2	2,880				2,405,539	DOMESTIC USE	
	FORK TWP., 16N-7W, SECTIONS 5, 6, 7, 8, 16 CHIPPEWA TWP., 16N-8W, SECTIONS 1, 2 EVART TWP., 17N-8W, SECTIONS 35, 36																			
☼	FORWARD	MICHIGAN STRAY	1961	MISSAUKEE	1,393	7 S		DETROIT RIVER	5,225	6	ABANDONED 1969			960				467,409		
	RIVERSIDE TWP., 21N-7W, SECTIONS 25, 36 CLAM UNION TWP., 21N-6W, SECTION 31																			
☼	FOSTORIA	BEREA	1970	TUSCOLA	1,514	16 S		RICHFIELD	3,267	1	0	0	1	160					SHUT-IN	
	WATERTOWN TWP., 10N-9E, SECTION 14																			
●	FOUNTAIN	REED CITY	1970	MASON	2,442	6 D		REED CITY	2,448	1	0	0	1	40	0	170			4	
	SHERMAN TWP., 19N-16W, SECTION 12																			
⊕	FOUR CORNERS	REFER TO TABLE 3 DEVELOPED GAS STORAGE RESERVOIRS																		
☼	FOWLERVILLE	SALINA-NIAGARAN	1961	LIVINGSTON	3,880	45 D		PRAIRIE DU CHIEN	3,695	17	1	0	17	2,560					SHUT-IN	
	HANDY TWP., 3N-3E, SECTIONS 1, 2, 12 CONWAY TWP., 4N-3E, SECTION 35 HOWELL TWP., 3N-4E, SECTION 7																			
●	FREDERIC 2-28N-4W	NIAGARAN REEF	1973	CRAWFORD	6,390	92 D	47.0	NIAGARAN	7,010	1	1	0	1	80	227	227			3	
	FREDERIC TWP., 28N-4W, SECTION 2																			
●	FREDERIC 7-28N-4W	NIAGARAN REEF	1973	CRAWFORD	7,000	10 D		NIAGARAN	7,125	1	1	0	1	80	1,329	1,329			17	
	FREDERIC TWP., 28N-4W, SECTION 7																			
●	FREDERIC 10-28N-4W	NIAGARAN REEF	1971	CRAWFORD	6,964	99 D	45	NIAGARAN	7,350	2	0	0	2	160	194,436	311,319	194,920	194,920	1,946	
	FREDERIC TWP., 28N-4W, SECTION 10																			
☼	FREDERIC 13-28N-4W	NIAGARAN REEF	1972	CRAWFORD	6,789	427 D	68.4	NIAGARAN	7,470	1	0	0	1	160	0		0	105,132		
	FREDERIC TWP., 28N-4W, SECTION 13																			
☼	FREDERIC 22-28N-4W	SALINA-NIAGARAN REEF	1973	CRAWFORD	6,950	289 D	65.5	NIAGARAN	7,615	1	1	0	1	160	189	189			1	
	FREDERIC TWP., 28N-4W, SECTION 22																			
☼	FREDERIC 29-28N-4W	NIAGARAN REEF	1972	CRAWFORD	7,420	71 D		NIAGARAN	7,578	1	0	0	1	320	760	760	SHUT-IN		3	
	FREDERIC TWP., 28N-4W, SECTION 29																			
☼	FREDERIC 29-28N-4W POOL A	NIAGARAN REEF	1973	CRAWFORD	6,907	260 D	65	NIAGARAN	7,535	1	1	0	1	320	54	54				
	FREDERIC TWP., 28N-4W, SECTION 20 APP. C SW NE																			
☼	FREEDOM	TRAVERSE	1971	WASHTENAW	1,038	24 L		CAMBRO-ORDOVICIAN	4,691	3	ABANDONED 1973			120					SHUT-IN	
☼		DUNDEE	1971		1,198	28 L								120					SHUT-IN	
●		TRENTON	1954		3,963	20 D	43.5			1	ABANDONED 1956			40		7,217			180	
	FREEDOM TWP., 3S-4E, SECTIONS 6, 8																			
⊕	FREEMAN-LINCOLN	REFER TO TABLE 3 DEVELOPED GAS STORAGE RESERVOIRS																		
●	FREEMAN-REDDING	DUNDEE	1938	CLARE	3,885	19 L	44.4	SYLVANIA	5,462	170	0	0	16	2,800	29,615	16,671,997		1,956,056	5,954	3,321
	REDDING TWP., 19N-6W, SECTIONS 27, 28, 29, 32, 33, 34 FREEMAN TWP., 18N-6W, SECTIONS 3, 4																			
●	FREEMAN, SEC. 15	DUNDEE	1963	CLARE	3,894	8 L	41.0	DUNDEE	3,902	1	ABANDONED 1965			40		736			18	
	FREEMAN TWP., 18N-6W, SECTION 15																			
●	FREEPORT	TRAVERSE	1949	BARRY	2,031	3 L		DETROIT RIVER	2,430	1	ABANDONED 1951			10		19,229			1,923	
	CARLTON TWP., 4N-8W, SECTION 6																			
☼	FREMONT	MICHIGAN STRAY	1941	ISABELLA	1,235	5 S		DUNDEE	3,700	5	ABANDONED 1956			800				381,330		
●		DUNDEE	1938		3,696	4 D				2	ABANDONED 1956			30		3,045			102	
	FREMONT TWP., 13N-5W, SECTIONS 20, 21, 22, 27, 28 (MICHIGAN STRAY) SECTIONS 5, 8 (DUNDEE)																			
☼	FREMONT, SEC. 32	MICHIGAN STRAY	1958	ISABELLA	1,264	6 S		DUNDEE	3,619	1	0	0	1	160				27,134		
●		TRAVERSE	1957		3,058	2 L				1	ABANDONED 1958			10		892			89	
	FREMONT TWP., 13N-5W, SECTION 32																			
●	FREMONT	BEREA DUNDEE	1937 1946	SAGINAW	2,122 3,125	3 S 1 L		DUNDEE	3,150	1 1	ABANDONED 1941 ABANDONED 1947			10 10		2,000	(DUNDEE AND BEREA PRODUCTION COMBINED)		100	
	FREMONT TWP., 11N-2E, DUNDEE SECTION 3, BEREA SECTION 5																			
●	GARFIELD	DETROIT RIVER	1946	CLARE	5,038	10 S		SYLVANIA	5,307	1	ABANDONED 1948			40		13,769		535,811	344	
	GARFIELD TWP., 17N-6W, SECTION 18																			
●	GENEVA	DUNDEE	1935	MIDLAND	3,671	2 L		DETROIT RIVER	3,898	8	ABANDONED 1969			70		63,143			902	
	GENEVA TWP., 15N-2W, SECTIONS 19, 20, 29 ABANDONED IN 1960, REACTIVATED IN 1967																			
●	GENEVA	TRAVERSE	1940	VAN BUREN	1,042	2 L	31.5	TRENTON	2,950	77	ABANDONED 1973			760	0	495,063			651	
	GENEVA TWP., 1S-16W, SECTIONS 20, 21, 22, 27, 28, 29, 32, 33																			
●	GIBSON	TRAVERSE	1935	BAY	2,036	4 L		DETROIT RIVER	4,343	12	ABANDONED 1957			130		51,892			399	
●		DUNDEE	1950		2,942	4 L				1	ABANDONED 1952				PRODUCTION COMBINED WITH GIBSON TRAVERSE					
	GIBSON TWP., 18N-3E, SECTIONS 1, 2, 11, 12 DUNDEE PRODUCTION - SECTION 2																			
●	GIBSON, SEC. 20	DUNDEE	1951	BAY	3,097	11 L		DUNDEE	3,195	3	0	0	2	30	807	32,265			1,076	
	GIBSON TWP., 18N-3E, SECTIONS 20, 29																			
●	GILBERT LAKE	TRAVERSE	1956	OCEANA	2,032	8 L	42.5	REED CITY	2,711	5	0	0	2	50	170	56,870			1,137	15
	COLFAX TWP., 16N-15W, SECTIONS 34, 35																			
☼	GILMORE	MICHIGAN STRAY	1945	ISABELLA	1,560	3 S		DUNDEE	4,091	6	ABANDONED 1952			320				203,312		
	GILMORE TWP., 16N-5W, SECTIONS 25, 26, 36 VERNON TWP., 16N-4W, SECTION 31																			
●	GILMORE	DUNDEE	1959	ISABELLA	3,803	3 L	48.6	DUNDEE	3,812	12	0	0	3	120	2,522	392,183			3,268	1,040
	GILMORE TWP., 16N-5W, SECTIONS 30, 31, 32 NOTTAWA TWP., 15N-5W, SECTION 5																			

POOL CLASSIFICATION

● ACTIVE OIL FIELD OR POOL
● ABANDONED OIL FIELD OR POOL
☼ ACTIVE GAS FIELD OR POOL
☼ ABANDONED GAS FIELD OR POOL
☼ GAS-CONDENSATE FIELD OR POOL
☼ ABANDONED GAS-CONDENSATE FIELD OR POOL
⊕ GAS STORAGE RESERVOIR
⊖ UNDEVELOPED GAS STORAGE RESERVOIR

	FIELD NAME	PRODUCING FORMATION OR POOL	YEAR OF DISC.	COUNTY TOWNSHIP / PRODUCING SECTIONS	PAY ZONE DEPTH IN FEET	PAY ZONE THICKNESS AND LITHOLOGY	PAY ZONE OIL GRAVITY A.P.I.	DEEPEST FORMATION OR POOL TESTED	DEPTH IN FEET	NUMBER OF WELLS 1973 TO END	COMP. IN	ABAND. IN	ACTIVE AT END	DRILLED ACRES	OIL PRODUCTION—BBLS. PRODUCED IN 1973	OIL PRODUCTION—BBLS. CUMULATIVE THROUGH 1973	GAS PRODUCTION—Mcf. PRODUCED IN 1973	GAS PRODUCTION—Mcf. CUMULATIVE THROUGH 1973	RECOVERY PER ACRE DRILLED (BBLS.)	TOTAL BARRELS BRINE PER DAY
●	GOODWELL	TRAVERSE	1943	NEWAYGO	2,760	12 L	43.0	BASS ISLANDS	4,342	31	0	0	2	1,240	2,111	1,124,684			907	24
	GOODWELL TWP., 14N-11W, SECTIONS 5, 6, 7, 8, 9, 16, 17																			
⊕	GOODWELL	REFER TO TABLE 3 DEVELOPED GAS STORAGE RESERVOIRS																		
☼	GOODWELL, EAST	MICHIGAN STRAY	1945	NEWAYGO	1,190	4 S		DETROIT RIVER	3,498	2	ABANDONED 1950			200				7,504		
	GOODWELL TWP., 14N-11W, SECTIONS 23, 24																			
☼	GRANT	GLACIAL DRIFT	1929	MASON	632	1 S		DUNDEE	2,385	3	ABANDONED 1955			120				8,020		
	GRANT TWP., 20N-17W, SECTION 15																			
☼	GRANT 24-25N-12W	SALINA-NIAGARAN REEF	1973	GRAND TRAVERSE	5,815	103 D	71.0	NIAGARAN	6,413	1	1	0	1	160	125	125				
	GRANT TWP., 25N-12W, SECTION 24																			
●	GRANT 26-25N-12W	NIAGARAN REEF	1971	GRAND TRAVERSE	5,961	80 D	65.7	CLINTON	6,383	1	0	0	1	80	13,650	30,051	30,293	46,703	376	
	GRANT TWP., 25N-12W, SECTION 26																			
●	GRANT 29-25N-12W	NIAGARAN REEF	1973	GRAND TRAVERSE	5,720	82 D	44.3	NIAGARAN	6,135	1	1	0	1	80	286	286			4	
	GRANT TWP., 25N-12W, SECTION 29																			
●	GRANT, SEC. 29	DETROIT RIVER	1953	HURON	3,358	8 D	38.8	BOIS BLANC	3,918	3	0	0	3	120	135	19,840			165	
	GRANT TWP., 15N-11E, SECTION 29																			
☼	GREEN	MICHIGAN STRAY	1946	MECOSTA	1,250	3 S		REED CITY	3,710	2	ABANDONED 1951			320				73,368		
	GREEN TWP., 16N-10W, SECTION 18																			
●	GREEN OAK	TRENT.-BLK. RIVER	1967	LIVINGSTON	4,682	10 D		BLACK RIVER	5,560	1	ABANDONED 1970			40		2,836			71	
	GREEN OAK TWP., 1N-6E, SECTION 14																			
●	GREENWOOD, SEC. 3	TRAVERSE	1968	CLARE	3,438	14 L		DUNDEE	4,048	2	0	0	2	40	6,669	53,359			1,334	675
	GREENWOOD TWP., 19N-5W, SECTIONS 2, 3																			
●	GREENWOOD, SEC. 11	DUNDEE	1952	CLARE	4,054	10 L		RICHFIELD	5,432	1	ABANDONED 1953			10		1,324			132	
	GREENWOOD TWP., 19N-5W, SECTION 11																			
●	GROUT	DUNDEE	1940	GLADWIN	3,825	4 L		DETROIT RIVER	5,240	5	ABANDONED 1957				PRODUCTION COMBINED WITH GROUT RICHFIELD					
●		DETROIT RIVER SZ	1958		4,801	12 D				1	ABANDONED 1963				PRODUCTION COMBINED WITH GROUT RICHFIELD					
●		RICHFIELD	1956		5,039	10 D	41.7			17	0	0	11	680	45,368	1,589,947			2,338	185
	GROUT TWP., 18N-2W, SECTIONS 10, 11, 14, 15																			
☼	HAMILTON	MICHIGAN STRAY	1940	CLARE	1,270	3 S		RICHFIELD	5,395	4	ABANDONED 1954			440				275,606		
●		DUNDEE	1940		4,041	10 L	41.8			3	ABANDONED 1959			30	PRODUCTION COMBINED WITH HAMILTON RICHFIELD					
●		RICHFIELD	1952		5,145	12 D	42.2			45	0	0	26	1,870	201,358	5,722,463	104,383	3,771,811	3,011	1,310
	HAMILTON TWP., 19N-3W, SECTIONS 5, 6, 7, 8, 15 HAYES TWP., 19N-4W, SECTIONS 1, 2 FROST TWP., 20N-4W, SECTIONS 35, 36 MICHIGAN STRAY IN HAMILTON TWP., SECTIONS 15, 23, 26																			
⊕	HAMILTON, NORTH	REFER TO TABLE 3 DEVELOPED GAS STORAGE RESERVOIRS																		
☼	HAMLIN	SALINA-NIAGARAN REEF	1952	MASON	3,950	7 D		CAMBRIAN	6,622	1	ABANDONED 1962			160				0		
●		NIAGARAN REEF	1952		4,224	20 D	46.2			1	ABANDONED 1958			40		60,532			1,513	
	HAMLIN TWP., 19N-18W, SECTION 27																			
●	HAMLIN 13-19N-18W	NIAGARAN REEF	1972	MASON	4,284	12 D	46.2	NIAGARAN	4,470	2	1	0	2	160	12,063	37,823			236	
	HAMLIN TWP., 19N-18W, SECTION 13																			
☼	HAMLIN 13-19N-18W POOL A	NIAGARAN REEF	1973	MASON	4,392	6 D		NIAGARAN	4,460	2	2	0	2	320	116	116				
	HAMLIN TWP., 19N-18W, SECTION 13																			
●	HAMLIN 25-19N-18W	NIAGARAN REEF	1972	MASON	4,251	14 D		NIAGARAN	4,556	1	0	0	1	80	0	2,140			27	
	HAMLIN TWP., 19N-18W, SECTION 25																			
●	HAMLIN 8-1N-3W	NIAGARAN REEF	1972	EATON	3,640	65 D		NIAGARAN	3,830	2	1	0	2	160	6,576	6,576			41	
	HAMLIN TWP., 1N-3W, SECTION 8																			
●	HANOVER	TRENT.-BLK. RIVER	1959	JACKSON	4,012	120+ D	43.0	PRAIRIE DU CHIEN	4,604	10	0	0	3	180	4,601	1,314,472		586,017	7,303	50
	HANOVER TWP., 4S-2W, SECTIONS 8, 9																			
●	HARDY DAM	REED CITY	1966	MECOSTA	3,351	5 D	44.8	DETROIT RIVER	3,482	22	0	0	19	880	23,387	1,070,642			1,217	1,840
	AETNA TWP., 13N-10W, SECTIONS 5, 6, 7, 8																			
☼	HARRISON	MICHIGAN STRAY	1945	CLARE	1,675	3 S		SYLVANIA	5,633	7	ABANDONED 1962			760				598,465		
●		DUNDEE	1945		4,190	13 L	39.7			2	0	0	2	80	2,352	157,364			1,967	14
	LINCOLN TWP., 18N-5W, SECTIONS 1, 12, 13 HATTON TWP., 18N-4W, SECTIONS 6, 7 (MICHIGAN STRAY) DUNDEE IN HATTON TWP., SECTION 7																			
●	HART	TRAVERSE	1933	OCEANA	1,911	54 D	34.0	ST. PETER SS.	5,531	17	ABANDONED 1936			150		116,275			775	
	HART TWP., 15N-17W, SECTION 36 ELBRIDGE TWP., 15N-16W, SECTION 31																			
☼	HARTWICK	MICHIGAN STRAY	1968	OSCEOLA	1,681	25 S		MICHIGAN STRAY	1,706	1	0	0	1	160					NO MARKET	
	HARTWICK TWP., 19N-8W, SECTION 11																			
●	HATTON	DUNDEE	1941	CLARE	3,945	2 L		DUNDEE	4,000	4	ABANDONED 1948			160		139,272			870	
	HATTON TWP., 18N-4W, SECTION 31 LINCOLN TWP., 18N-5W, SECTION 36																			
●	HAWKHEAD	TRAVERSE	1946	ALLEGAN	1,103	1 L	36.0	DETROIT RIVER	1,385	16	ABANDONED 1960			160		68,292			427	
	CASCO TWP., 1N-16W, SECTIONS 20, 29																			
●	HAYES 11-29N-4W (GAYLORD-TECON LAKE)	NIAGARAN REEF	1969	OTSEGO	6,180	57 D	47	NIAGARAN	6,420	4	0	1	3	640	92,173	524,886	63,470	158,480	820	177
	HAYES TWP., 29N-4W, SECTIONS 2, 11, 12, 14																			
●	HAYES 15-29N-4W	NIAGARAN REEF	1973	OTSEGO	6,350	39 D		NIAGARAN	6,615	2	2	0	2	160	109,770	109,770	60,813	60,813	686	
	HAYES TWP., 29N-4W, SECTION 15																			
●	HAYES 21-29N-4W	NIAGARAN REEF	1972	OTSEGO	6,581	6 D		NIAGARAN	6,972	2	0	0	2	160	93,358	93,606	58,454	58,454	585	
	HAYES TWP., 29N-4W, SECTION 21																			

POOL CLASSIFICATION

● ACTIVE OIL FIELD OR POOL
◐ ABANDONED OIL FIELD OR POOL
☼ ACTIVE GAS FIELD OR POOL
☼ ABANDONED GAS FIELD OR POOL
☼ GAS-CONDENSATE FIELD OR POOL
☼ ABANDONED GAS-CONDENSATE FIELD OR POOL
⊕ GAS STORAGE RESERVOIR
⊖ UNDEVELOPED GAS STORAGE RESERVOIR

	FIELD NAME	PRODUCING FORMATION OR POOL	YEAR OF DISC.	COUNTY TOWNSHIP / PRODUCING SECTIONS	PAY ZONE DEPTH IN FEET	PAY ZONE THICKNESS AND LITHOLOGY	PAY ZONE OIL GRAVITY A.P.I.	DEEPEST FORMATION OR POOL TESTED	DEPTH IN FEET	NUMBER OF WELLS TO END	NUMBER OF WELLS COMP. IN 1973	NUMBER OF WELLS ABAND. IN 1973	NUMBER OF WELLS ACTIVE AT END	DRILLED ACRES	OIL PRODUCTION—BBLS. PRODUCED IN 1973	OIL PRODUCTION—BBLS. CUMULATIVE THROUGH 1973	GAS PRODUCTION—Mcf. PRODUCED IN 1973	GAS PRODUCTION—Mcf. CUMULATIVE THROUGH 1973	RECOVERY PER ACRE DRILLED (BBLS.)	TOTAL BARRELS BRINE PER DAY
●	HAYES 29-29N-4W	SALINA-NIAGARAN REEF	1973	OTSEGO	6,474	53 D	42.7	NIAGARAN	6,982	1	1	0	1	80	149	149			2	
	HAYES TWP., 29N-4W, SECTION 29																			
●	HAYES 32-29N-4W	NIAGARAN REEF	1972	OTSEGO	6,462	5 D		NIAGARAN	6,873	1	0	0	1	160	11,338	11,849	1,447	1,447	74	18
	HAYES TWP., 29N-4W, SECTION 32																			
☼	HEADQUARTERS	MICHIGAN STRAY	1945	CLARE-ROSCOMMON	1,340	6 S		BOIS BLANC	5,929	12	0	1	11	1,760						
●		TRAVERSE	1941		3,356	5 L	42.3			47	0	0	2	1,400	PRODUCTION COMBINED WITH RICHFIELD SHUT-IN					
●		DUNDEE	1958		3,899	12 L	39.9			1	0	0	1	10	PRODUCTION COMBINED WITH RICHFIELD SHUT-IN					
●		DETROIT RIVER 52	1942		4,946	13 D	43.7								PRODUCTION COMBINED WITH RICHFIELD					
●		RICHFIELD	1952		5,147	23 D	42.6			60	0	1	39	2,320	94,449	10,386,739		4,248,560	2,784	214
	ROSCOMMON TWP., 21N-3W, SECTIONS 17, 19, 20, 21, 28, 29, 30, 32, 33, 34 FRANKLIN TWP., 20N-3W, SECTIONS 3, 4, 10, 11, 15 THE 40 WELLS INCLUDE 12 RICHFIELD, 22 SOUR ZONE & 6 RICHFIELD & SOUR ZONE																			
●	HEATH	TRAVERSE	1948	ALLEGAN	1,498	2 L	38.0	SALINA	2,716	25	0	0	3	270	594	208,753			773	1
	HEATH TWP., 3N-14W, SECTIONS 11, 12, 13, 14																			
☼	HEATH, SEC. 21	SALINA	1960	ALLEGAN	2,492	19 D		SALINA	2,789	1	ABANDONED 1965			160				63,430		
	HEATH TWP., 3N-14W, SECTION 21																			
●	HEATH, SEC. 35	TRAVERSE	1945	ALLEGAN	1,468	2 L		TRAVERSE	1,470	1	ABANDONED 1946			10		559			56	
	HEATH TWP., 3N-14W, SECTION 35																			
☼	HERSEY	MICHIGAN STRAY	1971	OSCEOLA	1,510	3 S		MICHIGAN STRAY	1,638	5	0	0	5	800			SHUT-IN			
	HERSEY TWP., 17N-9W, SECTIONS 26, 35, 36																			
☼	HESSEN	NIAGARAN REEF	1965	ST. CLAIR	2,499	261 D		NIAGARAN	2,887	16	0	0	16	640	8,721	104,694	737,072	10,531,829	164	
	CASCO TWP., 4N-15E, SECTIONS 2, 3, 10, 11 COLUMBUS TWP., 5N-15E, SECTIONS 34, 35																			
●	HILLIARDS	TRAVERSE	1944	ALLEGAN	1,576	1.2 L		NIAGARAN	3,157	17	ABANDONED 1961			300		124,401			415	
☼		SALINA A-1 CARB.	1958		2,938	30 D				6	0	0	6	960	777	12,590	25,693	2,240,002		
	HOPKINS TWP., 3N-12W, SECTIONS 4, 5 (TRAVERSE) DORR TWP., 4N-12W, SECTION 34 HOPKINS TWP., 3N-12W, SECTIONS 3, 4, 10 (SALINA)																			
●	HOLTON	TRAVERSE	1948	MUSKEGON	1,993	1 L	37.3	DUNDEE	2,554	3	ABANDONED 1963			60		95,911			1,598	
	HOLTON TWP., 12N-15W, SECTIONS 4, 9																			
●	HOME, SEC. 26	TRAVERSE	1964	MONTCALM	3,096	10 L	45.3	REED CITY	3,618	2	0	0	1	20	685	CUMULATIVE PRODUCTION COMBINED WITH DUNDEE				
●		DUNDEE	1970		3,513	7 L				4	0	0	4	200	9,094	59,949			272	200
	HOME TWP., 12N-6W, SECTIONS 26, 27 (TRAVERSE) SECTION 27 (DUNDEE) THE 5 WELLS INCLUDE 1 TRAVERSE, 2 DUNDEE AND 2 TRAVERSE AND DUNDEE COMMINGLED																			
●	HOPE	TRAVERSE	1939	BARRY	1,869	3 L	37.6	PRAIRIE DU CHIEN	4,944	66	0	0	37	650	9,774	641,976			988	
	HOPE TWP., 2N-9W, SECTIONS 26, 27, 28, 33, 34, 35 BARRY TWP., 1N-9W, SECTIONS 1, 2, 3, 12																			
●	HOPKINS	TRAVERSE	1939	ALLEGAN	1,633	4 L	41.5	DETROIT RIVER	1,965	10	ABANDONED 1956			110		145,513			1,323	
	HOPKINS TWP., 3N-12W, SECTIONS 22, 23																			
●	HOPKINS, SOUTH	TRAVERSE	1948	ALLEGAN	1,538	3 L	38.0	TRAVERSE	1,611	35	0	0	1	330	241	268,900			815	1
	HOPKINS TWP., 3N-12W, SECTIONS 19, 30, 31, 32																			
●	HOPKINS, WEST	TRAVERSE	1941	ALLEGAN	1,371	2 L	41.5	CLINTON	3,140	31	ABANDONED 1951			370		388,777			1,051	
◐		SALINA	1956		2,755	7 D	17.9			2	ABANDONED 1968			20		1,849			92	
	HOPKINS TWP., 3N-12W, SECTIONS 7, 18																			
⊕	HOWELL	REFER TO TABLE 3 DEVELOPED GAS STORAGE RESERVOIRS																		
●	HUBBARDSTON	DUNDEE	1947	IONIA	3,028	5 L		DUNDEE	3,072	5	ABANDONED 1959			50		48,479			970	
	NORTH PLAINS TWP., 8N-5W, SECTION 4																			
●	HUBER	TRAVERSE	1955	NEWAYGO	2,109	2 L	41.3	DETROIT RIVER	3,400	13	0	0	5	260	1,358	554,256			2,132	430
	DENVER TWP., 14N-14W, SECTIONS 4, 5, 8																			
●	INGHAM 12-2N-1E	SALINA-NIAGARAN REEF	1973	INGHAM	4,186	60 D		NIAGARAN	4,450	3	3	0	3	240	2,660	2,660			11	
	INGHAM TWP., 2N-1E, SECTION 12																			
●	INGHAM 13-2N-1E	NIAGARAN REEF	1972	INGHAM	4,190	30 D	41	TRENTON	6,224	3	2	0	3	320	5,792	7,565			24	
	INGHAM TWP., 2N-1E, SECTION 13																			
●	INGHAM 25-2N-1E	SALINA-NIAGARAN REEF	1973	INGHAM	4,048	66 D		CLINTON	4,600	1	1	0	1	80	5,806	5,806			73	
	INGHAM TWP., 2N-1E, SECTION 25																			
⊕	IRA	REFER TO TABLE 3 DEVELOPED GAS STORAGE RESERVOIRS																		
☼	ISABELLA	MICHIGAN STRAY	1949	ISABELLA	1,454	7 S		DETROIT RIVER	3,993	6	ABANDONED 1956			240				335,791		
●		DUNDEE	1948		3,783	9 D	46.9			20	0	0	1	370	255	825,678		138,559	2,232	
	ISABELLA TWP., 15N-4W, SECTIONS 7, 18 (MICHIGAN STRAY) ISABELLA TWP., SECTIONS 7, 18 NOTTAWA TWP., 15N-5W, SECTIONS 12, 13 (DUNDEE)																			
☼	ITHACA	MICHIGAN STRAY	1943	GRATIOT	900	16 S		DUNDEE	3,419	5	ABANDONED 1965			800				1,520,995		
	ARCADIA TWP., 11N-3W, SECTIONS 25, 35, 36																			
◐	JEFFERSON	TRAVERSE	1961	CASS	710	3 L	32.0	PRAIRIE DU CHIEN	2,603	20	ABANDONED 1971			400		101,330			253	
	JEFFERSON TWP., 7S-15W, SECTIONS 22, 23, 26, 27, 35																			
●	JEROME	DUNDEE	1947	MIDLAND	3,743	10 L	39.0	DETROIT RIVER	4,001	12	0	0	3	260	1,991	239,154			920	2
	JEROME TWP., 15N-1W, SECTIONS 6, 7, 8																			
●	JOHNSTOWN	TRAVERSE	1951	BARRY	1,870	2 L	37.0	TRAVERSE	1,899	5	0	0	2	50	1,220	33,253			665	
	JOHNSTOWN TWP., 1N-8W, SECTIONS 7, 8, 17																			
●	KALKASKA 3-27N-7W	SALINA-NIAGARAN REEF	1973	KALKASKA	6,396	180 D	42.7	NIAGARAN	6,850	1	1	0	1	160	6,103	6,103	15,441	15,441	38	
	KALKASKA TWP., 27N-7W, SECTION 3																			
●	KALKASKA 3-27N-7W POOL A	SALINA-NIAGARAN REEF	1973	KALKASKA	6,538	206 D	45.2	NIAGARAN	6,888	1	1	0	1	80	1,509	1,509			19	7
	KALKASKA TWP., 27N-7W, SECTION 3																			

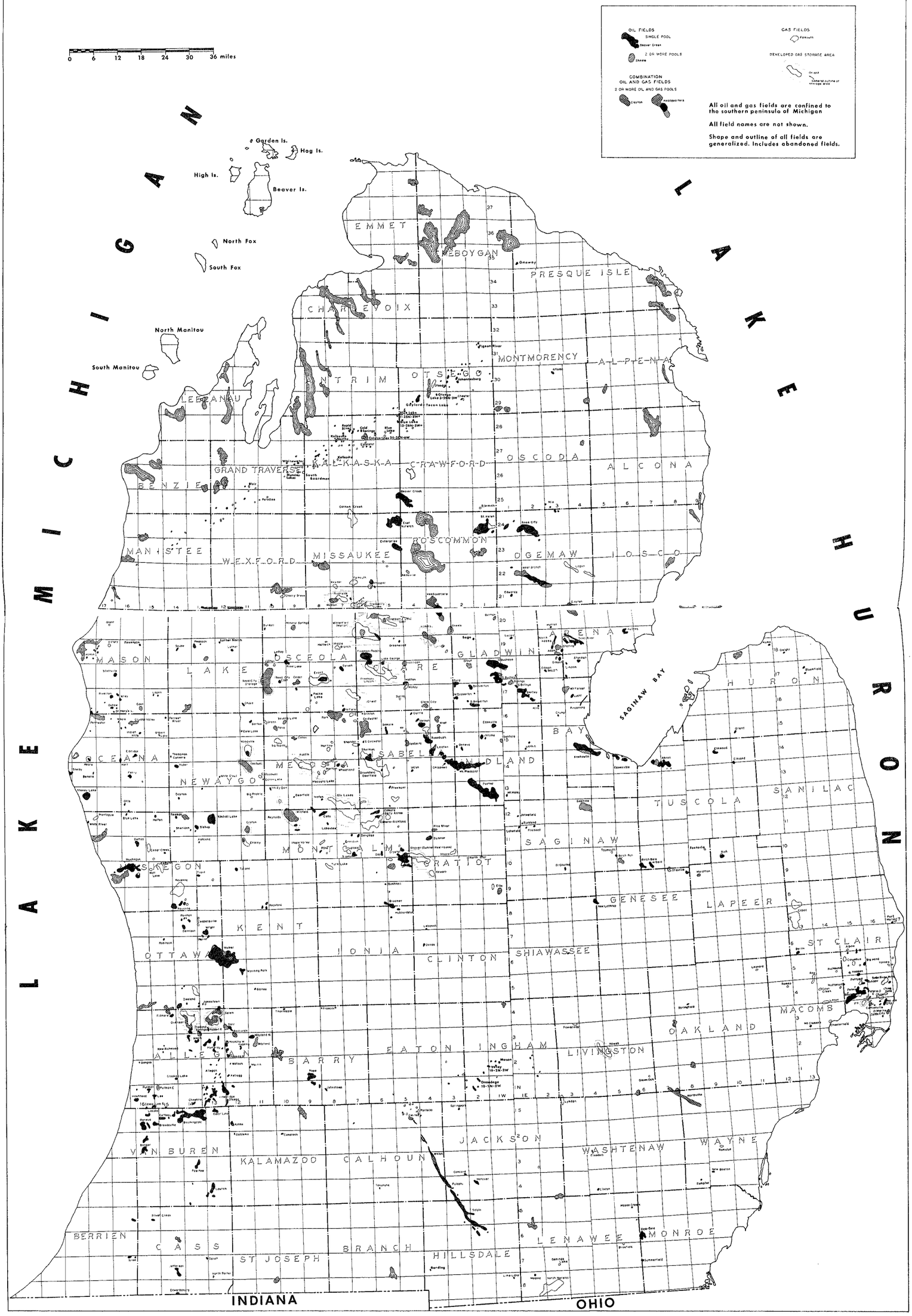
POOL CLASSIFICATION

● ACTIVE OIL FIELD OR POOL
◐ ABANDONED OIL FIELD OR POOL
☼ ACTIVE GAS FIELD OR POOL
☼ ABANDONED GAS FIELD OR POOL
☼ GAS-CONDENSATE FIELD OR POOL
☼ ABANDONED GAS-CONDENSATE FIELD OR POOL
⊕ GAS STORAGE RESERVOIR
⊖ UNDEVELOPED GAS STORAGE RESERVOIR

	FIELD NAME	PRODUCING FORMATION OR POOL	YEAR OF DISC.	COUNTY TOWNSHIP / PRODUCING SECTIONS	PAY ZONE DEPTH IN FEET	PAY ZONE THICKNESS AND LITHOLOGY	PAY ZONE OIL GRAVITY A.P.I.	DEEPEST FORMATION OR POOL TESTED	DEPTH IN FEET	NUMBER OF WELLS TO END	NUMBER OF WELLS COMP. IN 1973	NUMBER OF WELLS ABAND. IN 1973	NUMBER OF WELLS ACTIVE AT END	DRILLED ACRES	OIL PRODUCTION—BBLS. PRODUCED IN 1973	OIL PRODUCTION—BBLS. CUMULATIVE THROUGH 1973	GAS PRODUCTION—Mcf. PRODUCED IN 1973	GAS PRODUCTION—Mcf. CUMULATIVE THROUGH 1973	RECOVERY PER ACRE DRILLED (BBLS.)	TOTAL BARRELS BRINE PER DAY
●	KALKASKA 5-27N-7W (KALKASKA, NORTH)	NIAGARAN REEF	1970	KALKASKA	6,314	68 D	41.5	CLINTON	6,921	10	1	0	10	840	250,961	410,027	653,248	900,630	488	192
	KALKASKA TWP., 27N-7W, SECTION 5 RAPID RIVER TWP., 28N-7W, SECTIONS 32, 33																			
●	KALKASKA 7-27N-7W	NIAGARAN REEF	1972	KALKASKA	6,305	3 D		NIAGARAN	6,662	1	0	0	1	80	17,467	30,908	12,517	24,773	386	85
	KALKASKA TWP., 27N-7W, SECTION 7																			
☼	KALKASKA 9-27N-7W	NIAGARAN REEF	1972	KALKASKA	6,482	89 D	55	NIAGARAN	6,830	1	0	0	1	160	0	0				
	KALKASKA TWP., 27N-7W, SECTION 9																			
☼	KALKASKA 10-27N-7W	NIAGARAN REEF	1972	KALKASKA	6,470	188 D	64	NIAGARAN	6,859	1	0	0	1	320	9,031	9,296	236,517	274,772	29	
	KALKASKA TWP., 27N-7W, SECTION 10																			
●	KALKASKA 12-27N-7W	NIAGARAN REEF	1972	KALKASKA	6,883	19 D		NIAGARAN	7,000	1	0	0	1	80	5,282	6,896	10,547	10,547	86	
	KALKASKA TWP., 27N-7W, SECTION 12																			
☼	KALKASKA 13-27N-7W	NIAGARAN REEF	1972	KALKASKA	6,889	60 D	63	NIAGARAN	7,225	1	0	0	1	160	2,590	2,584	53,394	53,394	16	
	KALKASKA TWP., 27N-7W, SECTION 13																			
●	KALKASKA 16-27N-7W	NIAGARAN REEF	1973	KALKASKA	6,572	158 D	47.4	NIAGARAN	7,077	2	2	0	2	120	199	199			1	
	KALKASKA TWP., 27N-7W, SECTION 16																			
☼	KALKASKA 26-27N-7W (KALKASKA)	NIAGARAN REEF	1970	KALKASKA	7,129	28 D	65.3 COND.	CLINTON	7,408	1	0	0	1	160	8,591	12,095	171,052	211,617	76	
☼	KALKASKA 28-27N-7W POOL A	NIAGARAN REEF	1972		6,977	192 D				1	0	0	1	160	183	183	2,696	183	1	
	KALKASKA TWP., 27N-7W, SECTION 28																			
☼	KALKASKA 32-27N-7W	NIAGARAN REEF	1971	KALKASKA	6,828	309 D		NIAGARAN	7,369	1	0	0	1	160	12,376	12,376	163,536	164,083	77	
	KALKASKA TWP., 27N-7W, SECTION 32																			
●	KALKASKA 11-27N-8W	NIAGARAN REEF	1973	KALKASKA	6,449	17 D		NIAGARAN	6,776	1	1	0	1	80	4,457	4,457	1,871	1,871	56	
	KALKASKA TWP., 27N-8W, SECTION 11																			
●	KALKASKA 13-27N-8W	NIAGARAN REEF	1972	KALKASKA	6,950	10 D		NIAGARAN	7,365	1	0	0	1	80	61,724	61,724	141,511	141,511	772	
	KALKASKA TWP., 27N-8W, SECTION 13																			
●	KALKASKA 21-27N-8W	NIAGARAN REEF	1971	KALKASKA	6,562	77 D		NIAGARAN	6,856	6	1	0	6	400	PRODUCTION COMBINED WITH A-1 CARBONATE PRODUCTION					
●		A-1 CARBONATE	1972		6,591	31 D								80	459,249	720,904	573,414	871,125	1,502	
	KALKASKA TWP., 27N-8W, SECTIONS 21, 22, 28																			
●	KALKASKA 24-27N-8W	SALINA-NIAGARAN REEF	1973	KALKASKA	6,380	220 D		NIAGARAN	6,852	1	1	0	1	80	15,490	15,490	31,510	31,510	194	
	KALKASKA TWP., 27N-8W, SECTION 24																			
☼	KALKASKA 25-27N-8W	NIAGARAN REEF	1972	KALKASKA	6,491	114 D		NIAGARAN	7,000	2	1	0	2	320	86,077	87,531	2,433,753	2,463,947	274	
	KALKASKA TWP., 27N-8W, SECTION 25																			
☼	KALKASKA 26-27N-8W	SALINA-NIAGARAN REEF	1973	KALKASKA	6,372	397 D	55	NIAGARAN	6,968	1	1	0	1	160	5,479	5,479	23,253	23,253	34	
	KALKASKA TWP., 27N-8W, SECTION 26																			
●	KALKASKA 28-27N-8W	NIAGARAN REEF	1971	KALKASKA	6,717	6 D		NIAGARAN	6,813	1	0	0	1	80	6,833	12,185			152	40
	KALKASKA TWP., 27N-8W, SECTION 28																			
☼	KALKASKA 33-27N-8W	NIAGARAN REEF	1972	KALKASKA	6,620	15 D		NIAGARAN	6,754	1	0	0	1	160	24,492	24,953	824,606	824,606	156	
	KALKASKA TWP., 27N-8W, SECTION 33																			
●	KAWKAWLIN	BEREA	1941	BAY	1,505	4 S	38.0	ST. PETER SS.	10,477	4	0	0	4	40	1,504	CUMULATIVE WITH DETROIT RIVER				2
●		DUNDEE	1938		2,830	45 L	35.0			320	0	0	288	6,400	138,328	CUMULATIVE WITH DETROIT RIVER		4,590		425
●		DETROIT RIVER	1939		3,515	5 D	42.0			9	0	0	8*	280	10,525	14,624,547			2,176	
☼		SALINA	1941		7,760	16 D				1	ABANDONED 1946			40				NO RECORD		
	MONITOR TWP., 14N-4E, SECTION 2 (SALINA) KAWKAWLIN TWP., 15N-4E, SECTIONS 26, 27, 28, 29, 33, 34, 35, 36 MONITOR TWP., 14N-4E, SECTIONS 1, 2, 3, 11, 12 BANGOR TWP., 14N-5E, SECTIONS 4, 5, 6, 7, 8, 9 BANGOR TWP., 15N-5E, SECTION 31																			
●	KIMBALL LAKE	TRAVERSE	1947	NEWAYGO	2,332	6 L	43.0	ST. PETER SS.	6,689	106	0	0	3	2,120	1,343	6,227,519		2,123,116	2,937	1,680
●		REED CITY	1955		2,852	37 ?	39.2			2	0	0	1	20			GAS TO OPERATE TRAVERSE WELLS			
	GARFIELD TWP., 12N-13W, SECTIONS 2, 10, 11, 12, 13, 14, 15, 24																			
●	LACOTA	TRAVERSE	1946	VAN BUREN	1,110	2 L		TRAVERSE	1,208	11	ABANDONED 1955			120		51,904			433	
	GENEVA TWP., 1S-16W, SECTIONS 9, 10																			
●	LAKEFIELD	DUNDEE	1937	SAGINAW	3,185	12 L	39.0	DUNDEE	3,197	1	0	0	1	10	758	29,400			2,940	
	LAKEFIELD TWP., 11N-1E, SECTION 1																			
●	LAKE GEORGE	DUNDEE	1954	CLARE	3,968	2 L	43.8	DUNDEE	3,997	10	0	0	3	100	3,026	364,955			3,649	360
	LINCOLN TWP., 18N-5W, SECTION 6																			
●	LAKETON	TRAVERSE	1965	MUSKEGON	1,698	4 L	41.4	REED CITY	2,199	8	0	0	7	200	11,192	272,175			1,360	95
●		DUNDEE	1972		2,073	21 L				1	0	0	1							
	LAKETON TWP., 10N-17W, SECTIONS 10, 15																			
●	LAKEVIEW	TRAVERSE	1961	MONTCALM	2,941	4 L	42.5	REED CITY	3,495	2	0	0	2	20	321	8,469			423	
	CATO TWP., 12N-8W, SECTION 22																			
●	LARKIN	BEREA	1935	MIDLAND	2,473	4 S	39.0	DUNDEE	3,829	2	ABANDONED 1945			20		7,070			353	
	LARKIN TWP., 15N-2E, SECTIONS 21, 32																			
●	LAWTON	TRAVERSE	1939	VAN BUREN	1,140	1 L	37.5	TRENTON	2,775	65	0	0	8	650	522	210,858			324	11
	PORTER TWP., 4S-13W, SECTIONS 5, 8, 17, 18, 19, 20 DECATUR TWP., 4S-14W, SECTION 24																			
☼	LEATON	MICHIGAN STRAY	1935	ISABELLA	1,240	2 S		DUNDEE	3,710	5	ABANDONED 1940			400				185,609		
●		DUNDEE	1929		3,657	7.5 L	43.0	DETROIT RIVER	4,390	40	0	0	2	500	5,154	1,773,121			3,546	140
	DENVER TWP., 15N-3W, SECTIONS 17, 19 (MICHIGAN STRAY) DENVER TWP., SECTIONS 19, 30, 31 ISABELLA TWP., 15N-4W, SECTIONS 24, 25 (DUNDEE)																			
◐	LEBANON	TRAVERSE	1948	CLINTON	2,548	1 L		TRAVERSE	2,570	1	ABANDONED 1950			10		1,036			104	
	LEBANON TWP., 8N-4W, SECTION 34																			

MICHIGAN OIL AND GAS FIELDS

SOUTHERN PENINSULA



POOL CLASSIFICATION

● ACTIVE OIL FIELD OR POOL
◐ ABANDONED OIL FIELD OR POOL
☼ ACTIVE GAS FIELD OR POOL
☼ ABANDONED GAS FIELD OR POOL
☼ GAS-CONDENSATE FIELD OR POOL
☼ ABANDONED GAS-CONDENSATE FIELD OR POOL
⊕ GAS STORAGE RESERVOIR
⊖ UNDEVELOPED GAS STORAGE RESERVOIR

	FIELD NAME	PRODUCING FORMATION OR POOL	YEAR OF DISC.	COUNTY TOWNSHIP / PRODUCING SECTIONS	PAY ZONE: DEPTH IN FEET	PAY ZONE: THICKNESS AND LITHOLOGY	PAY ZONE: OIL GRAVITY A.P.I.	DEEPEST FORMATION OR POOL TESTED	DEPTH IN FEET	NUMBER OF WELLS (1973): TO END	COMP. IN	ABAND. IN	ACTIVE AT END	DRILLED ACRES	OIL PRODUCTION—BBLS.: PRODUCED IN 1973	OIL PRODUCTION—BBLS.: CUMULATIVE THROUGH 1973	GAS PRODUCTION—Mcf.: PRODUCED IN 1973	GAS PRODUCTION—Mcf.: CUMULATIVE THROUGH 1973	RECOVERY PER ACRE DRILLED (BBLS.)	TOTAL BARRELS BRINE PER DAY
●	LEE	TRAVERSE	1941	ALLEGAN	1,170	1 L		TRAVERSE	1,207	6	ABANDONED 1952			60		3,030			51	
	LEE TWP., 1N-15W, SECTIONS 18, 19 CASCO TWP., 1N-16W, SECTION 13																			
☼	LEE 2-1S-5W	NIAGARAN REEF	1973	CALHOUN	3,377	12 O		CLINTON	3,660	1	1	0	1	160						
	LEE TWP., 1S-5W, SECTION 2																			
●	LEE 3-1S-5W	SALINA-NIAGARAN REEF	1972	CALHOUN	3,219	85 O		NIAGARAN	3,485	3	1	0	3	120	1,823	1,823			15	
	LEE TWP., 1S-5W, SECTION 3																			
☼	LEE 4-1S, 5W	SALINA-NIAGARAN REEF	1972	CALHOUN	3,162	86 O		NIAGARAN	3,415	2	0	0	2	320			281,375	281,375		
	LEE TWP., 1S-5W, SECTIONS 4, 9																			
☼	LEE 10-1S-5W	NIAGARAN REEF	1973	CALHOUN	3,172	30 O		NIAGARAN	3,329	1	1	0	1	160			3,750	3,750		
	LEE TWP., 1S-5W, SECTION 10																			
☼	LEE 12-1S-5W	NIAGARAN REEF	1972	CALHOUN	3,180	34 O		NIAGARAN	3,370	1	0	0	1	160			156,806	156,806		
	LEE TWP., 1S-5W, SECTION 12																			
●	LEE 13-1S-5W	NIAGARAN REEF	1973	CALHOUN	3,184	10 O	26.3	CLINTON	3,632	3	3	0	3	120						
	LEE TWP., 1S-5W, SECTION 13																			
☼	LEE 13-1S-5W POOL A	NIAGARAN REEF	1973	CALHOUN	3,165	20 O		CLINTON	3,623	2	2	0	2	320						
	LEE TWP., 1S-5W, SECTION 13																			
☼	LEE 17-1S-5W	A-1 CARBONATE & NIAGARAN REEF	1972	CALHOUN	3,074	10 O		PRAIRIE DU CHIEN	4,896	1	ABANDONED 1973			160	0	512	GAS PRODUCTION INCLUDED WITH CAL-LEE		3	
	LEE TWP., 1S-5W, SECTION 17																			
●	LEE, SEC. 33	TRAVERSE	1971	ALLEGAN	1,155	5 L		TRAVERSE	1,160	2	0	0	2	20	1,239	3,096			155	
	LEE TWP., 1N-15W, SECTION 33																			
●	LEE, SOUTH	TRAVERSE	1949	ALLEGAN	1,171	1 L		TRENTON	2,960	12	ABANDONED 1953			120		91,117			759	
	LEE TWP., 1N-15W, SECTION 31 CASCO TWP., 1N-16W, SECTION 36																			
⊕	LENOX	REFER TO TABLE 3 DEVELOPED GAS STORAGE RESERVOIRS																		
☼	LEONARD	NIAGARAN REEF	1963	OAKLAND	4,245	21 O		CLINTON	4,450	8	0	0	8	640				SHUT-IN FOR MARKET		
	ADDISON TWP., 5N-11E, SECTIONS 14, 15, 22																			
●	LEROY	REED CITY	1965	OSCEOLA	3,796	4 O		REED CITY	3,800	2	0	0	2	80	1,424	32,726			409	
	LEROY TWP., 19N-10W, SECTION 27																			
●	LESLIE 4-1N-1W	SALINA-NIAGARAN REEF	1973	INGHAM	3,775	46 O		CLINTON	4,390	1	1	0	1	80	5,430	5,430			68	4
	LESLIE TWP., 1N-1W, SECTION 4																			
●	LIME LAKE	PRAIRIE DU CHIEN	1960	HILLSDALE	3,461	5 O	44.6	PRAIRIE DU CHIEN	3,533	1	ABANDONED 1965			20		7,842			392	
	WRIGHT TWP., 8S-1W, SECTION 11																			
●	LINCOLN, SEC. 18	TRAVERSE	1957	ARENAC	2,717	1 L		DUNDEE	3,062	2	0	0	2	20	0	3,269			163	
	LINCOLN TWP., 18N-4E, SECTION 18																			
●	LINCOLN, SEC. 31	DUNDEE	1963	ARENAC	2,942	10 O	34.9	DUNDEE	2,986	1	ABANDONED 1968			10	COMBINED WITH SECTION 18 PRODUCTION					
	LINCOLN TWP., 18N-4E, SECTION 31																			
☼	LOGAN	RICHFIELD	1941	MASON	3,260	5 S		RICHFIELD	3,330	2	0	0	2	80			SHUT-IN	13,289		
	LOGAN TWP., 17N-15W, SECTIONS 9, 16																			
☼	LOGAN	WEIR	1949	OGEMAW	1,230	11 S		RICHFIELD	4,537	PRODUCTION COMBINED WITH BEREA										
☼		BEREA	1944		1,420	6 S				16	0	0	14	2,240			51,940	1,085,262		
	LOGAN TWP., 22N-4E, SECTIONS 16, 17, 18, 20, 23, 25, 26 CHURCHILL TWP., 22N-3E, SECTIONS 1, 11, 12																			
●	LUCHT	TRAVERSE	1949	BAY	2,230	3 L	37.2	DUNDEE	3,240	5	0	0	1	50	809	194,817			3,896	
	PINCONNING TWP., 17N-4E, SECTION 29																			
●	LUTHER	TRAVERSE	1965	LAKE	2,565	2 L	42.0	REED CITY	3,362	1	ABANDONED 1973			20	0	28,117			1,406	
	NEWKIRK TWP., 19N-12W, SECTION 14																			
●	LUTHER, NORTH	REED CITY	1970	LAKE	3,518	17 O		REED CITY	3,556	4	0	0	4	160	1,887	8,823			55	
	ELLSWORTH TWP., 19N-11W, SECTIONS 7, 8																			
☼	LYNDON	TRAVERSE	1958	WASHTENAW-LIVINGSTON	1,311	6 O		TRENTON	3,008	6	0	0	6	960				375,600	DOMESTIC USE	
☼		DETROIT RIVER	1959		1,733	11 O				PRODUCTION COMBINED WITH TRAVERSE										
	LYNDON TWP., 1S-3E, SECTIONS 6, 7 UNADILLA TWP., 1N-3E, SECTION 31																			
●	MAGON CREEK	TRENT.-BLK RIVER	1961	LENAWEE	2,548	36+ O		TRENT.-BLK. RIVER	3,303	1	0	0	1	40	0	1,062			27	
	MACON TWP., 5S-5E, SECTION 23																			
●	MANCELONA 25-29N-5W	NIAGARAN REEF	1973	ANTRIM	6,449	8 O	33.6	NIAGARAN	6,764	1	1	0	1	80	189	189			2	
	MANCELONA TWP., 29N-5W, SECTION 25																			
●	MANCELONA 26-29N-5W	NIAGARAN REEF	1972	ANTRIM	6,499	61 O	40.7	NIAGARAN	6,850	1	0	0	1	80	0	402			5	
	MANCELONA TWP., 29N-5W, SECTION 26																			
☼	MANISTEE	SALINA	1959	MANISTEE	3,616	94 O		NIAGARAN	4,165	1	ABANDONED 1961			160				0		
	FILER TWP., 21N-17W, SECTION 24																			
☼	MANISTEE 1-22N-16W	NIAGARAN REEF	1973	MANISTEE	4,283	254 O	58.6	NIAGARAN	4,807	2	2	0	2	320	1,452	1,452			5	
	MANISTEE TWP., 22N-16W, SECTION 1																			
☼	MAPLE GROVE 2-23N-14W	NIAGARAN REEF	1973	MANISTEE	5,055	52 O	70.6	NIAGARAN	5,498	1	1	0	1	160	55	55				
	MAPLE GROVE TWP., 23N-14W, SECTION 2																			
●	MAPLE GROVE 6-23N-14W	NIAGARAN REEF	1973	MANISTEE	4,514	27 O	42.0	NIAGARAN	4,908	1	1	0	1	80	302	302			4	
	MAPLE GROVE TWP., 23N-14W, SECTION 6																			
☼	MAPLE GROVE 9-23N-14W	SALINA-NIAGARAN REEF	1973	MANISTEE	4,590	366 O	72.8	NIAGARAN	5,295	1	1	0	1	160	94	94			1	
	MAPLE GROVE TWP., 23N-14W, SECTION 9																			

POOL CLASSIFICATION

● ACTIVE OIL FIELD OR POOL
◐ ABANDONED OIL FIELD OR POOL
☼ ACTIVE GAS FIELD OR POOL
☼ ABANDONED GAS FIELD OR POOL
☼ GAS-CONDENSATE FIELD OR POOL
☼ ABANDONED GAS-CONDENSATE FIELD OR POOL
⊕ GAS STORAGE RESERVOIR
⊖ UNDEVELOPED GAS STORAGE RESERVOIR

	FIELD NAME	PRODUCING FORMATION OR POOL	YEAR OF DISC.	COUNTY TOWNSHIP / PRODUCING SECTIONS	PAY ZONE: DEPTH IN FEET	PAY ZONE: THICKNESS AND LITHOLOGY	PAY ZONE: OIL GRAVITY A.P.I.	DEEPEST FORMATION OR POOL TESTED	DEPTH IN FEET	NUMBER OF WELLS (1973): TO END	COMP. IN	ABAND. IN	ACTIVE AT END	DRILLED ACRES	OIL PRODUCTION—BBLS.: PRODUCED IN 1973	OIL PRODUCTION—BBLS.: CUMULATIVE THROUGH 1973	GAS PRODUCTION—Mcf.: PRODUCED IN 1973	GAS PRODUCTION—Mcf.: CUMULATIVE THROUGH 1973	RECOVERY PER ACRE DRILLED (BBLS.)	TOTAL BARRELS BRINE PER DAY
●	MAPLE GROVE 10-23N-14W	NIAGARAN REEF	1973	MANISTEE	4,832	263 O	43.8	NIAGARAN	5,457	1	1	0	1	80	290	290			4	
	MAPLE GROVE TWP., 23N-14W, SECTION 10																			
●	MAPLE GROVE 16-23N-14W	NIAGARAN REEF	1973	MANISTEE	4,950	211 O	48.2	NIAGARAN	5,409	1	1	0	1	80	70	70			1	
	MAPLE GROVE TWP., 23N-14W, SECTION 16																			
☼	MAPLE VALLEY, SEC.16	MICHIGAN STRAY	1958	MONTCALM	1,120	5 S		REED CITY	3,365	1	0	0	1	160					DOMESTIC USE	
	MAPLE VALLEY TWP., 11N-9W, SECTION 16																			
☼	MARATHON	BEREA	1955	LAPEER	1,449	18 S		RICHFIELD	3,172	4	0	0	4	40				34,772	DESIGNATED AS GAS RESERVOIR IN 1970	
●		DETROIT RIVER SZ	1969		3,013	47 O				}				720	PRODUCTION COMBINED WITH RICHFIELD					
●		RICHFIELD	1971		3,102	8 O				}12	0	0	12	320	19,316	75,910			73	51
	MARATHON TWP., 9N-9E, SECTIONS 16, 17, 18, 21 (DETROIT RIVER SZ) SECTION 16 (BEREA) SECTION 18 (RICHFIELD)																			
●	MARINE CITY	SALINA-NIAGARAN	1955	ST. CLAIR	2,176	21 O	38.0	CLINTON	2,428	18	0	0	13	660	22,901	390,562	331,237	4,590,789	592	71
	COTTRELLVILLE TWP., 3N-16E, SECTIONS 2, 3, 10, 11, 15																			
●	MARINE CITY, SOUTH	SALINA-NIAGARAN	1962	ST. CLAIR	2,100	4 O	38.7	NIAGARAN	2,261	17	0	0	13	600	7,562	127,845			213	16
☼		SALINA A-1 CARB.	1962		2,100	4 O											483,457	3,352,234		
	COTTRELLVILLE TWP., 3N-16E, SECTIONS 14, 23, 26, 27 GAS WELLS COMBINED WITH OIL WELL TOTALS																			
⊕	MARION (WINTERFIELD)	REFER TO TABLE 3 DEVELOPED GAS STORAGE RESERVOIRS																		
●	MARNE	"BEREA"	1940	OTTAWA	1,170	3 L		TRAVERSE	1,904	2	ABANDONED 1946			20		6,253			313	
	TALLMADGE TWP., 7N-13W, SECTION 5 WRIGHT TWP., 8N-13W, SECTION 32																			
☼	MARSAC CREEK	SALINA-NIAGARAN REEF	1965	ST. CLAIR	2,450	190 O		CLINTON	2,903	5	0	0	5	200		1,681	216,530	3,412,571		10
	CASCO TWP., 4N-15E, SECTIONS 29, 30																			
●	MARTIN	TRAVERSE	1948	ALLEGAN	1,617	1 L	36.0	ST. PETER SS.	4,290	2	ABANDONED 1960			20		2,188			109	
	MARTIN TWP., 2N-11W, SECTION 18																			
☼	MARTINY	MICHIGAN STRAY	1934	MECOSTA	1,370	2 S		DETROIT RIVER	3,807	5	0	0	4	680			10,888	1,226,941		
	MARTINY TWP., 15N-8W, SECTIONS 12, 22, 23																			
☼	MAYFIELD 3-25N-11W	NIAGARAN REEF	1973	GRAND TRAVERSE	5,940	230 O	68.0	NIAGARAN	6,424	1	1	0	1	160	712	712	12,532	12,532	4	
	MAYFIELD TWP., 25N-11W, SECTION 3																			
●	MAYFIELD 16-25N-11W	NIAGARAN REEF	1972	GRAND TRAVERSE	6,341	68 O		NIAGARAN	6,580	2	1	0	2	160	147	147	SHUT-IN			
	MAYFIELD TWP., 25N-11W, SECTION 16																			
☼	MAYFIELD 19-25N-11W	SALINA-NIAGARAN REEF	1973	GRAND TRAVERSE	5,829	183 O	53.6	NIAGARAN	6,470	1	1	0	1	160	354	354			2	
	MAYFIELD TWP., 25N-11W, SECTION 19																			
☼	MAYFIELD 24-25N-11W	NIAGARAN REEF	1973	GRAND TRAVERSE	6,508	153 O	65.7	NIAGARAN	6,783	1	1	0	1	160	150	150			1	
	MAYFIELD TWP., 25N-11W, SECTION 24																			
●	MAYFIELD 30-25N-11W	NIAGARAN REEF	1973	GRAND TRAVERSE	6,329	45 O		NIAGARAN	6,630	1	1	0	1	80	727	727			9	
	MAYFIELD TWP., 25N-11W, SECTION 30																			
●	MCBAIN	DUNDEE	1959	MISSAUKEE	3,969	15 L	45.0	DUNDEE	3,973	24	0	0	23	920	63,797	3,004,216			3,265	6,315
	RIVERSIDE TWP., 21N-7W, SECTIONS 19, 20, 30 RICHLAND TWP., 21N-8W, SECTION 24																			
☼	MCKAY	MICHIGAN STRAY	1929	CLARE	1,400	3 S		DETROIT RIVER	4,055	9	0	0	2	360				712,626	DOMESTIC USE	
	GRANT TWP., 17N-4W, SECTION 6 SURREY TWP., 17N-5W, SECTION 1 HATTON TWP., 18N-4W, SECTION 31																			
●	MEARS	TRAVERSE	1951	OCEANA	1,745	2.5 DL	36.1	REED CITY	2,347	11	ABANDONED 1959			110		105,807			622	
●		DUNDEE	1949		2,210	3 L	32.2			3	ABANDONED 1959			60	PRODUCTION COMBINED WITH MEARS TRAVERSE					
	GOLDEN TWP., 15N-18W, SECTIONS 34, 35																			
☼	MECOSTA	MICHIGAN STRAY	1966	MECOSTA	1,345	10 S		DUNDEE	3,709	2	0	0	2	320			3,184	112,484		7
	MORTON TWP., 14N-8W, SECTION 10																			
☼	MECOSTA LAKE	MICHIGAN STRAY	1953	MECOSTA	1,314	12 S		DUNDEE	3,690	2	ABANDONED 1956			320				84,071		
	MORTON TWP., 14N-8W, SECTIONS 17, 20																			
●	MEDINA	TRENT.-BLK.RIVER	1961	LENAWEE	2,921	18 O	40	PRAIRIE DU CHIEN	3,487	1	0	0	1	40	0	4,324			108	
	MEDINA TWP., 8S-1E, SECTION 3 CONVERTED TO GAS WELL FOR DOMESTIC USE																			
☼	MIDDLE BRANCH	MICHIGAN STRAY	1964	OSCEOLA	1,630	10 S		DETROIT RIVER	4,283	4	0	0	2	640			0			
	MIDDLE BRANCH TWP., 19N-7W, SECTIONS 17, 18																			
●	MILLS, SEC. 1	DUNDEE	1957	MIDLAND	3,450	2 O		DUNDEE	3,463	1	0	0	1	10	86	8,099			810	2
	MILLS TWP., 16N-2E, SECTION 1																			
☼	MINERAL SPRINGS	MICHIGAN STRAY	1952	OSCEOLA	1,397	3 S		DETROIT RIVER	3,963	4	ABANDONED 1960			480				288,762		
●		DUNDEE	1951		3,854	7 O	44.5			12	0	0	1	240	84	302,284			1,260	
	SHERMAN TWP., 20N-9W, SECTIONS 16, 20, 21 6,376 BARRELS OF TOTAL OIL PRODUCED IN TRAVERSE																			
●	MIO	RICHFIELD	1946	OGEMAW-OSCODA	4,219	6 O	32.9	CLINTON	8,544	4	0	0	2	160	1,121	58,293			364	
	MENTOR TWP., 25N-3E, SECTIONS 30, 32 ROSE TWP., 24N-3E, SECTIONS 3, 4																			
●	MOFFATT, SEC. 34	TRAVERSE	1964	ARENAC	2,100	4 O		DUNDEE	3,027	1	0	0	1	10	0	357			36	
●		DUNDEE	1953		2,984	4 L				1	ABANDONED 1956			10		8,392			839	
	MOFFATT TWP., 20N-3E, SECTION 34																			
☼	MONTAGUE	SALINA-NIAGARAN REEF	1953	MUSKEGON	3,734?	80 O		TRENTON	4,517	3	ABANDONED 1970			480				41,482		
	MONTAGUE TWP., 12N-17W, SECTION 7 WHITE RIVER TWP., 12N-18W, SECTION 12																			
●	MONTEREY	TRAVERSE	1938	ALLEGAN	1,618	3 L	37.6	CINCINNATIAN	3,266	99	0	5	6	1,030	2,070	1,013,744			984	
	MONTEREY TWP., 3N-13W, SECTIONS 2, 4, 8, 9, 10, 11, 14, 15, 16, 17, 18, 20, 21, 22, 23, 24, 27, 32, 36																			
☼	MORTON	MICHIGAN STRAY	1946	MECOSTA	1,279	2 S		DUNDEE	3,691	2	ABANDONED 1973			320				118,377		
	MORTON TWP., 14N-8W, SECTIONS 15, 22																			

POOL CLASSIFICATION

- ● ACTIVE OIL FIELD OR POOL
- ● ABANDONED OIL FIELD OR POOL
- ☼ ACTIVE GAS FIELD OR POOL
- ☼ ABANDONED GAS FIELD OR POOL
- ☼ GAS-CONDENSATE FIELD OR POOL
- ☼ ABANDONED GAS-CONDENSATE FIELD OR POOL
- ⊕ GAS STORAGE RESERVOIR
- ⊖ UNDEVELOPED GAS STORAGE RESERVOIR

	FIELD NAME	PRODUCING FORMATION OR POOL	YEAR OF DISC.	COUNTY TOWNSHIP / PRODUCING SECTIONS	PAY ZONE: DEPTH IN FEET	PAY ZONE: THICKNESS AND LITHOLOGY	PAY ZONE: OIL GRAVITY A.P.I.	DEEPEST FORMATION OR POOL TESTED	DEPTH IN FEET	NUMBER OF WELLS 1973: TO END	NUMBER OF WELLS 1973: COMP. IN	NUMBER OF WELLS 1973: ABAND. IN	NUMBER OF WELLS 1973: ACTIVE AT END	DRILLED ACRES	OIL PRODUCTION—BBLS.: PRODUCED IN 1973	OIL PRODUCTION—BBLS.: CUMULATIVE THROUGH 1973	GAS PRODUCTION—Mcf.: PRODUCED IN 1973	GAS PRODUCTION—Mcf.: CUMULATIVE THROUGH 1973	RECOVERY PER ACRE DRILLED (BBLS.)	TOTAL BARRELS BRINE PER DAY
☼	MT. CLEMENS	SALINA	1961	MACOMB	2,590	18 D		CAMBRIAN†	4,695	1	0	0	1	40		65			2	DOMESTIC USE
	MACOMB TWP., 3N-13E, SECTION 34 ORIGINALLY OIL WELL CONVERTED TO A DOMESTIC GAS WELL 1967																			
●	MT. FOREST	TRAVERSE	1952	BAY	2,124 2,224	2 L 3 L	36.2	RICHFIELD	4,305	4	0	0	2	80	PRODUCTION COMBINED WITH DUNDEE					36
●		DUNDEE	1947		3,025	9 D	34.1			37	0	0	26	960	7,292	880,615			847	5
	PINCONNING TWP., 17N-4E, SECTIONS 18, 19 MT. FOREST TWP., 17N-3E, SECTIONS 13, 24																			
●	MT. FOREST, SEC. 1	DUNDEE	1946	BAY	2,960	2 L		DUNDEE	3,057	1	ABANDONED 1946			10		1,906			191	
	MT. FOREST TWP., 17N-3E, SECTION 1																			
●	MT. HALEY	DUNDEE	1934	MIDLAND	3,477	3 D	39.6	DUNDEE	3,500	1	ABANDONED 1947			10		36,069			3,607	
	MT. HALEY TWP., 13N-1E, SECTION 28																			
●	MT. PLEASANT	DUNDEE	1928	ISABELLA-MIDLAND	3,545	15 L	41.8	SYLVANIA	4,821	485	0	5	139	5,710	84,896	27,737,665		7,809,323	4,858	738
	THE 144 WELLS INCLUDE 140 DUNDEE, 1 TRAVERSE AND 3 DUNDEE AND TRAVERSE																			
	GREENDALE TWP., 14N-2W, SECTIONS 6 THROUGH 19 LEE TWP., 14N-1W, SECTIONS 7, 8, 18 CHIPPEWA TWP., 14N-3W, SECTIONS 1, 2, 3, 4, 11, 12, 13 DENVER TWP., 15N-3W, SECTIONS 28, 33, 34																			
☼	MUSKEGON	TRAVERSE-DUNDEE-DETROIT RIVER	1927	MUSKEGON	1,640 2,025	6 L		ST. PETER SS.	4,754	?	0	0	2	1,520				7,237,438	DOMESTIC USE & LEASE FUEL	
	MUSKEGON TWP., 10N-16W, SECTIONS 4, 5, 6, 7, 8, 9, 15, 22 LAKETON TWP., 10N-17W, SECTION 12																			
●	MUSKEGON	TRAVERSE & DUNDEE	1928	MUSKEGON	1,700	3.5 L	37.4	ST. PETER SS.	4,754	?	0	0	12	3,170	2,540	7,014,690			2,213	210
	MUSKEGON TWP., 10N-16W, SECTIONS 3 THROUGH 10, 15, 16, 17, 21, 22 LAKETON TWP., 10N-17W, SECTIONS 1, 11, 12, 13, 14																			
☼	MUTTONVILLE	SALINA-NIAGARAN REEF	1966	MACOMB	2,576	194 O		CLINTON	3,039	7	0	0	7	280			556,795	8,494,469		
	LENOX TWP., 4N-14E, SECTION 13																			
●	NELLSVILLE	DUNDEE	1957	ROSCOMMON	3,710	6 D	40.3	DETROIT RIVER	5,165	1	ABANDONED 1967			10		16,528			1,653	
●		RICHFIELD	1956		4,932	17 D	42.2			1	ABANDONED 1967			40		10,912			273	
	ROSCOMMON TWP., 22N-4W, SECTIONS 8, 17																			
☼	NEWARK	MICHIGAN STRAY	1948	GRATIOT	979	5 S		DUNDEE	3,255	6	ABANDONED 1968			960				441,757		
	NEW HAVEN TWP., 10N-4W, SECTIONS 23, 24, 25, 26																			
●	NEW BOSTON	TRENTON	1943	WAYNE	2,635	4 L		TRENTON	2,983	2	ABANDONED 1949			20		2,349			118	
	HURON TWP., 4S-9E, SECTION 18																			
●	NEW LOTHROP	BEREA	1967	SHIAWASSEE-GENESEE	1,623	4 S	46	SYLVANIA	3,494	19	0	0	15	680	4,365	86,190			127	
	FLUSHING TWP., 8N-5E, SECTIONS 7, 8, 18 HAZELTON TWP., 8N-4E, SECTIONS 1, 12																			
●	NEW RICHMOND	TRAVERSE	1965	ALLEGAN	1,364	1 L		TRAVERSE	1,365	1	ABANDONED 1966			10		104			10	
	MANLIUS TWP., 3N-13W, SECTION 16																			
●	NILES	TRAVERSE	1940	BERRIEN	602	7 L	21.5	TRENTON	2,089	7	ABANDONED 1958			20		29,672			424	
	NILES TWP., 7S-17W, SECTIONS 1, 2, 3																			
●	NORTH ALLIS 29-35N-2E (ONAWAY)	NIAGARAN REEF	1969	PRESQUE ISLE	2,727	10 D		PRECAMBRIAN	5,940	1	0	0	1	40	0	4,043			101	
	NORTH ALLIS TWP., 35N-2E, SECTION 29																			
☼	NORTH MORENCI	TRAVERSE	1962	LENAWEE	638	2 D		PRAIRIE DU CHIEN	3,284	69	0	0	69	2,840		59		103,078	FIELD SHUT-IN NO MARKET	
	SENECA TWP., 8S-2E, SECTIONS 10, 13, 14, 15, 16, 17, 19, 20, 21, 22, 23, 25, 27, 28, 29, 30 MEDINA TWP., 8S-1E, SECTIONS 24, 25, 35																			
●	NORTH PORTER	TRAVERSE	1930	CASS	660	2 L	37.0	TRENTON	2,382	2	ABANDONED 1955			20		1,424			71	
	PORTER TWP., 7S-13W, SECTION 32																			
☼	NORTH STAR	MICHIGAN STRAY	1940	GRATIOT	870	7 S		DUNDEE	3,100	1	0	0	1	40			1,556	571,544		
	NORTH STAR TWP., 10N-2W, SECTION 4																			
☼	NORTHVILLE	DUNDEE	1948	WASHTENAW-WAYNE-OAKLAND	788	2 L		CAMBRO-ORDOVICIAN	5,850	4	ABANDONED 1961			640				0		
☼		SALINA-NIAGARAN	1937		2,905	2 D							6	1,200	FACILITY WELLS IN GAS STORAGE RESERVOIR					
●		NIAGARAN	1960		3,515	25 D	42.5								PRODUCTION INCLUDED WITH TRENTON	3,794,518				
●		TRENT.-BLK. RIVER	1954		4,395	70 D	39.8						3	2,835	23,838	1,064,807		14,332,358	376	
	NIAGARAN OIL COMBINED WITH TRENTON-BLACK RIVER																			
	SALEM TWP., 1S-7E, SECTIONS 1, 2 LYON TWP., 1N-7E, SECTION 36 (DUNDEE) LYON TWP., 1N-7E, SECTIONS 34, 35, 36 SALEM TWP., 1S-7E, SECTIONS 1, 2, 12 NORTHVILLE TWP., 1S-8E, SECTIONS 7, 16, 17																			
	PLYMOUTH TWP., 1S-8E, SECTIONS 21, 22, 23, 25, 26 (SALINA-NIAGARAN AND TRENTON-BLACK RIVER)																			
⊕	NORTHVILLE	REFER TO TABLE 3 DEVELOPED GAS STORAGE RESERVOIRS CONVERTED TO GAS STORAGE AND SECONDARY RECOVERY JULY 2, 1968																		
●	OLIVET	TRENT.-BLK. RIVER	1969	EATON	4,450	5 D		PRAIRIE DU CHIEN	5,020	1	ABANDONED 1971			20	0	340				
	BELLEVUE TWP., 1N-6W, SECTION 24																			
●	ONONDAGA 10-1N-2W	NIAGARAN REEF	1971	INGHAM	3,784	40 D	38.4	PRAIRIE DU CHIEN	5,744	13	0	1	12	920	491,119	1,191,894	521,781	1,026,359	1,296	
	ONONDAGA TWP., 1N-2W, SECTIONS 2, 3, 10, 11, 14																			
●	ONONDAGA 17-1N-2W	SALINA-NIAGARAN REEF	1973	INGHAM	3,620	50 D		NIAGARAN	3,850	1	1	0	1	80	23,889	23,889	8,207	8,207		
	ONONDAGA TWP., 1N-2W, SECTION 17																			
●	ONONDAGA 21-1N-2W	NIAGARAN REEF	1971	INGHAM	3,629	31 D	33.2	MANITOULIN	4,125	17	2	0	17	1,360	603,649	1,107,369	675,507	1,156,254		64
	ONONDAGA TWP., 1N-2W, SECTIONS 15, 16, 17, 21, 22																			
⊕	ORIENT	REFER TO TABLE 3 DEVELOPED GAS STORAGE RESERVOIRS																		
●	OTISVILLE	BEREA	1949	GENESEE-TUSCOLA	1,446	5 S		DUNDEE	2,694	1	ABANDONED 1956			10	PRODUCTION COMBINED WITH DUNDEE					
●		TRAVERSE	1941		1,895	2 L				1	ABANDONED 1946			10	PRODUCTION COMBINED WITH DUNDEE					
●		DUNDEE	1944		2,450	3 L	37.0			5	0	0	2	50	2,039	117,582			1,680	2
	FOREST TWP., 9N-8E, SECTIONS 5, 6 MILLINGTON TWP., 10N-8E, SECTIONS 31, 32 TRAVERSE PRODUCTION IN FOREST TWP., SECTION 5																			
●	OTSEGO	TRAVERSE	1938	ALLEGAN	1,532	1 L		TRAVERSE	1,600	7	ABANDONED 1972			110		2,290			21	
	OTSEGO TWP., 1N-12W, SECTIONS 19, 30 TROWBRIDGE TWP., 1N-13W, SECTION 36																			
☼	OTSEGO	ANTRIM	1940	OTSEGO	1,385	4 SH		DUNDEE	3,944	9	0	0	3	840			43,878	532,189		1
	BAGLEY TWP., 30N-3W, SECTIONS 21, 22, 27, 28, 34																			

POOL CLASSIFICATION

- ● ACTIVE OIL FIELD OR POOL
- ● ABANDONED OIL FIELD OR POOL
- ☼ ACTIVE GAS FIELD OR POOL
- ☼ ABANDONED GAS FIELD OR POOL
- ☼ GAS-CONDENSATE FIELD OR POOL
- ☼ ABANDONED GAS-CONDENSATE FIELD OR POOL
- ⊕ GAS STORAGE RESERVOIR
- ⊖ UNDEVELOPED GAS STORAGE RESERVOIR

	FIELD NAME	PRODUCING FORMATION OR POOL	YEAR OF DISC.	COUNTY TOWNSHIP / PRODUCING SECTIONS	PAY ZONE: DEPTH IN FEET	PAY ZONE: THICKNESS AND LITHOLOGY	PAY ZONE: OIL GRAVITY A.P.I.	DEEPEST FORMATION OR POOL TESTED	DEPTH IN FEET	NUMBER OF WELLS 1973: TO END	NUMBER OF WELLS 1973: COMP. IN	NUMBER OF WELLS 1973: ABAND. IN	NUMBER OF WELLS 1973: ACTIVE AT END	DRILLED ACRES	OIL PRODUCTION—BBLS.: PRODUCED IN 1973	OIL PRODUCTION—BBLS.: CUMULATIVE THROUGH 1973	GAS PRODUCTION—Mcf.: PRODUCED IN 1973	GAS PRODUCTION—Mcf.: CUMULATIVE THROUGH 1973	RECOVERY PER ACRE DRILLED (BBLS.)	TOTAL BARRELS BRINE PER DAY
●	OTSEGO, SEC. 9	TRAVERSE	1950	ALLEGAN	1,456	1 L		TRAVERSE	1,457	4	ABANDONED 1951			40		681			17	
	OTSEGO TWP., 1N-12W, SECTIONS 5, 8, 9 REACTIVATED BRIEFLY IN 1958																			
●	OTSEGO LAKE 3-29N-3W	SALINA-NIAGARAN REEF	1971	OTSEGO	6,272	122 D		NIAGARAN	6,860	2	0	0	2	120	105,774	269,171	48,945	117,561	2,243	
	OTSEGO LAKE TWP., 29N-3W, SECTIONS 3, 10																			
●	OTTER LAKE	BEREA	1945	GENESEE	1,502	4 S	35.5	DETROIT RIVER	3,142	10	0	0	6	110	CUMULATIVE THROUGH 1973 COMBINED WITH OTISVILLE DUNDEE					8
●		DETROIT RIVER SZ	1970		2,968	10 D				10	0	0	10	400	40,704	154,153			302	21
	FOREST TWP., 9N-8E, SECTION 12 (BEREA) SECTIONS 11, 12 (DETROIT RIVER SZ)																			
●	OTTO, SEC. 30	"BEREA"	1958	OCEANA	1,428	9 S		TRAVERSE	1,860	2	ABANDONED 1960			10		COMBINED WITH OTTO SECTION 32				
●		TRAVERSE	1955		1,857	3 L				1	ABANDONED 1960			20		COMBINED WITH OTTO SECTION 32				
	OTTO TWP., 13N-16W, SECTIONS 19, 30																			
●	OTTO, SEC. 32	"BEREA"	1950	OCEANA	1,445	1 L		TRAVERSE	1,895	2	0	0	2	10	0	4,308			108	
	OTTO TWP., 13N-16W, SECTION 32																			
●	OVERISEL	TRAVERSE	1938	ALLEGAN	1,478	3 L	42.1	TRENTON	4,060	164	0	2	25	1,770	4,052	2,945,210			1,664	71
	OVERISEL TWP., 4N-14W, SECTIONS 5, 8, 9, 15, 16, 21, 22, 27, 28, 34 HEATH TWP., 3N-14W, SECTIONS 3, 4, 9, 10																			
⊕	OVERISEL	REFER TO TABLE 3 DEVELOPED GAS STORAGE RESERVOIRS																		
●	OVERISEL, SEC. 11	TRAVERSE	1940	ALLEGAN	1,553	4 L		TRAVERSE	1,578	1	ABANDONED 1944			10		6,370			637	
	OVERISEL TWP., 4N-14W, SECTION 11																			
●	OXBOW	TRAVERSE	1958	MASON	1,652	1 L	35.4	REED CITY	2,354	4	0	0	2	40	38	87,831			2,196	35
	RIVERTON TWP., 17N-17W, SECTIONS 26, 27																			
☼	PARADISE	TRAVERSE	1965	GRAND TRAVERSE	1,889	8 L		DUNDEE	1,897	3	0	0	3	400					SHUT-IN FOR MARKET	
	PARADISE TWP., 25N-10W, SECTIONS 9, 16																			
☼	PARADISE 18-25N-10W	NIAGARAN REEF	1973	GRAND TRAVERSE	6,455	102 D	65.8	NIAGARAN	6,841	1	1	0	1	160	0	0				
	PARADISE TWP., 25N-10W, SECTION 18																			
☼	PARIS	MICHIGAN STRAY	1951	MECOSTA	1,217	5 S		REED CITY	3,545	2	0	0	1	560				375,564	DOMESTIC USE	
●		TRAVERSE	1949		2,890	10 D	43.6			22	0	1	11	440	9,206	1,259,449			2,862	545
☼		DUNDEE	1949		3,404	5 L				2	ABANDONED 1959			20				268,667		
	GREEN TWP., 16N-10W, SECTIONS 16, 21, 22, 27, 28																			
⊕	PARTELLO	REFER TO TABLE 3 DEVELOPED GAS STORAGE RESERVOIRS																		
●	PAW PAW	TRAVERSE	1963	VAN BUREN	1,096	2 L	41.4	TRAVERSE	1,098	8	ABANDONED 1973			160	0	20,209			126	
	PAW PAW TWP., 3S-14W, SECTIONS 2, 10, 11, 15																			
●	PAW PAW, SEC. 33	TRAVERSE	1964	VAN BUREN	1,028	1 L	38.0	TRAVERSE	1,032	1	ABANDONED 1972			10	0	0				
	PAW PAW TWP., 3S-14W, SECTION 33																			
●	PEACOCK	TRAVERSE	1966	LAKE	2,292	2 L	34.0	REED CITY	3,047	27	0	7	17	1,060	98,066	860,613			812	1,970
●		REED CITY	1966		3,001	4 D				1	0	0	1	40	0	4,339			108	
	PEACOCK TWP., 19N-13W, SECTIONS 7, 8, 9, 16, 17, 18																			
●	PECKS LAKE	DUNDEE	1967	OSCEOLA	3,866	2 L		REED CITY	3,854	1	ABANDONED 1969			40		2,885			72	
	EVART TWP., 17N-8W, SECTION 18																			
●	PENNFIELD 29-1S-7W	SALINA-NIAGARAN REEF	1973	CALHOUN	2,676	70 D		NIAGARAN	2,806	1	1	0	1	80	0	0				
	PENNFIELD TWP., 1S-7W, SECTION 29																			
●	PENTWATER	TRAVERSE	1948	OCEANA-MASON	1,585	8 L	40.4	PRAIRIE DU CHIEN	5,383	143	0	0	57	1,400	14,542	CUMULATIVE PRODUCTION COMBINED WITH DUNDEE				
●		DUNDEE	1948		2,088	10 D	43.1							2,000	5,109	6,669,699		1,010,713	1,962	578
☼		A-2 CARBONATE	1973		3,470	40 L				1	1	0	1				0	0		
	THE 57 WELLS INCLUDE 25 TRAVERSE, 13 DUNDEE AND 19 DUNDEE AND TRAVERSE																			
	WEARE TWP., 16N-17W, SECTIONS 4, 5, 6, 7, 8 PENTWATER TWP., 16N-18W, SECTIONS 1, 2, 12 SUMMIT TWP., 17N-17W, SECTION 31 SUMMIT TWP., 17N-18W, SECTIONS 26, 35, 36																			
●	PENTWATER LAKE	TRAVERSE	1969	OCEANA	1,612	2 L		NIAGARAN	4,078	3	0	0	3	120	11,357	83,229			694	55
	PENTWATER TWP., 16N-18W, SECTION 26																			
●	PETERS	SALINA-NIAGARAN REEF	1955	ST. CLAIR	2,386	47 D	39.0	CLINTON	2,842	89	0	3	72	1,780	160,977	4,804,537	792,364	16,114,657	2,245	235
	CASCO TWP., 4N-15E, SECTIONS S½ 15, SE¼ 16, 22, 23, 26, 27, E½ 28, NE¼ 33, N½ 34																			
●	PETERS, EAST	SALINA-NIAGARAN REEF	1961	ST. CLAIR	2,590	17 D	41.6	CLINTON	2,777	9	0	0	8	360	PRODUCTION COMBINED WITH PETERS					27
	CASCO TWP., 4N-15E, SECTIONS 24, 25 CHINA TWP., 4N-16E, SECTION 19																			
●	PINCONNING	TRAVERSE	1958	BAY	2,151	1 L		DETROIT RIVER	3,790	1	ABANDONED 1960			10	PRODUCTION COMBINED WITH PINCONNING DUNDEE					
●		DUNDEE	1944		2,898	7 D	36.2			12	0	0	2	100	2,220	872,688			7,933	200
	PINCONNING TWP., 17N-4E, SECTIONS 25, 35, 36 FRASER TWP., 16N-4E, SECTION 2																			
●	PINE	TRAVERSE	1938	MONTCALM	2,836	1 L	45.0	DUNDEE	3,308	2	ABANDONED 1963			20		105,506			5,275	
	PINE TWP., 11N-8W, SECTION 29																			
●	PINE RIVER	TRAVERSE	1956	GRATIOT	2,890	5 L		DUNDEE	3,285	1	ABANDONED 1958			10		760			76	
●		DUNDEE	1942		3,280	2 L				2	ABANDONED 1956			90		13,285			148	
	PINE RIVER TWP., 12N-3W, SECTION 31 SEVILLE TWP., 12N-4W, SECTION 36																			
☼	PINE, SECS. 9 & 17	MICHIGAN STRAY	1951	MONTCALM	1,251	1 S		DUNDEE	3,469	2	0	0	2	80				37,272	DOMESTIC USE	
	PINE TWP., 11N-8W, SECTIONS 9, 17																			
☼	PIONEER	TRAVERSE	1931	MISSAUKEE	3,025	5 L		DUNDEE	3,583	1	0	0	1	40						
	PIONEER TWP., 24N-7W, SECTION 24																			
●	PIPESTONE	TRAVERSE	1962	BERRIEN	822	2 L	22.4	NIAGARAN	1,353	2	ABANDONED 1966			20		85			4	
	PIPESTONE TWP., 5S-17W, SECTION 24																			

POOL CLASSIFICATION

● ACTIVE OIL FIELD OR POOL
● ABANDONED OIL FIELD OR POOL
☼ ACTIVE GAS FIELD OR POOL
☼ ABANDONED GAS FIELD OR POOL
☼ GAS-CONDENSATE FIELD OR POOL
☼ ABANDONED GAS-CONDENSATE FIELD OR POOL
⊕ GAS STORAGE RESERVOIR
⊖ UNDEVELOPED GAS STORAGE RESERVOIR

	FIELD NAME	PRODUCING FORMATION OR POOL	YEAR OF DISC.	COUNTY TOWNSHIP / PRODUCING SECTIONS	PAY ZONE DEPTH IN FEET	PAY ZONE THICKNESS AND LITHOLOGY	PAY ZONE OIL GRAVITY A.P.I.	DEEPEST FORMATION OR POOL TESTED	DEPTH IN FEET	NUMBER OF WELLS TO END (1973)	NUMBER OF WELLS COMP. IN (1973)	NUMBER OF WELLS ABAND. IN (1973)	NUMBER OF WELLS ACTIVE AT END (1973)	DRILLED ACRES	OIL PRODUCTION—BBLS. PRODUCED IN 1973	OIL PRODUCTION—BBLS. CUMULATIVE THROUGH 1973	GAS PRODUCTION—Mcf. PRODUCED IN 1973	GAS PRODUCTION—Mcf. CUMULATIVE THROUGH 1973	RECOVERY PER ACRE DRILLED (BBLS.)	TOTAL BARRELS BRINE PER DAY
●	FOLKTON	TRAVERSE	1942	OTTAWA	1,878	2 L	37.8	DUNDEE	2,351	13	0	0	5	170	1,463	69,749			410	
				FOLKTON TWP., 8N-14W, SECTIONS 8, 9, 10, 11, 14, 15, 16																
●	PORTER	DUNDEE	1933	MIDLAND	3,415	12 L	40.6	BLACK RIVER	9,519	529	0	0	132	6,690	94,415	49,355,205		4,992,995	7,377	4,249
				THE 132 WELLS INCLUDE 128 DUNDEE, 1 TRAVERSE, AND 3 DUNDEE AND TRAVERSE																
				PORTER TWP., 13N-1W, SECTIONS 7, 8, 9, 10, 14 THROUGH 23, 26, 27, 28 JASPER TWP., 13N-2W, SECTIONS 1, 2, 3, 11, 12 GREENDALE TWP., 14N-2W, SECTIONS 34, 35															
●	PORT HURON	DUNDEE	1886	ST. CLAIR	575	20 L		CAMBRIAN	4,948	21	ABANDONED 1921			EST.15		NO RECORD				
				FT. GRATIOT TWP., 7N-17E, SECTION 32																
☼	PORT HURON 33-7N-17E	NIAGARAN REEF	1971	ST. CLAIR	3,160	10 D		NIAGARAN	3,185	1	0	0	1	150			2,094	5,038		
				PORT HURON TWP., 7N-17E, SECTION 33																
☼	PROSPER	MICHIGAN STRAY	1948	MISSAUKEE	1,269	6 S		RICHFIELD	3,254	3	0	0	2	480				152,882	LEASE FUEL	
				AETNA TWP., 22N-6W, SECTIONS 34, 35 CLAM UNION TWP., 21N-6W, SECTION 2																
●	PROSPER	DUNDEE	1942	MISSAUKEE	3,837	4 L	43.2	RICHFIELD	3,254	13	0	0	6	520	9,858	1,761,548			3,387	2,150
●		RICHFIELD	1954		5,128	21 D				1	ABANDONED 1957			40		7,088			177	
				AETNA TWP., 22N-6W, SECTIONS 26, 35																
●	PROSPER, SOUTH	DUNDEE	1967	MISSAUKEE	3,798	8 D		DUNDEE	3,808	7	0	0	7	280	108,519	649,570			2,320	650
				AETNA TWP., 22N-6W, SECTION 36 CLAM UNION TWP., 21N-6W, SECTIONS 1, 2																
●	PULLMAN	TRAVERSE	1949	ALLEGAN	1,185	1 L		BASS ISLANDS	1,942	9	ABANDONED 1951			90		26,840			298	
				CASCO TWP., 1N-16W, SECTIONS 11, 12																
●	PULLMAN, EAST	TRAVERSE	1949	ALLEGAN	1,131	2 L	39.0	TRENTON	3,020	25	0	0	12	250	2,190	384,985			1,539	167
☼		SALINA A-2 CARB.	1961		1,645	7 D				3	ABANDONED 1968			480				27,225		
				LEE TWP., 1N-15W, SECTIONS 5, 6, 7, 8 (TRAVERSE) SECTIONS 5, 6, 8 (SALINA A-2 CARB.)																
⊕	PUTTYGUT	REFER TO TABLE 3 DEVELOPED GAS STORAGE RESERVOIRS													OIL PRODUCTION COMBINED WITH ADAIR					
●	RABBIT RIVER	TRAVERSE	1950	ALLEGAN	1,655	3 L		TRAVERSE	1,678	8	ABANDONED 1959			80		12,745			159	
				SALEM TWP., 4N-13W, SECTIONS 28, 29, 32, 33																
●	RAPID RIVER 17-28N-7W	TRAVERSE	1972	KALKASKA	1,521	10 L		NIAGARAN	6,351	1	ABANDONED 1973			40						
				RAPID RIVER TWP., 28N-7W, SECTION 17																
●	RAPID RIVER 24-28N-7W (RAPID RIVER)	NIAGARAN REEF	1970	KALKASKA	6,590	44 D	50	NIAGARAN	6,810	5	0	0	5	400	137,044	309,281	1,320,197	2,630,906	773	
				RAPID RIVER TWP., 28N-7W, SECTIONS 24, 25, 26																
●	RAPID RIVER 24-28N-7W POOL A	NIAGARAN REEF	1972	KALKASKA	6,407	20 D	42.3	NIAGARAN	6,805	1	0	0	1	80	13,946	16,153	17,229	17,229	202	
				RAPID RIVER TWP., 28N-7W, SECTION 24																
●	RAPID RIVER 27-28N-7W	NIAGARAN REEF	1972	KALKASKA	6,487	29 D	47.2	NIAGARAN	6,850	3	2	0	3	120	46,897	50,183	223,991	241,466	418	14
				RAPID RIVER TWP., 28N-7W, SECTION 27																
●	RAPID RIVER 27-28N-7W POOL A	NIAGARAN REEF	1972	KALKASKA	6,552	8 D	44	NIAGARAN	6,773	2	0	0	2	160	27,641	32,217	74,417	74,417	201	
				RAPID RIVER TWP., 28N-7W, SECTION 27																
●	*RAPID RIVER 32-28N-7W	NIAGARAN REEF	1973	KALKASKA	6,413	20 D	43.5	NIAGARAN	6,548	1	1	0	1	80	10,856	10,856	7,030	7,030	136	
	*NEW FIELD DISCOVERY CREATED BY REVISED SPACING ORDER FOR KALKASKA 5-27N-7W			RAPID RIVER TWP., 28N-7W, SECTION 32																
●	RAPID RIVER 35-28N-7W	NIAGARAN REEF	1973	KALKASKA	6,719	27 D	66.5	NIAGARAN	6,886	1	1	0	1	160	65	65				
				RAPID RIVER TWP., 28N-7W, SECTION 35																
☼	RAVENNA	"BEREA"	1936	MUSKEGON	1,205	10 D		DUNDEE	2,306	31	0	0	5	4,480				1,432,593	DOMESTIC USE	
				RAVENNA TWP., 9N-14W, SECTIONS 4, 5, 6, 7, 8, 9, 17 SULLIVAN TWP., 9N-15W, SECTION 12 MOORLAND TWP., 10N-14W, SECTIONS 32, 33																
●	RAVENNA	TRAVERSE	1952	MUSKEGON	1,842	15 L		DETROIT RIVER	2,601	37	0	1	1	730	180	459,270			629	
				RAVENNA TWP., 9N-14W, SECTIONS 21, 27, 28, 29, 30, 31 SULLIVAN TWP., 9N-15W, SECTIONS 25, 36																
☼	RAVENNA, SEC. 27	"BEREA"	1953	MUSKEGON	1,182	6 D		DUNDEE	2,500	3	0	0	2	480				32,243	DOMESTIC USE	
				RAVENNA TWP., 9N-14W, SECTIONS 22, 27, 28																
⊕	RAY	REFER TO TABLE 3 DEVELOPED GAS STORAGE RESERVOIRS																		
●	READING	TRENTON	1971	HILLSDALE	3,100	10 D	42	BLACK RIVER	3,478	2	ABANDONED 1973			80	870	5,721			72	
				READING TWP., 7S-4W, SECTION 29																
☼	REDDING	MICHIGAN STRAY	1940	CLARE	1,475	3 S		SYLVANIA	5,462	?	0	0	5	160				32,692	LEASE FUEL	
				REDDING TWP., 19N-6W, SECTIONS 27, 32 FREEMAN TWP., 18N-6W, SECTION 2																
●	REED CITY	TRAVERSE	1941	LAKE-OSCEOLA	2,925	5 L	43.7	ST. PETER SS.	8,917				4	1,600	10,618	3,664,303		388,638	2,290	
●		DUNDEE	1940		3,490	3 L	46.3											16,257,876		
●		REED CITY	1941		3,585	7 D	42.8	(LOREED UNIT-SEE TABLE 7)					167	5,320	261,920	41,509,793			7,802	
●		DETROIT RIVER SZ	1955		4,184	73 DL	48.2			45	0	4	20	1,800	81,408	2,214,425		3,476,188	1,230	
●		RICHFIELD	1954		4,633	12 SL	45.8			(TWO WELLS COMMINGLED WITH SOUR ZONE)										
				LINCOLN TWP., 18N-10W, SECTIONS 17, 18, 19, 20, 29, 30, 31, 32 RICHMOND TWP., 17N-10W, SECTIONS 4 THROUGH 9 PINORA TWP., 18N-11W, SECTIONS 24, 25, 36																
⊕	REED CITY (STRAY)	REFER TO TABLE 3 DEVELOPED GAS STORAGE RESERVOIRS																		
⊕	REED CITY (LOREED)	REFER TO TABLE 3 DEVELOPED GAS STORAGE RESERVOIRS																		
●	REED CITY, EAST	TRAVERSE	1947	OSCEOLA	3,106	1 L	41.2	DETROIT RIVER	3,840	8	0	0	3	80	113	393,304		18,569	4,916	
				LINCOLN TWP., 18N-10W, SECTION 26																
☼	REEDER	MICHIGAN STRAY	1964	MISSAUKEE	1,385	4 S		DUNDEE	4,002	2	ABANDONED 1966			320				0		
				REEDER TWP., 22N-7W, SECTION 32																
●	REEMAN	TRAVERSE	1958	NEWAYGO	2,099	1 L		TRAVERSE	2,100	3	ABANDONED 1967			30		44,886			1,500	
				SHERIDAN TWP., 12N-14W, SECTION 8																

POOL CLASSIFICATION

● ACTIVE OIL FIELD OR POOL
● ABANDONED OIL FIELD OR POOL
☼ ACTIVE GAS FIELD OR POOL
☼ ABANDONED GAS FIELD OR POOL
☼ GAS-CONDENSATE FIELD OR POOL
☼ ABANDONED GAS-CONDENSATE FIELD OR POOL
⊕ GAS STORAGE RESERVOIR
⊖ UNDEVELOPED GAS STORAGE RESERVOIR

	FIELD NAME	PRODUCING FORMATION OR POOL	YEAR OF DISC.	COUNTY TOWNSHIP / PRODUCING SECTIONS	PAY ZONE DEPTH IN FEET	PAY ZONE THICKNESS AND LITHOLOGY	PAY ZONE OIL GRAVITY A.P.I.	DEEPEST FORMATION OR POOL TESTED	DEPTH IN FEET	NUMBER OF WELLS TO END (1973)	NUMBER OF WELLS COMP. IN (1973)	NUMBER OF WELLS ABAND. IN (1973)	NUMBER OF WELLS ACTIVE AT END (1973)	DRILLED ACRES	OIL PRODUCTION—BBLS. PRODUCED IN 1973	OIL PRODUCTION—BBLS. CUMULATIVE THROUGH 1973	GAS PRODUCTION—Mcf. PRODUCED IN 1973	GAS PRODUCTION—Mcf. CUMULATIVE THROUGH 1973	RECOVERY PER ACRE DRILLED (BBLS.)	TOTAL BARRELS BRINE PER DAY
●	REYNOLDS	TRAVERSE	1955	MONTCALM-MECOSTA	2,787	4 D	39.8	BASS ISLANDS	4,300	16	0	1	5	110	11,504	CUMULATIVE PRODUCTION COMBINED WITH REED CITY				360
●		REED CITY	1954		3,343	2 D	44.3			53	0	8	9	2,100	23,358	4,560,761		408,555	2,064	810
				REYNOLDS TWP., 12N-10W, SECTIONS 1, 2, 12, 13 WINFIELD TWP., 12N-9W, SECTIONS 6, 7, 8, 17, 18 AETNA TWP., 13N-10W, SECTION 36																
☼	RICH	BEREA	1970	LAPEER	1,380	29 S		SYLVANIA	3,267	2	0	0	2	320				5,832		
●		DETROIT RIVER SZ	1962		3,028	5 D	33.9			19	0	1	18	760	67,112	380,976	30,636	279,668	764	148
				RICH TWP., 10N-10E, SECTIONS 21, 22 (BEREA), SECTIONS 21, 27, 28, 34, 35 (DETROIT RIVER SZ)																
●	RICHLAND	TRAVERSE	1936	SAGINAW	2,739	10 L	46.0	DUNDEE	3,264	1	ABANDONED 1936			10		1,871			187	
				RICHLAND TWP., 12N-2E, SECTION 31																
☼	RICHLAND, SEC. 27	MICHIGAN STRAY	1963	MONTCALM	1,247	1 S		DUNDEE	3,530	1	ABANDONED 1964			160				0		
				RICHLAND TWP., 12N-5W, SECTION 27																
☼	RICHMOND	NIAGARAN REEF	1968	MACOMB	3,195	12 D		NIAGARAN	3,254	1	0	0	1	40			28,525	170,897		
				RICHMOND TWP., 5N-14E, SECTION 26																
●	RIDGEWAY, SEC. 1	TRENTON	1954	LENAWEE	2,415	4 D		TRENTON	2,491	1	ABANDONED 1962			10		47			5	
				RIDGEWAY TWP., 6S-5E, SECTION 1																
●	RIVERSIDE	TRAVERSE	1961	MISSAUKEE	3,220	2 L	42.6	DUNDEE	3,953	1	0	0	1	10	894	17,808			1,781	14
●		DUNDEE	1942		3,944	3 L	44.5			3	0	0	3	100	2,747	127,411			1,274	440
				RIVERSIDE TWP., 21N-7W, SECTIONS 14, 23, 24																
⊕	RIVERSIDE	REFER TO TABLE 3 DEVELOPED GAS STORAGE RESERVOIRS																		
●	RIVERTON	TRAVERSE	1957	MASON	1,650	6 L	38.5	DUNDEE	2,317	19	ABANDONED 1971			190		242,206			1,275	
				RIVERTON TWP., 17N-12W, SECTIONS 10, 11, 15																
●	RIVERTON, SEC. 21	TRAVERSE	1964	MASON	1,683	4 L	38.2	DUNDEE	2,290	3	0	0	3	30	1,185	15,144			505	4
				RIVERTON TWP., 17N-12W, SECTION 21																
●	ROBINSON, SEC. 3	DUNDEE	1956	OTTAWA	2,107	7 L		DUNDEE	2,210	2	ABANDONED 1972			20		10,630			532	
				ROBINSON TWP., 7N-15W, SECTION 3																
●	ROCKFORD	TRAVERSE	1945	KENT	2,204	3 L	44.0	DETROIT RIVER	2,850	23	0	0	3	210	4,292	549,356			2,616	370
				ALGOMA TWP., 9N-11W, SECTIONS 25, 35, 36 COURTLAND TWP., 9N-10W, SECTION 19																
☼	ROMEO	NIAGARAN REEF	1965	MACOMB	3,290	? D		CLINTON	3,686	1	0	0	1	40			1,168,572	4,333,649		1
				WASHINGTON TWP., 4N-12E, SECTION 11																
☼	ROMULUS	SALINA A-1 CARB.	1955	WAYNE	1,980	20 D		NIAGARAN	2,259	2	ABANDONED 1972			320				45,045		
				ROMULUS TWP., 3S-9E, SECTIONS 15, 16																
●	ROSEBUSH	DUNDEE	1933	ISABELLA	3,690	6 L	42.0	RICHFIELD	4,838	46	0	1	37	1,020						423
●		RICHFIELD	1969		4,790	4 D		(TWO WELLS COMMINGLED WITH DUNDEE)						80	29,070	2,220,351			2,018	
				ISABELLA TWP., 15N-4W, SECTIONS 1, 2, 11, 12, 13 DENVER TWP., 15N-3W, SECTIONS 7, 18 VERNON TWP., 16N-4W, SECTION 36																
●	ROSE CITY	RICHFIELD	1942	OGEMAW	4,125	9 D	41.2	CAMBRIAN	12,996	131	0	0	68	5,120	229,641	6,014,170	238,622	8,173,368	1,175	61
				FOSTER TWP., 24N-1E, SECTIONS 14, 20, 21, 23, 24, 25 FOSTER TWP., 24N-2E, SECTIONS 19, 20, 21, 28, 29, 30, 31, 32, 33 ROSE TWP., 24N-2E, SECTIONS 27, 34, 35 KLACKING TWP., 23N-2E, SECTIONS 2, 3, 11															
●	ROSE LAKE	TRAVERSE	1943	OSCEOLA	3,140	5 L	45.5	DETROIT RIVER	3,990	18	0	0	6	720	17,409	1,835,111			2,549	410
				ROSE LAKE TWP., 19N-9W, SECTION 31 LEROY TWP., 19N-10W, SECTION 36 CEDAR TWP., 18N-9W, SECTION 6 LINCOLN TWP., 18N-10W, SECTION 1																
●	SAGE	DUNDEE	1971	GLADWIN	3,867	2 L		DETROIT RIVER	4,235	3	0	0	2	120	15,203	60,845			507	22
				SAGE TWP., 19N-2W, SECTION 12																
●	SAGINAW	BEREA	1925	SAGINAW	1,825	16 S	46.1	SYLVANIA	3,920	?	0	1	10	1,500	3,717	1,682,416			1,122	1
				SAGINAW TWP., 12N-4E, SECTIONS 10, 11, 12, 13, 14, 15, 24																
●	SALEM	TRAVERSE	1937	ALLEGAN-OTTAWA	1,583	8 L	38.3	TRENTON	4,347	337	0	1	94	3,390	30,600	9,151,333			2,700	61
☼		DETROIT RIVER	1958		1,969	6 D				3	ABANDONED 1966			320				49,582		
●		SALINA	1937		2,725	2 D		REFER TO GAS STORAGE RESERVOIRS-PRODUCES SMALL AMOUNT OF OIL--INCLUDED AS MISCELLANEOUS PRODUCTION IN ABANDONED TOTALS												
				SALEM TWP., 4N-13W, SECTIONS 16, 21 (DETROIT RIVER) SALEM TWP., 4N-13W, SECTIONS 1, 2, 3, 10 THROUGH 17, 20, 21, 22, 23, 24, 34 JAMESTOWN TWP., 5N-13W, SECTIONS 25, 36 (TRAVERSE)															
⊕	SALEM	REFER TO TABLE 3 DEVELOPED GAS STORAGE RESERVOIRS																		
●	SANFORD	TRAVERSE	1959	MIDLAND	3,125	2 L		DETROIT RIVER	4,811	13	0	1	11	260	3,117	196,742			757	2
●		DUNDEE	1951		3,755	3 L	42.6			THE 12 WELLS INCLUDE 9 DUNDEE, 1 TRAVERSE AND 2 DUNDEE AND TRAVERSE										
				JEROME TWP., 15N-1W, SECTIONS 12, 13																
●	SAUBLE	TRAVERSE	1942	LAKE	2,111	2 L	35.6	TRAVERSE	2,156	5	0	0	2	200	0	144,763			724	
				SAUBLE TWP., 19N-14W, SECTION 16																
●	SCOTTVILLE	TRAVERSE	1961	MASON	1,646	3 L	34.6	CINCINNATIAN	5,129	17	0	0	6	340	0	CUMULATIVE PRODUCTION COMBINED WITH REED CITY				
●		REED CITY	1962		2,319	3 L	37.2			11	0	0	4	220	3,430	512,599			915	25
				AMBER TWP., 18N-17W, SECTIONS 13, 14, 23																
☼	SEARS	MICHIGAN STRAY	1964	OSCEOLA	1,492	12 S		DUNDEE	3,988	1	ABANDONED 1965			160				0		
				SYLVAN TWP., 18N-7W, SECTION 32																
●	SECORD	DUNDEE	1937	GLADWIN	3,437	5 L	38.0	DUNDEE	3,500	2	ABANDONED 1941			20		12,024			601	
				SECORD TWP., 19N-1E, SECTIONS 11, 12																
⊕	SHAVER (SUMNER-NEW HAVEN)	REFER TO TABLE 3 DEVELOPED GAS STORAGE RESERVOIRS																		
●	SHELBY	TRAVERSE	1951	OCEANA	1,743	3 L	43.0	DUNDEE	2,234	20	ABANDONED 1971			350		228,092			652	
				BENONA TWP., 14N-18W, SECTION 18 BENONA TWP., 14N-19W, SECTION 13																
☼	SHERIDAN	MICHIGAN STRAY	1935	MECOSTA	1,375	2 S		DUNDEE	3,904	5	0	0	1	480				271,374	DOMESTIC USE	
				SHERIDAN TWP., 15N-7W, SECTIONS 13, 14																
●	SHERIDAN, SEC. 25	TRAVERSE	1951	NEWAYGO	2,204	1 L		TRAVERSE	2,205	1	ABANDONED 1955			10		628			63	
				SHERIDAN TWP., 12N-14W, SECTION 25																

POOL CLASSIFICATION

● ACTIVE OIL FIELD OR POOL
◐ ABANDONED OIL FIELD OR POOL
☼ ACTIVE GAS FIELD OR POOL
☼ ABANDONED GAS FIELD OR POOL
☼ GAS-CONDENSATE FIELD OR POOL
☼ ABANDONED GAS-CONDENSATE FIELD OR POOL
⊕ GAS STORAGE RESERVOIR
⊖ UNDEVELOPED GAS STORAGE RESERVOIR

	FIELD NAME	PRODUCING FORMATION OR POOL	YEAR OF DISC.	COUNTY TOWNSHIP / PRODUCING SECTIONS	PAY ZONE DEPTH IN FEET	PAY ZONE THICKNESS AND LITHOLOGY	PAY ZONE OIL GRAVITY A.P.I.	DEEPEST FORMATION OR POOL TESTED	DEPTH IN FEET	NUMBER OF WELLS 1973 TO END	COMP. IN	ABAND. IN	ACTIVE AT END	DRILLED ACRES	OIL PRODUCTION—BBLS. PRODUCED IN 1973	OIL PRODUCTION—BBLS. CUMULATIVE THROUGH 1973	GAS PRODUCTION—Mcf. PRODUCED IN 1973	GAS PRODUCTION—Mcf. CUMULATIVE THROUGH 1973	RECOVERY PER ACRE DRILLED (BBLS.)	TOTAL BARRELS BRINE PER DAY
●	SHERMAN	DUNDEE	1936	ISABELLA	3,650	4 D	42.0	SYLVANIA	4,994	88	0	0	5	1,020	5,061	4,736,372		641,217	4,644	248
				SHERMAN TWP., 15N-6W, SECTIONS 29, 32, 33, 34 BROOMFIELD TWP., 14N-6W, SECTIONS 3, 4, 5																
●	SHERMAN, SEC. 18	TRAVERSE	1939	ISABELLA	3,217	4 L		DUNDEE	3,835	3	ABANDONED 1947			20		1,364			68	
				SHERMAN TWP., 15N-6W, SECTION 18																
⊕	SIX LAKES	REFER TO TABLE 3 DEVELOPED GAS STORAGE RESERVOIRS																		
●	SKEELS	TRAVERSE	1955	CLARE-GLADWIN	3,102	6 L	38.4	SYLVANIA	6,016	4	0	0	2	40	85	44,548			1,114	
●		DUNDEE	1950		3,840	7 D	39.6			5	0	0	4	50	4,887	976,513			19,530	
●		DETROIT RIVER SZ	1942		4,844	4 D	47.4			31	0	0	25	40	23,278	1,210,420			946	2
●		RICHFIELD	1953		5,080	17 D	44.8							1,240	THE 25 WELLS INCLUDE 17 RICHFIELD, 4 SOUR ZONE & 4 RICHFIELD & SOUR ZONE					
				SHERMAN TWP., 20N-2W, SECTIONS 30, 31 FRANKLIN TWP., 20N-3W, SECTIONS 25, 36																
☼	SOUTH BOARDMAN UNIT	NIAGARAN REEF POOL A	1971	KALKASKA	6,616	110 D		CLINTON	6,990	1	0	0	1	160						
☼		NIAGARAN REEF POOL B	1971		6,778	38 D	65.7			1	0	0	1	160			PRODUCTION FOR POOLS A, B & C ARE COMBINED			
☼		NIAGARAN REEF POOL C	1972		6,450	290 D				1	0	0	1	160	24,050	24,627	356,140	356,140	51	
				BOARDMAN TWP., 26N-8W, SECTIONS 4, 5																
☼	SOUTH BRANCH	RICHFIELD	1968	CRAWFORD	4,203	12 D		DETROIT RIVER	4,436	1	ABANDONED 1971			40				0		
				SOUTH BRANCH TWP., 25N-1W, SECTION 32																
●	SPRINGDALE 25-24N-14W	NIAGARAN REEF	1972	MANISTEE	5,006	71 D			5,448	1	0	0	1	160	0		SHUT-IN			
				SPRINGDALE TWP., 24N-14W, SECTION 25																
●	SPRINGDALE 28-24N-14W	SALINA-NIAGARAN REEF	1973	MANISTEE	4,719	134 D		NIAGARAN	5,180	1	1	0	1	80	150	150			2	
				SPRINGDALE TWP., 24N-14W, SECTION 28																
●	SPRINGPORT	TRENT.-BLK. RIVER	1960	JACKSON	4,696	12+ D	46.5	PRAIRIE DU CHIEN	5,250	2	ABANDONED 1970			80		3,430			43	
				SPRINGPORT TWP., 1S-3W, SECTIONS 11, 14																
●	ST. CHARLES	TRAVERSE	1957	SAGINAW	2,305	3 L	51.6	TRAVERSE	2,308	1	ABANDONED 1967			10		13,250			1,325	
				ST. CHARLES TWP., 10N-3E, SECTION 26																
☼	ST. CLAIR, SEC. 18	SALINA-NIAGARAN	1953	ST. CLAIR	2,567	2 D		CINCINNATIAN	3,240	1	ABANDONED 1961			160				16,101		
				ST. CLAIR TWP., 5N-17E, SECTION 18																
●	ST. HELEN	RICHFIELD	1941	ROSCOMMON	4,180	11 D	43.3	SALINA	5,440	99	0	0	54	3,960	210,093	4,620,194	257,231	10,010,304	1,167	142
				AU SABLE TWP., 24N-1W, SECTIONS 10, 14, 15, 16, 17, 19 THROUGH 30, 32																
●	ST. MARYS LAKE	TRAVERSE	1968	MASON	1,641	3 L		TRAVERSE	1,644	2	0	0	2	40	4,734	24,180			605	30
				RIVERTON TWP., 17N-17W, SECTION 35																
◐	STANDISH	RICHFIELD	1948	ARENAC	4,108	3 D	35.4	RICHFIELD	4,210	9	ABANDONED 1967			360		147,062			409	
				LINCOLN TWP., 18N-4E, SECTIONS 10, 11, 15																
●	STANTON	TRAVERSE	1951	MONTCALM	2,916	7 DL	43.0	DUNDEE	3,492	17	0	0	9	340	7,332	958,431			2,819	90
				DOUGLASS TWP., 11N-7W, SECTIONS 26, 27, 34, 35																
●	STARRVILLE	NIAGARAN REEF	1967	ST. CLAIR	2,336	5 D		NIAGARAN	2,396	3	0	0	3	120	7,014	111,272			927	8
				COTTRELLVILLE TWP., 3N-16E, SECTION 9																
●	STERLING	TRAVERSE	1948	ARENAC	1,970	5 L	36.2	RICHFIELD	4,285	22	0	0	16	220	3,262	266,090			1,210	5
●		DUNDEE	1947		2,872	17 L	33.6			20	0	0	18	200	6,989	415,860			2,079	3
●		DETROIT RIVER SZ	1952		3,918	5 D	41.1			41	0	0	35	1,600	36,343	1,696,920			1,061	1
●		RICHFIELD	1950		4,153	8 D	37.6								THE 35 WELLS INCLUDE 13 RICHFIELD, 13 SOUR ZONE AND 9 RICHFIELD AND SOUR ZONE					
				DEEP RIVER TWP., 19N-4E, SECTIONS 9, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23																
●	STOCKBRIDGE 6-1N-2E	A-1 CARBONATE	1972	INGHAM	3,960	12 D	33.6	CLINTON	4,471	1	0	0	1	80	0	1,391			17	TO PLUG
				STOCKBRIDGE TWP., 1N-2E, SECTION 6																
◐	STONY LAKE	"BEREA"	1949	OCEANA	930	1 SL	48.0	NIAGARAN	3,837	2	ABANDONED 1965				PRODUCTION COMBINED WITH STONY LAKE TRAVERSE					
●		TRAVERSE	1946		1,630	19 L	44.9			78	0	0	15	1,540	4,764	7,547,380			4,901	1,250
				CLAYBANKS TWP., 13N-18W, SECTIONS 9, 10, 11, 14, 15, 16																
◐	SUMMERFIELD	TRENT.-BLK. RIVER	1958	MONROE-LENAWEE	1,940	10 DL		TRENT.-BLK. RIVER	2,382	2	ABANDONED 1964			20		2,142			107	
				SUMMERFIELD TWP., 7S-6E, SECTION 30 DEERFIELD TWP., 7S-5E, SECTION 24																
●	SUMNER	TRAVERSE	1953	GRATIOT	2,853	1 L	44.5	DUNDEE	3,366	35	0	0	18	350	521	1,081,871			3,091	
				SUMNER TWP., 11N-4W, SECTIONS 11, 12																
☼	SURREY	MICHIGAN STRAY	1945	CLARE	1,460	3 S		DUNDEE	4,000	?	0	0	2	320				12,667	DOMESTIC USE	
				SURREY TWP., 17N-5W, SECTIONS 23, 24																
⊕	SWAN CREEK	REFER TO TABLE 3 DEVELOPED GAS STORAGE RESERVOIRS																		
☼	SYLVAN	MICHIGAN STRAY	1941	OSCEOLA	1,525	10 S		DETROIT RIVER	4,100	1	ABANDONED 1953			40				80,714		
●		DUNDEE	1948		3,925	13.7 D	48.0			11	0	0	2	440	0	1,190,061			2,705	
				SYLVAN TWP., 1S-7W, SECTION 7 (MICHIGAN STRAY) SECTIONS 8, 9, 16 (DUNDEE)																
☼	TAYMOUTH	TRAVERSE	1957	SAGINAW	2,085	6 L		TRAVERSE	2,135	1	0	0	1	160	0	318			DOMESTIC USE	
				TAYMOUTH TWP., 10N-5E, SECTION 11																
◐	TEKONSHA	TRENTON	1959	CALHOUN	3,553	? DL	34.5	PRAIRIE DU CHIEN	4,147	2	ABANDONED 1969			30		18,785			626	
				TEKONSHA TWP., 4S-6W, SECTION 17																
◐	THOMPSON CORNERS	TRAVERSE	1968	NEWAYGO	2,138	2 L		TRAVERSE	2,140	1	ABANDONED 1973			40	0	9,374			234	
				BEAVER TWP., 15N-14W, SECTION 30																
◐	THORNAPPLE, SEC. 4	TRAVERSE	1952	BARRY	1,951	2 L		TRAVERSE	1,973	2	ABANDONED 1961			20		2,716			136	
				THORNAPPLE TWP., 4N-10W, SECTIONS 3, 4																

POOL CLASSIFICATION

● ACTIVE OIL FIELD OR POOL
◐ ABANDONED OIL FIELD OR POOL
☼ ACTIVE GAS FIELD OR POOL
☼ ABANDONED GAS FIELD OR POOL
☼ GAS-CONDENSATE FIELD OR POOL
☼ ABANDONED GAS-CONDENSATE FIELD OR POOL
⊕ GAS STORAGE RESERVOIR
⊖ UNDEVELOPED GAS STORAGE RESERVOIR

	FIELD NAME	PRODUCING FORMATION OR POOL	YEAR OF DISC.	COUNTY TOWNSHIP / PRODUCING SECTIONS	PAY ZONE DEPTH IN FEET	PAY ZONE THICKNESS AND LITHOLOGY	PAY ZONE OIL GRAVITY A.P.I.	DEEPEST FORMATION OR POOL TESTED	DEPTH IN FEET	NUMBER OF WELLS 1973 TO END	COMP. IN	ABAND. IN	ACTIVE AT END	DRILLED ACRES	OIL PRODUCTION—BBLS. PRODUCED IN 1973	OIL PRODUCTION—BBLS. CUMULATIVE THROUGH 1973	GAS PRODUCTION—Mcf. PRODUCED IN 1973	GAS PRODUCTION—Mcf. CUMULATIVE THROUGH 1973	RECOVERY PER ACRE DRILLED (BBLS.)	TOTAL BARRELS BRINE PER DAY
◐	TRENT	TRAVERSE	1949	MUSKEGON	2,039	1 L		TRAVERSE	2,118	2	ABANDONED 1969			40		30,971			769	
				CASNOVIA TWP., 10N-13W, SECTION 19																
●	TROWBRIDGE	TRAVERSE	1937	ALLEGAN	1,358	2 L	41.2	CINCINNATIAN	2,952	162	0	1	6	1,840	1,134	521,408			283	24
				TROWBRIDGE TWP., 1N-13W, SECTIONS 1, 3 THROUGH 10, 12, 13, 15 THROUGH 23, 27, 28, 29, 30, 31, 32 OTSEGO TWP., 1N-12W, SECTIONS 7, 18																
☼	TURK LAKE	MICHIGAN STRAY	1947	MONTCALM	1,081	4 S		DETROIT RIVER	3,413	4	0	0	2	640					DOMESTIC USE	
				MONTCALM TWP., 10N-8W, SECTIONS 9, 10, 14																
◐	TYRONE	TRAVERSE	1952	KENT	2,379	2 L		DETROIT RIVER	2,900	7	ABANDONED 1956			140		31,558			225	
				TYRONE TWP., 10N-12W, SECTIONS 10, 11, 14																
●	UNION	TRAVERSE	1950	ISABELLA	3,191	2 L		DETROIT RIVER	4,096	1	ABANDONED 1963			20		58,263		55,354	2,913	
				UNION TWP., 14N-4W, SECTION 20																
☼	UNION, SEC. 6	MICHIGAN STRAY	1965	ISABELLA	1,382	3 S		DUNDEE	3,777	2	0	0	2	240		SHUT-IN				
				UNION TWP., 14N-4W, SECTION 6																
☼	UNION 1-26N-9W	NIAGARAN REEF	1972	GRAND TRAVERSE	6,360	78 D		NIAGARAN	6,865	1	0	0	1	160	0	0	SHUT-IN			
				UNION TWP., 26N-9W, SECTION 1																
☼	UNION 3-26N-9W	NIAGARAN REEF	1972	GRAND TRAVERSE	6,514	14 D	62.3	NIAGARAN	6,878	2	1	0	2	320	30	156			1	
				UNION TWP., 26N-9W, SECTION 3																
☼	UNION 5-26N-9W	NIAGARAN REEF	1973	GRAND TRAVERSE	6,070	19 D	68.2	NIAGARAN	6,440	1	1	0	1	160	0					
				UNION TWP., 26N-9W, SECTION 5															
☼	UNION 8-26N-9W (MUNCIE LAKES)	NIAGARAN REEF	1970	GRAND TRAVERSE	6,267	97 D	COND.	NIAGARAN	6,666	1	0	0	1	160	17,356	17,356	769,987	778,022	108	
				UNION TWP., 26N-9W, SECTION 8																
☼	UNION 11-26N-9W	NIAGARAN REEF	1972	GRAND TRAVERSE	6,580	118 D	61	NIAGARAN	6,802	1	0	0	1	160	0	0				
				UNION TWP., 26N-9W, SECTION 11																
☼	UNION 12-26N-9W (SOUTH BOARDMAN)	NIAGARAN REEF	1969	GRAND TRAVERSE	6,779	50 D	57.9 COND.	NIAGARAN	6,922	1	0	0	1	160	0	0	0	79,105		
				UNION TWP., 26N-9W, SECTION 12																
☼	UNION 14-26N-9W	NIAGARAN REEF	1973	GRAND TRAVERSE	6,660	24 D	59.0	NIAGARAN	6,860	1	1	0	1	160	75	75			1	
				UNION TWP., 26N-9W, SECTION 14																
☼	UNION 18-26N-9W	NIAGARAN REEF	1973	GRAND TRAVERSE	6,298	14 D	59.3	NIAGARAN	6,471	1	1	0	1	160	0	0				
				UNION TWP., 26N-9W, SECTION 18																
●	VERNON	DUNDEE	1930	ISABELLA	3,755	3 DL	38.6	BOIS BLANC	5,118	78	0	2	1	890	455	5,043,794			5,667	150
				VERNON TWP., 16N-4W, SECTIONS 15, 16, 21, 22, 23, 26, 27																
☼	VERNON	MICHIGAN STRAY	1939	ISABELLA	1,300	2 S		DETROIT RIVER	3,907	25	ABANDONED 1956			920				1,464,249		
				VERNON TWP., 16N-4W, SECTIONS 25, 26, 35, 36 ISABELLA TWP., 15N-4W, SECTION 1																
●	VEVAY 16-2N-1W (MASON)	NIAGARAN REEF	1970	INGHAM	4,165	39 D	49.4	CLINTON	4,555	2	0	0	2	120	22,769	106,694	109,269	214,620	889	
				VEVAY TWP., 2N-1W, SECTION 16																
●	VEVAY 17-2N-1W	NIAGARAN REEF	1972	INGHAM	4,162	12 D		NIAGARAN	4,300	2	1	0	2	160	495	5,720			36	
				VEVAY TWP., 2N-1W, SECTION 17																
●	VEVAY 19-2N-1W	TRAVERSE	1971	INGHAM	2,141	65 L	37	CINCINNATIAN	4,600	2	ABANDONED 1972			80	0	12,930			162	
☼	NIAGARAN POOL A	NIAGARAN REEF	1971		3,942	24 D				2	0	0	2	320	47,412	65,962	648,097	2,127,244	206	
●	NIAGARAN POOL B	NIAGARAN REEF								4	0	0	4	640	43,133	75,301	529,974	1,181,634	118	
●	NIAGARAN POOL C	NIAGARAN REEF								1	0	0	1	160	2,628	6,010	27,283	46,195	38	
	FIELD DECLARED TO HAVE 3 SEPARATE RESERVOIRS OR POOLS (ORDER NO. 2-1-73)			POOL (A) INCLUDES THE F. MILLER AND A. IMLAY WELLS LOCATED IN THE SE¼ OF SECTION 24, T.2N., R.2W., AND THE SW¼ OF SECTION 19, T.2N., R.1W.						POOL (B) INCLUDES THE CARTER, LYON, DART, AND KRANZ WELLS LOCATED IN THE N½ OF SECTION 19 AND THE SE OF SECTION 18, T.2N., R.1W.								POOL (C) INCLUDES THE LOVETTE WELL LOCATED IN THE SW¼ OF THE NE¼ OF SECTION 18, T.2N., R.1W.		
				VEVAY TWP., 2N-1W, SECTIONS 18, 19 AURELIUS TWP., 2N-2W, SECTION 24																
●	VEVAY 20-2N-1W	NIAGARAN REEF	1972	INGHAM	3,939	2 D		PRAIRIE DU CHIEN	5,985	1	0	0	1	80	4,579	7,649	31,144	83,488	96	
				VEVAY TWP., 2N-1W, SECTION 20																
☼	VICTORY 7-19N-17W	NIAGARAN REEF	1973	MASON	4,052	369 D	61.2	NIAGARAN	4,730	1	1	0	1	160	50	50				
				VICTORY TWP., 19N-17W, SECTION 7																
◐	VICTORY, SEC. 10	TRAVERSE	1957	MASON	1,603	9 L	36.0	TRAVERSE	1,616	1	ABANDONED 1958			10		580			58	DOMESTIC USE
				VICTORY TWP., 19N-17W, SECTION 10 NONCOMMERCIAL GAS PRODUCTION IN BASE OF GLACIAL DRIFT																
●	VICTORY 18-19N-17W	NIAGARAN REEF	1973	MASON	4,344	22 D		NIAGARAN	4,580	1	1	0	1	80	1,029	1,029			13	
				VICTORY TWP., 19N-17W, SECTION 18																
●	VICTORY 19-19N-17W	NIAGARAN REEF	1972	MASON	4,387	14 D		NIAGARAN	4,537	2	1	0	1	160	9,811	10,210			64	
				VICTORY TWP., 19N-17W, SECTION 19																
●	VOGEL CENTER	DUNDEE	1966	MISSAUKEE	3,892	3 L		DUNDEE	3,895	2	0	0	2	80	2,480	41,239			515	200
				CLAM UNION TWP., 21N-6W, SECTION 32																
●	WALKER	"BEREA"	1940	KENT-OTTAWA	1,121	21 SL		ST. PETER SS.	5,222											
●		TRAVERSE	1938		1,872	8 L	36.0			782	0	1	353	8,560	106,281	16,734,957		3,678,731	1,955	90
													THE 353 WELLS INCLUDE 350 TRAVERSE AND 3 "BEREA"							
●		DETROIT RIVER	1957		2,132	12 D				1	0	0	1	10						1
☼		"BEREA", TRAVERSE & DETROIT RIVER								5	0	0	5	THE 5 WELLS INCLUDE 3 BEREA, 1 DETROIT RIVER & 1 TRAVERSE		10,560	1,302,828	DOMESTIC USE & LEASE FUEL		
				WALKER TWP., 7N-12W, SECTIONS 19, 20, 27, 28, 29, 30, 31, 32, 33, 34 WALKER TWP., 6N-12W, SECTIONS 3, 4, 5, 6 WYOMING TWP., 6N-12W, SECTIONS 2, 3, 4, 7, 8																
				TALLMADGE TWP., 7N-13W, SECTIONS 14, 15, 22 THROUGH 28, 33, 34, 35, 36 TALLMADGE TWP., 6N-13W, SECTIONS 1, 12 GEORGETOWN TWP., 6N-13W, SECTIONS 1, 2 GEORGETOWN TWP., 7N-13W, SECTION 35																
●	WAYLAND	TRAVERSE	1944	ALLEGAN	1,799	6 L	36.0	TRENT.-BLK. RIVER	4,400	54	0	0	2	530	558	264,014			498	1
●		SALINA	1960		3,132	12 D	28.0			31	0	1	28	1,240	50,177	1,289,138			1,040	
				WAYLAND TWP., 3N-11W, SECTIONS E½ 8, 9, 16, 17, 18, 20, 21																

POOL CLASSIFICATION

- ● ACTIVE OIL FIELD OR POOL
- ● ABANDONED OIL FIELD OR POOL
- ☼ ACTIVE GAS FIELD OR POOL
- ☼ ABANDONED GAS FIELD OR POOL
- ☼ GAS-CONDENSATE FIELD OR POOL
- ☼ ABANDONED GAS-CONDENSATE FIELD OR POOL
- ⊕ GAS STORAGE RESERVOIR
- ⊖ UNDEVELOPED GAS STORAGE RESERVOIR

	FIELD NAME	PRODUCING FORMATION OR POOL	YEAR OF DISC.	COUNTY TOWNSHIP / PRODUCING SECTIONS	PAY ZONE DEPTH IN FEET	PAY ZONE THICKNESS AND LITHOLOGY	PAY ZONE OIL GRAVITY A.P.I.	DEEPEST FORMATION OR POOL TESTED	DEPTH IN FEET	NUMBER OF WELLS TO END	NUMBER OF WELLS COMP. IN 1973	NUMBER OF WELLS ABAND. IN 1973	NUMBER OF WELLS ACTIVE AT END	DRILLED ACRES	OIL PRODUCTION—BBLS. PRODUCED IN 1973	OIL PRODUCTION—BBLS. CUMULATIVE THROUGH 1973	GAS PRODUCTION—Mcf. PRODUCED IN 1973	GAS PRODUCTION—Mcf. CUMULATIVE THROUGH 1973	RECOVERY PER ACRE DRILLED (BBLS.)	TOTAL BARRELS BRINE PER DAY
●	WAYLAND, NORTH	TRAVERSE	1957	ALLEGAN	1,696	7 L		TRAVERSE	1,712	15	0	0	5	150	1,825	110,554			737	
	WAYLAND TWP., 3N-11W, SECTIONS 6, 7, NWA 8																			
●	WEARE	TRAVERSE	1961	OCEANA	1,583	2 L		TRAVERSE	1,737	3	ABANDONED 1964			30		6,919			231	
	WEARE TWP., 16N-17W, SECTIONS 12, 13																			
●	WEARE, SEC. 14	TRAVERSE	1952	OCEANA	1,674	1 L	41.4	DUNDEE	2,217	1	ABANDONED 1954			10		1,096			110	
	WEARE TWP., 16N-17W, SECTION 14																			
●	WEST BRANCH	TRAVERSE	1933	OGEMAW	1,796	2 L		CAMBRO-ORDOVICIAN	11,012					PRODUCTION COMBINED WITH WEST BRANCH DUNDEE			SOME TRAVERSE OIL PRODUCED IN CONNECTION WITH WATER FLOOD PROJECT			
●		DUNDEE	1933		2,650	20 L	36.8			277	0	1	162	2,750	133,343	9,084,464			3,303	1,300
●		DETROIT RIVER SZ	1951		3,585	9 D	38.9 }							THE 162 WELLS INCLUDE 160 DUNDEE AND 2 TRAVERSE						
●		RICHFIELD	1952		4,127		33.0 }			63	0	0	61	2,520	62,749	2,976,908		61,430	1,181	4
	THE 61 WELLS INCLUDE 30 RICHFIELD, 26 SOUR ZONE, AND 5 RICHFIELD & SOUR ZONE																			
	WEST BRANCH TWP., 22N-2E, SECTIONS 18, 19, 20, 21, 26, 27, 28, 29, 34, 35, 36 OGEMAW TWP., 22N-1E, SECTIONS 10, 13, 14, 23, 24 CHURCHILL TWP., 22N-3E, SECTION 31																			
	HORTON TWP., 21N-2E, SECTIONS 1, 2 MILLS TWP., 21N-3E, SECTIONS 5, 6																			
☼	WEXFORD 9-24N-12W	NIAGARAN REEF	1973	WEXFORD	6,232	4 D		NIAGARAN	6,265	1	1	0	1	160	240	240			2	
	WEXFORD TWP., 24N-12W, SECTION 9																			
☼	WEXFORD 9-24N-12W POOL A	NIAGARAN REEF	1973	WEXFORD	6,041	101 D	69.8	NIAGARAN	6,414	1	1	0	1	160						
	WEXFORD TWP., 24N-12W, SECTION 9																			
☼	WEXFORD 10-24N-12W	NIAGARAN REEF	1972	WEXFORD	6,124	107 D		NIAGARAN	6,352	1	0	0	1	160	1,054	1,185	21,643	21,643	7	
	WEXFORD TWP., 24N-12W, SECTION 10																			
☼	WEXFORD 18-24N-12W	NIAGARAN	1973	WEXFORD	5,842	96 D		NIAGARAN	6,130	2	2	0	2	320	55	55				
	WEXFORD TWP., 24N-12W, SECTION 18																			
☼	WHEATLAND	MICHIGAN STRAY	1947	MECOSTA	1,399	3 S		DETROIT RIVER	3,849	4	0	0	1	160				506,369	DOMESTIC USE	
●		DUNDEE	1945		3,690	2 L	43.0			6	ABANDONED 1960			100		141,631			1,416	
	WHEATLAND TWP., 14N-7W, SECTIONS 7, 8, 9																			
●	WHITE CLOUD	TRAVERSE	1963	NEWAYGO	2,537	1 L		TRAVERSE	2,540	1	ABANDONED 1964			40		1,295			32	
	WILCOX TWP., 14N-12W, SECTION 19																			
●	WHITE OAK 32-2N-2E	SALINA-NIAGARAN REEF	1973	INGHAM	3,970	8 D		CATARACT	4,515	1	1	0	1	80	7,350	7,350			92	
	WHITE OAK TWP., 2N-2E, SECTION 32																			
●	WHITE RIVER	DUNDEE	1950	MUSKEGON	2,053	2 L	28.0	DUNDEE	2,055	1	ABANDONED 1951			20		7,061			353	
	WHITE RIVER TWP., 12N-18W, SECTION 15																			
☼	WHITEWATER 22-27N-9W	NIAGARAN REEF	1973	GRAND TRAVERSE				NIAGARAN		1	1	0	1	160	8,469	8,469				
	WHITEWATER TWP., 27N-9W, SECTION 22																			
●	WHITEWATER 32-27N-9W	NIAGARAN REEF	1972	GRAND TRAVERSE	6,100	10 D	44.3	NIAGARAN	6,260	1	0	0	1	80	52,331	58,714	34,787	34,787	734	
	WHITEWATER TWP., 27N-9W, SECTION 32																			
●	WHITEWATER 34-27N-9W	NIAGARAN REEF	1972	GRAND TRAVERSE	6,292	16 D	44.9	NIAGARAN	6,580	1	0	0	1	80	18,573	25,321	3,191	3,191	317	
	WHITEWATER TWP., 27N-9W, SECTION 34																			
●	WHITEWATER 35-27N-9W	NIAGARAN REEF	1972	GRAND TRAVERSE	6,270	60 D	39	NIAGARAN	6,770	1	0	0	1	80	30,391	36,549	5,657	5,657	457	
	WHITEWATER TWP., 27N-9W, SECTION 35																			
☼	WHITEWATER 36-27N-9W	NIAGARAN REEF	1971	GRAND TRAVERSE	6,560	40 D	66	NIAGARAN	6,750	1	0	0	1	160	29,441	60,313	2,522,365	3,565,872	377	
	WHITEWATER TWP., 27N-9W, SECTION 36																			
●	WILEY	TRAVERSE	1962	MASON	1,663	5 L	39.9	ST. PETER SS.	5,890	18	0	0	9	380	2,013	422,985			1,113	102
	EDEN TWP., 17N-16W, SECTION 18 RIVERTON TWP., 17N-17W, SECTION 12																			
●	WINFIELD	DUNDEE-REED CITY	1936	MONTCALM	3,340	1 L	43.2	REED CITY	3,500	8	0	0	2	120	992	117,546			980	40
	WINFIELD TWP., 12N-9W, SECTIONS 20, 28, 29																			
⊕	WINFIELD	REFER TO TABLE 3 DEVELOPED GAS STORAGE RESERVOIRS																		
●	WINTERFIELD	TRAVERSE	1940	CLARE	3,105	1 L		SYLVANIA	5,273 }					260	5,999		61,636	265,215		1
●		DUNDEE	1940		3,794	3 L	44.2		}					740	3,131					1,400
●		RICHFIELD	1942		5,015	15 D			} 50	0	0	13	100	16,956	5,245,098				4,768	
	WINTERFIELD TWP., 20N-6W, SECTIONS 28 THROUGH 32, 35, 36 REDDING TWP., 19N-6W, SECTIONS 1, 5 GREENWOOD TWP., 19N-5W, SECTION 6 THE 13 WELLS INCLUDE 8 TRAVERSE, 4 DUNDEE & 1 TRAVERSE & RICHFIELD																			
☼	WISE	MICHIGAN STRAY	1940	ISABELLA	1,250	5 S		SYLVANIA	5,205	?	0	0	5	1,280			0	1,705,139	DOMESTIC USE & LEASE FUEL	
●		TRAVERSE	1953		3,090	31 L	43.0 }								461					
●		DUNDEE	1938		3,700	11 L	45.2 }			79	0	0	24	1,640	6,455	3,959,059			2,414	1,628
●		DETROIT RIVER SZ	1955		4,415	48 DL	42.6			2	0	0	1	80	768	59,719			746	30
	WISE TWP., 16N-3W, SECTIONS 8, 9, 16, 17, 20, 21, 28, 29, 32, 33 THE 24 WELLS INCLUDE 18 DUNDEE, 1 STRAY, 4 TRAVERSE AND DUNDEE AND 1 DUNDEE AND DETROIT RIVER																			
☼	WOLF LAKE	"BEREA"	1949	MUSKEGON	1,050	7 D		DETROIT RIVER	2,250	2	ABANDONED 1956			320				99,756		
●		TRAVERSE	1968		1,741	23 L				3	0	0	2	60	0	4,614			77	
	EGELSTON TWP., 10N-15W, SECTIONS 7, 8, 18 MUSKEGON TWP., 10N-16W, SECTION 13																			
☼	WOODSTOCK	TRAVERSE	1969	LENAWEE	1,465	2 L		TRAVERSE	1,467	2	0	0	1	80			SHUT-IN FOR MARKET			
	WOODSTOCK TWP., 5S-7E, SECTION 18																			
●	WOODVILLE	TRAVERSE	1943	NEWAYGO	2,820	5 L	43.5	DETROIT RIVER	3,534	10	0	0	10	350	5,123	561,665			1,605	50
	NORWICH TWP., 15N-11W, SECTIONS 20, 28, 29																			
⊕	WOODVILLE (NORWICH)	REFER TO TABLE 3 DEVELOPED GAS STORAGE RESERVOIRS																		
●	WRIGHT	"BEREA"	1954	OTTAWA	1,170	3 L		DETROIT RIVER	2,337	7	0	0	4	60	0	47,302	SHUT-IN -- LACK OF STORAGE		788	
●		TRAVERSE	1953	OTTAWA	1,920	1 L				7	0	0	2	70	0	18,158			259	
	WRIGHT TWP., 8N-13W, SECTIONS 28, 32, 33 TALLMADGE TWP., 7N-13W, SECTION 4																			

POOL CLASSIFICATION

- ● ACTIVE OIL FIELD OR POOL
- ● ABANDONED OIL FIELD OR POOL
- ☼ ACTIVE GAS FIELD OR POOL
- ☼ ABANDONED GAS FIELD OR POOL
- ☼ GAS-CONDENSATE FIELD OR POOL
- ☼ ABANDONED GAS-CONDENSATE FIELD OR POOL
- ⊕ GAS STORAGE RESERVOIR
- ⊖ UNDEVELOPED GAS STORAGE RESERVOIR

	FIELD NAME	PRODUCING FORMATION OR POOL	YEAR OF DISC.	COUNTY TOWNSHIP / PRODUCING SECTIONS	PAY ZONE DEPTH IN FEET	PAY ZONE THICKNESS AND LITHOLOGY	PAY ZONE OIL GRAVITY A.P.I.	DEEPEST FORMATION OR POOL TESTED	DEPTH IN FEET	NUMBER OF WELLS TO END	NUMBER OF WELLS COMP. IN 1973	NUMBER OF WELLS ABAND. IN 1973	NUMBER OF WELLS ACTIVE AT END	DRILLED ACRES	OIL PRODUCTION—BBLS. PRODUCED IN 1973	OIL PRODUCTION—BBLS. CUMULATIVE THROUGH 1973	GAS PRODUCTION—Mcf. PRODUCED IN 1973	GAS PRODUCTION—Mcf. CUMULATIVE THROUGH 1973	RECOVERY PER ACRE DRILLED (BBLS.)	TOTAL BARRELS BRINE PER DAY
●	WYOMING PARK	TRAVERSE	1939	KENT	1,870	6 L	39.0	DETROIT RIVER	2,255	21	ABANDONED 1970			300		157,873			526	
	WYOMING TWP., 6N-12W, SECTIONS 13, 14, 23																			
☼	YANKEE	NIAGARAN REEF	1963	ST. CLAIR	2,620	20 D		CLINTON	2,829	2	0	0	2	80			291,797	351,996		
	ST. CLAIR TWP., 5N-16E, SECTION 25																			
☼	ZEELAND	"BEREA"	1946	OTTAWA	945	9 D		NIAGARAN	3,388	7	0	0	1	280					DOMESTIC USE	
	ZEELAND TWP., 5N-14W, SECTIONS 2, 11, 12, 13, 14																			
●	ZEELAND	TRAVERSE	1942	OTTAWA	1,514	3 L	41.9	NIAGARAN	3,052	21	ABANDONED 1967			400		310,085			775	
●		SALINA	1958		2,792	5 D	20.5			1	ABANDONED 1962			10		1,606			161	
	ZEELAND TWP., 5N-14W, SECTIONS 25, 30, 31, 32, 36 HOLLAND TWP., 5N-15W, SECTIONS E½ 35, 36 (TRAVERSE) ZEELAND TWP., 5N-14W, SECTION 29 (SALINA)																			
●	ZEELAND, SEC. 28	TRAVERSE	1954	OTTAWA	1,491	1 L		DETROIT RIVER	2,215	3	ABANDONED 1956			30		4,437			148	
	ZEELAND TWP., 5N-14W, SECTIONS 21, 28																			
					TOTALS					313,665	14,529,952	628,233,391	43,703,215	800,883,196					121,008	

CHANGES IN FIELD NAMES

HISTORICALLY, WITH FEW EXCEPTIONS, MICHIGAN OIL AND GAS FIELDS HAVE BEEN NAMED AFTER NEARBY GEOGRAPHIC ENTITIES SUCH AS TOWNS, VILLAGES, LAKES AND TOWNSHIP NAMES. DUE TO NUMEROUS NIAGARAN REEF DISCOVERIES WITHIN RELATIVELY SMALL AREAS AND A LACK OF SUITABLE IDENTIFYING NAMES FOR THOSE IN NORTHERN MICHIGAN AND POSSIBLY THOSE IN SOUTHERN MICHIGAN IN FUTURE YEARS, THE NAMING SYSTEM HAS BEEN MODIFIED. STARTING IN 1971, MOST NEW NIAGARAN REEF FIELDS WERE NAMED ACCORDING TO TOWNSHIP NAME, FOLLOWED BY THE SECTION NUMBER FOR THE DISCOVERY WELL, AND THEN BY NUMERICAL TOWN AND RANGE. SEPARATE POOLS OR RESERVOIRS OCCURRING IN THE SAME FIELD ARE DESIGNATED POOL A, B, C AS NECESSARY.

LISTING OF A SECTION OR PART OF A SECTION DOES NOT NECESSARILY MEAN THE ENTIRE SECTION TO BE PRODUCTIVE OF OIL OR GAS IN ANY OR ALL POTENTIALLY PRODUCTIVE FORMATIONS. ONLY THOSE SECTIONS OR PARTS OF SECTIONS WHICH HAVE HAD AT LEAST ONE WELL COMPLETED AS AN OIL OR GAS WELL ARE LISTED.

THE FIGURE (311,300 ACRES) SHOWN IN THIS BLOCK FOR 1972 WAS INCORRECT, THE ACREAGE FOR THE ALBION-PULASKI-SCIPIO TREND HAVING BEEN ADDED TWICE. ADDITIONAL DRILLED ACREAGE FOR 1973 AMOUNTS TO 13,515 ACRES.

TOTAL BARRELS OF BRINE PRODUCED PER DAY

INCLUDES GAS FROM ABANDONED FIELDS OR POOLS.

INCLUDES 3,050,143 MCF OF UNASSIGNED GAS FROM EARLY RECORDS.

CHARACTERISTIC LOG CURVES FOR THE HAMLIN 8, 1N, 3W AND CHESTER 10, 30N, 2W POOL A SALINA-NIAGARAN REEFS (LOGS ARE SCHLUMBERGER BOREHOLE COMPENSATED SONIC LOG - GAMMA RAY 'WITH CALIPER').

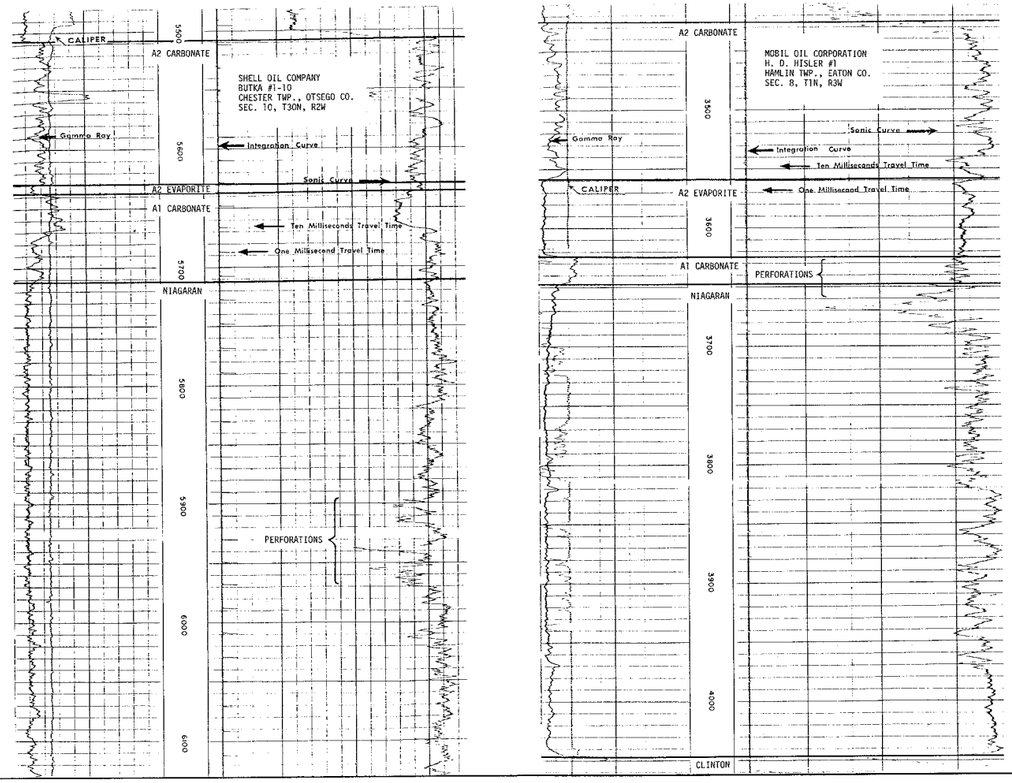


TABLE 3 DEVELOPED GAS STORAGE RESERVOIRS

POOL CLASSIFICATION

- ● ACTIVE OIL FIELD OR POOL
- ◐ ABANDONED OIL FIELD OR POOL
- ☼ ACTIVE GAS FIELD OR POOL
- ☼ ABANDONED GAS FIELD OR POOL
- ☼ GAS-CONDENSATE FIELD OR POOL
- ☼ ABANDONED GAS-CONDENSATE FIELD OR POOL
- ⊕ GAS STORAGE RESERVOIR
- ⊖ UNDEVELOPED GAS STORAGE RESERVOIR

	FIELD NAME	PRODUCING FORMATION OR POOL	YEAR OF DISC.	COUNTY TOWNSHIP / PRODUCING SECTIONS	PAY ZONE DEPTH IN FEET	PAY ZONE THICKNESS AND LITHOLOGY	PAY ZONE OIL GRAVITY A.P.I.	DEEPEST FORMATION OR POOL TESTED	DEPTH IN FEET	NUMBER OF WELLS TO END	NUMBER OF WELLS COMP. IN 1973	NUMBER OF WELLS ABAND. IN 1973	NUMBER OF WELLS ACTIVE AT END	DRILLED ACRES	OIL PRODUCTION—BBLS. PRODUCED IN 1973	OIL PRODUCTION—BBLS. CUMULATIVE THROUGH 1973	GAS PRODUCTION—Mcf. PRODUCED IN 1973	GAS PRODUCTION—Mcf. CUMULATIVE THROUGH 1973	RECOVERY PER ACRE DRILLED (BBLS.)	TOTAL BARRELS BRINE PER DAY
⊕	AUSTIN	MICHIGAN STRAY	1933	MECOSTA	1,380	14 S		DETROIT RIVER	4,043		0	0	90	3,970				6,109,033		
	AUSTIN TWP., 14N-9W, SECTIONS 2, 3, 4, 9, 10, 11, 12, 13, 14 COLFAX TWP., 15N-9W, SECTIONS 32, 33 MORTON TWP., 14N-8W, SECTIONS 6, 7																			
⊕	BELLE RIVER MILLS	SALINA-NIAGARAN	1961	ST. CLAIR	2,215	305 D		CLINTON	2,694		0	0	43	840		1,212	0	23,977,840		
	CHINA TWP., 4N-16E, SECTIONS 11, 14, 15																			
⊕	COLUMBUS	SALINA-NIAGARAN	1964	ST. CLAIR	2,738	190 D		CLINTON	3,232		0	0	20	320				13,331,738		
	COLUMBUS TWP., 5N-15E, SECTIONS 15, 16, 21, 22																			
⊕	COLDWATER	MICHIGAN STRAY	1945	ISABELLA	1,390	10 S		SYLVANIA	5,090		0	0	66	2,400				7,382,794		
	COLDWATER TWP., 16N-6W, SECTIONS 28 THROUGH 33 SHERMAN TWP., 15N-6W, SECTION 6																			
⊕	CRANBERRY LAKE	MICHIGAN STRAY	1943	CLARE-MISSAUKEE	1,321	10 S		RICHFIELD	5,201		0	0	171	7,000				7,537,451		
	SUMMERFIELD TWP., 20N-5W, SECTIONS 4, 5, 6, 7, 8, 9, 15, 16, 17, 18, 22, 23 WINTERFIELD TWP., 20N-6W, SECTIONS 1, 2, 3, 10, 11, 12 CLAM UNION TWP., 21N-6W, SECTIONS 25, 34, 35																			
⊕	CROTON	MARSHALL	1951	NEWAYGO	917	4 S		SALINA	3,993		14	0	59	860				1,320,835		
	CROTON TWP., 12N-11W, SECTIONS 29, 32																			
⊕	FREEMAN-LINCOLN	MICHIGAN STRAY	1938	CLARE	1,500	10 S		DETROIT RIVER	3,957		24	0	171	6,600				18,099,490		
	LINCOLN TWP., 18N-5W, SECTIONS 7, 16, 17, 18, 19, 20, 21, 27, 28, 29 FREEMAN TWP., 18N-6W, SECTIONS 2, 3, 4, 9, 10, 11, 13, 14, 15, 23, 24																			
⊕	FOUR CORNERS	SALINA-NIAGARAN	1966	ST. CLAIR	2,205	212 D		CLINTON	2,638		0	0	5	80				1,102,328		
	CASCO TWP., 4N-15E, SECTION 36 IRA TWP., 3N-15E, SECTION 1																			
⊕	GOODWELL	MICHIGAN STRAY	1943	NEWAYGO	1,142	20 S		DETROIT RIVER	3,362		0	0	65	3,020				5,875,670		
	GOODWELL TWP., 14N-11W, SECTIONS 5, 6, 7, 8, 9, 16, 17 WILCOX TWP., 14N-12W, SECTION 1 NORWICH TWP., 15N-11W, SECTION 31 MONROE TWP., 15N-12W, SECTION 36																			
⊕	HAMILTON, NORTH	MICHIGAN STRAY-MARSHALL	1952	CLARE	1,487	8 S		RICHFIELD	5,395		0	0	62	3,040				5,450,065		
	HAMILTON TWP., 19N-3W, SECTIONS 5, 6, 7, 8 HAYES TWP., 19N-4W, SECTION 1 FROST TWP., 20N-4W, SECTIONS 35, 36																			
⊕	HOWELL	SALINA-NIAGARAN	1935	LIVINGSTON	3,920	9 D		ST. PETER SS.	5,958		0	0	69	2,400				23,678,120		
	GENOA TWP., 2N-5E, SECTIONS 5, 6, 7, 8, 17 MARION TWP., 2N-4E, SECTIONS 1, 2, 12 HOWELL TWP., 3N-4E, SECTION 35																			
⊕	IRA	SALINA-NIAGARAN	1953	ST. CLAIR	2,276	33 D		CLINTON	2,632		0	0	15	680				3,498,666		
	IRA TWP., 3N-15E, SECTIONS 1, 2, 11																			
⊕	LACEY STATION	A-2 SALT SOLUTION CAVERN	1971	BARRY				CAMBRIAN		2	1		2							
	JOHNSTOWN TWP., 1N-8W, SECTION 14																			
⊕	LEE 16	SALINA-NIAGARAN		CALHOUN	3,200					1	-	-	-							
	LEE 16 STORAGE AREA CREATED BY SPACING ORDER OF MARCH 30, 1973. INCLUDES SE¼ AND S½NE, SECTION 16, NW OF SWK AND W½ SW SWK OF SECTION 15, T.1S, 5W																			
⊕	LENOX	SALINA-NIAGARAN	1960	MACOMB	2,734	46 D		CLINTON	3,018		0	0	11	300		2,565		2,152,679		
	LENOX TWP., 4N-14E, SECTION 32 CHESTERFIELD TWP., 3N-14E, SECTION 5																			
⊕	MARION (WINTERFIELD)	MICHIGAN STRAY	1940	CLARE-OSCEOLA	1,344	15 S		SYLVANIA	5,100		0	0	283	10,720				20,084,934		
	WINTERFIELD TWP., 20N-6W, SECTIONS 17 THROUGH 21, 27 THROUGH 35 REDDING TWP., 19N-6W, SECTIONS 1, 2, 3, 4, 6 MARION TWP., 20N-7W, SECTIONS 24, 25, 36 MIDDLE BRANCH TWP., 19N-7W, SECTION 1																			
⊕	MARYSVILLE	SEE FOOTNOTE FOR GAS STORAGE FIELDS ON NEXT PAGE.																		
⊕	NORTHVILLE	TRENT.-BLK. RIVER	1954	WAYNE-WASHTENAW	4,395	70 D		CAMBRO-ORDOVICIAN	5,850		1	0	70	2,825+				18,126,876		
!	FOR LOCATION SEE NORTHVILLE, TABLE 2																	INCLUDES BOTH SALINA-NIAGARAN & TRENTON GAS		
⊕	ORIENT	MICHIGAN STRAY	1945	OSCEOLA-CLARE	1,508	11 S		SYLVANIA	5,307		0	0	75	2,600				5,350,856		
!	ORIENT TWP., 17N-7W, SECTIONS 2, 3, 10, 11, 12, 13, 14 GARFIELD TWP., 17N-6W, SECTIONS 18, 19																			
⊕	OVERISEL	SALINA	1956	ALLEGAN	2,650	12 D		TRENTON	4,060		0	0	186	6,660				14,645,048		
	OVERISEL TWP., 4N-14W, SECTIONS 4, 5, 8, 9, 10, 14, 15, 16, 21, 22, 23, 27, 28																			
⊕	PARTELLO	SALINA A-1 CARB.	1959	CALHOUN	3,192	30 D		TRENT.-BLK. RIVER	4,905		0	0	5	200				1,695,320		
	LEE TWP., 1S-5W, SECTIONS 12, 13																			
⊕	PUTTYGUT	SALINA-NIAGARAN	1960	ST. CLAIR	2,423	60 D		NIAGARAN	2,774		0	0	24	440	OIL PRODUCTION COMBINED WITH ADAIR			11,260,480		
	CASCO TWP., 4N-15E, SECTIONS 11, 14, 15																			
⊕	RAY	SALINA-NIAGARAN	1961	MACOMB	2,945	101 D		NIAGARAN	3,273		12	0	47	660		1,689		35,203,228		
	RAY TWP., 4N-13E, SECTIONS 1, 2, 11 ARMADA TWP., 5N-13E, SECTION 36																			
⊕	REED CITY	MICHIGAN STRAY	1940	OSCEOLA-LAKE	1,217	12 S		ST. PETER SS.	8,960		0	0	103	4,880				7,642,246		
		REED CITY	1941		3,585	7 D					9	0	191							
	LINCOLN TWP., 18N-10W, SECTIONS 8, 9, 16, 17, 18, 19, 20, 21, 29, 30, 31, 32 PINORA TWP., 18N-11W, SECTIONS 24, 25																			
⊕	RIVERSIDE	MICHIGAN STRAY	1940	MISSAUKEE	1,435	7 S		DUNDEE	3,953		0	0	101	3,680				5,188,481		
	RIVERSIDE TWP., 21N-7W, SECTIONS 15, 16, 17, 19, 20, 21, 22, 23																			
⊕	SALEM	SALINA	1937	ALLEGAN	2,725	2 D		TRENTON	3,792		0	0	87	4,960		2,973		11,330,698		
	SALEM TWP., 4N-12W, SECTIONS 2, 3, 9, 10, 11, 12, 14, 15, 16, 17, 21, 22, 23 JAMESTOWN TWP., 5N-13W, SECTIONS 34, 35																			
⊕	SHAVER (SUMNER-NEW HAVEN)	MICHIGAN STRAY	1935	GRATIOT-MONTCALM	1,020	11 S		DUNDEE	3,536		0	0	49	3,920				11,114,906		
	NEW HAVEN TWP., 10N-4W, SECTIONS 2, 3, 4, 5, 8, 9, 10, 11 SUMNER TWP., 11N-4W, SECTIONS 31, 32, 33, 34 CRYSTAL TWP., 10N-5W, SECTIONS 1, 2, 3, 5, 6 FERRIS TWP., 11N-5W, SECTIONS 22, 36																			
⊕	SIX LAKES	MICHIGAN STRAY	1934	ISABELLA-MECOSTA-MONTCALM	1,270	25 S		DETROIT RIVER	3,790		0	0	268	11,480				51,604,719		
	ROLLAND TWP., 13N-6W, SECTIONS 29, 30 WINTON TWP., 13N-8W, SECTIONS 23, 24, 25 MILLBROOK TWP., 13N-7W, SECTIONS 27 THROUGH 36 BELVIDERE TWP., 12N-7W, SECTIONS 1, 2, 3, 4, 5, 6, 8, 9, 10, 11, 12, 14, 15, 16, 17, 18, 20, 21																			

POOL CLASSIFICATION

- ● ACTIVE OIL FIELD OR POOL
- ◐ ABANDONED OIL FIELD OR POOL
- ☼ ACTIVE GAS FIELD OR POOL
- ☼ ABANDONED GAS FIELD OR POOL
- ☼ GAS-CONDENSATE FIELD OR POOL
- ☼ ABANDONED GAS-CONDENSATE FIELD OR POOL
- ⊕ GAS STORAGE RESERVOIR
- ⊖ UNDEVELOPED GAS STORAGE RESERVOIR

	FIELD NAME	PRODUCING FORMATION OR POOL	YEAR OF DISC.	COUNTY TOWNSHIP / PRODUCING SECTIONS	PAY ZONE DEPTH IN FEET	PAY ZONE THICKNESS AND LITHOLOGY	PAY ZONE OIL GRAVITY A.P.I.	DEEPEST FORMATION OR POOL TESTED	DEPTH IN FEET	NUMBER OF WELLS TO END	NUMBER OF WELLS COMP. IN 1973	NUMBER OF WELLS ABAND. IN 1973	NUMBER OF WELLS ACTIVE AT END	DRILLED ACRES	OIL PRODUCTION—BBLS. PRODUCED IN 1973	OIL PRODUCTION—BBLS. CUMULATIVE THROUGH 1973	GAS PRODUCTION—Mcf. PRODUCED IN 1973	GAS PRODUCTION—Mcf. CUMULATIVE THROUGH 1973	RECOVERY PER ACRE DRILLED (BBLS.)	TOTAL BARRELS BRINE PER DAY
⊕	SWAN CREEK	SALINA-NIAGARAN	1967	ST. CLAIR	2,256	245 O		CLINTON	2,638		0	0	1	40			1,171	410,523		
	CASCO TWP., 4N-15E, SECTION 36																			
⊕	WINFIELD	MICHIGAN STRAY	1935	MONTCALM	1,125	8 S		DETROIT RIVER	3,405		20	0	79	3,240				4,836,132		
	WINFIELD TWP., 12N-9W, SECTIONS 6, 7, 8, 16, 17, 18 REYNOLDS TWP., 12N-10W, SECTIONS 1, 12																			
⊕	WOODVILLE (NORWICH)	MICHIGAN STRAY	1943	NEWAYGO	1,185	13 S		DETROIT RIVER	3,405		0	0	46	2,240				2,683,259		
	NORWICH TWP., 15N-11W, SECTIONS 16, 17, 20, 21, 28, 29																			

TOTAL ACREAGE 87,535

WELL COUNTS IN THESE COLUMNS ARE AS PROVIDED BY FIELD OFFICE PERSONNEL

GAS STORAGE RESERVOIRS

MOST GAS STORAGE RESERVOIRS WERE ORIGINALLY CLASSIFIED AS GAS FIELDS OR POOLS. UPON DEPLETION OR NEAR DEPLETION OF NATIVE GAS, THEY WERE CONVERTED TO STORAGE RESERVOIRS.

NOT INCLUDED IN THE LIST OF GAS STORAGE RESERVOIRS IS ONE SMALL, SALT CAVERN STORAGE RESERVOIR LOCATED NEAR MARYSVILLE, ST. CLAIR COUNTY. GAS IS STORED IN A CAVERN IN SALINA SALT BEDS AT A DEPTH OF ABOUT 2050 FEET. THE CAVERN WAS PART OF A SALT SOLUTION--EXTRACTION OPERATION. GAS STORAGE CAPACITY IS ABOUT 341 MMCF AT A WELLHEAD PRESSURE OF 1100 PSI.

THESE FACILITIES ARE BEING EXPANDED BY CONVERSION OF ADDITIONAL WELLS PREVIOUSLY USED IN SALT SOLUTION-EXTRACTION OPERATIONS. THE STORAGE OPERATION, OWNED AND MANAGED BY SOUTHEASTERN MICHIGAN GAS COMPANY, WILL BE CALLED MARYSVILLE-MORTON TO DISTINGUISH IT FROM THE MARYSVILLE SYNTHETIC GAS MANUFACTURING FACILITIES.

MARYSVILLE: THIS IS AN UNDERGROUND STORAGE PROJECT FOR LPG'S USED IN THE MANUFACTURE OF SYNTHETIC NATURAL GAS. LPG STORAGE IS IN MAN-MADE CAVERNS IN SALINA SALT BEDS. PROJECT AREA IS IN SECTION 7, T.5N., R.17E.

THE PRODUCING SECTIONS LISTED IN GAS STORAGE RESERVOIR TABLES DO NOT NECESSARILY RELATE TO CURRENT GAS STORAGE AREA OR BOUNDARIES. ALSO, THE SECTIONS DO NOT NECESSARILY RELATE TO POTENTIAL OR FUTURE GAS STORAGE AREA OR BOUNDARIES. THE SECTIONS, OR PARTS OF SECTIONS, LISTED ARE THOSE WHICH CONTAINED AT LEAST ONE PRODUCIBLE OIL OR GAS WELL ASSIGNED TO THE FIELD OR POOL PRIOR TO CONVERSION OR DESIGNATION AS GAS STORAGE.

LACEY STATION. THIS IS A DRY-GAS STORAGE PROJECT UNDER CONSTRUCTION FOR THE BATTLE CREEK GAS COMPANY. GAS WILL BE STORED IN A CAVITY WASHED FROM SALINA A-2 SALT BEDS AT A DEPTH OF ABOUT 3100 FEET BELOW THE SURFACE.

TABLE 4 UNDEVELOPED GAS STORAGE RESERVOIRS

POOL CLASSIFICATION

- ● ACTIVE OIL FIELD OR POOL
- ◐ ABANDONED OIL FIELD OR POOL
- ☼ ACTIVE GAS FIELD OR POOL
- ☼ ABANDONED GAS FIELD OR POOL
- ☼ GAS-CONDENSATE FIELD OR POOL
- ☼ ABANDONED GAS-CONDENSATE FIELD OR POOL
- ⊕ GAS STORAGE RESERVOIR
- ⊖ UNDEVELOPED GAS STORAGE RESERVOIR

	FIELD NAME	PRODUCING FORMATION OR POOL	YEAR OF DISC.	COUNTY TOWNSHIP / PRODUCING SECTIONS	PAY ZONE DEPTH IN FEET	PAY ZONE THICKNESS AND LITHOLOGY	PAY ZONE OIL GRAVITY A.P.I.	DEEPEST FORMATION OR POOL TESTED	DEPTH IN FEET	NUMBER OF WELLS TO END	NUMBER OF WELLS COMP. IN 1973	NUMBER OF WELLS ABAND. IN 1973	NUMBER OF WELLS ACTIVE AT END	DRILLED ACRES	OIL PRODUCTION—BBLS. PRODUCED IN 1973	OIL PRODUCTION—BBLS. CUMULATIVE THROUGH 1973	GAS PRODUCTION—Mcf. PRODUCED IN 1973	GAS PRODUCTION—Mcf. CUMULATIVE THROUGH 1973	RECOVERY PER ACRE DRILLED (BBLS.)	TOTAL BARRELS BRINE PER DAY
⊖	BROOMFIELD-DEERFIELD	MICHIGAN STRAY	1930	ISABELLA	1,355	5 S		SYLVANIA	4,994	91	0	0	12	8,080				13,069,069		
	BROOMFIELD TWP., 14N-6W, SECTIONS 1, 2, 3, 4, 5, 9, 10, 11, 13, 14, 15, 23, 24, 25 DEERFIELD TWP., 14N-5W, SECTIONS 7, 17, 18, 19, 20, 29, 30 SHERMAN TWP., 15N-6W, SECTIONS 29, 30, 31, 32, 33, 36																			
⊖	COLUMBUS, WEST	SALINA-NIAGARAN REEF	1967	ST. CLAIR	3,183	14 D		CLINTON	3,447	13	0	0	13	520			1,124,796	16,287,759		
	COLUMBUS TWP., 5N-15E, SECTIONS 7, 17, 18																			
⊖	EDMORE-RICHLAND	MICHIGAN STRAY	1936	MONTCALM	1,300	8 S		DUNDEE	3,700	47	0	0	10	6,800				8,956,687		
	HOME TWP., 12N-6W, SECTIONS 11, 12, 13, 14, 15, 19, 21 THROUGH 30, 33 RICHLAND TWP., 12N-5W, SECTIONS 7, 8, 17, 18																			
⊖	EVART	MICHIGAN STRAY	1941	OSCEOLA	1,410	7 S		DETROIT RIVER	4,457	33	0	0	7	5,120				4,895,722		
	OSCEOLA TWP., 18N-8W, SECTIONS 19, 21, 22, 23, 26 THROUGH 35																			

TOTAL ACREAGE 20,520

TOTAL 43,209,237

WELL COUNTS IN THESE COLUMNS ARE AS PROVIDED BY FIELD OFFICE PERSONNEL

UNDEVELOPED GAS STORAGE RESERVOIRS ARE GAS OR OIL POOLS THAT HAVE BEEN DESIGNATED TO BECOME STORAGE RESERVOIRS AT SOME FUTURE TIME.

TABLE 5 MISCELLANEOUS OIL WELLS

Field Name*	Location and Producing Sections				Completion and Abandonment		Formation	Production
Big Prairie	Newaygo	Big Prairie	13N-11W	3	1967	1967	Dundee	78
Bloomfield, Sec. 20	Huron	Bloomfield	17N-14E	20	1940	1941	Traverse	71
Blue Lake, Sec. 5	Muskegon	Blue Lake	12N-16W	5	1940	1941	Traverse	26
Calvin	Cass	Calvin	7S-14W	1	1954	1955	Traverse	67
Colfax, Sec. 35	Oceana	Colfax	16N-15W	35	1952	1954	Traverse	35
Dayton, Sec. 16	Newaygo	Dayton	13N-14W	16	1957	1957	Traverse	314
Decatur, Sec. 4	Van Buren	Decatur	4S-14W	4	1942	1942	Traverse	38
Edwardsburg	Cass	Ontwa	8S-15W	22, 23	1940	1950	Traverse	277
Evergreen, Sec. 22	Montcalm	Evergreen	10N-6W	22	1953	1954	Traverse	455
Fremont, Sec. 27	Isabella	Fremont	13N-5W	27	1962	1963	Traverse	488
Gaines, Sec. 8	Kent	Gaines	5N-11W	8	1945	1945	Traverse	47
Ganges, Sec. 4	Allegan	Ganges	2N-16W	4	1954	1955	Traverse	64
Hinton, Sec. 21	Mecosta	Hinton	13N-8W	21	1948	1948	Traverse	66
Hume, Sec. 12	Huron	Hume	18N-12E	12	1953	1953	Detroit River SZ	71
Indian Hills, Sec. 26	Oceana	Crystal	16N-16W	26	1961	1962	Dundee	305
Jamestown, Sec. 29	Ottawa	Jamestown	5N-13W	29	1942	1942	Traverse	52
Jonesfield, Sec. 9	Saginaw	Jonesfield	12N-1E	9	1949	1949	Dundee	35
Jonesfield, Sec. 24	Saginaw	Jonesfield	12N-1E	24	1942	1943	Dundee	63
Lincoln, Sec. 9	Midland	Lincoln	15N-1E	9	1939	1949	Traverse	71
North Plains, Sec. 18	Ionia	North Plains	8N-5W	18	1950	1951	Dundee	239
North Plains, Sec. 19	Ionia	North Plains	8N-5W	19	1953	1955	Traverse	59
Oshtemo, Sec. 5	Kalamazoo	Oshtemo	2S-12W	5	1944	1944	Traverse	50
Sheridan, Sec. 26	Mecosta	Sheridan	15N-7W	26	1952	1953	Traverse	173
Sheridan, Sec. 29	Newaygo	Sheridan	12N-14W	29	1958	1958	Traverse	199
Sherman, Sec. 4	Isabella	Sherman	15N-6W	4, 18	1953	1955	Traverse	63
Shiawassee, Sec. 11	Shiawassee	Shiawassee	6N-3E	11	1930	1931	Traverse	236
Silver Creek	Cass	Silver Creek	5S-16W	22, 23	1939	1964	Traverse	25
Springfield, Sec. 22	Oakland	Springfield	4N-8E	22	1955	1955	Salina-Niagaran	649
St. Charles, Sec. 7	Saginaw	St. Charles	10N-3E	7	1956	1957	Traverse	111
Sumpter, Sec. 22	Wayne	Sumpter	4S-8E	22	1941	1942	Trenton	227
Tyrone, Sec. 15	Kent	Tyrone	10N-12W	15	1946	1948	Traverse	191
Watson, Salina	Allegan	Watson	2N-12W		1964	1965	Salina-Niagaran	296
Watson, Sec. 8	Allegan	Watson	2N-12W	8	1949	1950	Traverse	374
Zeeland, Sec. 4	Ottawa	Zeeland	5N-14W	4	1956	1957	Traverse	0

This list includes single wells that have been included in the oil field tables in previous summaries as pool discoveries. All have been abandoned and should not be considered as a part of Table 2.

STATE OIL AND GAS REVENUE

Years	Royalty	Rental	Bonus	Application and Assignment Fees	Total Income
1927-1931	$ 85,262.60	$ 43,821.60	$ 27,707.50	$ 1,204.00	$ 157,995.70
1932-1936	209,125.99	205,349.64	87,211.25	4,506.00	506,192.88
1937-1941	1,302,355.65	724,330.32	515,705.83	7,367.00	2,549,758.80
1942-1946	1,645,462.42	2,021,512.76	601,065.34	3,759.00	4,271,799.52
1947-1951	1,813,632.16	2,256,913.51	1,307,470.34	4,398.00	5,382,414.01
1952-1956	2,727,410.47	1,989,342.96	257,186.50	3,028.00	4,976,967.93
1957-1961	1,879,927.18	769,593.64	475,840.80	3,702.00	3,129,063.62
1962-1966	1,259,162.06	1,476,949.69	409,809.00	4,982.00	3,150,902.75
1967	250,784.83	199,398.54	49,192.11	1,126.00	500,501.48
1968	324,933.80	451,116.55	1,223,971.00	2,849.00	2,002,870.35
1969	404,709.30	819,550.16	894,132.77	872.00	2,119,264.23
1970	429,796.13	929,596.13	-132.10	736.00	1,359,996.16
1971	749,814.65	858,360.49	1,360.81	426.00	1,609,961.95
1972	944,440.64	831,057.14	10,165,150.69	2,854.00	11,943,502.47
1973	1,960,853.63	1,261,207.88	3,132.75	1,658.00	3,226,852.26
TOTAL	$15,987,671.51	$14,838,101.01	$16,018,804.59	$43,467.00	$46,888,044.11

TABLE 6 GAS PLANT OPERATIONS BY PLANT OR FIELD, 1973 (All figures in MCF)

Plant or Field	Input Totals	Plant Fuel	Lease Fuel	Storage and/or Repressuring Recycling	Line Loss	Vented	Extraction Loss	Sales To Pipe Line	L.P.G. Recovery Gallons
*Albion-Scipio	10,335,464	1,015,532	0	0	124,707	10,529	849,867	8,334,829	25,529,209
Aurelius	2,604,163	227,290	5,795	0	0	62,053	179,875	2,129,150	6,889,622
*Beaver Creek	389,725	15,397	135,241	0	0	0	6,148	232,939	90,810
Boyd (3)	4,908,733	100,128	59,295	0	29,329	5,262	260,223	4,454,496	6,170,911
Chester Interim(2)	1,933,186	27,424	0	0	0	13,492	71,381	1,820,889	1,278,978
Eaton Rapids (1)	2,735,995	22,922	0	0	227,915	0	38,206	2,446,952	399,502
*Hamilton	164,864	11,874	50,132	0	0	0	4,395	98,463	109,872
Kalkaska Interim(2)	4,121,327	37,516	0	0	0	17,161	62,125	4,004,525	2,064,278
*Norwich East	882,056	88,552	89,136	0	0	0	0	704,368	0
Reed City	16,888,062	222,568	0	0	0	0	184,903	16,480,591	6,214,505
Reed City plant serves a combination storage and secondary recovery operation in an oil reservoir (Loreed Unit).									
*Rose City	234,069	7,193	0	0	0	0	0	226,876	0
*St. Helen	475,540	29,845	70,086	0	0	0	0	375,609	0
Totals	45,673,184	1,806,241	409,685	0	381,951	108,497	1,657,123	41,309,687	48,742,687

*Receives and processes oil well gas only.

NOTE: The above table is the record of plants which are serving oil field operations, or which are extracting natural gas liquids from designated dry gas fields.

(1) New gas plant facility added in 1973.

(2) Temporary gas plant facility added in 1972.

(3) Plant operations ceased during 1973.

All data from Production and Proration Unit records.

TABLE 7 PRIMARY SUPPLY LOCATIONS AND STORAGE FACILITIES FOR LIQUIFIED PETROLEUM GAS

Company	Plant Location County	Plant Location Locality	Type of Facility	Facility Capacity Gallons of LPG
Bay Refining Company	Bay	Bay City	Refinery Storage	155,200
Dow Chemical Company	Midland	Midland	Chemical Plant (Underground)	8,820,000
Leonard Refineries, Inc.	Gratiot	Alma	Refinery Storage	120,000
Marathon Oil Company	Hillsdale	Mosherville	Natural Gas Processing Plant	294,000
Cities Service Oil Company	Kent	Lowell	Underground Storage	48,150,000
Skelly Oil Company (1)	Kent	Alto	Underground Storage	10,890,748
Consumers Power Company	Macomb	New Baltimore	Natural Gas Processing Plant	150,000
Michigan Consolidated Gas Co.	St. Clair	St. Clair	Natural Gas Processing Plant	450,000
Michigan Consolidated Gas Co.	Washtenaw	Ypsilanti	Natural Gas Processing Plant	450,000
Mobil Oil Company	Wayne	Trenton	Underground Storage	15,201,000
Sun Oil Company	Wayne	Wayne	Underground Storage	29,280,000
Marathon Oil Company	Wayne	Wayne	Underground Storage	30,831,000
Phillips Petroleum Company	Wayne	Wyandotte	Underground Storage	8,400,000
Wyandotte Chemical Corp.	Wayne	Wyandotte	Underground Storage	4,500,000

TOTAL PRIMARY STORAGE BY COUNTY, GALLONS LPG	
Bay	155,200
Gratiot	120,000
Hillsdale	294,000
Kent	59,040,748
Macomb	150,000
Midland	8,820,000
St. Clair	450,000
Washtenaw	450,000
Wayne	88,212,000
Combined Primary Storage	157,691,948

(1) Skelly Oil Co. discontinued use of this facility in 1966. Storage facilities are now being reconditioned and expanded by Ohio Northwest Development, Inc. New storage capacity is not available.

TOTAL PRIMARY STORAGE, GALLONS LPG	
Refinery Storage	275,200
Gas Plant Storage	1,344,000
Underground Storage	156,072,748
Combined Primary Storage	157,691,948

LPG underground storage reservoirs are in man-made caverns dissolved from Salina Group (Silurian) salt beds. The depth to storage reservoir salt beds varies with locality within the state.

NEW DATA FOR MOST OF THESE FACILITIES WERE NOT AVAILABLE FOR 1972 - 1974. Data last updated May, 1971.

* * MICHIGAN OIL REFINERIES * *

COMPANY	REFINERY LOCATION	NOMINAL CAPACITY* BBLS. DAY
Bay Refining, Division Dow Chemical Company	Bay City	17,000
Crystal Refining Company	Carson City	6,200
Lakeside Refining Company	Kalamazoo	4,000
Total Leonard, Inc. (Leonard Division)	Alma	40,000
Marathon Oil Company	Detroit	62,000
Osceola Refining Company	West Branch	9,500
	Total Refinery Capacity	138,700

* Individual refinery operating rates may be less or slightly more than nominal rates shown.

PART 3, CUMULATIVE RECORDS
EXPLANATION

PART 3 contains cumulative statistics principally of oil and gas production, well completions, and oil field brine production and disposal from 1925 through the most recent year-end compilations.

OIL AND GAS PRODUCTION TABLES. Oil and gas production figures for individual years prior to 1960 can be found in issues of "Summary of Operations, Oil and Gas Fields" for 1962 and prior years, and in "Michigan's Oil and Gas Fields" 1963 to present. The tables show the year of the first recorded production from a particular formation, and the yearly and cumulative production totals from 1925 through the most recent year-end compilations. Cumulative oil and gas production by county is shown on a separate table. Refer to Part 1 for county production figures for the past year, and prior issues for previous years.

CUMULATIVE WELL COMPLETIONS. These tables show the cumulative number of yearly completions in a county. Well density figures include field development wells, exploratory wells, and service wells of all types.

DRILLING PERMITS, WELL COMPLETIONS, FIELDS DISCOVERED. These tables show the number of drilling permits issued by year from 1927 through the most recent year-end compilations. Initial classification of well completions by year, the number of new fields or pools discovered, and the number of producible oil or gas wells on a yearly basis are all shown on the same table.

BRINE PRODUCTION AND DISPOSAL. Oil field brine production records other than for individual fields were discontinued in 1968. These tables listed the reported amount of produced brine and the method of disposal from 1937 up to 1967. Most oil field brine is still returned to subsurface formations. Small quantities are used for dust control or ice and snow removal on county roads in local areas. A small amount of brine is also disposed of in burning pits.

SERVICE WELLS. Service wells as listed in this publication are those wells which were drilled to serve some purpose other than the initial production of oil or gas. Oil or gas wells are sometimes converted to salt water disposal, observation, or facility wells in gas storage or pressure maintenance projects. There are several types of service wells:

LPG WELLS. These are wells drilled for underground storage of liquified petroleum gas. In Michigan, these storage reservoirs are in man-made cavities in salt beds. The cavities have been made by dissolving the salt with water and then pumping out the brine.

Gas Storage Wells. These are wells drilled in gas storage reservoirs. They are frequently referred to as facility wells, and are generally used to inject gas into or extract gas from the reservoir. Certain facility wells may sometime in the history of the field be used as salt water disposal wells or observation wells.

Observation Wells. Most observation wells are related to gas storage projects. They are used to observe underground movement of gas, brines, and other fluids, or to observe pressures.

Brine Disposal Wells. These wells are used in the disposal of oil and gas field brines back into some suitable subsurface formation. Brine disposal well permits are issued for these wells.

Injection and Pressure Maintenance Wells. These are wells used in secondary recovery, or pressure maintenance projects. They may be new wells drilled specifically for injection or pressure maintenance, or they may be converted oil or gas wells; their status can change from time to time.

Oil or gas wells are sometimes converted to salt water disposal, observation, facility wells in gas storage reservoirs, or water injection wells used in secondary recovery or pressure maintenance projects. The types of service wells listed under "Classification of Well Completions" does not include oil or gas wells converted to service wells.

TABLE 8 OIL PRODUCTION BY GEOLOGIC SYSTEM AND FORMATION - 1973 AND PRIOR YEARS

These data include estimates for multiple pay wells and leases when an accurate breakdown was not available

YEAR	MISSISSIPPIAN		DEVONIAN			SILURIAN	ORDOVICIAN	Total Barrels Oil All Formations
	Marshall	Berea	Traverse	Dundee-Reed City	Detroit River	Salina-Niagaran	Trenton-Black River	
	First Year of Recorded Oil Production by Formation							
	1938	1925	1927	1927	1939	1952	1935	
1925 Through 1929	(Cumulative)	876,559	873,777	4,017,451	. . . . .	. . . . .	. . . . .	5,767,787
1930 Through 1934	(Cumulative)	318,171	995,439	31,870,671	. . . . .	. . . . .	. . . . .	33,184,281
1935 Through 1939	7,411 (Cumulative)	310,313	13,814,816	72,339,293	14,000	. . . . .	43,565	86,529,398
1940 Through 1944	22,040 (Cumulative)	229,262	27,856,377	67,939,211	727,418	. . . . .	348,477	97,122,785
1945 Through 1949	17,283 (Cumulative)	166,687	16,914,771	62,438,443	4,302,309	. . . . .	106,510	83,946,003
1950 Through 1954	9,068 (Cumulative)	125,089	16,974,863	38,058,703	11,878,669	43,091	225,180	67,314,663
1955 Through 1959	8,183 (Cumulative)	110,639	8,788,785	25,618,934	13,716,790	568,085	3,108,341	51,920,757
1960 Through 1964	6,090 (Cumulative)	84,222	6,777,853	15,725,957	8,260,636	4,611,123	48,022,216	83,488,097
1965 Through 1969	5,293 (Cumulative)	113,898	3,851,321	12,186,197	8,387,775	4,195,694	39,132,615	67,852,793
1970	1,161	26,689	670,068	2,079,935	2,014,461	1,412,079	5,489,095	11,693,488
1971	899	26,600	621,964	2,038,997	2,142,522	2,313,202	4,749,226	11,893,410
1972	883	14,620	516,567	1,806,529	2,231,157	4,428,305	3,972,131	12,989,977
1973	731*	9,586*	441,812*	1,652,641*	2,252,029*	6,950,876*	3,222,277*	14,529.952

*Estimates based on 8 months of production and projected to January 1, 1974 (Includes condensate).

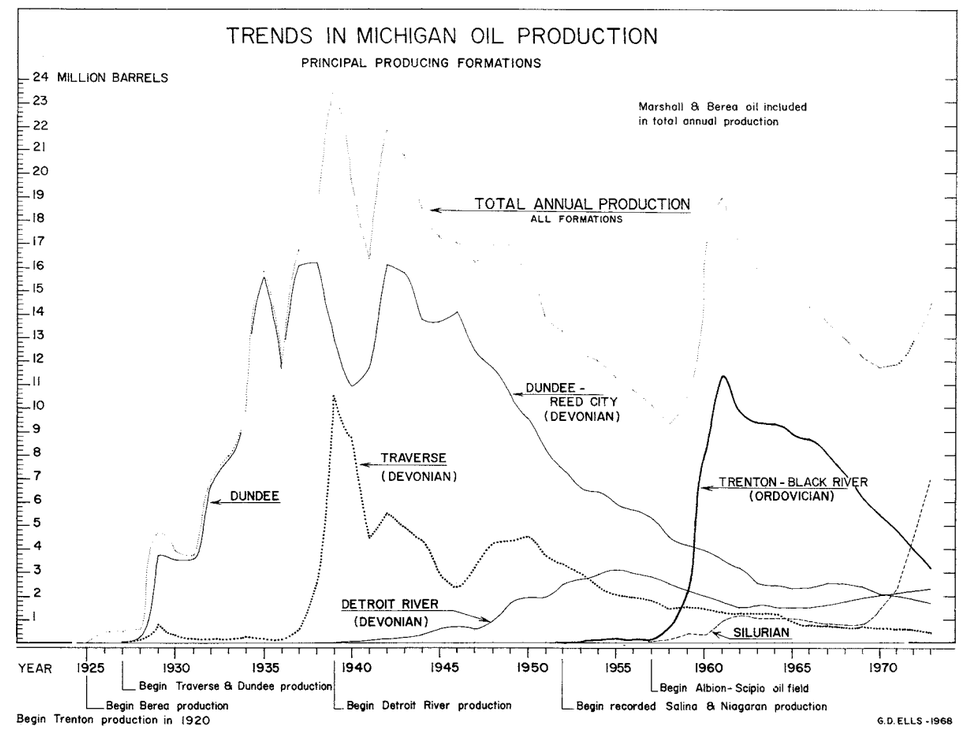


TABLE 9 GAS PRODUCTION BY GEOLOGIC SYSTEM AND FORMATION - 1973 AND PRIOR YEARS

YEAR	CENOZOIC	MISSISSIPPIAN			DEVONIAN			SILURIAN	ORDOVICIAN	Total MCF Gas All Formations
	Glacial Drift	Stray-Marshall	Berea	Antrim Shale	Traverse	Dundee-Reed City	Detroit River	Salina-Niagaran	Trenton-Black River	
	First Year of Recorded Gas Production by Formation									
	1949	1931	1936	1947	1934	1929	1946	1929	1954	
1925 Through 1929	(Cumulative-5 year interval)					1,887,732		74,867		1,962,599
1930 Through 1934		3,001,963			3,744	6,034,206		61,578		9,101,491
	(Cumulative-5 year interval)									
1935 Through 1939		30,769,471	1,391,076		69,894	8,862,165		6,331		41,098,937
	(Cumulative-5 year interval)									
1940 Through 1944		70,498,989	5,860,831		3,716,132	7,647,510		79,983		87,803,445
	(Cumulative-5 year interval)									
1945 Through 1949	8,020	80,217,680	1,467,460	52,495	1,414,004	15,710,636	793,763	7,393,744		107,057,802
	(Cumulative-5 year interval)									
1950 Through 1954	0	18,033,449	916,202	55,626	1,913,497	5,361,578	6,997,257	11,316,082	10,725	44,604,416
	(Cumulative-5 year interval)									
1955 Through 1959	0	6,834,419	148,085	56,686	266,623	2,287,066	12,539,252	20,117,524	6,609,393	48,859,048
	(Cumulative-5 year interval)									
1960 Through 1964	0	2,874,824	42,020	156,485	876,356	1,117,064	19,252,334	66,799,392	45,443,994	136,562,469
	(Cumulative-5 year interval)									
1965 Through 1969	0	2,636,857	814,223	220,305	454,198	150,659	10,649,603	106,149,601	57,253,914	178,329,360
	(Cumulative-5 year interval)									
1970	0	73,219	108,526	159,890	82,194	73,917	1,832,213	25,419,973	11,502,081	39,252,013
1971	0	25,986	98,702	152,700	67,882	65,222	1,735,681	12,546,934	11,237,514	25,930,621
1972	0	26,872	60,447	173,502	53,503	43,918	1,660,545	21,078,549	10,470,302	33,567,638
1973	0	15,628	57,772	161,348	61,636	31,634	1,675,196	31,573,757	10,126,244	43,703,215

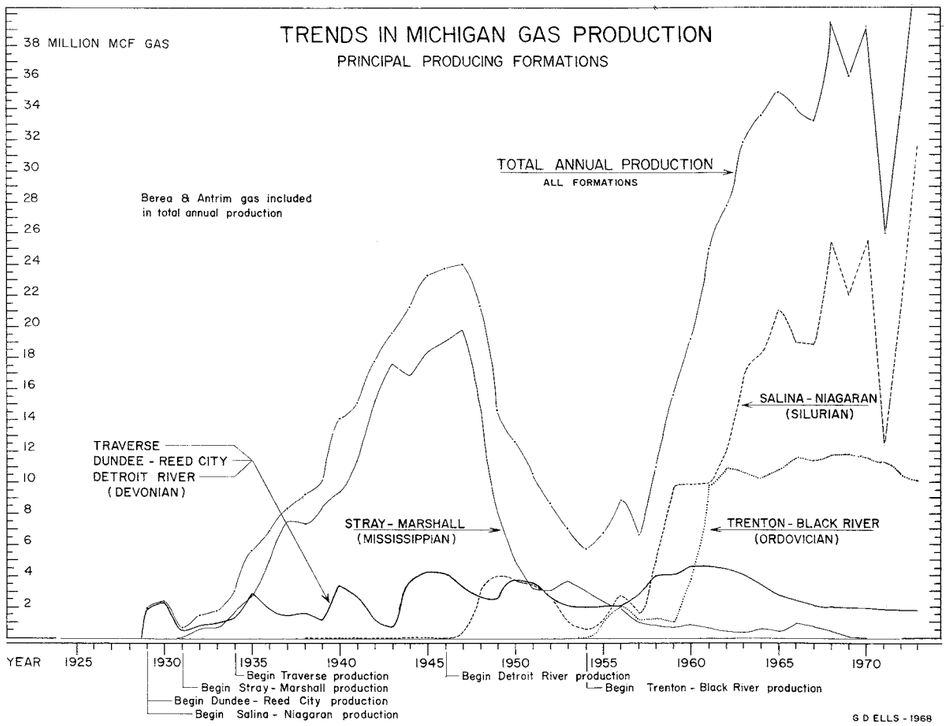


TABLE 10 CUMULATIVE OIL PRODUCTION BY GEOLOGIC SYSTEM AND FORMATION - 1973 AND PRIOR YEARS

These data include estimates for multiple pay wells and leases when an accurate breakdown was not available

YEAR	MISSISSIPPIAN			DEVONIAN		SILURIAN	ORDOVICIAN	Total Barrels Oil All Formations
	Marshall	Berea	Traverse	Dundee Reed City	Detroit River	Salina-Niagaran	Trenton-Black River	
	First Year of Recorded Oil Production by Formation							
	1938	1925	1927	1927	1939	1952	1935	
1925 Through 1929		876,559	873,777	4,017,451				5,767,787
1930 Through 1934		1,194,730	1,869,216	35,888,122				38,952,068
1935 Through 1939	7,411	1,505,043	15,684,032	108,227,415	14,000		43,565	125,481,466
1940 Through 1944	29,451	1,734,305	43,540,409	176,166,626	741,418		392,042	222,604,251
1945 Through 1949	46,734	1,900,992	60,455,180	238,605,069	5,043,727		498,552	306,550,254
1950 Through 1954	55,802	2,026,081	77,430,043	276,663,772	16,922,396	43,091	723,732	373,864,917
1955 Through 1959	63,985	2,136,720	86,218,828	302,282,706	30,640,186	611,176	3,832,073	425,785,674
1960 Through 1964	70,075	2,220,942	92,996,681	318,008,663	38,900,822	5,222,299	51,854,289	509,273,771
1965 Through 1969	75,368	2,334,840	96,848,002	330,194,860	47,288,597	9,417,993	90,986,904	577,126,564
1970	76,529	2,361,529	97,518,070	332,274,795	49,303,058	10,830,072	96,475,999	588,820,052
1971	77,428	2,388,129	98,140,034	334,313,792	51,445,580	13,143,274	101,225,225	600,713,462
1972	78,311	2,402,749	98,656,601	336,120,321	53,676,737	17,571,579	105,197,356	613,703,439
1973	79,042	2,412,335	99,098,413	337,772,962	55,928,766	24,522,455	108,419,633	628,233,391

1973 AVERAGE DAILY OIL PRODUCTION BY COUNTY

See page 6 for 1973 production figures

Daily Production Range in barrels

- 0
- 0-100
- 101-500
- 501-1,000
- 1,001-5,000
- over 5,000

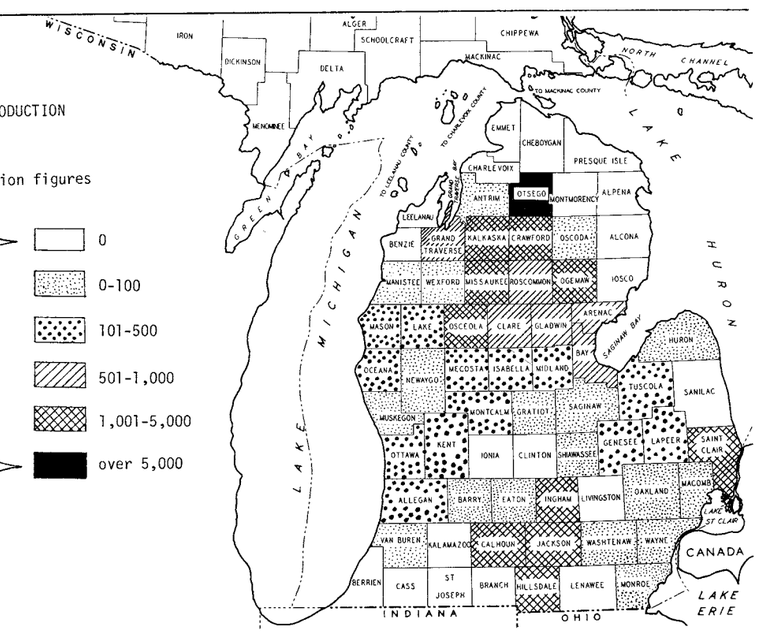


TABLE 11 CUMULATIVE GAS PRODUCTION BY GEOLOGIC SYSTEM AND FORMATION - 1973 AND PRIOR YEARS

YEAR	CENOZOIC Glacial Drift	MISSISSIPPIAN Stray-Marshall	MISSISSIPPIAN Berea	DEVONIAN Antrim Shale	DEVONIAN Traverse	DEVONIAN Dundee-Reed City	DEVONIAN Detroit River	SILURIAN Salina-Niagaran	ORDOVICIAN Trenton-Black River	Cumulative MCF All Formations
	First Year of Recorded Gas Production by Formation									
	1949	1931	1936	1947	1934	1929	1946	1929	1954	
1925 Through 1929						1,887,732		74,867		1,962,599
1930 Through 1934		3,001,963			3,744	7,921,938		136,445		11,064,090
1935 Through 1939		33,771,434	1,391,076		73,638	16,784,103		142,776		52,163,027
1940 Through 1944		104,270,423	7,251,907		3,789,770	24,431,613		222,759		139,966,472
1945 Through 1949	8,020	184,488,103	8,719,367	52,495	5,203,774	40,142,249	793,763	7,616,503		247,024,274
1950 Through 1954	8,020	202,521,522	9,635,569	108,121	7,117,271	45,503,827	7,791,020	18,932,585	10,725	291,628,690
1955 Through 1959	8,020	209,355,971	9,783,654	164,807	7,383,894	47,790,893	20,330,272	39,050,109	6,620,118	340,487,738
1960 Through 1964	8,020	212,230,795	9,825,674	321,292	8,260,250	48,907,957	39,582,606	105,849,501	52,064,112	477,050,207
1965 Through 1969	8,020	214,867,652	10,639,897	541,597	8,714,448	49,058,616	50,232,209	211,999,102	109,318,026	655,379,567
1970	8,020	214,940,871	10,748,423	701,487	8,796,642	49,132,533	52,064,422	237,419,075	120,820,107	694,631,580
1971	8,020	214,966,857	10,847,125	854,187	8,864,524	49,197,755	53,800,103	249,966,009	132,057,621	720,562,201
1972	8,020	214,993,729	10,907,572	1,027,689	8,918,027	49,241,673	55,460,648	271,078,549	142,527,923	754,129,839
1973	8,020	215,009,357	10,965,344	1,189,037	8,979,663	49,273,307	57,135,844	302,652,306	152,654,167	*797,833,054

*Does not include 3,050,143 mcf of unassigned gas from early records.

1973 AVERAGE DAILY GAS PRODUCTION
BY
COUNTY

These figures are actual gas sales in Mcf
See page 6 for 1973 production figures

Daily Gas Production (Sales)
Range in Mcf

- 0
- under 500
- 501-1,000
- 1,001-5,000
- 5,001-10,000
- over 10,000

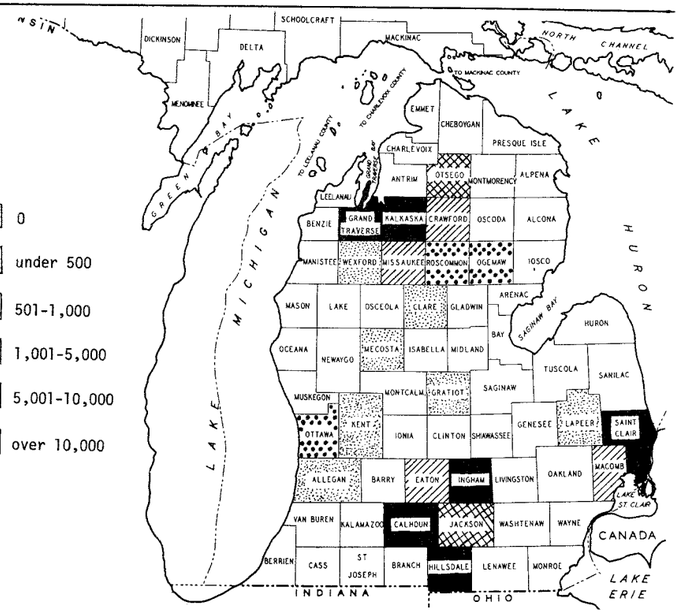


TABLE 12 CUMULATIVE OIL AND GAS PRODUCTION BY COUNTY THROUGH 1973

COUNTY	CUMULATIVE PRODUCTION Barrels Oil	CUMULATIVE PRODUCTION MCF Gas
Allegan	19,737,912	31,326,886
Antrim	591	0
Arenac	46,350,393	6,722,136
Barry	697,174	0
Bay	20,164,524	7,857
Berrien	29,757	0
Calhoun	32,126,774	53,465,216
Cass	103,121	0
Clare	36,191,868	57,281,795
Clinton	4,121	0
Crawford	8,379,613	16,778,546
Eaton	22,598	515,692
Genesee	303,607	0
Gladwin	34,115,216	9,834
Grand Traverse	259,176	4,745,132
Gratiot	1,138,093	12,948,432
Hillsdale	51,856,136	58,303,809
Huron	60,976	0
Ingham	2,922,940	8,150,521
Ionia	381,328	0
Isabella	53,354,490	33,022,993
Jackson	22,572,070	31,021,997
Kalamazoo	28,868	0
Kalkaska	4,265,378	14,887,573
Kent	9,848,693	3,785,619
Lake	3,071,066	182,438
Lapeer	650,855	311,034
Lenawee	12,700	159,392
Livingston	2,946	23,741,734
Macomb	53,259	50,551,896
Manistee	3,281	0
Mason	4,826,903	297,116
Mecosta	10,451,223	31,272,922
Midland	67,005,255	12,444,916
Missaukee	16,644,107	17,016,873
Monroe	721,963	0
Montcalm	18,259,156	52,576,247
Montmorency	7,688	0
Muskegon	7,990,839	9,759,149
Newaygo	8,785,239	13,132,946
Oakland	32,226	13,737
Oceana	15,190,308	1,172,788
Ogemaw	18,241,587	9,330,462
Osceola	55,186,979	45,138,540
Oscoda	40,361	0
Otsego	5,097,391	7,819,526
Ottawa	8,890,752	4,067,897
Presque Isle	3,339	0
Roscommon	12,218,970	13,922,564
Saginaw	2,521,678	0
Shiawassee	46,354	0
St. Clair	11,583,081	152,533,227
Tuscola	2,675,601	0
Van Buren	12,054,572	0
Washtenaw	781,270	7,518,343
Wayne	259,708	10,948,906
Wexford	6,294	946,362
57 Counties	628,233,391	*797,833,053

*Does not include 3,050,143 MCF of unassigned gas shown on early records.

TABLE 13 CUMULATIVE WELL COMPLETIONS BY COUNTY THROUGH 1973

County	Area of County (including inland water)		Classification of Completed Wells (New Hole) (does not include reworked wells)						Approximate Well Density (All Classes)
	Square Miles	Acres	Oil Wells	Gas Wells	Service Wells GS - OBS - BDW - LPG		Dry Holes	Total Completions	Wells:Sq. Miles
Alcona	694	444,160					21	21	1:33
Allegan	837	535,680	1,307	89	174		1,696	3,266	4:1
Alpena	590	377,600		1			12	13	1:45
Antrim	520	332,800	2	1			40	43	1:12
Arenac	369	236,160	406	44			404	854	2:1
Barry	571	365,440	74		4		137	215	1:3
Bay	451	288,640	458	1			222	681	2:1
Benzie	342	218,880					9	9	1:38
Berrien	584	373,760	9				72	81	1:7
Branch	517	330,880					56	56	1:9
Calhoun	716	458,240	241	26	3		331	601	1:1
Cass	505	323,200	30				125	155	1:3
Charlevoix	451	288,640					15	15	1:30
Cheboygan	798	510,720					18	18	1:44
Chippewa	1,651	1,056,640	Northern Peninsula County				5	5	1:330
Clare	577	369,280	386	172	491		364	1,413	2:1
Clinton	573	366,720	4				81	85	1:7
Crawford	566	362,240	88	5	8		28	129	1:4
Delta	1,202	769,280	Northern Peninsula County				1	1	1:1200
Eaton	572	366,080	6	2			52	60	1:10
Emmet	477	305,280					5	5	1:95
Genesee	649	415,360	31	1			45	77	1:8
Gladwin	512	327,680	739				281	1,020	2:1
Grand Traverse	490	313,600	10	21			44	75	1:7
Gratiot	566	362,240	46	74	20		269	409	1:1
Hillsdale	604	386,560	259	2			484	745	1:1
Huron	824	527,360	5				78	83	1:10
Ingham	560	358,400	52	11	4		79	145	1:4
Ionia	578	369,920	9				82	91	1:6
Iosco	563	360,320					26	26	1:22
Isabella	573	366,720	656	161	55		476	1,348	2:1
Jackson	717	458,880	136	3			275	414	1:2
Kalamazoo	580	371,200	18				109	127	1:5
Kalkaska	573	366,720	78	36			91	206	1:3
Kent	868	555,520	461	6	1	8	348	824	1:1
Lake	577	369,280	51	1	2		159	213	1:3
Lapeer	662	423,680	36	1			64	101	1:7
Leelanau	374	239,360					9	9	1:42
Lenawee	760	486,400	3	72			111	186	1:4
Livingston	583	373,120	1	34	55		89	179	1:3
Luce	929	594,560	Northern Peninsula County				2	2	1:465
Mackinac	1,081	691,840	Northern Peninsula County				2	2	1:541
Macomb	481	307,840	5	44	24		317	390	1:1
Manistee	568	363,520	7	6			39	52	1:11
Mason	505	323,200	133	10			300	443	1:1
Mecosta	570	364,800	128	196	183		413	920	2:1
Midland	523	334,720	899	2		2	274	1,177	2:1
Missaukee	572	366,080	179	63	102		212	556	1:1
Monroe	564	360,960	45				113	158	1:4
Montcalm	720	460,800	383	221	226		596	1,426	2:1
Montmorency	567	362,880	3	1			20	24	1:24
Muskegon	519	332,160	443	120			390	953	2:1
Newaygo	867	554,880	200	46	114		389	749	1:1
Oakland	899	575,360	6	10			67	83	1:11
Oceana	541	346,240	335	9			534	878	2:1
Ogemaw	580	371,200	504	21	5		169	699	1:1
Osceola	585	374,400	345	119	187		371	1,022	2:1
Oscoda	568	363,520	2				12	14	1:41
Otsego	538	344,320	62	29			96	187	1:3
Ottawa	572	366,080	473	19	2		496	990	2:1
Presque Isle	678	433,920	1				24	25	1:27
Roscommon	573	366,720	180	14			103	297	1:2
Saginaw	814	520,960	378	2			174	554	1:1
Sanilac	961	615,040					52	52	1:18
Schoolcraft	1,229	786,560	Northern Peninsula County				2	2	1:615
Shiawassee	540	345,600	9				56	65	1:8
St. Clair	751	480,640	265	183	43	16	874	1,381	2:1
St. Joseph	518	331,520					16	16	1:32
Tuscola	820	524,800	153	3			107	263	1:3
Van Buren	615	393,600	722				1,000	1,722	3:1
Washtenaw	723	462,720	10	18	5	1	108	142	1:5
Wayne	625	400,000	12	24	18	30	54	138	1:5
Wexford	570	364,800	1	9			63	73	1:8
73 Counties	47,342	Totals:	11,485	1,933	1,726	57	14,258	29,459	

Total includes gas storage, observation, salt water disposal, water injection wells, and brine wells.

TABLE 14 PERMITS, DISCOVERIES, WELL COMPLETIONS, WELLS AT END OF YEAR, 1973 AND PRIOR YEARS

Year	Permits Issued	Classification of Well Completions: Oil Wells	Gas Wells	Service Wells GS-OBS-SWD	Service Wells LPG	Dry Holes	Total Completions	Fields or Pools Discovered: Oil	Gas	Wells at End of Year: Oil Wells	Gas Wells	GS OBS	Inj. P.M.	LPG
1925	0	3					3	1		Incomplete records from 1925 through 1930				
1926	0	89				16	105		1					
1927	16	218	3			46	267	1	1					
1928	283	79	30			49	158	1		*LPG injection and extraction wells in LPG storage facilities.				
1929	576	324	22			137	483							
1930	257	154	19			158	331	2	3					
1931	111	59	17			52	128		1	634	64			
1932	184	109	10			64	183	1		645	72			
1933	429	223	10			85	318	3	1	831	70			
1934	444	272	47			150	469	3	2	977	117			
1935	700	319	101			221	641	1	5	1,167	212			
1936	777	333	206			268	807	6	5	1,360	402			
1937	973	622	66			267	985	6	1	1,778	442			
1938	996	580	27			411	1,018	17	2	2,141	448			
1939	1,465	845	56			578	1,479	8	2	2,684	485			
1940	1,121	557	59			565	1,181	8	13	2,928	510			
1941	1,044	441	97			413	951	7	8	3,158	577	13		
1942	570	297	74			331	682	14	4	3,324	631	13		
1943	627	233	47			355	635	12	8	3,386	639	13		
1944	741	246	64			400	710	10	2	3,433	651	13		
1945	755	271	57	6		467	801	11	11	3,536	663	19		
1946	822	223	53	86		461	823	19	10	3,520	547	226		
1947	886	318	43	148		387	896	10	4	3,532	534	409		
1948	918	371	32	77		437	917	10	5	3,554	502	482		
1949	999	439	22	73		473	1,007	21	2	3,818	471	554		
1950	901	336	28	47		473	884	18	4	3,954	471	610		
1951	744	227	20	43	1	466	757	16	6	3,911	417	673		1
1952	694	261	30	51	2	370	714	14	5	3,979	388	732		3
1953	824	258	18	110	1	360	747	11	6	4,089	313	901		4
1954	573	214	15	2	2	338	571	18		4,167	316	903		6
1955	484	204	13	1	1	291	510	12	2	4,223	321	904		7
1956	476	196	12	28		227	463	12	2	4,191	310	932		7
1957	461	176	40	35	3	207	461	12	5	4,233	335	977		10
1958	481	166	20	36	4	227	453	10	7	4,201	345	1,025		14
1959	727	257	47	72	4	272	652	8	7	4,327	323	1,094		18
1960	904	372	19	79	1	441	912	7	4	4,555	249	1,337	242	19
1961	849	207	57	74	3	476	817	13	10	4,619	292	1,420	260	22
1962	711	148	62	53	4	474	741	5	7	4,603	300	1,531	287	26
1963	704	135	72	56	2	384	650	7		4,598	367	1,601	287	28
1964	583	82	48	126		376	632	6	4	4,588	404	1,632	288	28
1965	494	53	34	107		291	485	6	7	4,368	424	1,859	341	28
1966	430	56	45	11	2	290	404	8	3	4,315	429	1,896	233	30
1967	405	69	38	26		287	420	8	2	4,273	481	1,921	333	30
1968	378	70	12	30	6	251	369	9	4	4,372	414	2,010	394	36
1969	379	73	9	26		239	347	7	3	4,349	410	2,034	---	36
1970	425	50	16	108	3	211	388	11	7	4,324	418	2,119	---	39
1971	425	83	31	83	13	186	396	28	13	4,323	418	2,299	---	52
1972	423	84	38	64	2	186	374	34	23	4,313	450	2,377	---	52
1973	445	81	47	67	0	173	369	38	37	4,334	491	2,462	---	53

Mainly facility wells in gas storage fields. See service well completions, page 4.

Figures in these columns represent the well count at the end of the year. Figures are subject to change due to well-abandonments, re-classification, etc. See Table 2 for producible oil and gas wells in individual fields.

TESTS REPORTED TO HAVE PENETRATED PRECAMBRIAN ROCK IN THE SOUTHERN PENINSULA OF MICHIGAN

PERMIT				PRECAMBRIAN	TOTAL DEPTH	YEAR COMPLETED			
26112	Berrien Co. Berrien Twp.	10-6S-17W	Security Oil & Gas Thalman #1	4604 (-3800)	5647 (-4843)	1965			
23478	Charlevoix Co. Peaine Twp.	6-37N-10W	McClure Oil Co. State-Beaver Island #2	4718 (-3977)	4803 (-4062)	1961 -	Age Biotite Feldspar	Rb-Sr 1100 1110	K-Ar 1090
23435	Charlevoix Co. Peaine Twp.	27-38N10W	McClure Oil Co. State-Beaver Island #1	4566 (-3888)	5383 (-4705)	1961			
29191	Huron Co. Sherman Twp.	26-15N15E	Mobil Oil Corp. C. J. Volmering #1	8872 (-8161)	9086 (-8375)	1973			
28607	Ingham Co. Vevay Twp.	29-2N-1W	Mobil Oil Corp. Walter Kranz, Jr. #1	7690 (-6751)	7866 (-6927)	1971			
10448	Lenawee Co. Riga Twp.	32-8S-5E	Walter H. Eckert Harry Taylor #1	3865 (-3150)	3902 (-3186)	1944			
27986	Livingston Co. Osceola Twp.	11-3N-5E	Mobil Oil Corp. H. J. Messmore #1	7150?(-6170)	7589 (-6609)	1970			
11221	Monroe Co. Berlin Twp.	29-5S-10E	Joseph W. Sturman D.L. & R.L. Chapman #1	3342 (-2745)	3377 (-2780)	1945			
7702	Monroe Co. Ida Twp.	19-7S-7E	Jacob Beck Mrs. James Sancrant #1	3595 (-2926)	5495 (-4826)	1954			
25494	Monroe Co. Summerfield Twp.	16-7S-6E	Ferguson & Garrison Merlin Shimp #1	3637 (-2951)	3671 (-2985)	1964			
None	Ottawa Co. Holland Twp.	30-5N-15W	H. J. Heinz Co. H. J. Heinz Co. #2	6142 (-5523)	6221 (-5602)	1972			
29372	Presque Isle Co. Metz Twp.	13-33N-5E	Shell Oil Co. Taratuta #1-13	6738?(-5962)	6738 (-5962)	1973	Granite wash 6545? (-5769)		
27199	Presque Isle Co. North Allis Twp.	29-35N-2E	Pan American Petro. Corp. D. E. Draysey #1	5877 (-5069)	5940 (-5132)	1968			
BD139	St. Clair Co. Casco Twp.	31-4N-15E	Consumers Power Co. Consumers Power Co. BD#1	4605 (-3989)	4627 (-4011)	1964			
25780	St. Clair Co. Clay Twp.	Projected 17-2N-16E	L. Bernhardt Puzzuoli #1	4152 (-3572)	4188 (-3608)	1965			
196	St. Clair Co. St. Clair Twp.	26-5N-16E	St. Clair Oil & Gas Corp. Hurst #1	4730 (-4080)	4770 (-4110)	1929 -	Age Biotite	Rb-Sr 1020	
BD151	St. Clair Co. St. Clair Twp.	7-5N-17E	Consumers Power Co. C.P.C. #1-7 BDW	4707 (-4069)	4733 (-4095)	1971			
BD152	St. Clair Co. St. Clair Twp.	7-5N-17E	Consumers Power Co. C.P.C. #2-7 BDW	4684 (-4052)	4702 (-4070)	1971			
10792	Washtenaw Co. Salem Twp.	27-1S-7E	I. C. Chamness Troy-Roddenberry Comm. #1	6075 (-5189)	6094 (-5208)	1944			
10141	Washtenaw Co. Salem Twp.	16-1S-7E	Colvin & Assoc. & Elec. Wm. F. Voss Comm. #1	6374 (-5459)	6410 (-5495)	1944 -	Age Biotite	Rb-Sr 950	
11341	Washtenaw Co. Superior Twp.	12-2S-7E	Colvin & Assoc. & Rot. St. Viola Meinzinger #1	5670 (-4852)	5692 (-4874)	1945 -	Age Biotite	Rb-Sr 1050	
BD146	Wayne Co., City of Woodhaven	22-4S-10E	Marathon Oil Co. Woodhaven BD#1	3704 (-3095)	3752 (-3143)	1969			
10430	Wayne Co. Huron Twp.	16-4S-9E	Colvin & Assoc. & Elec. Theisen Estate #1	3985 (-3360)	4046 (-3321)	1944			

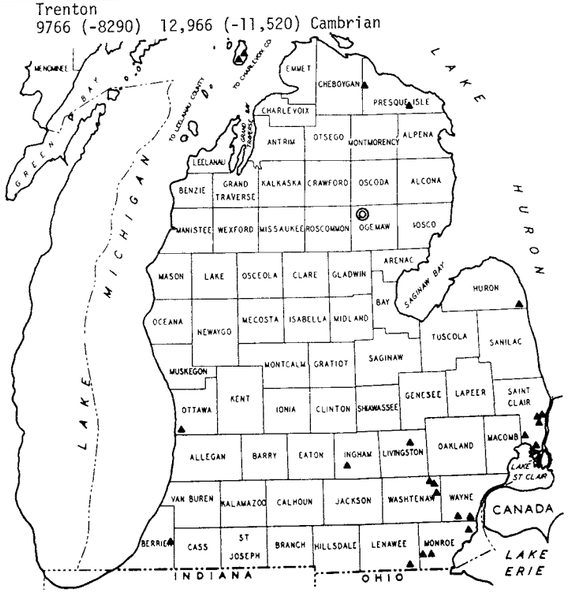
DEEPEST EXPLORATORY WELL DRILLED IN MICHIGAN

25099	Ogemaw Co. Foster Twp.	28-24N-2E	Brazos Oil & Gas etal State-Foster #1	Trenton 9766 (-8290)	12,966 (-11,520) Cambrian

PRECAMBRIAN WELLS

▲ Reported Precambrian Test

◉ Deepest Exploratory Well in Michigan (Cambrian)



ABBREVIATIONS

A.A.P.G.	American Assoc. Petroleum Geologists
A.P.I.	American Petroleum Institute
(A) I.P.	(Acid) Initial Production or Potential
A-1 Carb.	A-1 Carbonate
A-2 Carb.	A-2 Carbonate
Bbls.	Barrels
B.B.	Bois Blanc formation
B.D.	Brine Disposal
BDW	Brine Disposal Well
BOPD	Barrels Oil Per Day
B.R.	Black River
Camb.	Cambrian
"Camb."	Unidentified Cambrian
Cat.	Cataract formation
c.f.p.b.	Cubic feet per barrel
C.H.	Cabot Head formation
Cinn.	Cincinnatian
Cl.	Clinton formation
Cold.	Coldwater formation
Compl.	Completion
Coop.	Cooperative
D & A	Dry and Abandoned
Dev.	Devonian
D.R.	Detroit River formation
D.R. SZ	Detroit River Sour Zone
Dres.	Dresbach formation
Dd., DD.	Dundee
Dd.-R.C.	Dundee-Reed City
DPT	Deeper Pool Test
E.C.	Eau Claire formation
Explor.	Exploratory
Fran.	Franconia formation
Geo. Test	Geological Test
G.O.R.	Gas-Oil Ratio
Grav.	Gravity, Gravimeter
GS	Gas Storage
GSW	Gas Storage Service Well
Gw	Glenwood
Incs.	Includes
Inj.	Injection
L.P.G.	Liquid Petroleum Gas
Marsh.	Marshall formation
MCF	Thousand Cubic Feet
MCFGPD	Thousand Cubic Feet Gas Per Day
Mich.	Michigan formation
Miss.	Mississippian
M.S.	Mt. Simon ss.
NFW	New Field Wildcat
(N) I.P.	(Natural) Initial Production or Potential
Niag.	Niagaran
Nt.	Nontechnical
OBS	Observation Well
OP	Out Post Well
Ord.	Ordovician
OWDD	Old Well Drilled Deeper
P.D.C.	Prairie du Chien formation
Penn.	Pennsylvanian
Pilot Wtr.	Pilot Water
P.M.	Pressure Maintenance
Prod. Form.	Producing Formation
R.C.	Reed City formation
RW	Reworked Well
Rich.	Richfield formation
Sag.	Saginaw formation
Sal.-Niag.	Salina-Niagaran
SD	Shut Down
Seis.	Seismograph
SO & G	Show Oil and Gas
S.P.	St. Peter formation
Stray	Michigan Stray formation
Sub.	Subsurface geology
SW	Service Well
SWD	Salt Water Disposal
Sylv.	Sylvania formation
SZ	Sour Zone (In Detroit River)
Thick.	Thickness
(T) I.P.	(Treatment) Initial Production or Potential
Trav.	Traverse
Tremp.	Trempealeau formation
Trent.-Blk River	Trenton-Black River
Unit.	Unitized

INDEX

	Page
ABBREVIATIONS	51
ADVISORY BOARD, OIL AND GAS	Inside front cover
AREA OF COUNTIES	
Acres	48
Square miles	48
BRINE	
Production by field	14-37
--by formation	14-37
COMMISSION OF NATURAL RESOURCES, MEMBERS	Inside front cover
COMPLETIONS, NUMBER OF	
--by counties in 1973	11
--by counties through 1973	48
--by year, 1973 and prior years	49
Development wells in 1973	4
Exploratory wells in 1973	4
Gas storage wells in 1973	4
CONDENSATE PRODUCTION	6
--by fields, cumulative	14-37
CONTENTS	1
CUMULATIVE RECORDS EXPLANATION	42
DISCOVERY WELLS IN 1973	8-10
Number of fields or pools discovered by years	49
DRILLED FOOTAGE IN 1973	5
--average depth within county	11
--by county	11
FIELDS	
Gas & oil, active, abandoned, locations	14-37
General distribution (center spread map)	26-27
Storage, gas	38-39
Storage, gas, location	38-39
Storage, gas, undeveloped	39
GAS, NATURAL	
Imports in 1973	7
Production in 1973	5-6
--by counties in 1973	6
--by counties, average daily	46
--by counties, cumulative	47
--by districts in 1973	5
--by fields, cumulative	14-39
--by geologic formation	44
--by months in 1973	6
--by years	44,46
--oil well gas	14-37
State Oil and Gas Revenue in 1973	8,40
Valuation in 1973	6
LIQUID PETROLEUM GAS	
Number of LPG storage wells	49
Primary storage facilities	41
Production in 1973	5
Production or extraction	41
Valuation per gallon	6
MISCELLANEOUS OIL WELLS	40
OIL	
Oil gravity	(See Table 2)
Oil imports and exports (Michigan)	6
Production in 1973	5-6
--by counties in 1973	6
--by counties, average daily	45
--by counties, cumulative	47
--by districts in 1973	5
--by fields	14-37
--by geologic formation	43
--by months in 1973	6
--by years	44,46
--oil well gas	14-37
State Oil and Gas Revenue in 1973	8,40
Valuation in 1973	6
OIL AND GAS DISTRICTS	5
OIL AND GAS FIELDS EXPLANATION	13
PERMITS	
Issued in 1973	3,4
--by county in 1973	11
--by districts in 1973	3
--by years	49
POOLS, OIL AND GAS	(See Table 2)
PRECAMBRIAN TESTS, SOUTHERN PENINSULA	50
REEF RESERVOIRS, NORTHERN MICHIGAN	12
REFINERIES	42
SPECIAL ORDERS	7
STRATIGRAPHIC CHART	Inside Back Cover
WELL DENSITY BY COUNTY	48
WELL RECORDS AND OIL AND GAS MAPS	8

STRATIGRAPHIC SUCCESSION IN MICHIGAN

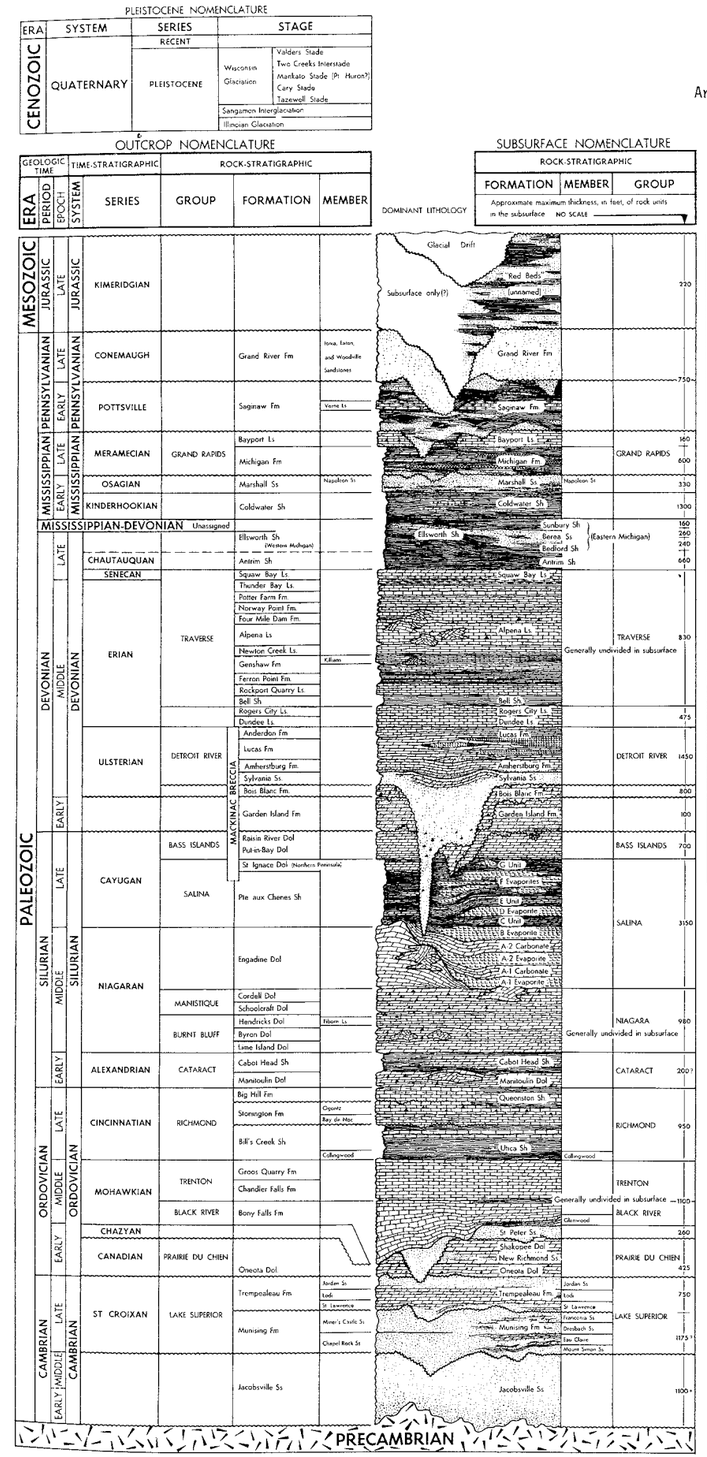
PALEOZOIC THROUGH RECENT

MICHIGAN
DEPARTMENT OF NATURAL RESOURCES
A. Gene Gazlay, Director

Geological Survey Division
Arthur E. Slaughter, State Geologist

ACKNOWLEDGMENT: Carried with the course of its issues in the department the U. S. Geological Survey, Michigan universities, other state Geological Surveys and geologists with the Michigan oil and gas industry. Dr. Aurele F. Crider, Department of Geology, Michigan State University, identified rocks of Mississippian age and suggested provisional age assignments.

GEOLOGIC NAMES COMMITTEE
Garland D. Ell, Chairman Robert W. Kelley, Secretary
Harry J. Hardenbergh L. David Johnson Harry G. Sorensen

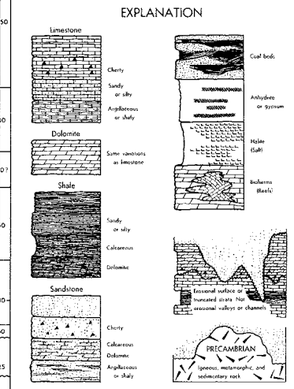


INFORMAL TERMS

Principal oil and gas pays, and informal terms used in petroleum exploration and applied to parts of formations or groups in the subsurface

STRATIGRAPHIC POSITION	INFORMAL TERMS	PAYS
Basal sandstones of Saginaw Fm	Parma sandstone	
In lower part of Michigan	napf gyp; brown lime; stray stray ss; stray dol; stray ls	Gas; Gas & Oil
Marshall Ss		Gas & Oil
Coldwater Sh	Coldwater lime; Woo sand; Coldwater red-rock	Gas
In upper part of Ellsworth Sh	"Berea" (Western Michigan)	Oil & Gas
Berea Ss	Berea sand (Eastern Michigan)	Oil & Gas
Squaw Bay Ls	Squaw Bay	Oil & Gas
Upper part of Traverse Group in Western Michigan	Traverse formation; Traverse lime; Stoney Lake zone	Oil & Gas; Oil & Gas
Rogers City Ls		Oil & Gas
Dundee Ls		Oil & Gas
Dundee Ls (?). Upper part of Lucas Fm (?)	Reed City zone	Oil & Gas
In Lucas Fm	massive salt; big salt; stray zone; massive anhydrite; big anhydrite; Richfield zone	Oil & Gas; Oil & Gas
Amherstburg Fm	black lime	
Part of Salina Group E Unit	E zone (or Reagh zone)	Oil
Divisions of A-2 Carbonate in Western Michigan	A-2 dolomite; A-2 lime	Gas
A-1 Carbonate	A-1 dolomite	Oil & Gas
Upper part of Niagaran Series	brown Niagaran; gray Niagaran; white Niagaran	Oil & Gas
Part of Niagaran Series	Clinton shale (Eastern Michigan)	
Trenton Group		Oil & Gas
Black River Group	Black River formation; Black River shale; Van Wert zone	Oil & Gas
Oneota Dol		Oil

EXPLANATION



GEOLOGIC NAMES COMPILATIONS: Harry G. Sorensen, Cambrian and Ordovician. Robert W. Kelley, Early and Middle Silurian. Garland D. Ell, Late Silurian through Detroit River Group of Devonian age. Harry J. Hardenbergh, Dundee Limestone through Traverse Group of Devonian age. L. David Johnson, Antrim Shale through the Pennsylvanian System. J. Wallis Terwilliger, glacial geology of the Cenozoic.

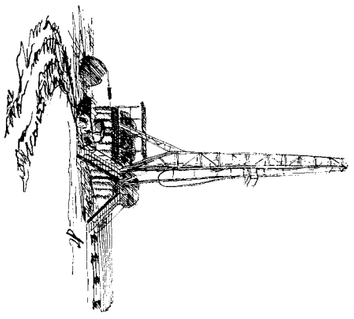



CHART 1
1964