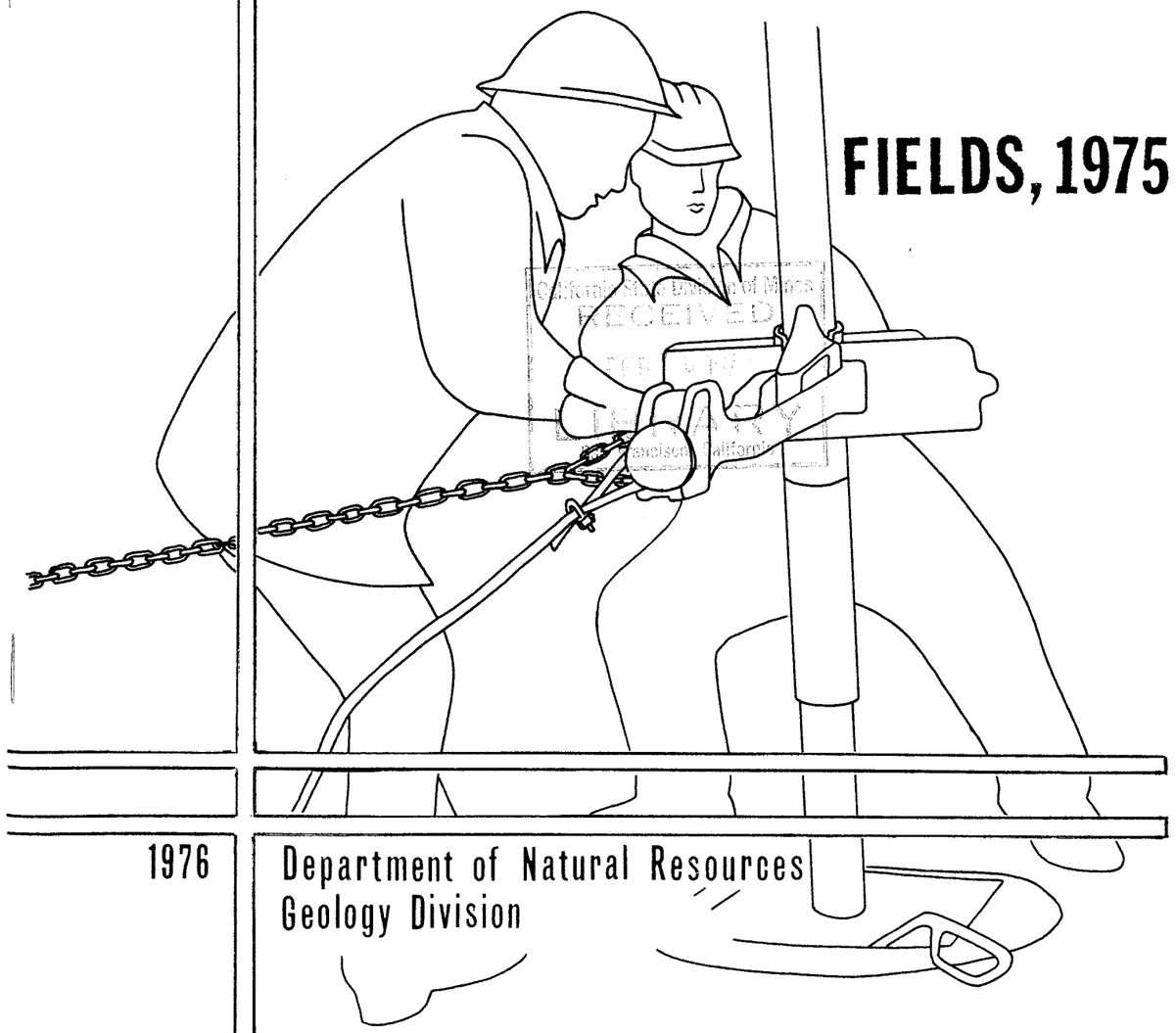
Annual Statistical Summary 24

drilling statistics

production

exports and imports

MICHIGAN'S OIL AND GAS FIELDS, 1975



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MICHIGAN'S OIL AND GAS FIELDS, 1975

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ACKNOWLEDGEMENTS

The Geological Survey Division's name, in conformance with Department-wide reorganization not yet completed, was officially changed to Geology Division during 1976. The Division's Oil and Gas Section consists of a Regulatory Control Unit, a Production-Proration Unit, and a Petroleum Geology Unit. A Cartographic sub-Unit is under the management of the Petroleum Geology Unit. Field operations are handled by personnel assigned to field offices within DNR Regions II and III. A Regional Geologist, under the supervision of the Regional Director, guides the overall activities of the several field offices within his region. Field offices are located at Plainwell, Cadillac, Grayling, Gaylord, Mt. Pleasant, Imlay City, and Lansing. Field activities are mainly those associated with the responsibilities of the Regulatory Control and Production-Proration Units, but do include the gathering of certain year-end oil-and-gas field statistics used to a limited extent in this report.

The compilation and assembly of various oil and gas field data into a yearly report is a major responsibility of the Petroleum Geology Unit. Certain data collected by field office personnel are contributed to this report by Unit supervisors who are under the general supervision of R. M. Acker, Assistant State Geologist and Chief of the Oil and Gas Section. Unit supervisors who provided specific information 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.

James S. Lorenz, Supervisor, Production-Proration Unit. Contribution: All Michigan oil and gas production data, oil and gas valuation figures, import and export figures, LPG and condensate figures, secondary recovery projects (Table 5), and refineries.

G. D. Ells, Supervisor, and B. L. Champion and staff, Petroleum Geology Unit. All general drilling statistics and well completion data, discovery well and deep test data, cumulative records, and all other summary information not specifically provided by other Unit supervisors or by other agencies. Maintenance and compilation of statistics, assembly and manuscript preparation by staff members of the Petroleum Geology Unit: G. D. Ells, Beverly L. Champion, D. M. Bricker, R. C. Elowski and Margaret Schineman.

The compilers also acknowledge the assistance of Gas Section personnel, Public Utilities Division, Department of Commerce, in providing figures on natural gas imports via interstate pipelines, and the Lands Division, Department of Natural Resources, in providing figures for state revenue derived from various oil and gas transactions.

Michigan oil and gas production figures maintained by the Production-Proration Unit are compiled by the Unit from records obtained from the Michigan Department of Treasury and from records filed by producers and purchasers. All hydrocarbon production figures cited herein are subject to correction as warranted.

Compilers: G. D. Ells
B. L. Champion
D. M. Bricker
R. C. Elowski

Lansing, Michigan
November, 1976

MICHIGAN'S OIL AND GAS FIELDS, 1975

INTRODUCTION

Oil and natural gas are two of Michigan's important mineral resources. Now into the sixth decade as an important oil and gas province, Michigan now ranks about 16th in oil production. This is mainly the result of the present cycle of successful exploration activity which began in 1969. This new cycle of activity, marked by an upward turn in annual oil and gas production, is linked primarily to deeper Niagaran reef discoveries in the northern and southern parts of the basin. The numerous new Niagaran reef reservoirs discovered the past few years have resulted in new production records being set.

The combined value of Michigan produced crude oil and natural gas was calculated to be $327,455,528 in 1975 as compared with a combined value of a little over $189,900,000 in 1974. In addition to the value of these natural resources, many millions of dollars were no doubt spent in lease and royalty payments, exploration and development drilling, geophysical surveys, and the many auxiliary activities and services connected with the extraction of these hydrocarbon resources during 1975. It is clear that oil and gas exploration and development is a major state industry and contributes substantially each year to Michigan's economy. Further, most of Michigan's oil and gas is processed and used within the borders of the state and thus directly contributes to energy needs.

To help foster the development of Michigan's 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 information on various facets of oil-and-gas industry activities during 1975. 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.

As in the past, certain figures for the number of exploratory, development and service wells drilled and completed, the number of new fields and pools discovered, production figures, and so forth, may differ from those reported for 1975 by regional or national trade journals or by industry reporting services. The differences in the figures are generally minor and result from 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 Oil and Gas Journal, Tulsa, Oklahoma. The differences in figures which may occur in these publications from time-to-time are almost always caused by factors stated in the preceding paragraph.

Certain well completion data are supplied to the American Petroleum Institute (API) and the American Association of Petroleum Geologists (AAPG) on a regular basis. API publishes the data in monthly and quarterly reports. Year-end printouts of the data are made available to authors of the AAPG yearly Development Papers and to others. Reports citing preliminary oil and gas statistics and production figures are also prepared for the Interstate Oil Compact Commission (IOCC). Oil and gas production figures, generally preliminary and subject to correction, are supplied by request to the United States Bureau of Mines for publication in their minerals yearbook. Other organizations mentioned in the previous paragraph publish oil and gas statistics derived from other sources, though some of the information is obtained from preliminary reports published by state agencies.

The information contained in this and previous issues of the oil and gas summary have been treated as uniformly as is possible from year to year. The data reflect as accurately as possible the actual figures and other information that should be credited to the year in review. The kinds of data found herein are mainly derived from records kept by the Oil and Gas Section, Geology Division, Department of Natural Resources. None of the data is derived from outside sources such as the aforementioned publications.

This publication is essentially divided into three parts. The first summarizes significant statistics on oil and gas field activities for 1975 and includes other related records kept by the Oil and Gas Section. Part 2 contains specific information on Michigan's oil and gas fields, gas storage fields, and other related subjects. Part 3 contains cumulative records of import to the oil and gas industry. Data for 1975 have been included in these cumulative records.

PART I

1975 STATISTICAL DATA

* * * OIL AND GAS PERMITS * * *

Oil and gas drilling permits issued under Act 61, P.A. of 1939, as amended, during 1975 began with permit number 30116 and ended with permit number 30769. The total number of permits issued during 1975 was 653 as compared with 503 in 1974. The initial classification of wells to be drilled under these permits was as follows:

INITIAL CLASSIFICATION	1973	1974	1975
Exploratory wells	225	299	319
Development wells	149	176	293
Gas storage facility wells .	66	28	41*
LPG storage operations . .	4	0	0
	444	503	654

*Includes 4 brine disposal wells.

The distribution of oil and gas drilling permits according to districts (See oil and gas districts map) through a five-year period, including 1975, is as follows:

DRILLING PERMITS BY DISTRICT

DISTRICTS	Permits Issued				
	1971	1972	1973	1974	1975
Basin	138	154	120	98	100
Northern	81	137	173	210	219
Southeastern	130	62	67	62	70
Southwestern	30	32	28	44	108
Western	46	38	56	89	156
Totals	425*	423*	444*	503*	653*

*Includes terminated permits. Permits issued under Act 61, P.A. of 1939, as amended, are terminated six months after date of issue if actual drilling operations have not begun.

Permits to drill wells for oil field brine or waste disposal are no longer issued under a separate permit numbering system (e.g. BDW 156). Such permits are now issued under the regular permit numbering system. Deepening permits were issued for 61 wells during 1975 as compared with 45 the previous year. Deepening permits issued in 1975 began with number 1757 and ended with number 1818.

The number of terminated permits and new permits for previously drilled wells or permitted but undrilled locations has increased considerably the past few years. Michigan's oil and gas permit system began in 1927 with the issuance of permit number 1, and the permit numbers have been issued in numerically consecutive order since then. Wells which have been drilled, plugged, or otherwise abandoned have frequently been reopened and reworked under a new permit number. Several hundred such cases probably exist, most in connection with wells drilled years ago in gas storage reservoirs. But in recent years, many well locations for which permits were issued but subsequently terminated have also been re-permitted and assigned new permit numbers, often to a different operator or company. Because well data, including permit numbers, are now being incorporated into computerized data systems by various companies and some government agencies, multiple permit numbers for the same well location may lead to various problems such as well identification and location. Therefore an attempt is being made to keep a published account of permit numbers which may be possible sources of conflict in well identification. Permit numbers issued for wells drilled under previous permits, or new permit numbers issued for terminated permits, were cited and listed for the first time in Annual Statistical Summary 18, 1973. Permit numbers issued in 1971, 1972, 1973 and subsequently terminated are listed in Part 3 as are new permit numbers for a previously drilled well or for a previously terminated permit. Permits issued in 1974 and terminated in 1974 or 1975, or permits issued in 1975 and terminated in 1975 are shown below.

Permits issued in 1974 and terminated in 1974 or 1975

29617	29690	29846	29981	30064
29626	29714	29848	30014	30087
29645	29745	29862	30015	30103
29652	29800	29866	30042	30106
29654	29801	29879	30048	
29676	29802	29886	30056	
29689	29826	29954	30060	

Permits issued in 1975 and terminated in 1975

30116	30151	30240	30331	30420
30121	30191	30241	30365	30421
30130	30199	30257	30374	30430
30131	30213	30258	30395	30436
30133	30217	30279	30400	
30136	30225	30285	30401	
30141	30239	30309	30417	

Directionally drilled holes. Since 1972, environmental considerations and economics have necessitated the drilling of a large number of directional holes to help locate Niagaran reefs. Many of these holes involve using the upper part of a previously drilled hole which was plugged-back to an appropriate depth after being completed as a dry hole. These directionally drilled holes fall in three main categories: 1) a single directional hole completed as a producer or a dry hole; 2) cases where two or more directional holes have been drilled to bottom-hole targets from the same surface location by using the same upper part of the hole; 3) cases where one or more directional holes have been deviated to new bottom-hole targets after the original vertically drilled test failed to encounter reefing. Only one producer, of course, is allowed per well bore, regardless of the number of holes directionally drilled from the same well bore.

Each new directional hole, even though drilled from the same surface location and using the upper part of a previously drilled hole, is treated as a separate test and is assigned its own unique permit number. Each additional hole drilled from the same surface location retains the same well name and number as the original hole, except that the suffix "A", "B", "C", etc., is added to the well number. For example: Shell-U.S. Steel #1-12, permit 30364 (1st hole, drilled vertically); Shell-U.S. Steel #1-12A, permit 30476 (2nd hole, drilled directionally from same location and upper part of hole as permit 30364); Shell-U.S. Steel #1-12B, permit 30496 (3rd hole, drilled directionally from same location and upper part of hole as permit 30364). In some instances, permits for directional holes were terminated and then subsequently repermitted under a new number. An attempt has been made to record and publish permit numbers for directionally drilled tests for the benefit of those persons who may find the information useful in computer-well data systems. Permit numbers issued for directional holes from 1972 through 1974, and directional holes with two or more permit numbers are listed in Part 3. Permits issued in 1975 for directional holes are as follows:

Permit numbers issued in 1975 for directional holes.

30118	Montmorency County	30423	Otsego County
30119	Mason County	30428	Kalkaska County
30132	Gd. Traverse County	30443	Kalkaska County
30142	Kalkaska County	30444	Otsego County
30165	Kalkaska County	30460	Antrim County
30172	Otsego County	30475	Manistee County
30175	Otsego County	30476	Presque Isle County
30178	Otsego County	30496	Presque Isle County
30185	Gd. Traverse County	30512	Manistee County
30200	Manistee County	30517	Otsego County
30203	Otsego County	30500	Gd. Traverse County
30211	Gd. Traverse County	30528	Montmorency County
30224	Kalkaska County	30530	Gd. Traverse County
30230	Kalkaska County	30531	Calhoun County
30231	Gd. Traverse County	30564	Kalkaska County
30234	Wexford County	30568	Gd. Traverse County
30235	Crawford County	30571	Kalkaska County
30242	Kalkaska County	30583	Manistee County
30245	Otsego County	30600	Manistee County
30251	Gd. Traverse County	30603	Montmorency County
30252	Manistee County	30604	Manistee County
30280	Manistee County	30626	Gd. Traverse County
30282	Kalkaska County	30629	Macomb County
30295	Wexford County	30633	Manistee County
30301	Kalkaska County	30655	Gd. Traverse County
30302	Manistee County	30662	Otsego County
30356	Manistee County	30677	Kalkaska County
30359	Gd. Traverse County	30685	Manistee County
30371	Gd. Traverse County	30744	Gd. Traverse County
30372	Gd. Traverse County	30748	Manistee County
30383	Kalkaska County		
30387	Macomb County		
30402	Otsego County		
30403	Otsego County		
30422	Kalkaska County		

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

SERVICE WELL PERMITS

Type of Service Well	1971	1972	1973	1974	1975
Gas storage	60	74	66	30	37
LPG, Water Injection	16	9	8	11	0
Brine disposal, etc.	3	1	1	1	4
	79	84	75	42	41

The distribution, by county, of oil and gas and service well permits issued under Act No. 61, P.A. of 1939, as amended, in 1975 is shown in Table 1.

Rework applications, transfers of ownership, etc. In addition to issuance of permits for various types of wells covered under Act No. 61, P.A. of 1939, as amended, 121 applications were received and approved for rework operations on existing wells. Letters of termination were sent out for 48 previously issued permits. Transfers of ownership were processed for 365 wells, plus a blanket transfer of several hundred wells for one company. Corrections of location, well name or other detail involving specific permits were made for 147 wells, and cancel and transfer of permit were made for 19 others. The surface location as well as the projected bottom-hole location is published for each permitted directionally drilled hole. After the well is drilled and the directional survey filed with the DNR, the correct bottom-hole location is determined from the survey records and then published as a correction for the initial projected bottom-hole location. Corrections of this type were published for 96 wells drilled in 1974 and 1975.

Oil and gas hearings. During 1975, Oil and Gas Section activities also included scheduling and preparation for hearings on oil and gas matters and the issuance of orders resulting from these hearings. These activities are summarized as follows:

Oil Advisory Board Hearings held	8
Causes heard	22
(Includes 2 causes which were heard 3 times each, 1 cause heard 2 times, and 1 cause continued from 1974)	
Spacing Orders issued	17
(Includes 10 amendments to spacing orders and 1 cause dismissed)	
Abrogation of Spacing Orders	3
Administrative Hearings held	17
Includes: 9 exceptions to spacing orders	
8 directional well applications and	
1 multiple zone completion	
3 compulsory pooling orders	
1 amendment to Special Spacing Order 1-73	
1 restricting daily allowable production	
Show Cause Hearings	3
Hearings on amendments to the general rules governing oil and gas operations	3
Hearing on Environmental Impact Statement	1

* * * WELL COMPLETIONS * * *

There were 533 new-hole exploratory and development wells which reached total depth and were considered either completed producers with production casing set, or dry holes during 1975. The 533 wells considered as completed during the past year do not include service wells, old wells drilled to deeper objectives, or reworked wells. 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 chart form. 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	
1971	28	11	122	55	20	64	300
1972	34	23	124	50	15	62	308
1973	38	37	117	43	10	56	301
1974	54	39	173	80	22	62	430
1975	53	17	213	112	21	117	533*

*See footnotes for NEW WELL COMPLETIONS BY DISTRICT

There were 38 new-hole service well completions in 1975. All were drilled in gas storage reservoirs and completed as gas storage facility wells. The figure does not include reworked wells or old wells converted to facility wells. The fluctuation in the number of service well completions over a five-year period is as follows:

SERVICE WELL COMPLETIONS

Year	GS	INJ	LPG	BDW	Totals
1971	81	0	13	2	96
1972	57	3	4	2	66
1973	60	5	2	1	68
1974	38	13	2	1	54
1975	37	0	0	1	38

As mentioned earlier, certain completion data for exploratory, development and other types of wells are supplied to the American Petroleum Institute (API) and the American Association of Petroleum Geologists (AAPG). Monthly and quarterly printouts of the data, essentially supplied to API on a weekly basis, are sent back by API for verification or any corrections that need to be made. A final, year-end printout is also made available by API. Statistical data published for Michigan by API are correct according to the information submitted and approved at the time. However, the year-end figures published by API sometimes differ from those published later in the year by the Geology Division (formerly Geological Survey Division). The differences in figures are primarily due to API rules establishing a definite cut-off date for reporting or handling statistics on a yearly basis. The Oil and Gas Section of the Geology Division works directly with all phases of Michigan's oil and gas drilling activities and is not bound to a specific cut-off date for statistical reporting or maintenance of a suspense file of uncompleted wells. Thus, the Division's total year-end completion figures reflect more accurately the number of completed wells that should be credited to the year in review. Other factors which may result in differences in figures in some categories of completions are internal decisions of the Oil and Gas Section and decisions stemming from public hearings on oil and gas matters. For example, a well originally classified as a development well, and reported as such to API, may later be designated as the discovery well for a new pool or field, or a gas well might be declared an oil well completion. Frequently, the changes in well status or classification cannot be readily passed on to API so that their records can be updated prior to publication of their statistics. The discrepancies in final year-end figures are almost without exception related to Niagaran reef exploration and development which has been the mainstay of Michigan drilling activities the past few years.

Michigan drilling statistics published by API and derived from data furnished by the Geology Division (G.D.) are shown below, along with figures for the same categories published herein as final year-end figures. API figures have been extracted from the Quarterly Review of Drilling Statistics for the United States, Fourth Quarter, 1975, Annual Summary, 1975, American Petroleum Institute, Vol. IX, No. 4, April 1976, Tables I, II, III, and V, pp. 14-22.

API EXPLORATORY AND DEVELOPMENT WELL COMPLETIONS

Year	Exploratory Wells			Development Wells			Totals
	Oil	Gas	Dry	Oil	Gas	Dry	
1975	55	17	200	114	16	114	516
G.D.	53	17	213	112	21	117	533

TOTAL WELLS DRILLED IN MICHIGAN (API)

Year	Oil Wells	Gas Wells	Dry Holes	Service Wells	Total Wells All Types
1975	169	33	314	3	519
G.D.	165	38	330	38*	571

*API does not require information on wells drilled for gas storage. The Geology Division considers gas storage wells as a class of Service Well. 37 of the 38 Service Wells cited were gas storage facility wells.

NEW-FIELD WILDCAT WELLS DRILLED IN MICHIGAN (API)

Year	Oil	Gas	Total Producing Wells	Dry Holes	Total New-Field Wildcat Wells
1975	55	16	71	199	270*
G.D.	53	17	70	213	283**

*From Table V.
**See footnotes for NEW WELL COMPLETIONS BY DISTRICT, 1975.

Major and independent company well completions. Requests are frequently made for statistics on major oil company drilling activities in Michigan. Although there appears to be no single definition of what constitutes a major company, the following companies are frequently cited as belonging in that category: Atlantic-Richfield, Cities Service, Continental Oil Company, Exxon, Getty Oil Company, Gulf Oil Company, Marathon Oil Company, Mobil Oil Corporation, Phillips Petroleum Company, Shell Oil Company, Standard Oil of California, Standard Oil of

Indiana, Standard Oil of Ohio, Sun Oil Company, Texaco, Inc., and Union Oil Company of California. The preceding list is not official nor necessarily complete. A number of these companies have oil and gas interests in Michigan and some of them drilled wells in the state during 1975. The forthcoming figures, cited for major companies who drilled wells in Michigan in 1975, do not include wells drilled by independents but partially supported by dry-hole money, acreage contribution, or some other significant assistance from a major oil company. Independent companies, who have drilled most of Michigan's wells, are too numerous to cite individually. The number of well completions by independents are shown for comparative purposes. All figures cited for majors and independents were derived from inspection of names appearing on completion records.

WELL COMPLETIONS BY MAJORS AND INDEPENDENTS IN 1975

Major Company	Exploratory Oil	Gas	Dry	Development Oil	Gas	Dry	Service*	Totals
Amoco	4	2	10	7		2		25
Cities Service			2					2
Getty	3		5	1				9
Mobil	8	2	6	16	1	12		45
Shell	28	10	72	38	8	42		198
Sun				10				10
Sub-totals	43	14	95	72	9	56		289
Independents	10[1]	3[2]	118	44	8	61	38	282
Totals	53	17	213	116	17	117	38	571

*Includes GS-OBS, LPG, WI, BDW wells.
(1)Does not include two 1974 dry holes reworked as oil discoveries in 1975.
(2)Does not include two 1974 and older dry holes reworked as gas discoveries in 1975.

Total: Exploratory Wells 283; Development Wells 250; Service Wells 38.

Exploratory Wells drilled by Majors 54%.
Exploratory Wells drilled by Independents 46%.

Exploratory Discoveries made by Majors 81%.
Exploratory Discoveries made by Independents 19%.

Development Wells drilled by Majors 55%.
Development Wells drilled by Independents 45%.

Producing Development Wells drilled by Majors 61%.
Producing Development Wells drilled by Independents 39%.

Discovery to Exploratory Dry Hole ratio - Majors 1:1.7; Independents 1:9.1.

Well casing used in 1975 well completions. Periodically, inquiries are made concerning the amount of casing (pipe) used in drilling wells during a given year. While the number of casing strings and the amount and size of casings used in each well drilled in Michigan is known, compilations of casing data have not heretofore been made. Virtually all oil and gas tests are rotary drilled and require the setting of surface pipe and an intermediate casing string. A conductor pipe is set on many holes and all require a string of production casing if they are to be completed as some type of well other than a dry hole. Pipe size ranges and amounts have been determined from records of wells completed during 1975. For convenience, casing tallies have been related to a range of casing sizes as shown in the following chart.

	Conductor Pipe	Surface Pipe	Intermediate Pipe	Production Pipe
Casing Size Range Used	13"-20" Dia.	10"-13" Dia.	6"-10" Dia.	4 1/2"-6" Dia.
Normal Size Used	16"	11 3/4"	8 5/8"	5 1/2"
Average Weight	75#/ft.	53#/ft.	37#/ft.	19#/ft.
No. feet used (1)	51,168	286,841	1,408,932	815,607
Miles (2)	9.7	54.3	266.8	154.5
Tons (3)	1,919	7,601	26,065	7,748

(1) Total footage: 2,562,548
(2) Total miles: 485.3
(3) Total tonnage: 43,333 based on an average weight for all sizes of 46# per foot.

NEW WELL COMPLETIONS BY DISTRICTS, 1975

Classification of New Well Completions	Basin 1974	Basin 1975	Northern 1974	Northern 1975	Western 1974	Western 1975	Southwestern 1974	Southwestern 1975	Southeastern 1974	Southeastern 1975	Total 1974	Total 1975
Exploratory Wells												
Oil	6	6	26	24	19	17(2)	4	7	0	1(2)	55	55
Gas	1	1	18	14(1)	16	2	2	1	2	1(1)	39	19
D&A	28	39	80	101	24	37	15	23	26	13	173	213
Total	35	46	124	139	59	56	21	31	28	15	267	287
Development Wells												
Oil	19	18	32	26	12	35	5	24	11	9	79	112
Gas	4	2	9	6	1	3	7	2	1	8	22	21
D&A	13	18	31	43	7	26	7	25	4	5	62	117
Total	36	38	72	75	20	64	19	51	16	22	163	250
Service Wells												
WI	13	0	0	0	0	0	0	0	0	0	13	0
BDW	0	0	0	0	0	0	1	0	0	1	1	1
GS	12	6	0	0	5	25	0	0	21	6	38	37
LPG	0	0	0	0	0	0	2	0	0	0	2	0
Total	25	6	0	0	5	25	3	0	21	7	54	38
Total Completions	96	90	196	214	84	145	43	82	65	44	484	575*

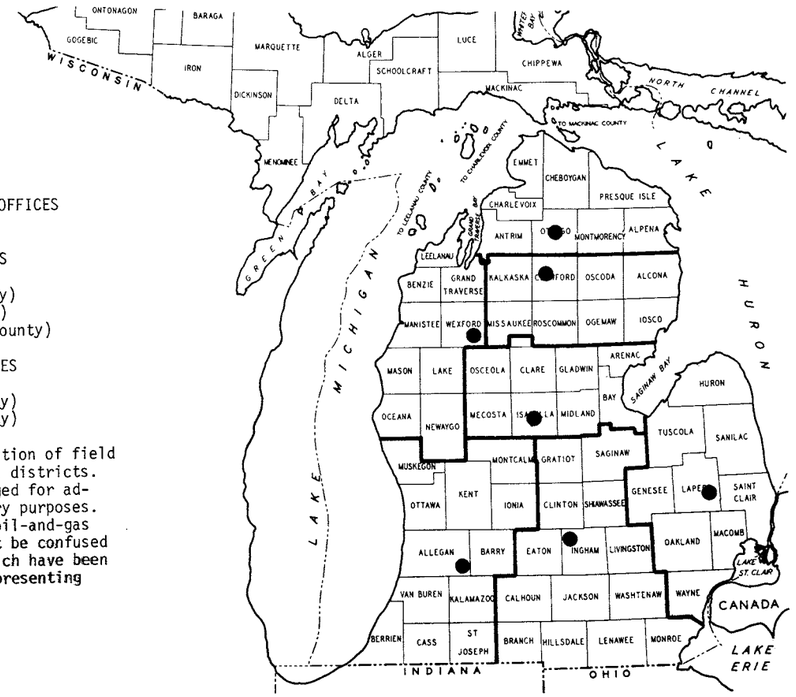
(1) Includes one gas well discovery resulting from reopening and completion of a dry hole credited to 1974 or a prior year.
(2) Includes one oil well discovery resulting from reopening and completion of a dry hole credited to 1974 or a prior year.
*Exclusion of (1) and (2) above results in 283 new-hole exploratory wells (New-Field Wildcats), 250 new-hole development wells, and 38 service wells.

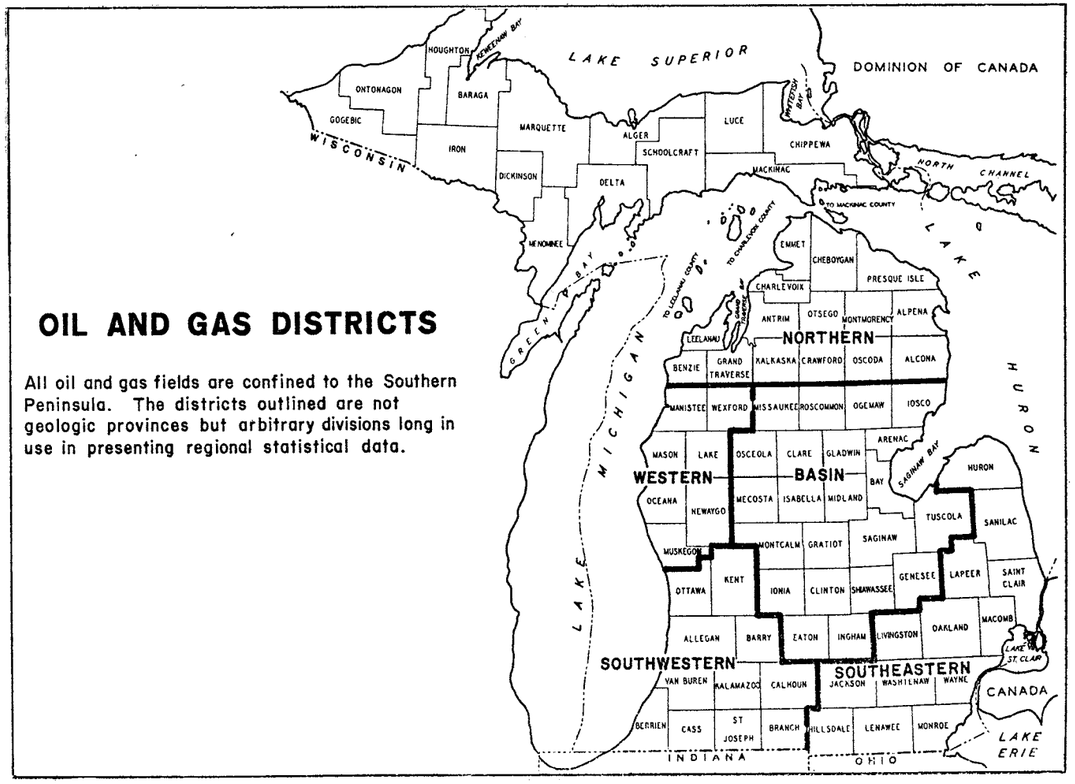
GEOLOGY DIVISION FIELD OFFICES

DNR REGION II FIELD OFFICES
Gaylord (Otsego County)
Grayling (Crawford County)
Cadillac (Wexford County)
Mt. Pleasant (Isabella County)

DNR REGION III FIELD OFFICES
Lansing (Ingham County)
Plainwell (Allegan County)
Imlay City (Lapeer County)

Dots show the general location of field offices within the several districts. These districts are arranged for administrative and regulatory purposes. Though frequently called oil-and-gas districts, they should not be confused with those shown below which have been in use for many years in presenting statistical data.





Drilled footage. The average depth, statewide, of exploratory wells drilled in 1975 was 4,937 feet compared with 5,166 feet in 1974. Development well depths averaged nearly 5,000 feet as compared with 5,053 feet in 1974. Service wells drilled in 1975 averaged about 1,893 feet as compared with 2,808 feet in 1974. Drilled footage figures and average well depths for specific counties are shown in Table 1. Average depths for wells drilled in these counties can be figured from the data shown in Table 1.

Total drilled footage figures from Geology Division records for 1975 and several prior years are as follows:

DRILLED FOOTAGE FIGURES-GEOLOGY DIVISION

Well Class	1972	1973	1974	1975
Exploratory	913,797	1,013,470	1,374,285	1,397,144
Development	581,886*	573,522	829,709	1,124,863
Service Wells (All types)	110,177	132,577	151,661	71,919
Total:	1,605,860	1,719,569	2,355,655	2,593,926

*Corrected figure: shown as 554,968 in 1972, 1973, 1974 issues.

Drilled footage figures for individual wells are included in the well completion data provided the American Petroleum Institute. Total drilled footage is published as part of their quarterly and annual summary. Drilled footage figures extracted from the aforementioned 1975 API Annual Summary are as follows:

1975 API DRILLED FOOTAGE FIGURES

Exploratory Wells			Development Wells		
Oil	Gas	Dry	Oil	Gas	Dry
287,745	91,181	958,911	497,476	84,527	509,688
Total Exploratory Footage: 1,337,837 feet*			Total Development Footage: 1,091,691 feet**		
*API Table II, page 16			**API Table III, page 17		

The difference in total drilled footage figures (59,307 Exploratory and 33,172 Development) as reported by API and by the Geology Division are related to factors previously mentioned. API footage figures are correct on the basis of reporting-year criteria.

* * * 1975 OIL AND GAS PRODUCTION * * *

Oil and gas production figures are derived from Michigan Department of Treasury tax records and records submitted to the Production-Proration Unit, Oil and Gas Section, Geology Division, Department of Natural Resources. Treasury Department records, forwarded to the Production-Proration Unit, are mainly concerned with and related to gross production figures needed to calculate revenues. These data are supported by records and reports required to be filed with the Geology Division by producing companies and purchasers. Delays in reporting production figures, methods of reporting used by producers and purchasers in handling crude oil and stable condensate from gas wells, frequent errors in the records, all result in a continuous correction and refinement of production figures. Consequently all monthly, year-end, or other production figures are subject to corrections as warranted. In Annual Statistical Summary 22, errors occurred in some of the production figures cited for the various formations for the year 1974. These were in turn reflected in the cumulative figures for gas and oil as shown on other charts. Corrections have been made at appropriate places in this issue.

Oil and gas production continued to increase statewide mainly because of continued development of the Niagaran reef belt extending from western Mason County northeasterly through Manistee County, northwestern Wexford County, Grand Traverse and Kalkaska counties, southeastern Antrim County, Otsego County, and into northwestern Montmorency County. New discoveries in Presque Isle County in 1976, but not cited or figured in this issue, have extended the trend almost to the shore of Lake Huron. The spread of these reef fields across northern Southern Peninsula counties is shown on the map accompanying Table 2.

OIL AND GAS PRODUCTION BY COUNTY IN 1975

County	Barrels Oil	MCF Gas
Allegan	111,233	49,390
Antrim	205,856	1,394,851
Arenac	187,796	---
Barry	10,326	---
Bay	193,602	---
Calhoun	1,313,851	5,024,177
Clare	331,112	112,573
Crawford	857,767	599,138
Eaton	177,276	2,949,925
Genesee	12,367	---
Gladwin	236,125	---
Grand Traverse	2,152,256	19,842,846
Gratiot	5,183	2,337
Hillsdale	1,312,031	4,507,746
Ingham	2,462,725	3,990,631
Isabella	117,590	---
Jackson	432,056	2,316,461
Kalkaska	3,463,247	36,313,294
Kent	59,644	6,081
Lake	87,097	---
Lapeer	77,936	33,637
Livingston	1,419	1,360,565
Macomb	2,067	324,307
Manistee	1,040,939	1,957,137
Mason	283,738	3,926,935
Mecosta	36,448	14,449
Midland	166,828	---
Missaukee	654,663	632,424
Monroe	5,931	---
Montcalm	79,933	---
Montmorency	47	---
Muskegon	9,946	---
Newaygo	14,327	---
Oakland	33,323	1,326,519
Oceana	33,222	---
Ogemaw	509,348	254,259
Osceola	368,639	56,059
Oscoda	640	---
Otsego	5,719,179	10,600,738
Ottawa	65,420	51,485
Presque Isle	236	---
Roscommon	355,740	370,347
Saginaw	16,918	---
St. Clair	1,029,272	2,842,950
Shiawassee	5,178	---
Tuscola	46,817	---
Van Buren	9,252	---
Washtenaw	2,039	---
Wayne	3,958	---
Wexford	117,332	1,816,906
Totals	24,419,525	102,678,067

OIL AND GAS PRODUCTION BY DISTRICT IN 1975

District	Barrels Oil	MCF Gas
Basin	5,964,288	8,383,004
Northern	12,399,228	68,750,867
Southeastern	2,900,032	12,712,185
Southwestern	1,569,726	5,131,133
Western	1,586,601	7,700,978
Totals	24,419,525	102,678,067

OIL AND GAS PRODUCTION BY MONTH IN 1975

	Barrels Oil	MCF Gas
January	1,759,976	7,488,174
February	1,546,783	6,811,216
March	1,832,571	8,025,321
April	1,751,153	7,904,093
May	1,868,212	8,436,938
June	1,942,691	8,874,612
July	2,194,566	8,974,008
August	2,156,729	8,840,014
September	2,244,951	9,125,189
October	2,404,139	8,977,090
November	2,325,767	9,623,629
December	2,391,987	9,583,362
Totals	24,419,525	102,678,067

* * * NATURAL GAS LIQUIDS * * *

The amount of liquids produced from gas-condensate reservoirs associated with western and northern Michigan reef traps continues to increase. These liquids (stabilized condensates) produced from wells classified as gas wells are included in the yearly oil production totals cited in various tabulations in this publication. Wells officially determined to be gas wells are assigned to the Public Service Commission for well connection permits and determination and jurisdiction of gas production allowables. Under Public Service Commission jurisdiction, there is no restriction on the amount of liquids produced along with the gas. Gas plants operated by Shell Oil Company and by Amoco Production Company in Kalkaska County strip natural gas liquids from the gas. The liquids are then sold to another company through the Shell pipeline that terminates at Marysville, Michigan.

An attempt has been made to maintain records of condensate production from the northern reef trend reservoirs discovered since 1969. Production-Proration Unit records show the following figures for liquids classified as condensate:

CONDENSATE PRODUCTION

Year	Barrels
1969	0
1970	18,946
1971	98,668
1972	125,768
1973	335,041
1974	1,187,498
1975	1,863,338
Total	3,629,259

Gas plant operations are summarized in table form elsewhere herein. It should be noted that the LPG recovery figures for the Shell and Amoco plants in Kalkaska County include stabilized condensate as well as LPG's.

A no-flare order, enacted as a conservation measure, prohibits the flaring of oil-well gas and requires Salina-Niagaran oil wells in specified counties to be shut in until a market connection is achieved for the sale of the gas or an exception to the order is granted. Consequently, Special Order No. 3-71, amended, in effect since late 1971, tends to temporarily curtail production from Salina-Niagaran oil wells until such time as gas-gathering pipelines are laid and connections made.

Another order, Special Order No. 1-73, deals with spacing and proration of Salina-Niagaran wells in specific counties. This order established basic 80-acre drilling units (either stand-up or lay-down units) for Salina-Niagaran oil and/or gas wells and statewide proration from Salina-Niagaran oil reservoirs in the specified counties or parts of counties covered by the order. The area covered by the no-flare order and by the spacing-proration order are shown on the inset map along with information on the drilling unit, well spacing, and basic oil-gas allowables. These prudent and justifiable conservation measures effectively prevent waste of millions of cubic feet of valuable and much needed gas that might have been flared in past years, and these measures should ultimately result in more efficient drainage of reef reservoirs and a greater recovery of the liquid hydrocarbons.

* * * OIL AND GAS VALUATION * * *

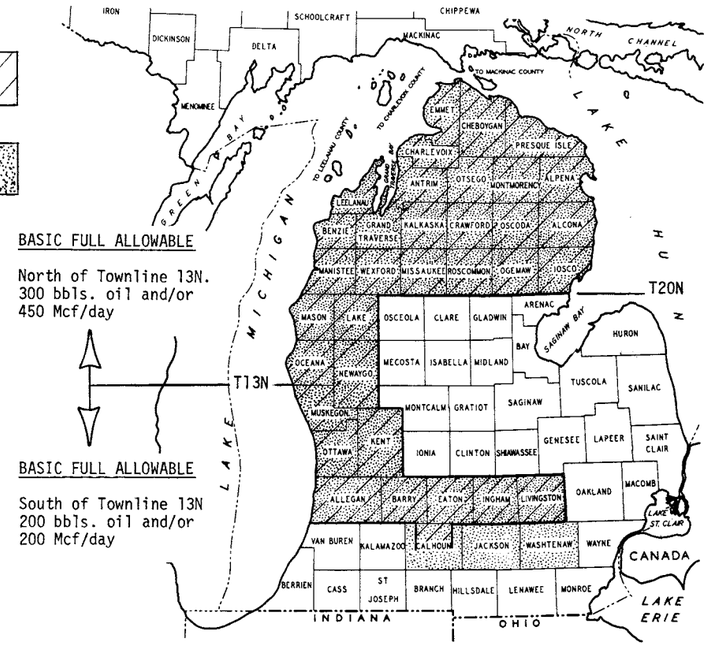
Records maintained by the Production-Proration Unit indicate the average price paid at the wellhead in 1975 for Michigan crude, including condensate, was $10.74 per barrel compared with $8.56 per barrel in 1974. The gross value of these products amounted to $262,351,653 as compared with $154,746,373 in 1974. The value of Michigan produced natural gas continued to rise in 1975. The average price of gas sold at the wellhead was $.634 per Mcf as compared with $.50 per Mcf in 1974. The gross value of this product amounted to $65,103,875 in 1975 as compared with $35,181,955 in 1974.

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

Total imports to Michigan refineries of U.S. domestic and Canadian crude oil amounted to 37,599,514 barrels in 1975, a decline from the 42,099,556 barrels imported during 1974. Imports of U.S. domestic crude to Michigan refineries via pipeline from western and midwestern states increased from 14,781,592 barrels in 1974

Area covered by Special Spacing and Proration Order

Area covered by "no flare" order



BASIC FULL ALLOWABLE

North of Townline 13N.
300 bbls. oil and/or
450 Mcf/day

BASIC FULL ALLOWABLE

South of Townline 13N
200 bbls. oil and/or
200 Mcf/day

DRILLING UNIT

80 acres, more or less, by combining two (2) governmental surveyed quarter-quarter sections of land with a common boundary of approximately 1320 feet.

WELL SPACING

Not less than 460 feet from the unit line receives full allowable. From 460 feet to not less than a minimum distance of 330 feet from the unit line receives 50% allowable.

to 15,321,840 barrels in 1975. Imports of Canadian crude via pipeline from western Canada oil fields continued to decline. Canadian imports amounted to 27,317,964 barrels in 1974 but declined to 22,277,674 barrels in 1975. The trend of U.S. domestic and Canadian imports to Michigan refineries from 1962 through 1975 is shown graphically. Imports by month during 1975 are as follows:

1975 CRUDE OIL IMPORTS (Bbls.)

	Domestic	Canadian	Total
January	1,496,176	2,285,592	3,781,768
February	1,397,140	1,836,565	3,233,705
March	1,428,961	1,840,231	3,269,192
April	1,152,283	1,624,704	2,776,987
May	1,338,630	1,479,550	2,818,180
June	625,742	1,452,758	2,078,500
July	1,390,730	1,355,716	2,746,446
August	1,194,213	2,053,688	3,247,901
September	1,400,614	1,622,604	3,023,218
October	1,359,321	1,729,977	3,089,298
November	1,302,411	2,372,437	3,674,848
December	1,235,619	2,623,852	3,859,471
Totals	15,321,840	22,277,674	37,599,514

The bulk of Michigan produced crude goes to Michigan refineries but some is exported. The amount exported and credited to out-of-state terminals increased from 2,766,486 barrels in 1974 to 6,899,744 barrels in 1975. Records kept by the Production-Proration Unit show the following exports, by month, of Michigan produced crude:

1975 CRUDE OIL EXPORTS (Bbls.)

January	390,283
February	355,730
March	470,140
April	468,433
May	482,110
June	383,809
July	760,369
August	656,927
September	816,068
October	767,058
November	703,434
December	645,383
Total	6,899,744

Natural gas imports to Michigan markets and gas storage fields in 1975 via interstate pipelines, primarily from Texas, Louisiana, Oklahoma and Kansas fields, amounted to 840,412,900 Mcf, a slight decrease under the 851,903,391 Mcf imported in 1974. Compilations by the Gas Section, Michigan Public Service Commission, show the following imports, by month, during 1975:

1975 PIPELINE GAS IMPORTS (Mcf)

January	47,898,200
February	47,609,100
March	62,592,000
April	77,667,700
May	93,689,700
June	93,230,500
July	92,760,100
August	79,775,900
September	85,747,200
October	71,457,100
November	49,893,100
December	38,092,300
Total	840,412,900

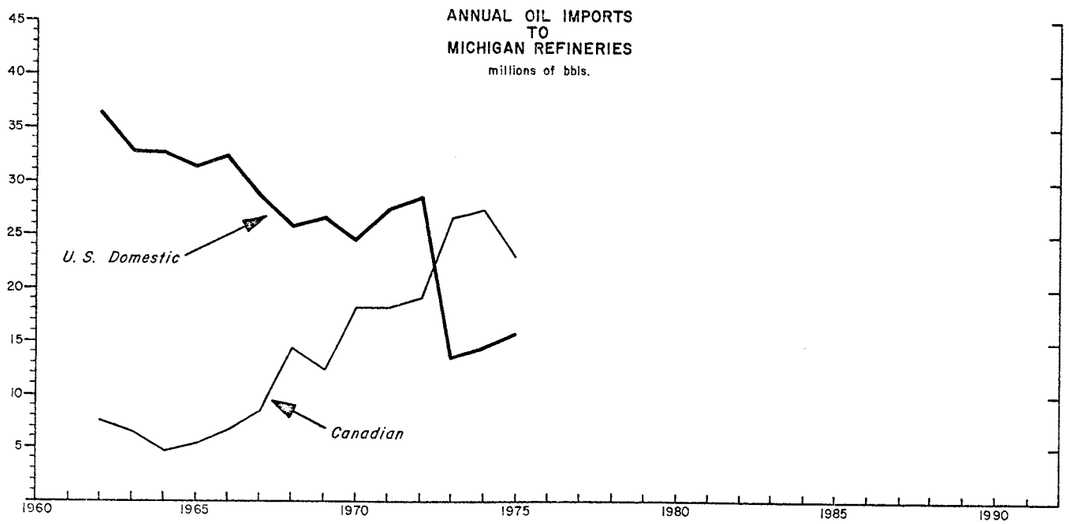
* * * NEW FIELD AND POOL DISCOVERIES * * *

Silurian reefs were again the main type of oil-and-gas trap found in 1975 and all appeared to have been located by seismic methods. Most were found along the northern reef trend extending from Mason County in the Western District northeasterly through part of the Northern District. Others were found in the southern part of the basin in the Calhoun-Eaton-Ingham County area, and in the Macomb-St. Clair County part of the Southeastern District.

All the new discoveries are tentatively classified as Class E pools having possible oil and gas recoveries as defined by the Committee of Statistics of Drilling, American Association of Petroleum Geologists. These classes, shown below, 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

Michigan wells are initially classified as near as possible according to guidelines established by AAPG and API (AAPG Bulletin, Vol. 58/8, August 1974, pp. 1501-1503). Classifications such as exploratory, development, and the various types of service wells, are made after inspection of appropriate oil and gas maps and noting



1975 DISCOVERY WELLS

County Location	Field Name	Operator and Lease	Permit Number	Depth to Pay	Total Depth	Initial Production n=(N)IP t=(T)IP BOPD	Initial Production n=(N)IP t=(T)IP MCFGPD	Producing Formation	Basis for Loc.	AAPG Pool Class
NEW FIELDS										
Calhoun 8-1S-6W	Convis	Mobil Oil Corp. Charles West #1	30207	2978	3555	F91t		Salina-Niagaran	Seis.	E
Calhoun 18-1S-6W	Convis	Mobil Oil Corp. Alvin Smith Unit #1	30167	2909	3427	F1080	+110 Mcft	Salina-Niagaran	Seis.	E
Calhoun 25-1S-6W	Convis	Mobil Oil Corp. Freiny Unit #1	30414	2876	3430	F261t		Salina-Niagaran	Seis.	E
Calhoun 30-1S-6W	Convis	Mobil Oil Corp. Smith-Bicknell Unit #1	30505	2819	3346	F960t		Salina-Niagaran	Seis.	E
Calhoun 3-1S-5W	Lee	MGU-Mask-Markel-Wood Treadwell et al Unit #1-3	29835	3160	3532		40 Mcft	Salina-Niagaran	Seis.	E
Calhoun 30-1S-5W	Lee	Mobil Oil Corp. Ira Rubin #1	30663	2950	3040	F50	+150 Mcft	Niagaran	Seis.	E
Calhoun 32-1S-5W	Lee	Mobil Oil Corp. Vanden Heede Unit #1-A	30435	2557 & 2904	3415		867 Mcft	Sal E Zone Sal-Niag	Seis.	E
Calhoun 21-1S-7W	Pennfield	Sullivan and Co. Harold Unit #1	30351	2743	2850	F240	+ gast	Salina-Niagaran	Seis.	E
Crawford 1-28N-4W	Frederic	Shell Oil Co. Salling-Hanson #1-1	30067	6604	6880	F456	+513 Mcft	Niagaran	Seis.	E
Eaton 32-2N-3W	Eaton Rapids	Consumers Power Co. Mock et al #1	30624	3799	3917	168	+78 Mcft	Niagaran	Seis.	E
Eaton 5-1N-3W	Hamlin	Mobil Oil Corp. Long-Pricco Unit #1	30466	3650	3900	F720t		Salina-Niagaran	Seis.	E
Eaton 5-1N-3W	Hamlin	Consumers Power Co. Wiseman-Whittum et al #1	30623*	3739	3852		48 Cond./Day +1300	Salina-Niagaran	Seis.	E
Eaton 8-1N-3W	Hamlin	Kulka and Schmidt Miller-Phinney #1	30081	3697	4056	F18.5	+490 Mcft	Niagaran	Seis.	E (1)
Grand Traverse 26-26N-11W	Blair	Shell Oil Co. Biermacher-St-Blair #2-26A	30113*	5804	6035		219 Cond./Day +3392t	Niagaran	Seis.	E
Grand Traverse 27-26N-11W	Blair	Shell Oil Co. Kyselka et al #1-27	30173	5563	5820		96 Cond./Day +1343t	Niagaran	Seis.	E
Grand Traverse 35-26N-11W	Blair	Shell Oil Co. Schmuckal #1-35	30085	6126	6320	F230	+461 Mcft	Niagaran	Seis.	E
Grand Traverse 1-25N-12W	Grant	Shell Oil Co. & NMEC Kolbusz et al #1-1	30166	5807	6060		3.5 Cond./11 Hrs. +1106t	Niagaran	Seis.	E
Grand Traverse 4-25N-12W	Grant	Shell Oil Co. Zezulka #1-4	30236	5469	5724	315	+294 Mcft	Niagaran	Seis.	E
Grand Traverse 10-25N-12W	Grant	Shell Oil Co. St-Grant-Robertson #1-10	30450	5634	5875	F228	+80 Mcft	Niagaran	Seis.	E
Grand Traverse 11-25N-12W	Grant	NMEC Traylor #1-12	30251*	5767	6030		7 Cond. +10 MMcft	Niagaran	Seis.	E
Grand Traverse 13-25N-12W	Mayfield	Shell Oil Co. Longcore et al #2-18	30359*	5874	5969	F384	+598 Mcft	Niagaran	Seis.	E
Grand Traverse 27-25N-12W	Grant	NMEC & Shell Oil Co. Bracebridge #1-A	30530*	5741	6188	F300t	+180 Mcft	Niagaran	Seis.	E
Grand Traverse 3-25N-11W	Mayfield	Shell Oil Co. Zimmerman et al #3-3	30143	6019	6325	F369	+384 Mcft	Niagaran	Seis.	E
Grand Traverse 3-25N-11W	Mayfield	Shell Oil Co. Waslawski #5-3	30327	6116	6259	F315	+438 Mcft	Niagaran	Seis.	E
Grand Traverse 6-25N-11W	Mayfield	Shell Oil Co. Weber et al #1-6	29892	5664	5932	F743	+483 Mcft	Niagaran	Seis.	E
Grand Traverse 18-25N-11W	Mayfield	Shell Oil Co. Stevenson et al #3-18	30504	6198	6330	F350	+362 Mcft	Niagaran	Seis.	E
Grand Traverse 3-25N-10W	Paradise	Shell Oil Co. Chamberlain et al #1-3	30520	6519	6890		20 Cond./MMcf +3553t	Niagaran	Seis.	E
Grand Traverse 19-26N-10W	Paradise	Shell Oil Co. St-Paradise #1-19	30286	5750	6034	F360	+936 Mcft	Salina-Niagaran	Seis.	E
Grand Traverse 20-26N-10W	Paradise	Shell Oil Co. St-Paradise #1-20	30391	6027	6252	F312	+480 Mcft	Niagaran	Seis.	E
Grand Traverse 21-26N-10W	Paradise	Shell Oil Co. Wise-Smith #1-21	30231*	5848	6198	F243	+241 Mcft	Niagaran	Seis.	E
Grand Traverse 33-26N-10W	Paradise	Shell Oil Co. St-Paradise #1-33	30287*	6093	6627		37.8 Cond./MMcf +3803t	Niagaran	Seis.	E
Grand Traverse 34-26N-10W	Paradise	Industrial Nat. Gas Corp. O. B. Widener II et al #1-34A	30452	6332	6808		3 Cond. +1000t	Niagaran	Seis.	E
Grand Traverse 16-26N-9W	Union	Amoco Prod. Co. Orth Unit #1-16	30155	6207	6716		10 Cond./6 Hrs. +2.2 MMcft	Niagaran	Seis.	E
Grand Traverse 28-26N-9W	Union	Amoco Prod. Co. St-Union "J" #1-28	30333	6810	7062		196 Cond. +5600t	Niagaran	Seis.	E
Grand Traverse 28-27N-9W	Whitewater	Shell Oil Co. St-Whitewater #2-28	29871	6096	6310	F396	+528 Mcft	Niagaran	Seis.	E
Ingham 17-1N-2W	Onondaga	Mobil Oil Corp. Bucher Unit #2	30615	3610	3830	F96	+288 Mcft	Niagaran	Seis.	E
Ingham 8-2N-1W	Vevay	Mobil Oil Corp. Gilbert Unit #1	30441	4140	4312		1000 +est. 20 BO/7 Hrs.	Niagaran	Seis.	E
Kalkaska 18-28N-5W	Blue Lake	Amoco Prod. Co. St-Blue Lake Unit "E" #1-18	30162	6960	7186	F370	+310 Mcft	Niagaran	Seis.	E
Kalkaska 28-28N-6W	Cold Springs	Amoco Prod. Co. Simpson Unit "J" #1-28	30024	6790	7150	F276	+538 Mcft	Niagaran	Seis.	E
Kalkaska 19-27N-6W	Excelsior	Shell Oil Co. Kent Rosenberg #1-19	30230*	7091	7288		12.3 Cond./MMcf +4542t	Niagaran	Seis.	E
Kalkaska 28-27N-7W	Kalkaska	Michael T. Cowen Williams et al #1-28A	30677*	7088	7205		196 Cond. +2250t	Niagaran	Seis.	E
Kalkaska 20-27N-8W	Kalkaska	NMEC USA-Kalkaska #1-20	30473	6493	6750	Gauge not available		Niagaran	Seis.	E
Kalkaska 32-27N-8W	Kalkaska	Amoco Prod. Co. St-Kalkaska Unit "L" #1-32	30124	6585	6890	F300	+400 Mcft	Niagaran	Seis.	E
Macomb 28-4N-1E	Washington, Sec. 28	MCGC S. and K. Kashat #1	29867	3357	3542	P13t		Salina A-1 Carb.	Seis.	E
Manistee 11-23N-15W	Bear Lake	Shell Oil Co. Darbee-Brannan #3-11	30527	4668	4740	F408t		Niagaran	Seis.	E
Manistee 19-23N-15W	Bear Lake	Shell Oil Co. St-Bear Lk-Vil of Onekema #1-19	30611	4262	4556	F336	+13.4 Mcft	Niagaran	Seis.	E
Manistee 20-23N-15W	Bear Lake	Shell Oil Co. Yankee et al #1-20	30000	4338	4722	F321	+299 Mcft	Salina-Niagaran	Seis.	E
Manistee 26-23N-15W	Bear Lake	Shell Oil Co. Hilliard et al #2-26	30066	4861	5036	F350	+480 Mcft	Niagaran	Seis.	E
Manistee 27-23N-15W	Bear Lake	Shell Oil Co. Olson #1-27	30149	4673	4870	F213	+1812 Mcft	Niagaran	Seis.	E
Manistee 34-23N-15W	Bear Lake	Shell Oil Co. Zimmerman et al #2-34	30320	4783	4957	F376	+484 Mcft	Niagaran	Seis.	E
Manistee 12-24N-13W	Cleon	Shell Oil Co. St-Cleon #3-12A	30356*	5702	6043	F384	+291 Mcft	Niagaran	Seis.	E
Manistee 22-24N-13W	Cleon	NMEC Thompson #1	30290	5436	5700		27.5 Cond./MMcf +220 MMcft	Niagaran	Seis.	E

1975 DISCOVERY WELLS CONTINUED

Manistee 1-22N-16W	Manistee 1-22N-16W, Pool A	Shell Oil Co. Schimke #2-1	30319	4461	4630	F234 +506 Mcf[t]		Niagaran	Seis.	E
Manistee 2-22N-16W	Manistee 2-22N-16W	Whitney Oil & Gas Corp. Hadaway #2-2A	30540	4245	4558	F456 + Gas		Niagaran	Seis.	E
Manistee 16-22N-16W	Manistee 16-22N-16W	Shell Oil Co. A. E. Modjeski #2-16	30112	4049	4228	F445 +387 Mcf[t]		Niagaran	Seis.	E
Manistee 20-22N-16W	Manistee 20-22N-16W	Shell Oil Co. Spolyor et al #1-20	30083	3996	4225	F324 +326 Mcf[t]		Niagaran	Seis.	E
Manistee 4-23N-14W	Maple Grove 4-23N-14W	Shell Oil Co. St-Maple Grove #1-4	30201	4895	5153	F360 +502.8 Mcf[t]		Niagaran	Seis.	E
Manistee 19-23N-14W	Maple Grove 19-23N-14W	Shell Oil Co. Mitchell et al #1-19	30200*	4597	5110		7.7 Cond./MMcf +3116[t]	Niagaran	Seis.	E
Manistee 21-24N-14W	Springdale 21-24N-14W	Shell Oil Co. St-Springdale #1-21	30146	4883	5085	F449 +261 Mcf[t]		Niagaran	Seis.	E
Midland 4-15N-2W	Geneva, Sec. 4	McClure Oil Co. Berthume et al #1-4	30126	3718	3795	P10[t]		Dundee	Seis.	E
Midland 15-15N-2W	Geneva, Sec. 15	Consumers Power Co. Middleton et al #1	30457	3186	3990	P6[t]		Traverse	Sub-surf.	E
Montmorency 29-32N-1E	Montmorency 29-32N-1E	Shell Oil-Total-Leonard Stella Maris #1-29A	30118*	4794	4939		20 Cond./MMcf +5107[t]	Niagaran	Seis.	E
Otsego 21-30N-3W	Bagley 21-30N-3W	Amoco Prod. Co. Lucas et al Unit #1-21	30160	5962	6219	F150[t]		Niagaran	Seis.	E
Otsego 1-30N-1W	Charlton 1-30N-1W	Shell Oil Co. Campbell et al #1-1	30692	5865	6065		29 Cond./MMcf +7446[t]	Niagaran	Seis.	E
Otsego 30-31N-1W	Charlton 30-31N-1W	Shell Oil Co. St-Charlton #1-30	29989	5435	5650	F377 +331 Mcf[t]		Niagaran	Seis.	E
Otsego 10-29N-2W	Chester 10-29N-2W	Shell Oil Co. St-Chester #1-10	30097	6145	6644		240 Cond. +5869[t]	Niagaran	Seis.	E
Otsego 5-30N-2W	Chester 5-30N-2W, Pool A	Moskowitz, Simcox, Stevenson Piasecki and Edwards #1-5A	30662*	5634	5938	F25/Hr.[t]		Salina A-1 Carb.	Seis.	E
Otsego 22-31N-2W	Dover 21-31N-2W	Getty Oil Co. T. Snowday, Jr. #1-22	30402*	5210	5527	F428 +340 Mcf[t]		Salina-Niagaran	Seis.	E
Otsego 22-31N-2W	Dover 22-31N-2W	Getty Oil Co. Green-Snowday #1-22	30403*	5223	5531	F356 +280 Mcf[t]		Niagaran	Seis.	E
Otsego 27-31N-2W	Dover 27-31N-2W	Getty Oil Co. Green #1-27	30178*	5179	5564	F240 +50 Mcf[n]		Salina A-1 Carb.	Seis.	E
Otsego 26-29N-3W	Otsego Lake 26-29N-3W	Industrial Nat. Gas Corp. St-Otsego Lake #1-26A	30408	6810	6968	F360 +425 Mcf[t]		Niagaran	Seis.	E
St. Clair 31-7N-17E	Port Huron 31-7N-17E	Mau-Gui Oil Co. McLeod and Baldwin #1	25196	3242	3288		35(gauge)	Niagaran	Acreage	E
Wexford 23-21N-11W	Henderson, Sec. 23	MGU Dev. Co. St-Henderson #1-23	29996	4894	4970	P20[t]		Richfield	Seis.	E
Wexford 6-24N-12W	Grant 31-25N-12W	Shell Oil Co. Borak-St-Wexford et al #1-6	30295*	5772	6116	F72 +40 Mcf[t]		Niagaran	Seis.	E
Wexford 6-24N-12W	Wexford 6-24N-12W	Shell Oil Co. Schroeder #2-6	30456	5775	6061	F345 +381 Mcf[t]		Niagaran	Seis.	E
Wexford 18-24N-12W	Wexford 18-24N-12W, Pool A	Shell Oil Co. St-Wexford et al #1-18A	30234	5885	6165	F396 +486 Mcf[t]		Niagaran	Seis.	E

*Directionally drilled hole. Total depth listed is the true vertical depth and not the measured depth. Depths to pay are also true vertical depths.

(1) Well was originally drilled as a development well in the Hamlin 8-1N-3W field. Reclassified as a new pool discovery (Pool A) after public hearing in October, 1975.

The wells listed as 1975 Niagaran reef discoveries are subject to reclassification as to product. Future development may also indicate reservoir connection with a nearby reef reservoir previously classified as a discovery and thus reclassified to development well status.

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

the location of the test in reference to established fields, dry holes, etc. Gas storage facility wells, water injection wells and other types of service wells are generally designated as such by the operator. The Lahee classification system for designating exploratory or development wells is particularly adaptable to structural traps but does not adapt to all situations involving small reefs such as are found in Michigan. Because of the apparent small areal extent of most reefs as shown by seismic anomalies and the close proximity of one reef to another, especially in the northern and southern reef belts, it has become increasing difficult to classify with certainty all new well locations as exploratory or development.

Discovery wells credited to 1975 are shown on the forthcoming list. The list may show a few wells that were reclassified during 1976. Reservoir performance may show that a well previously classified as a development well should actually be considered as being in a separate reservoir or pool. Likewise, a so-called discovery well may actually turn out to be a development well to a nearby reef reservoir. Also, a discovery well may be completed as an oil well but at sometime later be reclassified as a gas well and, conversely, a gas well may later be reclassified as an oil well. Changes in classification may be the result of action by the regulating agency after enough data has been accumulated on the well or wells, or may result from new data presented at public hearings and the decision of the Supervisor of Wells after thorough consideration of the new data.

An analysis of 1975 discovery wells according to geologic system and an analysis drilling objectives penetrated at total depth by wells completed in 1975 follows.

ANALYSIS OF 1975 DISCOVERY WELLS BY GEOLOGIC SYSTEM

System	Formation or Pay	Number of Discoveries 1973	1974	1975
Pennsylvanian		-	-	-
Mississippian	"Michigan Stray Ss."	-	-	-
	"Berea Sandstone"	-	-	-
Devonian	Antrim Shale (Gas)	-	-	-
	"Traverse Lime"	-	-	1
	Dundee	-	1	1
	"Reed City"	-	-	-
	Detroit River "Sour Zone"	-	-	-
	Richfield	-	-	1
Silurian	Salina E Zone	-	-	1**
	Salina A-1 or A-2	6	-	3
	Niagaran reef*	69	91	68
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.
**This well was a dual discovery in both the Salina E Zone and the Niagaran.

DRILLING OBJECTIVES IN MICHIGAN

System	Formation or Pay	Percentage 1973	1974	1975
Pennsylvanian		-	-	-
Mississippian	"Michigan Stray Ss."	11.1	3.9	5.1
	"Berea Sandstone"	-	-	.2
Devonian	Antrim Shale (Gas)	-	-	-
	"Traverse Lime"	1.6	.9	2.6
	Dundee	3.2	3.9	4.2
	"Reed City"	1.9	1.2	1.8
	Detroit River "Sour Zone" & Richfield	1.4	4.1	3.9
Silurian	Salina-Niagaran	74.1	81.0	77.0
Ordovician	Trenton-Black River	3.0	3.2	3.2
	St. Peter Ss. or Prairie du Chien	3.0	1.0	1.6
Cambrian or Precambrian	Undifferentiated	.8	.8	.7

* * * STATE OIL AND GAS REVENUE * * *

Total State revenues credited to 1975 and derived from royalty, rental, bonus from lease sales, and application-assignment fees amounted to $11,452,377.97. This figure is derived from these components:

Hydrocarbon royalties	
Oil	$5,552,448.56
Condensate	1,200,199.16
Gas	2,306,333.98
Casinghead gas	422,623.60
LPG	154,170.33
Shut-in royalty	2,059.80
Subtotal	$9,637,835.43
Rentals	$1,297,691.74
Bonus	514,247.80
Application-Assignment fees	2,603.00
Subtotal	$1,814,542.54
Total revenue	$11,452,377.97

Oil and gas revenue figures according to year and source are found in Part 3.

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

OIL AND GAS WELL RECORDS. Descriptive geological logs and drillers logs are available for over 31,200 tests, including exploratory, development, facility and other types of wells. Individual well records may be purchased at a nominal cost from the Geology Division. Electric or radiation logs of any type are not available for distribution or sale.

OIL AND GAS FIELD MAPS. Blueprint copies of 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 or tracings from which blueprint copies are made are posted on a regular basis. An oil and gas field maps list may be obtained from the Geology Division upon request.

TABLE 1 DRILLING PERMITS, WELL COMPLETIONS, DRILLED FOOTAGE BY COUNTY, 1975

Classification of New Hole Completions

Does not include reworked wells or old wells drilled deeper

COUNTY	OIL/GAS PERMITS ISSUED	OIL AND GAS TESTS		RESULTS			SERVICE WELLS		TOTAL WELLS DRILLED	TOTAL DRILLED FOOTAGE			
		Completed		Oil	Gas	Dry	Completed						Average Well
		Explor.	Devel.	Wells	Wells	Holes	G.S.	B.D.W.		Explor.	Devel.	Fac.	Depth
Allegan	4	1	0	0	0	1	0	0	1	2,675	0	0	2675
Antrim	2	3	0	0	0	3	0	0	3	16,116	0	0	5372
Arenac	4	1	0	0	0	1	0	0	1	2,879	1,473*	0	2879
Barry	3	1	0	0	0	1	0	0	1	5,390	0	0	5390
Bay	1	0	0	0	0	0	0	0	0	0	0	0	0
Benzie	3	4	0	0	0	4	0	0	4	21,934	0	0	5484
Berrien	4	2	1	0	0	3	0	0	3	1,554	672	0	742
Branch	1	0	0	0	0	0	0	0	0	0	0	0	0
Calhoun	81	24	45	27	3	39	0	0	69	81,435	148,683	0	3335
Cass	5	0	3	3	0	0	0	0	3	0	2,135	0	712
Cheboygan	6	3	0	0	0	3	0	0	3	12,703	0	0	4234
Clare	2	2	0	0	0	2	0	0	2	9,520	23*	87**	4760
Crawford	3	1	2	2	0	1	0	0	3	6,880	14,242	0	7041
Eaton	22	10	11	7	2	12	0	0	21	41,587	43,781	0	4065
Gladwin	1	0	0	0	0	0	0	0	0	0	0	82**	0
Grand Traverse	89	55	35	21	14(1)	56	0	0	90	323,501	211,088	0	5940
Gratiot	4	5	0	0	0	5	0	0	5	31,847	0	303**	6369
Hillsdale	22	1	9	7	0	3	0	0	10	4,138	36,358	0	4050
Ingham	16	11	4	2	1	12	0	0	15	45,970	16,762	0	4182
Ionia	0	1	0	0	0	1	0	0	1	2,862	0	0	2862
Isabella	15	2	5	1	0	6	0	0	7	7,530	16,150	210**	3383
Jackson	4	2	1	0	0	3	0	0	3	8,460	4,480	0	4313
Kalamazoo	1	1	0	0	0	1	0	0	1	2,976	0	0	2976
Kalkaska	43	24	17	14	3	24	0	0	41	166,868	100,529	0	6521
Kent	1	1	0	0	0	1	0	0	1	2,610	0	0	2610
Lapeer	7	0	3	2	1	0	0	0	3	0	7,553	0	2518
Lenawee	5	0	0	0	0	0	0	0	0	0	0	0	0
Livingston	3	0	0	0	0	0	0	0	0	0	0	0	0
Macomb	19	3	6	1(2)	5	4	6	0	15	10,912	22,208	17,518	5626
Manistee	111	38	58	44	5	47	0	0	96	180,615	282,333	0	4822
Mason	6	3	4	3	0	4	0	0	7	13,452	18,100	0	4507
Mecosta	5	2	3	1	0	4	0	0	5	7,559	11,044	594**	3721
Midland	3	3	0	2	0	1	0	0	3	13,049	0	30**	4350
Missaukee	6	0	7	6	0	1	0	0	7	0	31,771	0	4539
Montcalm	7	7	0	0	0	7	1	0	8	25,882	1,300	2,279	3595
Montmorency	14	9	3	0	1	11	0	0	12	42,910	12,190	0	4592
Muskegon	0	0	1	1	0	0	0	0	1	0	1,685	0	1685
Newaygo	27	0	0	0	0	0	25	0	25	0	0	29,588	1281
Oakland	2	3	2	0	2	3	1	0	6	12,939	8,699	2,474	4019
Oceana	5	8	1	0	0	9	0	0	9	22,225	2,060	0	2698
Ogemaw	2	0	1	1	0	0	0	0	1	0	4,550*	6**	4382
Osceola	6	1	3	0	0	4	5	0	9	3,935	6,874*	18,748**	3220
Otsego	50	32	18	13	2	35	0	0	50	184,930	97,658	0	5652
Ottawa	2	1	0	0	0	1	0	0	1	1,550	0	0	1550
Presque Isle	9	7	0	0	0	7	0	0	7	21,324	0	0	3046
Roscommon	2	0	3	3	0	0	0	0	3	0	13,441	0	4480
Shiawassee	1	1	0	0	0	1	0	0	1	7,672	0	0	7672
St. Clair	8	3	1	0	1(3)	4	0	0	4	12,173	2,152	0	3581
Tuscola	3	0	1	1	0	0	0	0	1	0	2,585	0	2585
Van Buren	6	0	2	1	0	1	0	0	2	0	2,284	0	1142
Washtenaw	0	1	0	0	0	1	0	0	1	3,450	0	0	3450
Wexford	7	6	0	4(4)	0	3	0	0	6	33,132	0	0	5522
Total	653	283	250	167	40	330	38	0	571	1,397,144	1,124,863	71,919	

*Includes some development footage credited to old wells drilled deeper.
**Includes some facility footage credited to old wells drilled deeper.
(1)Includes one 1974 Dry Hole completion that was reopened in 1975 and recompleted as a gas discovery.
(2)Includes one 1974 Dry Hole completion that was classified as a 1975 oil discovery.
(3)Includes one 1964 Dry Hole completion that was classified as a 1975 gas discovery.
(4)Includes one 1974 Dry Hole which was completed in 1975 as an oil discovery.

PART 2
EXPLANATION

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

TABLES 2, 3 and 4 list Michigan's oil and gas fields and gas storage reservoirs. 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.

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. Except as provided by special orders covering drilling units, rules promulgated under Act No. 61, P.A. of 1939, as amended, call for a minimum 40-acre unit consisting of a governmental quarter-quarter section of land. Special Order No. 1-73 calls for basic 80-acre drilling units for Salina-Niagaran or deeper tests in specified areas of the state. These 80-acre units are formed by two governmental quarter-quarter sections of land having a common boundary of approximately 1320 feet. In past years drilling units have been 10, 20 or 40 acres for oil wells. A field may have had 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. 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, or a unit size based on seismic and reservoir data. Reef reservoirs, especially in the northern reef trend, have been assigned 80, 160, 640, or a unit based on seismic data. Changes in drilling units, off-pattern wells, etc., complicate the maintenance of accurate figures during the lifetime of a given field or pool.

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

Gas Fields, Gas-Condensate Fields. Some fields are listed as "shut-in" and show no production figures. In the case of Niagaran reef fields classified as gas-condensate reservoirs, virtually all those listed as shut-in at the end of 1975 were waiting pipeline construction or gas-handling facilities. Others, mainly small dry-gas reservoirs in shallower formations, are listed as shut-in because of slow field development, small reserves or lack of marketing facilities. Other fields, not considered to have commerical-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. 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 gas storage operations. Further, the listed sections do not necessarily relate to potential or future gas storage area or boundary. The table listing undeveloped gas storage reservoirs has been discontinued beginning with this issue.

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 Tables 2 and 3 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 Geology Division, formerly Geological Survey Division, 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 Division does not maintain a core collection. Other sample and core repositories, not connected with the Division, 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 NORTHERN MICHIGAN SALINA - NIAGARAN 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 / FIELD GIVING SECTIONS	PAY ZONE: DEPTH IN FEET	THICKNESS AND LITHOLOGY	OIL GRAVITY A.P.I.	DEEPEST FORMATION OR POOL TESTED	DEPTH IN FEET	NUMBER OF WELLS: TO END	COMP. IN 1975	ABAND. IN 1975	ACTIVE AT END	DRILLED ACRES	OIL PRODUCTION—BBLS.: PRODUCED IN 1975	OIL PRODUCTION—BBLS.: CUMULATIVE THROUGH 1975	GAS PRODUCTION—MCF: PRODUCED IN 1975	GAS PRODUCTION—MCF: CUMULATIVE THROUGH 1975	RECOVERY PER ACRE DRILLED (BBLS.)	TOTAL BARRELS BRINE PER DAY
☼	ALPENA 12-31N-8E	A-1 CARBONATE	1973	ALPENA	3,685	22 L		NIAGARAN	3,875	1	0	0	1	160			SHUT-IN			
○				ALPENA TWP., 31N-8E, SECTION 12																
	ANTRIM COUNTY																			
●	MANCELONA 25-29N-5W	NIAGARAN REEF	1973	ANTRIM	6,449	5 D	33.6	NIAGARAN	6,764	1	0	0	1	80	66,144	72,075	19,049	20,287	901	40
○				MANCELONA TWP., 29N-5W, SECTION 25																
●	MANCELONA 26-29N-5W	NIAGARAN REEF	1972	ANTRIM	6,499	61 D	40.7	NIAGARAN	6,850	1	0	0	1	80	46,649	66,129	19,619	28,601	827	6
○				MANCELONA TWP., 29N-5W, SECTION 26																
●	MANCELONA 33-29N-5W	NIAGARAN REEF	1974	ANTRIM	6,538	10 D	44.6	NIAGARAN	6,810	1	0	0	1	80	0	934	SHUT-IN		12	
○				MANCELONA TWP., 29N-5W, SECTION 33																
☼	MANCELONA 34-29N-5W	NIAGARAN REEF	1974	ANTRIM	6,580	20 D	54	NIAGARAN	6,780	1	0	0	1	80	COND. 93,063	COND. 103,763	1,356,183	1,476,684	1,297	
○				MANCELONA TWP., 29N-5W, SECTION 34																
	CRAWFORD COUNTY																			
●	FREDERIC 1-28N-4W	NIAGARAN REEF	1975	CRAWFORD	6,604	30 D	49.8	NIAGARAN	6,880	1	1	0	1	80	414	414			5	
○				FREDERIC TWP., 28N-4W, SECTION 1																
●	FREDERIC 2-28N-4W	NIAGARAN REEF	1973	CRAWFORD	6,390	92 D	47.0	NIAGARAN	7,019	2	0	0	2	160	114,257	114,738	129,623	129,623	717	
○				FREDERIC TWP., 28N-4W, SECTION 2																
●	FREDERIC 4-28N-4W	NIAGARAN REEF	1974	CRAWFORD	6,923	20 D	45.0	NIAGARAN	7,265	1	0	0	1	80	50,552	50,913	53,005	53,005	636	
○				FREDERIC TWP., 28N-4W, SECTION 4																
●	FREDERIC 7-28N-4W	NIAGARAN REEF	1973	CRAWFORD	7,000	10 D	45.6	NIAGARAN	7,161	1	0	0	1	80	0	1,429	SHUT-IN		18	
○				FREDERIC TWP., 28N-4W, SECTION 7																
●	FREDERIC 8-28N-4W	NIAGARAN REEF	1974	CRAWFORD	6,740	30 D	43.4	NIAGARAN	7,164	2	1	0	2	160	66,993	67,353	110,515	110,515	421	
○				FREDERIC TWP., 28N-4W, SECTION 8																
●	FREDERIC 10-28N-4W	NIAGARAN REEF	1971	CRAWFORD	6,964	99 D	45.0	NIAGARAN	7,350	2	0	0	2	160	172,209	690,615	197,351	695,100	4,316	
○				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	COND. 210	SHUT-IN		1	
○				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	0	0	1	160	0	COND. 199	SHUT-IN		1	
○				FREDERIC TWP., 28N-4W, SECTION 22																
☼	FREDERIC 29-28N-4W	NIAGARAN REEF	1972	CRAWFORD	7,420	71 D	50.0	NIAGARAN	7,578	1	0	0	1	160	0	COND. 760	SHUT-IN		5	
○				FREDERIC TWP., 28N-4W, SECTION 29																
☼	FREDERIC 29-28N-4W POOL A	NIAGARAN REEF	1973	CRAWFORD	6,907	260 D	65.0	NIAGARAN	7,535	1	0	0	1	160	0	COND. 54	SHUT-IN			
○				FREDERIC TWP., 28N-4W, SECTION 20 APP. C SW NE																
	GRAND TRAVERSE COUNTY																			
●	BLAIR 25-26N-11W	NIAGARAN REEF	1974	GRAND TRAVERSE	5,863	41 D	47.2	NIAGARAN	6,120	2	0	0	2	160	12,003	12,504	33,017	33,017	78	17
○				BLAIR TWP., 26N-11W, SECTIONS 24, 25																
●	BLAIR 25-26N-11W POOL A	NIAGARAN REEF	1974	GRAND TRAVERSE	6,225	6 D	46.2	NIAGARAN	6,423	2	0	0	2	160	12,752	13,063	58,500	58,500	82	
○				BLAIR TWP., 26N-11W, SECTIONS 25, 26																
☼	BLAIR 26-26N-11W	NIAGARAN REEF	1975	GRAND TRAVERSE	5,804	76 D	53.0	NIAGARAN	6,035	1	1	0	1	80	176	COND. 176			2	
○				BLAIR TWP., 26N-11W, SECTION 26																
☼	BLAIR 27-26N-11W	NIAGARAN REEF	1975	GRAND TRAVERSE	5,563	125 D	61.5	NIAGARAN	5,820	1	1	0	1	80	65	COND. 65			1	
○				BLAIR TWP., 26N-11W, SECTION 27																
●	BLAIR 33-26N-11W	NIAGARAN REEF	1973	GRAND TRAVERSE	5,844	11 D	45.8	NIAGARAN	6,123	3	0	0	3	240	173,067	200,345	337,446	374,917	835	2
○				BLAIR TWP., 26N-11W, SECTIONS 28, 33																
☼	BLAIR 34-26N-11W	NIAGARAN REEF	1970	GRAND TRAVERSE	5,826	124 D	60	CLINTON	6,316	2	0	0	2	320	COND. 5,094	COND. 23,846	225,566	1,028,335	75	
○				BLAIR TWP., 26N-11W, SECTION 34																
●	BLAIR 35-26N-11W	NIAGARAN REEF	1975	GRAND TRAVERSE	6,126	58 D	45.0	NIAGARAN	6,320	1	1	0	1	160	1,445	1,445	11,178	11,178	9	
○				BLAIR TWP., 26N-11W, SECTION 35																
☼	BLAIR 36-26N-11W	NIAGARAN REEF	1972	GRAND TRAVERSE	6,205	14 D	52.0	NIAGARAN	6,405	2	0	0	2	320	COND. 63,502	COND. 210,783	3,684,254	7,710,834	659	
○				BLAIR TWP., 26N-11W, SECTION 36 MAYFIELD TWP., 25N-11W, SECTION 1																
☼	GRANT 1-25N-12W	NIAGARAN REEF	1975	GRAND TRAVERSE	5,807	32 D	67.6		6,060	1	1	0	1	80	36	COND. 36				
○				GRANT TWP., 25N-12W, SECTION 1																
●	GRANT 3-25N-12W	NIAGARAN REEF	1974	GRAND TRAVERSE	5,353	33 D		NIAGARAN	5,744	1	1	0	1	80	33,783	39,904	18,148	18,148	499	44
○				GRANT TWP., 25N-12W, SECTION 3																
●	Grant 4-25N-12W	NIAGARAN REEF	1975	GRAND TRAVERSE	5,469	18 D	37.7	NIAGARAN	5,724	1	1	0	1	80	134	134			2	
○				GRANT TWP., 25N-12W, SECTION 4																
●	GRANT 10-25N-12W	NIAGARAN REEF	1975	GRAND TRAVERSE	5,634	119 D	38.1	NIAGARAN	5,875	1	1	0	1	80	128	128			2	
○				GRANT TWP., 25N-12W, SECTION 10																
☼	GRANT 12-25N-12W	NIAGARAN REEF	1975	GRAND TRAVERSE	5,767	50 D	67.1	NIAGARAN	6,030	2	2	0	2	160	1,087	COND. 1,087	52,841	52,841	7	
○				GRANT TWP., 25N-12W, SECTIONS 1, 12				DIRECTIONAL HOLE IN WHICH THE SURFACE LOCATION IS IN GRAND TRAVERSE COUNTY, GRANT TOWNSHIP SECTION 11-25N-12W; AND THE SUBSURFACE LOCATION IS IN GRAND TRAVERSE COUNTY, GRANT TOWNSHIP SECTION 12-25N-12W											
☼	GRANT 13-25N-12W	NIAGARAN REEF	1974	GRAND TRAVERSE	5,943	54 D	65.0	NIAGARAN	6,192	3	0	0	3	640	COND. 150,867	COND. 150,915	4,798,267	4,798,267	236	
○				GRANT TWP., 25N-12W, SECTIONS 13, 14, 23																
●	GRANT 22-25N-12W	NIAGARAN REEF	1975	GRAND TRAVERSE	5,741	156 D		NIAGARAN	6,188	1	1	0	1	160	979	979			6	
○				GRANT TWP., 25N-12W SECTION 22				DIRECTIONAL HOLE IN WHICH THE SURFACE LOCATION IS IN GRAND TRAVERSE COUNTY, GRANT TOWNSHIP SECTION 27-25N-12W; AND THE SUBSURFACE LOCATION IS IN GRAND TRAVERSE COUNTY, GRANT TOWNSHIP SECTION 22-25N-12W											

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	THICKNESS AND LITHOLOGY	OIL GRAVITY A.P.I.	DEEPEST FORMATION OR POOL TESTED	DEPTH IN FEET	NUMBER OF WELLS: TO END	COMP. IN 1975	ABAND. IN 1975	ACTIVE AT END	DRILLED ACRES	OIL PRODUCTION—BBLS.: PRODUCED IN 1975	OIL PRODUCTION—BBLS.: CUMULATIVE THROUGH 1975	GAS PRODUCTION—MCF: PRODUCED IN 1975	GAS PRODUCTION—MCF: CUMULATIVE THROUGH 1975	RECOVERY PER ACRE DRILLED (BBLS.)	TOTAL BARRELS BRINE PER DAY
☼	GRANT 24-25N-12W	SALINA-NIAGARAN REEF	1973	GRAND TRAVERSE	5,815	103 D	71.0	NIAGARAN	6,413	1	0	0	1	160	COND. 30,135	COND. 38,625	808,896	936,883	241	
○				GRANT TWP., 25N-12W, SECTION 24																
●	GRANT 24-25N-12W POOL A	NIAGARAN REEF	1974	GRAND TRAVERSE	6,073	89 D	48.7	NIAGARAN	6,366	1	0	0	1	80	7,432	7,790	72,020	72,020	97	
○				GRANT TWP., 25N-12W, SECTION 24																
●	GRANT 26-25N-12W	NIAGARAN REEF	1971	GRAND TRAVERSE	5,961	80 D	45.9	CLINTON	6,383	2	0	0	2	160	31,225	74,259	53,331	128,039	464	
○				GRANT TWP., 25N-12W, SECTIONS 26, 27																
●	GRANT 29-25N-12W	NIAGARAN REEF	1973	GRAND TRAVERSE	5,720	82 D	44.3	NIAGARAN	6,135	5	4	0	5	400	128,746	129,032	87,632	87,632	323	1
○				GRANT TWP., 25N-12W, SECTIONS 28, 29																
●	GRANT 31-25N-12W	NIAGARAN REEF	1975	GRAND TRAVERSE	5,772	106 D		NIAGARAN	6,120	1	1	0	1	80	102	102			1	
○				GRANT TWP., 25N-12W, SECTION 31				DIRECTIONAL HOLE IN WHICH THE SURFACE LOCATION IS IN WEXFORD COUNTY, WEXFORD TOWNSHIP SECTION 6-24N-12W; AND THE SUBSURFACE LOCATION IS IN GRAND TRAVERSE COUNTY, GRANT TOWNSHIP SECTION 31-25N-12W											
●	MAYFIELD 1-25N-11W	NIAGARAN REEF	1974	GRAND TRAVERSE	6,319	14 D	46.0	NIAGARAN	6,447	2	1	0	2	160	12,727	12,727	38,731	38,731	80	
○				MAYFIELD TWP., 25N-11W, SECTIONS 1, 2																
●	MAYFIELD 1-25N-11W POOL A	NIAGARAN REEF	1974	GRAND TRAVERSE	6,474	16 D	45.2	NIAGARAN	6,634	1	0	0	1	160	3,066	3,216	6,578	6,578	20	
○				MAYFIELD TWP., 25N-11W, SECTION 1				RECLASSIFIED AS A SEPARATE POOL IN 1975												
☼	MAYFIELD 3-25N-11W	NIAGARAN REEF	1973	GRAND TRAVERSE	5,940	230 D	68.0	NIAGARAN	6,424	1	0	0	1	160	COND. 1,825	COND. 27,629	252,181	1,766,261	173	
○				MAYFIELD TWP., 25N-11W, SECTION 3																
●	MAYFIELD 3-25N-11W POOL A	NIAGARAN REEF	1975	GRAND TRAVERSE	6,019	18 D	49.0	NIAGARAN	6,325	1	1	0	1	80	26,804	26,804	20,790	20,790	335	
○				MAYFIELD TWP., 25N-11W, SECTION 3																
●	MAYFIELD 3-25N-11W POOL B	NIAGARAN REEF	1975	GRAND TRAVERSE	6,116	22 D	44.4	NIAGARAN	6,259	1	1	0	1	80	21,615	21,615	28,673	28,673	270	
○				MAYFIELD TWP., 25N-11W, SECTION 3																
●	MAYFIELD 6-25N-11W	NIAGARAN REEF	1975	GRAND TRAVERSE	5,664	143 D	44	NIAGARAN	5,932	1	1	0	1	80	250	250			3	
○				MAYFIELD TWP., 25N-11W, SECTION 6																
●	MAYFIELD 10-25N-11W	NIAGARAN REEF	1974	GRAND TRAVERSE	6,283	64 D	47.8	NIAGARAN	6,442	2	1	0	2	160	95,922	96,150	155,448	155,448	601	2
○				MAYFIELD TWP., 25N-11W, SECTION 10																
☼	MAYFIELD 12-25N-11W	SALINA-NIAGARAN REEF	1974	GRAND TRAVERSE	6,171	325 D	60.4	NIAGARAN	6,677	2	1	0	2	160	COND. 74	COND. 165	SHUT-IN		1	
○				MAYFIELD TWP., 25N-11W, SECTION 12																
●	MAYFIELD 16-25N-11W	NIAGARAN REEF	1972	GRAND TRAVERSE	6,341	68 D	47.9	NIAGARAN	6,580	3	0	0	3	240	192,222	288,197	168,758	287,564	1,201	
○				MAYFIELD TWP., 25N-11W, SECTION 16																
●	MAYFIELD 16-25N-11W POOL A	NIAGARAN REEF	1974	GRAND TRAVERSE	6,228	29 D	43.5	NIAGARAN	6,525	2	0	0	2	160	153,621	215,928	87,677	131,592	1,350	
○				MAYFIELD TWP., 25N-11W, SECTIONS 16, 17																
●	MAYFIELD 17-25N-11W	SALINA-NIAGARAN REEF	1974	GRAND TRAVERSE	5,855	178 D	42.7	NIAGARAN	6,504	2	0	0	2	160	203,070	297,207	125,614	187,259	1,858	1
○				MAYFIELD TWP., 25N-11W, SECTION 17																
●	MAYFIELD 18-25N-11W	NIAGARAN REEF	1975	GRAND TRAVERSE	5,874	17 D	45.0	NIAGARAN	5,969	1	1	0	1	80	300	300			4	
○				MAYFIELD TWP., 25N-11W, SECTION 18				DIRECTIONAL HOLE IN WHICH THE SURFACE LOCATION IS IN GRAND TRAVERSE COUNTY, GRANT TOWNSHIP SECTION 13-25N-12W; AND THE SUBSURFACE LOCATION IS IN GRAND TRAVERSE COUNTY, MAYFIELD TOWNSHIP SECTION 18-25N-11W											
●	MAYFIELD 18-25N-11W POOL A	NIAGARAN REEF	1975	GRAND TRAVERSE	6,198	5 D	43.2		6,330	1	1	0	1	80	212	212			3	
○				MAYFIELD TWP., 25N-11W, SECTION 18																
☼	MAYFIELD 19-25N-11W	SALINA-NIAGARAN REEF	1973	GRAND TRAVERSE	5,829	183 D	53.6	NIAGARAN	6,535	2	1	0	2	120	COND. 16,932	COND. 17,286	116,957	116,957	144	
○				MAYFIELD TWP., 25N-11W, SECTION 19																
●	MAYFIELD 19-25N-11W POOL A	NIAGARAN REEF	1974	GRAND TRAVERSE	6,093	96 D	45.8	NIAGARAN	6,265	1	0	0	1	80	22,883	23,191	85,804	85,804	290	
○				MAYFIELD TWP., 25N-11W, SECTION 19																
●	MAYFIELD 20-25N-11W	NIAGARAN REEF	1974	GRAND TRAVERSE	6,241	51 D	45.0	NIAGARAN	6,365	3	2	0	3	240	164,023	164,335	191,969	191,969	685	
○				MAYFIELD TWP., 25N-11W, SECTION 20																
☼	MAYFIELD 21-25N-11W	SALINA-NIAGARAN REEF	1974	GRAND TRAVERSE	6,112	428 D	66.5	NIAGARAN	6,608	1	0	0	1	240	COND. 191,674	COND. 192,148	2,162,270	2,162,270	801	
○				MAYFIELD TWP., 25N-11W, SECTION 21																
☼	MAYFIELD 24-25N-11W	NIAGARAN REEF	1973	GRAND TRAVERSE	6,508	153 D	65.7	NIAGARAN	6,783	2	0	0	2	240	COND. 4,807	COND. 5,063	46,240	46,240	21	
○				MAYFIELD TWP., 25N-11W, SECTIONS 23, 24																
☼	MAYFIELD 26-25N-11W	NIAGARAN REEF	1974	GRAND TRAVERSE	6,323	169 D	65.0	NIAGARAN	6,756	1	0	0	1	80	0	COND. 103	SHUT-IN		1	
○				MAYFIELD TWP., 25N-11W, SECTION 26																
●	MAYFIELD 30-25N-11W	NIAGARAN REEF	1973	GRAND TRAVERSE	6,329	45 D	45.5	NIAGARAN	6,630	1	0	0	1	80	10,457	14,906	160,276	204,060	186	
○				MAYFIELD TWP., 25N-11W, SECTION 30																
○																				
☼	PARADISE 3-25N-10W	NIAGARAN REEF	1975	GRAND TRAVERSE	6,519	183 D	67	NIAGARAN	6,890	1	1	0	1	160	101	COND. 101			1	
○				PARADISE TWP., 25N-10W, SECTION 3																
☼	PARADISE 18-25N-10W	NIAGARAN REEF	1973	GRAND TRAVERSE	6,455	102 D	65.8	NIAGARAN	6,841	1	0	0	1	80			SHUT-IN			
○				PARADISE TWP., 25N-10W, SECTION 18																
●	PARADISE 19-26N-10W	SALINA-NIAGARAN REEF	1975	GRAND TRAVERSE	5,750	102 D	43.8	NIAGARAN	6,034	1	1	0	1	80	181	181			2	
○				PARADISE TWP., 26N-10W, SECTION 19																
●	PARADISE 20-26N-10W	NIAGARAN REEF	1975	GRAND TRAVERSE	6,027	25 D	57?	NIAGARAN	6,252	1	1	0	1	80	118	118			1	
○				PARADISE TWP., 26N-10W, SECTION 20																
●	PARADISE 21-26N-10W	NIAGARAN REEF	1975	GRAND TRAVERSE	5,848	6 D	40	NIAGARAN	6,198	1	1	0	1	80	692	692			9	
○				PARADISE TWP., 26N-10W, SECTION 21																
☼	PARADISE 23-26N-10W	NIAGARAN REEF	1974	GRAND TRAVERSE	6,310	27 D	70.5	NIAGARAN	6,588	2	1	0	2	160	COND. 48,865	COND. 48,955	870,002	870,002	306	
○				PARADISE TWP., 26N-10W, SECTIONS 23, 24																
☼	PARADISE 31-26N-10W	SALINA-NIAGARAN REEF	1974	GRAND TRAVERSE	6,257	97 D	68.4	NIAGARAN	6,534	1	0	0	1	80	COND. 5,732	COND. 5,860	63,834	63,834	73	
○				PARADISE TWP., 26N-10W, SECTION 31																

NORTHERN MICHIGAN SALINA-NIAGARAN OIL AND GAS FIELDS

- OIL FIELD
- GAS FIELD
- COMBINATION OIL AND GAS FIELD
- TOWNSHIP LINES
- COUNTY LINES
- SECTION LINES

1 0 1 2 3 4 5 6 7
MILES

CHEBYGAN
PRESQUE ISLE
CHARLEVOIX
OTSEGO
ALPENA
ANTRIM
MONTMORENCY
CRAWFORD
GRAND TRAVERSE
BENZIE
KALKASKA
MISSAUKEE
WEXFORD
MANISTEE
MASON
OCEANA

THIS MAP SHOWS THE DISTRIBUTION OF SALINA-NIAGARAN OIL AND GAS FIELDS FOUND ALONG THE NORTHERN REEF TREND THROUGH 1975. THE EXCEPTIONAL INTEREST IN EXPLORING FOR NEW REEF POOLS ALONG THE TREND AND THE PRESENT CONTRIBUTION OF THESE POOLS TO THE STATE'S HYDROCARBON PRODUCTION WARRANTS SPECIAL ATTENTION. MORE SPECIFIC INFORMATION ON THESE POOLS IS FOUND IN TABLE 2 OF THIS REPORT

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 1975	COMP. IN 1975	ABAND. IN 1975	ACTIVE AT END 1975	DRILLED ACRES	OIL PRODUCTION—BBLS.: PRODUCED IN 1975	OIL PRODUCTION—BBLS.: CUMULATIVE THROUGH 1975	GAS PRODUCTION—M.C.F.: PRODUCED IN 1975	GAS PRODUCTION—M.C.F.: CUMULATIVE THROUGH 1975	RECOVERY PER ACRE DRILLED (BBLS.)	TOTAL BARRELS BRINE PER DAY
PARADISE 32-26N-10W	NIAGARAN REEF	1974	GRAND TRAVERSE	6,087	231 D	60.0	NIAGARAN	6,582	1	0	0	1	80	COND. 1,318	COND. 1,517	25,118	25,118	19	
			PARADISE TWP., 26N-10W, SECTION 32																
PARADISE 33-26N-10W	NIAGARAN REEF	1975	GRAND TRAVERSE	6,093	202 D	66.5	NIAGARAN	6,627	1	1	0	1	80	80	COND. 80			1	
			PARADISE TWP., 26N-10W, SECTION 33																
PARADISE 34-26N-10W	NIAGARAN REEF	1975	GRAND TRAVERSE	6,332	236 D	70	NIAGARAN	6,808	1	1	0	1	80			SHUT-IN			
			PARADISE TWP., 26N-10W, SECTION 34																
UNION 1-26N-9W	NIAGARAN REEF	1972	GRAND TRAVERSE	6,380	78 D		NIAGARAN	6,865	1	0	0	1	160	COND. 12,151	COND. 25,259	1,242,760	1,851,431	158	
			UNION TWP., 26N-9W, SECTION 1																
UNION 2-26N-9W	NIAGARAN REEF	1974	GRAND TRAVERSE	6,514	80 D	61.0	NIAGARAN	6,744											
			UNION TWP., 26N-9W, SECTION 2	CONSOLIDATED WITH UNION 3-26N-9W IN 1975 ----SEE UNION 3-26N-9W BELOW															
UNION 3-26N-9W	NIAGARAN REEF	1972	GRAND TRAVERSE	6,514	14 D	62.3	NIAGARAN	6,878	4	0	0	4	560	COND. 8,191	COND. 8,514	199,588	199,588	15	
			UNION TWP., 26N-9W, SECTIONS 2, 3, 11																
UNION 5-26N-9W	NIAGARAN REEF	1973	GRAND TRAVERSE	6,070	19 D	68.2	NIAGARAN	6,440	1	0	0	1	80	COND. 34,549	COND. 57,749	826,674	1,364,891	222	
			UNION TWP., 26N-9W, SECTION 5																
UNION 6-26N-9W	SALINA-NIAGARAN REEF	1974	GRAND TRAVERSE	5,936	184 D	64.5	NIAGARAN	6,475	1	0	0	1	80	114	COND. 114	42,407	42,407	1	
			UNION TWP., 26N-9W, SECTION 6																
UNION 8-26N-9W (MUNCIE LAKES)	NIAGARAN REEF	1970	GRAND TRAVERSE	6,267	97 D	63.6	NIAGARAN	6,666	1	0	0	1	160	COND. 15,036	COND. 62,586	1,520,431	4,442,504	391	
			UNION TWP., 26N-9W, SECTION 8																
UNION 11-26N-9W	NIAGARAN REEF	1972	GRAND TRAVERSE	6,580	118 D	61.0	NIAGARAN	6,802	1	0	0	1	160	COND. 12,591	COND. 12,878	296,406	296,406	80	
			UNION TWP., 26N-9W, SECTION 11																
UNION 12-26N-9W (SOUTH BOARDMAN)	NIAGARAN REEF	1969	GRAND TRAVERSE	6,779	50 D	57.9	NIAGARAN	6,922	2	1	0	2	320	0	COND. 3,936	0	81,081	12	
			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	0	0	1	160	0	COND. 75	SHUT-IN			
			UNION TWP., 26N-9W, SECTION 14																
UNION 16-26N-9W	NIAGARAN REEF	1975	GRAND TRAVERSE	6,207	183 D	58.0	NIAGARAN	6,716	1	1	0	1	80			SHUT-IN			
			UNION TWP., 26N-9W, SECTION 16																
UNION 18-26N-9W	NIAGARAN REEF	1973	GRAND TRAVERSE	6,298	14 D	59.3	NIAGARAN	6,471	1	0	0	1	80	COND. 1,365	COND. 4,329	94,543	198,307	54	
			UNION TWP., 26N-9W, SECTION 18																
UNION 28-26N-9W	NIAGARAN REEF	1975	GRAND TRAVERSE	6,810	105 D	51.0	NIAGARAN	7,062	1	1	0	1	80			SHUT-IN			
			UNION TWP., 26N-9W, SECTION 28																
WHITEWATER 22-27N-9W	NIAGARAN REEF	1973	GRAND TRAVERSE				NIAGARAN		1	0	0	1	80	COND. 3	COND. 8,731			109	
			WHITEWATER TWP., 27N-9W, SECTION 22																
WHITEWATER 28-27N-9W	NIAGARAN REEF	1975	GRAND TRAVERSE	6,096	22 D	43.8	NIAGARAN	6,310	1	1	0	1	80	7,594	7,594	5,578	5,578	95	
			WHITEWATER TWP., 27N-9W, SECTION 28																
WHITEWATER 32-27N-9W	NIAGARAN REEF	1972	GRAND TRAVERSE	6,100	10 D	44.3	NIAGARAN	6,260	2	0	0	2	160	189,070	365,742	152,413	266,600	2,286	120
			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	11,368	54,258		3,482	678	50
			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	27,185	106,065	946	6,882	1,326	109
			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	40	COND. 640	COND. 63,898	619,084	5,117,310	1,597	
			WHITEWATER TWP., 27N-9W, SECTION 36																
KALKASKA COUNTY																			
BLUE LAKE 1-28N-5W	NIAGARAN REEF	1971	KALKASKA	6,481	43 D	43.0	NIAGARAN	6,980	2	0	0	2	160	139,880	583,545	42,859	153,712	3,647	135
			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	1	0	0	1	40	0	14,354	0	55,139	120	
			BLUE LAKE TWP., 28N-5W, SECTIONS 12, 13																
BLUE LAKE 13-28N-5W	SALINA-NIAGARAN REEF	1973	KALKASKA	6,600	206 D	43	NIAGARAN	7,325	1	0	0	1	80	PRODUCTION COMBINED WITH BLUE LAKE 12					
			BLUE LAKE TWP., 28N-5W, SECTION 13																
BLUE LAKE 18-28N-5W	NIAGARAN REEF	1975	KALKASKA	6,960	24 D	44.8	NIAGARAN	7,186	1	1	0	1	80	37,807	37,807	19,564	19,564	473	
			BLUE LAKE TWP., 28N-5W, SECTION 18																
BLUE LAKE 19-28N-5W	NIAGARAN REEF	1974	KALKASKA	6,920	20 D	45.3	NIAGARAN	7,115	1	0	0	1	80	113,748	124,305	83,057	89,065	1,554	
			BLUE LAKE TWP., 28N-5W, SECTION 19																
BLUE LAKE 27-28N-5W	NIAGARAN REEF	1972	KALKASKA	7,131	37 D	64.4	NIAGARAN	7,350	1	0	0	1	160	44,251	COND. 44,480	1,617,021	1,617,021	278	
			BLUE LAKE TWP., 28N-5W, SECTION 27																
BLUE LAKE 28-28N-5W	NIAGARAN REEF	1970	KALKASKA	7,105	30 D	60	CLINTON	7,450	1	0	0	1	160	COND. 1,874	COND. 56,915	411,510	2,665,952	356	
			BLUE LAKE TWP., 28N-5W, SECTION 28																
BLUE LAKE 29-28N-5W	NIAGARAN REEF	1974	KALKASKA	6,950	56 D	59.1	NIAGARAN	7,320	1	0	0	1	80	COND. 6,314	COND. 10,976	506,326	616,476	137	
			BLUE LAKE TWP., 28N-5W, SECTION 29																
BLUE LAKE 33-28N-5W	LOWER NIAGARAN	1971	KALKASKA	7,350	25 D		CLINTON	7,610	1	0	0	1	160	COND. 1,025	COND. 8,096	106,836	615,238	51	
			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	0	0	1	80	0	COND. 178	SHUT-IN		2	
			BOARDMAN TWP., 26N-8W, SECTION 3																
BOARDMAN 6-26N-8W	NIAGARAN REEF	1973	KALKASKA	6,477	180 D	46.1	NIAGARAN	6,975	1	0	0	1	80	17,756	26,409	7,502	13,681	330	6
			BOARDMAN TWP., 26N-8W, SECTION 6																

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 1975	COMP. IN 1975	ABAND. IN 1975	ACTIVE AT END 1975	DRILLED ACRES	OIL PRODUCTION—BBLS.: PRODUCED IN 1975	OIL PRODUCTION—BBLS.: CUMULATIVE THROUGH 1975	GAS PRODUCTION—M.C.F.: PRODUCED IN 1975	GAS PRODUCTION—M.C.F.: CUMULATIVE THROUGH 1975	RECOVERY PER ACRE DRILLED (BBLS.)	TOTAL BARRELS BRINE PER DAY
SOUTH BOARDMAN UNIT	NIAGARAN REEF POOL A	1971	KALKASKA	6,616	110 D		CLINTON	6,930	1	0	0	1	160						
	NIAGARAN REEF POOL B	1971		6,778	38 D	65.7			1	0	0	1	160						
	NIAGARAN REEF POOL C	1972		6,450	290 D				1	0	0	1	160	COND. 19,783	COND. 103,374	693,462	2,372,724	215	
			BOARDMAN TWP., 26N-8W, SECTIONS 4, 5																
COLD SPRINGS 1-28N-6W	SALINA-NIAGARAN REEF	1973	KALKASKA	6,578	194 D	61.0	NIAGARAN	6,950	2	0	0	2	160	COND. 160,245	COND. 195,683	3,102,185	3,618,724	1,223	
			COLD SPRINGS TWP., 28N-6W, SECTION 1; BLUE LAKE TWP., 28N-5W, SECTION 6																
COLD SPRINGS 12-28N-6W	SALINA-NIAGARAN REEF	1973	KALKASKA	6,564	296 D	66.8	NIAGARAN	6,970	2	0	0	2	320	COND. 128,124	COND. 372,355	6,067,628	11,138,680		
			COLD SPRINGS TWP., 28N-6W, SECTION 12; BLUE LAKE TWP., 28N-5W, SECTION 7																
COLD SPRINGS 18-28N-6W	SALINA-NIAGARAN REEF	1974	KALKASKA	6,364	38 D		NIAGARAN	6,675	2	1	0	2	240	2,035	2,035			8	
			COLD SPRINGS TWP., 28N-6W, SECTIONS 7, 18																
COLD SPRINGS 19-28N-6W	NIAGARAN REEF	1971	KALKASKA	6,596	8 D	44.9	CLINTON	7,036	5	0	0	5	400	87,102	317,729	530,150	1,354,577	794	1
			COLD SPRINGS TWP., 28N-6W, SECTIONS 19, 30; RAPID RIVER TWP., 28N-7W, SECTIONS 24, 25																
COLD SPRINGS 19-28N-6W POOL A	NIAGARAN REEF	1973	KALKASKA	6,628	14 D	44.3	NIAGARAN	6,767	1	0	0	1	80	15,405	30,397	84,736	142,795	380	
			COLD SPRINGS TWP., 28N-6W, SECTION 19																
COLD SPRINGS 20-28N-6W	NIAGARAN REEF	1971	KALKASKA	6,737	35 D	41.0	NIAGARAN	6,970	2	0	0	2	160	179,406	451,543	308,578	670,547	2,822	25
			COLD SPRINGS TWP., 28N-6W, SECTIONS 20, 29																
COLD SPRINGS 21-28N-6W	NIAGARAN REEF	1970	KALKASKA	6,764	45 D	45.6	CLINTON	7,315	2	0	1	1	160	1,742	89,130	3,168	92,123	557	10
			COLD SPRINGS TWP., 28N-6W, SECTIONS 21, 28																
COLD SPRINGS 23-28N-6W	NIAGARAN REEF	1974	KALKASKA	6,970	20 D	44.4	NIAGARAN	7,218	2	1	0	2	160	3,823	4,438	2,330	2,330	28	20
			COLD SPRINGS TWP., 28N-6W, SECTIONS 22, 23																
COLD SPRINGS 24-28N-6W	SALINA-NIAGARAN REEF	1974	KALKASKA	6,760	70 D	55.4	NIAGARAN	7,212	1	0	0	1	80	COND. 16,267	COND. 18,145	166,714	188,958	227	
			COLD SPRINGS TWP., 28N-6W, SECTION 24																
COLD SPRINGS 25-28N-6W	NIAGARAN REEF	1971	KALKASKA	6,734	544 D	62.3	NIAGARAN	7,383	1	ABANDONED 1975			160	0	COND. 936	0	37,188	6	
			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	49,136	118,791	73,780	138,103	1,485	
			COLD SPRINGS TWP., 28N-6W, SECTION 25																
COLD SPRINGS 28-28N-6W	NIAGARAN REEF	1975	KALKASKA	6,790	10 D	43.6	NIAGARAN	7,150	1	1	0	1	80	610	610			8	
			COLD SPRINGS TWP., 28N-6W, SECTION 28																
COLD SPRINGS 30-28N-6W	NIAGARAN REEF	1974	KALKASKA	6,719	39 D	44.4	NIAGARAN	6,858	2	1	0	2	120	73,481	73,819	138,081	138,081	615	
			COLD SPRINGS TWP., 28N-6W, SECTION 30																
EXCELSIOR 3-27N-6W	NIAGARAN REEF	1973	KALKASKA	7,211	10 D	64.0	NIAGARAN	7,402	2	0	0	2	320		COND. 53	SHUT-IN			
			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	0	0	1	160			SHUT-IN			
			EXCELSIOR TWP., 27N-6W, SECTION 3 SW SW NW																
EXCELSIOR 6-27N-6W	NIAGARAN REEF	1973	KALKASKA	6,740	105 D	66.0	NIAGARAN	7,135	2	0	0	2	240	COND. 131,436	COND. 215,529	4,498,141	6,171,512	898	
			EXCELSIOR TWP., 27N-6W, SECTION 6; COLD SPRINGS TWP., 28N-6W, SECTION 31																
EXCELSIOR 7-27N-6W	NIAGARAN REEF	1973	KALKASKA	6,987	27 D	63.8	NIAGARAN	7,232	1	0	0	1	80	0	COND. 21	SHUT-IN			
			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	0	0	3	480	554	COND. 1,090	186,433	186,433	2	
			EXCELSIOR TWP., 27N-6W, SECTIONS 8, 9																
EXCELSIOR 17-27N-6W	NIAGARAN REEF	1973	KALKASKA	7,165	53 D	61.5	NIAGARAN	7,365	1	0	0	1	160	0	COND. 203	SHUT-IN		1	
			EXCELSIOR TWP., 27N-6W, SECTION 17																
EXCELSIOR 19-27N-6W	NIAGARAN REEF	1975	KALKASKA	7,091	37 D	64.6	NIAGARAN	7,288	1	1	0	1	80	34	COND. 34				
			EXCELSIOR TWP., 27N-6W, SECTION 19																
KALKASKA 1-27N-7W	NIAGARAN REEF	1974	KALKASKA	6,693	20 D	65.0	NIAGARAN	6,784	1	0	0	1	160	17,732	COND. 17,732	625,377	625,377	111	
			KALKASKA TWP., 27N-7W, SECTION 1																
KALKASKA 3-27N-7W	SALINA-NIAGARAN REEF	1973	KALKASKA	6,396	180 D	42.7	NIAGARAN	6,850	1	0	0	1	160	21,374	50,309	177,900	353,391	314	20
			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	0	0	1	80	38,000	89,772	92,888	216,017	1,122	30
			KALKASKA TWP., 27N-7W, SECTION 3																
KALKASKA 5-27N-7W	NIAGARAN REEF	1970	KALKASKA	6,314	68 D	41.5	CLINTON	6,921	5	0	0	5	400	148,307	641,182	156,730	483,472	1,604	230
			KALKASKA TWP., 27N-7W, SECTIONS 5, 6; RAPID RIVER TWP., 28N-7W, SECTION 32																
KALKASKA 7-27N-7W	NIAGARAN REEF	1972	KALKASKA	6,305	3 D		NIAGARAN	6,662	1	0	0	1	80	17,428	71,610	14,255	51,401	895	130
			KALKASKA TWP., 27N-7W, SECTION 7																
KALKASKA 9-27N-7W	NIAGARAN REEF	1972	KALKASKA	6,482	89 D	55.0	NIAGARAN	6,830	1	0	0	1	160	17,523	COND. 17,668	333,135	333,135	110	
			KALKASKA TWP., 27N-7W, SECTION 9																
KALKASKA 10-27N-7W	NIAGARAN REEF	1972	KALKASKA	6,470	188 D	64.0	NIAGARAN	6,859	1	0	0	1	320	COND. 28,132	COND. 76,072	1,161,689	2,383,623	238	
			KALKASKA TWP., 27N-7W, SECTION 10																
KALKASKA 12-27N-7W	NIAGARAN REEF	1972	KALKASKA	6,883	19 D		NIAGARAN	7,009	1	0	0	1	80	3,016	14,920	0	10,788	187	
			KALKASKA TWP., 27N-7W, SECTION 12																
KALKASKA 13-27N-7W	NIAGARAN REEF	1972	KALKASKA	6,889	60 D	63.0	NIAGARAN	7,225	1	0	0	1	240	COND. 25,392	COND. 52,736	908,167	1,549,021	220	
			KALKASKA TWP., 27N-7W, SECTION 13																
KALKASKA 16-27N-7W	NIAGARAN REEF	1973	KALKASKA	6,572	158 D	47.4	NIAGARAN	7,077	1	0	0	1	40	456	1,076	SHUT-IN		27	
			KALKASKA TWP., 27N-7W, SECTION 16	(KALKASKA 16-27N-7W POOL A SECTIONS 15, 16)															
KALKASKA 16-27N-7W POOL A	NIAGARAN REEF	1973	KALKASKA	7,014	98 D	45.2	NIAGARAN	7,405	2	1	0	2	160						

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 ENH	COMP. IN 1975	ABAND. IN 1975	ACTIVE IN 1975	DRILLED ACRES	OIL PRODUCTION – BBLS: PRODUCED IN 1975	OIL PRODUCTION – BBLS: CUMULATIVE THROUGH 1975	GAS PRODUCTION – Mcf: PRODUCED IN 1975	GAS PRODUCTION – Mcf: CUMULATIVE THROUGH 1975	RECOVERY PER ACRE DRILLED (BBLS.)	TOTAL BARRELS BRINE PER DAY
● KALKASKA 19-27N-7W	NIAGARAN REEF	1974	KALKASKA	6,626	10 D	44.0	NIAGARAN	7,003	1	0	0	1	240	6,919	7,522	5,706	5,706	31	450
○	KALKASKA TWP., 27N-7W, SECTION 13																		
● KALKASKA 24-27N-7W	SALINA-NIAGARAN REEF	1974	KALKASKA	6,726	469 D	46.8	NIAGARAN	7,317	1	0	0	1	80	341	341	SHUT-IN		4	
○	KALKASKA TWP., 27N-7W, SECTION 24																		
☼ KALKASKA 28-27N-7W	NIAGARAN REEF	1970	KALKASKA	7,129	28 D	COND. 65.3	CLINTON	7,408	1	0	0	1	160	COND. 935	COND. 17,545	47,460	641,421	112	
☼ KALKASKA 28-27N-7W POOL A	NIAGARAN REEF	1972		6,977	192 D	68.0			1	0	0	1	160	COND. 10,673	COND. 12,133	163,839	179,082	76	
☼ KALKASKA 28-27N-7W POOL B	NIAGARAN REEF	1975		7,088	40 D		NIAGARAN	7,205	1	1	0	1	80			SHUT-IN			
○	KALKASKA TWP., 27N-7W, SECTION 28																		
☼ KALKASKA 32-27N-7W	NIAGARAN REEF	1971	KALKASKA	6,826	309 D	60	NIAGARAN	7,369	1	0	0	1	160	COND. 4,573	COND. 33,490	251,995	918,313	209	
○	KALKASKA TWP., 27N-7W, SECTION 32																		
☼ KALKASKA 32-27N-7W POOL A	NIAGARAN REEF	1975	KALKASKA	7,076	22 D		NIAGARAN	7,255	1	1	0	1	80	10,709	COND. 10,709	146,613	146,613	134	
○	KALKASKA TWP., 27N-7W, SECTION 32																		
● KALKASKA 11-27N-8W	NIAGARAN REEF	1973	KALKASKA	6,449	17 D	44.2	NIAGARAN	6,776	1	0	0	1	80	16,157	52,178	3,576	27,884	652	
○	KALKASKA TWP., 27N-8W, SECTION 11																		
● KALKASKA 13-27N-8W	NIAGARAN REEF	1972	KALKASKA	6,950	10 D	47.8	NIAGARAN	7,365	2	1	0	2	80	55,805	180,608	179,412	484,338	2,258	
○	KALKASKA TWP., 27N-8W, SECTION 13																		
☼ KALKASKA 14-27N-8W	NIAGARAN REEF	1974	KALKASKA	6,551	43 D		NIAGARAN	6,790	1	0	0	1	160	41,949	COND. 41,949	929,578	929,578	262	
○	KALKASKA TWP., 27N-8W, SECTION 14																		
● KALKASKA 20-27N-8W	NIAGARAN REEF	1975	KALKASKA	6,493	5 D		NIAGARAN	6,750	1	1	0	1	80			SHUT-IN			
○	KALKASKA TWP., 27N-8W, SECTION 20																		
● KALKASKA 21-27N-8W	NIAGARAN REEF	1971	KALKASKA	6,562	77 D	45.1	NIAGARAN	6,856	7	1	0	7	400	PRODUCTION COMBINED WITH A-1 CARBONATE PRODUCTION					
●	A-1 CARBONATE	1972		6,591	31 D								80	708,809	2,037,079	1,338,597	3,150,810	4,244	
○	KALKASKA TWP., 27N-8W, SECTIONS 21, 22, 28																		
● KALKASKA 24-27N-8W	SALINA-NIAGARAN REEF	1973	KALKASKA	6,380	220 D	46.1	NIAGARAN	6,852	1	0	0	1	40	85,925	186,978	237,904	491,809	4,674	
○	KALKASKA TWP., 27N-8W, SECTION 24																		
☼ KALKASKA 25-27N-8W	NIAGARAN REEF	1972	KALKASKA	6,491	114 D		NIAGARAN	7,000	2	0	0	2	320	COND. 15,966	COND. 126,766	637,355	4,297,793	396	
○	KALKASKA TWP., 27N-8W, SECTIONS 25, 35																		
☼ KALKASKA 25-27N-8W POOL A	NIAGARAN REEF	1974	KALKASKA	6,798	40 D	59	NIAGARAN	6,980	1	0	0	1	160	COND. 35,397	COND. 36,507	282,184	282,184	228	
○	KALKASKA TWP., 27N-8W, SECTION 25																		
● KALKASKA 26-27N-8W	SALINA-NIAGARAN REEF	1973	KALKASKA	6,372	397 D	55.0	NIAGARAN	6,968	1	0	0	1	160	37,409	97,100	346,990	692,641	607	
○	KALKASKA TWP., 27N-8W, SECTION 26																		
● KALKASKA 28-27N-8W	NIAGARAN REEF	1971	KALKASKA	6,717	6 D		NIAGARAN	6,838	1	0	0	1	160	3,254	20,789			130	30
○	KALKASKA TWP., 27N-8W, SECTION 28																		
☼ KALKASKA 30-27N-8W	NIAGARAN REEF	1974	KALKASKA	6,496	22 D	64.7	NIAGARAN	6,692	1	0	0	1	480	COND. 40,511	COND. 103,611	1,032,434	2,388,390	216	
○	KALKASKA TWP., 27N-8W, SECTION 30 — DIRECTIONAL HOLE IN WHICH THE SURFACE LOCATION IS IN GRAND TRAVERSE COUNTY, WHITEWATER TOWNSHIP SECTION 36-27N-9W; AND THE SUBSURFACE LOCATION IS IN KALKASKA COUNTY, KALKASKA TOWNSHIP SECTION 30-27N-8W																		
● KALKASKA 32-27N-8W	NIAGARAN REEF	1975	KALKASKA	6,585	7 D	45.0	NIAGARAN	6,890	2	2	0	2	160	3,249	3,249			20	
○	KALKASKA TWP., 27N-8W, SECTION 30																		
☼ KALKASKA 33-27N-8W	NIAGARAN REEF	1972	KALKASKA	6,620	15 D		NIAGARAN	6,754	1	0	0	1	160	COND. 249	COND. 25,563	141,704	1,220,862	160	
○	KALKASKA TWP., 27N-8W, SECTION 33																		
● RAPID RIVER 24-28N-7W	NIAGARAN REEF	1970	KALKASKA	6,590	44 D	50	NIAGARAN	6,810	5	0	0	5	400	114,361	542,205	1,398,976	5,329,774	1,356	40
○	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	7,211	31,899	6,391	33,480	399	35
○	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	4	0	0	4	160	38,267	122,232	311,802	776,918	764	110
○	RAPID RIVER TWP., 28N-7W, SECTIONS 26, 27																		
● RAPID RIVER 27-28N-7W POOL A	NIAGARAN REEF	1972	KALKASKA	6,552	8 D	44	NIAGARAN	6,773	4	0	0	4	240	78,537	165,700	502,607	784,982	690	150
○	RAPID RIVER TWP., 28N-7W, SECTIONS 27, 34																		
● *RAPID RIVER 32-28N-7W	NIAGARAN REEF	1973	KALKASKA	6,413	20 D	43.5	NIAGARAN	6,550	6	2	0	6	440	419,872	522,309	542,881	625,136	1,187	39
○ *NEW FIELD DISCOVERY CREATED BY REVISED SPACING ORDER FOR KALKASKA 5-27N-7W	RAPID RIVER TWP., 28N-7W, SECTIONS 29, 32																		
● RAPID RIVER 33-28N-7W	NIAGARAN REEF	1971	KALKASKA	6,522	14 D	52.4	NIAGARAN	6,764	3	0	0	3	200	23,883	87,178	386,107	1,144,676	436	
○	RAPID RIVER TWP., 28N-7W, SECTION 33; KALKASKA TWP., 27N-7W, SECTION 4																		
● RAPID RIVER 33-28N-7W POOL A	NIAGARAN REEF	1972	KALKASKA	6,510	9 D	43.5	CLINTON	6,695	2	0	0	2	160	5,873	48,017	174,820	556,198	300	
○	RAPID RIVER TWP., 28N-7W, SECTION 33; KALKASKA TWP., 27N-7W, SECTION 4																		
☼ RAPID RIVER 35-28N-7W	NIAGARAN REEF	1973	KALKASKA	6,719	27 D	66.5	NIAGARAN	6,886	2	0	0	2	240	COND. 54,071	COND. 244,743	5,101,909	10,659,704	1,020	
○	RAPID RIVER TWP., 28N-7W, SECTION 35																		
MANISTEE COUNTY																			
☼ BEAR LAKE 2-23N-15W	NIAGARAN REEF	1974	MANISTEE	4,646	23 D	74.0	NIAGARAN	4,874	1	0	0	1	80	0	COND. 149	27,851	27,851	2	
○	BEAR LAKE TWP., 23N-15W, SECTION 2																		
☼ BEAR LAKE 10-23N-15W	SALINA-NIAGARAN REEF	1974	MANISTEE	4,457	120 D	64.0	NIAGARAN	4,758	1	0	0	1	80			SHUT-IN			
○	BEAR LAKE TWP., 23N-15W, SECTION 10																		
● BEAR LAKE 11-23N-15W	NIAGARAN REEF	1974	MANISTEE	4,688	36 D	43.3	NIAGARAN	4,922	3	2	0	3	240	79,312	79,492	75,550	75,550	331	1
● BEAR LAKE 11-23N-15W POOL A	NIAGARAN REEF	1975	MANISTEE	4,668	11 D	40.8	NIAGARAN	4,740	2	2	0	2	160	6,404	6,404	4,525	4,525	40	
○	BEAR LAKE TWP., 23N-15W, SECTIONS 10, 11, 14																		
● BEAR LAKE 13-23N-15W	NIAGARAN REEF	1974	MANISTEE	4,591	16 D		NIAGARAN	5,030	3	0	0	3	240	191,447	192,217	164,251	164,251	801	
○	BEAR LAKE TWP., 23N-15W, SECTIONS 12, 13																		

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 ENH	COMP. IN 1975	ABAND. IN 1975	ACTIVE IN 1975	DRILLED ACRES	OIL PRODUCTION – BBLS: PRODUCED IN 1975	OIL PRODUCTION – BBLS: CUMULATIVE THROUGH 1975	GAS PRODUCTION – Mcf: PRODUCED IN 1975	GAS PRODUCTION – Mcf: CUMULATIVE THROUGH 1975	RECOVERY PER ACRE DRILLED (BBLS.)	TOTAL BARRELS BRINE PER DAY
● BEAR LAKE 19-23N-15W	NIAGARAN REEF	1975	MANISTEE	4,262	11 D	36.7	NIAGARAN	4,556	1	1	0	1	80	169	169			2	
○	BEAR LAKE TWP., 23N-15W, SECTION 19																		
● BEAR LAKE 20-23N-15W	SALINA-NIAGARAN REEF	1975	MANISTEE	4,338	32 D	38.4	NIAGARAN	4,722	2	2	0	2	160	19,306	19,306	5,895	5,895	121	93
○	BEAR LAKE TWP., 23N-15W, SECTION 20																		
● BEAR LAKE 22-23N-15W	NIAGARAN REEF	1974	MANISTEE	4,541	10 D	44.5	NIAGARAN	4,885	4	2	0	4	320	67,183	67,635	53,519	53,519	211	
○	BEAR LAKE TWP., 23N-15W, SECTIONS 15, 21, 22																		
● BEAR LAKE 23-23N-15W	NIAGARAN REEF	1973	MANISTEE	4,786	7 D	49.6	NIAGARAN	5,035	4	3	0	4	320	22,242	22,493	192,687	192,687	70	
○	BEAR LAKE TWP., 23N-15W, SECTION 23																		
☼ BEAR LAKE 24-23N-15W	NIAGARAN REEF	1974	MANISTEE	4,808	58 D	69.0	NIAGARAN	5,070	1	0	0	1	80	COND. 2,781	COND. 2,822	90,898	90,898	35	
○	BEAR LAKE TWP., 23N-15W, SECTION 24																		
● BEAR LAKE 26-23N-15W	NIAGARAN REEF	1974	MANISTEE	4,828	34 D	45.0	NIAGARAN	4,933	3	2	0	3	240	23,493	23,673	145,502	145,502	99	15
● BEAR LAKE 26-23N-15W POOL A	NIAGARAN REEF	1975	MANISTEE	4,861	10 D	43.5	NIAGARAN	5,036	3	3	0	3	240	62,769	62,769	65,243	65,243	262	
○	BEAR LAKE TWP., 23N-15W, SECTIONS 23, 25, 26																		
● BEAR LAKE 27-23N-15W	NIAGARAN REEF	1975	MANISTEE	4,673	64 D	44.2	NIAGARAN	4,870	1	1	0	1	80	142	142			2	
○	BEAR LAKE TWP., 23N-15W, SECTION 27																		
● BEAR LAKE 31-23N-15W	NIAGARAN REEF	1974	MANISTEE	4,168	59 D	40.0	NIAGARAN	4,580	1	0	0	1	80	31,872	32,339	20,264	20,264	404	
○	BEAR LAKE TWP., 23N-15W, SECTION 31																		
● BEAR LAKE 32-23N-15W	NIAGARAN REEF	1974	MANISTEE	4,592	62 D	45.3	NIAGARAN	4,860	2	1	0	2	160	61,832	62,022	49,687	49,687	388	1
○	BEAR LAKE TWP., 23N-15W, SECTION 32																		
● BEAR LAKE 33-23N-15W	NIAGARAN REEF	1974	MANISTEE	4,621	21 D	42.6	NIAGARAN	4,806	4	2	0	4	320	94,923	95,457	67,804	67,804	298	
○	BEAR LAKE TWP., 23N-15W, SECTIONS 28, 33																		
● BEAR LAKE 34-23N-15W	NIAGARAN REEF	1975	MANISTEE	4,783	18 D	44.6	NIAGARAN	4,957	2	2	0	2	160	317	317			2	
○	BEAR LAKE TWP., 23N-15W, SECTION 34																		
☼ BROWN 4-22N-15W	NIAGARAN REEF	1974	MANISTEE	4,397	331 D	69.5	NIAGARAN	4,907	2	1	0	2	320	COND. 11	COND. 81				
○	BROWN TWP., 22N-15W, SECTION 4 — TWO 160-ACRE UNITS ESTABLISHED BY ORDER 12-5-76, EFFECTIVE JUNE 8, 1976																		
☼ BROWN 4-22N-15W POOL A	NIAGARAN REEF	1975	MANISTEE	4,419	306 D	64.2	NIAGARAN	4,926	1	1	0	1	120	COND. 15	COND. 15				
○	BROWN TWP., 22N-15W, SECTIONS 3, 4																		
☼ BROWN 6-22N-15W	SALINA-NIAGARAN REEF	1974	MANISTEE	4,207	415 D	57.3	NIAGARAN	4,809	1	0	0	1	80	0	COND. 50			1	
○	BROWN TWP., 22N-15W, SECTION 6																		
☼ BROWN 7-22N-15W	NIAGARAN REEF	1974	MANISTEE	4,378	292 D	65.0	NIAGARAN	4,780	1	0	0	1	160	0	COND. 20				
○	BROWN TWP., 22N-15W, SECTION 7																		
☼ BROWN 8-22N-15W	NIAGARAN REEF	1974	MANISTEE	4,692	27 D	66.0	NIAGARAN	4,888	1	0	0	1	80	0	COND. 52			1	
○	BROWN TWP., 22N-15W, SECTION 8																		
● CLEON 11-24N-13W	NIAGARAN REEF	1973	MANISTEE	5,624	121 D	43.5	NIAGARAN	6,167	2	1	0	2	160	1,773	2,019	1,356	1,356	13	
○	CLEON TWP., 24N-13W, SECTIONS 11, 12																		
● CLEON 12-24N-13W	NIAGARAN REEF	1974	MANISTEE	5,851	35 D	39.3	NIAGARAN	6,119	1	0	0	1	80	5,560	5,768	3,078	3,078	72	39
● CLEON 12-24N-13W POOL A	NIAGARAN REEF	1975	MANISTEE	5,702	238 D	41.1	NIAGARAN	6,043	1	1	0	1	80	199	199			2	
○	CLEON TWP., 24N-13W, SECTION 12																		
● CLEON 14-24N-13W	NIAGARAN REEF	1973	MANISTEE	5,655	69 D	44.3	NIAGARAN	5,928	1	0	0	1	80	2,882	3,504	2,720	2,720	44	
○	CLEON TWP., 24N-13W, SECTION 14 — DISCOVERY WELL ACTUALLY COMPLETED AS DEVELOPMENT WELL IN 1973, RECLASSIFIED AS A DISCOVERY IN 1974																		
☼ CLEON 15-24N-13W	NIAGARAN REEF	1974	MANISTEE	5,464	20 D		NIAGARAN	5,770	1	0	0	1	80	COND. 4,911	COND. 4,981	187,008	187,008	62	
○	CLEON TWP., 24N-13W, SECTION 15																		
☼ CLEON 20-24N-13W	NIAGARAN REEF	1974	MANISTEE	5,145	202 D		NIAGARAN	5,534	1	0	0	1	80	157	COND. 157	12,832	12,832	2	
○	CLEON TWP., 24N-13W, SECTION 20																		
☼ CLEON 22-24N-13W	NIAGARAN REEF	1975	MANISTEE	5,436	73.5 D	65.5	NIAGARAN	5,701	1	1	0	1	80	0	0	SHUT-IN			
○	CLEON TWP., 24N-13W, SECTION 22																		
☼ MANISTEE	SALINA	1959	MANISTEE	3,616	94 D		NIAGARAN	4,165	1	ABANDONED 1961			160						
○	FILER TWP., 21N-17W, SECTION 24																		
● MANISTEE 1-22N-16W	NIAGARAN REEF	1973	MANISTEE	4,283	254 D	58.6	NIAGARAN	4,807	2	0	0	2	320	0	1,452			5	
● MANISTEE 1-22N-16W POOL A	NIAGARAN REEF	1975	MANISTEE	4,408	81 D	47.5	NIAGARAN	4,630	2	2	0	2	160	474	474			3	
○	MANISTEE TWP., 22N-16W, SECTION 1; BROWN TWP., 22N-15W, SECTION 6																		
● MANISTEE 2-22N-16W	NIAGARAN REEF	1975	MANISTEE	4,245	15 D		NIAGARAN	4,558	1	1	0	1	80	6,484	6,484			81	
○	MANISTEE TWP., 22N-16W, SECTION 2																		
● MANISTEE 12-22N-16W	NIAGARAN REEF	1974	MANISTEE	4,701	17 D	45.0	NIAGARAN	4,844	1	0	0	1	80	169	169			2	
○	MANISTEE TWP., 22N-16W, SECTION 12																		
● MANISTEE 15-22N-16W	NIAGARAN REEF	1974	MANISTEE	4,467	15 D	42.8	NIAGARAN	4,725	2	0	0	2	160	0	488			3	
○	MANISTEE TWP., 22N-16W, SECTIONS 10, 15																		
● MANISTEE 16-22N-16W	NIAGARAN REEF	1975	MANISTEE	4,049	34 D	43.2	NIAGARAN	4,228	2	2	0	2	160	377	377			2	
○	MANISTEE TWP., 22N-16W, SECTION 16																		
● MANISTEE 20-22N-16W	NIAGARAN REEF	1975	MANISTEE	3,996	34 D	43.2	NIAGARAN	4,225	1	1	0	1	80	239	239			3	
○	MANISTEE TWP., 22N-16W, SECTION 20																		
☼ MANISTEE 23-22N-16W	NIAGARAN REEF	1974	MANISTEE	4,220	277 D	68.0	NIAGARAN	4,680	2	1	0	2	160	COND. 25	COND. 45				
○	MANISTEE TWP., 22N-16W, SECTIONS 22, 23																		
☼ MANISTEE 24-22N-16W	NIAGARAN REEF	1974	MANISTEE	4,171	483 D	67.5	NIAGARAN	4,722	1	0	0	1	80	COND. 224	COND. 244			3	
○	MANISTEE TWP., 22N-16W, 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	COMP. IN 1975	ABAND. IN 1975	ACTIVE AT END	DRILLED ACRES	OIL PRODUCTION—BBLS.: PRODUCED IN 1975	OIL PRODUCTION—BBLS.: CUMULATIVE THROUGH 1975	GAS PRODUCTION—Mcf: PRODUCED IN 1975	GAS PRODUCTION—Mcf: CUMULATIVE THROUGH 1975	RECOVERY PER ACRE DRILLED (BBLS.)	TOTAL BARRELS BRINE PER DAY
☼	MANISTEE 27-22N-16W	NIAGARAN REEF	1974	MANISTEE	4,288	224 D	63.4	NIAGARAN	4,600	1	0	0	1	80	40	COND. 40				
○				MANISTEE TWP., 22N-16W, SECTION 27																
●	MAPLE GROVE 1-23N-14W	NIAGARAN REEF	1974	MANISTEE	5,473	23 D	42.2	NIAGARAN	5,610	1	0	0	1	80	0	COND. 311			4	
○				MAPLE GROVE TWP., 23N-14W, SECTION 1																
☼	MAPLE GROVE 2-23N-14W,	NIAGARAN REEF	1973	MANISTEE	5,055	52 D	70.6	NIAGARAN	5,498	2	0	0	2	240	6,625	COND. 6,680	296,511	296,511	28	
○				MAPLE GROVE TWP., 23N-14W, SECTION 2																
●	MAPLE GROVE 4-23N-14W	NIAGARAN REEF	1975	MANISTEE	4,895	26 D		NIAGARAN	5,153	1	1	0	1	80	5,982	5,982	6,018	6,018	75	
○				MAPLE GROVE TWP., 23N-14W, SECTION 4																
●	MAPLE GROVE 6-23N-14W	NIAGARAN REEF	1973	MANISTEE	4,514	27 D	42.0	ST. PETER	6,360	4	1	0	4	320	81,237	82,458	41,228	41,228	258	
○				MAPLE GROVE TWP., 23N-14W, SECTION 6; SPRINGDALE TWP., 24N-14W, SECTION 31																
●	MAPLE GROVE 6-23N-14W POOL A	SALINA-NIAGARAN REEF	1974	MANISTEE	4,518	27 D	40.2	NIAGARAN	4,975	1	0	0	1	80	9,559	9,982	5,619	5,619	125	28
○				MAPLE GROVE TWP., 23N-14W, SECTION 6																
●	MAPLE GROVE 7-23N-14W	NIAGARAN REEF	1974	MANISTEE	4,510	35 D	35.0	NIAGARAN	4,829	2	1	0	2	160	23,591	23,770	15,156	15,156	149	7
○				MAPLE GROVE TWP., 23N-14W, SECTION 7																
●	MAPLE GROVE 8-23N-14W	NIAGARAN REEF	1974	MANISTEE	4,905	26 D	44.8	NIAGARAN	5,082	3	2	0	3	240	64,884	65,164	59,474	59,474	272	11
○				MAPLE GROVE TWP., 23N-14W, SECTIONS 8, 9																
☼	MAPLE GROVE 9-23N-14W	SALINA-NIAGARAN REEF	1973	MANISTEE	4,590	366 D	72.8	NIAGARAN	5,295	1	0	0	1	80	3,123	COND. 3,217	91,086	91,086	40	
○				MAPLE GROVE TWP., 23N-14W, SECTION 9																
●	MAPLE GROVE 10-23N-14W	NIAGARAN REEF	1973	MANISTEE	4,832	263 D	43.8	NIAGARAN	5,457	2	0	0	2	160	25,568	26,147	28,660	28,660	163	21
○				MAPLE GROVE TWP., 23N-14W, SECTION 10																
●	MAPLE GROVE 16-23N-14W	NIAGARAN REEF	1973	MANISTEE	4,950	211 D	48.2	NIAGARAN	5,409	2	0	0	2	120	38,313	38,730	87,540	87,540	323	
○				MAPLE GROVE TWP., 23N-14W, SECTION 16																
●	MAPLE GROVE 17-23N-14W	NIAGARAN REEF	1974	MANISTEE	4,637	102 D	73.0	NIAGARAN	5,225	2	1	0	2	160	109	COND. 213			1	
○				MAPLE GROVE TWP., 23N-14W, SECTION 17																
☼	MAPLE GROVE 19-23N-14W	NIAGARAN REEF	1975	MANISTEE	4,597	259 D	67.8	NIAGARAN	5,110	1	1	0	1	160	20	COND. 20				
○				MAPLE GROVE TWP., 23N-14W, SECTION 19																
●	PLEASANTON 36-24N-15W	NIAGARAN REEF	1974	MANISTEE	4,474	16 D	40.6	NIAGARAN	4,620	2	1	0	2	160	1,878	6,724			42	
○				PLEASANTON TWP., 24N-15W, SECTION 36																
●	SPRINGDALE 21-24N-14W	NIAGARAN REEF	1975	MANISTEE	4,883	24 D	39.0	NIAGARAN	5,085	1	1	0	1	80	27,191	27,191	12,998	12,998	340	
○				SPRINGDALE TWP., 24N-14W, SECTION 21																
●	SPRINGDALE 25-24N-14W	NIAGARAN REEF	1972	MANISTEE	5,006	71 D	43.2	NIAGARAN	5,448	1	0	0	1	40	0	130			3	
○				SPRINGDALE TWP., 24N-14W, SECTION 25																
●	SPRINGDALE 26-24N-14W	NIAGARAN REEF	1974	MANISTEE	5,094	12 D	44.5	NIAGARAN	5,195	1	0	0	1	160	22,929	22,929	18,009	18,009	143	
○				SPRINGDALE TWP., 24N-14W, SECTION 26																
●	SPRINGDALE 28-24N-14W	SALINA-NIAGARAN REEF	1973	MANISTEE	4,719	134 D	34.4	NIAGARAN	5,180	1	0	0	1	80	27,187	27,337	12,734	12,734	342	
○				SPRINGDALE TWP., 24N-14W, SECTION 28																
●	SPRINGDALE 32-24N-14W	NIAGARAN REEF	1974	MANISTEE	4,634	16 D	41.9	NIAGARAN	5,050	2	1	0	2	240	1,559	2,976			12	
○				SPRINGDALE TWP., 24N-14W, SECTION 32; MAPLE GROVE TWP., 23N-14W, SECTION 5																
☼	SPRINGDALE 34-24N-14W	SALINA-NIAGARAN REEF	1974	MANISTEE	4,764	168 D	68.0	NIAGARAN	5,315	1	0	0	1	80	7,421	COND. 7,421	107,651	107,651	93	
○				SPRINGDALE TWP., 24N-14W, SECTION 34																
●	SPRINGDALE 34-24N-14W POOL A	NIAGARAN REEF	1975	MANISTEE	4,995	18 D	40.6	NIAGARAN	5,180	1	0	0	1	80	6,031	6,031	3,783	3,783	75	
○				SPRINGDALE TWP., 24N-14W, SECTION 34 — RECLASSIFIED AS A SEPARATE POOL IN 1976																
○	**MASON COUNTY**																			
●	HAMLIN 13-19N-18W	NIAGARAN REEF	1972	MASON	4,284	12 D	46.2	NIAGARAN	4,500	3	1	0	3	200	84,243	170,544	156,250	227,121	853	
○				HAMLIN TWP., 19N-18W, SECTION 13																
☼	HAMLIN 13-19N-18W POOL A	NIAGARAN REEF	1973	MASON	4,392	6 D		NIAGARAN	4,460	2	0	0	2	200	COND. 21,190	COND. 34,147	2,049,070	3,036,662	171	29
○				HAMLIN TWP., 19N-18W, SECTIONS 13, 24																
●	HAMLIN 13-19N-18W POOL B	NIAGARAN REEF	1975	MASON	4,464	11 D	48.0	NIAGARAN	4,671	1	1	0	1	80	239	239			3	
○				HAMLIN TWP., 19N-18W, SECTION 13																
●	HAMLIN 25-19N-18W	NIAGARAN REEF	1972	MASON	4,251	14 D	46.2	NIAGARAN	4,556	3	1	0	3	320	14,409	22,581	76,734	102,137	71	
○				HAMLIN TWP., 19N-18W, SECTION 25																
☼	HAMLIN	SALINA-NIAGARAN REEF	1952	MASON	3,950	? D		CAMBRIAN	6,622	1	ABANDONED 1962			160						
●		NIAGARAN REEF	1952		4,224	20 D	46.2			1	ABANDONED 1958			40		60,532			1,513	
○				HAMLIN TWP., 19N-18W, SECTION 27																
☼	VICTORY 5-19N-17W	NIAGARAN REEF	1974	MASON	4,199	200 D	69.0	NIAGARAN	4,779	1	0	0	1	80	0	COND. 17				
○				VICTORY TWP., 19N-17W, SECTION 5																
☼	VICTORY 7-19N-17W	NIAGARAN REEF	1973	MASON	4,052	369 D	61.2	NIAGARAN	4,730	2	0	0	2	160	14,413	COND. 14,463	87,675	87,675	90	
○				VICTORY TWP., 19N-17W, SECTION 7																
●	VICTORY 18-19N-17W	NIAGARAN REEF	1973	MASON	4,344	22 D	50.0	NIAGARAN	4,658	2	0	0	2	160	12,840	22,499	14,929	26,792	141	50
○				VICTORY TWP., 19N-17W, SECTION 18																
☼	VICTORY 18-19N-17W POOL A	NIAGARAN REEF	1974	MASON	4,467	5 D	73.3	NIAGARAN	4,555	1	1	0	1	80	6,937	COND. 6,937	254,373	254,373	87	
○				VICTORY TWP., 19N-17W, SECTION 18																
●	VICTORY 19-19N-17W	NIAGARAN REEF	1972	MASON	4,387	14 D		NIAGARAN	4,537	2	0	0	2	160	79,487	140,915	186,260	281,685	881	105
☼	VICTORY 19-19N-17W POOL A	NIAGARAN REEF	1974	MASON	4,358	16 D	69.2	NIAGARAN	4,516	1	0	0	1	80	24,935	COND. 24,935	1,101,644	1,101,644	312	
○				VICTORY TWP., 19N-17W, SECTIONS 18, 19																

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	COMP. IN 1975	ABAND. IN 1975	ACTIVE AT END	DRILLED ACRES	OIL PRODUCTION—BBLS.: PRODUCED IN 1975	OIL PRODUCTION—BBLS.: CUMULATIVE THROUGH 1975	GAS PRODUCTION—Mcf: PRODUCED IN 1975	GAS PRODUCTION—Mcf: CUMULATIVE THROUGH 1975	RECOVERY PER ACRE DRILLED (BBLS.)	TOTAL BARRELS BRINE PER DAY
○	**MONTMORENCY COUNTY**																			
☼	MONTMORENCY 29-32N-1E	NIAGARAN REEF	1975	MONTMORENCY	4,794	24 D	72.3	NIAGARAN	4,939	1	1	0	1	80	47	COND. 47			1	
○				MONTMORENCY TWP., 32N-1E, SECTION 29																
○	**OTSEGO COUNTY**																			
●	BAGLEY 21-30N-3W	NIAGARAN REEF	1975	OTSEGO	5,962	28 D	38.6	NIAGARAN	6,219	1	1	0	1	80	5,279	5,279			66	
○				BAGLEY TWP., 30N-3W, SECTION 21																
●	BAGLEY 23-30N-3W	NIAGARAN REEF	1973	OTSEGO	5,868	13 D	43.3	NIAGARAN	6,194	2	1	0	2	120	38,364	74,336	26,138	55,239	619	37
○				BAGLEY TWP., 30N-3W, SECTIONS 22, 23																
●	BAGLEY 25-30N-3W	NIAGARAN REEF	1972	OTSEGO	6,090	55 D	44.9	NIAGARAN	6,372	1	0	0	1	62	75,089	274,578	131,194	326,224	4,429	
○				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	0	0	2	160	153,114	435,079	312,287	665,511	2,719	
○				BAGLEY TWP., 30N-3W, SECTION 25																
●	BAGLEY 35-30N-3W	NIAGARAN REEF	1974	OTSEGO	6,110	50 D	43.0	NIAGARAN	6,365	1	0	0	1	160	71,306	71,636	57,498	57,498	448	
○				BAGLEY TWP., 30N-3W, SECTION 35																
☼	CHARLTON 1-30N-1W	NIAGARAN REEF	1975	OTSEGO	5,885	6 D	68.1	NIAGARAN	6,165	1	1	0	1	80						
○				CHARLTON TWP., 30N-1W, SECTION 1																
●	CHARLTON 9-30N-1W	NIAGARAN REEF	1972	OTSEGO	5,832	226 D	46.4	NIAGARAN	6,216	1	0	0	1	80	100,076	185,656	59,947	121,245	2,321	
○				CHARLTON TWP., 30N-1W, SECTION 9																
●	CHARLTON 10-30N-1W	NIAGARAN REEF	1974	OTSEGO	6,093	96 D	45.8	NIAGARAN	6,265	1	0	0	1	80	41,382	41,681	37,176	37,176	521	
○				CHARLTON TWP., 30N-1W, SECTION 10																
●	CHARLTON 12-30N-1W	NIAGARAN REEF	1973	OTSEGO	5,936	129 D	50.3	NIAGARAN	6,330	2	0	0	2	160	36,376	36,891	45,818	45,818	231	3
○				CHARLTON TWP., 30N-1W, SECTIONS 12, 13																
●	CHARLTON 24-30N-1W	NIAGARAN REEF	1973	OTSEGO	6,234	26 D		NIAGARAN	6,390	1	0	0	1	80	15,122	50,847	143,159	271,361	636	
○				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	51.8	NIAGARAN	6,400	2	0	0	2	430	COND. 78,476	COND. 102,855	1,447,137	1,943,369	239	
○				CHARLTON TWP., 30N-1W, SECTION 31																
●	CHARLTON 4-31N-1W	NIAGARAN REEF	1970	OTSEGO	4,766	116 D	55	CLINTON	5,270	2	0	0	2	480	305,194	1,307,163	306,099	920,901	2,723	
○				CHARLTON TWP., 31N-1W, SECTION 4																
●	CHARLTON 4-31N-1W POOL A*	NIAGARAN REEF	1973	OTSEGO	4,780	15 D	44.3	NIAGARAN	4,860	1	0	0	1	320	PRODUCTION COMBINED WITH CHARLTON 4					
○	*DETERMINED A SEPARATE POOL IN 1974			CHARLTON TWP., 31N-1W, SECTION 5					DIRECTIONAL HOLE IN WHICH THE SURFACE LOCATION IS 4-31N-1W AND THE SUBSURFACE LOCATION IS 5-31N-1W											
●	CHARLTON 7-31N-1W	NIAGARAN REEF	1974	OTSEGO	4,897	16 D	46.1	NIAGARAN	5,184	2	1	0	2	160	442	848	SHUT-IN		5	
○				CHARLTON TWP., 31N-1W, SECTION 7																
●	CHARLTON 9-31N-1W	SALINA-NIAGARAN REEF	1972	OTSEGO	4,843	3 D	44.2	NIAGARAN	5,045	2	0	0	2	160	218,631	532,091	188,761	467,417	3,326	
○				CHARLTON TWP., 31N-1W, SECTION 9																
●	CHARLTON 27-31N-1W	NIAGARAN REEF	1972	OTSEGO	5,202	26 D	45.4	NIAGARAN	5,228	5	0	0	5	360	297,836	716,866	348,911	665,546	1,991	
○				CHARLTON TWP., 31N-1W, SECTIONS 27, 28					INCLUDES 1 WELL WHICH MAY BE ASSIGNED TO CHARLTON 28-31N-1W, POOL A											
☼	CHARLTON 28-31N-1W	SALINA-NIAGARAN REEF	1974	OTSEGO	4,923	45 D	64.8	NIAGARAN	5,421	1	0	0	1	80	COND. 70,017	COND. 70,047	310,838	310,838	876	
○				CHARLTON TWP., 31N-1W, SECTION 28																
●	CHARLTON 30-31N-1W	NIAGARAN REEF	1975	OTSEGO	5,435	11 D	43.4	NIAGARAN	5,650	2	2	0	2	160	123,850	124,062	60,762	60,762	775	1
○				CHARLTON TWP., 31N-1W, SECTION 30																
●	CHARLTON 31-31N-1W	NIAGARAN REEF	1973	OTSEGO	5,391	54 D	41.9	NIAGARAN	5,770	2	1	0	2	160	128,746	169,704	51,712	75,355	1,061	
○				CHARLTON TWP., 31N-1W, SECTIONS 30, 31																
●	CHARLTON 34-31N-1W	NIAGARAN REEF	1974	OTSEGO	5,492	10 D	44.5	NIAGARAN	5,830	1	0	0	1	80	25,255	33,213	12,858	12,858	415	
○				CHARLTON TWP., 31N-1W, SECTION 34																
☼	CHESTER 10-29N-2W	NIAGARAN REEF	1975	OTSEGO	6,145	47 D	68.5	NIAGARAN	6,644	1	1	0	1	240	43,806	COND. 43,806	392,271	392,271	183	
○				CHESTER TWP., 29N-2W, SECTION 10																
●	CHESTER, SEC. 15	A-2 CARBONATE & LOWER NIAGARAN	1951	OTSEGO	6,610	5 D	41.0	NIAGARAN	6,870	2	0	0	1	80	8,606	36,906	134,924	191,801	923	
○				CHESTER TWP., 29N-2W, SECTIONS 15, 22																
☼	CHESTER, SEC. 15	NIAGARAN REEF	1970	OTSEGO	5,930	348 D	COND.	CLINTON	6,697	1	0	0	1	160	COND. 43,215	COND. 251,968	2,531,948	8,650,232	1,575	
○				CHESTER TWP., 29N-2W, SECTION 15																
☼	CHESTER 21-29N-2W	NIAGARAN REEF	1973	OTSEGO	6,273	29 D		NIAGARAN	6,770	1	0	0	1	160	COND. 34,132	COND. 116,659	1,324,760	2,943,314	729	
○				CHESTER TWP., 29N-2W, SECTION 21																
●	CHESTER 2-30N-2W	NIAGARAN REEF	1971	OTSEGO	5,653	247 D	43.2	NIAGARAN	6,051	4	0	0	4	320	106,163	163,801	25,831	25,831	512	
○				CHESTER TWP., 30N-2W, SECTIONS 2, 3, 10, 11																
●	CHESTER 5-30N-2W	NIAGARAN REEF	1972	OTSEGO*	5,538	10 D		NIAGARAN	5,750	1	0	0	1	40	500	3,985			100	375
●	CHESTER 5-30N-2W POOL A	A-1 CARBONATE	1975	OTSEGO	5,634	10 D	44.8	NIAGARAN	5,938	1	1	0	1	80	1,267	1,267			16	
○				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	0	0	2	160	162,095	207,038	101,371	132,146	1,294	
○				CHESTER TWP., 30N-2W, SECTIONS 5, 6																
●	CHESTER 10-30N-2W	NIAGARAN REEF	1972	OTSEGO	5,986	28 D		NIAGARAN	6,200	1	0	0	1	80	103,989	351,143	81,975	148,966	4,389	
○				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	2	0	0	2	160	182,429	185,841	74,244	75,201	1,162	
○				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					22
○				CHESTER TWP., 30N-2W, SECTIONS 16, 21																

TABLE 3 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 (1975): TO END	COMP. IN	ABAND. IN	ACTIVE AT END	DRILLED ACRES	OIL PRODUCTION—BBLS.: PRODUCED IN 1975	OIL PRODUCTION—BBLS.: CUMULATIVE THROUGH 1975	GAS PRODUCTION—Mcf.: PRODUCED IN 1975	GAS PRODUCTION—Mcf.: CUMULATIVE THROUGH 1975	RECOVERY PER ACRE DRILLED (BBLS.)	TOTAL BARRELS BRINE PER DAY
●	CHESTER 18-30N-2W	NIAGARAN REEF	1971	OTSEGO	5,930	20 D	45	NIAGARAN	6,330	12	1	0	12	840	PRODUCTION COMBINED WITH CHESTER 21					64
○				CHESTER TWP., 30N-2W, SECTIONS 8, 17, 18, 19																
●	CHESTER 19-30N-2W	NIAGARAN REEF	1971	OTSEGO	6,054	30 D	44.4	NIAGARAN	6,512	2	0	0	2	120	164,861	460,653	120,628	266,506	3,839	
○				CHESTER TWP., 30N-2W, SECTION 19; BAGLEY TWP., 30N-3W, SECTION 24																
●	CHESTER 21-30N-2W	NIAGARAN REEF	1970	OTSEGO	5,772	283 D	43.0	CLINTON	6,483	3	0	0	3	200	1,383,340	5,198,481	905,596	2,956,194	3,713	14
○				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	0	0	1	80	110,329	119,116	56,750	60,661	1,489	
○				CHESTER TWP., 30N-2W, SECTION 30																
●	DOVER 12-31N-2W	SALINA-NIAGARAN REEF	1974	OTSEGO	4,932	5 D	43.4	NIAGARAN	5,044	1	0	0	1	80	0	217			3	
○				DOVER TWP., 31N-2W, SECTION 12																
●	DOVER 21-31N-2W	SALINA-NIAGARAN REEF	1975	OTSEGO	5,210	10 D	41.2	NIAGARAN	5,527	1	1	0	1	80	511	511			6	
○				DOVER TWP., 31N-2W, SECTION 21 — DIRECTIONAL HOLE IN WHICH THE SURFACE LOCATION IS IN OTSEGO COUNTY, DOVER TOWNSHIP SECTION 22-31N-2W; AND THE SUBSURFACE LOCATION IS IN OTSEGO COUNTY, DOVER TOWNSHIP SECTION 21-31N-2W																
●	DOVER 22-31N-2W	SALINA-NIAGARAN REEF	1975	OTSEGO	5,223	10 D	41.1	NIAGARAN	5,531	1	1	0	1	80	544	544			7	
○				DOVER TWP., 31N-2W, SECTION 22																
●	DOVER 27-31N-2W	A-1 CARBONATE	1975	OTSEGO	5,179	49 D		NIAGARAN	5,564	1	1	0	1	80	3,436	3,436			43	
○				DOVER TWP., 31N-2W, SECTION 27																
●	DOVER 33-31N-2W	NIAGARAN REEF	1974	OTSEGO	5,413	9 D	43.6	NIAGARAN	5,678	3	0	0	3	240	179,584	180,509	104,315	104,315	752	11
○				DOVER TWP., 31N-2W, SECTIONS 28, 33																
●	DOVER 35-31N-2W	NIAGARAN REEF	1973	OTSEGO	5,475	41 D	42.3	NIAGARAN	5,810	3	0	0	3	240	65,623	95,467	31,698	45,426	398	2
○				DOVER TWP., 31N-2W, SECTION 35																
●	DOVER 36-31N-2W	NIAGARAN REEF	1973	OTSEGO	5,485	135 D	42.7	NIAGARAN	5,835	3	0	0	3	240	227,738	313,126	150,625	195,254	1,305	5
○				DOVER TWP., 31N-2W, SECTIONS 35, 36																
●	HAYES 11-29N-4W	NIAGARAN REEF	1969	OTSEGO	6,180	57 D	47.0	NIAGARAN	6,515	4	0	0	3	640	68,335	673,556	43,467	266,339	1,052	125
○				HAYES TWP., 29N-4W, SECTIONS 2, 11, 12, 14																
●	HAYES 15-29N-4W	NIAGARAN REEF	1973	OTSEGO	6,350	39 D	42.6	NIAGARAN	6,615	2	0	0	2	160	255,798	613,980	139,895	347,607	3,837	30
○				HAYES TWP., 29N-4W, SECTION 15																
●	HAYES 21-29N-4W	NIAGARAN REEF	1972	OTSEGO	6,581	6 D	44.9	NIAGARAN	6,972	3	0	0	3	240	322,345	626,969	231,853	432,303	2,612	6
○				HAYES TWP., 29N-4W, SECTION 21																
●	HAYES 29-29N-4W	SALINA-NIAGARAN REEF	1973	OTSEGO	6,474	53 D	42.7	NIAGARAN	6,982	2	0	0	2	160	68,959	69,364	48,708	48,708	434	80
○				HAYES TWP., 29N-4W, SECTION 29																
●	HAYES 32-29N-4W	NIAGARAN REEF	1972	OTSEGO	6,462	5 D	42.7	NIAGARAN	6,873	3	1	0	3	320	152,374	246,327	99,161	148,505	770	66
○				HAYES TWP., 29N-4W, SECTIONS 29, 31, 32																
●	HAYES 34-29N-4W	NIAGARAN REEF	1974	OTSEGO	6,836	25 D	42.4	NIAGARAN	7,050	2	0	0	2	160	144,907	159,933	84,899	89,679	1,000	5
○				HAYES TWP., 29N-4W, SECTIONS 27, 34																
●	OTSEGO LAKE 3-29N-3W	SALINA-NIAGARAN REEF	1971	OTSEGO	6,272	122 D	44.2	NIAGARAN	6,860	2	0	0	2	120	99,019	496,317	238,671	522,171	4,136	
○				OTSEGO LAKE TWP., 29N-3W, SECTIONS 3, 10																
●	OTSEGO LAKE 26-29N-3W	NIAGARAN REEF	1975	OTSEGO	6,810	12 D	52.7	NIAGARAN	6,968	1	1	0	1	80	719	719			9	
○				OTSEGO LAKE TWP., 29N-3W, SECTION 26																
○	**PRESQUE ISLE COUNTY**																			
●	NORTH ALLIS 29-35N-2E	NIGARAN REEF	1969	PRESQUE ISLE	2,727	10 D		PRECAMBRIAN	5,940	1	0	0	1	40	236	4,748			119	
○				NORTH ALLIS TWP., 35N-2E, SECTION 29																
○	**WEXFORD COUNTY**																			
●	WEXFORD 5-24N-12W	NIAGARAN REEF	1974	WEXFORD	5,820	127 D		NIAGARAN	6,119	1	0	0	1	80	2,472	7,221			90	
○				WEXFORD TWP., 24N-12W, SECTION 5																
●	WEXFORD 6-24N-12W	NIAGARAN REEF	1975	WEXFORD	5,775	153 D	41.1	NIAGARAN	6,061	1	1	0	1	80	159	159			2	
○				WEXFORD TWP., 24N-12W, SECTION 6																
☼	WEXFORD 9-24N-12W	NIAGARAN REEF	1973	WEXFORD	6,232	4 D	69.8	NIAGARAN	6,265	1	0	0	1	80	7,394	COND. 7,634	78,979	78,979	95	
○				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	0	0	1	80			SHUT-IN			
○				WEXFORD TWP., 24N-12W, SECTION 9																
●	WEXFORD 9-24N-12W POOL B	NIAGARAN REEF	1974	WEXFORD	6,681	71 D	42.4	NIAGARAN	6,324	1	0	0	1	80	31,528	31,603	12,976	12,976	395	
○				WEXFORD TWP., 24N-12W, SECTION 9																
☼	WEXFORD 10-24N-12W	NIAGARAN REEF	1972	WEXFORD	6,124	107 D	68.9	NIAGARAN	6,352	1	0	0	1	160	COND. 56,359	COND. 57,748	1,031,602	1,057,808	361	
○				WEXFORD TWP., 24N-12W, SECTION 10																
☼	WEXFORD 18-24N-12W	NIAGARAN REEF	1973	WEXFORD	5,842	96 D		NIAGARAN	6,130	2	0	0	2	280	18,671	COND. 18,726	693,349	693,349	67	
●	WEXFORD 18-24N-12W POOL A	NIAGARAN REEF	1975	WEXFORD-MANISTEE	5,885	54 D	42.1	NIAGARAN	6,165	3	3	0	3	240	608	608			3	
○				WEXFORD TWP., 24N-12W, SECTION 18; CLEON TWP., MANISTEE CO., SECTION 13																
				TOTALS										45,892	13,234,595	29,554,768	76,184,089	144,896,826		3,099

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.

	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 (1975): TO END	COMP. IN	ABAND. IN	ACTIVE AT END	DRILLED ACRES	OIL PRODUCTION—BBLS.: PRODUCED IN 1975	OIL PRODUCTION—BBLS.: CUMULATIVE THROUGH 1975	GAS PRODUCTION—Mcf.: PRODUCED IN 1975	GAS PRODUCTION—Mcf.: CUMULATIVE THROUGH 1975	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	14	0	1	10	560	5,585	323,339	0	468,773	577	130
○				CHINA TWP., 4N-16E, SECTION 7 CASCO TWP., 4N-15E, SECTIONS 12, 13 — 3 OF ORIGINAL 18 WELLS TRANSFERRED TO PUTTYGUT																
●	ADAMS	TRAVERSE	1937	ARENAC-BAY	2,032	15 L	37.0	BOIS BLANC	5,079	24	0	0	7	240	1,428					22
●		DUNDEE	1937		2,958	15 L	34.7			31	0	0	17	310	9,707					15
●		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	7	1,080	3,140	1,537,520			943	2
○				ADAMS TWP., 19N-3E, SECTIONS 21, 23 THROUGH 27, 34, 35, 36 DEEP RIVER TWP., 19N-4E, SECTION 31 GIBSON TWP., 18N-3E, SECTIONS 1, 2 — THE 7 WELLS INCLUDE 4 RICHFIELD, 1 SOUR ZONE, AND 2 DUAL COMPLETIONS, RICHFIELD & SOUR ZONE																
☼	ADAMS, NORTH	BEREA	1942	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	20,289	9,356,286			19,907	3,673
○				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	2	29	1,100	19,318					102
●		DETROIT RIVER SZ	1938		3,422	11 D	35.9			27	0	0	15	500	11,346	2,013,011			1,258	8
●		RICHFIELD	1954		3,774	6 D	39.2							THE 15 WELLS INCLUDE 2 RICHFIELD, 10 SOUR ZONE AND 3 DUAL COMPLETIONS SZ & DD						
●		A-2 CARBONATE	1973		6,868	107 D	46.9			1	0	0	1	160						
☼		A-1 CARBONATE	1973		7,452	60 D				2	0	0	2	320				SHUT-IN		
○				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	4,975	8	0	0	5	440			228,373	2,059,070		
○				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	CUMULATIVE PRODUCTION COMBINED WITH TRENTON-BLACK RIVER					
●		TRENT.-BLK.RIVER	1960		4,600	244 D				31	2	0	22	440	70,586	2,484,748			4,778	1,080
○				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	80,955	4,666,797	149,371	3,235,788	5,761	1,084
○				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	1	132	2,780	514,667	23,008,102	2,038,518	42,353,847	8,276	3,069
○				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	4,395	140	0	0	134	2,680	500,336	25,855,644	3,088,615	44,766,820	9,648	6,043
○				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	1	186	3,560	1,068,529	47,167,972	3,678,253	56,279,190	13,249	4,761
○				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	77	9	2	59	1,300	243,502	7,433,675	829,493	11,135,792	5,718	719
○				ADAMS TWP., 6S-2W, SECTIONS 3, 4, 5, 6, 7, 8, 10, 11, 14, 15, 16, 17, 23																
○	TREND TOTAL (NOTE: ONLY TRENTON-BLACK RIVER FIGURES INCLUDED IN TREND TOTALS)									631	12	7	601	11,570	2,478,575	110,616,938	9,784,250	157,771,437	9,561	
○	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	846	18,212	FIELD REACTIVATED-1971		96	3
○				ALLEGAN TWP., 2N-13W, SECTIONS 2, 5, 9, 10, 13, 22, 23, 26, 27, 34, 35, 36																
☼	ALPINE	NIAGARAN REEF	1963	ST. CLAIR	3,151	25 D		CLINTON	3,470	3	0	1	2	120			116,409	1,511,556		
○				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	2,570	339,437			970	
○				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				205,680		
●		TRAVERSE	1945		2,950	4 L	42.0			4	0	0	3	80	1,036	CUMULATIVE PRODUCTION INCLUDED WITH DUNDEE				80
●		DUNDEE	1945		3,645	5 L	40.0			4	0	0	4	200	3,470	477,379			1,705	6
○				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																
●	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	1,832	56,065			350	
○				AU GRES TWP., 19N-6E, SECTIONS 2, 3, 10, 11 THE 3 WELLS INCLUDE 2 RICHFIELD AND 1 RICHFIELD AND SOUR ZONE																

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

Pool Classification	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 1975	Comp. in 1975	Aband. in 1975	Active at End 1975	Drilled Acres	Oil Production – Bbls. Produced in 1975	Oil Production – Bbls. Cumulative through 1975	Gas Production – Mcf. Produced in 1975	Gas Production – Mcf. Cumulative through 1975	Recovery per Acre Drilled (Bbls.)	Total Barrels Brine per Day
Active gas	AURELIUS 26-2N-2W	NIAGARAN REEF	1974	INGHAM	3,954	100 D		NIAGARAN	4,445	2	1	0	2	160	3,321	3,321	806,000	806,000	21	
				AURELIUS TWP., 2N-2W, SECTION 26																
Active oil	AURELIUS 35-2N-2W	NIAGARAN REEF	1971	INGHAM	3,942	60 D	37.3	NIAGARAN	4,445	4	0	0	4	320	291,462	761,191	156,989	379,495	2,379	
				AURELIUS TWP., 2N-2W, SECTIONS 26, 35, 36																
Gas storage	AUSTIN	REFER TO TABLE 4 DEVELOPED GAS STORAGE RESERVOIRS																		
Abandoned oil	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																
Active oil	BARD	DUNDEE	1949	GLADWIN	3,933	6 L	42.8	DUNDEE	4,017	17	0	1	2	170	2,595	582,055			3,424	80
				BEAVERTON TWP., 17N-2W, SECTIONS 5, 6, GROUT TWP., 18N-2W, SECTIONS 31, 32																
Abandoned oil	BARTON	TRAVERSE	1947	NEWAYGO	3,097	1 L	30.0	DETROIT RIVER	3,745	3	ABANDONED 1963			50		20,277			406	
				BARTON TWP., 16N-11W, SECTION 16																
Abandoned oil	BEAVER, SEC. 31	BEREA	1954	BAY	2,413	16 SL		SYLVANIA	4,754	1	ABANDONED 1961			10		1,053			105	
				BEAVER TWP., 15N-3E, SECTION 31																
Active oil	BEAVER CREEK UNIT	RICHFIELD	1947	CRAWFORD-KALKASKA	4,160	20 D	44.7	ST. PETER	10,142	105	0	0	52	4,240	546,195	10,832,151	130,896	18,670,641	2,555	1,262
				BEAVER CREEK TWP., 25N-4W, SECTIONS 7, 8, 16 THROUGH 21, 27, 28, 29 GARFIELD TWP., 25N-5W, SECTIONS 12, 13																
Active oil	BEAVERTON	DUNDEE	1934	GLADWIN	3,929	12 L	41.3	RICHFIELD	5,225	26	0	0	2	330	1,866	886,470			2,686	65
				BEAVERTON TWP., 17N-2W, SECTIONS 2, 3, 11, 13																
Active oil	BEAVERTON, SOUTH	TRAVERSE	1956	GLADWIN	3,231	6 L	41.0	DETROIT RIVER	4,977	TRAVERSE COMBINED WITH DUNDEE										
Active oil		DUNDEE	1936		3,845	12 L	34.5			33	0	0	19	700	17,354	1,735,262			2,479	38
				BEAVERTON TWP., 17N-2W, SECTIONS 26, 27, 35, 36 TOBACCO TWP., 17N-1W, SECTION 31 THE 19 WELLS INCLUDE 18 DUNDEE & 1 DUNDEE & TRAVERSE																
Active oil	BEAVERTON, WEST	DUNDEE	1943	GLADWIN	3,876	2 L	41.2	DETROIT RIVER	5,094	7	0	0	4	260	6,736	208,695			80	40
				BEAVERTON TWP., 17N-2W, SECTION 19																
Gas storage	BELLE RIVER MILLS	REFER TO TABLE 4 DEVELOPED GAS STORAGE RESERVOIRS																		
Active oil	BELLY ACHERS	DUNDEE	1944	MONTCALM	3,470	1.3 D	48.2	DUNDEE	3,615	7	0	0	3	220	651	342,472			1,557	600
				HOME TWP., 12N-6W, SECTIONS 11, 14																
Abandoned oil	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																
Active oil	BENTLEY	TRAVERSE	1952	GLADWIN	2,855	6 L	34.1	SYLVANIA	5,114	TRAVERSE COMBINED WITH DUNDEE & RICHFIELD										
Active oil		DUNDEE	1937		3,510	13 L	42.1			87	0	0	38	}						198
Active oil		RICHFIELD	1952		4,440	14 L	40.0			1	0	0	1	} 1,920	32,303	2,966,703			1,545	4
				BENTLEY TWP., 17N-2E, SECTIONS 16 THROUGH 21, 27, 28, 29, 34, 35 THE 39 WELLS INCLUDE 38 DUNDEE AND 1 MULTIPLE COMPLETION TRAVERSE, DUNDEE, & RICHFIELD																
Active oil	BERLIN	NIAGARAN	1960	ST. CLAIR	3,800	25 D	42.8	CINCINNATIAN	4,310	4	0	0	3	140	4,596	369,436			2,639	75
				BERLIN TWP., 6N-13E, SECTIONS 32, 33																
Abandoned gas	BEVENS LAKE	MICHIGAN STRAY	1952	MECOSTA	1,244	6 S		REED CITY	3,731	3	ABANDONED 1969							515,405		
Active oil		TRAVERSE	1951		2,997	1 L	44.2			4	0	0	1	40	1,062	96,599			2,415	100
Active gas		DUNDEE	1951		3,536	11 L				3	0	0	1	320			2,475	970,405		
				GREEN TWP., 16N-10W, SECTION 13																
Active oil	BIG HAND	NIAGARAN	1961	ST. CLAIR	2,898	5+ D	39.5	CLINTON	3,097	10	0	0	10	200	31,190	864,562	111,245	656,486	4,323	45
				COLUMBUS TWP., 5N-15E, SECTION 24																
Abandoned gas	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																
Abandoned gas	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																
Abandoned gas	BIG RAPIDS	MICHIGAN STRAY	1943	MECOSTA	1,145	7 S		REED CITY	3,595	9	ABANDONED 1969			1,440				2,393,033		
Abandoned gas		DUNDEE	1965		3,420	6 L				1	ABANDONED 1974			160			0	44,498		
				BIG RAPIDS TWP., 15N-10W, SECTIONS 3, 9, 10, 11, 13																
Active oil	BILLINGS	DUNDEE	1949	GLADWIN	3,549	6 L	39.7	RICHFIELD	4,995	20	0	0	19	400	6,212	CUMULATIVE PRODUCTION COMBINED WITH DETROIT RIVER				
Active oil		DETROIT RIVER	1950		4,070	7 D	43.5			10	0	0	9	200	3,971	827,415			1,379	2
				BILLINGS TWP., 17N-1E, SECTIONS 2, 3, 10, 11 THE 9 WELLS INCLUDE 8 SOUR ZONE & 1 SOUR ZONE & DUNDEE																
Active oil	BILLINGS, SOUTH	DUNDEE	1957	GLADWIN	3,540	5 ?	39.5	DETROIT RIVER	4,152	8	0	0	8	70	7,635	193,444			2,763	2
				BILLINGS TWP., 17N-1E, SECTIONS 12, 13 BENTLEY TWP., 17N-2E, SECTION 18																
Active oil	BIRCH-BELA	DUNDEE	1951	SAGINAW-TUSCOLA	2,504	7 L	36.0	DETROIT RIVER	3,263	31	1	0	31	350	11,781	352,705			1,008	
				BIRCH RUN TWP., 10N-6E, SECTIONS 25, 36 ARBELA TWP., 10N-7E, SECTIONS 30, 31, 32																
Abandoned oil	BIRCH RUN	BEREA	1934	SAGINAW	1,530	5 S	43.3	DUNDEE	2,646	26	ABANDONED 1951			250		215,876			864	
Active oil		DUNDEE	1954		2,536	10 L	36.2	DUNDEE	2,716	34	0	0	32	480	10,712	571,040			1,190	
				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)																
Abandoned oil	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																
Active gas	BLISSFIELD	TRENT.-BLK. RIVER	1963	LENAWEE	2,686	9 D		GLENWOOD	3,251	1	0	0	1	40	0	567	0	52,905	14	
				BLISSFIELD TWP., 7S-5E, SECTION 5 GAS RESERVOIR PRODUCING SMALL QUANTITIES OF OIL (SHUT-IN)																
Active oil	BLOOMER	TRAVERSE	1944	MONTCALM-IONIA	2,640	3.3 L	42.3	DETROIT RIVER	3,271	29	0	1	3	530	2,470	1,960,019			3,698	450
				BLOOMER TWP., 9N-5W, SECTIONS 31, 32 BUSHNELL TWP., 9N-6W, SECTION 36 NORTH PLAINS TWP., 8N-5W, SECTIONS 5, 6																
Abandoned oil	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																

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Pool Classification	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 1975	Comp. in 1975	Aband. in 1975	Active at End 1975	Drilled Acres	Oil Production – Bbls. Produced in 1975	Oil Production – Bbls. Cumulative through 1975	Gas Production – Mcf. Produced in 1975	Gas Production – Mcf. Cumulative through 1975	Recovery per Acre Drilled (Bbls.)	Total Barrels Brine per Day
Active oil	BLOOMINGDALE	TRAVERSE	1938	VAN BUREN	1,244	4 L	42.0	*ST. PETER SS.	3,422	431	0	0	16	4,040	6,526	10,016,036			2,479	379
				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																
Active oil	BOYD	SALINA-NIAGARAN	1958	ST. CLAIR	2,457	292 D	37.7	PRECAMBRIAN	4,634	49	0	0	37	1,840	43,484	1,981,975	665,616	16,862,187	1,077	131
				CASCO TWP., 4N-15E, SECTIONS 29, 31, 32, W½ 28, W½ 33 IRA TWP., 3N-15E, SECTIONS 5, 6																
Abandoned oil	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																
Active oil	BRINTON	DUNDEE	1967	ISABELLA	4,082	3 D		DUNDEE	4,085	1	0	0	1	40	0	19,308	SHUT DOWN		483	
				COLDWATER TWP., 16N-6W, SECTION 5																
Active gas	BROOMFIELD-DEERFIELD	MICHIGAN STRAY	1930	ISABELLA	1,355	5 S		SYLVANIA	4,994	91	0	0	14	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																
Active gas	BRUCE	NIAGARAN REEF	1974	MACOMB	3,696			NIAGARAN	4,029	2	1	0	2	320			SHUT-IN			
				BRUCE TWP., 5N-12E, SECTIONS 30, 31																
Active oil	BUCKEYE, NORTH	DUNDEE	1936	GLADWIN	3,615	14 L	39.0	SYLVANIA	5,351	287	0	0	53	3,030	88,857	19,626,102		9,834	6,477	2,786
				BUCKEYE TWP., 18N-1W, SECTIONS 1, 2, 3, 4, 9 THROUGH 15 HAY TWP., 18N-1E, SECTIONS 15, 16, 21, 22																
Abandoned oil	BUCKEYE, SOUTH	TRAVERSE	1956	GLADWIN	2,891	3 D	42.0	DETROIT RIVER	4,802	7	ABANDONED 1960			- PRODUCTION COMBINED WITH BUCKEYE, SOUTH DUNDEE						
Active oil		DUNDEE	1936		3,570	11 L	39.0			197	0	0	27	2,270	17,983	5,069,707			2,233	169
Active oil		DETROIT RIVER SZ	1964		4,481	14 D	46.0			1	0	0	1	40	3,485	97,975			2,449	
				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																
Active oil	BURDELL	DUNDEE	1959	OSCEOLA	3,678	4 L		REED CITY	3,804	6	0	0	1	120	715	154,333			1,286	60
Abandoned oil		REED CITY	1960		3,802	2 D				1	ABANDONED 1969			40						
				BURDELL TWP., 20N-10W, SECTION 19																
Abandoned oil	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																
Abandoned oil	BUTMAN	TRAVERSE	1950	GLADWIN	2,789	2 L		SYLVANIA	5,027	1	ABANDONED 1953			- PRODUCTION COMBINED WITH BUTMAN RICHFIELD						
Abandoned oil		DUNDEE	1949		3,596	6 L	41.4			1	ABANDONED 1963			- PRODUCTION COMBINED WITH BUTMAN RICHFIELD						
Active oil		RICHFIELD	1949	GLADWIN	4,921	10 D	41.6			5	0	0	5	240	4,082	327,025			1,363	21
				BUTMAN TWP., 20N-1W, SECTION 12 (TRAVERSE) BUTMAN TWP., 20N-1W, SECTIONS 11, 12, 13, 14 (DUNDEE & RICHFIELD)																
Active gas	CAL-LEE	REFER TO ALBION-PULASKI-SCIPIO TREND PRIMARILY NIAGARAN OIL AND GAS PRODUCTION - LEE TOWNSHIP																		
Abandoned gas	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																
Active gas	CAPAC	NIAGARAN	1961	ST. CLAIR	4,505	6 D		MT. SIMON SS.	6,337	54	0	0	48	9,120		5,983	42,188	21,304,885		
				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.																
Active oil	CAREY LAKE	REED CITY	1966	NEWAYGO	3,411	2 D		REED CITY	3,413	2	0	0	2	80	6,111	25,132			314	15
				GOODWELL TWP., 14N-11W, SECTION 26																
Abandoned oil	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																
Active oil	CAT CREEK	DUNDEE	1968	OSCEOLA	3,696	4 L		DUNDEE	3,890	8	0	0	7	300	16,769	424,699			1,416	1,420
				HERSEY TWP., 17N-9W, SECTIONS 4, 9																
Active oil	CATO	REED CITY	1944	MONTCALM-MECOSTA	3,542	3 D	44.7	DETROIT RIVER	3,731	22	1	0	11	670	17,204	1,103,704			1,647	1,825
				CATO TWP., 12N-8W, SECTIONS 3, 4, 6, 8, 9 DEERFIELD TWP., 13N-9W, SECTION 36																
Active gas	CEDAR	MICHIGAN STRAY	1945	OSCEOLA	1,490	7 S		SYLVANIA	5,165	5	0	0	4	800				1,402,820	SHUT-IN	
Active oil		DUNDEE	1943		3,810	2 L	46.0			10	0	0	5	400	4,702	CUMULATIVE PRODUCTION COMBINED WITH RICHFIELD				810
Active oil		RICHFIELD	1945		5,060	6 L	44.7			4	0	0	4	140	7,672	1,158,020			2,144	
				CEDAR TWP., 18N-9W, SECTIONS 27, 28, 32, 33 (MICHIGAN STRAY) CEDAR TWP., 18N-9W, SECTIONS 10, 27, 28, 33, 34 (DUNDEE AND RICHFIELD)																
Abandoned gas	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																
Abandoned oil	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																
Active oil	CHASE	"BEREA"	1943	LAKE	2,460	4 SL		DETROIT RIVER	3,734	2	0	0	1	20	158	8,936			447	
				CHASE TWP., 17N-11W, SECTIONS 19, 29																
Abandoned oil	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																
Abandoned gas	CHERRY GROVE, SEC. 13	MICHIGAN STRAY	1957	WEXFORD	1,326	35 S		DUNDEE	4,080	5	ABANDONED 1973			640			0	924,719		
				CHERRY GROVE TWP., 21N-10W, SECTION 13 CLAM LAKE TWP., 21N-9W, SECTIONS 7, 18																
Abandoned oil	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																
Active gas	CHESTER	ANTRIM	1965	OTSEGO	1,360	? SH		NIAGARAN	6,870	16	0	0	16	640			86,458	818,843		187
				CHESTER TWP., 29N-2W, SECTIONS 10, 11, 14, 15, 16																
Active oil	CHESTERFIELD	NIAGARAN	1962	MACOMB	2,508	7 D	40.3	CLINTON	2,707	7	0	0	2	280	1,516	54,502		124,698	195	
				CHESTERFIELD TWP., 3N-14E, SECTION 28, 29																
Abandoned gas	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																
Abandoned 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																

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

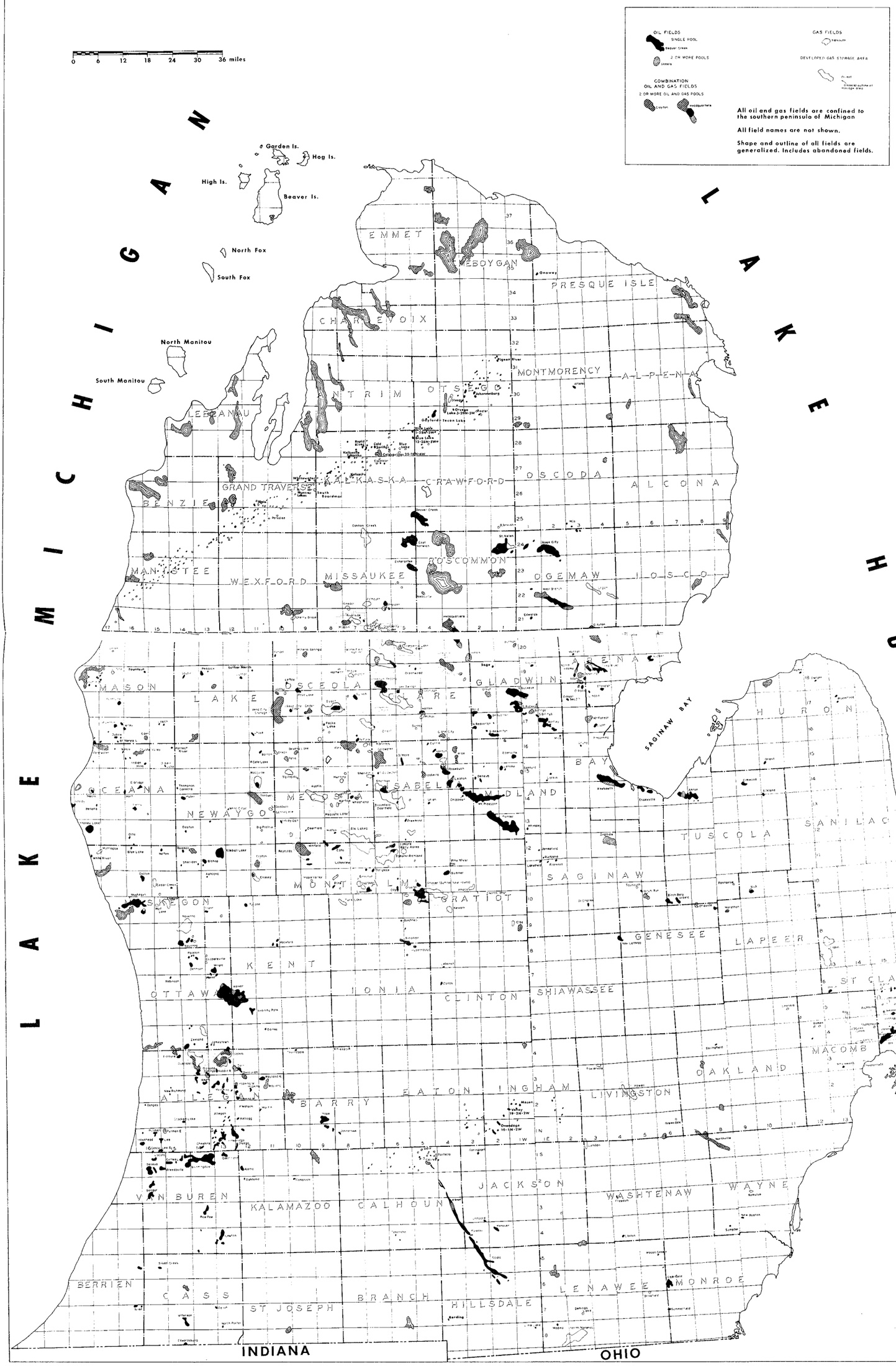
	Field Name	Producing Formation or Pool	Year of Disc.	County Township Producing Sections	Pay Zone: Depth in Feet	Pay Zone: Thickness and Lithology	Pay Zone: Oil Gravity A.P.I.	Deepest Formation or Pool Tested	Depth in Feet	Number of Wells: To End	Comp. in 1975	Aband. in 1975	Active at End	Drilled Acres	Oil Production—Bbls.: Produced in 1975	Oil Production—Bbls.: Cumulative through 1975	Gas Production—Mcf.: Produced in 1975	Gas Production—Mcf.: Cumulative through 1975	Recovery per Acre Drilled (Bbls.)	Total Barrels Brine per Day
●	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	S 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	930	80,598			672		
○				GRANT TWP., 17N-4W, SECTIONS 24, 35, 36 WISE TWP., 16N-3W, SECTION 6																	
☼	CLARENCE 19-1S-4W	NIAGARAN REEF	1971	CALHOUN	3,154	24 D		NIAGARAN	3,240	1	0	0	1	160				1,057,655			
○				CLARENCE TWP., 1S-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	37,402	CUMULATIVE PRODUCTION COMBINED WITH RICHFIELD					1,440
●		DETROIT RIVER	1953		3,507	9 D	45.9														
●		RICHFIELD	1947		3,790	9 D	36.2			5	0	0	5	200	3,252	6,549,819			4,396		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	1,393	14	ABANDONED 1953			140		17,490			125		
○				PINE GROVE TWP., 1S-13W, SECTIONS 3, 4, 9, 10																	
●	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	12	1	0	1	110	2,229	36,878			335		70
○				COLUMBIA TWP., 1S-15W, SECTIONS 17, 18 ABANDONED IN 1954, REACTIVATED IN 1975																	
⊕	COLDWATER	REFER TO TABLE 4 DEVELOPED GAS STORAGE RESERVOIRS																			
●	COLDWATER	DUNDEE	1944	ISABELLA	3,692	25 L	48.0	DETROIT RIVER	5,090	81	0	7	45	3,200	29,859	22,000,835		6,311,307	6,875		15,660
○				COLDWATER TWP., 16N-6W, SECTIONS 19, 20, 21, 28 THROUGH 34 SHERMAN TWP., 15N-6W, SECTIONS 5, 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	1	40	233	30,269			757		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		2,188			54		
☼		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		2,019	179,425	1,596,416	25		3
○				COTTRELLVILLE TWP., 3N-16E, SECTION 20																	
⊕	COLUMBUS	REFER TO TABLE 4 DEVELOPED GAS STORAGE RESERVOIRS																			
●	COLUMBUS, SEC. 2	NIAGARAN REEF	1971	ST. CLAIR	2,798	8 D	29	NIAGARAN	3,210	2	0	1	1	80	388	3,884		26,492	49		
○				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	20	460	669,880	2,780,908			6,045		82
○				COLUMBUS TWP., 5N-15E, SECTIONS 3, 10 WALES TWP., 6N-15E, SECTION 34																	
☼	COLUMBUS, SEC. 20	NIAGARAN REEF	1972	ST. CLAIR	3,128	5 D		NIAGARAN	3,155	1	ABANDONED 1975			160				425			
○				COLUMBUS TWP., 5N-15E, SECTION 20																	
☼	COLUMBUS, SEC. 23	NIAGARAN REEF	1965	ST. CLAIR	2,900	46+ D		CLINTON	3,122	6	0	0	5	240	1,601	19,678	17,839	977,150	12		60
○				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	SHUT-IN		
○				COLUMBUS TWP., 5N-15E, SECTION 32																	
●	COLUMBUS, NORTH	NIAGARAN REEF	1968	ST. CLAIR	3,266	8 D		NIAGARAN	3,374	11	0	0	11	260	106,181	877,735	40,901	102,813	3,376		46
○				COLUMBUS TWP., 5N-15E, SECTIONS 5, 6																	
⊕	COLUMBUS, WEST	REFER TO TABLE 4 DEVELOPED GAS STORAGE RESERVOIRS																			
◐	COMSTOCK, SEC. 5	TRAVERSE	1949	KALAMAZOO	1,430	3 L		TRAVERSE	1,480	2	ABANDONED 1952			20		974			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																	
●	CONVIS 8-1S-6W	SALINA-NIAGARAN REEF	1975	CALHOUN	2,978	10 D		CLINTON	3,555	2	2	0	2	160	3,223	3,223			20		35
○				CONVIS TWP., 1S-6W, SECTION 8																	
●	CONVIS 18-1S-6W	SALINA-NIAGARAN REEF	1975	CALHOUN	2,909	62 D	33.5	CLINTON	3,427	6	6	0	6	440	72,782	72,782			165		
○				CONVIS TWP., 1S-6W, SECTIONS 7, 18																	
●	CONVIS 25-1S-6W	SALINA-NIAGARAN REEF	1975	CALHOUN	2,876	20 D		CLINTON	3,430	1	1	0	1	80	2,804	2,804			35		35
○				CONVIS TWP., 1S-6W, SECTION 25																	
●	CONVIS 30-1S-6W	SALINA-NIAGARAN REEF	1975	CALHOUN	2,819	35 D	27.5	CLINTON	3,346	2	2	0	2	160	8,196	8,196			51		
○				CONVIS TWP., 1S-6W, SECTION 30																	
☼	COON CREEK	NIAGARAN	1963	MACOMB	3,034	20 D		NIAGARAN	3,093	2	ABANDONED 1968			80				134,116			
○				LENOX TWP., 4N-14E, SECTION 18																	

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	Comp. in 1975	Aband. in 1975	Active at End	Drilled Acres	Oil Production—Bbls.: Produced in 1975	Oil Production—Bbls.: Cumulative through 1975	Gas Production—Mcf.: Produced in 1975	Gas Production—Mcf.: Cumulative through 1975	Recovery per Acre Drilled (Bbls.)	Total Barrels Brine per Day
☼	COOPERSVILLE	"BEREA"	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	6,120	145,328				519	1
○				CHINA TWP., 4N-16E, SECTION 31 COTTRELLVILLE TWP., 3N-16E, SECTIONS 6, 7, 8 IRA TWP., 3N-15E, SE¼ SECTION 1, NE¼ SECTION 12																	
☼	COTTRELLVILLE	NIAGARAN REEF	1959	ST. CLAIR	2,293	37 D		CLINTON	2,511	2	0	0	2	240				100,599	2,740,389		
○				COTTRELLVILLE TWP., 3N-16E, SECTIONS 6, 7, 8																	
⊕	CRANBERRY LAKE	REFER TO TABLE 4 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	2	70	4,509	CUMULATIVE PRODUCTION COMBINED WITH RICHFIELD					440
●		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			18	0	0	7	680	36,486	1,651,571			2,429		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	17,519	CUMULATIVE PRODUCTION COMBINED WITH RICHFIELD					
●		RICHFIELD	1964		5,087	12 D	44.0			6	0	0	6	80	1,946	644,591			2,302		590
○				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 4 DEVELOPED GAS STORAGE RESERVOIRS																			
●	CROTON	TRAVERSE	1951	NEWAYGO	2,543	2 L		SALINA	3,993	10	ABANDONED 1958			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	11,199	7,836,788			3,880		1,400
○				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	ABANDONED 1974			420	0	203,747				434	
○				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	814	21,960				549	15
☼		DUNDEE	1971		2,222	11 L				1	0	0	1	20			SHUT-IN				
○				CRYSTAL TWP., 16N-16W, SECTION 19																	
●	CRYSTAL VALLEY, SOUTH	TRAVERSE	1969	OCEANA	1,739	1 L		TRAVERSE	1,740	1	0	0	1	40	233	9,310				233	10
○				CRYSTAL TWP., 16N-16W, SECTION 20																	
●	CURRIE	DUNDEE	1936	ISABELLA	3,918	2 D	45.9	DUNDEE	4,042	2	0	0	2	40	811	206,785				5,170	
○				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	297	108,778				363	8
○				DALTON TWP., 11N-16W, SECTIONS 10, 11, 15																	
☼	DAY	MICHIGAN STRAY	1934	MONTCALM	1,352	4 S		MARSHALL	1,395	2	ABANDONED 1944			80				8,494			
○				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)																	
●	DAY, SEC. 13	DUNDEE	1971	MONTCALM	3,414	15 L		DUNDEE	3,475	1	0	0	1	20	1,582	18,938				947	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 7, 8, 16, 17, 18, 20																	
●	DEEP RIVER	DUNDEE	1944	ARENAC	2,795	145 D	35.8	RICHFIELD	4,258	106	0	2	35	1,060	62,418	26,728,286				25,215	6,801
●		RICHFIELD	1953	(CONSOLIDATED WITH STERLING DETROIT RIVER - RICHFIELD IN 1954) THE 35 WELLS INCLUDE 34 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	5,931	731,743				1,626	5
○				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	1,874	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																	

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: TO END	NUMBER OF WELLS: COMP. IN 1975	NUMBER OF WELLS: ABAND. IN 1975	NUMBER OF WELLS: ACTIVE AT END	DRILLED ACRES	OIL PRODUCTION—BBLS.: PRODUCED IN 1975	OIL PRODUCTION—BBLS.: CUMULATIVE THROUGH 1975	GAS PRODUCTION—Mcf: PRODUCED IN 1975	GAS PRODUCTION—Mcf: CUMULATIVE THROUGH 1975	RECOVERY PER ACRE DRILLED (BBLS.)	TOTAL BARRELS BRINE PER DAY
●	DIAMOND SPRINGS	TRAVERSE	1938	ALLEGAN	1,461	3 L	41.0	SALINA	2,651	56	0	0	7	420	1,178	1,012,481			2,411	155
●		SALINA-E ZONE	1958		2,389	21 D	25.5			3	0	0	3	30	4,877	66,062			2,202	48
○	OVERISEL TWP., 4N-14W, SECTION 36 SALEM TWP., 4N-13W, SECTION 31 HEATH TWP., 3N-14W, SECTION 1 MONTEREY TWP., 3N-13W, SECTION 6																			
●	DORR	TRAVERSE	1938	ALLEGAN	1,617	4 L	41.0	NIAGARA	3,319	41	0	0	4	410	324	422,889			1,031	25
●		DETROIT RIVER	1955		2,082	6 D	38.0			14	0	0	4	280	417	74,812			267	15
●		SALINA	1956		2,922	7 D	17.0			18	0	0	11	540	3,121	318,696	24,781	1,355,727	590	28
○	DORR TWP., 4N-12W, SECTIONS 19, 29 THROUGH 33 SALEM TWP., 4N-13W, SECTION 25																			
☼	DORR	DETROIT RIVER	1957	ALLEGAN	1,918	1 D		NIAGARA	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	2	120	1,010	259,142			2,160	120
○	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																			
●	DUNNINGVILLE	TRAVERSE	1950	ALLEGAN	1,435	3 L	38.0	TRAVERSE	1,438	5	0	0	1	50	316	121,402			2,428	
○	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		NIAGARA	2,363	2	0	0	2	80	1,951	4,797	3,457	10,006	60	20
○	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			117	5	1	73	4,640	401,943	10,043,690	556,941	8,947,095	2,165	681
○	NORWICH TWP., 24N-5W, SECTION 16 (TRAVERSE), SECTION 14 (DUNDEE) LYON TWP., 24N-4W, SECTIONS 6, 7, 18 (RICHFIELD) — THE 73 WELLS INCLUDE 59 RICHFIELD & 13 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	4	1	0	4	400		145	SHUT-IN			
○	EATON RAPIDS TWP., 2N-3W, SECTION 17																			
●	EATON RAPIDS 20-2N-3W	SALINA-NIAGARAN REEF	1974	EATON	3,940			NIAGARA	4,323	4	2	0	4	320	11,602	11,602	5,292	5,292	36	
○	EATON RAPIDS TWP., 2N-3W, SECTION 20																			
●	EATON RAPIDS 28-2N-3W	SALINA-NIAGARAN REEF	1974	EATON	3,858			NIAGARA	4,056	1	0	0	1	80	7,699	9,415			118	
○	EATON RAPIDS TWP., 2N-3W, SECTION 28																			
●	EATON RAPIDS 32-2N-3W	NIAGARAN	1975	EATON	3,799	10 D	36.7	NIAGARA	3,917	1	0	0	1	160		0				
○	EATON RAPIDS TWP., 2N-3W, SECTION 32																			
●	EATON RAPIDS 35-2N-3W	A-1 CARBONATE & NIAGARAN REEF	1972	EATON	3,750	30 D		NIAGARA	4,210	1	0	0	1	40	20,998	37,611	47,518	52,688	940	
○	EATON RAPIDS TWP., 2N-3W, SECTION 35																			
☼	EATON RAPIDS 36-2N-3W	NIAGARAN REEF	1971	EATON-INGHAM	3,740	55 D	47	NIAGARA	4,305	7	0	0	7	1,120	1,978	25,129	2,598,346	8,149,248	22	
○	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					
☼		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					1,653
●		REED CITY	1948		2,345	8 D	42.8			5	0	0	2	40	18,095	3,006,277	0	275,801	5,895	2
○	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	1,010	1,368,715			3,699	
○	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																			
●	EDMORE	TRAVERSE	1933	MONTCALM	3,102	4 L	43.2	DUNDEE	3,613	35	0	0	7	500	10,493	1,410,961		1,094,960	2,822	850
○	HOME TWP., 12N-6W, SECTIONS 2, 3, 9, 10, 11																			
☼	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																			
●	EDWARDS	DUNDEE	1951	OGEMAW	3,362	10 L		SYLVANIA-BOIS BLANC	5,260	4	0	0	3	90	1,942	38,389			427	500
○	EDWARDS TWP., 21N-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-1W, 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	4	380	0	415,067	SHUT-IN		1,092	
○	ELBRIDGE TWP., 15N-16W, SECTIONS 22, 26, 27, 28																			

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 1975	NUMBER OF WELLS: ABAND. IN 1975	NUMBER OF WELLS: ACTIVE AT END	DRILLED ACRES	OIL PRODUCTION—BBLS.: PRODUCED IN 1975	OIL PRODUCTION—BBLS.: CUMULATIVE THROUGH 1975	GAS PRODUCTION—Mcf: PRODUCED IN 1975	GAS PRODUCTION—Mcf: CUMULATIVE THROUGH 1975	RECOVERY PER ACRE DRILLED (BBLS.)	TOTAL BARRELS BRINE PER DAY
●	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	2,980	95,825			1,065	25
○	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	34	2	1	19	1,360	151,617	2,937,592	120,038	1,262,215	2,160	155
○	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	PRODUCTION COMBINED WITH DUNDEE					
●		DUNDEE	1967		3,312	2 D				2	ABANDONED 1973			40	0	8,014			100	
○	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	33,713	3,529,277		3,267	2,040	87
○	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	MICHIGAN STRAY	1941	OSCEOLA	1,410	7 S		DETROIT RIVER	4,457	33	ABANDONED 1974			5,120				4,895,722		
○	OSCEOLA TWP., 18N-10W, SECTIONS 19, 21, 22, 23, 26 THROUGH 35																			
●	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 10-27N-6W	DETROIT RIVER	1972	KALKASKA	3,607	20 D		NIAGARA	7,399	1	ABANDONED 1974			80		2,053			26	
○	EXCELSIOR TWP., 27N-6W, SECTION 10																			
☼	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		SHUT-IN				
○	FERRY TWP., 14N-16W, SECTION 25																			
●	FILLMORE	TRAVERSE	1940	ALLEGAN-OTTAWA	1,516	2.7 L	41.1	NIAGARA	3,045	63	0	0	5	770	1,943	979,190			1,272	1
☼		SALINA A-2 CARB.	1959		2,632	16 D				11	0	1	6	1,500			74,574	4,756,098		
☼		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																			
☼	FORK, NORTH	MICHIGAN STRAY	1956	OSCEOLA	1,433	19 S		DUNDEE	3,982	1	0	0	1	160			14,886	75,064		
●		DUNDEE	1951		3,788	3 D	45.8			6	0	0	1	120	0	153,661	SHUT DOWN 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				2,405,559	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	SHUT-IN		4	
○	SHERMAN TWP., 19N-16W, SECTION 12																			
⊕	FOUR CORNERS	REFER TO TABLE 4 DEVELOPED GAS STORAGE RESERVOIRS																		
☼	FOWLERVILLE	SALINA-NIAGARAN	1961	LIVINGSTON	3,880	45 D		PRAIRIE DU CHIEN	5,695	18	0	0	18	2,560	1,419	1,419	1,360,565	1,848,503		
○	HANDY TWP., 3N-3E, SECTIONS 1, 2, 12 CONWAY TWP., 4N-3E, SECTION 35 HOWELL TWP., 3N-4E, SECTION 7																			
☼	FREEDOM	TRAVERSE	1971	WASHTENAW	1,038	24 L		CAMBRO-ORDOVICIAN	4,691	3	ABANDONED 1973			120						
☼		DUNDEE	1971		1,198	28 L					ABANDONED 1973			120						
●		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 4 DEVELOPED GAS STORAGE RESERVOIRS																		
●	FREEMAN-REDDING	DUNDEE	1936	CLARE	3,885	19 L	44.4	SYLVANIA	5,462	170	0	0	17	2,800	28,968	16,726,287		1,956,056	5,974	2,125
○	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																			

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 1975	NUMBER OF WELLS: COMP IN 1975	NUMBER OF WELLS: ABAND. IN 1975	NUMBER OF WELLS: ACTIVE AT END 1975	DRILLED ACRES	OIL PRODUCTION—BBLS: PRODUCED IN 1975	OIL PRODUCTION—BBLS: CUMULATIVE THROUGH 1975	GAS PRODUCTION—Mcf: PRODUCED IN 1975	GAS PRODUCTION—Mcf: CUMULATIVE THROUGH 1975	RECOVERY PER ACRE DRILLED (BBLS.)	TOTAL BARRELS BRINE PER DAY
●	FREEPORT	TRAVERSE	1943	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			200				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	SHUT-IN	
●		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																
●	GENEVA, SEC. 4	DUNDEE	1975	MIDLAND	3,718	32 L		DUNDEE	3,795	1	1	0	1	40	1,006	1,006			25	
○				GENEVA TWP., 15N-2W, SECTION 4																
●	GENEVA, SEC. 15	TRAVERSE	1975	MIDLAND	3,186	2 L		DETROIT RIVER	3,990	1	1	0	1	40	0	0				
○				GENEVA TWP., 15N-2W, SECTION 15																
●	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	842	33,962			1,132	
○				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	1	50	1,048	59,376			1,188	
○				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	1955	ISABELLA	3,803	3 L	48.6	DUNDEE	3,812	12	0	1	2	120	2,162	396,937			3,308	720
○				GILMORE TWP., 16N-5W, SECTIONS 30, 31, 32 NOTTAWA TWP., 15N-5W, SECTION 5																
●	GOODWELL	TRAVERSE	1943	NEWAYGO	2,760	12 L	43.0	BASS ISLANDS	4,342	31	0	0	2	1,240	1,613	1,128,433			910	24
○				GOODWELL TWP., 14N-11W, SECTIONS 5, 6, 7, 8, 9, 16, 17																
⊕	GOODWELL	REFER TO TABLE 4 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, SEC. 29	DETROIT RIVER	1953	HURON	3,358	8 D	38.8	BOIS BLANC	3,918	3	0	0	3	120	0	20,159			168	
○				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	2,586	58,966			1,474	
○				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	37,850	1,673,527			2,461	889
○				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	167,519	6,058,713	112,573	3,895,865	3,189	1,283
○				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 4 DEVELOPED GAS STORAGE RESERVOIRS																		
●	HAMLIN 5-1N-3W	NIAGARAN REEF	1975	EATON	3,650	60 D		NIAGARAN	3,900	2	2	0	2	160	711	711			4	
☼ ◐	HAMLIN 5-1N-3W POOL A	NIAGARAN REEF	1975	EATON	3,801	12 D		NIAGARAN	3,867	1	1	0	1	160			0	0		
○				HAMLIN TWP., 1N-3W, SECTION 5																
●	HAMLIN 8-1N-3W	NIAGARAN REEF	1972	EATON	3,640	65 D		CLINTON	4,058	2	0	0	2	160	105,221	186,517	93,701	147,587	1,166	
●	HAMLIN 8-1N-3W POOL A	NIAGARAN REEF	1975	EATON	3,697	11 D		CLINTON	4,056	1	1	0	1	80	434	434			5	
○				HAMLIN TWP., 1N-3W, SECTION 8 DECLARED SEPARATE POOLS AS A RESULT OF PUBLIC HEARINGS																
●	HAMLIN 10-1N-3W	NIAGARAN REEF	1974	EATON	3,657	5 D		NIAGARAN	3,805	2	1	0	2	240	28,224	28,507	17,201	17,201	119	
○				HAMLIN TWP., 1N-3W, SECTIONS 2, 10																

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 1975	NUMBER OF WELLS: COMP IN 1975	NUMBER OF WELLS: ABAND. IN 1975	NUMBER OF WELLS: ACTIVE AT END 1975	DRILLED ACRES	OIL PRODUCTION—BBLS: PRODUCED IN 1975	OIL PRODUCTION—BBLS: CUMULATIVE THROUGH 1975	GAS PRODUCTION—Mcf: PRODUCED IN 1975	GAS PRODUCTION—Mcf: CUMULATIVE THROUGH 1975	RECOVERY PER ACRE DRILLED (BBLS.)	TOTAL BARRELS BRINE PER DAY
☼	HAMLIN 23-1N-3W	NIAGARAN REEF	1974	EATON	3,640	38 D		NIAGARAN	3,808	1	0	0	1	80	409	409	187,868	187,868	5	
○				HAMLIN TWP., 1N-3W, SECTION 23																
●	HANOVER	TRENT.-BLK. RIVER	1959	JACKSON	4,012	120+ D	43.0	PRAIRIE DU CHIEN	4,604	10	0	0	2	180	1,767	1,319,470		586,017	7,330	250
○				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	2	15	880	20,358	1,113,876			1,266	1,850
○				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	1,948	161,468			2,018	15
○				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			1,975	1,975		
○				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																
☼	HEADQUARTERS	MICHIGAN STRAY	1945	CLARE-ROSCOMMON	1,340	6 S		BOIS BLANC	5,929	12	0	0	1	1,760			SHUT-IN			
●		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 SZ	1942		4,946	13 D	43.7								PRODUCTION COMBINED WITH RICHFIELD					
●		RICHFIELD	1952		5,147	23 D	42.6			60	0	1	37	2,320	83,609	10,561,715		4,248,560	2,832	202
○				ROSCOMMON TWP., 21N-3W, SECTIONS 17, 19, 20, 21, 28, 29, 30, 32, 33, 34 THE 37 WELLS INCLUDE 12 RICHFIELD, 19 SOUR ZONE & 6 RICHFIELD & SOUR ZONE FRANKLIN TWP., 20N-3W, SECTIONS 3, 4, 10, 11, 15																
○																				
●	HEATH	TRAVERSE	1948	ALLEGAN	1,498	2 L	38.0	SALINA	2,716	25	0	0	3	270	979	210,374			779	5
○				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																
●	HENDERSON, SEC. 23	RICHFIELD	1975	WEXFORD	4,894	8 D		AMHERSTBURG	4,970	1	1	0	1	40	141	141			4	
○				HENDERSON TWP., 21N-11W, SECTION 23																
☼	HERSEY	MICHIGAN STRAY	1971	OSCEOLA	1,510	3 S		MICHIGAN STRAY	1,638	5	0	0	5	800			39,198	39,198		
○				HERSEY TWP., 17N-9W, SECTIONS 26, 35, 36																
⊕	HESSEN	REFER TO TABLE 4 DEVELOPED GAS STORAGE RESERVOIRS																		
●	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	882	14,105		2,240,007	15	
○				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	2,057	CUMULATIVE PRODUCTION COMBINED WITH DUNDEE				
●		DUNDEE	1970		3,513	7 L				4	0	0	4	200	4,800	74,073			337	325
○				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	8,654	660,173			1,016	
○				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	305	270,175			819	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 4 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	3	260	1,112	557,009			2,142	
○				DENVER TWP., 14N-14W, SECTIONS 4, 5, 8																
●	INGHAM 12-2N-1E	SALINA-NIAGARAN REEF	1973	INGHAM	4,186	60 D		NIAGARAN	4,450	4	0	0	4	320	142,456	211,937	68,614	100,081	662	13
○				INGHAM TWP., 2N-1E, SECTION 12																
●	INGHAM 13-2N-1E	NIAGARAN REEF	1972	INGHAM	4,190	30 D	41	TRENTON	6,224	5	1	0	5	400	154,757	224,048	85,725	118,093	560	
○				INGHAM TWP., 2N-1E, SECTION 13																
●	INGHAM 25-2N-1E	SALINA-NIAGARAN REEF	1973	INGHAM	4,048	66 D		CLINTON	4,600	4	0	0	4	320	107,197	158,477	40,462	58,828	495	3
○				INGHAM TWP., 2N-1E, SECTION 25																
⊕	IRA	REFER TO TABLE 4 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 (1975): TO END	COMP. IN	ABAND. IN	ACTIVE AT END	DRILLED ACRES	OIL PRODUCTION—BBLS.: PRODUCED IN 1975	OIL PRODUCTION—BBLS.: CUMULATIVE THROUGH 1975	GAS PRODUCTION—Mcf.: PRODUCED IN 1975	GAS PRODUCTION—Mcf.: CUMULATIVE THROUGH 1975	RECOVERY PER ACRE DRILLED (BBLS.)	TOTAL BARRELS BRINE PER DAY
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	537	826,837		138,559	2,235	
	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	23	3	0	3	500		101,330			253	
	JEFFERSON TWP., 7S-15W, SECTIONS 22, 23, 26, 27, 35 ABANDONED IN 1971, REACTIVATED IN 1975																		
JEROME	DUNDEE	1947	MIDLAND	3,743	10 L	39.0	DETROIT RIVER	4,001	12	0	0	3	260	2,474	244,336			940	
	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	1,672	35,868			717	
	JOHNSTOWN TWP., 1N-8W, SECTIONS 7, 8, 17																		
KAWKAWLIN	BEREA	1941	BAY	1,505	4 S	38.0	ST. PETER SS.	10,477	4	0	0	4	40	1,451	CUMULATIVE WITH DETROIT RIVER				
	DUNDEE	1938		2,830	45 L	35.0			320	0	0	288	6,400	132,060	CUMULATIVE WITH DETROIT RIVER		4,590		245
	DETROIT RIVER	1939		3,515	5 D	42.0			9	0	0	8	280	11,610	14,915,862			2,220	2
	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	1,086	6,229,236		2,123,116	2,938	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	657	30,872			3,087	
	LAKEFIELD TWP., 11N-1E, SECTION 1																		
LAKE GEORGE	DUNDEE	1954	CLARE	3,968	2 L	43.8	DUNDEE	3,997	10	0	1	2	100	2,630	370,790			3,708	300
	LINCOLN TWP., 18N-5W, SECTION 6																		
LAKETON	TRAVERSE	1965	MUSKEGON	1,698	4 L	41.4	REED CITY	2,199	9	1	0	7	200	7,302	286,069			1,430	72
	DUNDEE	1972		2,073	21 L				1	0	0	1	40						
	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	498	9,942			497	
	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	1	3	650	497	212,390			327	3
	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	4,291	1,781,941			3,564	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																		
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 D		CLINTON	3,710	4	1	0	4	400	600	600	263,022	263,022	2	
	LEE TWP., 1S-5W, SECTION 2																		
LEE 3-1S-5W	SALINA-NIAGARAN REEF	1972	CALHOUN-EATON	3,219	85 D		NIAGARAN	3,686	4	0	0	4	160	53	1,975	154,359	154,359	12	
LEE 3-1S-5W POOL A	SALINA-NIAGARAN REEF	1975	CALHOUN	3,160	196 D		NIAGARAN	3,532	3	2	0	3	160			58,685	58,685		
	LEE TWP., 1S-5W, SECTION 3 WALTON TWP., 1N-5W, SECTIONS 34, 35 DECLARED A SEPARATE POOL AS A RESULT OF PUBLIC HEARINGS																		
LEE 4-1S-5W	SALINA-NIAGARAN REEF	1972	CALHOUN	3,162	86 D		NIAGARAN	3,415	2	0	0	2	320	52	178	151,414	671,476		
	LEE TWP., 1S-5W, SECTIONS 4, 9																		
LEE 8-1S-5W	SALINA-NIAGARAN REEF	1974	CALHOUN	3,118			NIAGARAN	3,841	2	1	0	2	320	651	889	354,055	456,149	3	
	LEE TWP., 1S-5W, SECTION 8																		
LEE 10-1S-5W	NIAGARAN REEF	1973	CALHOUN	3,172	30 D		NIAGARAN	3,329	1	0	0	1	160	465	465		88,837	3	
	LEE TWP., 1S-5W, SECTION 10																		
LEE 10-1S-5W POOL A	NIAGARAN REEF	1974	CALHOUN	3,327	6 D		NIAGARAN	3,399	1	0	0	1	160	60,625	83,609	32,383	32,819	523	
	LEE TWP., 1S-5W, SECTION 10																		
LEE 12-1S-5W	NIAGARAN REEF	1972	CALHOUN	3,180	34 D		NIAGARAN	3,370	1	0	0	1	160	268	571	302,338	853,545	4	
	LEE TWP., 1S-5W, SECTION 12																		
LEE 13-1S-5W	NIAGARAN REEF	1973	CALHOUN	3,184	10 D	26.3	FRANCONIA	6,000	5	0	0	5	200	80,812	111,506	77,026	128,132	558	37
	LEE TWP., 1S-5W, SECTION 13																		
LEE 13-1S-5W POOL A	NIAGARAN REEF	1973	CALHOUN	3,165	20 D		CLINTON	3,623	3	0	0	3	160	0	184	264,075	665,312	1	
	LEE TWP., 1S-5W, SECTION 13																		
LEE 14-1S-5W	NIAGARAN REEF	1974	CALHOUN	3,198	6 D		CLINTON	3,631	2	0	0	2	80	63,698	78,293	44,601	44,816	979	2
	LEE TWP., 1S-5W, SECTION 14																		
LEE 15-1S-5W	NIAGARAN REEF	1974	CALHOUN	3,108	22 D		CLINTON	3,605	1	0	0	1	40	68	118	133,803	212,930	3	
	LEE TWP., 1S-5W, SECTION 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 (1975): TO END	COMP. IN	ABAND. IN	ACTIVE AT END	DRILLED ACRES	OIL PRODUCTION—BBLS.: PRODUCED IN 1975	OIL PRODUCTION—BBLS.: CUMULATIVE THROUGH 1975	GAS PRODUCTION—Mcf.: PRODUCED IN 1975	GAS PRODUCTION—Mcf.: CUMULATIVE THROUGH 1975	RECOVERY PER ACRE DRILLED (BBLS.)	TOTAL BARRELS BRINE PER DAY
LEE 17-1S-5W	A-1 CARBONATE & NIAGARAN REEF	1972	CALHOUN	3,074	10 D		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 30-1S-5W	NIAGARAN REEF	1975	CALHOUN	2,950	8 D		NIAGARAN	3,040	1	1	0	1	80						
	LEE TWP., 1S-5W, SECTION 30																		
LEE 32-1S-5W	*SALINA E ZONE & A-1 C.& NIAGARAN	1975	CALHOUN	2,557	48 D		CLINTON	3415	1	1	0	1	80	783	783			10	
	LEE TWP., 1S-5W, SECTION 32 *REFER TO 1975 DISCOVERY WELL LIST FOR PAY ZONE DETAILS																		
LEE, SEC. 33	TRAVERSE	1971	ALLEGAN	1,155	5 L		TRAVERSE	1,160	2	0	0	2	20	617	4,019			201	
	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 4 DEVELOPED GAS STORAGE RESERVOIRS																		
LEONARD	NIAGARAN REEF	1963	OAKLAND	4,245	21 D		CLINTON	4,450	14	2	0	14	640	33,323	42,437	1,326,519	2,295,122	66	
	ADDISON TWP., 5N-11E, SECTIONS 14, 15, 22																		
LEROY	REED CITY	1965	OSCEOLA	3,796	4 D		REED CITY	3,800	2	0	0	2	80	1,918	38,012			475	
	LEROY TWP., 19N-10W, SECTION 27																		
LESLIE 4-1N-1W	SALINA-NIAGARAN REEF	1973	INGHAM	3,775	46 D		CLINTON	4,390	1	0	0	1	80	2,574	11,059			138	2
	LESLIE TWP., 1N-1W, SECTION 4																		
LIME LAKE	PRAIRIE DU CHIEN	1960	HILLSDALE	3,461	5 D	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	3,597			180	
	LINCOLN TWP., 18N-4E, SECTION 18																		
LINCOLN, SEC. 27	DUNDEE	1974	ISABELLA	3,577	10 D		DUNDEE	3,711	2	1	0	2	80	6,055	6,603			83	26
	LINCOLN TWP., 13N-4W, SECTIONS 27, 28																		
LINCOLN, SEC. 31	DUNDEE	1963	ARENAC	2,942	10 D	34.9	DUNDEE	2,986	1	ABANDONED 1968			10	COMBINED WITH SECTION 18 PRODUCTION					
	LINCOLN TWP., 18N-4E, SECTION 31																		
LOGAN	RICHFIELD	1941	NASON	3,260	5 S		RICHFIELD	3,330	2	ABANDONED 1975			80				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			50,954	1,168,872		
	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	439	195,680			3,914	
	PINCONNING TWP., 17N-4E, SECTION 29																		
LUTHER	TRAVERSE	1965	LAKE	2,565	2 L	42.0	REED CITY	3,362	1	ABANDONED 1973			20		28,117			1,406	
	NEWKIRK TWP., 19N-12W, SECTION 14																		
LUTHER, NORTH	REED CITY	1970	LAKE	3,518	17 D		REED CITY	3,556	4	0	0	4	160	1,322	11,776			74	
	ELLSWORTH TWP., 19N-11W, SECTIONS 7, 8																		
LYNDON	TRAVERSE	1958	WASHTENAW-LIVINGSTON	1,311	6 D		TRENTON	5,008	6	0	0	6	960				375,600	DOMESTIC USE	
	DETROIT RIVER	1959		1,733	11 D				PRODUCTION COMBINED WITH TRAVERSE										
	LYNDON TWP., 1S-3E, SECTIONS 6, 7 UNADILLA TWP., 1N-3E, SECTION 31																		
MACON CREEK	TRENT.-BLK. RIVER	1961	LENAWEE	2,548	36+ D		TRENT.-BLK. RIVER	3,303	1	0	0	1	40	0	1,062	SHUT-IN		27	
	MACON TWP., 5S-5E, SECTION 23																		
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				34,773	DESIGNATED AS GAS RESERVOIR IN 1970	
	DETROIT RVIER SZ	1969		3,013	47 D								720	PRODUCTION COMBINED WITH RICHFIELD					
	RICHFIELD	1971		3,102	8 D				12	0	0	12	320	83	93,520			90	
	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 D	38.0	CLINTON	2,428	18	0	0	13	660	16,867	427,196	298,297	5,206,583	647	35
	COTTRELLVILLE TWP., 3N-16E, SECTIONS 2, 3, 10, 11, 15																		
MARINE CITY, SOUTH	SALINA-NIAGARAN	1962	ST. CLAIR	2,100	4 D	38.7	NIAGARAN	2,261	17	0	0	13	600	5,948	141,701			236	12
	SALINA A-1 CARB.	1962		2,100	4 D											245,339	3,754,470		
	COTTRELLVILLE TWP., 3N-16E, SECTIONS 14, 23, 26, 27 GAS WELLS COMBINED WITH OIL WELL TOTALS																		
MARION (WINTERFIELD)	REFER TO TABLE 4 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 D		CLINTON	2,903	5	0	0	5	200		1,681	22,706	3,908,404	8	20
	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			11,256	1,251,320		
	MARTINY TWP., 15N-8W, SECTIONS 12, 22, 23																		
MCBAIN	DUNDEE	1959	MISSAUKEE	3,969	15 L	45.0	DUNDEE	3,973	24	0	1	22	920	49,168	3,112,601			3,383	6,688
	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	SHUT-IN	
	GRANT TWP., 17N-4W, SECTION 6 SURREY TWP., 17N-5W, SECTION 1 HATTON TWP., 18N-4W, SECTION 31																		

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 1975: To End	Comp. In	Aband. In	Active At End	Drilled Acres	Oil Production—Bbls.: Produced in 1975	Oil Production—Bbls.: Cumulative through 1975	Gas Production—Mcf: Produced in 1975	Gas Production—Mcf: Cumulative through 1975	Recovery per Acre Drilled (Bbls.)	Total Barrels Brine per Day
●	MEARS	TRAVERSE	1951	OCEANA	1,745	2.5 DL	36.1	REED CITY	2,347	11		ABANDONED 1955		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	9	0	2	320			718	115,271		
○				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 D	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				256,756	SHUT-IN	
○				MIDDLE BRANCH TWP., 19N-7W, SECTIONS 17, 18																
●	MILLS, SEC. 1	DUNDEE	1957	MIDLAND	3,450	2 D		DUNDEE	3,463	1	0	0	1	10	0	8,363			836	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				228,762		
●		DUNDEE	1951		3,854	7 D	44.5			12	0	0	1	240	1,134	306,394			1,277	120
○				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 D	32.9	CLINTON	8,544	4	0	0	2	160	640	59,747			373	
○				MENTOR TWP., 25N-3E, SECTIONS 30, 32 ROSE TWP., 24N-3E, SECTIONS 3, 4																
●	MOFFATT, SEC. 34	TRAVERSE	1964	ARENAC	2,100	4 D		DUNDEE	3,027	1	0	0	1	10	0	403			40	
◐		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 D		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	0	6	1,030	1,802	1,017,493			988	4
○				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																
☼	MT. CLEMENS	SALINA	1961	MACOMB	2,590	18 D		CAMBRIAN?	4,695	1	0	0	1	40						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	9,922	903,032			868	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	1	138	5,710	86,374	27,908,814		7,809,323	4,888	701
○				THE 138 WELLS INCLUDE 133 DUNDEE, 1 TRAVERSE AND 4 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	1	11	3,170	2,131	7,018,866			2,214	211
○				MUSKEGON TWP., 10N-16W, SECTIONS 3 THROUGH 10, 15, 16, 17, 21, 22 LAKETON TWP., 10N-17W, SECTIONS 1, 11, 12, 13, 14																
⊕	MUTTONVILLE	REFER TO TABLE 4 DEVELOPED GAS STORAGE RESERVOIRS																		
◐	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	1	14	680	14,383	115,208			169	6
○				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-15W, SECTION 16																
◐	NILES	TRAVERSE	1940	BERRIEN	602	7 L	21.5	TRENTON	2,089	7	ABANDONED 1958			70		29,672			424	
○				NILES TWP., 7S-17W, SECTIONS 1, 2, 3																
☼	NORTH MORENCI	TRAVERSE	1962	LENAWEE	638	2 D		PRAIRIE DU CHIEN	3,284	69	0	0	69	2,840				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			2,337	576,191		
○				NORTH STAR TWP., 10N-2W, 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 1975: To End	Comp. In	Aband. In	Active At End	Drilled Acres	Oil Production—Bbls.: Produced in 1975	Oil Production—Bbls.: Cumulative through 1975	Gas Production—Mcf: Produced in 1975	Gas Production—Mcf: Cumulative through 1975	Recovery per Acre Drilled (Bbls.)	Total Barrels Brine per Day
☼	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	5,997	1,075,702		14,332,358	379	17
○															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 4 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			17	
○				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	0	12	920	996,761	2,886,239	747,723	2,320,843	3,137	
○				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	0	0	1	80	59,388	156,460	38,754	82,718	1,956	66
●	ONONDAGA 17-1N-2W POOL A	SALINA-NIAGARAN REEF	1975	INGHAM	3,610	92 D	37	NIAGARAN	3,830	1	1	0	1	80						
○				ONONDAGA TWP., 1N-2W, SECTION 17																
●	ONONDAGA 21-1N-2W	NIAGARAN REEF	1971	INGHAM	3,629	31 D	33.2	MANITOULIN	4,125	18	1	0	18	1,360	479,692	2,274,727	1,011,716	3,035,827	1,673	31
○				ONONDAGA TWP., 1N-2W, SECTIONS 15, 16, 17, 21, 22																
⊕	ORIENT	REFER TO TABLE 4 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	2,278	122,606			2,452	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			50,395	595,021		125
○				BAGLEY TWP., 30N-3W, SECTIONS 21, 22, 27, 28, 34																
◐	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					
●	OTTER LAKE	BEREA	1945	GENESEE	1,502	4 S	35.5	DETROIT RIVER	3,142	10	0	0	6	110	CUMULATIVE THROUGH 1975 COMBINED WITH OTISVILLE DUNDEE					8
●		DETROIT RIVER SZ	1970		2,968	10 D				10	0	0	10	400	884	179,908			353	
○				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	23	1,770	13,560	2,966,584			1,676	140
○				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 4 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	1,412	90,210			2,255	34
○				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																
☼	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	0	11	440	8,835	1,276,481			2,901	520
☒		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 4 DEVELOPED GAS STORAGE RESERVOIRS																		
◐	PAW PAW	TRAVERSE	1963	VAN BUREN	1,096	2 L	41.4	TRENTON	2,912	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	0	16	1,060	85,617	1,028,241			970	2,220
●		REED CITY	1966		3,001	4 D				1	ABANDONED 1974			40	0	4,442			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 21-1S-7W	SALINA-NIAGARAN REEF	1975	CALHOUN	2,743	48 D	27.2	NIAGARAN	2,850	1	1	0	1	80	9,436	9,436			118	
○				PENNFIELD TWP., 1S-7W, SECTION 21																
●	PENNFIELD 29-1S-7W	SALINA-NIAGARAN REEF	1973	CALHOUN	2,676	70 D		NIAGARAN	3,001	2	0	0	2	160	47,983	77,017			481	40
○				PENNFIELD TWP., 1S-7W, SECTIONS 28, 29																
●	PENNFIELD 35-1S-7W	SALINA-NIAGARAN REEF	1974	CALHOUN	2,840	26 D	23.6	CLINTON	3,320	11	10	0	11	880	224,885	245,162			279	410
○				PENNFIELD TWP., 1S-7W, SECTIONS 26, 27, 35, 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 1975	NUMBER OF WELLS ABAND. IN 1975	NUMBER OF WELLS ACTIVE AT END	DRILLED ACRES	OIL PRODUCTION—BBLS. PRODUCED IN 1975	OIL PRODUCTION—BBLS. CUMULATIVE THROUGH 1975	GAS PRODUCTION—M.C.F. PRODUCED IN 1975	GAS PRODUCTION—M.C.F. CUMULATIVE THROUGH 1975	RECOVERY PER ACRE DRILLED (BBLS.)	TOTAL BARRELS BRINE PER DAY
●	PENTWATER	TRAVERSE	1948	OCEANA-MASON	1,585	8 L	40.4	PRAIRIE DU CHIEN	5,363	143	0	4	49	1,400	12,749	CUMULATIVE PRODUCTION COMBINED WITH DUNDEE				
●		DUNDEE	1948		2,088	10 D	43.1							2,000	7,487	6,710,971		1,010,713	1,974	270
☼		A-2 CARBONATE	1973		3,479	40 L				2	0	0	2				SHUT-IN			
○																THE 49 WELLS INCLUDE 26 TRAVERSE, 9 DUNDEE AND 14 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	5,053	91,593			763	20
○				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	65	1,780	127,198	5,068,384	685,952	17,564,986	2,847	288
○				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					32
○				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	3,565	878,664			7,988	150
○				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	SHUT DOWN
○				PINE TWP., 11N-8W, SECTIONS 9, 17																
☼	PIONEER	TRAVERSE	1931	MISSAUKEE	3,025	5 L		DUNDEE	3,583	1	0	0	1	40			SHUT-IN			
○				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																
●	POLKTON	TRAVERSE	1942	OTTAWA	1,878	2 L	37.8	DUNDEE	2,351	13	0	0	3	170	2,184	73,525			433	1
○				POLKTON 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	129	6,690	97,181	49,644,721		4,992,995	7,421	4,715
○				THE 129 WELLS INCLUDE 125 DUNDEE, 1 TRAVERSE, AND 3 DUNDEE AND TRAVERSE																
○				PORTER TWP., 13N-1W, SECTIONS 2, 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 31-7N-17E	NIAGARAN	1975	ST. CLAIR	3,242	55 D		NIAGARAN	3,297	1	1	0	1	40			1,623	1,623		
○				PORT HURON TWP., 7N-17E, SECTION 31																
☼	PORT HURON 33-7N-17E	NIAGARAN REEF	1971	ST. CLAIR	3,160	10 D		NIAGARAN	3,185	1	0	0	1	160			2,820	9,792		
○				PORT HURON TWP., 7N-17E, SECTION 33																
☼	PROSPER	MICHIGAN STRAY	1948	MISSAUKEE	1,269	6 S		RICHFIELD	5,254	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	5,254	13	0	0	6	520	8,449	1,788,076			3,439	2,300
◐		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	1	6	280	70,388	821,759			2,935	1,260
○				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	11	250	2,795	391,199			1,565	214
☼		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 4 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		429			11	
○				RAPID RIVER TWP., 28N-7W, SECTION 17																
☼	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	0	1	730	216	459,456			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 4 DEVELOPED GAS STORAGE RESERVOIRS																		
●	READING	TRENTON	1971	HILLSDALE	3,100	10 D	42	BLACK RIVER	3,478	2	ABANDONED 1973			80		5,431			68	
○				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																

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 1975	NUMBER OF WELLS ABAND. IN 1975	NUMBER OF WELLS ACTIVE AT END	DRILLED ACRES	OIL PRODUCTION—BBLS. PRODUCED IN 1975	OIL PRODUCTION—BBLS. CUMULATIVE THROUGH 1975	GAS PRODUCTION—M.C.F. PRODUCED IN 1975	GAS PRODUCTION—M.C.F. CUMULATIVE THROUGH 1975	RECOVERY PER ACRE DRILLED (BBLS.)	TOTAL BARRELS BRINE PER DAY
●	REED CITY	TRAVERSE	1941	LAKE-OSCEOLA	2,925	5 L	43.7	ST. PETER SS.	8,917				4	1,600	6,273	3,676,022		388,638	2,298	533
●		DUNDEE	1940		3,490	3 L	46.3											16,257,876		
●		REED CITY	1941		3,585	7 D	42.8	(LOREED UNIT-SEE TABLE 6)					167	5,320	188,181	41,927,228			7,881	
●		DETROIT RIVER SZ	1955		4,184	73 DL	48.2					45	0	0	20	1,800	119,181	2,395,060		3,476,188	1,331	106
●		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 4 DEVELOPED GAS STORAGE RESERVOIRS																		
⊕	REED CITY (LOREED)	REFER TO TABLE 4 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	0	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																
●	REYNOLDS	TRAVERSE	1955	MONTCALM-MECOSTA	2,787	4 D	39.8	BASS ISLANDS	4,300	16	0	0	5	110	9,125	CUMULATIVE PRODUCTION COMBINED WITH REED CITY				430
●		REED CITY	1954		3,343	2 D	44.3			53	0	0	8	2,100	18,527	4,619,627		408,555	2,200	760
○				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	3	1	0	3	480						
●		DETROIT RIVER SZ	1962		3,028	5 D	33.9			23	2	0	22	920	77,853	710,073	33,637	339,478	772	52
○				RICH TWP., 10N-10E, SECTIONS 21, 22, 27 (BEREA) SECTIONS 21, 26, 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				1,962	179,249	
○				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	1,192	20,752			2,075	15
●		DUNDEE	1942		3,944	3 L	44.5			3	0	0	3	100	2,354	135,523			1,355	440
○				RIVERSIDE TWP., 21N-7W, SECTIONS 14, 23, 24																
⊕	RIVERSIDE	REFER TO TABLE 4 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-17W, SECTIONS 10, 11, 15																
●	RIVERTON, SEC. 21	TRAVERSE	1964	MASON	1,683	4 L	38.2	DUNDEE	2,290	3	0	0	2	30	817	16,579			553	5
○				RIVERTON TWP., 17N-17W, 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	4,241	558,367			2,659	390
○				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			322,345	5,077,434		1
○				WASHINGTON TWP., 4N-12E, SECTION 11																
☼	ROMEO, SEC. 10	SALINA-NIAGARAN REEF	1974	MACOMB	3,304			NIAGARAN	3,635	2	0	0	2	80						
○				WASHINGTON TWP., 4N-12E, SECTION 10																
☼	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	0	37	1,020						433
●		RICHFIELD	1969		4,790	4 D		(TWO WELLS COMMINGLED WITH DUNDEE)						80	27,749	2,278,791			2,072	
○				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	132	1	0	69	5,160	306,122	6,586,597	203,305	8,601,526	1,276	192
○				FOSTER TWP., 24N-1E, SECTIONS 14, 20, 21, 23, 24, 25 FOSTER TWP., 24N-2E, SECTIONS 19, 20, 21, 27, 28, 29, 30, 31, 32, 33, 34, 35 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	15,745	1,863,823			2,589	621
○				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	1,986	65,036			542	
○				SAGE TWP., 19N-2W, SECTION 12																
●	SAGINAW	BEREA	1925	SAGINAW	1,825	16 S	46.1	SYLVANIA	3,920	?	0	3	7	1,500	4,371	1,690,625			1,127	6
○				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	90	3,390	32,024	9,212,186			2,717	68
☼		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 35, 36 (TRAVERSE)															
⊕	SALEM	REFER TO TABLE 4 DEVELOPED GAS STORAGE RESERVOIRS																		
●	SANFORD	TRAVERSE	1959	MIDLAND	3,125	2 L		DETROIT RIVER	4,811	13	0	0	11	260	2,415	202,390			778	2
●		DUNDEE	1951		3,755	3 L	42.6			2	THE 11 WELLS INCLUDE 8 DUNDEE, 1 TRAVERSE AND 2 DUNDEE AND TRAVERSE										
○				JEROME TWP., 15N-1W, SECTIONS 12, 13																

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	COMP. IN 1975	ABAND. IN 1975	ACTIVE AT END	DRILLED ACRES	OIL PRODUCTION—BBLS: PRODUCED IN 1975	OIL PRODUCTION—BBLS: CUMULATIVE THROUGH 1975	GAS PRODUCTION—Mcf: PRODUCED IN 1975	GAS PRODUCTION—Mcf: CUMULATIVE THROUGH 1975	RECOVERY PER ACRE DRILLED (BBLS.)	TOTAL BARRELS BRINE PER DAY
●	SAUBLE	TRAVERSE	1942	LAKE	2,111	2 L	35.6	TRAVERSE	2,156	5	0	0	1	200		144,763			724	
○				SAUBLE TWP., 19N-14W, SECTION 16																
●	SCOTTVILLE	TRAVERSE	1961	MASON	1,646	3 L	34.6	CINCINNATIAN	5,129	17	0	1	4	340	0	CUMULATIVE PRODUCTION COMBINED WITH REED CITY				
●		REED CITY	1962		2,319	3 L	37.2			11	0	0	3	220	3,018	518,822			926	55
○				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 4 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																
●	SHERMAN	DUNDEE	1936	ISABELLA	3,650	4 D	42.0	SYLVANIA	4,994	88	0	0	5	1,020	3,515	4,746,263		641,217	4,653	200
○				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 4 DEVELOPED GAS STORAGE RESERVOIRS																		
●	SKEELS	TRAVERSE	1955	CLARE-GLADWIN	3,102	6 L	38.4	SYLVANIA	6,016	4	0	0	2	40	93	44,399			1,110	
●		DUNDEE	1950		3,840	7 D	39.6			5	0	0	4	50	3,384	980,077			19,602	
●		DETROIT RIVER SZ	1942		4,844	4 D	47.4	}		31	0	0	24	40	19,703	1,254,489			} 980	5
●		RICHFIELD	1953		5,080	17 D	44.8	}						1,240	THE 24 WELLS INCLUDE 16 RICHFIELD, 4 SOUR ZONE & 4 RICHFIELD & SOUR ZONE				}	
○				SHERMAN TWP., 20N-2W, SECTIONS 30, 31 FRANKLIN TWP., 20N-3W, SECTIONS 25, 36																
☼	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																
●	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	101	2	0	54	4,040	265,059	5,327,807	325,792	10,656,089	1,319	345
○				AU SABLE TWP., 24N-1W, SECTIONS 10, 14, 15, 16, 17, 19 THROUGH 30, 32																
●	ST. MARY'S LAKE	TRAVERSE	1968	MASON	1,641	3 L		TRAVERSE	1,644	2	0	0	2	40	237	26,308			658	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	6	340	5,945	974,088			2,865	125
○				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	3,858	120,415			1,003	9
○				COTTRELLVILLE TWP., 3N-16E, SECTION 9																
●	STERLING	TRAVERSE	1948	ARENAC	1,970	5 L	36.2	RICHFIELD	4,285	22	0	0	16	220	4,484	272,839			1,240	5
●		DUNDEE	1947		2,872	17 L	33.6			20	0	1	17	200	7,972	427,055			2,135	3
●		DETROIT RIVER SZ	1952		3,918	5 D	41.1	}		41	0	0	35	1,600	37,368	1,775,332			1,110	3
●		RICHFIELD	1950		4,153	8 D	37.6	}							THE 35 WELLS INCLUDE 13 RICHFIELD, 13 SOUR ZONE & 9 RICHFIELD & 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	3	0	0	3	200	30,479	41,748	9,336	9,336	209	260
○				STOCKBRIDGE TWP., 1N-2E, SECTION 6																
●	STOCKBRIDGE 7-1N-2E	A-1 CARBONATE	1974	INGHAM	3,906	10 D		NIAGARAN	4,445	1	0	0	1	80	10,414	10,739	SHUT-IN		134	110
○				STOCKBRIDGE TWP., 1N-2E, SECTION 7																
●	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			79	1	0	16	1,540	6,475	7,561,453			4,910	1,480
○				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	1	17	350	5,183	1,087,756			3,108	630
○				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 4 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	COMP. IN 1975	ABAND. IN 1975	ACTIVE AT END	DRILLED ACRES	OIL PRODUCTION—BBLS: PRODUCED IN 1975	OIL PRODUCTION—BBLS: CUMULATIVE THROUGH 1975	GAS PRODUCTION—Mcf: PRODUCED IN 1975	GAS PRODUCTION—Mcf: CUMULATIVE THROUGH 1975	RECOVERY PER ACRE DRILLED (BBLS.)	TOTAL BARRELS BRINE PER DAY
☼	SYLVAN	MICHIGAN STRAY	1941	OSCEOLA	1,525	10 S		DETROIT RIVER	4,100	1	ABANDONED 1953			40				80,714		
●		DUNDEE	1948		3,935	13.7 D	48.0			11	0	0	2	440	1,843	1,191,904			2,709	
○				SYLVAN TWP., 18N-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			SHUT DOWN	
○				TAYMOUTH TWP., 10N-5E, SECTION 11																
●	TEKONSHA	TRENTON	1959	CALHOUN	3,553	? DL	34.5	PRAIRIE DU CHIEN	4,147	4	0	0	2	90		18,785	SHUT-IN		209	18
○				TEKONSHA TWP., 4S-6W, SECTION 17 ABANDONED IN 1969, REACTIVATED IN 1974																
●	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																
●	TRENT	TRAVERSE	1949	MUSKEGON	2,039	1 L		TRAVERSE	2,118	2	ABANDONED 1969			40		30,771			769	
○				CASNOVIA TWP., 10N-13W, SECTION 19																
●	TROWBRIDGE	TRAVERSE	1937	ALLEGAN	1,358	2 L	41.2	CINCINNATIAN	2,952	162	0	1	5	1,840	1,256	524,216			285	19
○				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				217,584	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																
○																				
●	VERNON	DUNDEE	1930	ISABELLA	3,755	3 DL	38.6	BOIS BLANC	5,118	78	0	0	1	890	2,371	5,047,462			5,671	1,000
○				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 8-2N-1W	NIAGARAN REEF	1975	INGHAM	4,140	44 D	43.8	NIAGARAN	4,312	1	1	0	1	80						
○				VEVAY TWP., 2N-1W, SECTION 8																
●	VEVAY 16-2N-1W (MASON)	NIAGARAN REEF	1970	INGHAM	4,165	39 D	49.4	CLINTON	4,555	2	0	0	2	120	19,166	148,187	110,753	435,680	1,235	
○				VEVAY TWP., 2N-1W, SECTION 16																
●	VEVAY 17-2N-1W	NIAGARAN REEF	1972	INGHAM	4,162	12 D		NIAGARAN	4,300	3	0	0	3	240	52,865	82,442	118,911	153,050	344	129
○				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			161	
☼	NIAGARAN POOL A	NIAGARAN REEF	1971		3,942	24 D	46.8			2	0	0	2	320	36,997	150,940	160,573	2,563,998	472	49
●	NIAGARAN POOL B	NIAGARAN REEF					42			4	0	0	4	640	43,668	160,869	557,468	2,264,957	251	
●	NIAGARAN POOL C	NIAGARAN REEF								1	0	0	1	160	11,165	18,663	60,115	121,767	117	
○	FIELD DECLARED TO HAVE 3 SEPARATE RESERVOIRS OR POOLS (ORDER NO. 2-1-73)			POOL (A) INCLUDES THE F. MILLER & A. TMLAY WELLS LOCATED IN THE SE¼ OF SECTION 24, T. 2N., R. 2W., & THE SW¼ OF SECTION 19, T. 2N., R. 1W. POOL (B) INCLUDES THE CARTER, LYON, DART, & KRANZ WELLS LOCATED IN THE N½ OF SECTION 19 & THE S½ 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	1,912	16,656	14,183	126,542	208	130
○				VEVAY TWP., 2N-1W, SECTION 20																
●	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																
●	VOGEL CENTER	DUNDEE	1966	MISSAUKEE	3,892	3 L		DUNDEE	3,895	2	0	0	2	80	1,707	44,101			551	150
○				CLAM UNION TWP., 21N-6W, SECTION 32																
●	WALKER	"BEREA"	1940	KENT-OTTAWA	1,121	21 SL		ST. PETER SS.	5,222						469	47,645				
●		TRAVERSE	1938		1,872	8 L	36.0			782	0	3	346	8,560	116,881	16,930,147		3,678,731	1,983	85
○																THE 346 WELLS INCLUDE 343 TRAVERSE AND 3 "BEREA"				
●		DETROIT RIVER	1957		2,132	12 D				1	0	0	1	10						1
☼		"BEREA", TRAVERSE & DETROIT RIVER								14	0	0	5	THE 5 WELLS INCLUDE 3 BEREA, 1 DETROIT RIVER & 1 TRAVERSE	7,601	1,317,486			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																
●	WASHINGTON SEC. 28	SALINA A-1 CARBONATE	1975	MACOMB	3,357	18 D		NIAGARAN	3,546	5	5	0	5	200	551	551			3	
○				WASHINGTON TWP., 4N-1E, SECTIONS 22, 28																
●	WAYLAND	TRAVERSE	1944	ALLEGAN	1,799	6 L	36.0	TRENT.-BLK. RIVER	4,400	54	0	0	2	530	903	265,777			501	1
●		SALINA	1960		3,132	12 D	28.0			31	0	0	28	1,240	43,351	1,356,714			1,094	
○				WAYLAND TWP., 3N-11W, SECTIONS E½ 8, 9, 16, 17, 18, 20, 21																
●	WAYLAND, NORTH	TRAVERSE	1957	ALLEGAN	1,696	7 L		TRAVERSE	1,712	15	0	0	5	150	903	111,314			742	
○				WAYLAND TWP., 3N-11W, SECTIONS 6, 7, NW¼ 8																
●	WEARE	TRAVERSE	1961	OCEANA	1,681	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																

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 1975	NUMBER OF WELLS ABAND. IN 1975	NUMBER OF WELLS ACTIVE AT END	DRILLED ACRES	OIL PRODUCTION—BBLS. PRODUCED IN 1975	OIL PRODUCTION—BBLS. CUMULATIVE THROUGH 1975	GAS PRODUCTION—MCF PRODUCED IN 1975	GAS PRODUCTION—MCF CUMULATIVE THROUGH 1975	RECOVERY PER ACRE DRILLED (BBLS.)	TOTAL BARRELS BRINE PER DAY
●	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			281	0	0	159	2,770	131,861	9,350,001			3,375	1,921
●		DETROIT RIVER SZ	1951		3,585	9 D	38.9													
●		RICHFIELD	1952		4,127		33.0			63	0	0	60	2,520	67,927	3,107,453		61,430	1,233	4
○														THE 159 WELLS INCLUDE 157 DUNDEE & 1 TRAVERSE & 1 TRAVERSE & DUNDEE						
○														THE 60 WELLS INCLUDE 29 RICHFIELD, 25 SOUR ZONE, AND 6 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																
☼	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	4,583	3	0	0	3	240	18,401	44,124	3,309	6,964	184	422
○				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																
●	WILEY	TRAVERSE	1962	MASON	1,663	5 L	39.9	ST. PETER SS.	5,890	18	0	0	4	380	829	425,479			1,120	100
○				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	565	118,542			988	30
○				WINFIELD TWP., 12N-9W, SECTIONS 20, 28, 29																
⊕	WINFIELD	REFER TO TABLE 4 DEVELOPED GAS STORAGE RESERVOIRS																		
●	WINTERFIELD	TRAVERSE	1940	CLARE	3,105	1 L		SYLVANIA	5,273					260	4,872	293,566	0	256,586	1,129	
●		DUNDEE	1940		3,794	3 L	44.2							740	13,769	4,813,554			6,505	1,400
●		RICHFIELD	1942		5,015	15 D				50	0	0	13	100	2,842	181,118			1,811	
○				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					DOMESTIC USE & LEASE FUEL	
●		TRAVERSE	1953		3,090	31 L	43.0								2,421	49,029		1,705,130		
●		DUNDEE	1938		3,700	11 L	45.2			79	0	0	23	1,640	12,430	3,935,595			2,430	1,629
●		DETROIT RIVER SZ	1955		4,415	48 DL	42.6			2	0	0	1	80	1,292	63,571			795	35
○				WISE TWP., 16N-3W, SECTIONS 8, 9, 16, 17, 20, 21, 28, 29, 32, 33										THE 23 WELLS INCLUDE 17 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	1	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-1E, SECTION 18																
●	WOODVILLE	TRAVERSE	1943	NEWAYGO	2,820	5 L	43.5	DETROIT RIVER	3,534	10	0	0	10	350	4,172	572,187			1,635	45
○				NORWICH TWP., 15N-11W, SECTIONS 20, 28, 29																
⊕	WOODVILLE (NORWICH)	REFER TO TABLE 4 DEVELOPED GAS STORAGE RESERVOIRS																		
●	WRIGHT	"BEREA"	1954	OTTAWA	1,170	3 L		DETROIT RIVER	2,337	7	0	0	4	60	111	47,195	SHUT-IN -- LACK OF STORAGE		788	7
●		TRAVERSE	1953	OTTAWA	1,920	1 L				7	0	0	2	70	12	18,498			264	1
○				WRIGHT TWP., 8N-13W, SECTIONS 28, 32, 33 TALLMADGE TWP., 7N-13W, SECTION 4																
●	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				354,177		
○				ST. CLAIR TWP., 5N-16E, SECTION 25																
☼	ZEELAND	"BEREA"	1946	OTTAWA	945	9 D		NIAGARAN	3,388	7	ABANDONED 1975			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																

1975 TOTALS: 325,385 | 641,406,568 | 455,072,341 | 108,226
11,180,505 | 26,185,444

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.

1975 OIL AND CONDENSATE PRODUCTION FROM TABLE 2 . . . . . 13,234,595 BARRELS
1975 OIL PRODUCTION FROM TABLE 3 AND 4 11,184,930
TOTAL 1975 OIL PRODUCTION 24,419,525

CUMULATIVE OIL AND CONDENSATE PRODUCTION FROM TABLE 2 . . . 29,554,768
CUMULATIVE OIL PRODUCTION FROM TABLE 3 AND 4 641,530,192

TOTAL STATE CUMULATIVE OIL PRODUCTION THROUGH 1975 . . . 671,084,960*

*CUMULATIVE FIGURE INCLUDES 18,097 BARRELS OF OIL FROM MISCELLANEOUS OIL WELLS DRILLED FROM 1925 THROUGH 1975 AND SUBSEQUENTLY COMPLETED AS DRY HOLES

1975 GAS PRODUCTION FROM TABLE 2 . . . . . 76,184,089 MCF
1975 GAS PRODUCTION FROM TABLE 3 AND 4 26,493,978
TOTAL 1975 GAS PRODUCTION 102,678,067

CUMULATIVE GAS PRODUCTION FROM TABLE 2 . . . . . 144,896,826 MCF
CUMULATIVE GAS PRODUCTION FROM TABLE 3 AND 4 828,675,232
TOTAL CUMULATIVE GAS PRODUCTION THROUGH 1975 973,572,058

TABLE 4

GAS STORAGE 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 TO END	NUMBER OF WELLS COMP. IN 1975	NUMBER OF WELLS ABAND. IN 1975	NUMBER OF WELLS ACTIVE AT END	DRILLED ACRES	OIL PRODUCTION—BBLS. PRODUCED IN 1975	OIL PRODUCTION—BBLS. CUMULATIVE THROUGH 1975	GAS PRODUCTION—MCF PRODUCED IN 1975	GAS PRODUCTION—MCF CUMULATIVE THROUGH 1975	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	91	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																
⊕	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																
○																				
⊕	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																
⊕	COLUMBUS, WEST	SALINA-NIAGARAN REEF	1967	ST. CLAIR	3,183	14+ D		CLINTON	3,447	29	0	0	25	520				16,287,759		
○				COLUMBUS TWP., 5N-15E, SECTIONS 7, 17, 18																
⊕	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		3	0	60	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	3,562		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																
⊕	HESSEN	NIAGARAN REEF	1965	ST. CLAIR	2,499	261 D		NIAGARAN	2,887		0	0	16	640	4,425	115,185	308,534	11,467,482	180	
○				CASCO TWP., 4N-15E, SECTIONS 2, 3, 10, 11 COLUMBUS TWP., 5N-15E, SECTIONS 34, 35																
⊕	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	0	0	1							
○				LEE 16 STORAGE AREA CREATED BY SPACING ORDER OF MARCH 30, 1973. INCLUDES SE¼ AND S½, NE, SECTION 16, NW OF SW¼ AND W½ SW SW¼ 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.																		
⊕	MUTTONVILLE	SALINA-NIAGARAN REEF	1966	MACOMB	2,576	194 D		CLINTON	3,039		0	0	7	280				8,886,647		
○				LENOX TWP., 4N-14E, SECTION 13																
⊕	NORTHVILLE	TRENT.-BLK. RIVER	1954	WAYNE-WASHTENAW	4,395	70 D		CAMBRO-ORDOVICIAN	5,850		0	1	69	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	25	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		0	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					4	0	195	COMBINATION GAS STORAGE AND SECONDARY RECOVERY PROJECT - REFER TO TABLE 5 FOR ADDITIONAL DETAILS						
○				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	99	3,680				5,188,481		
○				RIVERSIDE TWP., 21N-7W, SECTIONS 15, 16, 17, 19, 20, 21, 22, 23																

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	THICKNESS AND LITHOLOGY	OIL GRAVITY A.P.I.	DEEPEST FORMATION OR POOL TESTED	DEPTH IN FEET	NUMBER OF WELLS 1975 TO END	COMP. IN	ABAND. IN	ACTIVE AT END	DRILLED ACRES	OIL PRODUCTION—BBLS. PRODUCED IN 1975	CUMULATIVE THROUGH 1975	GAS PRODUCTION—MCF PRODUCED IN 1975	CUMULATIVE THROUGH 1975	RECOVERY PER ACRE DRILLED (BBLS.)	TOTAL BARRELS BRINE PER DAY
⊕ SALEM	SALINA	1937	ALLEGAN	2,725	2 D		TRENTON	3,792		0	0	57	4,960		2,973		11,310,698		
			SALEM TWP., 4N-13W, 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		3	0	271	11,480				51,604,719		
			ROLLAND TWP., 13N-6W, SECTIONS 29, 30 HINTON 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																
⊕ SWAN CREEK	SALINA-NIAGARAN	1967	ST. CLAIR	2,256	245 D		CLINTON	2,638		0	0	1	40				409,352		
			CASCO TWP., 4N-15E, SECTION 36																
⊕ WINFIELD	MICHIGAN STRAY	1935	MONTCALM	1,125	8 S		DETROIT RIVER	3,405		0	0	78	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																
									TOTALS:				92,015	4,425	123,624	308,534	373,602,891		

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.

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

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.

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-EXTRATION 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.

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.

TABLE 5 SECONDARY RECOVERY OPERATIONS

FIELD AND COUNTY	OPERATOR TYPE OF PROJECT	DISC. YEAR / YEAR PROJECT BEGAN	PAY ZONE FORM.	THICK	DEPTH	TOTAL UNIT ACRES	INJECTION FLUIDS PRESSURE PSIG	VOLUME OF INJECTED FLUID 1975 MCF GAS	BARRELS WATER	INJ. WELLS	CUMULATIVE VOLUME OF INJECTED FLUID MCF GAS	BARRELS WATER	UNIT PRODUCTION IN 1975 BARRELS OIL	SALES MCF GAS	WATER PRODUCED	NO. WELLS	UNIT CUMULATIVE 1-1-76 BARRELS OIL	SALES MCF GAS	BARRELS WATER
AURELIUS 35 UNIT INGHAM CO.	(1)UWF	1971 1974	NIAG.	110	4075	400	BRINE 1000	NONE	646,436	2	NONE	1,036,763	(P)271,462 (S) 20,000	156,989	26,250	4	(P) 741,191 (S) 20,000	379,495	26,250
BEAVER CREEK CRAWFORD-KALKASKA CO.	(2)UWF	1947 1963	RICH.	17	4400	4680	FRESH WATER 2100-2400	NONE	5,528,095	58	NONE	57,669,489	(P) 23,486 (S)522,709	130,896	422,342	51	(P) 6,578,659 (S) 4,253,492	18,670,641	3,364,873
BEAVERTON, WEST GLADWIN CO.	(3)UWF	1943 1966	DD.	2	3876	480	FRESH WATER SHUTDOWN IN 1975	NONE	NONE	3	NONE	638,456	(P) NONE (S) 6,736	NONE	9,125	4	(P) 180,188 (S) 28,507	NONE	54,570
BENTLEY DUNDEE GLADWIN CO.	(4)UWF	1937 1964	DD.	13	3510	440	BRINE 2225	NONE	138,526	4	NONE	1,085,131	(P) 1,400 (S) 11,021	NONE	40,150	7	(P) 379,968 (S) 76,358	NONE	400,990
BERLIN ST. CLAIR CO.	(5)UWF	1960 1970	NIAG.	30	3800	250	FRESH WATER VACUUM	NONE	187,350	1	NONE	1,638,060	(P) 1,300 (S) 3,296	NONE	27,375	3	(P) 345,860 (S) 23,576	NONE	57,123
COLUMBUS 3 UNIT ST. CLAIR CO.	(5)URG&WF	1968 1974	NIAG.	49	3105	840	BRINE VACUUM	318,263	18,382	2 WTR 1 GAS	380,060	18,941	(P)669,880 (S) NONE	NONE	29,930	20	(P) 2,780,908 (S) NONE	NONE	224,125
CRANBERRY LAKE CLARE CO.	(4)UWF	1951 1969	RICH.	15	5048	680	FRESH WATER 2650	NONE	396,265	7	NONE	2,333,043	(P) 6,320 (S) 30,995	NONE	21,900	7	(P) 1,100,193 (S) 76,037	NONE	438,365
EAST NORWICH MISSAUKEE CO.	(5)URG&WF	1942 1947	RICH.	14	4640	4880	RECYCLE GAS & FRESH WTR 2475	DISCONT. 1962	1,407,370	56	11,699,478	17,364,353	(P) NONE (S)401,943	556,941	197,647	72	(P) 5,800,000 (S) 4,243,690	8,947,095	1,805,031
ENTERPRISE MISSAUKEE CO.	(5)URG&WF	1943 1953	RICH.	16	4405	1320	RECYCLE GAS & FRESH WTR 2500	DISCONT. 1961	479,614	15	1,419,641	6,696,580	(P) NONE (S)151,617	120,038	46,172	19	(P) 1,925,000 (S) 1,012,592	1,262,215	799,766
GROUT GLADWIN CO.	(5)UWF	1956 1960	RICH.	10	5039	480	FRESH WATER 2300	NONE	174,630	3	NONE	3,007,467	(P) NONE (S) 37,850	NONE	217,175	11	(P) 900,000 (S) 773,527	NONE	854,709
HAMILTON CLARE CO.	(5)UWF	1952 1958	RICH.	12	5145	1800	FRESH WATER 2300	NONE	880,660	17	NONE	14,551,076	(P) NONE (S)167,519	112,573	459,900	24	(P) 2,800,000 (S) 3,258,713	3,895,865	3,991,866
HASKELL UNIT HILLSDALE CO.	(6)UWF	1964 1972	BLK. RIVER	117+	3984	130	BRINE VACUUM	NONE	46,031	2	NONE	571,337	(P) 3,326 (S) NONE	669	46,031	4	(P) 665,910 (S) NONE	1,109,639	177,102
HEADQUARTERS ROSCOMMON CO.	(7)UWF	1952 1969	RICH.	13	4946	720	FRESH WATER 2453	NONE	279,444	11	NONE	2,714,865	(P) NONE (S) 61,273	NONE	55,261	6	(P) 702,951 (S) 314,607	NONE	297,548
ONONDAGA 10 UNIT INGHAM CO.	(1)UWF	1971 1973	NIAG.	75	3784	1760	BRINE 1100	NONE	2,471,688	6	NONE	5,667,117	(P)813,522 (S)183,239	747,723	52,500	12	(P) 2,703,000 (S) 183,239	2,320,843	52,500
REED CITY* LAKE-OSCEOLA CO.	(8)GSOR	1940 1963	DD. R.C.	21	3585	5000	PRODUCED BRINE-EXTRANEOUS GAS	WITHDRAWN 770,397	1,658,013	8 WTR 164 GAS	40,545,974	152,351,452	(P) NONE (S)232,468	NONE	1,658,013	164	(P)39,294,000 (S) 2,677,514	16,257,876	172,244,415
ROSE CITY OGEMAW CO.	(9)UWF	1945 1955	RICH.	9	4125	4600	FRESH WATER 2500	NONE	414,113	38	NONE	5,424,663	(P) 10,000 (S)195,275	120,240	39,785	44	(P) 3,554,944 (S) 898,025	6,188,487	329,047
ROSE CITY, CENTRAL OGEMAW CO.	(9)UWF	1951 1971	RICH.	8	4125	1560	FRESH WATER 2300	NONE	284,714	9	NONE	1,524,985	(P) 4,000 (S) 8,756	9,629	3,650	12	(P) 1,060,652 (S) 27,874	979,850	79,461
ROSE CITY, WEST OGEMAW CO.	(5)UWF	1952 1968	RICH.	10	4150	320	FRESH WATER VACUUM	NONE	219,000	5	NONE	1,675,699	(P) NONE (S) 55,898	14,336	24,455	3	(P) 510,888 (S) 198,313	830,788	57,395
ST. HELEN ROSCOMMON CO.	(5)URG&WF	1941 1958	RICH.	9	4480	3920	RECYCLE GAS & FRESH WTR VACUUM	DISCONT. 1957	850,795	41	3,151,610	10,427,737	(P) NONE (S)265,059	325,792	108,222	43	(P) 3,760,000 (S) 1,567,807	10,656,089	726,013
WEST BRANCH OGEMAW CO.	(6)UWF	1933 1966	DD.	28	2650	2730	BRINE 1600	NONE	924,917	31	NONE	3,997,755	(P) 20,000 (S) 84,568	NONE	397,667	42	(P) 3,382,176 (S) *437,566	NONE	1,600,594

TOTAL UNIT ACRES AND OTHER DATA DOES NOT NECESSARILY CORRESPOND WITH DRILLED ACRES AS NOTED ON TABLES 2 AND 3.

(S)* 35,886 BBLS. OF SECONDARY OIL CREDITED TO WEST BRANCH PROJECT ARE FROM TWO TRAVERSE FORMATION WATER SOURCE WELLS.

NUMBER OF ACTIVE SECONDARY RECOVERY OPERATIONS 20

AMOUNT OF GAS INJECTED IN 1975 -452,134 MCF. THIS NUMBER IS NEGATIVE BECAUSE A TOTAL OF 772,397 MCF OF GAS WAS WITHDRAWN FROM THE REED CITY (LOREED) STORAGE FIELD.
AMOUNT OF WATER INJECTED IN 1975 . . . . . . 17,006,043 BBLS.

NUMBER OF WATER INJECTION WELLS 319
NUMBER OF GAS INJECTION WELLS 165

TOTAL PRIMARY OIL PRODUCTION IN 1975 . . . . . 1,824,696 BBLS.
TOTAL SECONDARY OIL PRODUCTION IN 1975 . . . . 2,440,222 BBLS.

OIL PRODUCED IN EXCESS OF THAT EXPECTED THROUGH PRIMARY DEPLETION IN THE PRESSURE MAINTENANCE AND SECONDARY RECOVERY PROJECTS IS APPROXIMATELY 10% OF THE TOTAL MICHIGAN PRODUCTION FOR 1975.

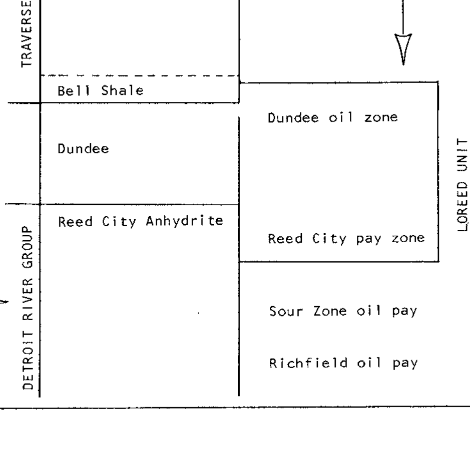
FIGURES DEFINED AS (P) AND (S) RESPECTIVELY REPRESENT OIL PRODUCED AS A RESULT OF PRIMARY AND SECONDARY TECHNIQUES.

* THE RICHMOND UNIT, LISTED IN THIS TABLE IN PREVIOUS ISSUES, WAS NOT WATERFLOODED IN 1975 AND HAS THEREFORE BEEN DELETED FROM THE TABLE. THE RICHMOND UNIT PRODUCES FROM THE DETROIT RIVER SOUR ZONE. IT SHOULD NOT BE CONSIDERED AS A FIELD. IT IS THE NAME APPLIED TO THE DETROIT RIVER SOUR ZONE POOL RESERVOIR IN THE REED CITY FIELD. THE RICHMOND PROJECT IS NOT RELATED TO THE LOREED OPERATION.

* LOREED UNIT IN REED CITY FIELD

NOTE: THE LOREED UNIT IN THE REED CITY FIELD, A MULTI-POOL FIELD, IS A GAS STORAGE - SECONDARY OIL RECOVERY OPERATION ENCOMPASSING SEVERAL RESERVOIRS. THE RESERVOIR FORMATIONS INCLUDED IN THE LOREED UNIT ARE SHOWN IN THE STRATIGRAPHIC SECTION.

ROSE CITY, WEST AND ROSE CITY, CENTRAL, AS NOTED ABOVE ARE UNIT OPERATIONS IN THE ROSE CITY FIELD.



ALL DATA ON THE ABOVE SECONDARY RECOVERY PROJECTS WERE COMPILED BY ARTHUR D. MATZKANIN, PRODUCTION AND PRORATION UNIT.

COMPILERS: PETROLEUM GEOLOGY UNIT

OPERATOR
(1) MOBIL OIL CORP.
(2) UNION OIL CO.
(3) H. E. TOPE, INC.
(4) LEASE MANAGEMENT, INC.
(5) SUN OIL CO.
(6) MARATHON OIL CO.
(7) FARMERS PETROL. COOP.
(8) MICH. CONS. GAS CO.
(9) MUSKEGON DEVELOPMENT CO.

PROJECT TYPE
UWF . . . UNIT WATER FLOOD
URG&WF . . UNIT RECYCLED GAS & WATER FLOOD
GSOR. . . UNIT GAS STORAGE IN OIL RESERVOIR

TABLE 6. GAS PLANT OPERATIONS BY PLANT OR FIELD, 1975 (All figures in MCF)

Plant or Field	Input Totals	Plant Fuel	Lease Fuel	Line Loss	Vented	Extraction Loss	Sales To Pipe Line	L.P.G. Recovery Gallons
*Albion-Scipio	10,000,019	990,140	0	283,472	0	834,985	7,891,422	25,038,062
Aurelius	4,972,438	366,173	10,858	28,811	25,711	474,869	4,066,016	12,879,908
*Beaver Creek	260,360	11,280	119,093	0	0	16,732	113,255	149,900
Chester	1,615,308	97,526	0	5,000	2,508	79,076	1,431,198	4,179,752
Eaton Rapids (1)	2,129,693	24,995	0	327,212	0	7,118	1,770,368	260,652
*Hamilton	174,106	11,972	40,591	0	0	13,440	108,103	336,300
Kalkaska (Amoco)	29,214,725	416,836	0	150,347	7,069	1,181,424	27,459,049	40,307,433 (2)
Kalkaska (Shell)	45,133,959	1,256,086	0	66,622	0	5,593,162	38,218,089	128,318,106 (2)
Leonard	1,353,469	174,730	0	0	96,775	34,418	1,047,546	1,405,764
*Norwich	838,193	88,024	90,388	0	0	0	659,781	0
Reed City	15,369,068	210,294	0	0	0	185,375	14,973,399	6,011,971
*St. Helen	471,512	49,857	0	0	0	29,218	392,437	0
Totals	111,532,850	3,697,913	260,930	861,464	132,063	8,449,817	98,130,663	218,887,848

*Receives and processes oil well gas only.

(1) Plant operations ceased in 1975.

(2) These LPG figures include stabilized condensate.

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.

All data from Production and Proration Unit records.

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	5,600
Total Leonard, Inc. (Leonard Division)	Alma	42,182
Marathon Oil Company	Detroit	65,000
Osceola Refining Company	West Branch	9,500
	Total Refinery Capacity	145,482

AVERAGE DAILY AMOUNT OF CRUDE REFINED (Bbls.)-ALL REFINERIES

Michigan produced crude	46,451
Out-of-State produced crude	67,560
Total Daily Average	114,011

*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" do not include oil or gas wells converted to service wells.

TABLE 7 CUMULATIVE OIL AND GAS PRODUCTION BY COUNTY THROUGH 1975

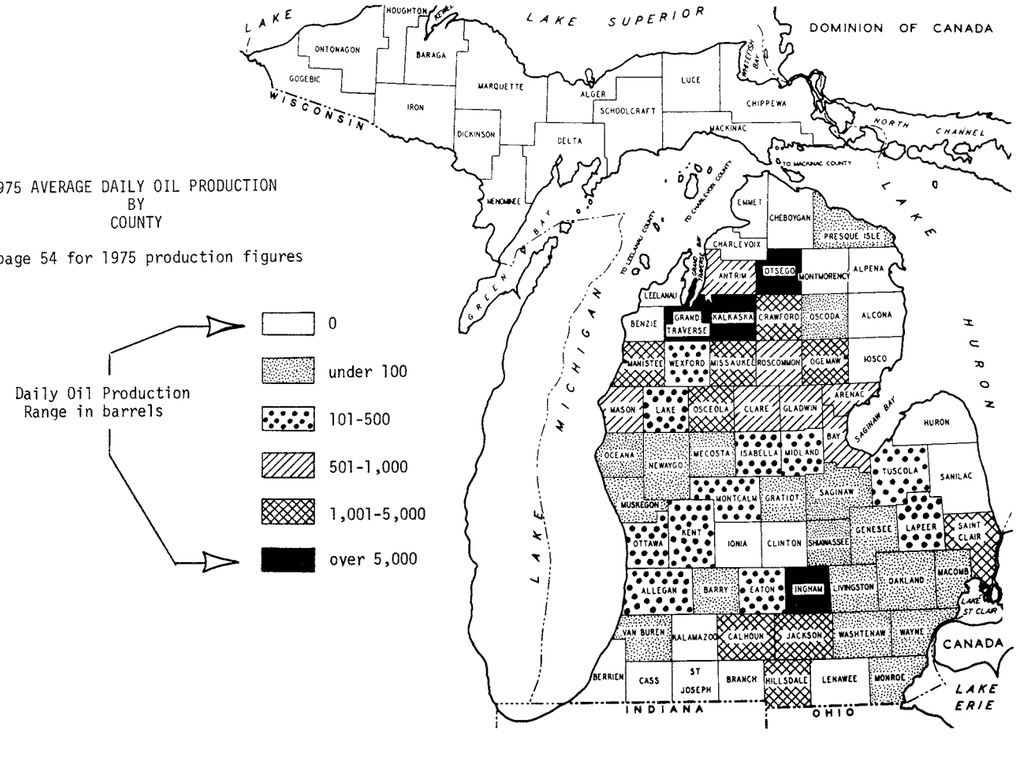
COUNTY	CUMULATIVE PRODUCTION Barrels Oil	MCF Gas
Allegan	19,724,768	32,810,842
Antrim	242,901	1,525,572
Arenac	46,535,701	6,722,140
Barry	717,986	0
Bay	20,512,371	7,857
Berrien	29,757	0
Calhoun	33,736,240	65,229,583
Cass	102,754	0
Clare	34,634,410	58,988,600
Clinton	4,121	0
Crawford	9,505,922	15,743,285
Eaton	280,909	3,786,111
Genesee	369,189	0
Gladwin	34,411,526	9,834
Grand Traverse	3,151,952	35,576,228
Gratiot	1,144,726	13,900,007
Hillsdale	54,614,920	67,433,901
Huron	61,324	0
Ingham	7,418,601	17,357,955
Ionia	48,479	0
Isabella	52,039,506	35,143,797
Jackson	24,325,850	34,161,131
Kalamazoo	28,519	0
Kalkaska	10,960,271	77,788,739
Kent	9,907,840	3,797,429
Lake	1,226,275	182,438
Lapeer	803,593	374,251
Lenawee	7,071	155,983
Livingston	4,255	25,589,223
Macomb	55,053	51,758,051
Manistee	1,057,677	1,957,137
Mason	5,092,706	5,455,628
Mecosta	10,859,459	27,271,346
Midland	68,888,468	9,834,775
Missaukee	18,493,357	18,571,974
Monroe	732,814	0
Montcalm	18,412,496	57,028,265
Montmorency	7,735	0
Muskegon	8,014,178	9,759,137
Newaygo	8,814,363	13,132,198
Oakland	33,323	2,295,122
Oceana	15,437,703	1,132,363
Ogemaw	19,409,394	9,831,828
Osceola	57,974,851	42,147,889
Oscoda	59,747	0
Otsego	14,851,509	25,494,412
Ottawa	9,249,084	2,949,310
Presque Isle	4,748	0
Roscommon	15,052,331	14,774,983
Saginaw	2,554,304	0
Shiawassee	48,513	0
St. Clair	13,236,330	155,793,949
Tuscola	2,774,072	0
Van Buren	12,073,382	0
Washtenaw	171,805	7,019,944
Wayne	915,556	11,464,977
Wexford	128,654	2,767,831
57 Counties	**671,084,960	*973,572,058

**Includes 18,097 barrels of oil from miscellaneous fields.

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

1975 AVERAGE DAILY OIL PRODUCTION
BY
COUNTY

See page 54 for 1975 production figures



1975 AVERAGE DAILY GAS PRODUCTION
BY
COUNTY

These figures are actual gas sales in Mcf
See page 56 for 1975 production figures

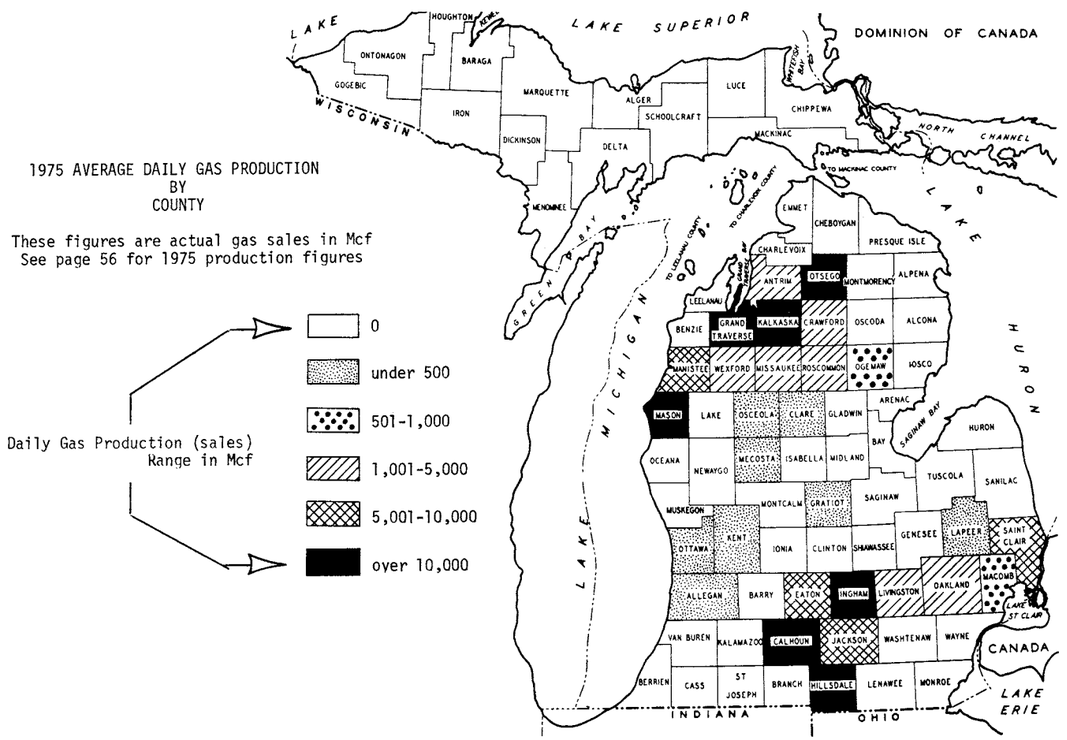


TABLE 8 OIL PRODUCTION BY GEOLOGIC SYSTEM AND FORMATION - 1975 AND PRIOR YEARS

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
	(Cumulative-5 year interval)							
1930 Through 1934		318,171	995,439	31,870,671				33,184,281
	(Cumulative-5 year interval)							
1935 Through 1939	7,411	310,313	13,814,816	72,339,293	14,000		43,565	86,529,398
	(Cumulative-5 year interval)							
1940 Through 1944	22,040	229,262	27,856,377	67,939,211	727,418		348,477	97,122,785
	(Cumulative-5 year interval)							
1945 Through 1949	17,283	166,687	16,914,771	62,438,443	4,302,309		106,510	83,946,003
	(Cumulative-5 year interval)							
1950 Through 1954	9,068	125,089	16,974,863	38,058,703	11,878,669	43,091	225,180	67,314,663
	(Cumulative-5 year interval)							
1955 Through 1959	8,183	110,639	8,788,785	25,618,934	13,716,790	568,085	3,108,341	51,920,757
	(Cumulative-5 year interval)							
1960 Through 1964	6,090	84,222	6,777,853	15,725,957	8,260,636	4,611,123	48,022,216	83,488,097
	(Cumulative-5 year interval)							
1965 Through 1969	5,293	113,898	3,831,321	12,186,197	8,387,775	4,195,694	39,132,615	67,852,793
	(Cumulative-5 year interval)							
1970 Through 1974	4,553	97,444	2,669,026	9,115,667	10,992,939	25,986,136	20,288,822	69,174,372
	(Cumulative-5 year interval)							
1975	930	21,702	435,364	1,487,417	2,377,358	17,604,834	2,492,270	24,419,525

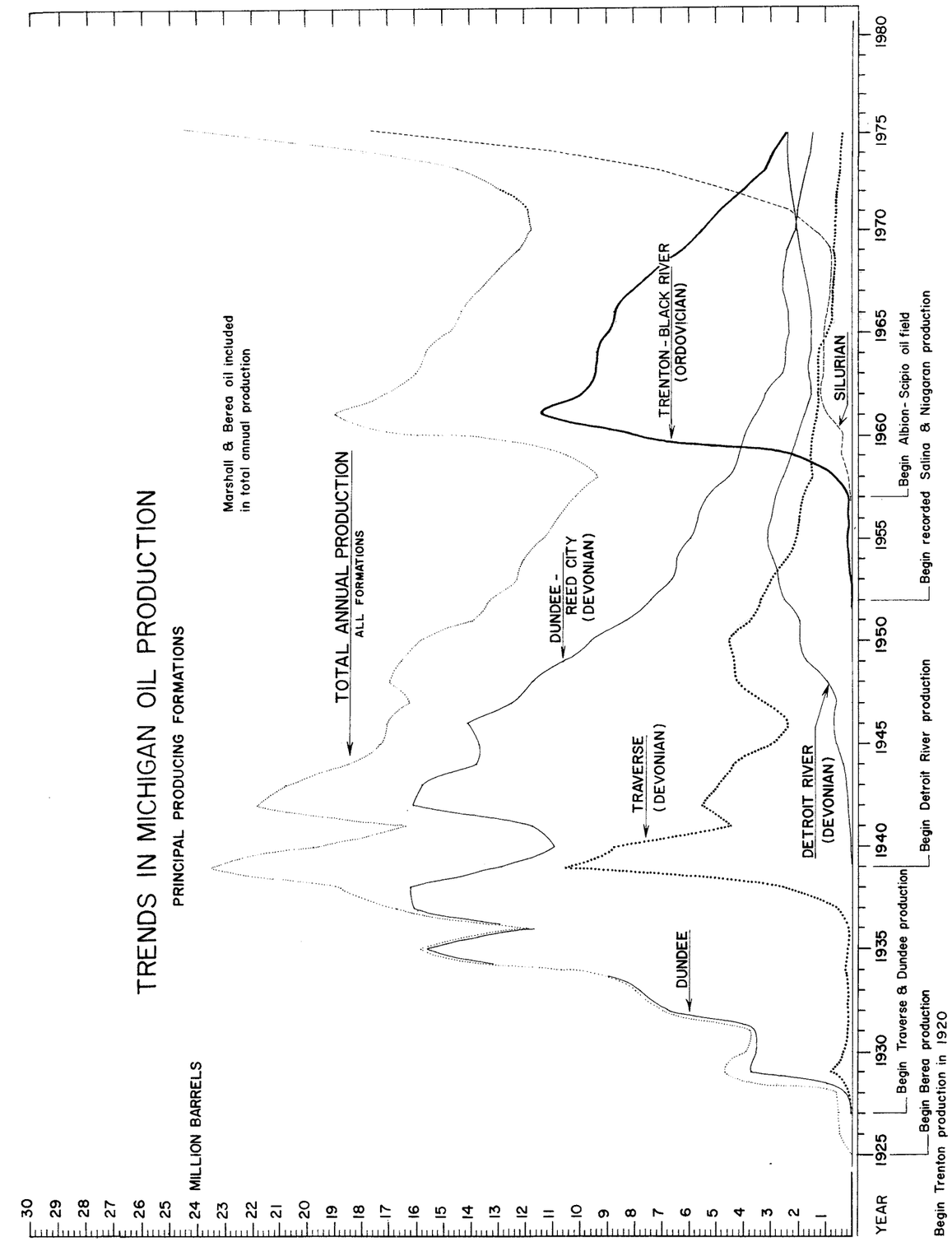
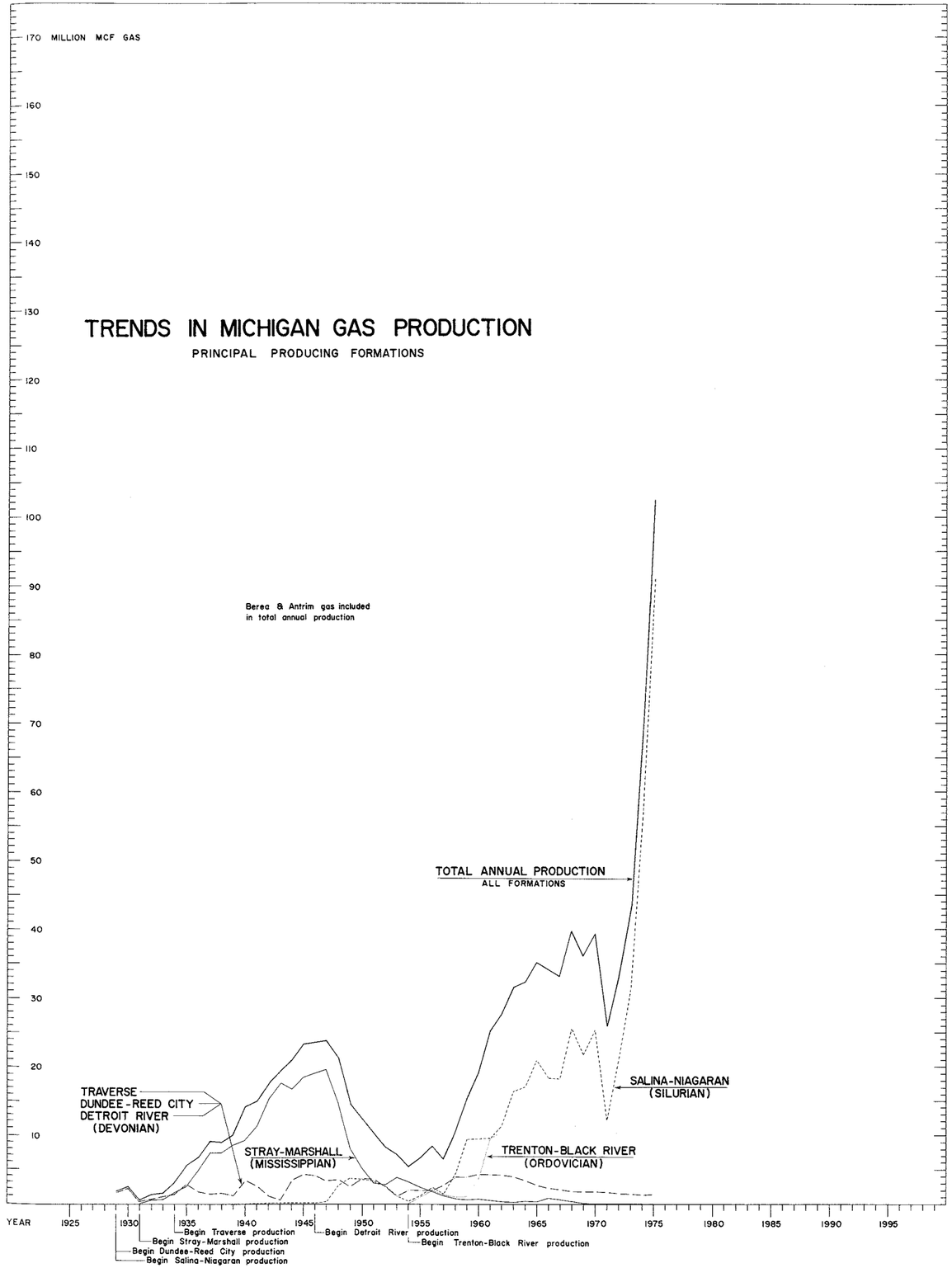


TABLE 9 GAS PRODUCTION BY GEOLOGIC SYSTEM AND FORMATION - 1975 AND PRIOR YEARS

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 Through 1974	0	157,966	391,050	760,309	265,850	219,781	8,342,041	148,999,929	53,573,311	212,710,237
	(Cumulative-5 year interval)									
1975	0	70,370	84,591	136,853	0	2,475	1,457,146	91,142,482	9,784,250	102,678,067



TRENDS IN MICHIGAN GAS PRODUCTION

PRINCIPAL PRODUCING FORMATIONS

TABLE 10 CUMULATIVE OIL PRODUCTION BY GEOLOGIC SYSTEM AND FORMATION - 1975 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
	(Cumulative-5 year interval)							
1930 Through 1934		1,194,730	1,869,216	35,888,122				38,952,068
	(Cumulative-5 year interval)							
1935 Through 1939	7,411	1,505,043	15,684,032	108,227,415	14,000		43,565	125,481,466
	(Cumulative-5 year interval)							
1940 Through 1944	29,451	1,734,305	43,540,409	176,166,626	741,418		392,042	222,604,251
	(Cumulative-5 year interval)							
1945 Through 1949	46,734	1,900,992	60,455,180	238,605,069	5,043,727		498,552	306,550,254
	(Cumulative-5 year interval)							
1950 Through 1954	55,802	2,026,081	77,430,043	276,663,772	16,922,396	43,091	723,732	373,864,917
	(Cumulative-5 year interval)							
1955 Through 1959	63,985	2,136,720	86,218,828	302,282,706	30,639,186	611,176	3,832,073	425,784,674
	(Cumulative-5 year interval)							
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
	(Cumulative-5 year interval)							
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
	(Cumulative-5 year interval)							
1970 Through 1974	79,668	2,077,719	83,788,468	311,232,618	102,632,670	35,417,637	111,307,955	646,555,321
	(Cumulative-5 year interval)							
1975	80,598	2,442,977	104,909,422	335,513,416	61,197,257	53,052,303	113,800,446	671,084,960

Some formations show a loss in cumulative production from 1973 to 1975. This is due to recently initiated changes in the method of crediting production to each respective formation in multiple-pool fields.

TABLE 11 CUMULATIVE GAS PRODUCTION BY GEOLOGIC SYSTEM AND FORMATION - 1975 AND PRIOR YEARS

YEAR	CENOZOIC	MISSISSIPPIAN		DEVONIAN				SILURIAN	ORDOVICIAN	Cumulative MCF 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	7,921,938		136,445		11,064,090
	(Cumulative-5 year interval)									
1935 Through 1939		33,771,434	1,391,076		73,638	16,784,103		142,776		52,163,027
	(Cumulative-5 year interval)									
1940 Through 1944		104,270,423	7,251,907		3,789,770	24,431,613		222,759		139,966,472
	(Cumulative-5 year interval)									
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
	(Cumulative-5 year interval)									
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
	(Cumulative-5 year interval)									
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
	(Cumulative-5 year interval)									
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
	(Cumulative-5 year interval)									
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
	(Cumulative-5 year interval)									
1970 Through 1974	8,020	213,298,888	11,249,818	1,284,841	9,233,011	48,568,150	60,395,689	357,050,974	162,958,467	864,047,858
	(Cumulative-5 year interval)									
1975	8,020	213,369,158	10,854,319	1,421,694	8,971,034	41,283,187	69,832,340	448,196,030	176,537,235	973,572,058

Some formations show a loss in cumulative production from 1973 to 1975. This is due to recently initiated change in the method of crediting production to each respective formation in multiple-pool fields.

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

TABLE 12 CUMULATIVE WELL COMPLETIONS BY COUNTY THROUGH 1975

County	Area of County (indluding 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	1,699	3,269	4:1
Alpena	590	377,600		1		13	14	1:42
Antrim	520	332,800	3	2		44	49	1:11
Arenac	369	236,160	406	44		405	855	2:1
Barry	571	365,440	74		4	138	216	1:3
Bay	451	288,640	458	1		222	681	2:1
Benzie	342	218,880				15	15	1:23
Berrien	584	373,760	9			75	84	1:7
Branch	517	330,880				59	59	1:9
Calhoun	716	458,240	277	38	3	382	700	1:1
Cass	505	323,200	33			127	160	1:3
Charlevoix	451	288,640				15	15	1:30
Cheboygan	798	510,720				21	21	1:38
Chippewa	1,651	1,056,640	Northern Peninsula County			5	5	1:330
Clare	577	369,280	386	172	492	368	1,418	2:1
Clinton	573	366,720	4			81	85	1:7
Crawford	566	362,240	93	5	8	33	139	1:4
Delta	1,202	769,280	Northern Peninsula County			1	1	1:1200
Eaton	572	366,080	19	7		71	97	1:6
Emmet	477	305,280				5	5	1:95
Genesee	649	415,360	31	1		45	77	1:8
Gladwin	512	327,680	739			282	1,021	2:1
Grand Traverse	490	313,600	49	51		139	239	1:2
Gratiot	566	362,240	46	74	20	278	418	1:1
Hillsdale	604	386,560	275	2		490	767	1:1
Huron	824	527,360	5			79	84	1:10
Ingham	560	358,400	67	13	10	105	194	1:3
Ionia	578	369,920	9			83	92	1:6
Iosco	563	360,320				26	26	1:22
Isabella	573	366,720	658	161	55	486	1,360	2:1
Jackson	717	458,880	136	3		280	419	1:2
Kalamazoo	580	371,200	18			111	129	1:5
Kalkaska	573	366,720	106	46		142	295	1:2
Kent	868	555,520	461	6	2 10	349	828	1:1
Lake	577	369,280	51	1	4	159	215	1:3
Lapeer	662	423,680	40	2		65	107	1:6
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	92	182	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	6	52	30	335	423	1:1
Manistee	568	363,520	77	25		101	203	1:3
Mason	505	323,200	139	13		308	460	1:1
Mecosta	570	364,800	129	196	183	417	925	2:1
Midland	523	334,720	901	2	2	275	1,180	2:1
Missaukee	572	366,080	187	63	103	214	567	1:1
Monroe	564	360,960	45			113	158	1:4
Montcalm	720	460,800	383	221	237	606	1,447	2:1
Montmorency	567	362,880	3	2		35	40	1:14
Muskegon	519	332,160	444	120		390	954	2:1
Newaygo	867	554,880	200	46	142	389	777	1:1
Oakland	899	575,360	6	12	5	70	93	1:10
Oceana	541	346,240	335	9		550	894	2:1
Ogemaw	580	371,200	507	21	11	171	710	1:1
Osceola	585	374,400	346	119	193	377	1,035	2:1
Oscoda	568	363,520	2			12	14	1:41
Otsego	538	344,320	96	33		165	294	1:2
Ottawa	572	366,080	473	19	2	498	992	2:1
Presque Isle	678	433,920	1			31	32	1:21
Roscommon	573	366,720	183	14		103	300	1:2
Saginaw	814	520,960	378	2		175	555	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			57	66	1:8
St. Clair	751	480,640	265	183	60 16	883	1,407	2:1
St. Joseph	518	331,520				16	16	1:32
Tuscola	820	524,800	154	4		107	265	1:3
Van Buren	615	393,600	723			1,001	1,724	3:1
Washtenaw	723	462,720	10	18	5 1	109	143	1:5
Wayne	625	400,000	12	24	18 30	54	138	1:5
Wexford	570	364,800	6	9		71	86	1:7
73 Counties	47,342	Totals:	11,783	2,031	1,816 59	14,822	30,513	

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

TABLE 13 PERMITS, DISCOVERIES, WELL COMPLETIONS, WELLS AT END OF YEAR, 1975 AND PRIOR YEARS

Year	Permits Issued	Classification of Well Completions				Fields or Pools Discovered		Wells at End of Year				
		Oil Wells	Gas Wells	Service Wells GS-OBS-SWD	Service Wells LPG	Dry Holes	Total Completions	Oil	Gas	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
1974	503	134	61	54	2	235	484	55	39	4,376	488	2,494	---	54
1975	653	167	40	38	0	330	575	55	19	---	---	---	---	54

Includes 4 reclassified dry holes.

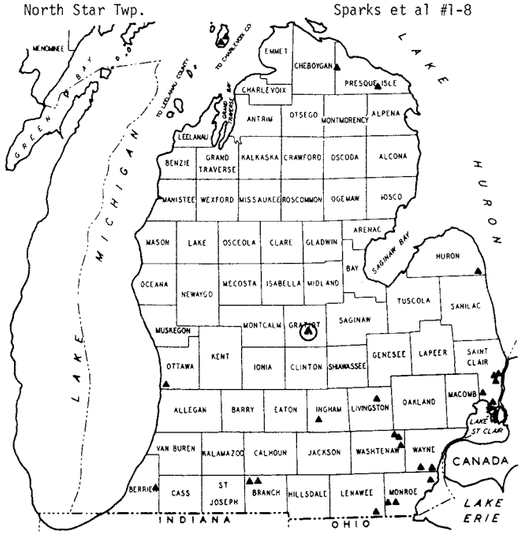
Figures in these columns represent the well count at the end of the year. Figures are subject to change due to well-abandonments, reclassification, etc. The figures in these columns have been discontinued. See Tables 2, 3, 4 and 5 for producible wells and service wells in individual fields.

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 Thalmann #1	4604 (-3800)	5647 (-4843)	1965	
29779	Branch Co. Sherwood Twp.	7-5S-8W	Consumers Power Co. et al Lindsey-Hostetler #1	5375 (-4485)	5439 (-4549)	1974	
29969	Branch Co. Sherwood Twp.	8-5S-8W	Consumers Power Co. et al H. Clark #1	5418 (-4539)	5475 (-4586)	1974	
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.	27-38N-10W	McClure Oil Co. State-Beaver Island #1	4566 (-3888)	5383 (-4705)	1961	
30682	Cheboygan Co. Waverly Twp.	24-35N-1W	North. Mich. Explor. Co. et al State-Waverly #1-24	5617 (-4816)	5753 (-4952)	1975	
29191	Huron Co. Sherman Twp.	26-15N-15E	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	
30376	St. Clair Co. Ira Twp.	14-3N-15E	Mich. Cons. Gas Co. Osterland #1-14	4449 (-3846)	4550 (-3947)	1975	
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

29739	Gratiot Co. North Star Twp.	8-10N-2W	McClure Oil Co. Sparks et al #1-8	Precambrian 12,176 (-11,414)	17,466 (-16,704)	1975



▲ REPORTED PRECAMBRIAN TEST

◉ DEEPEST EXPLORATORY WELL IN MICHIGAN (PRECAMBRIAN)

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
1974	5,814,636.01	1,280,108.62	7,131,732.00	2,248.00	14,228,724.63
1975	9,637,835.43	1,297,691.74	514,247.80	2,603.00	11,452,377.97
TOTAL	$31,440,142.95	$17,415,901.37	$23,664,784.39	$48,318.00	$72,569,146.71

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

Permit numbers issued in 1972 for directional holes.

28916	Otsego County	28988	Kalkaska County
28951	Otsego County	29038	Kalkaska County

Permit numbers issued in 1973 for directional holes.

29175	Otsego County	29474	Gd. Traverse County
29344	Kalkaska County	29487	Otsego County
29345	Manistee County	29536	Gd. Traverse County
29354	Kalkaska County	29549A	Otsego County
29363	Kalkaska County	29550	Gd. Traverse County
29366	Kalkaska County	29573	Otsego County
29393	Gd. Traverse County	29577	Gd. Traverse County
29433	Otsego County	29600	Gd. Traverse County

Permit numbers issued in 1974 for directional holes.

29628	Kalkaska County	29943	Wexford County
29629	Gd. Traverse County	29946	Gd. Traverse County
29634	Ingham County	29948	Gd. Traverse County
29636	Ingham County	29950	Montcalm County (1)
29650	Otsego County	29951	Montcalm County (1)
29671	Otsego County	29952	Montcalm County (1)
29684	Gd. Traverse County	29953	Kalkaska County
29694	Manistee County	29956	Otsego County
29729	St. Clair County	29993	Kalkaska County
29746	Otsego County	29995	Otsego County
29804	Gd. Traverse County	30012	Kalkaska County
29810	Gd. Traverse County	30013	Macomb County
29828	St. Clair County	30017	Gd. Traverse County
29837	Montmorency County	30019	Kalkaska County
29839	Kalkaska County	30030	Otsego County
29840	Otsego County	30032	Kalkaska County
29853	Otsego County	30034	Gd. Traverse County
29881	Gd. Traverse County	30038	Gd. Traverse County
29887	Gd. Traverse County	30047	Gd. Traverse County
29889	Kalkaska County	30049	Macomb County
29900	Gd. Traverse County	30052	Gd. Traverse County
29906	Manistee County	30063	Gd. Traverse County
29910	Manistee County	30077	Manistee County
29911	Macomb County	30079	Ingham County
29912	Otsego County	30090	Gd. Traverse County
29918	Kalkaska County	30093	Kalkaska County
29919	Gd. Traverse County	30099	Kalkaska County
29927	Macomb County	30111	Eaton County
29929	Otsego County	30113	Gd. Traverse County
29934	Otsego County	30115	Manistee County

(1) Drilled to combat gas-well blowout in the Six Lakes gas storage field.

Directional holes with two or more permit numbers.

29629** and 29553	30118** and 30458
29671**, 29650** and 29478	30132** and 30098
29729 and 29466*	30172** and 30092
29828 and 29451*	30211** and 29703
29900**, 29827 and 29426*	30234** and 30188
29912** and 29842	30245*** and 30030
29918*** and 29839	30251***, 30211** and 29703*
29929** and 29905	30356** and 30197
29995** and 29947	30460** and 30413
30049**, 30013** and 29914	30372** and 30313
30034** and 29955	30422*** and 30301
30052** and 30001	30423*** and 30175
30077** and 29942	30428****, 30422, 30383 and 30242
30099** and 30051	30444** and 30349
30113*** and 30038	30496**, 30476** and 30364
30115** and 30008	30512** and 30221
30530** and 30459	30626** and 30499
30568** and 30363	30662** and 30602
30583** and 30502	30685** and 30651
30603** and 30557	30744** and 30712
30604** and 30562	30748** and 30693

*Terminated permit.
**Directional hole drilled from plugged-back, vertically drilled dry hole.
***Second directional hole drilled from plugged-back directionally drilled dry hole.
****Third directional hole drilled from a plugged-back directionally drilled dry hole.

New permits (left column) issued for a reviously drilled well or for a previously issued but terminated permit.

Year of issue: 1973

28847	issued for well	drilled or permitted	under	15630
28941	"	"	"	17220
28942	"	"	"	17331
28985	"	"	"	10169
28992	"	"	"	5302
28993	"	"	"	5168
29008	"	"	"	25625
29024	"	"	"	26469
29161	"	"	"	2904
29162	"	"	"	3095
29163	"	"	"	3202
29233	"	"	"	26506
29249	"	"	"	19046
29357	"	"	"	22419
29359	"	"	"	22159

Year of issue: 1974

29710	"	"	"	29488
29729	"	"	"	29466
29730	"	"	"	29452
29731	"	"	"	29506
29772	"	"	"	29406
29774	"	"	"	29467
29803	"	"	"	29184
29805	"	"	"	29592
29816	"	"	"	29548
29825	"	"	"	29518
29890	"	"	"	29561
29891	"	"	"	29115
29928	"	"	"	29593
29932	"	"	"	29147
30045	"	"	"	29608
30046	"	"	"	29589
30062	"	"	"	29190
30099	"	"	"	30051
30113	"	"	"	30038
30115	"	"	"	30008

Year of issue: 1975

30118	"	"	"	30458
30132	"	"	"	30098
30151	"	"	"	29745
30172	"	"	"	30092
30223	"	"	"	11043
30234	"	"	"	30188
30245	"	"	"	30030
30251	"	"	30211 &	29703
30356	"	"	"	30197
30372	"	"	"	30313
30422	"	"	"	30301
30423	"	"	"	30175
30428	"	"	30383 &	30242
30436	"	"	29801 &	26118
30444	"	"	"	30349
30452	"	"	"	29708
30453	"	"	"	29802
30460	"	"	"	30413
30473	"	"	"	30015
30496	"	"	30476 &	30364
30512	"	"	"	30221
30530	"	"	"	30459
30536	"	"	"	28890
30568	"	"	"	30363
30583	"	"	"	30502
30603	"	"	"	30557
30604	"	"	"	30562
30626	"	"	"	30499
30640	"	"	"	23567
30662	"	"	30602 &	29879
30685	"	"	"	30651
30744	"	"	"	30712
30748	"	"	"	30693