



drilling statistics

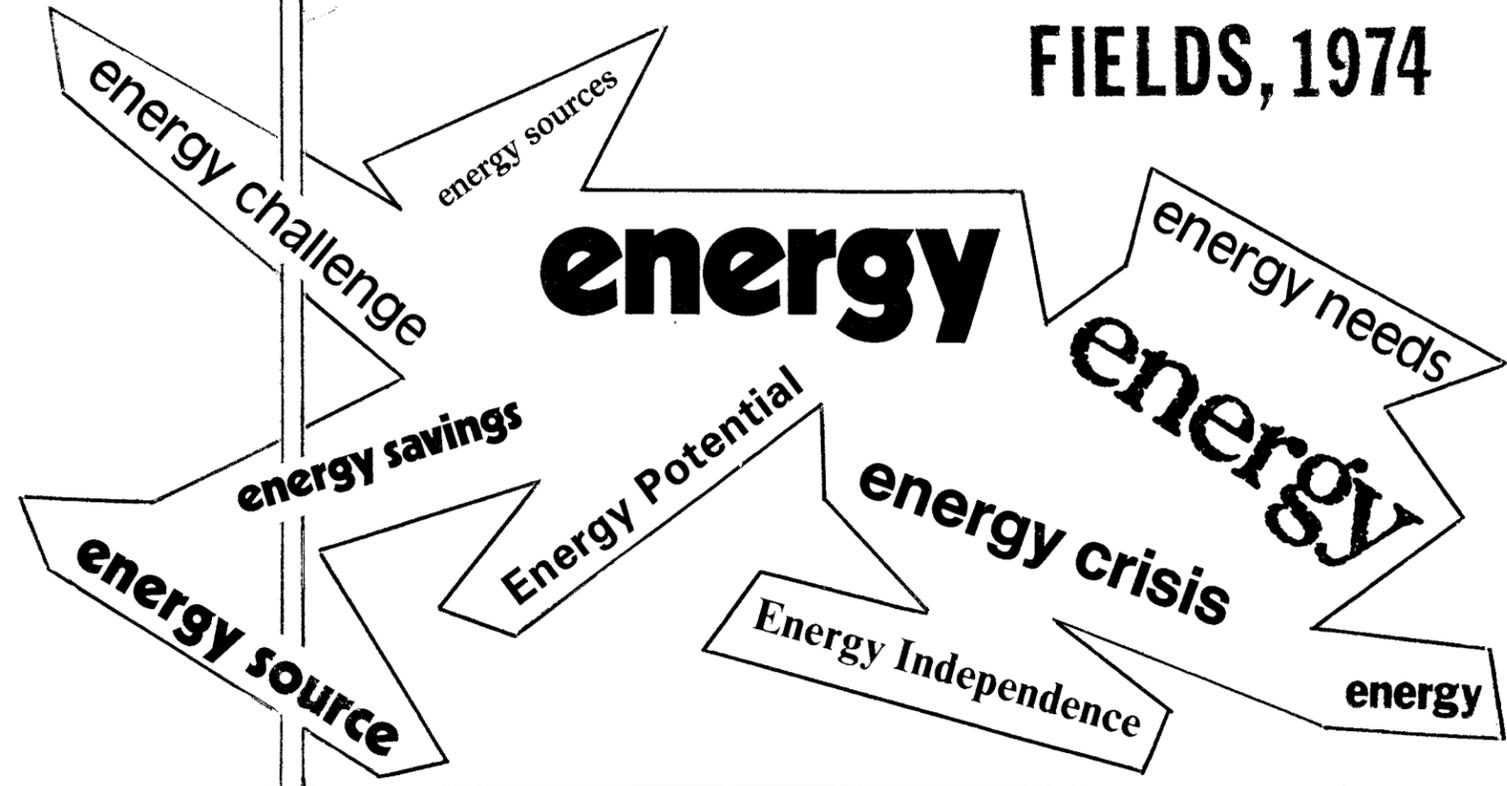
production

exports and imports

MICHIGAN'S

OIL AND GAS

FIELDS, 1974



1975

Department of Natural Resources
Geological Survey Division

STATE OF MICHIGAN
 William G. Milliken, *Governor*

DEPARTMENT OF NATURAL RESOURCES
 Howard A. Tanner
Director and Supervisor of Wells

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

NATURAL RESOURCES COMMISSION

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

OIL AND GAS ADVISORY BOARD

Vance W. Orr, <i>Chairman</i> , McClure Oil Co.	G. D. Simon, Patrick Petroleum Co.
K. P. Wood, <i>Vice Chairman</i> , Independent Producer	J. A. Vary, Michigan Consolidated Gas Co.
C. John Miller, Miller Brothers	Claude J. Osbourne, Shell Oil Co.
William J. H. Wilde, General Public	(Mrs.) C. R. Williams, General Public
James S. Lorenz, Department of Natural Resources, <i>Secretary</i>	

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

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

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

CONTENTS

PART 1	
GENERAL STATISTICAL INFORMATION	
	Page
Acknowledgements	2
Introduction	3
Oil and Gas Permits	3
Permits Terminated in 1974	4
Directionally Drilled Holes	4-5
Permits for Service Wells	5
Well Completions	5-6
Well Completions by Majors and Independents in 1973	6
Well Completions by Majors and Independents in 1974	6
Drilled Footage	7
Oil and Gas Production by County	7
Oil and Gas Production	7-8
Condensate Production	8
Special Orders: No-Flare, Spacing and Proration, Explanation	8
Oil and Gas Valuation	8-9
Oil and Gas Imports and Exports	9
New Field and Pool Discoveries	9-13
Analysis of Discovery Wells by Geologic System	10
Drilling Objectives	10
State Oil and Gas Revenues	10
Well Records and Oil and Gas Maps	10
Permits, Well Completions, Drilled Footage, Table 1	14

PART 2	
OIL AND GAS FIELDS	
	Page
Part 2, Oil and Gas Fields, Explanation	15
Northern Michigan Salina-Niagaran Oil and Gas Fields Map	16-17
Northern Michigan Salina-Niagaran Oil and Gas Fields, Table 2	18-24
Michigan Oil and Gas Fields, Table 3	25-44
Michigan Oil and Gas Field Map (Center Spread)	30-31
Developed Gas Storage Reservoirs, Table 4	45-46
Undeveloped Gas Storage Reservoirs, Table 5	46
Secondary Recovery Operations, Table 6	47
Gas Plant Operations, Table 7	48
LPG Storage, Table 8	48
Michigan Refineries	49

PART 3	
CUMULATIVE RECORDS	
	Page
Part 3, Cumulative Records, Explanation	49
Cumulative Oil and Gas by County, Table 9	50
Oil Production by Geologic System, Table 10	51
Average Daily Oil Production by County	51
Gas Production by Geologic System, Table 11	52
Average Daily Gas Production by County	52
Trends in Michigan Gas Production	53
Cumulative Oil by Geologic System, Table 12	54
Trends in Michigan Oil Production	55
Cumulative Gas by Geologic System, Table 13	56
Cumulative Well Completions by County, Table 14	57
Permits, Discoveries, Well Completions, 1974 and Prior Years, Table 15	58
Precambrian Tests in Southern Peninsula	59
Abbreviations	60
State Oil and Gas Revenue	60
Stratigraphic Succession in Michigan	Inside Back Cover

The Geological Survey Division's Oil and Gas Section, formerly called Oil and Gas Conservation Group, is composed 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 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 in this report.

The compilation and assembly of various oil and gas data into a yearly report is a major responsibility of the Petroleum Geology Unit. Certain data collected by field office personnel are contributed by Unit supervisors under the general guidance of R. M. Acker, Assistant State Geologist and Chief of the Oil and Gas Section. Unit supervisors who contributed specific data to this report 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, 4, and 5.

James S. Lorenz, Supervisor, Production and Proration Unit. Contribution: All Michigan oil and gas production data, oil import and export figures, monetary valuations, refinery and LPG storage data.

G. D. Ells, Supervisor, and B. L. Champion and staff, Petroleum Geology Unit. Contribution: All general drilling statistics and well completion data, discovery well and deep-test data, drilled acreage figures, cumulative records, and all other summary information not specifically provided by other Unit supervisors. Compilations, assembly and manuscript preparation by staff members of the Petroleum Geology Unit: G. D. Ells, Beverly L. Champion, Richard T. Lilienthal, D. Michael Bricker, and Margaret Schineman.

Gas import figures are obtained from the Gas Section, Public Utilities Division, Department of Commerce. Michigan oil and gas production figures maintained by the Production-Proration Unit are compiled from records obtained from the Michigan Department of Treasury and from records filed by producers. All hydrocarbon production figures are preliminary and subject to correction as warranted.

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

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

Inquiries concerning information contained in this publication should be directed to the appropriate Unit supervisor as noted earlier.

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

Lansing, Michigan
September, 1975

INTRODUCTION

Oil and gas are two of Michigan's important mineral resources. This year, 1975, marks Michigan's fifth decade as an important oil and gas province, though the state's first field was established in 1886 at Port Huron. Recognition as an important petroleum province came as the result of development of the Saginaw field in 1925. But discovery of the Muskegon field in 1927 and the Mt. Pleasant field in 1928 opened the way for basin-wide exploration. Each year since then, new fields and pools have been discovered though the amount of exploratory and development drilling has varied considerably from year to year. Now, fifty years after Saginaw, records again show another upward trend in drilling and well completion and in production. This new cycle of activity, which began about 1969, is linked primarily to deeper Niagaran reef exploration in the northern and southern parts of the basin. The results of the new exploration and development cycle are reflected in a record increase in new discoveries and an upswing in the state's annual oil and gas production. Most of Michigan's oil and gas has been processed and used within the borders of the State and has thus directly contributed to Michigan's energy needs.

The value of Michigan produced crude oil and natural gas was calculated to be a little over \$189,900,000 in 1974 as compared with an estimated value of about \$76,907,000 in 1973. In addition, many millions of dollars were no doubt spent in lease and royalty payments, exploration and development drilling, and the many auxiliary activities connected with the extraction of these natural resources during 1974. It is clear that oil and gas development is a major industry and contributes substantially to the State's economy each year. To help further the orderly 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 data on various facets of Michigan's oil and gas industry during 1974. Certain indices which show the trend of activities from year to year are shown in chart form along with figures for prior years. Other charts show cumulative figures and other information of an historical nature, useful in oil and gas field evaluation. Furthermore, the gathering, maintenance and compilation of the data reflect, in part, the varied functions of the Oil and Gas Section (formerly Oil and Gas Conservation Group) of the Geological Survey Division.

Certain figures for 1974, such as the number of exploratory, development and service wells drilled and completed, and the number of new field and pool discoveries, may differ from figures reported for that year by regional or national trade journals or by industry reporting services. Preliminary 1974 oil and gas production and valuation figures cited in other publications may differ from those shown herein. The differences in the various statistics are generally minor and due to methods of gathering and reporting well data, determining cut-off dates for reporting statistics on a yearly basis, and the necessity of making estimates and projections of data for some types of reports.

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

Certain well completion data are provided to the American Petroleum Institute (API) and the American Association of Petroleum Geologists (AAPG) on a regular basis. Reports citing preliminary statistics are also

prepared for the Interstate Oil Compact Commission (IOCC). API publishes the data in monthly and quarterly reports. Year-end printouts of the data furnished by the Geological Survey are made available to authors of the AAPG yearly Development Papers. Other organizations mentioned in the previous paragraph publish oil and gas statistics derived from other sources. Year-end figures published by API generally agree with figures for similar categories (e.g. exploratory wells) published in this summary. Differences which may occur are shown under the proper subject heading in this report.

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

This publication is essentially divided into three parts. The first summarizes significant statistics on oil and gas field activities for 1974 and includes other related records kept by the Oil and Gas Section. Part 2 contains specific information on the State's oil and gas fields, gas storage fields and other related subjects. Part 3 contains cumulative records of import to the industry. Data for 1974 have been included in the Part 3 cumulative records.

PART I

1974 STATISTICAL DATA

* * * OIL AND GAS PERMITS * * *

Oil and gas drilling permits issued during 1974 began with permit number 29613 and ended with permit number 30115. The total number of permits issued during 1974 was 503 as compared with 444 in 1973. The initial classification of wells to be drilled under these permits was as follows:

INITIAL CLASSIFICATION	1972	1973	1974
Exploratory wells	211	225	299
Development wells	133	149	176*
Gas storage facility wells . .	74	66	28
LPG storage operations	5	4	0
	423	444	503

*Includes 11 water injection wells and 2 brine disposal wells.

The distribution of oil and gas permits according to districts (See oil and gas districts map) through a five-year period, including 1974, is as follows:

DISTRICTS	DRILLING PERMITS BY DISTRICT				
	Permits Issued				
	1970	1971	1972	1973	1974
Basin	169	138	154	120	98
Northern	52	81	137	173	210
Southeastern	121	130	62	67	62
Southwestern	33	30	32	28	44
Western	50	46	38	56	89
Totals	425	425*	423*	444*	503*

*Includes terminated permits. Permits issued under Act No. 61, Public Acts of 1939, as amended, are terminated six months after date of issue if actual drilling operations have not begun.

In addition to regular permits, 1 brine disposal permit (BDW 156) was issued. Deepening permits were issued for 45 wells during 1974 as compared with 24 the previous year. Deepening permits began with number 1712 and ended with number 1756. There was 1 geological test permit issued by the Mineral Wells Section during 1974.

Terminated permits were cited and listed for the first time in Annual Statistical Summary 16, 1972. Michigan's oil and gas permit system began in 1927 with the issuance of permit number 1, and the numbers have been issued in numerically consecutive order since then. Well locations for which permits have been issued but subsequently terminated are sometimes re-permitted under another number. Wells which have been drilled, plugged, or otherwise abandoned may also sometimes be reopened and reworked under a new permit number. Permit numbers issued for wells drilled under previous permits, or reissues for terminated permits, were cited and listed for the first time in Annual Statistical Summary 18, 1973.

The number of terminated permits and new permits for previously drilled or permitted locations has increased considerably the past few years. Several hundred such cases probably exist, most in connection with wells drilled years ago in gas storage reservoirs. Because well data, including permit numbers, are now being incorporated into computerized data systems, multiple permits for a single location may lead to problems. Therefore an attempt is being made to keep a published account of these possible sources of conflict.

Permits issued in 1971 and terminated in 1971 or 1972

28322	28393	28542	28584	28638
28352	28466	28553	28595	28672
28366	28476	28555	28605	28673
28385	28490	28571	28615	28683
28386	28512	28578	28619	28719

Permits issued in 1972 and terminated in 1972 or 1973

28750	28849	28908	28963	29077
28751	28851	28933	29994	29098
28754	28855	28944	29005	29134
28779	28867	28945	29017	29139
28836	28871	28958	29044	29145
28844	28890			

Permits issued in 1973 and terminated in 1973 or 1974

29177	29257	29397	29451	29507
29180	29266	29406	29452	29508
29181	29289	29410	29466	29510
29184	29290	29411	29470	29518
29185	29341	29418	29488	29548
29190	29347	29419	29491	29561
29210	29356	29421	29499	29589
29228	29365	29426	29504	29592
29229	29368	29435	29505	29593
29231	29388	29443	29506	29608
29252	29390			

Permits issued in 1974 and terminated in 1974

29617	29652	29689	29745	29801
29626	29654	29690	29800	29802
29645	29676	29714		

New permits issued for a previously drilled well or for a previously issued but terminated permit.

28847	issued for well drilled or permitted under	15630
28941	"	17220
28942	"	17331
28985	"	10169
28992	"	5302
28993	"	5168
29008	"	25626
29024	"	26469
29161	"	2904
29162	"	3095
29163	"	3202
29233	"	26506
29249	"	19046
29357	"	22419
29359	"	22159
29710	"	29488
29729	"	29466

29730	"	"	29452
29731	"	"	29506
29772	"	"	29406
29774	"	"	29467
29801	"	"	26118
29803	"	"	29184
29805	"	"	29592
29816	"	"	29548
29825	"	"	29518
29890	"	"	29561
29891	"	"	29115
29928	"	"	29593
29932	"	"	29147
30045	"	"	29608
30046	"	"	29589
30062	"	"	29190

Directionally drilled holes. Environmental considerations have necessitated the drilling of a large number of directional holes since 1972. 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 D&A; 2) cases where two or more directional holes have been drilled to bottom-hole targets from the same surface location; 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 Niagaran reefing. Each new directional hole, 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. All holes drilled from the same surface location retain the same well name and number as the original hole, except that the suffix "A", "B", "C", etc., is added to the well number. In some instances permits for directional holes were terminated and then subsequently re-permitted under a new number. An attempt has been made to record the permit numbers of directionally drilled tests for the benefit of those who may find the information useful in computer-well data systems.

Permit numbers issued for directional holes in 1972.

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

Permit numbers issued for directional holes in 1973.

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 for directional holes in 1974.

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 2 or more permit numbers.

29629** and 29553	29995** and 29947
29671**, 29650** and 29478	30049**, 30013** and 29914
29729 and 29466*	30034** and 29955
29828 and 29451*	30052** and 30001
29900**, 29827 and 29426*	30077** and 29942
29912** and 29842	30099** and 30051
29918*** and 29839	30113*** and 30038
29929** and 29905	30115** and 30008

*Terminated permit.

**Directional hole drilled from plugged-back, vertically drilled dry hole.

***Second directional hole drilled from a plugged-back directionally drilled dry hole.

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	1970	1971	1972	1973	1974
Gas storage	115	60	74	66	30*
LPG, Water Injection	1	16	9	8	11
Brine disposal, etc.	-	3	1	1	1
	116	79	84	75	42

*Includes 3 permits issued for brine wells converted to gas storage, and several permits issued to drill wells to combat a gas-well blowout in Six Lakes gas storage field.

The distribution, by county, of oil and gas and service well permits issued in 1974 is shown in Table 1.

In addition to the issuance of permits for various types of wells covered under Act No. 61, Public Acts of 1939, as amended, 108 applications were received and approved for rework operations on existing wells. Transfers of ownership were processed for 305 wells. Correc-

NEW WELL COMPLETIONS BY DISTRICTS, 1974

Classification of New Well Completions	Basin		Northern		Western		Southwestern		Southeastern		Total	
	1973	1974	1973	1974	1973	1974	1973	1974	1973	1974	1973	1974
Exploratory Wells												
Oil	5	6	24	25	6	19	2	4	1	0	38	54
Gas	2	1	22	18	10	16	3	2	0	2	37	39
D&A	31	28	51	80	10	24	7	15	18	26	117	173
Total	38	35	97	123	26	59	12	21	19	28	192	266
Development Wells												
Oil	11	19	23	33	4	12	2	5	3	11	43	80
Gas	1	4	5	9	2	1	1	7	1	1	10	22
D&A	13	13	26	31	3	7	7	7	7	4	56	62
Total	25	36	54	73	9	20	10	19	11	16	109	164
Service Wells												
WI	5	13	0	0	0	0	0	0	0	0	5	13
BDW	0	0	0	0	0	0	0	1	1	0	1	1
GS*	29	12	0	0	17	5	3	0	12	21	61	38
LPG	0	0	0	0	0	0	0	2	1	0	1	2
Total	34	25	0	0	17	5	3	3	14	21	68	54
Total Completions	97	96	151	196	52	84	25	43	44	65	369	484

*Includes gas storage observation wells.

tions of location, well name or other detail involving specific permits were made for 49 wells, and cancel and transfer of permit were made for 6 others. The projected subsurface bottom-hole location as well as the surface location is published for each permitted directionally drilled hole. After the well is drilled and the directional survey run, the correct subsurface bottom-hole location is determined and then published as a correction for the initial projected bottom-hole location. In 1974, 42 corrections of this type were published for wells drilled in 1973 and 1974.

*** WELL COMPLETIONS ***

There were 430 new-hole exploratory and development wells which reached total depth, had production casing set and were considered either as completed producers or dry holes during 1974. The 430 wells considered as completed during the past year do not include service wells, old wells drilled to deeper objectives, or reworked wells. The fluctuation in the number of new-hole completions and the resulting number of oil, gas, or dry holes over a five-year period is as follows:

Year	Exploratory Wells			Development Wells			Totals
	Oil	Gas	Dry	Oil	Gas	Dry	
1970	8	6	139	43	9	72	277
1971	28	11	122	55	20	64	300
1972	34	23	124	50	15	62	308
1973	38	37	117	43	10	56	301
1974	54	39	173	80	22	62	430

There were 54 new-hole service well completions in 1974. Most were facility wells drilled in gas storage reservoirs. The figure does not include reworked wells or old wells converted to service wells of various types. The fluctuation in the number of service well completions over a five-year period is as follows:

Year	SERVICE WELL COMPLETIONS				Totals
	GS	INJ	LPG	BDW	
1970	110	0	3	0	113
1971	81	0	13	2	96
1972	57	3	4	2	66
1973	60	5	2	1	68
1974	38*	13	2	1	54

*Includes observation wells and wells drilled to combat gas-well blowout in Six Lakes gas storage field.

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

As previously mentioned, certain completion data for exploratory, development and other types of wells are furnished the American Petroleum Institute (API) and The American Association of Petroleum Geologists (AAPG) during the year. Statistical data published for Michigan by these agencies are correct according to the information submitted and approved at the time. The figures published by these agencies frequently differ from those published later in the year by the Geological Survey. The differences in figures are primarily due to rules establishing a cut-off date for reporting or handling statistics on a yearly basis. Other factors are internal decisions of the Geological Survey in regards to final year-end status of a completed well and decisions stemming from public hearings on oil and gas matters. For example, a well originally classified as a development well may be later designated as the discovery well for a new pool or field, or a gas well might be declared an oil well completion. The discrepancies in final year-end figures are almost without exception related to Niagaran reef development or exploratory wells which have been the mainstay of Michigan drilling activities the past few years. Frequently, the changes in well status or classification cannot be readily passed on to API and AAPG so that their records can be updated prior to publication of their statistics.

Drilling statistics published by API and derived from data furnished by the Geological Survey is shown below in comparison with 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, 1974, Annual Summary, 1974, American Petroleum Institute, Vol. VIII, No. 4, April 1975, Tables I, II, III, and V, pp. 14-22.

Year	Exploratory Wells			Development Wells			Totals
	Oil	Gas	Dry	Oil	Gas	Dry	
1974	50	34	174	66	18	60	402
M.G.S.	54	39	173	80	22	62	430

Year	Oil	Gas	Dry	Service	Total Wells, All Types
	1974	116	52	234	12*
M.G.S.	134	61	235	54*	484

*API does not require data on wells drilled in connection with gas storage operations. The Geological Survey considers gas storage wells as a class of Service well. 38 of the 54 Service wells listed by the Geological Survey (M.G.S.) were gas storage wells.

Year	Oil	Gas	Total Producing Wells	Dry Holes	Total New-Field Wildcat Wells
	1974	48	34	82	169
M.G.S.	54	39	93	173	266

Wells not included in 1974 API figures in the preceding charts will be accounted for in the 1975 figures. The important point to be made is that all Michigan wells are accounted for.

Well completions by major and independent companies.

Requests were made the past year to provide statistics on the number of wells drilled and completed in Michigan by major and independent oil companies in 1973 and 1974. 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 foregoing list is not

official nor necessarily complete. Some of these companies or their affiliates drilled wells in Michigan during 1973 and 1974. The figures cited for the major companies do not include wells drilled by independents as farmouts from a major company, nor do they include wells drilled by independents but partially supported by dry hole money, acreage contribution, or some other significant assistance from a major company. Independent companies, who have drilled most of the wells during Michigan's 50 year history as a petroleum province, are too numerous to cite individually. Figures cited were derived from inspection of names appearing on completion records.

Major Company	Exploratory			Development			Service*
	Oil	Gas	Dry	Oil	Gas	Dry	
Amoco	7	6	8	7	2	2	
Cities Service			1				
Marathon							1
Mobil	5		7	6		4	4
Shell	19	21	24	15	2	12	
Sun				1			2
Union Oil			1				
Totals	31	27	41	29	4	18	7
Independents	7	10	76	14	5	38	61
Grand Totals	38	37	117	43	9	56	68

*Includes GS-OBS, LPG, WI, BDW wells.

Total: Exploratory Wells 192; Development Wells 108; Service Wells 68.

Exploratory Wells drilled by Majors 52%.
Exploratory Wells drilled by Independents 48%.

Exploratory Discoveries made by Majors 77%.
Exploratory Discoveries made by Independents 23%.

Development Wells drilled by Majors 47%.
Development Wells drilled by Independents 53%.

Producing Development Wells drilled by Majors 64%.
Producing Development Wells drilled by Independents 36%.

Discovery to Exploratory Dry Hole ratio - Majors 1.4:1;
Independents 1:4.5.

Major Company	Exploratory			Development			Service*
	Oil	Gas	Dry	Oil	Gas	Dry	
Amoco	8	6	8	4	2	2	
Getty	1		4	1		1	
Marathon				2			6
Mobil	2	1	6	7	1	2	6
Shell	30	22	50	34	9	19	
Sun				2		1	1
Texaco			1				
Total-Leonard			1			1	
Union Oil			1				
Totals	41	29	71	50	12	26	13
Independents	13	10	100	30	10	36	41
Grand Totals	54	39	171	80	22	62	54

*Includes GS-OBS, LPG, WI, BDW wells.

Total: Exploratory Wells 264; Development Wells 164; Service Wells 54.

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 53%.
Development Wells drilled by Independents 47%.

Producing Development Wells drilled by Majors 60%.
Producing Development Wells drilled by Independents 40%.

Discovery to Exploratory Dry Hole ratio - Majors 1:1;
Independents 1:4.4.

*** DRILLED FOOTAGE ***

The average depth, statewide, of exploratory wells drilled in 1974 was 5,166 feet compared with 5,278 feet in 1973 and 5,050 feet in 1972. Development well depths averaged 5,053 feet as compared with 5,262 feet in 1973 and 4,580 feet in 1972. Service wells drilled in 1974 averaged 2,808 feet in depth as compared with 1,768 feet in 1973. The greater depth is mainly attributed to facility wells drilled in deeper-depth Niagaran reef reservoirs. Drilled footage figures and average well depths for specific counties are shown in Table 1.

Total drilled footage figures from Survey records for 1974 and several prior years are as follows:

Well Class	1971	1972	1973	1974
	Exploratory	704,192	913,797	1,013,470
Development	454,016	554,968	573,522	829,709
Service Well				
(All types)	180,418	110,177	132,577	151,661
Total:	1,439,578	1,605,860	1,719,569	2,355,655

Drilled footage figures are provided the American Petroleum Institute and these are published as part of their quarterly and annual summary. Drilled footage figures, extracted from the aforementioned 1974 API Annual Summary, are as follows:

Exploratory Wells	Development Wells		
	Oil	Gas	Dry
272,933	192,189	826,993	333,017
			92,117
			299,685
Total Exploratory			Total Development
Footage: 1,292,115 feet			Footage: 724,819 feet

The differences in total drilled footage figures as reported by API and by the Geological Survey are due to factors previously mentioned. API footage figures are correct on the basis of reporting-year criteria.

*** 1974 OIL AND GAS PRODUCTION ***

Oil and gas production figures are derived from Michigan Department of Treasury tax records and records kept by the Production-Proration Unit, Oil and Gas Section, Geological Survey Division, DNR. Treasury Department records mainly are concerned with gross production figures needed to calculate revenues. These data are supported by records and reports required of producing companies and purchasers. Delays in reporting and methods of reporting used by producing companies and purchasers in handling crude oil and stable condensate from gas wells results in a continuous correction and refinement of production figures. Consequently all monthly, year-end, or other production figures are subject to minor corrections as warranted. Production figures as published herein for 1974 are considered correct to within ± 1 percent.

Oil production, including stable condensate, amounted to 18,101,812 barrels as compared with a corrected year-end figure of 14,495,685 barrels produced in 1973. Gas production amounted to 69,806,374 Mcf as compared with a corrected year-end figure of 44,153,631 Mcf produced in 1973. Again, the increase in oil and gas production is directly related to the new Salina-Niagaran reef reservoir found since 1969 in the northern and southern parts of the Lower Peninsula. As of mid-1975, many oil and gas wells completed in the northern reef belt during the latter half of 1974 and the first half of 1975 were shut-in awaiting gathering facilities, or were shut-in under the no-flare order until market connections are made for the sale of oil-well gas. Most of these wells should be on line by the end of 1975. Production is expected to increase substantially during 1975.

District	Barrels Oil	MCF Gas
Basin	5,441,749	7,086,213
Northern	8,297,920	43,269,053
Southeastern	2,817,464	13,539,033
Southwestern	1,230,132	4,716,358
Western	314,547	1,195,717
Totals	18,101,812	69,806,374

	Barrels Oil	MCF Gas
January	1,338,594	4,110,683
February	1,119,459	3,882,838
March	1,354,585	4,462,952
April	1,367,625	4,292,464
May	1,571,624	5,567,700
June	1,530,669	6,212,945
July	1,545,787	6,566,296
August	1,626,054	6,535,511
September	1,603,733	6,650,841
October	1,701,664	7,350,197
November	1,619,904	7,431,705
December	1,642,665	6,742,242
Totals	18,101,812	69,806,374

County	Barrels Oil	MCF Gas
Allegan	85,877	189,828
Antrim	36,454	130,722
Arenac	179,534	---
Barry	10,351	---
Bay	197,976	---
Calhoun	1,000,098	4,434,697
Clare	322,305	102,012
Crawford	647,113	266,367
Eaton	79,553	467,075
Genesee	37,079	---
Gladwin	254,909	---
Grand Traverse	738,530	10,716,229
Gratiot	704	2,669
Hillsdale	1,441,141	4,615,596
Huron	111	---
Ingham	2,017,295	5,238,536
Isabella	126,319	---
Jackson	524,390	2,389,768
Kalkaska	2,834,757	25,105,565
Kent	68,203	7,446
Lake	88,380	---
Lapeer	70,566	30,045
Livingston	---	487,938
Macomb	2,759	787,418
Manistee	13,076	---
Mason	152,340	1,191,154
Mecosta	40,921	18,235
Midland	159,969	---
Missaukee	701,702	660,347
Monroe	5,516	---
Montcalm	88,266	---
Muskegon	9,792	---
Newaygo	11,400	---
Oakland	---	968,603
Oceana	34,531	---
Ogemaw	464,486	263,665
Osceola	362,663	---
Oscoda	879	---
Otsego	4,038,542	7,050,170
Ottawa	58,115	84,387
Presque Isle	469	---
Roscommon	338,428	333,674
Saginaw	16,597	---
Shiawassee	5,564	---
St. Clair	764,373	4,259,665
Tuscola	47,479	---
Van Buren	7,488	---
Washtenaw	1,280	---
Wayne	7,328	---
Wexford	5,028	4,563
Totals	18,101,812	69,806,374

Oil and gas production figures for individual fields and pools and cumulative production from these fields during 1974 are found in Part 2, Tables 2 and 3. Table 2 lists all the Salina-Niagaran reef fields and pools assigned to the northern reef belt. Table 3 lists all other fields and pools including Salina-Niagaran found in the southern part of the basin. Annual and cumulative production figures by year and by geologic formation are found in Part 3 of this and preceding annual summaries.

Oil and gas production continued to increase statewide mainly due to 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. The spread of these reef fields across northern Southern Peninsula Counties is shown on the map accompanying Table 2.

A no-flare order, enacted as a conservation measure, tends to temporarily curtail production from Salina-Niagaran oil wells in specified areas of the State. Special Order No. 3-71, amended, in effect since late 1971 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 gas or an exception to the order is granted.

Another order, Special Order No. 1-73, deals with spacing and proration of Salina-Niagaran oil wells in specific counties. This order established basic 80-acre drilling units for Salina-Niagaran oil and/or gas wells and statewide proration from Salina-Niagaran oil reservoirs in these specified counties. The counties 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. Both orders may be rescinded or revised as warranted. These prudent and justifiable conservation measures effectively prevent waste of millions of cubic feet of valuable and much needed gas, and should ultimately result in more efficient drainage of reef reservoirs and a greater recovery of the liquid hydrocarbons.

*** NATURAL GAS LIQUIDS ***

The amount of liquids produced from gas-condensate reservoirs associated with northern and western Michigan reef traps continues to increase. These liquids, 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. 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 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
Total	1,765,921

Gas plant operations are summarized in Table 7. It should be noted that the LPG recovery figures for the Amoco and Shell plants in Kalkaska County include stabilized condensate as well as LPG's.

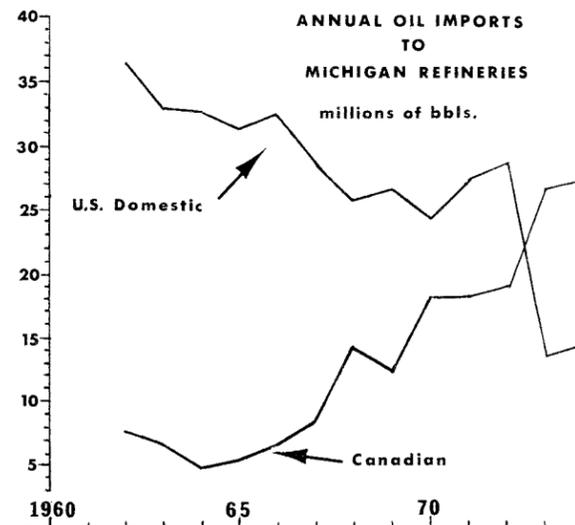
*** OIL AND GAS VALUATION ***

The average price paid at the wellhead for Michigan produced crude, including condensate, was \$8.56 per barrel compared with \$4.07 per barrel in 1973. The gross value of these products amounted to \$154,746,373 as compared with \$59,412,710 in 1973.

The average price of Michigan produced gas sold at the wellhead was \$.50 per Mcf as compared with \$.39 per Mcf in 1973. The gross value of this product in 1974 amounted to \$35,181,955 as compared with \$17,494,727 in 1973.

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

Total imports of domestic and Canadian crude oil amounted to 42,099,556 barrels, an increase over the 39,775,383 barrels imported in 1973. Imports by month during 1974 are tabulated below. The trend of imports to Michigan refineries from 1962 through 1974 is shown graphically.



Imports of U.S. domestic crude oil to Michigan refineries via pipeline from western and midwestern states increased during 1974. Imports of domestic crude amounted to 14,781,592 barrels compared with 13,949,230 barrels in 1973.

Imports of Canadian crude via pipeline from western Canada oil fields continued to increase. Canadian imports to Michigan refineries amounted to 27,317,964 barrels in 1974 as compared with 26,826,153 barrels in 1973.

1974 CRUDE OIL IMPORTS (Bbls.)			
	Domestic	Canadian	Total
January	1,075,459	2,348,620	3,424,079
February	1,151,848	2,252,997	3,404,845
March	1,419,768	2,166,032	3,585,800
April	1,299,556	2,474,662	3,774,218
May	1,195,570	2,591,178	3,786,748
June	1,263,974	1,804,662	3,068,636
July	1,161,638	2,473,928	3,635,566
August	1,520,215	2,359,688	3,879,903
September	1,409,841	2,601,009	4,010,850
October	1,297,058	1,802,970	3,100,028
November	765,987	2,404,202	3,170,189
December	1,220,678	2,038,016	3,258,694
Totals	14,781,592	27,317,964	42,099,556

The bulk of Michigan produced crude oil goes to Michigan refineries but some is exported. 1974 exports amounted to a little over 15% of the state's total production. The amount of Michigan produced crude credited to terminals in Indiana, Ohio, Pennsylvania and New York was 2,766,486 barrels as compared with 2,661,533 barrels in 1973. All Mobil Oil Corporation crude produced from reef reservoirs in southern Michigan is credited to export. Shell Oil crude from northern Michigan reef reservoirs goes to Michigan refineries and some is credited to a terminal in Buffalo, New York. Records kept by the Production-Proration Unit show the following exports, by month, of Michigan produced crude:

1974 CRUDE OIL EXPORTS (Bbls.)

January	234,432
February	191,423
March	210,459
April	228,754
May	167,342
June	209,745
July	179,666
August	173,871
September	179,034
October	182,363
November	316,701
December	492,696
Total	2,766,486

Gas imports to Michigan markets and gas storage fields in 1974 via pipelines, primarily from Texas, Louisiana, Oklahoma and Kansas fields, amounted to 851,903,391 Mcf, a decrease from the 907,122,475 Mcf imported in 1973. Compilations by the Gas Section, Michigan Public Service Commission, show the following imports, by months, during 1974:

1974 PIPELINE GAS IMPORTS (Mcf)	
January	49,814,985
February	50,373,651
March	68,405,353
April	74,516,384
May	84,976,087
June	88,768,158
July	90,212,500
August	76,467,735
September	86,273,793
October	75,954,739
November	55,108,151
December	51,031,855
Total	851,903,391

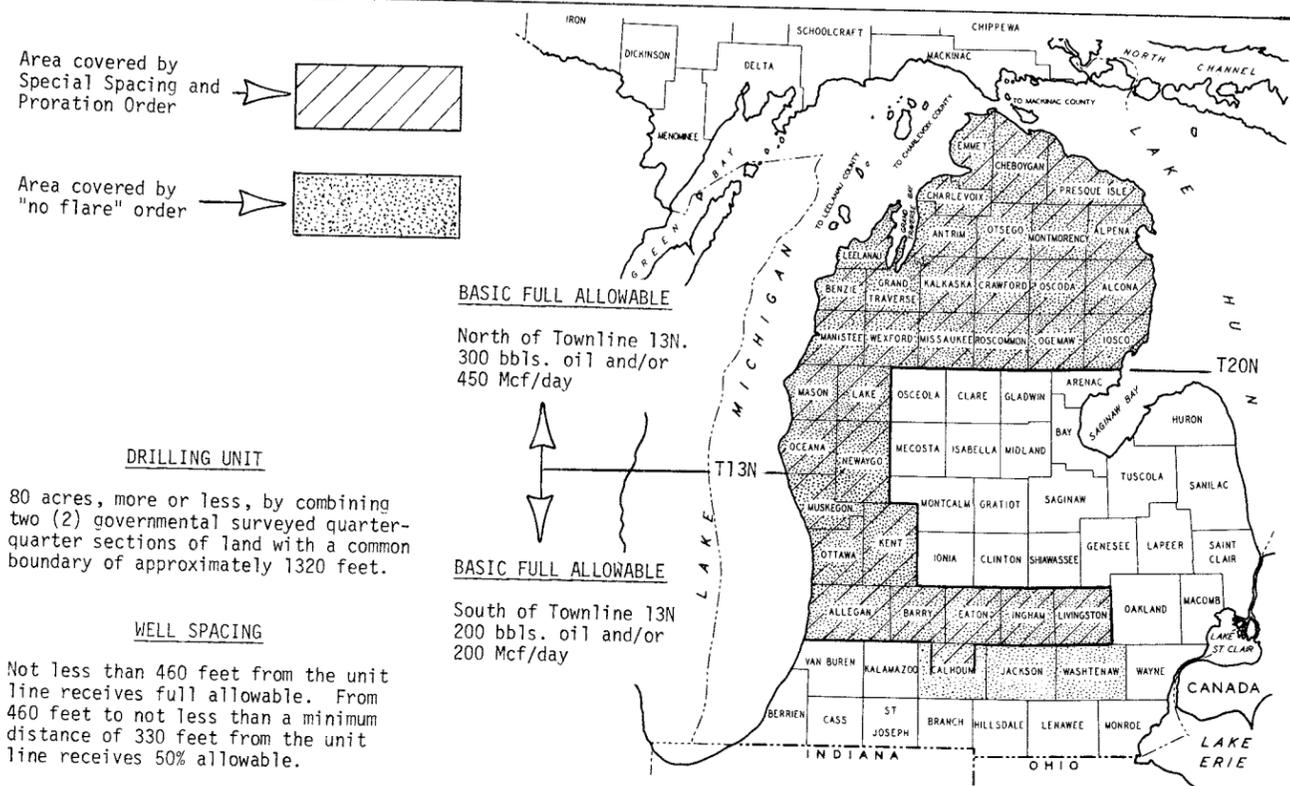
*** NEW FIELD AND POOL DISCOVERIES ***

Silurian reefs were again the main type of oil-and-gas trap found in 1974. Most were found in the northern reef trend extending from the Western District through part of the Northern District. Others were found in the southern part of the basin in the Calhoun, Eaton and Ingham County area, and in Macomb County in the Southeastern District. Of the 93 exploratory wells initially classified as 1974 discoveries, 91 were Niagaran age reef reservoirs. Statewide, 35% of the exploratory wells considered as 1974 completions resulted in new discoveries as compared with 39% in 1973, 32% in 1972, 24% in 1971, 10% in 1970, and 6% in 1969 when the Niagaran reef play began in northern Lower Michigan. Again, all new Niagaran reefs were located by seismic surveys.

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

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

An analysis of 1974 discovery wells according to geologic system and an analysis of drilling objectives penetrated at total depth by wells completed in 1974 follows. The high percentage of wells drilled only to Niagaran rocks, as shown by the latter analysis, reflects the high interest in reef exploration in the northern counties of the Lower Peninsula and in the potential reef belt around the southern edge of the basin. Potentially productive formations above the Niagaran were presumably tested but few shows were reported.



ANALYSIS OF 1974 DISCOVERY WELLS BY GEOLOGIC SYSTEM

System	Formation or Pay	Number of Discoveries		
		1972	1973	1974
Pennsylvanian	"Michigan Stray Ss."	-	-	-
Mississippian	"Berea Sandstone"	-	-	-
Devonian	Antrim Shale (Gas)	-	-	-
	"Traverse Lime"	1	-	-
	Dundee	1	-	1
	"Reed City"	-	-	-
Silurian	Detroit River "Sour Zone"	1	-	-
	Richfield	-	-	-
	Salina A-1 or A-2	2	6	-
Ordovician	Niagara reef*	53	69	91
	Trenton-Black River	-	1	1
Cambrian	Prairie du Chien	-	-	-
	(Gas shows reported in past years)	-	-	-

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

DRILLING OBJECTIVES IN MICHIGAN

System	Formation or Pay	Percentage		
		1972	1973	1974
Pennsylvanian	"Michigan Stray Ss."	15.0	11.1	3.9
Mississippian	"Berea Sandstone"	-	-	-
Devonian	Antrim Shale (Gas)	-	-	-
	"Traverse Lime"	3.2	1.6	.9
	Dundee	4.6	3.2	3.9
	"Reed City"	1.9	1.9	1.2
Silurian	Detroit River	-	-	-
	"Sour Zone" & Richfield	4.3	1.4	4.1
Ordovician	Salina-Niagara	61.9	74.1	81.0
	Trenton-Black River	3.2	3.0	3.2
Cambrian or Precambrian	St. Peter Ss. or Prairie du Chien	4.8	3.0	1.0
	Undifferentiated	1.1	.8	.8

Michigan wells are initially classified as near as possible according to the guidelines established by AAPG and API (AAPG Bulletin, Vol. 58/8, August 1974, pp. 1501-1503). Classifications are made after inspection of appropriate oil and gas maps and noting the location of the test in reference to established fields, dry holes, etc. The Lahee classification system 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 increasingly difficult to classify with certainty all new well locations as exploratory or development. 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. 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 be later reclassified as an oil well. Discovery wells credited to 1974 are shown on the forthcoming list. The listing includes a few reclassifications made necessary for reasons previously mentioned.

*** STATE OIL AND GAS REVENUE ***

Public lands located in the Southern Peninsula and under lease for oil and gas amounted to 1,577,095 acres as of August 31, 1975. Most of the acreage is in northern counties now being heavily explored for Salina-Niagara reef reservoirs.

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

1962. From 1962 the amount of acres under lease for oil and gas decreased to about 290,000 in 1966. From 1966, when interest was renewed in deeper exploration around the northern edge of the basin, leasing again increased to its present high level of more than one and one-half million acres.

At a State oil and gas lease sale held August 18-19, 1975, a total of 170,165.04 acres were offered but only 58,385.55 acres were leased. The average bid per acre was \$8.75. The highest bid per acre was \$920.00. In contrast, the June, 1974 sale offered 348,405 acres of which 217,506 were actually leased. The total bid in the sale amounted to \$7,131,540.00 and the average bid per acre amounted to \$32.79. The highest bid in the June, 1974 sale was \$16,250.00. This high bid established a record bid of \$1,300,000 for an 80-acre parcel in Grand Traverse County.

Total State revenues from royalty, rentals, bonus, and application-assignment fees from 1927 through 1974 amounts to \$61,116,768.74. Revenue figures according to year and source are shown on page 60, Part 3.

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

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

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



1974 DISCOVERY WELLS

County Location	Field Name	Operator and Lease	Permit Number	Depth to Pay	Total Depth	Initial Production		Producing Formation	Basis for Loc.	AAPG Pool Class
						n=(N)IP BOPD	t=(T)IP MCFGPD			
NEW FIELDS										
Antrim	Mancelona	Amoco Production Co.	29718	6538	6810	F30		Niagara	Seis.	E
33-29N-5W	St-Mancelona "B" #1-33					+200 Mcft				
Antrim	Mancelona	Amoco Production Co.	29668	6580	6780		89 Cond. +3 MMcf	Niagara	Seis.	E
34-29N-5W	St-Mancelona "C" #1-34									
Calhoun	Lee	Mobil Oil Corp.	30055	3118	3841		SIGW	Salina-Niagara	Seis.	E
8-1S-5W	8-1S-5W	Niver Unit #1								
Calhoun	Lee	MGU-Mask-Markel-Wood	29749	3198	3631	F396 ^t		Niagara	Seis.	E
14-1S-5W	14-1S-5W	L. Koyl #3-14								
Calhoun	Lee	MGU-Mask-Markel-Wood	29555	3108	3605		5000 ^t	Niagara	Seis.	E
15-1S-5W	15-1S-5W	L. Koyl #4-15								
Calhoun	Pennfield	Mobil Oil Corp.	29594	2840	3320	F425 ^t		Salina-Niagara	Seis.	E
35-1S-7W	35-1S-7W	Marion Reid #1								
Crawford	Frederic	Shell Oil Co.	29605	6923	7260	F672		Niagara	Seis.	E
4-28N-4W	4-28N-4W	Kerr et al #1-4				+649 Mcft				
Crawford	Frederic	Amoco Production Co.	29854	6740	7164	F285		Niagara	Seis.	E
8-28N-4W	8-28N-4W	St-Frederic "B" #1-8				+320 Mcft				
Eaton	Eaton Rapids	Consumers Power Co.	29925	3940	4070	F120/19 Hrs.	^t	Niagara	Seis.	E
20-2N-3W	20-2N-3W	Zentmyer-Cupp #1								
Eaton	Eaton Rapids	Consumers Power Co.	29535	3858	4056	F150 ^t		Salina	Seis.	E
28-2N-3W	28-2N-3W	Max E. Wilson et al #1						A-1 Carb. Niagara	Seis.	E
Eaton	Hamlin	Consumers Power Co.	29613	3657	3805	F10 BOPH ^t		Niagara	Seis.	E
10-1N-3W	10-1N-3W	W. V. Clegg et al #1								
Eaton	Hamlin	Consumers Power Co.	29331	3640	3808		3.5 MMcf ^t	Niagara	Seis.	E
23-1N-3W	23-1N-3W	W. C. Swank #1								
Grand Traverse	Blair	Shell Oil Co.	29638	5863	6120	F759		Niagara	Seis.	E
25-26N-11W	25-26N-11W	Percha-St-Blair #1-25				+1293 Mcft				
Grand Traverse	Grant	Getty Oil Co.	29728	5353	5680	F181		Niagara	Seis.	E
3-25N-12W	3-25N-12W	Brink et al #1-3				+868 Mcft				
Grand Traverse	Grant	Northern Mich. Explor.	29768	5943	6172		20 Cond./MMcf +112,000 ^t	Niagara	Seis.	E (1)
13-25N-12W	13-25N-12W	Frank Imhoff #1								
Grand Traverse	Grant	Shell Oil Co.	29818	5704	6192		12 Cond./MMcf +3950 ^t	Salina-Niagara	Seis.	E (1)
23-25N-12W	23-25N-12W	Komrska-Svec #1-23								
Grand Traverse	Mayfield	Shell Oil Co.	29988	6319	6447	F510		Niagara	Seis.	E
1-25N-11W	1-25N-11W	Hency-Bancroft #3-1				+411 Mcft				
Grand Traverse	Mayfield	Shell Oil Co.	29887*	6283	6442	F624		Niagara	Seis.	E
10-25N-11W	10-25N-11W	Stinebach #2-10				+720 Mcft				
Grand Traverse	Mayfield	Shell Oil Co.	29961	6171	6677		142 Cond./5 Hrs. +3513 ^t	Salina-Niagara	Seis.	E
12-25N-11W	12-25N-11W	Rawlings #1-12								
Grand Traverse	Mayfield	Shell Oil Co.	29495	5855	6504	F960		Salina-Niagara	Seis.	E
17-25N-11W	17-25N-11W	Fox #1-17				+712 Mcft				
Grand Traverse	Mayfield	Shell Oil Co.	30052*	6241	6365	F895		Niagara	Seis.	E
20-25N-11W	20-25N-11W	Hanson #1-20A				+834 Mcft				
Grand Traverse	Mayfield	Shell Oil Co.	29682	6112	6608		92.9 Cond./MMcf +6806 ^t	Niagara	Seis.	E
21-25N-11W	21-25N-11W	Norine E. Weber #1-21								
Grand Traverse	Mayfield	Shell Oil & Amoco	29663	6323	6756		48.3 Cond./MMcf +5343 ^t	Niagara	Seis.	E
26-25N-11W	26-25N-11W	St-Mayfield et al #1-26								
Grand Traverse	Paradise	Shell Oil Co.	29619	6310	6570		41.65 Cond./MMcf +2641 ^t	Niagara	Seis.	E
23-26N-10W	23-26N-10W	St-Paradise #1-23								
Grand Traverse	Paradise	Shell Oil Co.	29742	6257	6534		58 Cond./MMcf +2614 ^t	Salina-Niagara	Seis.	E
31-26N-10W	31-26N-10W	McTaggart #1-31								
Grand Traverse	Paradise	Shell Oil Co.	29741	6087	6582		168 Cond./10 Hrs. +3000 ^t	Niagara	Seis.	E
32-26N-10W	32-26N-10W	Dowd-St-Paradise #1-32								
Grand Traverse	Union	A. G. Hill	29536*	6514	6744		68 Cond. +1850 ^t	Niagara	Seis.	E
2-26N-9W	2-26N-9W	Martuch #1-2								
Grand Traverse	Union	Shell Oil Co.	29946	5936	6475		32.9 Cond./MMcf +4133 ^t	Salina-Niagara	Seis.	E
6-26N-9W	6-26N-9W	St-Union-Pike #1-6								
Grand Traverse	Kalkaska	NMEC & Amoco Prod. Co.	29474*	6496	6692		200 Cond. +3.5 MMcf ^t	Niagara	Seis.	E
36-27N-9W	30-27N-8W	USA-St-Kalkaska #1-30								
Ingham	Stockbridge	Cabot Corporation	29748	3906	4445	P20 ^t		Salina	Seis.	E
7-1N-2E	7-1N-2E	Fritz et al #1-7						A-1 Carb. Dundee	Seis.	E
Isabella	Lincoln, Sec. 27	McClure Oil Co.	29935	3580	3711	P10.5 ^t		Niagara	Seis.	E
27-13N-14W	27-13N-14W	Recker et al #1-27								
Kalkaska	Blue Lake	Amoco Production Co.	29616	6920	7115	F238		Niagara	Seis.	E
19-28N-5W	19-28N-5W	Ricci et al Unit #1-19				+200 Mcft				
Kalkaska	Blue Lake	Amoco Production Co.	29603	6950	7320		16 Cond. +1690 ^t	Niagara	Seis.	E
29-28N-5W	29-28N-5W	Simpson Unit #1-29								
Kalkaska	Cold Springs	Michigan Oil Co.	29957	6364	6675		Small Oil Well	Salina-Niagara	Seis.	E
18-28N-6W	18-28N-6W	Southwell et al #1-18								
Kalkaska	Cold Springs	Amoco Production Co.	29888	6970	7218	F300		Niagara	Seis.	E
23-28N-6W	23-28N-6W	St-Cold Springs #1-23				+330 Mcft				
Kalkaska	Cold Springs	Amoco Production Co.	29618	6760	7212		60 Cond. +1500 ^t	Salina-Niagara	Seis.	E
24-28N-6W	24-28N-6W	Fawcett #1-24								
Kalkaska	Cold Springs	Shell Oil Co.	29693	6719	6858	F1008		Niagara	Seis.	E
30-28N-6W	30-28N-6W	St-Cold Springs #2-30				+1516 Mcft				
Kalkaska	Kalkaska	Amoco Production Co.	30019*	6693	6784		SIGW	Niagara	Seis.	E
1-27N-7W	1-27N-7W	Shemo et al Unit #1-1								
Kalkaska	Kalkaska	Amoco Production Co.	29841	6626	7003	F300		Niagara	Seis.	E
19-27N-7W	19-27N-7W	St-Kalkaska Unit #2-19				+340 Mcft				
Kalkaska	Kalkaska	Shell Oil Co.	30012*	6726	7317	F446		Salina-Niagara	Seis.	E
24-27N-7W	24-27N-7W	Rosenberg #1-24				+667 Mcft				
Kalkaska	Kalkaska	NMEC & Amoco Prod. Co.	29794	6551	6790		40.9 Cond./MMcf +26,700 ^t Abs. Open Flow	Niagara	Seis.	E
14-27N-8W	14-27N-8W	St-Kalkaska-USA #1-14								
Macomb	Bruce	Petrotech & B B Corden	29994	3696	4029		SIGW	Niagara	Seis.	E
30-5N-12E	30-5N-12E	Jones Unit #1-30								
Macomb	Romeo, Sec. 10	Mich. Consol. Gas Co.	29687	3304	3635		SIGW	Salina-Niagara	Seis.	E
10-4N-12E	10-4N-12E	H. S. Couch Est. #1								
Manistee	Bear Lake	Shell Oil Co.	29701	4646	4874		19.6 Cond./MMcf +19,600 ^t	Niagara	Seis.	E
2-23N-15W	2-23N-15W	Anderson #1-2								

Manistee 10-23N-15W	Bear Lake 10-23N-15W	Shell Oil Co. Darbee-Brannan #1-10	29734	4446	4758		2.2 Cond./MMcf +5432 ^t	Salina-Niagaran	Seis. E
Manistee 11-23N-15W	Bear Lake 11-23N-15W	Shell Oil Co. Osborn et al #1-11	29743	4688	4922	F360 +396 Mcft		Niagaran	Seis. E
Manistee 13-23N-15W	Bear Lake 13-23N-15W	Shell Oil Co. Churchill #1-13	29744	4591	4875	F944 +907 Mcft		Niagaran	Seis. E
Manistee 22-23N-15W	Bear Lake 22-23N-15W	Amoco Production Co. Pack Corp of Amer #1-22	29910*	4541	4802	F300 +260 Mcft		Niagaran	Seis. E
Manistee 24-23N-15W	Bear Lake 24-23N-15W	Shell Oil Co. Rudy et al #1-24	29906*	4808	5070		8 Cond. +3798 ^t	Niagaran	Seis. E
Manistee 26-23N-15W	Bear Lake 26-23N-15W	Shell Oil Co. Lutz-Bowling #1-26	30028	4828	4933	F576 +500 Mcft		Niagaran	Seis. E
Manistee 31-23N-15W	Bear Lake 31-23N-15W	Shell Oil Co. McLeod-Erickson #1-31	29681	4168	4580	F860 +632 Mcft		Niagaran	Seis. E
Manistee 32-23N-15W	Bear Lake 32-23N-15W	Shell Oil Co. Bradford-Gauthier #1-32	29895	4592	4860	F617 +614 Mcft		Niagaran	Seis. E
Manistee 33-23N-15W	Bear Lake 33-23N-15W	Shell Oil Co. Sedelmaier et al #1-33	29537	4621	4806	F864 +638 Mcft		Niagaran	Seis. E
Manistee 4-22N-15W	Brown 4-22N-15W	Shell Oil Co. Viol et al #1-4	29563	4397	4907		22.5 Cond./MMcf +5148 ^t	Niagaran	Seis. E
Manistee 6-22N-15W	Brown 6-22N-15W	Shell Oil Co. Maue-Lindeman #2-6	29564	4207	4809		33.8 Cond./MMcf +5678 ^t	Salina-Niagaran	Seis. E
Manistee 7-22N-15W	Brown 7-22N-15W	Shell Oil Co. Booher #1-7	29596	4378	4780		10.4 Cond./MMcf +5765 ^t	Niagaran	Seis. E
Manistee 8-22N-15W	Brown 8-22N-15W	Shell Oil Co. McCarthy et al #1-8	29851	4692	4888		20 Cond./MMcf +4884 ^t	Niagaran	Seis. E
Manistee 12-24N-13W	Cleon 12-24N-13W	Shell Oil Co. Hoekwater et al #1-12	29808	5851	6119	F327 +285 Mcft		Niagaran	Seis. E
Manistee 14-24N-13W	Cleon 14-24N-13W	Shell Oil Co. Mlcek-Isaacson #1-14	29471	5655	5928	F942 +745 Mcft		Niagaran	Seis. E
Manistee 15-24N-13W	Cleon 15-24N-13W	Reef Pet. Corp & NMEC Osborne #1-15	29931	5464	5770		Est. 6-8 MMcf	Niagaran	Seis. E
Manistee 20-24N-13W	Cleon 20-24N-13W	NMEC Miller & Mich. Oil Skulina-St-Cleon #1	29984	5145	5534		SIGW	Niagaran	Seis. E
Manistee 12-22N-16W	Manistee 12-22N-16W	Shell Oil Co. Hopwood #1-12	30065	4701	4844	F362 +335 Mcft		Niagaran	Seis. E
Manistee 15-22N-16W	Manistee 15-22N-16W	Shell Oil Co. Schoedel #1-15	29850	4467	4725	F433 +360 Mcft		Niagaran	Seis. E
Manistee 23-22N-16W	Manistee 23-22N-16W	Shell Oil Co. Reid et al #1-23	29861	4220	4680		68 Cond. +6682/5 Hrs. ^t	Niagaran	Seis. E
Manistee 24-22N-16W	Manistee 24-22N-16W	Shell Oil Co. St-Manistee et al #1-24	29980	4171	4722		7.2 Cond. +5952 ^t	Niagaran	Seis. E
Manistee 27-22N-16W	Manistee 27-22N-16W	Shell Oil Co. St-Manistee #1-27	29985	4288	4600		3.4 Cond./MMcf +3544 ^t	Niagaran	Seis. E
Manistee 1-23N-14W	Maple Grove 1-23N-14W	Shell Oil Co. St-Maple Grove #1-1	29685	5473	5610	F518 +518 Mcft		Niagaran	Seis. E
Manistee 7-23N-14W	Maple Grove 7-23N-14W	Shell Oil Co. & NMEC Myers #1-7	29694*	4510	4829	F692 ^t		Niagaran	Seis. E
Manistee 8-23N-14W	Maple Grove 8-23N-14W	Shell Oil Co. Ledford et al #1-8	29878	4905	5082	F797 +1032 Mcft		Niagaran	Seis. E
Manistee 17-23N-14W	Maple Grove 17-23N-14W	Shell Oil Co. Darrow-Zaschak #1-17	29562	4637	5225		41 Cond./MMcf +10,100 ^t	Niagaran	Seis. E
Manistee 36-24N-15W	Pleasanton 36-24N-15W	Traverse Corp. D. L. Adair #1-36	29901	4474	4620	F210/11 Hrs. ^t		Niagaran	Seis. E
Manistee 26-24N-14W	Springdale 26-24N-14W	Miller-NMEC-Tribal St-Springdale #1-26	30016	5094	5195	F360 +500 Mcft		Niagaran	Seis. E
Manistee 32-24N-14W	Springdale 32-24N-14W	Amoco Production Co. St-Springdale "A" #1-32	29719	4634	5050	F174 ^t		Niagaran	Seis. E
Manistee 34-24N-14W	Springdale 34-24N-14W	Shell Oil Co. Prior et al #1-34	29712	4764	5315		1.7 Cond./MMcf +2815 ^t	Salina-Niagaran	Seis. E
Mason 5-19N-17W	Victory 5-19N-17W	Shell Oil Co. Thompson et al #1-5	29606	4199	4779		11.5 Cond./MMcf +3249 ^t	Niagaran	Seis. E
Otsego 35-30N-3W	Bagley 35-30N-3W	Amoco Production Co. Geraldine #1-35	29738	6110	6365	F320 +200 Mcft		Niagaran	Seis. E
Otsego 10-30N-1W	Charlton 10-30N-1W	Shell Oil Co. Pontisso #2-20	29527	6093	6265	F727 +1035 Mcft		Niagaran	Seis. E
Otsego 7-31N-1W	Charlton 7-31N-1W	Shell Oil Co. El Mac Hillis Res. #1-7	29746*	4897	5184	F477 +499 Mcft		Niagaran	Seis. E
Otsego 21-31N-1W	Charlton 21-31N-1W	Shell Oil Co. Tinsey #2-28	29549-A*	4923	5421		15.4 Cond./MMcf +6585 ^t	Salina-Niagaran	Seis. E
Otsego 34-31N-1W	Charlton 34-31N-1W	Wolverine Gas & Oil Co. Marstrand #1-34	29792	5492	5830	F1823 ^t		Niagaran	Seis. E
Otsego 12-31N-2W	Dover 12-31N-2W	Shell Oil Co. Axford et al #1-12	29780	4932	5044	F504 +3228 Mcft		Salina-Niagaran	Seis. E
Otsego 33-31N-2W	Dover 33-31N-2W	Shell Oil Co. Lawnichak-Myskier #1-33	29565	5413	5678	F690 +372 Mcft		Niagaran	Seis. E
Otsego 34-29N-4W	Wexford 34-29N-4W	Hayes St-Hayes Mon Sug #1-34	29609	6836	6926	F546 +367 Mcft		Niagaran	Seis. E
Wexford 5-24N-12W	Wexford 5-24N-12W	Traverse Corp. N. J. Nehez #2-5	29786	5820	6119	F200 +200 Mcft		Niagaran	Seis. E

EXTENSION DISCOVERIES

Calhoun 21-4S-6W	Tekonsha	Fortuna Oil Co. Tobalski #1	29975	3414	3975		Good Show of Oil	Trenton	Sub. E
Ingham 29-2N-2E	White Oak 32-2N-2E	Mobil Oil Corp. Beam #1	29554	4066	4583	P61 +113 Mcft		Salina-Niagaran	Seis. E
Grand Traverse 28-26N-11W	Blair 33-26N-11W	Shell Oil Co. Burroughs et al #1-28	29600	5782	5862	F466 +440 Mcft		Niagaran	Seis. E
Grand Traverse 11-26N-9W	Union 3-26N-11W	Reef & Ram Pet. Corp. Bodmann #1-11	29804*	6634	6712		SIGW Est. 6000 ^h	Niagaran	Seis. E

NEW POOL DISCOVERIES

Calhoun 10-1S-5W	Lee 10-1S-5W Pool A	Wagner Drig. Co. G & D Persons #2-10	29642	3327	3455	F50 BOPH		Niagaran	Seis. E
Grand Traverse 25-26N-11W	Blair 25-26N-11W Pool A	Shell Oil Co. St-Blair #2-25	29684	6225	6423	F570 +576 Mcft		Niagaran	Seis. E
Grand Traverse 16-25N-11W	Mayfield 16-25N-11W Pool A	Shell Oil Co. Kochevar-Dracka #3-16B	29577*	6228	6463	F924 +841 Mcft		Niagaran	Seis. E
Kalkaska 25-27N-8W	Kalkaska 25-27N-8W Pool A	Amoco Production Co. St-Kalkaska Unit #1-25	29817	6798	6980		164 Cond./67 Hrs. +1000 ^t	Niagaran	Seis. E
Manistee 6-23N-14W	Maple Grove 6-23N-14W Pool A	Shell Oil Co. Bond et al #2-6	29680	4518	4975	F715 +45 Mcft		Salina-Niagaran	Seis. E
Mason 19-19N-17W	Victory 19-19N-17W Pool A	Miller Bros. Diesing et al #2-19	29697	4358	4516		Est. 20,000 ^t	Niagaran	Seis. E
Wexford 9-24N-12W	Wexford 9-24N-12W Pool B	Shell Oil Co. Ball et al #2-9	29943*	6081	6324	F181 +199 Mcft		Niagaran	Seis. E

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

*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) Discovery well for the Grant 13-25N-12W gas pool. The Komrska-Svec #1-23 well was originally classified as an exploratory well. Upon completion as a gas well it was designated as the discovery well for the Grant 23-25N-12W gas pool. On the basis of subsequent geological and geophysical data, the Komrska-Svec #1-23 well has been reclassified as a Grant 13-25N-12W field well.

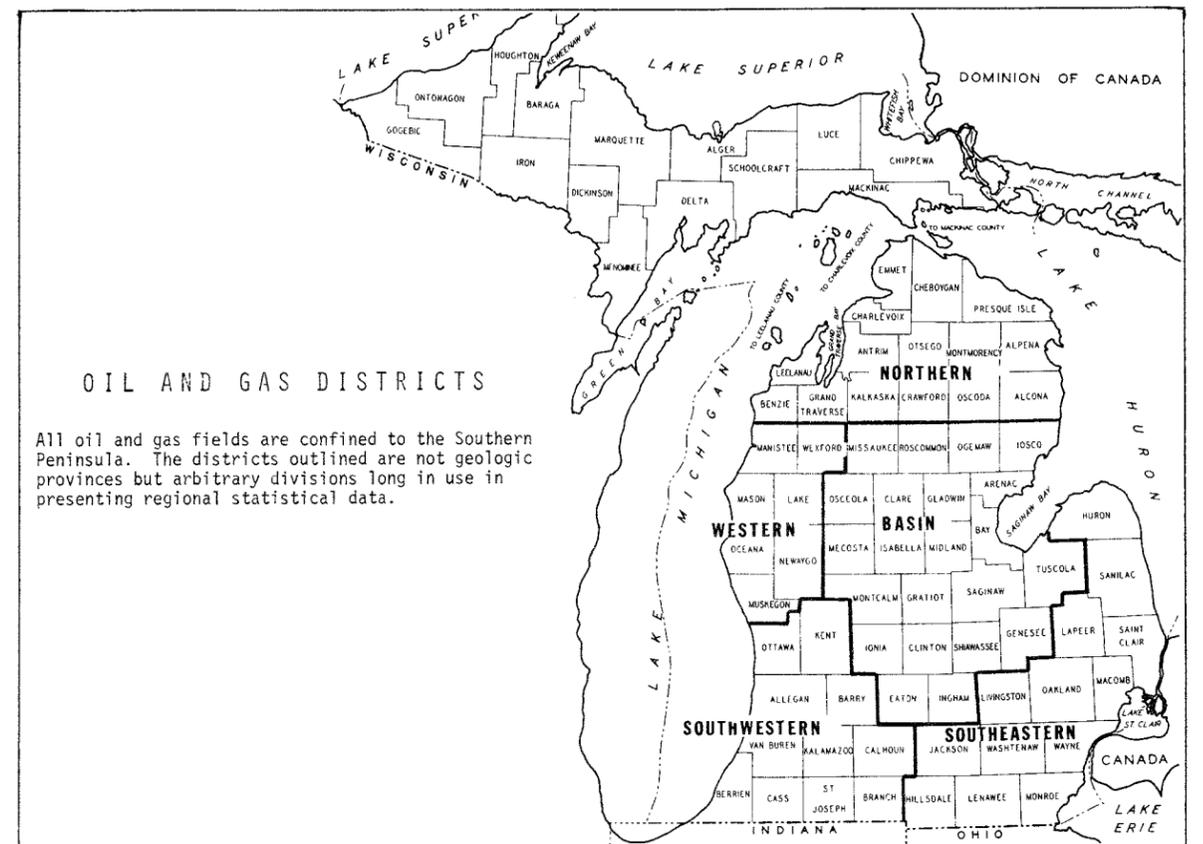


TABLE 1 DRILLING PERMITS, WELL COMPLETIONS, DRILLED FOOTAGE BY COUNTY, 1974

COUNTY	OIL/GAS PERMITS ISSUED	Classification of New Hole Completions											
		Does not include reworked wells or old wells drilled deeper											
		OIL AND GAS TESTS			RESULTS			SERVICE WELLS		TOTAL WELLS DRILLED	TOTAL DRILLED FOOTAGE		
Completed Explor.	Devel.	Oil Wells	Gas Wells	Dry Holes	Completed G.S.	B.D.W.	Explor.	Devel.	Fac.	Depth			
Allegan	2	2	0	0	0	2	0	0	2	5,705	0	0	2853
Alpena	0	1	0	0	0	1	0	0	1	5,971	0	0	5971
Antrim	5	3	0	1	1	1	0	0	3	20,140	0	0	6713
Benzie	4	2	0	0	0	2	0	0	2	8,967	0	0	4484
Branch	3	3	0	0	0	3	0	0	3	15,014	0	0	5004
Calhoun	34	11	19	9	9	12	0	0	30	39,251	69,562	0	3627
Cass	2	2	0	0	0	2	0	0	2	2,408	0	0	1204
Charlevoix	1	0	0	0	0	0	0	0	0	0	0	0	0
Cheboygan	1	0	0	0	0	0	0	0	0	0	0	0	0
Clare	3	2	0	0	0	2	1	0	3	8,048	0	1,535	4024
Crawford	6	2	5	3	0	4	0	0	7	14,320	36,125	0	7206
Eaton	14	9	7	6	3	7	0	0	16	33,252	27,641	0	3806
Gladwin	2	0	1	0	0	1	0	0	1	0	3,900	0	3900
Grand Traverse	81	51	23	18	17	39	0	0	74	321,018	141,139	0	6245
Gratiot	6	4	0	0	0	4	0	0	4	9,708	0	0	2427
Hillsdale	14	2	10	9	0	3	0	0	12	8,308	36,428	0	3729
Huron	1	1	0	0	0	1	0	0	1	5,500	0	0	5500
Ingham	27	9	19	13	1	14	6(1)	0	34	36,649	75,353	22,891	3967
Ionia	1	0	0	0	0	0	0	0	0	0	0	0	0
Isabella	5	5	0	1	0	4	0	0	5	18,970	0	0	3754
Jackson	1	2	0	0	0	2	0	0	2	8,086	0	0	4043
Kalamazoo	1	1	0	0	0	1	0	0	1	3,091	0	0	3091
Kalkaska	49	30	19	15	7	27	0	0	49	211,333	129,831	0	6963
Kent	1	0	0	0	0	0	2(2)	1	3	0	0	15,759	5253
Lake	2	0	0	0	0	0	2	0	2	0	0	7,712	3856
Lapeer	4	1	2	2	0	1	0	0	3	4,800	6,142	0	3647
Livingston	3	3	0	0	0	3	0	0	3	13,380	0	0	4460
Macomb	17	14	4	0	3	15	0	0	18	51,522	14,510	0	3668
Manistee	59	44	11	26	14	15	0	0	55	220,376	53,789	0	4985
Mason	12	3	7	3	3	4	0	0	10	14,025	29,049	0	4307
Mecosta	2	0	0	0	0	0	0	0	0	0	0	0	0
Missaukee	3	0	3	2	0	1	1	0	4	0	13,692	3,246	4235
Montcalm	15	2	1	0	0	3	10	0	13	6,754	3,455	7,767	3403
Montmorency	5	4	0	0	0	4	0	0	4	19,590	0	0	4898
Newaygo	0	0	0	0	0	0	3	0	3	0	0	2,880	956
Oakland	9	0	0	0	0	0	4	0	4	0	0	17,400	4350
Oceana	10	5	2	0	0	7	0	0	7	13,801	6,988	0	2700
Ogemaw	10	2	2	2	0	2	6(3)	0	10	5,898	5,326	16,038	2726
Osceola	6	1	2	1	0	2	1	0	4	1,345	10,152	3,981	3528
Otsego	57	31	26	21	2	34	0	0	57	188,176	159,207	0	6094
Ottawa	1	1	0	0	0	1	0	0	1	3,970	0	0	3970
Presque Isle	1	0	0	0	0	0	0	0	0	0	0	0	0
Roscommon	2	0	0	0	0	0	0	0	0	0	0	0	0
Saginaw	1	1	0	0	0	1	0	0	1	3,852	0	0	3852
St. Clair	12	5	0	0	0	5	17	0	22	12,695	0	52,452	2961
Tuscola	1	0	1	0	1	0	0	0	1	0	7,420	0	7420
Washtenaw	1	0	0	0	0	0	0	0	0	0	0	0	0
Wexford	6	7	0	2	0	5	0	0	7	43,362	0	0	6195
Totals	503	266	164	134	61	235	53	1	484	1,374,285	829,709	151,661	

(1) Includes 5 water-injection wells in secondary recovery projects and 1 salt water disposal well.

(2) Actually LPG storage cavern wells.

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

(1), (2), and (3) are not related to gas storage fields.

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 and 3, MICHIGAN OIL AND GAS FIELDS. The symbol on the left margin of the table indicates the official classification of fields and pools at the end of the year. Classifications may be changed as warranted. Official field names are listed alphabetically in the first column and the producing pool, or pools, are shown under the heading Producing Formation or Pool. Most fields consist of one pool with oil or gas production coming from a single reservoir within a formation. Some fields have two or more separate pools, each producing from a different formation or stratigraphic interval and at a different depth. Most multi-pool fields are associated with a common structural feature. Salina-Niagaran reef oil or gas accumulations are mostly single-pool fields. Some, however, have several separate reef reservoirs designated as Pool A, Pool B and so on. Most have been so designated by administrative action following public hearings. Also, a few of the listed fields actually consist of two or more hydrocarbon accumulations which for administrative purposes have been consolidated under one field name.

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

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

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

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

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

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

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

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

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

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

NATURAL GAS LIQUIDS (CONDENSATE). Natural gas liquids are those portions of reservoir gas which are liquified at the surface in lease separators, field facilities, or gas processing plants. These liquids include but are not limited to: ethane, propane, butanes, pentanes, natural gasoline and condensate. On 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 Geological Survey, Lansing, Michigan. Samples are contained in glass vials arranged in open trays. In addition, several thousand shallow geological test samples are also available for inspection. The Survey does not maintain a core collection. Other sample and core repositories, not connected with the Survey, are located at:

Subsurface Laboratory, Department of Geology, The University of Michigan, Ann Arbor, Michigan.

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

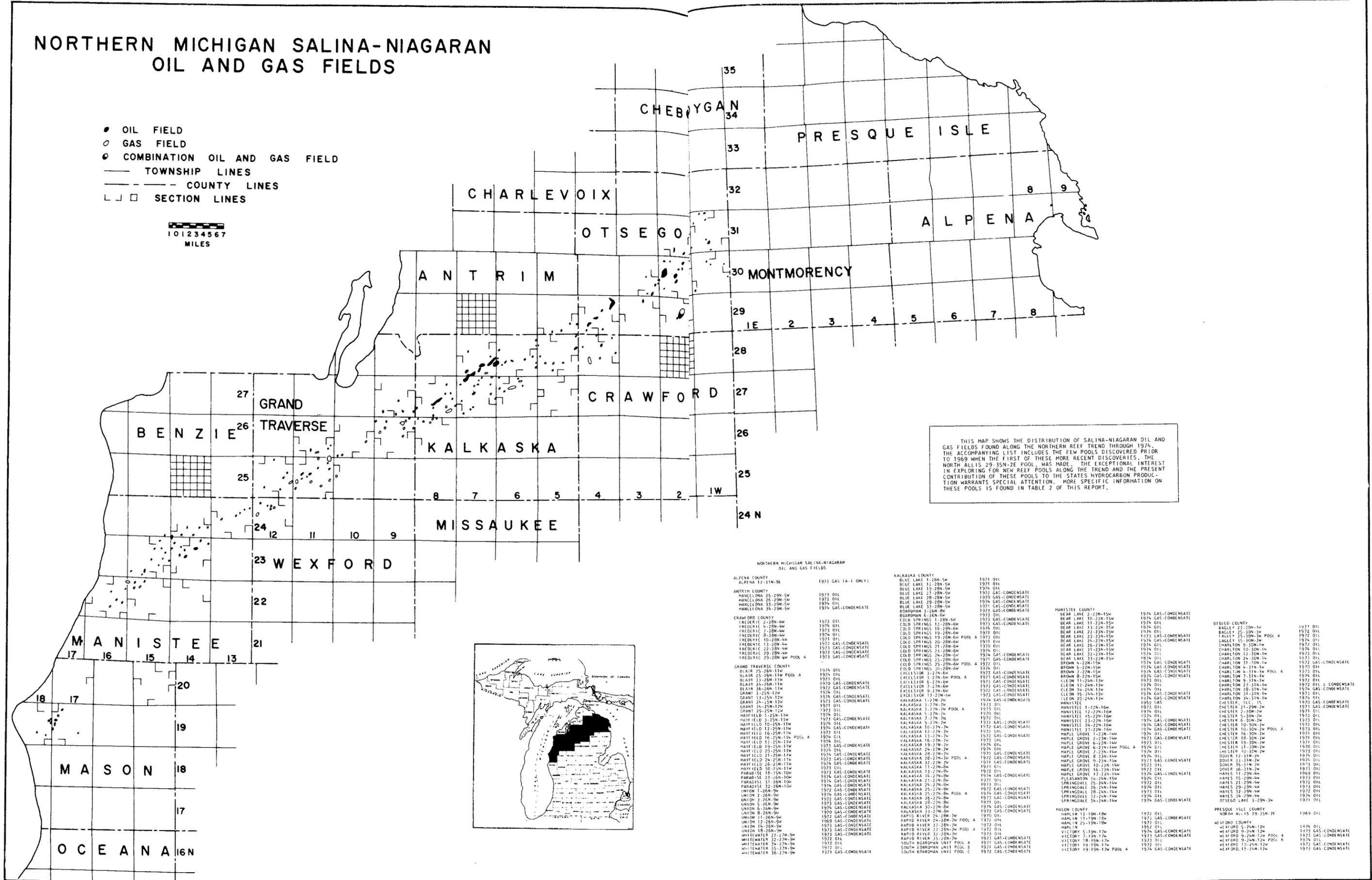
Department of Geology, Western Michigan University, Kalamazoo, Michigan.

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

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

NORTHERN MICHIGAN SALINA-NIAGARAN OIL AND GAS FIELDS

- OIL FIELD
- GAS FIELD
- ◐ COMBINATION OIL AND GAS FIELD
- TOWNSHIP LINES
- - - COUNTY LINES
- ┌ ┘ SECTION LINES



THIS MAP SHOWS THE DISTRIBUTION OF SALINA-NIAGARAN OIL AND GAS FIELDS FOUND ALONG THE NORTHERN REEF TREND THROUGH 1974. THE ACCOMPANYING LIST INCLUDES THE FEW POOLS DISCOVERED PRIOR TO 1969 WHEN THE FIRST OF THESE MORE RECENT DISCOVERIES, THE NORTH ALLIS 29-35N-2E POOL, WAS MADE. THE EXCEPTIONAL INTEREST IN EXPLORING FOR NEW REEF POOLS ALONG THE TREND AND THE PRESENT CONTRIBUTION OF THESE POOLS TO THE STATES HYDROCARBON PRODUCTION WARRANTS SPECIAL ATTENTION. MORE SPECIFIC INFORMATION ON THESE POOLS IS FOUND IN TABLE 2 OF THIS REPORT.

NORTHERN MICHIGAN SALINA-NIAGARAN OIL AND GAS FIELDS

COUNTY	TOWNSHIP	SECTION	YEAR	TYPE			
ALPENA COUNTY	ALPENA 12-31N-5E		1973	GAS (A-1 ONLY)			
		ANTRIM COUNTY	MANICOMA 25-29N-5W	1973	OIL		
				1972	OIL		
				1974	OIL		
				1974	GAS-CONDENSATE		
				CRAWFORD COUNTY	FREDERIC 2-28N-6W	1973	OIL
						1974	OIL
						1973	OIL
						1974	OIL
						1971	OIL
1972	GAS-CONDENSATE						
1973	GAS-CONDENSATE						
1972	GAS-CONDENSATE						
1972	GAS-CONDENSATE						
1973	GAS-CONDENSATE						
GRAND TRAVERSE COUNTY	BLAIR 25-28N-11W	1974	OIL				
		1974	OIL				
		1973	OIL				
		1970	GAS-CONDENSATE				
		1972	GAS-CONDENSATE				
		1974	OIL				
		1974	GAS-CONDENSATE				
		1971	OIL				
		1973	GAS-CONDENSATE				
		1971	OIL				
MANISTEE COUNTY	BEAR LAKE 2-23N-15W	1974	OIL				
		1974	OIL				
		1974	OIL				
		1974	OIL				
		1974	OIL				
		1974	OIL				
		1974	OIL				
		1974	OIL				
		1974	OIL				
		1974	OIL				
MASON COUNTY	VICTORY 5-19N-17W	1974	OIL				
		1974	OIL				
		1974	OIL				
		1974	OIL				
		1974	OIL				
		1974	OIL				
		1974	OIL				
		1974	OIL				
		1974	OIL				
		1974	OIL				
OCEANA COUNTY	WEXFORD 9-24N-12W	1974	OIL				
		1974	OIL				
		1974	OIL				
		1974	OIL				
		1974	OIL				
		1974	OIL				
		1974	OIL				
		1974	OIL				
		1974	OIL				
		1974	OIL				



TABLE 2 NORTHERN MICHIGAN SALINA-NIAGARAN OIL AND GAS FIELDS

POOL CLASSIFICATION		● ACTIVE OIL FIELD OR POOL	☀ ACTIVE GAS FIELD OR POOL	☀ GAS-CONDENSATE FIELD OR POOL	⊕ GAS STORAGE RESERVOIR	⊕ UNDEVELOPED GAS STORAGE RESERVOIR	FIELD NAME		PRODUCING FORMATION OR POOL	YEAR OF DISC.	COUNTY TOWNSHIP	PAY ZONE		DEEPEST FORMATION OR POOL TESTED	DEPTH IN FEET	NUMBER OF WELLS			OIL PRODUCTION - BBLs		GAS PRODUCTION - Mcf		RECOVERY PER ACRE DRILLED (BBLs)	TOTAL BARRELS BRINE PER DAY			
		● ABANDONED OIL FIELD OR POOL	☀ ABANDONED GAS FIELD OR POOL	☀ ABANDONED GAS-CONDENSATE FIELD OR POOL	⊕	⊕	FIELD NAME	PRODUCING FORMATION OR POOL	YEAR OF DISC.	COUNTY TOWNSHIP	DEPTH IN FEET	THICKNESS AND LITHOLOGY	OIL GRAVITY A.P.I.	DEPTH IN FEET	TO END	COMP. IN	ABAND. IN	ACTIVE IN	LA T. END	DRILLED ACRES	PRODUCED IN 1974	CUMULATIVE THROUGH 1974	PRODUCED IN 1974	CUMULATIVE THROUGH 1974	RECOVERY PER ACRE DRILLED (BBLs)	TOTAL BARRELS BRINE PER DAY	
●	●						ALPENA 12-31N-8E	A-1 CARBONATE	1973	ALPENA	3,685	22 L		3,875	1	0	0	1	160								
ALPENA TWP., 31N-8E, SECTION 12																											
●	●						MANCELONA 25-29N-5W	NIAGARAN REEF	1973	ANTRIM	6,449	6 D	33.6	6,764	1	0	0	1	80	5,742	5,931	1,238	1,238	74	20		
MANCELONA TWP., 29N-5W, SECTION 25																											
●	●						MANCELONA 26-29N-5W	NIAGARAN REEF	1972	ANTRIM	6,499	61 D	40.7	6,850	1	0	0	1	80	19,078	19,480	8,982	8,982	244			
MANCELONA TWP., 29N-5W, SECTION 26																											
●	●						MANCELONA 33-29N-5W	NIAGARAN REEF	1974	ANTRIM	6,538	10 D	44.6	6,810	1	1	0	1	80	934	934				12		
MANCELONA TWP., 29N-5W, SECTION 33																											
●	●						MANCELONA 34-29N-5W	NIAGARAN REEF	1974	ANTRIM	6,580	20 D		6,780	1	1	0	1	80	COND. 10,700	COND. 10,700	120,501	120,501	134			
MANCELONA TWP., 29N-5W, SECTION 34																											
●	●						FREDERIC 2-28N-4W	NIAGARAN REEF	1973	CRAWFORD	6,390	92 D	47.0	7,019	2	1	0	2	160	254	481				3		
FREDERIC TWP., 28N-4W, SECTION 2																											
●	●						FREDERIC 4-28N-4W	NIAGARAN REEF	1974	CRAWFORD	6,923	20 D	45.0	7,265	1	1	0	1	80	361	361				5		
FREDERIC TWP., 28N-4W, SECTION 4																											
●	●						FREDERIC 7-28N-4W	NIAGARAN REEF	1973	CRAWFORD	7,000	10 D		7,161	2	1	0	2	80		1,429				18		
FREDERIC TWP., 28N-4W, SECTION 7																											
●	●						FREDERIC 8-28N-4W	NIAGARAN REEF	1974	CRAWFORD	6,740	30 D		7,164	1	1	0	1	80	360	360				5		
FREDERIC TWP., 28N-4W, SECTION 8																											
●	●						FREDERIC 10-28N-4W	NIAGARAN REEF	1971	CRAWFORD	6,964	99 D	45.0	7,350	2	0	0	2	160	206,054	518,406	196,444	497,749	3,240			
FREDERIC TWP., 28N-4W, SECTION 10																											
●	●						FREDERIC 13-28N-4W	NIAGARAN REEF	1972	CRAWFORD	6,789	427 D	68.4	7,470	1	0	0	1	160		COND. 210				1		
FREDERIC TWP., 28N-4W, SECTION 13																											
●	●						FREDERIC 22-28N-4W	SALINA-NIAGARAN REEF	1973	CRAWFORD	6,950	289 D	65.5	7,615	1	0	0	1	160		COND. 189				1		
FREDERIC TWP., 28N-4W, SECTION 22																											
●	●						FREDERIC 29-28N-4W	NIAGARAN REEF	1972	CRAWFORD	7,420	71 D		7,578	1	0	0	1	160		COND. 760				5		
FREDERIC TWP., 28N-4W, SECTION 29																											
●	●						FREDERIC 29-28N-4W POOL A	NIAGARAN REEF	1973	CRAWFORD	6,907	260 D	65.0	7,535	1	0	0	1	160		COND. 56						
FREDERIC TWP., 28N-4W, SECTION 20 APP. C SW NE																											
●	●						BLAIR 25-26N-11W	NIAGARAN REEF	1974	GRAND TRAVERSE	5,863	41 D		6,120	2	2	0	2	160	501	501				3		
BLAIR TWP., 26N-11W, SECTION 25																											
●	●						BLAIR 25-26N-11W POOL A	NIAGARAN REEF	1974	GRAND TRAVERSE	6,225	6 D	46.2	6,423	2	2	0	2	160	311	311				2		
BLAIR TWP., 26N-11W, SECTION 25																											
●	●						BLAIR 33-26N-11W	NIAGARAN REEF	1973	GRAND TRAVERSE	5,844	11 D	45.8	6,123	3	2	0	3	240	27,168	27,278	37,471	37,471	114			
BLAIR TWP., 26N-11W, SECTIONS 28, 33																											
●	●						BLAIR 34-26N-11W	NIAGARAN REEF	1970	GRAND TRAVERSE	5,826	124 D	60 COND.	6,316	2	0	0	2	320	COND. 10,380	COND. 18,752	500,255	802,769	59			
BLAIR TWP., 26N-11W, SECTION 34																											
●	●						BLAIR 36-26N-11W	NIAGARAN REEF	1972	GRAND TRAVERSE	6,205	14 D		6,405	3	2	0	3	480	COND. 140,491	COND. 147,431	3,839,225	4,026,580	307			
BLAIR TWP., 26N-11W, SECTION 36 MAYFIELD TWP., 25N-11W, SECTION 1																											
●	●						GRANT 3-25N-12W	NIAGARAN REEF	1974	GRAND TRAVERSE	5,353	33 D		5,744	1	1	0	1	80	6,121	6,121				77		
GRANT TWP., 25N-12W, SECTION 3																											
●	●						GRANT 13-25N-12W	NIAGARAN REEF	1974	GRAND TRAVERSE	5,943	54 D		6,192	3	3	0	3	640	COND. 48	COND. 48						
GRANT TWP., 25N-12W, SECTIONS 13, 14, 23																											
●	●						GRANT 24-25N-12W	SALINA-NIAGARAN REEF	1973	GRAND TRAVERSE	5,815	103 D	71.0	6,413	2	1	0	2	160	COND. 8,723	COND. 8,948	127,987	127,987	55			
GRANT TWP., 25N-12W, SECTION 24																											
●	●						GRANT 26-25N-12W	NIAGARAN REEF	1971	GRAND TRAVERSE	5,961	80 D	65.7	6,383	2	1	0	2	160	12,816	43,034	27,972	74,708	269			
GRANT TWP., 25N-12W, SECTION 26																											
●	●						GRANT 29-25N-12W	NIAGARAN REEF	1973	GRAND TRAVERSE	5,720	82 D	44.3	6,135	1	0	0	1	80		286				4		
GRANT TWP., 25N-12W, SECTION 29																											
●	●						MAYFIELD 1-25N-11W	NIAGARAN REEF	1974	GRAND TRAVERSE	6,319	14 D	46.0	6,447	1	1	0	1	80								
MAYFIELD TWP., 25N-11W, SECTION 1																											
●	●						MAYFIELD 3-25N-11W	NIAGARAN REEF	1973	GRAND TRAVERSE	5,940	230 D	68.0	6,424	1	0	0	1	160	COND. 25,092	COND. 25,804	1,501,548	1,514,080	161			
MAYFIELD TWP., 25N-11W, SECTION 3																											
●	●						MAYFIELD 10-25N-11W	NIAGARAN REEF	1974	GRAND TRAVERSE	6,283	64 D		6,442	1	1	0	1	160		228	228			1		
MAYFIELD TWP., 25N-11W, SECTION 10																											
●	●						MAYFIELD 12-25N-11W	SALINA-NIAGARAN REEF	1974	GRAND TRAVERSE	6,171	325 D	60.4	6,677	1	1	0	1	80	COND. 91	COND. 91				1		
MAYFIELD TWP., 25N-11W, SECTION 12																											
●	●						MAYFIELD 16-25N-11W	NIAGARAN REEF	1972	GRAND TRAVERSE	6,347	68 D		6,580	3	1	0	3	240	95,479	95,975	118,806	118,806	400			
MAYFIELD TWP., 25N-11W, SECTION 16																											
●	●						MAYFIELD 16-25N-11W POOL A	NIAGARAN REEF	1974	GRAND TRAVERSE	6,228	29 D	43.5	6,525	2	1	0	2	160	62,307	62,307	43,915	43,915	389			
MAYFIELD TWP., 25N-11W, SECTION 16																											
●	●						MAYFIELD 17-25N-11W	SALINA-NIAGARAN REEF	1974	GRAND TRAVERSE	5,855	178 D	42.7	6,504	2	2	0	2	160	94,137	94,137	61,645	61,645	588			
MAYFIELD TWP., 25N-11W, SECTION 17																											

POOL CLASSIFICATION		● ACTIVE OIL FIELD OR POOL	☀ ACTIVE GAS FIELD OR POOL	☀ GAS-CONDENSATE FIELD OR POOL	⊕ GAS STORAGE RESERVOIR	⊕ UNDEVELOPED GAS STORAGE RESERVOIR	FIELD NAME		PRODUCING FORMATION OR POOL	YEAR OF DISC.	COUNTY TOWNSHIP	PAY ZONE		DEEPEST FORMATION OR POOL TESTED	DEPTH IN FEET	NUMBER OF WELLS			OIL PRODUCTION - BBLs		GAS PRODUCTION - Mcf		RECOVERY PER ACRE DRILLED (BBLs)	TOTAL BARRELS BRINE PER DAY			
		● ABANDONED OIL FIELD OR POOL	☀ ABANDONED GAS FIELD OR POOL	☀ ABANDONED GAS-CONDENSATE FIELD OR POOL	⊕	⊕	FIELD NAME	PRODUCING FORMATION OR POOL	YEAR OF DISC.	COUNTY TOWNSHIP	DEPTH IN FEET	THICKNESS AND LITHOLOGY	OIL GRAVITY A.P.I.	DEPTH IN FEET	TO END	COMP. IN	ABAND. IN	ACTIVE IN	LA T. END	DRILLED ACRES	PRODUCED IN 1974	CUMULATIVE THROUGH 1974	PRODUCED IN 1974	CUMULATIVE THROUGH 1974	RECOVERY PER ACRE DRILLED (BBLs)	TOTAL BARRELS BRINE PER DAY	
●	●						MAYFIELD 19-25N-11W	SALINA-NIAGARAN REEF	1973	GRAND TRAVERSE	5,829	183 D	53.6	6,535	2	1	0	2	160		COND. 308	COND. 662				4	
MAYFIELD TWP., 25N-11W, SECTION 19																											
●	●						MAYFIELD 20-25N-11W	NIAGARAN REEF	1974	GRAND TRAVERSE	6,241	51 D	45.0	6,365	1	1	0	1	160		312	312				2	
MAYFIELD TWP., 25N-11W, SECTION 20																											
●	●						MAYFIELD 21-25N-11W	SALINA-NIAGARAN REEF	1974	GRAND TRAVERSE	6,112	428 D	66.5	6,608	1	1	0	1	240		COND. 474	COND. 474				2	
MAYFIELD TWP., 25N-11W, SECTION 21																											
●	●						MAYFIELD 24-25N-11W	NIAGARAN REEF	1973	GRAND TRAVERSE	6,508	153 D	65.7	6,783	2	1	0	2	240		COND. 106	COND. 256				1	
MAYFIELD TWP., 25N-11W, SECTION 24																											
●	●						MAYFIELD 26-25N-11W	NIAGARAN REEF	1974	GRAND TRAVERSE	6,323	169 D	65.0	6,756	1	1	0	1	80		COND. 103	COND. 103				1	
MAYFIELD TWP., 25N-11W, SECTION 26																											
●	●						MAYFIELD 30-25N-11W	NIAGARAN REEF	1973	GRAND TRAVERSE	6,329	45 D		6,630	1	0	0	1	80		3,722	4,449	43,784	43,784	56		
MAYFIELD TWP., 25N-11W, SECTION 30																											
●	●						PARADISE 18-25N-10W	NIAGARAN REEF	1973	GRAND TRAVERSE	6,455	102 D	65.8	6,841	1	0	0	1	80								
PARADISE TWP., 25N-10W, SECTION 18																											
●	●						PARADISE 23-26N-10W	NIAGARAN REEF	1974	GRAND TRAVERSE	6,310	27 D	70.5	6,588	1	1	0	1	80		COND. 90	COND. 90				1	
PARADISE TWP., 26N-10W, SECTION 23																											
●	●						PARADISE 31-26N-10W	SALINA-NIAGARAN REEF	1974	GRAND TRAVERSE	6,257	97 D	68.4	6,534	1	1	0	1	80		COND. 128	COND. 128				2	
PARADISE TWP., 26N-10W, SECTION 31																											
●	●						PARADISE 32-26N-10W	NIAGARAN REEF	1974	GRAND TRAVERSE	6,087	231 D		6,582	1	1	0	1	80		COND. 199	COND. 199				2	
PARADISE TWP., 26N-10W, SECTION 32																											
●	●						UNION 1-26N-9W	NIAGARAN REEF	1972	GRAND TRAVERSE	6,380	78 D		6,865	1	0	0	1	160		COND. 13,108	COND. 13,108	608,671	608,671	82		
UNION TWP., 26																											

POOL CLASSIFICATION		● ACTIVE OIL FIELD OR POOL	☀ ACTIVE GAS FIELD OR POOL	☀ GAS-CONDENSATE FIELD OR POOL	⊕ GAS STORAGE RESERVOIR							
		● ABANDONED OIL FIELD OR POOL	☀ ABANDONED GAS FIELD OR POOL	☀ ABANDONED GAS-CONDENSATE FIELD OR POOL	⊖ UNDEVELOPED GAS STORAGE RESERVOIR							
FIELD NAME	PRODUCING FORMATION OR POOL	YEAR OF DISC.	COUNTY TOWNSHIP	PAY ZONE	DEEPEST FORMATION OR POOL TESTED	DEPTH IN FEET	NUMBER OF WELLS	DRILLED ACRES	OIL PRODUCTION - BBLs	GAS PRODUCTION - Mcf	RECOVERY PER ACRE DRILLED (BBLs.)	TOTAL BARRELS DRILLED PER DAY
							TO END		PRODUCED IN 1974	CUMULATIVE THROUGH 1974	PRODUCED IN 1974	CUMULATIVE THROUGH 1974
BOARDMAN 3-26N-8W	NIAGARAN REEF	1973	KALKASKA	6,570 60 D 53.4	NIAGARAN	6,980	1 0 0 1	80	COND. 178	COND. 178	SHUT-IN	2
BOARDMAN TWP., 26N-8W, SECTION 3												
SOUTH BOARDMAN UNIT	NIAGARAN REEF POOL A	1971	KALKASKA	6,616 110 D	CLINTON	6,990	1 0 0 1	160				
	NIAGARAN REEF POOL B	1971		6,776 36 D 65.7			1 0 0 1	160				
	NIAGARAN REEF POOL C	1972		6,450 290 D			1 0 0 1	160	COND. 59,164	COND. 83,591	1,325,122	1,579,262
BOARDMAN TWP., 26N-8W, SECTIONS 4, 5												
BOARDMAN 6-26N-8W	NIAGARAN REEF	1973	KALKASKA	6,477 180 D 46.1	NIAGARAN	6,975	1 0 0 1	80	5,636	8,653	6,179	6,179
BOARDMAN TWP., 26N-8W, SECTION 6												
COLD SPRINGS 1-28N-6W	SALINA-NIAGARAN REEF	1973	KALKASKA	6,578 194 D 61.0	NIAGARAN	6,950	2 1 0 2	160	COND. 35,286	COND. 35,438	516,539	516,539
COLD SPRINGS TWP., 28N-6W, SECTION 1												
COLD SPRINGS 12-28N-6W	SALINA-NIAGARAN REEF	1973	KALKASKA	6,564 296 D	NIAGARAN	6,970	2 1 0 2	320	COND. 208,332	COND. 244,231	4,484,391	5,071,052
COLD SPRINGS TWP., 28N-6W, SECTION 12												
COLD SPRINGS 18-28N-6W	SALINA-NIAGARAN REEF	1974	KALKASKA	6,364 38 D	NIAGARAN	6,675	1 1 0 1	160				
COLD SPRINGS TWP., 28N-6W, SECTION 18												
COLD SPRINGS 19-28N-6W	NIAGARAN REEF	1971	KALKASKA	6,596 8 D 44.9	CLINTON	7,036	5 1 0 5	400	81,900	230,627	397,979	824,427
COLD SPRINGS TWP., 28N-6W, SECTIONS 19, 25, 30												
COLD SPRINGS 19-28N-6W POOL A	NIAGARAN REEF	1973	KALKASKA	6,628 14 D	NIAGARAN	6,767	1 0 0 1	80	14,250	14,992	58,059	58,059
COLD SPRINGS TWP., 28N-6W, SECTION 19												
COLD SPRINGS 20-28N-6W	NIAGARAN REEF	1971	KALKASKA	6,737 35 D	NIAGARAN	6,970	2 0 0 2	160	162,031	272,137	256,427	361,969
COLD SPRINGS TWP., 28N-6W, SECTION 20												
COLD SPRINGS 21-28N-6W	NIAGARAN REEF	1970	KALKASKA	6,764 45 D 45.6	CLINTON	7,315	2 0 0 2	160	6,612	87,388	13,652	88,955
COLD SPRINGS TWP., 28N-6W, SECTION 21												
COLD SPRINGS 23-28N-6W	NIAGARAN REEF	1974	KALKASKA	6,970 20 D	NIAGARAN	7,218	1 1 0 1	80	615	615	SHUT-IN	8
COLD SPRINGS TWP., 28N-6W, SECTION 23												
COLD SPRINGS 24-28N-6W	SALINA-NIAGARAN REEF	1974	KALKASKA	6,760 70 D 55.4	NIAGARAN	7,212	1 1 0 1	80	COND. 1,878	COND. 1,878	22,244	22,244
COLD SPRINGS TWP., 28N-6W, SECTION 24												
COLD SPRINGS 25-28N-6W	NIAGARAN REEF	1971	KALKASKA	6,734 544 D	NIAGARAN	7,383	1 0 0 1	160	COND. 191	COND. 936	5,997	37,188
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	53,874	69,655	54,702	64,323
COLD SPRINGS TWP., 28N-6W, SECTION 25												
COLD SPRINGS 30-28N-6W	NIAGARAN REEF	1974	KALKASKA	6,719 39 D	NIAGARAN	6,858	1 1 0 1	80	338	338		4
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	0	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	0	0	SHUT-IN	
EXCELSIOR TWP., 27N-6W, SECTION 3												
EXCELSIOR 6-27N-6W	NIAGARAN REEF	1973	KALKASKA	6,740 105 D 66.0	NIAGARAN	7,135	2 1 0 2	240	COND. 83,913	COND. 84,093	1,673,371	1,673,371
EXCELSIOR TWP., 27N-6W, SECTION 6												
EXCELSIOR 7-27N-6W	NIAGARAN REEF	1973	KALKASKA	6,987 27 D	NIAGARAN	7,232	1 0 0 1	80	0	COND. 21	SHUT-IN	
EXCELSIOR TWP., 27N-6W, SECTION 18												
EXCELSIOR 9-27N-6W	NIAGARAN REEF	1972	KALKASKA	7,034 47 D	NIAGARAN	7,526	3 0 0 3	480	0	COND. 536	SHUT-IN	1
EXCELSIOR TWP., 27N-6W, SECTION 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												
KALKASKA 1-27N-7W	NIAGARAN REEF	1974	KALKASKA	6,693 20 D 55.0	NIAGARAN	6,784	1 1 0 1	160				
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	22,832	28,935	160,050	175,491
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	50,263	51,772	123,129	123,129
KALKASKA TWP., 27N-7W, SECTION 3												
KALKASKA 5-27N-7W	NIAGARAN REEF	1970	KALKASKA	6,314 68 D 41.5	CLINTON	6,921	10 0 0 10	760	188,540	598,314	567,968	1,466,689
KALKASKA TWP., 27N-7W, SECTION 5												
KALKASKA 7-27N-7W	NIAGARAN REEF	1972	KALKASKA	6,305 3 D	NIAGARAN	6,662	1 0 0 1	80	18,929	54,182	12,373	37,146
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	0	COND. 145	SHUT-IN	
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. 37,274	COND. 47,940	946,183	1,221,934
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	4,395	11,904	241	10,788
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	160	COND. 24,761	COND. 27,344	587,455	640,854
KALKASKA TWP., 27N-7W, SECTION 13												
KALKASKA 16-27N-7W	NIAGARAN REEF	1973	KALKASKA	6,572 158 D 47.4	NIAGARAN	7,077	2 0 0 2	120	421	620	SHUT-IN	5
KALKASKA TWP., 27N-7W, SECTION 16												

POOL CLASSIFICATION		● ACTIVE OIL FIELD OR POOL	☀ ACTIVE GAS FIELD OR POOL	☀ GAS-CONDENSATE FIELD OR POOL	⊕ GAS STORAGE RESERVOIR							
		● ABANDONED OIL FIELD OR POOL	☀ ABANDONED GAS FIELD OR POOL	☀ ABANDONED GAS-CONDENSATE FIELD OR POOL	⊖ UNDEVELOPED GAS STORAGE RESERVOIR							
FIELD NAME	PRODUCING FORMATION OR POOL	YEAR OF DISC.	COUNTY TOWNSHIP	PAY ZONE	DEEPEST FORMATION OR POOL TESTED	DEPTH IN FEET	NUMBER OF WELLS	DRILLED ACRES	OIL PRODUCTION - BBLs	GAS PRODUCTION - Mcf	RECOVERY PER ACRE DRILLED (BBLs.)	TOTAL BARRELS DRILLED PER DAY
							TO END		PRODUCED IN 1974	CUMULATIVE THROUGH 1974	PRODUCED IN 1974	CUMULATIVE THROUGH 1974
KALKASKA 19-27N-7W	NIAGARAN REEF	1974	KALKASKA	6,626 10 D	NIAGARAN	7,005	1 1 0 1	240	603	603		3
KALKASKA TWP., 27N-7W, SECTION 13												
KALKASKA 24-27N-7W	SALINA-NIAGARAN REEF	1974	KALKASKA	6,726 469 D	NIAGARAN	7,317	1 1 0 1	80			SHUT-IN	
KALKASKA TWP., 27N-7W, SECTION 24												
KALKASKA 28-27N-7W	NIAGARAN REEF	1970	KALKASKA	7,129 28 D 65.3	CLINTON	7,408	1 0 0 1	160	COND. 5,688	COND. 17,010	381,306	593,961
KALKASKA 28-27N-7W POOL A	NIAGARAN REEF	1972		6,977 192 D			1 0 0 1	160	COND. 1,088	COND. 1,460	12,547	15,243
KALKASKA TWP., 27N-7W, SECTION 28												
KALKASKA 32-27N-7W	NIAGARAN REEF	1971	KALKASKA	6,828 309 D	NIAGARAN	7,369	1 0 0 1	160	COND. 16,541	COND. 28,317	502,782	666,318
KALKASKA TWP., 27N-7W, SECTION 32												
KALKASKA 11-27N-8W	NIAGARAN REEF	1973	KALKASKA	6,449 17 D	NIAGARAN	6,776	1 0 0 1	80	31,564	36,021	22,437	24,308
KALKASKA TWP., 27N-8W, SECTION 11												
KALKASKA 13-27N-8W	NIAGARAN REEF	1972	KALKASKA	6,950 10 D	NIAGARAN	7,365	1 0 0 1	80	62,797	124,803	163,415	304,926
KALKASKA TWP., 27N-8W, SECTION 13												
KALKASKA 14-27N-8W	NIAGARAN REEF	1974	KALKASKA	6,551 43 D	NIAGARAN	6,790	1 1 0 1	160			SHUT-IN	
KALKASKA TWP., 27N-8W, SECTION 14												
KALKASKA 21-27N-8W	NIAGARAN REEF	1971	KALKASKA	6,567 77 D	NIAGARAN	6,856	6 1 0 6	400	PRODUCTION COMBINED WITH A-1 CARBONATE PRODUCTION			
	A-1 CARBONATE	1972		6,591 31 D			80	603,424	1,328,270	955,658	1,812,213	2,767
KALKASKA TWP., 27N-8W, SECTIONS 21, 22, 28												
KALKASKA 25-27N-8W	SALINA-NIAGARAN REEF	1973	KALKASKA	6,380 220 D	NIAGARAN	6,852	1 0 0 1	40	85,563	101,053	222,395	253,905
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. 22,653	COND. 110,800	1,196,491	3,660,438
KALKASKA TWP., 27N-8W, SECTION 25												
KALKASKA 25-27N-8W POOL A	NIAGARAN REEF	1974	KALKASKA	6,798 40 D	NIAGARAN	6,980	1 1 0 1	160	COND. 1,110	COND. 1,110	SHUT-IN	7
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	COND. 54,212	COND. 59,591	322,398	345,651
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	4,404	17,535		110
KALKASKA TWP., 27N-8W, SECTION 28												
KALKASKA 30-27N-8W	NIAGARAN REEF	1974	KALKASKA	6,496 22 D	NIAGARAN	6,692	1 1 0 1	480	COND. 63,100	COND. 63,100	1,355,956	1,355,956
KALKASKA TWP., 27N-8W, SECTION 30												
DIRECTIONAL HOLE IN WHICH THE SURFACE LOCATION IS IN GRAND TRAVERSE COUNTY, WHITEWATER TOWNSHIP SECTION 36-27N-8W; AND THE SUBSURFACE LOCATION IS IN KALKASKA COUNTY, KALKASKA TOWNSHIP SECTION 30-27N-8W												
KALKASKA 33-27N-8W	NIAGARAN REEF	1972	KALKASKA	6,620 15 D	NIAGARAN	6,754	1 0 0 1	160	COND. 362	COND. 25,314	254,552	1,079,158
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	116,454	427,844	1,289,636	3,930,798
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	9,303	24,688	9,860	27,089
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 1 0 4	160	32,860	83,965	223,734	465,116
RAPID RIVER TWP., 28N-7W, SECTION 27												
RAPID RIVER 27-28N-7W POOL A	NIAGARAN REEF	1972	KALKASKA	6,552 8 D 44	NIAGARAN	6,773	4 2 0 4	240	54,168	87,163	207,922	282,375
RAPID RIVER TWP., 28N-7W, SECTION 27												
RAPID RIVER 32-28N-7W	NIAGARAN REEF	1973	KALKASKA	6,413 20 D 43.5	NIAGARAN	6,550	4 3 0 4	320	91,581	102,437	75,225	82,255
RAPID RIVER TWP., 28N-7W, SECTION 32												
RAPID RIVER 35-28N-7W	NIAGARAN REEF	1973	KALKASKA	6,719 27 D 66.5	NIAGARAN	6,886	2 1 0 2	240	COND. 190,607	COND. 190,672	5,557,795	5,557,795
RAPID RIVER TWP., 28N-7W, SECTION 35												
BEAR LAKE 2-23N-15W	NIAGARAN REEF	1974	MANISTEE	4,646 23 D	NIAGARAN	4,874	1 1 0 1	80	COND. 149	COND. 149	SHUT-IN	2
BEAR LAKE TWP., 23N-15W, SECTION 2												
BEAR LAKE 10-23N-15W	SALINA-NIAGARAN REEF	1974	MANISTEE	4,457 120 D	NIAGARAN	4,758	1 1 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	1 1 0					

POOL CLASSIFICATION		● ACTIVE OIL FIELD OR POOL	☉ ACTIVE GAS FIELD OR POOL	☼ GAS-CONDENSATE FIELD OR POOL	⊕ GAS STORAGE RESERVOIR								
		● ABANDONED OIL FIELD OR POOL	☉ ABANDONED GAS FIELD OR POOL	☼ ABANDONED GAS-CONDENSATE FIELD OR POOL	⊖ UNDEVELOPED GAS STORAGE RESERVOIR								
FIELD NAME	PRODUCING FORMATION OR POOL	YEAR OF DISC.	COUNTY TOWNSHIP	PAY ZONE	DEEPEST FORMATION OR POOL TESTED	DEPTH IN FEET	NUMBER OF WELLS	DRILLED ACRES	OIL PRODUCTION - BBLs	GAS PRODUCTION - M.C.F.	RECOVERY PER ACRE DRILLED (BBLs.)	TOTAL BARRELS DRILLED PER DAY	
			PRODUCING SECTIONS	DEPTH IN FEET	THICKNESS AND LITHOLOGY	OIL GRAVITY A.P.I.	TO COMP. IN 1 5 7 4	ABAND. IN 1 5 7 4	ACTIVE AT END	PRODUCED IN 1974	CUMULATIVE THROUGH 1974	PRODUCED IN 1974	CUMULATIVE THROUGH 1974
BEAR LAKE 33-23N-15W	NIAGARAN REEF	1974	MANISTEE	4,621	21 D	42.6							
BEAR LAKE TWP., 23N-15W, SECTION 33													
BROWN 4-22N-15W	NIAGARAN REEF	1974	MANISTEE	4,397	331 D	69.5							
BROWN TWP., 22N-15W, SECTION 4													
BROWN 6-22N-15W	SALINA-NIAGARAN REEF	1974	MANISTEE	4,207	415 D	57.3							
BROWN TWP., 22N-15W, SECTION 6													
BROWN 7-22N-15W	NIAGARAN REEF	1974	MANISTEE	4,378	292 D	65.0							
BROWN TWP., 22N-15W, SECTION 7													
BROWN 8-22N-15W	NIAGARAN REEF	1974	MANISTEE	4,692	27 D	66.0							
BROWN TWP., 22N-15W, SECTION 8													
CLEON 11-24N-13W	NIAGARAN REEF	1973	MANISTEE	5,624	121 D	43.5							
CLEON TWP., 24N-13W, SECTION 11													
CLEON 12-24N-13W	NIAGARAN REEF	1974	MANISTEE	5,851	35 D	39.3							
CLEON TWP., 24N-13W, SECTION 12													
CLEON 14-24N-13W	NIAGARAN REEF	1973	MANISTEE	5,655	69 D	44.3							
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								
CLEON TWP., 24N-13W, SECTION 15													
CLEON 20-24N-13W	NIAGARAN REEF	1974	MANISTEE	5,145	202 D								
CLEON TWP., 24N-13W, SECTION 20													
MANISTEE	SALINA	1959	MANISTEE	3,616	94 D								
FILER TWP., 21N-17W, SECTION 24													
MANISTEE 1-22N-16W	NIAGARAN REEF	1973	MANISTEE	4,283	254 D	58.6							
MANISTEE TWP., 22N-16W, SECTION 1													
MANISTEE 12-22N-16W	NIAGARAN REEF	1974	MANISTEE	4,701	17 D								
MANISTEE TWP., 22N-16W, SECTION 12													
MANISTEE 15-22N-16W	NIAGARAN REEF	1974	MANISTEE	4,467	15 D	42.8							
MANISTEE TWP., 22N-16W, SECTION 15													
MANISTEE 23-22N-16W	NIAGARAN REEF	1974	MANISTEE	4,220	277 D	68.0							
MANISTEE TWP., 22N-16W, SECTION 23													
MANISTEE 24-22N-16W	NIAGARAN REEF	1974	MANISTEE	4,171	483 D	67.5							
MANISTEE TWP., 22N-16W, SECTION 24													
MANISTEE 27-22N-16W	NIAGARAN REEF	1974	MANISTEE	4,288	224 D	63.4							
MANISTEE TWP., 22N-16W, SECTION 27													
MAPLE GROVE 1-23N-14W	NIAGARAN REEF	1974	MANISTEE	5,473	23 D	42.2							
MAPLE GROVE TWP., 23N-14W, SECTION 1													
MAPLE GROVE 2-23N-14W	NIAGARAN REEF	1973	MANISTEE	5,055	52 D	70.6							
MAPLE GROVE TWP., 23N-14W, SECTION 2													
MAPLE GROVE 6-23N-14W	NIAGARAN REEF	1973	MANISTEE	4,514	27 D	42.0							
MAPLE GROVE TWP., 23N-14W, SECTION 6													
MAPLE GROVE 6-23N-14W POOL A	SALINA-NIAGARAN REEF	1974	MANISTEE	4,518	27 D	40.2							
MAPLE GROVE TWP., 23N-14W, SECTION 6													
MAPLE GROVE 7-23N-14W	NIAGARAN REEF	1974	MANISTEE	4,510	35 D	35.0							
MAPLE GROVE TWP., 23N-14W, SECTION 7													
MAPLE GROVE 8-23N-14W	NIAGARAN REEF	1974	MANISTEE	4,905	26 D								
MAPLE GROVE TWP., 23N-14W, SECTION 8													
MAPLE GROVE 9-23N-14W	SALINA-NIAGARAN REEF	1973	MANISTEE	4,590	366 D	72.8							
MAPLE GROVE TWP., 23N-14W, SECTION 9													
MAPLE GROVE 10-23N-14W	NIAGARAN REEF	1973	MANISTEE	4,832	263 D	43.8							
MAPLE GROVE TWP., 23N-14W, SECTION 10													
MAPLE GROVE 16-23N-14W	NIAGARAN REEF	1973	MANISTEE	4,950	211 D	48.2							
MAPLE GROVE TWP., 23N-14W, SECTION 16													
MAPLE GROVE 17-23N-14W	NIAGARAN REEF	1974	MANISTEE	4,637	102 D	73.0							
MAPLE GROVE TWP., 23N-14W, SECTION 17													
PLEASANTON 36-24N-15W	NIAGARAN REEF	1974	MANISTEE	4,474	16 D								
PLEASANTON TWP., 24N-15W, SECTION 36													
SPRINGDALE 25-24N-14W	NIAGARAN REEF	1972	MANISTEE	5,006	71 D								
SPRINGDALE TWP., 24N-14W, SECTION 25													
SPRINGDALE 26-24N-14W	NIAGARAN REEF	1974	MANISTEE	5,094	12 D								
SPRINGDALE TWP., 24N-14W, SECTION 26													
SPRINGDALE 28-24N-14W	SALINA-NIAGARAN REEF	1973	MANISTEE	4,719	134 D								
SPRINGDALE TWP., 24N-14W, SECTION 28													
SPRINGDALE 32-24N-14W	NIAGARAN REEF	1974	MANISTEE	4,634	16 D								
SPRINGDALE TWP., 24N-14W, SECTION 32													

POOL CLASSIFICATION		● ACTIVE OIL FIELD OR POOL	☉ ACTIVE GAS FIELD OR POOL	☼ GAS-CONDENSATE FIELD OR POOL	⊕ GAS STORAGE RESERVOIR								
		● ABANDONED OIL FIELD OR POOL	☉ ABANDONED GAS FIELD OR POOL	☼ ABANDONED GAS-CONDENSATE FIELD OR POOL	⊖ UNDEVELOPED GAS STORAGE RESERVOIR								
FIELD NAME	PRODUCING FORMATION OR POOL	YEAR OF DISC.	COUNTY TOWNSHIP	PAY ZONE	DEEPEST FORMATION OR POOL TESTED	DEPTH IN FEET	NUMBER OF WELLS	DRILLED ACRES	OIL PRODUCTION - BBLs	GAS PRODUCTION - M.C.F.	RECOVERY PER ACRE DRILLED (BBLs.)	TOTAL BARRELS DRILLED PER DAY	
			PRODUCING SECTIONS	DEPTH IN FEET	THICKNESS AND LITHOLOGY	OIL GRAVITY A.P.I.	TO COMP. IN 1 5 7 4	ABAND. IN 1 5 7 4	ACTIVE AT END	PRODUCED IN 1974	CUMULATIVE THROUGH 1974	PRODUCED IN 1974	CUMULATIVE THROUGH 1974
SPRINGDALE 34-24N-14W	SALINA-NIAGARAN REEF	1974	MANISTEE	4,764	168 D	68.0							
SPRINGDALE TWP., 24N-14W, SECTION 34													
HAMLIN 13-19N-18W	NIAGARAN REEF	1972	MASON	4,284	12 D	46.2							
HAMLIN TWP., 19N-18W, SECTION 13													
HAMLIN 13-19N-18W POOL A	NIAGARAN REEF	1973	MASON	4,352	6 D								
HAMLIN TWP., 19N-18W, SECTIONS 13, 24													
HAMLIN 25-19N-18W	NIAGARAN REEF	1972	MASON	4,251	14 D								
HAMLIN TWP., 19N-18W, SECTION 25													
HAMLIN	SALINA-NIAGARAN REEF	1952	MASON	3,950	3 D								
ABANDONED 1962 160													
	NIAGARAN REEF	1952		4,224	20 D	46.2							
ABANDONED 1956 40													
HAMLIN TWP., 19N-18W, SECTION 27													
VICTORY 5-19N-17W	NIAGARAN REEF	1974	MASON	4,199	200 D	69.0							
VICTORY TWP., 19N-17W, SECTION 5													
VICTORY 7-19N-17W	NIAGARAN REEF	1973	MASON	4,052	369 D	61.2							
VICTORY TWP., 19N-17W, SECTION 7													
VICTORY 16-19N-17W	NIAGARAN REEF	1973	MASON	4,344	22 D								
VICTORY TWP., 19N-17W, SECTION 18													
VICTORY 19-19N-17W	NIAGARAN REEF	1972	MASON	4,387	14 D								
VICTORY TWP., 19N-17W, SECTION 19													
VICTORY 19-19N-17W POOL A	NIAGARAN REEF	1974	MASON	4,358	16 D								
VICTORY TWP., 19N-17W, SECTION 19													
BAGLEY 23-30N-3W	NIAGARAN REEF	1973	OTSEGO	5,868	13 D								
BAGLEY TWP., 30N-3W, SECTION 23													
BAGLEY 25-30N-3W	NIAGARAN REEF	1972	OTSEGO	6,090	55 D	44.9							
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							
BAGLEY TWP., 30N-3W, SECTION 25													
BAGLEY 35-30N-3W	NIAGARAN REEF	1974	OTSEGO	6,110	50 D								
BAGLEY TWP., 30N-3W, SECTION 35													
CHARLTON 9-30N-1W	NIAGARAN REEF	1972	OTSEGO	5,832	226 D	46.4							
CHARLTON TWP., 30N-1W, SECTION 9													
CHARLTON 10-30N-1W	NIAGARAN REEF	1974	OTSEGO	6,093	96 D	45.8							
CHARLTON TWP., 30N-1W, SECTION 10													
CHARLTON 12-30N-1W	NIAGARAN REEF	1973	OTSEGO	5,936	129 D	50.3							
CHARLTON TWP., 30N-1W, SECTION 12													
CHARLTON 24-30N-1W	NIAGARAN REEF	1973	OTSEGO	6,234	26 D								
CHARLTON TWP., 30N-1W, SECTION 24													
CHARLTON 31-30N-1W	A-2 CARBONATE & NIAGARAN REEF	1972	OTSEGO	5,676	13 D								
6,168 104 D													
CHARLTON TWP., 30N-1W, SECTION 31													
CHARLTON 4-31N-1W	NIAGARAN REEF	1970	OTSEGO	4,766	116 D	55							
CHARLTON TWP., 31N-1W, SECTION 4													
CENTRAL FACILITY -- GAS PRODUCTION COMBINED WITH CHARLTON 9-31N-1W													
CHARLTON 4-31N-1W POOL A	NIAGARAN REEF	1973	OTSEGO	4,780	15 D	44.3							
CHARLTON TWP., 31N-1W, SECTION 4													
DIRECTIONAL HOLE IN WHICH THE SURFACE LOCATION IS 4-31N-1W AND THE SUBSURFACE LOCATION IS 5-31N-1W													
CHARLTON 7-31N-1W	NIAGARAN REEF	1974	OTSEGO	4,897	16 D								
CHARLTON TWP., 31N-1W, SECTION 7													
CHARLTON 9-31N-1W	SALINA-NIAGARAN REEF	1972	OTSEGO	4,843	3 D								
CHARLTON TWP., 31N-1W, SECTION 9													
CHARLTON 27-31N-1W	NIAGARAN REEF	1972	OTSEGO	5,202	26 D								
CHARLTON TWP., 31N-1W, SECTION 27													
INCLUDES 1 WELL WHICH MAY BE ASSIGNED TO CHARLTON 20-31N-1W, POOL A													
CHARLTON 20-31N-1W	SALINA-NIAGARAN REEF	1974	OTSEGO	4,923	45 D	64.8							
CHARLTON TWP., 31N-1W, SECTION 20													
CHARLTON 31-31N-1W	NIAGARAN REEF	1972	OTSEGO	5,391	54 D	41.9							
CHARLTON TWP., 31N-1W, SECTION 31													
CHARLTON 34-31N-1W	NIAGARAN REEF	1974	OTSEGO	5,492	10 D								
CHARLTON TWP., 31N-1W, SECTION 34													
CHESTER, S.L.C. 15	A-2 CARBONATE & LOWER NIAGARAN	1951	OTSEGO	6,610	5 D	41.0							
CHESTER TWP., 29N-2W, SECTIONS 15, 22													
CHESTER, S.L.C. 15	NIAGARAN REEF	1970	OTSEGO	5,930	345 D	COND.							
COND. 31,766 COND. 208,752 1,981,605 6,116,284 1,305													
CHESTER TWP., 29N-2W, SECTION 15													
CHESTER 21-29N-2W	NIAGARAN REEF	1973	OTSEGO	6,273	29 D								
CHESTER TWP., 29N-2W, SECTION 21													
CHESTER 2-30N-2W	NIAGARAN REEF	1971	OTSEGO	5,653	247 D								
CHESTER TWP., 30N-2W, SECTION 2													
CHESTER 5-30N-2W	NIAGARAN REEF	1972	OTSEGO	5,538	10 D								
CHESTER TWP., 30N-2W, SECTION 5													

POOL CLASSIFICATION		● ACTIVE OIL FIELD OR POOL	☀ ACTIVE GAS FIELD OR POOL	☀ GAS-CONDENSATE FIELD OR POOL	⊕ GAS STORAGE RESERVOIR	● ABANDONED OIL FIELD OR POOL	☀ ABANDONED GAS FIELD OR POOL	☀ ABANDONED GAS-CONDENSATE FIELD OR POOL	⊖ UNDEVELOPED GAS STORAGE RESERVOIR											
FIELD NAME	PRODUCING FORMATION OR POOL	YEAR OF DISC.	COUNTY	TOWNSHIP	PAY ZONE	DEEPEST FORMATION OR POOL TESTED	DEPTH IN FEET	NUMBER OF WELLS	DRIILLED ACRES	OIL PRODUCTION - BBLs		GAS PRODUCTION - Mcf		RECOVERY PER ACRE DRIILLED (BBLs.)	TOTAL BARRELS DRINE PER DAY					
										PRODUCED IN 1974	CUMULATIVE THROUGH 1974	PRODUCED IN 1974	CUMULATIVE THROUGH 1974							
● CHESTER 6-30N-2W	A-1 CARBONATE	1973	OTSEGO	CHESTER TWP., 30N-2W, SECTION 6	21 D	43.0	NIAGARAN	6,022	2	0	0	2	160	44,324	44,943	30,775	30,775	281	7	
● CHESTER 10-30N-2W	NIAGARAN REEF	1972	OTSEGO	CHESTER TWP., 30N-2W, SECTION 10	5,586	28 D	NIAGARAN	6,200	1	0	0	1	80	112,932	250,566	23,419	67,948	3,132		
● CHESTER 10-30N-2W POOL A	NIAGARAN REEF	1973	OTSEGO	CHESTER TWP., 30N-2W, SECTION 10	5,698	66 D	NIAGARAN	6,240	2	1	0	2	160							
● CHESTER 16-30N-2W	NIAGARAN REEF	1971	OTSEGO	CHESTER TWP., 30N-2W, SECTION 10	5,760	300 D	NIAGARAN	6,350	5	0	0	5	360	PRODUCTION COMBINED WITH CHESTER 21						
● CHESTER 18-30N-2W	NIAGARAN REEF	1971	OTSEGO	CHESTER TWP., 30N-2W, SECTIONS 16, 21	5,930	20 D	NIAGARAN	6,330	11	1	0	11	680	PRODUCTION COMBINED WITH CHESTER 21						
● CHESTER 19-30N-2W	NIAGARAN REEF	1971	OTSEGO	CHESTER TWP., 30N-2W, SECTIONS 17, 18, 19	6,054	30 D	NIAGARAN	6,512	2	1	0	2	120	118,221	295,792	88,953	145,878	2,465	1	
● CHESTER 21-30N-2W	NIAGARAN REEF	1970	OTSEGO	CHESTER TWP., 30N-2W, SECTION 19	5,772	283 D	CLINTON	6,483	3	0	0	3	200	1,320,226	3,815,141	781,381	2,050,598	3,077	9	
● CHESTER 30-30N-2W	NIAGARAN REEF	1973	OTSEGO	CHESTER TWP., 30N-2W, SECTION 21	6,232	39 D	NIAGARAN	6,350	1	0	0	1	80	8,148	8,787	3,911	3,911	110		
● DOVER 12-31N-2W	SALINA-NIAGARAN REEF	1974	OTSEGO	CHESTER TWP., 30N-2W, SECTION 30	4,932	5 D	NIAGARAN	5,044	1	1	0	1	80	217	217	SHUT-IN			3	
● DOVER 33-31N-2W	NIAGARAN REEF	1974	OTSEGO	DOVER TWP., 31N-2W, SECTION 12	5,413	9 D	NIAGARAN	5,678	3	3	0	3	240	925	925	SHUT-IN			4	
● DOVER 35-31N-2W	NIAGARAN REEF	1973	OTSEGO	DOVER TWP., 31N-2W, SECTION 33	5,475	41 D	NIAGARAN	5,810	3	1	0	3	240	29,378	29,844	13,728	13,728	124	2	
● DOVER 36-31N-2W	NIAGARAN REEF	1973	OTSEGO	DOVER TWP., 31N-2W, SECTION 35	5,485	135 D	NIAGARAN	5,835	3	0	0	3	240	84,801	85,388	44,629	44,629	356	3	
● HAYES 11-29N-4W	NIAGARAN REEF	1969	OTSEGO	DOVER TWP., 31N-2W, SECTION 36	6,180	57 D	NIAGARAN	6,515	4	0	0	3	640	81,352	605,221	63,064	222,872	946	320	
● HAYES 15-29N-4W	NIAGARAN REEF	1973	OTSEGO	HAYES TWP., 29N-4W, SECTIONS 2, 11, 12, 14	6,350	39 D	NIAGARAN	6,615	2	0	0	2	160	248,412	358,182	146,899	207,712	2,239	15	
● HAYES 21-29N-4W	NIAGARAN REEF	1972	OTSEGO	HAYES TWP., 29N-4W, SECTION 15	6,581	6 D	NIAGARAN	6,972	3	1	0	3	240	210,814	304,624	141,996	200,450	1,269	18	
● HAYES 29-29N-4W	SALINA-NIAGARAN REEF	1973	OTSEGO	HAYES TWP., 29N-4W, SECTION 21	6,474	53 D	NIAGARAN	6,982	2	2	0	2	160	405	405	SHUT-IN			3	
● HAYES 32-29N-4W	NIAGARAN REEF	1972	OTSEGO	HAYES TWP., 29N-4W, SECTION 29	6,462	5 D	NIAGARAN	6,873	2	1	0	2	240	81,945	93,953	47,897	49,344	391	23	
● HAYES 34-29N-4W	NIAGARAN REEF	1974	OTSEGO	HAYES TWP., 29N-4W, SECTION 32	6,836	25 D	NIAGARAN	7,050	2	2	0	2	160	15,026	15,026	4,780	4,780	94	3	
● OTSEGO LAKE 3-29N-3W	SALINA-NIAGARAN REEF	1971	OTSEGO	HAYES TWP., 29N-4W, SECTION 34	6,272	122 D	NIAGARAN	6,860	2	0	0	2	120	127,474	397,298	165,082	283,500	3,311		
● NORTH ALLIS 29-35N-2E	NIAGARAN REEF	1969	PRESQUE ISLE	OTSEGO LAKE TWP., 29N-3W, SECTIONS 3, 10	2,727	10 D	PRECAMBRIAN	5,940	1	0	0	1	40	469	4,512	SHUT-IN			113	
● WEXFORD 5-24N-12W	NIAGARAN REEF	1974	WEXFORD	NORTH ALLIS TWP., 35N-2E, SECTION 29	5,820	127 D	NIAGARAN	6,119	1	1	0	1	80	4,749	4,749				59	
● WEXFORD 9-24N-12W POOL A	NIAGARAN REEF	1973	WEXFORD	WEXFORD TWP., 24N-12W, SECTION 5	6,232	4 D	NIAGARAN	6,265	1	0	0	1	80	0	COND. 240	SHUT-IN			3	
● WEXFORD 9-24N-12W POOL B	NIAGARAN REEF	1974	WEXFORD	WEXFORD TWP., 24N-12W, SECTION 9	6,041	101 D	NIAGARAN	6,414	1	0	0	1	80						SHUT-IN	
● WEXFORD 10-24N-12W	NIAGARAN REEF	1972	WEXFORD	WEXFORD TWP., 24N-12W, SECTION 9	6,081	71 D	NIAGARAN	6,324	1	1	0	1	80	75	75	SHUT-IN				
● WEXFORD 18-24N-12W	NIAGARAN REEF	1973	WEXFORD	WEXFORD TWP., 24N-12W, SECTION 10	5,842	96 D	NIAGARAN	6,130	2	0	0	2	280	0	COND. 55	SHUT-IN				
										TOTALS										
										35,092	7,881,298	16,283,472	44,264,603	68,777,973	89,543	3,622				

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.

TABLE 3 MICHIGAN OIL AND GAS FIELDS

POOL CLASSIFICATION		● ACTIVE OIL FIELD OR POOL	☀ ACTIVE GAS FIELD OR POOL	☀ GAS-CONDENSATE FIELD OR POOL	⊕ GAS STORAGE RESERVOIR	● ABANDONED OIL FIELD OR POOL	☀ ABANDONED GAS FIELD OR POOL	☀ ABANDONED GAS-CONDENSATE FIELD OR POOL	⊖ UNDEVELOPED GAS STORAGE RESERVOIR										
FIELD NAME	PRODUCING FORMATION OR POOL	YEAR OF DISC.	COUNTY	TOWNSHIP	PAY ZONE	DEEPEST FORMATION OR POOL TESTED	DEPTH IN FEET	NUMBER OF WELLS	DRIILLED ACRES	OIL PRODUCTION - BBLs		GAS PRODUCTION - Mcf		RECOVERY PER ACRE DRIILLED (BBLs.)	TOTAL BARRELS DRINE PER DAY				
										PRODUCED IN 1974	CUMULATIVE THROUGH 1974	PRODUCED IN 1974	CUMULATIVE THROUGH 1974						
● ADAIR	SALINA-NIAGARAN	1961	ST. CLAIR	CHINA TWP., 4N-16E, SECTION 7	2,719	10 D	NIAGARAN	2,755	15	0	0	12	560	6,620	317,754	0	468,773	567	125
● ADAMS	TRaverse	1937	ARENAC-BAY	ADAMS TWP., 19N-3E, SECTIONS 21, 23 THROUGH 27, 34, 35, 36	2,032	15 L	BOIS BLANC	5,079	24	0	1	7	240	1,128					22
● ADAMS	DUNDEE	1937	ARENAC-BAY	ADAMS TWP., 19N-3E, SECTIONS 21, 23 THROUGH 27, 34, 35, 36	2,958	15 L	BOIS BLANC	5,079	24	0	1	7	240	1,128					12
● ADAMS	DETROIT RIVER S2	1956	ARENAC-BAY	ADAMS TWP., 19N-3E, SECTIONS 21, 23 THROUGH 27, 34, 35, 36	3,943	5 L	BOIS BLANC	5,079	24	0	1	7	240	1,128					
● ADAMS	RICHFIELD	1941	ARENAC-BAY	ADAMS TWP., 19N-3E, SECTIONS 21, 23 THROUGH 27, 34, 35, 36	4,278	5 L	BOIS BLANC	5,079	24	0	1	7	240	1,128					2
● ADAMS, NORTH	BEREA	1942	ARENAC	ADAMS TWP., 19N-3E, SECTIONS 21, 23 THROUGH 27, 34, 35, 36	1,605	1 S	DUNDEE	3,101	1	ABANDONED 1948			40					1,280	
● ADAMS, NORTH	DUNDEE	1940	ARENAC	ADAMS TWP., 19N-3E, SECTIONS 21, 23 THROUGH 27, 34, 35, 36	2,905	15 D	DETROIT RIVER	4,489	48	0	0	19	470	17,668	9,335,997			19,863	2,233
● ADAMS, SEC. 8	TRaverse	1962	HILLSDALE	ADAMS TWP., 19N-3E, SECTIONS 11, 14, 15, 22, 23, 27	1,420	4 L	PRAIRIE DU CHIEN	4,169	1	ABANDONED 1965			20					18,919	
● AKRON	DUNDEE	1936	TUSCOLA	ADAMS TWP., 6S-2W, SECTION 8	2,678	17 L	NIAGARAN	7,941	50	0	3	31	1,100	14,495					131
● AKRON	DETROIT RIVER S2	1938	TUSCOLA	ADAMS TWP., 6S-2W, SECTION 8	3,422	11 D	NIAGARAN	7,941	50	0	3	31	1,100	14,495					73
● AKRON	RICHFIELD	1954	TUSCOLA	ADAMS TWP., 6S-2W, SECTION 8	3,774	6 D	NIAGARAN	7,941	50	0	3	31	1,100	14,495					
● AKRON	A-2 CARBONATE	1973	TUSCOLA	ADAMS TWP., 6S-2W, SECTION 8	6,868	107 D	NIAGARAN	7,941	50	0	3	31	1,100	14,495					
● AKRON	A-1 CARBONATE	1973	TUSCOLA	ADAMS TWP., 6S-2W, SECTION 8	7,452	60 D	NIAGARAN	7,941	50	0	3	31	1,100	14,495					
● ALAMO	TRaverse	1949	KALAMAZOO	AKRON TWP., 14N-8E, SECTIONS 19, 20, 21, 28, 29, 30	1,310	2 L	TRaverse	1,420	16	ABANDONED 1962			160	27,545					172
● ALBION	TRaverse	1941	CALHOUN	ALAMO TWP., 1S-12W, SECTIONS 19, 29, 30	1,610	7 L	PRAIRIE DU CHIEN	4,623	4	ABANDONED 1948			120					6,114	
										ALBION-PULASKI-SCIPIO TREND: FIELD AND PRODUCTION DATA LISTED BY TOWNSHIP AND COUNTY									
● CAL-LEE	NIAGARAN REEF	1962	CALHOUN	CAL-LEE TWP., 1S-5W, SECTIONS 9, 15, 16, 22	3,036	8 D	PRAIRIE DU CHIEN	4,975	8	1	0	5	440	162	162	211,682	1,830,697		
● LEE TWP.	NIAGARAN REEF	1961	CALHOUN	LEE TWP., 1S-5W, SECTIONS 9, 15, 16, 22	3,060	20 D	PRAIRIE DU CHIEN	4,926	1	ABANDONED 1972			80						
● LEE TWP.	TRENT.-BLK. RIVER	1960	CALHOUN	LEE TWP., 1S-5W, SECTIONS 9, 15, 16, 22	4,600	24 D	PRAIRIE DU CHIEN	4,926	29	2	0	20	440	81,377	2,414,162			5,487	1,262
● SHERIDAN TWP.	TRENT.-BLK. RIVER	1960	CALHOUN	LEE TWP., 1S-5W, SECTIONS 17, 22, 23, 25, 26, 36	4,179	10+ D	PRAIRIE DU CHIEN	4,791	45	0	0	38	810	91,737	4,585,842	153,964	3,086,417	5,661	742
● ALBION TWP.	TRENT.-BLK. RIVER	1958	CALHOUN	SHERIDAN TWP., 2S-4W, SECTIONS 17, 18, 19, 20, 21, 28, 33	3,952	7 D	PRAIRIE DU CHIEN	4,623	143	0	3	133	2,760	646,936	22,493,435	2,185,275	40,315,329	8,150	3,401
● PULASKI-HOMER TWPS.	TRENT.-BLK. RIVER	1959	JACKSON-CALHOUN	ALBION TWP., 3S-4W, SECTIONS 3, 4, 10, 11, 14, 15, 22, 23, 26, 27, 35, 36	3,766	66+ D	PRAIRIE DU CHIEN	4,395	140	0	0	134	2,680	584,936	25,355,308	3,177,971	41,678,205	9,460	7,470
● SCIPIO-FAYETTE-MOSCOW TWPS.	TRENT.-BLK. RIVER	1957	HILLSDALE	PULASKI TWP., 4S-3W, SECTIONS 6, 7, 8, 17, 18, 19, 20, 21, 28, 29, 32, 33, 34	3,576	50+ D	PRAIRIE DU CHIEN	4,202	205	0	1	187	3,560	1,249,711	46,099,443	3,824,068	52,600,937	12,949	7,729
● ADAMS TWP.	TRENT.-BLK. RIVER	1959	HILLSDALE	SCIPIO TWP., 5S-3W, SECTIONS 3, 4, 10 THROUGH 15, 23, 24, 25, 26	3,984	6+ D	PRAIRIE DU CHIEN	4,162	68	10	3	51	1,190	191,430	7,190,173	791,528	10,306,299	6,042	864
										TREND TOTAL (NOTE: CAL-LEE FIGURES NOT INCLUDED IN TREND TOTALS)									
										631	12	7	601	11,440	2,846,127	108,138,363	10,132,806	147,801,549	9,453
										SEE CENTER SPREAD MAP FOR TOWNSHIPS ASSOCIATED WITH ALBION-SCIPIO TREND									
● ALGONAC	ANTRIM	1947	ST. CLAIR	ALBION TWP., 3S-4W, SECTIONS 3, 4, 10, 11, 14, 15, 22, 23, 26, 27, 35, 36	302	6 SH	CABOT HEAD	2,504	2	ABANDONED 1951			80</						

POOL CLASSIFICATION		ACTIVE OIL FIELD OR POOL	ACTIVE GAS FIELD OR POOL	GAS-CONDENSATE FIELD OR POOL	GAS STORAGE RESERVOIR	UNDEVELOPED OIL FIELD OR POOL		UNDEVELOPED GAS FIELD OR POOL	UNDEVELOPED GAS-CONDENSATE FIELD OR POOL	UNDEVELOPED GAS STORAGE RESERVOIR	TOTAL BARRELS DRILLED PER DAY	
FIELD NAME	PRODUCING FORMATION OR POOL	YEAR OF DISC.	COUNTY TOWNSHIP	PAY ZONE	DEEPEST FORMATION OR POOL TESTED	DEPTH IN FEET	NUMBER OF WELLS	DRILLED ACRES	OIL PRODUCTION - BBLs	GAS PRODUCTION - Mcf	RECOVERY PER ACRE DRILLED	TOTAL BARRELS DRILLED PER DAY
									PRODUCED IN 1974	CUMULATIVE THROUGH 1974	IN 1974	PER ACRE DRILLED
ALPHELIUS 26-2N-2W	NIAGARAN REEF	1974	NIAGARA	100 D	NIAGARAN	4,445	2	160				
ALPHELIUS TWP., 2N-2W, SECTION 26												
ALPHELIUS 28-2N-2W	NIAGARAN REEF	1971	NIAGARA	60 D	NIAGARAN	4,445	4	320	195,025	469,729	91,232	222,506
ALPHELIUS TWP., 2N-2W, SECTIONS 26, 35, 36												
EASTIN REFER TO TABLE 3 DEVELOPED GAS STORAGE RESERVOIRS												
BANDER	TRVERSE	1933	VAN BUREN	2 L	TRENTON	2,552	45	210		933,955		1,331
BANDER TWP., 2S-16W, SECTIONS 4, 5, 9, 10, 14, 15, 16, 21, 28, 29												
BAIRD	DUNDEE	1949	GLADWIN	6 L	DUNDEE	4,017	17	170	3,526	579,460		3,469
BEAVERTON TWP., 17N-2W, SECTIONS 5, 6 GROUT TWP., 18N-2W, SECTIONS 31, 32												
BARTON	TRVERSE	1947	NEWAYGO	1	DETROIT RIVER	3,745	3	50		20,227		405
BARTON TWP., 16N-11W, SECTION 16												
BEAVER, SEC. 31	BEREA	1954	BAY	16 SL	SYLVANIA	4,754	1	10		1,053		105
BEAVER TWP., 15N-3E, SECTION 31												
BEAVER CREEK UNIT	RICHFIELD	1947	CRANFORD-KALKASKA	20 D	ST. PETER	10,142	105	52	4,240	560,144	10,285,956	88,960
BEAVER CREEK TWP., 25N-4W, SECTIONS 7, 8, 16 THROUGH 21, 27, 28, 29 GARFIELD TWP., 25N-5W, SECTIONS 12, 13												
BEAVERTON	DUNDEE	1934	GLADWIN	12 L	RICHFIELD	5,225	26	330	2,437	884,604		2,681
BEAVERTON TWP., 17N-2W, SECTIONS 2, 3, 11, 13												
BEAVERTON, SOUTH	TRVERSE	1956	GLADWIN	6 L	DETROIT RIVER	4,977	1	700	18,290	1,717,908		2,454
BEAVERTON TWP., 17N-2W, SECTIONS 26, 27, 35, 36 TOBACCO TWP., 17N-1W, SECTION 31 THE 19 WELLS INCLUDE 18 DUNDEE & 1 DUNDEE & TRVERSE												
BEAVERTON, WEST	DUNDEE	1943	GLADWIN	2 L	DETROIT RIVER	5,094	7	4	260	7,003	201,959	777
BEAVERTON TWP., 17N-2W, SECTION 19												
BELLE RIVER MILLS REFER TO TABLE 3 DEVELOPED GAS STORAGE RESERVOIRS												
BELLY ACHERS	DUNDEE	1944	MONTCALM	1.3 D	DUNDEE	3,615	7	220	1,007	341,821		1,554
HOME TWP., 12N-6W, SECTIONS 11, 14												
BENONA, SEC. 13	TRVERSE	1949	OCCANA	3 L	DETROIT RIVER	2,276	2	20		4,951		248
BENONA TWP., 14N-18W, SECTION 13												
BENTLEY	TRVERSE	1952	GLADWIN	6 L	SYLVANIA	5,114	1	40				199
BENTLEY TWP., 17N-2E, SECTIONS 16 THROUGH 21, 27, 28, 29, 34, 35 THE 41 WELLS INCLUDE 40 DUNDEE AND 1 MULTIPLE COMPLETION TRVERSE, DUNDEE, & RICHFIELD												
BERLIN	NIAGARAN	1960	ST. CLAIR	25 D	CINCINNATI	4,310	4	140	7,356	364,840		2,606
BERLIN TWP., 6N-13E, SECTIONS 32, 33												
BEVENS LAKE	MICHIGAN STRAY	1952	MECOSTA	6 S	REED CITY	3,731	3	160			515,405	
BEVENS LAKE TWP., 12N-11W, SECTION 16												
BIG HAND	TRVERSE	1951	NIAGARA	1 L	CLINTON	4,440	14	40.0				2,388
GREEN TWP., 16N-10W, SECTION 13												
BIG PRAIRIE	NIAGARAN	1961	ST. CLAIR	5+ D	CLINTON	3,097	10	200	33,419	833,372	80,636	545,241
COLUMBUS TWP., 5N-15E, SECTION 24												
BIG PRAIRIE, SEC. 33	DUNDEE	1947	NEWAYGO	2 L	DUNDEE	2,900	1	40				62,324
BIG PRAIRIE TWP., 13N-11W, SECTION 33												
BIG RAPIDS	MICHIGAN STRAY	1943	MECOSTA	7 S	REED CITY	3,595	9	1,440			2,393,033	
BIG RAPIDS TWP., 15N-10W, SECTIONS 3, 9, 10, 11, 13												
BILLINGS	DUNDEE	1949	GLADWIN	6 L	RICHFIELD	4,995	20	400	6,117			
BILLINGS TWP., 17N-1E, SECTIONS 2, 3, 10, 11 THE 9 WELLS INCLUDE 8 SOUR ZONE & 1 SOUR ZONE & DUNDEE												
BILLINGS, SOUTH	DUNDEE	1957	GLADWIN	5 ?	DETROIT RIVER	4,152	8	70	8,023	185,809		2,654
BILLINGS TWP., 17N-1E, SECTIONS 12, 13 BENTLEY TWP., 17N-2E, SECTION 18												
BIRCH-BELA	DUNDEE	1951	SAGINAW-TUSCOLA	7 L	DETROIT RIVER	3,263	30	340	12,667	340,924		1,003
BIRCH RUN TWP., 10N-6E, SECTIONS 25, 36 ARBELA TWP., 10N-7E, SECTIONS 30, 31, 32												
BIRCH RUN	BEREA	1934	SAGINAW	5 S	DUNDEE	2,646	26	250		215,876		864
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)												
BISHOP	TRVERSE	1950	NEWAYGO	3 L	TRVERSE	2,238	7	110		33,327		303
GARFIELD TWP., 12N-13W, SECTIONS 19, 20, 30												
BLISSFIELD	TRENT-BLN. RIVER	1963	LENAWEE	9 D	GLENWOOD	3,251	1	40		567		52,905
BLISSFIELD TWP., 7S-5E, SECTION 5 GAS RESERVOIR PRODUCING SMALL QUANTITIES OF OIL (SHUT-IN)												
BLOOMER	TRVERSE	1944	MONTCALM-IONIA	3.3 L	DETROIT RIVER	3,271	29	4	530	2,486	1,957,549	3,693
BLOOMER TWP., 9N-5W, SECTIONS 31, 32 BUSHNELL TWP., 9N-6W, SECTION 36 NORTH PLAINS TWP., 8N-5W, SECTIONS 5, 6												
BLOOMER, SEC. 18	TRVERSE	1936	MONTCALM	6 L	DUNDEE	3,138	1	10		814		81
BLOOMER TWP., 9N-5W, SECTION 18												

POOL CLASSIFICATION		ACTIVE OIL FIELD OR POOL	ACTIVE GAS FIELD OR POOL	GAS-CONDENSATE FIELD OR POOL	GAS STORAGE RESERVOIR	UNDEVELOPED OIL FIELD OR POOL		UNDEVELOPED GAS FIELD OR POOL	UNDEVELOPED GAS-CONDENSATE FIELD OR POOL	UNDEVELOPED GAS STORAGE RESERVOIR	TOTAL BARRELS DRILLED PER DAY	
FIELD NAME	PRODUCING FORMATION OR POOL	YEAR OF DISC.	COUNTY TOWNSHIP	PAY ZONE	DEEPEST FORMATION OR POOL TESTED	DEPTH IN FEET	NUMBER OF WELLS	DRILLED ACRES	OIL PRODUCTION - BBLs	GAS PRODUCTION - Mcf	RECOVERY PER ACRE DRILLED	TOTAL BARRELS DRILLED PER DAY
									PRODUCED IN 1974	CUMULATIVE THROUGH 1974	IN 1974	PER ACRE DRILLED
BLOOMINGDALE	TRVERSE	1938	VAN BUREN	4 L	ST. PETER SS.	1,244	3	16	4,040	6,637	10,009,510	2,478
BLOOMINGDALE TWP., 1S-14W, SECTIONS 1, 2, 3, 6 THROUGH 18, 24 COLUMBIA TWP., 1S-15W, SECTIONS 1, 2, 10 THROUGH 16, 23, 24												
BOYD	SALINA-NIAGARAN	1958	ST. CLAIR	292 D	PRECAMBRIAN	2,457	49	37	1,840	52,718	1,938,491	754,160
CASCO TWP., 4N-15E, SECTIONS 29, 31, 32, W 28, W 33 IRA TWP., 3N-15E, SECTIONS 5, 6												
BREEDSVILLE	TRVERSE	1943	VAN BUREN	2 L	DETROIT RIVER	1,061	2	300		285,584		952
GENEVA TWP., 1S-16W, SECTIONS 23, 24, 25, 26												
Brinton	DUNDEE	1967	ISABELLA	3 D	DUNDEE	4,082	1	40		19,308		483
COLDWATER TWP., 16N-6W, SECTION 5												
BROOMFIELD-DEERFIELD REFER TO TABLE 4 UNDEVELOPED GAS STORAGE RESERVOIRS												
BRUCE	NIAGARAN REEF	1974	MACOMB		NIAGARAN	4,029	1	160				SHUT-IN
BRUCE TWP., 5N-12E, SECTION 30												
BUCKEYE, NORTH	DUNDEE	1936	GLADWIN	14 L	SYLVANIA	3,615	287	53	3,030	99,362	19,537,245	9,834
BUCKEYE TWP., 18N-1W, SECTIONS 1, 2, 3, 4, 9 THROUGH 15 MAY TWP., 18N-1E, SECTIONS 15, 16, 21, 22												
BUCKEYE, SOUTH	TRVERSE	1956	GLADWIN	3 D	DETROIT RIVER	2,891	3	270				
BUCKEYE TWP., 18N-1W, SECTIONS 22 THROUGH 27, 35, 36 HAY TWP., 18N-1E, SECTION 33 BILLINGS TWP., 17N-1E, SECTIONS 4, 9, 10 TOBACCO TWP., 17N-1W, SECTION 1												
BURDELL	DUNDEE	1959	OSCEOLA	4 L	REED CITY	3,678	6	1	120		153,618	SHUT-IN
BURDELL TWP., 20N-10W, SECTION 19												
BUSHNELL	DUNDEE	1935	MONTCALM	2 L	DUNDEE	3,105	2	10		4,035		403
BUSHNELL TWP., 9N-6W, SECTION 1												
BUTMAN	TRVERSE	1950	GLADWIN	2 L	SYLVANIA	2,789	1	ABANDONED 1953				PRODUCTION COMBINED WITH BUTMAN RICHFIELD
BUTMAN TWP., 20N-1W, SECTION 12 (TRVERSE) BUTMAN TWP., 20N-1W, SECTIONS 11, 12, 13, 14 (DUNDEE & RICHFIELD)												
BUTMAN	DUNDEE	1949	GLADWIN	6 L	41.4		5	0	5	240	4,354	322,943
BUTMAN TWP., 20N-1W, SECTION 12 (TRVERSE) BUTMAN TWP., 20N-1W, SECTIONS 11, 12, 13, 14 (DUNDEE & RICHFIELD)												
CAL-LEE	TRVERSE	1950	GLADWIN	2 L	SYLVANIA	5,027	1	ABANDONED 1953				PRODUCTION COMBINED WITH BUTMAN RICHFIELD
CAL-LEE TWP., 20N-1W, SECTION 12 (TRVERSE) BUTMAN TWP., 20N-1W, SECTIONS 11, 12, 13, 14 (DUNDEE & RICHFIELD)												
CANNON CREEK	TRVERSE	1950	MUSKOGEE-KALKASKA	11 L	RICHFIELD	2,695	21	ABANDONED 1956	3,360			851,369
CANNON CREEK TWP., 24N-6W, SECTIONS 6, 7, 18 PIONEER TWP., 24N-7W, SECTIONS 1, 2, 12, 13 GARFIELD TWP., 25N-6W, SECTION 31 GARFIELD TWP., 25N-7W, SECTIONS 25, 36												
CAPAC	NIAGARAN	1961	ST. CLAIR	6 D	MT. SIMON SS.	4,505	6	48	9,120	5,983	434,364	21,262,697
CAPAC TWP., 7N-13E, SECTIONS 4, 5, 8, 9, 16 THROUGH 21, 28, 29, 30, 32, 33 (SEE UNDEVELOPED GAS STORAGE) GAS RESERVOIR PRODUCING SMALL QUANTITIES OF COND.												
CAREY LAKE	REED CITY	1966	NEWAYGO	2 D	REED CITY	3,413	2	80		19,021		238
GOODWELL TWP., 14N-11W, SECTION 26												
CASCO	TRVERSE	1940	ALLEGAN-VAN BUREN	1.5 L	TRVERSE	1,095	9	ABANDONED 1959	50		17,382	348
CASCO TWP., 1N-16W, SECTIONS 34, 35 GENEVA TWP., 1S-16W, SECTION 4												
CAT CREEK	DUNDEE	1968	OSCEOLA	4 L	DUNDEE	3,696	8	7	300	20,296	407,930	1,360
HERSEY TWP., 17N-9W, SECTIONS 4, 9												
CATO	REED CITY	1944	MONTCALM-MECOSTA	3 D	DETROIT RIVER	3,542	21	630	19,602	1,086,500		1,725
CATO TWP., 12N-8W, SECTIONS 3, 4, 6, 8, 9 DEERFIELD TWP., 13N-9W, SECTION 36												
CEDAR	MICHIGAN STRAY	1945	OSCEOLA	7 S	SYLVANIA	1,490	5	4	800			1,402,820
CEDAR TWP., 18N-9W, SECTIONS 27, 28, 32, 33 (MICHIGAN STRAY) CEDAR TWP., 18N-9W, SECTIONS 10, 27, 28, 33, 34 (DUNDEE AND RICHFIELD)												
CEDAR CREEK	"BEREA"	1940	MUSKOGEE	7 D	DUNDEE	2,252	7	ABANDONED 1960	1,120			624,528
CEDAR CREEK TWP., 11N-15W, SECTIONS 7, 17, 18, 19, 20, 32												
CEDAR CREEK, SEC. 23	TRVERSE	1949	MUSKOGEE	2 L	DUNDEE	1,951	2	ABANDONED 1968	50		2,652	53
CEDAR CREEK TWP., 11N-15W, SECTION 23												
CHASE	"BEREA"	1943	LAKE	4 SL	DETROIT RIVER	2,460	2	20	291	8,778		439
CHASE TWP., 17N-11W, SECTIONS 19, 29												
CHERRY GROVE	TRVERSE	1952	WEXFORD	4 D	DUNDEE	3,145	1	ABANDONED 1953	10		4,814	481
CHERRY GROVE TWP., 21N-10W, SECTION 27												
CHERRY GROVE, SEC. 13	MICHIGAN STRAY	1957	WEXFORD	35 S	DUNDEE	1,326	5	ABANDONED 1973	640			924,719
CHERRY GROVE TWP., 21N-10W, SECTION 13 CLAM LAKE TWP., 21N-9W, SECTIONS 7, 18												
CHESHIRE	TRVERSE	1947	ALLEGAN	2 L	TRVERSE	1,289	3	ABANDONED 1958	30		5,290	310
CHESHIRE TWP., 1N-14W, SECTIONS 26, 27												
CHESTER	ANTRIM	1965	OTSEGO	7 SH	NIAGARAN	1,360	16	16	640		91,456	732,388
CHESTER TWP., 29N-2W, SECTIONS 10, 11, 14, 15, 16												
CHESTERFIELD	NIAGARAN	1962	MACOMB	7 D	CLINTON	2,508	7	2	280	2,759	52,986	124,698
CHESTERFIELD TWP., 3N-14E, SECTION 28, 29												
CHINA BELLE	NIAGARAN REEF	1963	ST. CLAIR	15 D	NIAGARAN	2,365	3	ABANDONED 1971	120		2,227	461,508
CHINA TWP., 4N-16E, SECTIONS 34, 35 GAS RESERVOIR PRODUCING SMALL QUANTITIES OF OIL												
CHINA, SEC. 12	NIAGARAN REEF	1962	ST. CLAIR	11 D	CLINTON	2,509	2	ABANDONED 1970	80		11,895	27,721
CHINA TWP., 4N-16E, SECTION 12												
CHINA, SEC. 31	SALINA	1959	ST. CLAIR	13 D	CLINTON	2,378	1	ABANDONED 1964				PRODUCTION COMBINED WITH COTTRELLVILLE IN 1962
CHINA TWP., 4N-16E, SECTION 31												

POOL CLASSIFICATION		● ACTIVE OIL FIELD OR POOL	☀ ACTIVE GAS FIELD OR POOL	☀ GAS-CONDENSATE FIELD OR POOL	⊕ GAS STORAGE RESERVOIR	⊖ UNDEVELOPED GAS STORAGE RESERVOIR						
FIELD NAME	PRODUCING FORMATION OR POOL	YEAR OF DISC.	COUNTY TOWNSHIP	PAY ZONE	DEEPEST FORMATION OR POOL TESTED	DEPTH IN FEET	NUMBER OF WELLS	DRILLED ACRES	OIL PRODUCTION - BBLs	GAS PRODUCTION - M.C.F.	RECOVERY PER ACRE DRILLED (BBLs.)	TOTAL BARRELS BRINE PER DAY
				DEPTH IN FEET	THICKNESS AND LITHOLOGY	OIL GRAVITY A.P.I.	TO COMP. ABAND. IN 1974	ACTIVE IN 1974	PRODUCED IN 1974	CUMULATIVE THROUGH 1974	PRODUCED IN 1974	CUMULATIVE THROUGH 1974
● CHINA, SOUTH	SALINA-NIAGARAN REEF	1961	ST. CLAIR	2,324	14 D		11	0	0	5	440	
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		1	0	0	1	10	1,250
CHIPPEWA TWP., 14N-2W, SECTION 10												
● CLARE CITY	MICHIGAN STRAY	1937	CLARE-ISABELLA	1,290	5 S		8	0	0	1	720	2,294,990
CLARE 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	7	0	0	4	120	881
GRANT TWP., 17N-4W, SECTIONS 24, 35, 36 WISE TWP., 16N-3W, SECTION 6												
● CLARENCE 19-15-4W	NIAGARAN REEF	1971	CALHOUN	3,154	24 D		1	0	0	1	160	0
CLARENCE TWP., 15-4W, SECTION 19												
● CLAYTON	BEREA	1936	ARENAC	1,180	10 S		31	0	0	17	1,560	5,111,040
CLAYTON TWP., 20N-4E, SECTIONS 4, 5, 8, 9, 10, 11, 14, 15												
● CLAYTON	DUNDEE	1935	ARENAC-OGEMAW	2,465	12 DL	34.2	80	0	0	47	1,290	38,126
●	DETROIT RIVER	1953		3,507	9 D	45.9						
●	RICHFIELD	1947		3,790	9 D	36.2		5	0	0	5	200
CLAYTON TWP., 20N-4E, SECTIONS 3, 4, 5, 8, 9, 10, 11 RICHMOND TWP., 21N-4E, SECTION 31 THE 5 WELLS INCLUDE 3 RICHFIELD, 1 S2 & 1 DUAL COMPLETION RICHFIELD 6 S2												
● CLEAR LAKE	TRAVERSE	1950	VAN BUREN	1,380	1 L		14	0	0	1	140	17,490
PINE GROVE TWP., 15-13W, SECTIONS 3, 4, 9, 10												
● CLINTON	TRAVERSE	1953	WASHTENAW	986	2 D		2	0	0	2	20	2,093
BRIDGEMAN TWP., 4S-4E, SECTION 28												
● COFFEE LAKE	TRAVERSE	1946	VAN BUREN	1,128	1 L		11	0	0	1	110	34,649
COLUMBIA TWP., 15-15W, SECTIONS 17, 18												
⊕ COLDWATER	REFER TO TABLE 3 DEVELOPED GAS STORAGE RESERVOIRS											
● COLDWATER	DUNDEE	1944	ISABELLA	3,692	25 L	48.0	81	0	0	52	3,200	33,436
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		1	0	0	20	20	10,941
SHERMAN TWP., 15N-6W, SECTION 8												
● COLE LAKE	TRAVERSE	1968	NEWAYGO	2,928	8 L		2	0	0	1	40	452
BARTON TWP., 16N-11W, SECTIONS 29, 30												
● COLFAX	MICHIGAN STRAY	1945	MECOSTA	1,240	8 S		4	0	0	1	640	485,844
●	DUNDEE	1964		3,503	25 L	43.0		2	0	0	40	2,188
●	DUNDEE-REED CITY	1957		3,474	9 D		1	0	0	1	160	5,121
COLFAX TWP., 15N-9W, SECTIONS 4, 5												
● COLLIN	SALINA-NIAGARAN REEF	1968	ST. CLAIR	2,196	4 D		2	0	0	2	80	2,019
COTTRELLVILLE TWP., 3N-16E, SECTION 20												
⊕ COLUMBUS	REFER TO TABLE 3 DEVELOPED GAS STORAGE RESERVOIRS											
● COLUMBUS, SEC. 2	NIAGARAN REEF	1971	ST. CLAIR	2,798	8 D	29	2	0	0	2	80	302
COLUMBUS TWP., 5N-15E, SECTION 2 WALES TWP., 6N-15E, SECTION 35												
● COLUMBUS, SEC. 3	NIAGARAN REEF	1968	ST. CLAIR	3,105	15 D		23	0	3	20	460	360,473
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		1	0	0	1	160	70
COLUMBUS TWP., 5N-15E, SECTION 20												
● COLUMBUS, SEC. 23	NIAGARAN REEF	1965	ST. CLAIR	2,900	46+ D		6	0	1	5	240	1,568
COLUMBUS TWP., 5N-15E, SECTIONS 23, 25												
● COLUMBUS, SEC. 32	NIAGARAN REEF	1970	ST. CLAIR	2,983	16 D		2	0	0	2	80	0
COLUMBUS TWP., 5N-15E, SECTION 32												
● COLUMBUS, NORTH	NIAGARAN REEF	1968	ST. CLAIR	3,266	8 D		11	0	0	11	260	112,849
COLUMBUS TWP., 5N-15E, SECTIONS 5, 6												
● COLUMBUS, WEST	SALINA-NIAGARAN REEF	1967	ST. CLAIR	3,183	14+ D		13	0	0	13	520	0
COLUMBUS TWP., 5N-15E, SECTIONS 7, 17, 18												
● COMSTOCK, SEC. 5	TRAVERSE	1949	KALAMAZOO	1,430	3 L		2	0	0	20	20	974
COMSTOCK TWP., 25-10W, SECTION 5												
● CONCORD	TRAVERSE	1953	JACKSON	1,627	1 L		5	0	0	50	50	6,437
CONCORD TWP., 35-3W, SECTIONS 35, 36												
● COON CREEK	NIAGARAN	1963	MACOMB	3,034	20 D		2	0	0	2	80	134,116
LENOX TWP., 4N-14E, SECTION 18												
● COOPERSVILLE	"BEREA"	1935	OTTAWA	1,240	5 D		3	0	0	3	240	108,839
WRIGHT TWP., 8N-13W, SECTIONS 7, 19												
● COTTRELLVILLE	SALINA-NIAGARAN REEF	1961	ST. CLAIR	2,262	6 D	38.7	12	0	0	7	280	4,533
CHINA TWP., 4N-16E, SECTION 31 COTTRELLVILLE TWP., 3N-16E, SECTIONS 6, 7, 8 IRA TWP., 3N-15E, SE2 SECTION 1, NE2 SECTION 12												
● COTTRELLVILLE	NIAGARAN REEF	1959	ST. CLAIR	2,293	37 D		2	0	0	2	240	173,678
COTTRELLVILLE TWP., 3N-16E, SECTIONS 6, 7, 8												
⊕ CRANBERRY LAKE	REFER TO TABLE 3 DEVELOPED GAS STORAGE RESERVOIRS											

POOL CLASSIFICATION		● ACTIVE OIL FIELD OR POOL	☀ ACTIVE GAS FIELD OR POOL	☀ GAS-CONDENSATE FIELD OR POOL	⊕ GAS STORAGE RESERVOIR	⊖ UNDEVELOPED GAS STORAGE RESERVOIR						
FIELD NAME	PRODUCING FORMATION OR POOL	YEAR OF DISC.	COUNTY TOWNSHIP	PAY ZONE	DEEPEST FORMATION OR POOL TESTED	DEPTH IN FEET	NUMBER OF WELLS	DRILLED ACRES	OIL PRODUCTION - BBLs	GAS PRODUCTION - M.C.F.	RECOVERY PER ACRE DRILLED (BBLs.)	TOTAL BARRELS BRINE PER DAY
				DEPTH IN FEET	THICKNESS AND LITHOLOGY	OIL GRAVITY A.P.I.	TO COMP. ABAND. IN 1974	ACTIVE IN 1974	PRODUCED IN 1974	CUMULATIVE THROUGH 1974	PRODUCED IN 1974	CUMULATIVE THROUGH 1974
● CRANBERRY LAKE	TRAVERSE	1952	CLARE	3,120	7 L	39.0	7	0	0	1	2	70
●	DUNDEE	1943		3,835	2 L	42.8						432
●	DETROIT RIVER S2	1953		4,801	16 D	48.8						
●	RICHFIELD	1951		5,048	15 D	51.0						2,147
WINTERFIELD TWP., 20N-6W, SECTIONS 1, 2, 11, 12												
● CRANBERRY LAKE, EAST	TRAVERSE	1963	CLARE	3,057	6 L	39.2	2	0	0	1	20	11,978
●	DUNDEE	1963		3,760	6 L	43.5						200
●	RICHFIELD	1964		5,087	12 D	44.0		6	0	0	6	80
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		2	0	0	2	2	40
CLYDE TWP., 2N-15W, SECTION 25												
⊕ CROTON	REFER TO TABLE 3 DEVELOPED GAS STORAGE RESERVOIRS											
● CROTON	TRAVERSE	1951	NEWAYGO	2,543	2 L		10	0	0	10	200	91,678
CROTON TWP., 12N-11W, SECTIONS 20, 29												
● CRUMP	DUNDEE	1950	BAY	3,294	7 L		1	0	0	1	10	1,043
GARFIELD TWP., 16N-3E, SECTION 23												
● CRYSTAL	TRAVERSE	1954	MONTCALM	2,769	4 L	41.8	2	0	0	1	20	9,509
●	DUNDEE	1935		3,187	4 D	43.5		193	0	0	7	2,000
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	5	0	0	1	50	0
●	DUNDEE	1957		2,575	12 D	42.5		19	0	0	420	203,747
CRYSTAL TWP., 16N-16W, SECTIONS 9, 10, 11, 14, 15, 16												
● CRYSTAL VALLEY	DUNDEE	1946	OCEANA	2,400	7 L		4	0	0	4	160	162,079
●	SALINA	1961		4,102	10 D		1	0	0	1	40	40
CRYSTAL TWP., 16N-16W, SECTIONS 11, 14, 15, 16												
● CRYSTAL VALLEY, SEC. 19	TRAVERSE	1971	OCEANA	1,689	1.5 L		2	0	0	2	40	1,380
●	DUNDEE	1971		2,222	11 L		1	0	0	1	20	20
CRYSTAL TWP., 16N-16W, SECTION 19												
● CRYSTAL VALLEY, SOUTH	TRAVERSE	1969	OCEANA	1,739	1 L		1	0	0	1	40	417
CRYSTAL TWP., 16N-16W, SECTION 20												
● CURRIE	DUNDEE	1936	ISABELLA	3,918	2 D	45.9	2	0	0	2	40	742
VERNON TWP., 16N-6W, SECTIONS 5, 8												
● DALLAS	TRAVERSE	1942	CLINTON	2,482	2 L		3	0	0	3	40	3,085
DALLAS TWP., 7N-4W, SECTION 21												
● DALTON	TRAVERSE	1940	MUSKEGON	1,851	5 L	40.0	16	0	0	2	300	537
DALTON TWP., 11N-16W, SECTIONS 10, 11, 15												
● DAY	MICHIGAN STRAY	1934	MONTCALM	1,352	4 S		2	0	0	2	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	1	0	0	1	10	3,095
●	DUNDEE	1946		3,337	2 L		2	0	0	2	20	16,239
DAY TWP., 11N-6W, SECTION 25 (TRAVERSE) DAY TWP., 11N-6W, SECTION 36 (DUNDEE)												
● DAY, SEC. 13	DUNDEE	1971	MONTCALM	3,414	15 L		1	0	0	1	20	2,689
DAY TWP., 11N-6W, SECTION 13												
● DEEP RIVER	BEREA	1936	ARENAC	1,490	10 S		12	0	0	3	1,520	1,609,812
DEEP RIVER TWP., 19N-4E, SECTIONS 7, 8, 16, 17, 18, 20												
● DEEP RIVER	DUNDEE	1944	ARENAC	2,795	145 D	35.8	106	0	0	37	1,060	61,405
●	RICHFIELD	1953										26,665,868
(CONSOLIDATED WITH STERLING DETROIT RIVER - RICHFIELD IN 1954) THE 37 WELLS INCLUDE 36 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	47	0	0	20	450	5,516
DUNDEE TWP., 6S-6E, SECTIONS 19, 29, 30 SUMMERFIELD TWP., 6S-6E, SECTION 31												
● DEMINGS LAKE	TRAVERSE	1968	LENAWEE	734	2 L		1	0	0	1	40	0
DOVER TWP., 7S-2E, SECTION 27												
● DENNISON	TRAVERSE	1963	OTTAWA	1,874	4 L	38.0	15	0	0	15	300	312,956
POLKTON TWP., 8N-14W, SECTIONS 21, 27, 28												
● DIAMOND CRYSTAL SALT	NIAGARAN REEF	1927	ST. CLAIR	2,483	17 D		1	0	0	1	40	0
ST. CLAIR TWP., 5N-17E, SECTION 31												
● DIAMOND SPRINGS	TRAVERSE	1938	ALLEGAN	1,461	3 L	41.0	56	0	0	7	420	1,249
●	SALINA-E ZONE	1958		2,389	21 D	25.5	3	0	0	3	30	945
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	61	0	0	4	410	571
●	DETROIT RIVER	1955		2,082	6 D	38.0		14	0	0	4	280
●	SALINA	1956		2,922	7 D	17.0		18	0	0	11	540
DORR TWP., 4N-12W, SECTIONS 19, 29 THROUGH 33 SALEM TWP., 4N-13W, SECTION 25												
● DORR	DETROIT RIVER	1957	ALLEGAN	1,918	1 D		1	0	0	1	160	0
DORR TWP., 4N-12W, SECTION 33												

MICHIGAN OIL AND GAS FIELDS

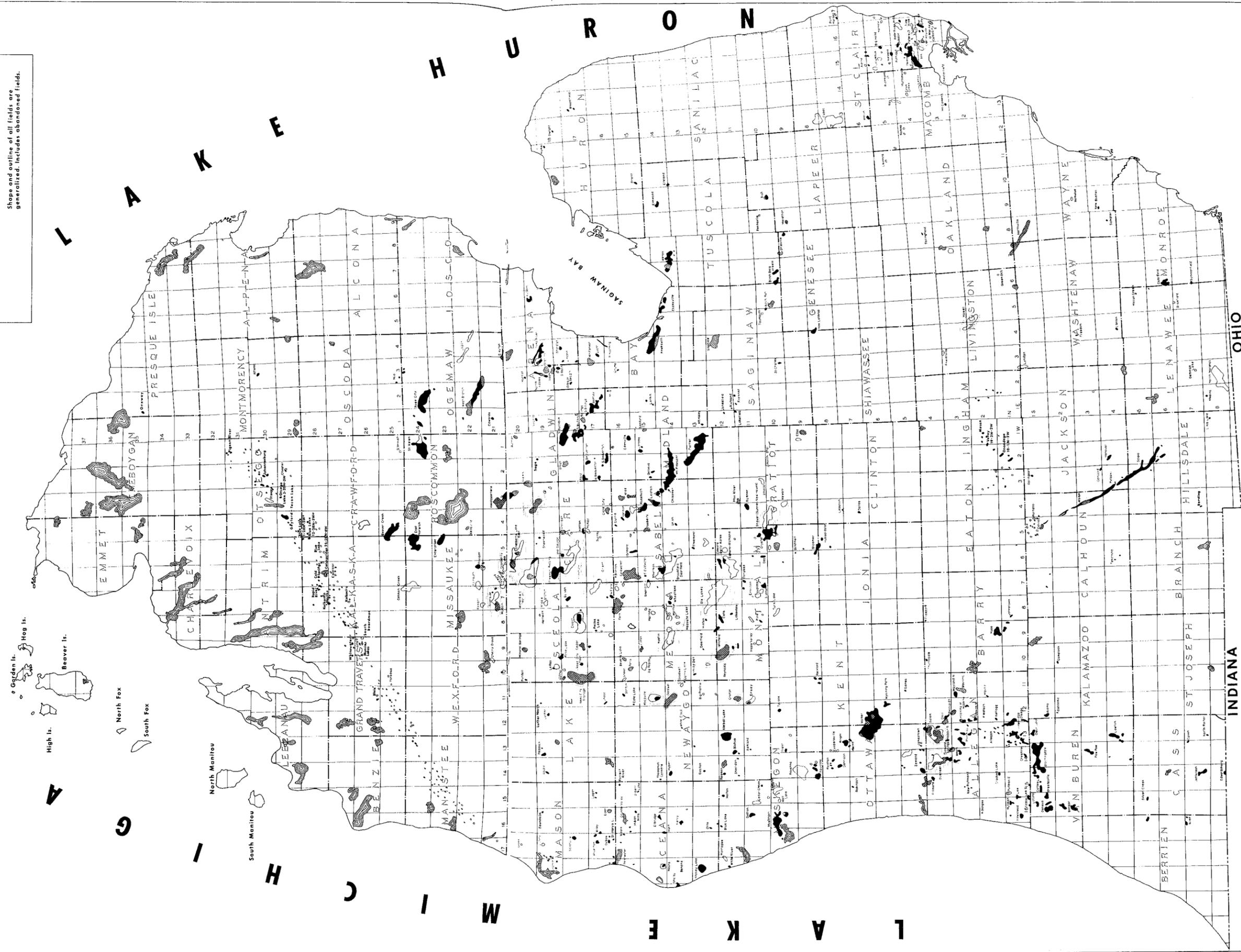
SOUTHERN PENINSULA



OIL FIELDS
SINGLE POOL
2 OR MORE POOLS
COMBINATION OF POOLS

GAS FIELDS
DEVELOPED GAS STORAGE AREA

All oil and gas fields are confined to the southern peninsula of Michigan. All field names are not shown. Shape and outline of oil fields are generalized. Includes abandoned fields.



POOL CLASSIFICATION		● ACTIVE OIL FIELD OR POOL	☀ ACTIVE GAS FIELD OR POOL	☀ GAS-CONDENSATE FIELD OR POOL	⊕ GAS STORAGE RESERVOIR	● ABANDONED OIL FIELD OR POOL	☀ ABANDONED GAS FIELD OR POOL	☀ ABANDONED GAS-CONDENSATE FIELD OR POOL	⊖ UNDEVELOPED GAS STORAGE RESERVOIR			
FIELD NAME	PRODUCING FORMATION OR POOL	YEAR OF DISC.	COUNTY TOWNSHIP	PAY ZONE	DEEPEST FORMATION OR POOL TESTED	DEPTH IN FEET	NUMBER OF WELLS	DRILLED ACRES	OIL PRODUCTION - BBLs	GAS PRODUCTION - Mcf.	RECOVERY PER ACRE DRILLED (BBLs.)	TOTAL BARRELS BRINE PER DAY
				THICKNESS AND LITHOLOGY A.P.I.			TO END		PRODUCED IN 1974	PRODUCED IN 1974	CUMULATIVE THROUGH 1974	
● DORR, SEC. 17	"BEREA"	1951	ALLEGAN	953 8 D	TRAVERSE	1,642	1	40				
DORR TWP., 4N-12W, SECTION 17												
☀ DORR, SEC. 21	"BEREA"	1940	ALLEGAN	957 1 D	TRAVERSE	1,687	1	40				DOMESTIC USE
DORR TWP., 4N-12W, SECTION 21												
● DOUGLASS	DUNDEE	1945	MONTCALM	3,400 2 L 47.1	DUNDEE	3,458	6	120	1,252	253,132		2,110 114
DOUGLASS TWP., 11N-7W, SECTION 1												
☀ DOUGLASS	"MICHIGAN STRAY"	1943	MONTCALM	1,190 5 S	DUNDEE	3,423	4	640			184,806	
DOUGLASS TWP., 11N-7W, SECTIONS 27, 28												
● DOUGLASS, SEC. 3	TRAVERSE	1954	MONTCALM	3,025 8 L	DUNDEE	3,666	1	20	3,155			158
DOUGLASS TWP., 11N-7W, SECTION 3												
● DUNNINGVILLE	TRAVERSE	1950	ALLEGAN	1,435 3 L 38.0	TRAVERSE	1,438	5	50	240	121,086		2,422 15
HEATH TWP., 3N-14W, SECTIONS 22, 27, 33												
● DWIGHT	DETROIT RIVER	1945	HURON	2,862 4 L 36.2	SYLVANIA	3,290	1	40	0	41,165		1,029
DWIGHT TWP., 18N-13E, SECTION 21												
☀ EAST CHINA	NIAGARAN REEF	1969	ST. CLAIR	2,344 19 D	NIAGARAN	2,363	2	80	2,846	2,846	6,549	6,549 36 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			112	2 3 68	4,480	402,445	9,641,747	562,716 8,390,154 2,152 402
NORWICH TWP., 24N-5W, SECTION 16 (TRAVERSE) SECTION 14 (DUNDEE) LYON TWP., 24N-4W, SECTIONS 6, 7, 18 (RICHFIELD) THE 68 WELLS INCLUDE 54 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	3	200	35	145		SHUT-IN
EATON RAPIDS TWP., 2N-3W, SECTION 17												
● EATON RAPIDS 20-2N-3W	SALINA-NIAGARAN REEF	1974	EATON	3,940	NIAGARAN	4,323	2	160				SHUT-IN
EATON RAPIDS TWP., 2N-3W, SECTION 20												
● EATON RAPIDS 28-2N-3W	SALINA-NIAGARAN REEF	1974	EATON	3,858	NIAGARAN	4,056	1	80	1,716	1,716		21
EATON RAPIDS TWP., 2N-3W, SECTION 28												
● EATON RAPIDS 35-2N-3W	A-1 CARBONATE & NIAGARAN REEF	1972	EATON	3,750 30 D	NIAGARAN	4,210	1	40	2,238	16,613	5,170	5,170 415
EATON RAPIDS TWP., 2N-3W, SECTION 35												
☀ EATON RAPIDS 36-2N-3W	NIAGARAN REEF	1971	EATON-INGHAM	3,740 55 D 47	NIAGARAN	4,305	7	1,120	7,237	23,151	2,914,394	5,550,902 21
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	90	PRODUCTION COMBINED WITH REED CITY			
☀	TRAVERSE	1958		1,960 7 L			1	160	SHUT-IN			
●	DUNDEE	1948		2,240 2 L 45.3			38	0 0 27 380	PRODUCTION COMBINED WITH REED CITY 1,391			
●	REED CITY	1948		2,345 8 D 42.8			5	0 0 2 40	15,672	2,988,182	0	275,801 5,859 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	370	1,152	1,367,705		3,693 10
EDENVILLE TWP., 16N-1W, SECTIONS 5, 26, 27												
☀ EDENVILLE, SEC. 5	SAGINAW FM.	1956	MIDLAND	382 12 S	DUNDEE	4,028	3	160				TO PLUG
EDENVILLE TWP., 16N-1W, SECTION 5												
● EDMORE	TRAVERSE	1933	MONTCALM	3,102 4 L 43.2	DUNDEE	3,613	35	7 500	10,118	1,400,468	1,094,960	2,190 700
HOME TWP., 12N-6W, SECTIONS 2, 3, 9, 10, 11												
EDMORE-RICHLAND REFER TO TABLE 4 UNDEVELOPED GAS STORAGE RESERVOIRS												
● EDWARDS	DUNDEE	1951	OGEWAM	3,362 10 L	SYLVANIA-BOIS BLANC	5,260	4	90	1,628	36,447		405 500
EDWARDS TWP., 21N-1E, SECTION 15												
☀ EGGLESTON	"BEREA"	1951	MUSKOGON	1,120 5 D	DUNDEE	2,282	7	1,120			291,097	
EGGLESTON TWP., 10N-15W, SECTIONS 3, 4, 9, 10, 15												
☀ ELBA	MICHIGAN STRAY	1928	GRATIOT	670 10 S	DUNDEE	3,044	10	520			246,058	
●	TRAVERSE	1927		2,440 2 L 47.0			8	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	4 380	122	415,067		SHUT-IN 1,092
ELBRIDGE TWP., 15N-16W, SECTIONS 22, 26, 27, 28												
● ELKLAND	DUNDEE	1946	TUSCOLA	2,653 14 L	SYLVANIA	3,735	2	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	7 90	3,096	92,845		1,032 25
ELMWOOD TWP., 14N-10E, SECTIONS 17, 20, 21												
☀ ENSLEY	MARSHALL	1958	NEWAYGO	826 5 S	DETROIT RIVER	3,018	8	1,280			906,626	MAY CONVERT TO STORAGE
●	TRAVERSE	1954		2,439 2 L			6	ABANDONED 1953 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 5, 7, 8 (TRAVERSE)												
● ENTERPRISE	RICHFIELD	1943	MISSAUKEE-ROSCOMMON	4,405 15 D 41.8	RICHFIELD	4,625	32	18 1,280	135,897	2,785,975	118,921	1,142,177 2,177 100
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	320				DOMESTIC USE
ENTERPRISE TWP., 23N-5W, SECTION 32 BUTTERFIELD TWP., 22N-5W, SECTION 4												

POOL CLASSIFICATION		● ACTIVE OIL FIELD OR POOL	☀ ACTIVE GAS FIELD OR POOL	☀ GAS-CONDENSATE FIELD OR POOL	⊕ GAS STORAGE RESERVOIR	● ABANDONED OIL FIELD OR POOL	☀ ABANDONED GAS FIELD OR POOL	☀ ABANDONED GAS-CONDENSATE FIELD OR POOL	⊖ UNDEVELOPED GAS STORAGE RESERVOIR			
FIELD NAME	PRODUCING FORMATION OR POOL	YEAR OF DISC.	COUNTY TOWNSHIP	PAY ZONE	DEEPEST FORMATION OR POOL TESTED	DEPTH IN FEET	NUMBER OF WELLS	DRILLED ACRES	OIL PRODUCTION - BBLs	GAS PRODUCTION - Mcf.	RECOVERY PER ACRE DRILLED (BBLs.)	TOTAL BARRELS BRINE PER DAY
				THICKNESS AND LITHOLOGY A.P.I.			TO END		PRODUCED IN 1974	PRODUCED IN 1974	CUMULATIVE THROUGH 1974	
● ENTRICAN	TRAVERSE	1966	MONTCALM	2,870 4 L	DUNDEE	3,426	1	40				PRODUCTION COMBINED WITH DUNDEE
●	DUNDEE	1967		3,312 2 D			2	ABANDONED 1973 40			8,014	200
DOUGLASS TWP., 11N-7W, SECTION 21												
● ESSEXVILLE	DUNDEE	1944	BAY	2,835 17 L 35.3	SYLVANIA	4,130	50	41	1,730	35,340	3,495,564	3,267 2,021 83
HAMPTON TWP., 14N-6E, SECTIONS 7, 8, 9, 15, 16, 17, 18 HAMPTON TWP., 14N-5E, SECTION 12												
● EVART	DUNDEE	1942	OSCEOLA	3,755 6 L 46.3	SYLVANIA	5,292	29	ABANDONED 1970 1,100			3,812,127	3,466
OSCEOLA TWP., 18N-8W, SECTIONS 21, 22, 23, 25, 26, 27, 28												
EVART REFER TO TABLE 4 UNDEVELOPED GAS STORAGE RESERVOIRS (ABANDONED AS A STORAGE PROJECT IN 1974. ALL WELLS PLUGGED AND ABANDONED) 4,845,722												
● 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	NIAGARAN	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	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-OTAWA	1,516 2.7 L 41.1	NIAGARAN	3,045	63	0 0 5 770	2,501	977,247		1,269 46
☀	SALINA A-2 CARB.	1959		2,632 16 D			11	0 0 7 1,500			246,131 4,681,524	
☀	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				60,178 DOMESTIC USE
●	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 3 DEVELOPED GAS STORAGE RESERVOIRS												
☀ FOWLERVILLE	SALINA-NIAGARAN	1961	LIVINGSTON	3,880 45 D	PRAIRIE DU CHIEN	5,695	18	1 0 18 2,560			487,938	487,938
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 3 DEVELOPED GAS STORAGE RESERVOIRS												
● FREEMAN-REDDING	DUNDEE	1938	CLARE	3,885 19 L 44.4	SYLVANIA	5,462	170	0 0 17 2,800	26,155	16,697,319		1,956,056 5,963 4,570
REDDING TWP., 19N-6W, SECTIONS 27, 28, 29, 32, 33, 34 FREEMAN TWP., 18N-6W, SECTIONS 3, 4												
● FREEMAN, SEC. 15	DUNDEE	1963	CLARE	3,894 8 L 41.0	DUNDEE	3,902	1	ABANDONED 1965 40		736		18
FREEMAN TWP., 18N-6W, SECTION 15												
● FREEPORT	TRAVERSE	1949	BARRY	2,031 3 L	DETROIT RIVER	2,430	1	ABANDONED 1951 10		19,229		1,923
CARLTON TWP., 4N-8W, SECTION 6												
☀ FREMONT	MICHIGAN STRAY	1941	ISABELLA	1,235 5 S	DUNDEE	3,700	5	ABANDONED				

POOL CLASSIFICATION				● ACTIVE OIL FIELD OR POOL	☀ ACTIVE GAS FIELD OR POOL	☀ GAS-CONDENSATE FIELD OR POOL	⊕ GAS STORAGE RESERVOIR	⊖ UNDEVELOPED GAS STORAGE RESERVOIR														
POOL CLASSIFICATION				● ABANDONED OIL FIELD OR POOL	☀ ABANDONED GAS FIELD OR POOL	☀ ABANDONED GAS-CONDENSATE FIELD OR POOL	⊕ UNDEVELOPED GAS STORAGE RESERVOIR	⊖ UNDEVELOPED GAS STORAGE RESERVOIR														
FIELD NAME	PRODUCING FORMATION OR POOL	YEAR OF DISC.	COUNTY TOWNSHIP	PAY ZONE	DEEPEST FORMATION OR POOL TESTED	DEPTH IN FEET	NUMBER OF WELLS	DRILLED ACRES	OIL PRODUCTION - BBLs	GAS PRODUCTION - Mcf	RECOVERY PER ACRE DRILLED (BBLs.)	TOTAL BARRELS BRINE PER DAY										
			PRODUCING SECTIONS	DEPTH IN FEET	OIL GRAVITY A.P.I.		TO END	IN	ABAND. IN	ACTIVE IN	PRODUCED IN 1974	CUMULATIVE THROUGH 1974	PRODUCED IN 1974	CUMULATIVE THROUGH 1974	PRODUCED IN 1974	CUMULATIVE THROUGH 1974	RECOVERY PER ACRE DRILLED (BBLs.)	TOTAL BARRELS BRINE PER DAY				
● 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	TRVERSE	1940	VAN BUREN	1,042 2 L	TRENTON	2,950	77	ABANDONED 1973	760		495,063							651				
GENEVA TWP., 15-16W, SECTIONS 20, 21, 22, 27, 28, 29, 32, 33																						
● GIBSON	TRVERSE	1935	BAY	2,036 4 L	DETROIT RIVER	4,343	12	ABANDONED 1957	130		51,892							399				
● GIBSON	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	721	33,120					1,104				
GIBSON TWP., 18N-3E, SECTIONS 20, 29																						
● GILBERT LAKE	TRVERSE	1956	OCEANA	2,032 8 L	REED CITY	2,711	5	0	1	1	50	1,297	58,328					1,167	10			
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	DUNDEE	3,812	12	0	0	3	120	2,318	394,775					3,290	1,020			
GILMORE TWP., 16N-5W, SECTIONS 30, 31, 32 NOTTAWA TWP., 15N-5W, SECTION 5																						
● GOODWELL	TRVERSE	1943	NEWAYGO	2,760 12 L	BASS ISLANDS	4,342	31	0	0	2	1,240	2,331	1,126,820					909	24			
GOODWELL TWP., 14N-11W, SECTIONS 5, 6, 7, 8, 9, 16, 17																						
⊕ GOODWELL	REFER TO TABLE 3 DEVELOPED GAS STORAGE RESERVOIRS																					
⊗ GOODWELL, EAST	MICHIGAN STRAY	1945	NEWAYGO	1,190 4 S	DETROIT RIVER	3,498	2	ABANDONED 1950	200									7,504				
GOODWELL TWP., 14N-11W, SECTIONS 23, 24																						
⊗ GRANT	GLACIAL DRIFT	1929	MASON	632 1 S	DUNDEE	2,385	3	ABANDONED 1955	120									8,020				
GRANT TWP., 20N-17W, SECTION 15																						
● GRANT, SEC. 29	DETROIT RIVER	1953	HURON	3,358 8 D	BOIS BLANC	3,918	3	0	0	3	120	111	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	TRVERSE	1968	CLARE	3,438 14 L	DUNDEE	4,048	2	0	0	2	40	4,130	56,380					1,410	700			
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			
● GROUT	DETROIT RIVER SZ	1958		4,801 12 D			1	ABANDONED 1963											PRODUCTION COMBINED WITH GROUT RICHFIELD			
● GROUT	RICHFIELD	1956		5,039 10 D	41.7		17	0	0	11	680	44,672	1,635,677					2,405	302			
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				
● HAMILTON	DUNDEE	1940		4,041 10 L	41.8		3	ABANDONED 1959	30										PRODUCTION COMBINED WITH HAMILTON RICHFIELD			
● HAMILTON	RICHFIELD	1952		5,145 12 D	42.2		45	0	0	26	1,870	169,899	5,891,194	102,012	3,783,292	3,100	1,237					
HAMILTON TWP., 19N-3W, SECTIONS 5, 6, 7, 8, 15 HAYES TWP., 19N-4W, SECTIONS 1, 2 FROST TWP., 20N-4W, SECTIONS 35, 36																						
⊕ HAMILTON, NORTH	REFER TO TABLE 3 DEVELOPED GAS STORAGE RESERVOIRS																					
● HAMLIN 8-1N-3M	NIAGARAN REEF	1972	EATON	3,640 65 D	CLINTON	4,058	3	1	0	3	240	74,268	81,295	53,890	53,890	339						
HAMLIN TWP., 1N-3W, SECTION 8																						
● HAMLIN 10-1N-3W	NIAGARAN REEF	1974	EATON	3,657 5 D	NIAGARAN	3,805	1	0	0	1	80	283	283						SHUT-IN			
HAMLIN TWP., 1N-3W, SECTION 10																						
⊗ HAMLIN 23-1N-3W	NIAGARAN REEF	1974	EATON	3,640 38 D	NIAGARAN	3,808	1	1	0	1	80	0	0						SHUT-IN			
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	1	2	180	3,441	1,317,703					586,017	7,321	95		
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	17	880	23,200	1,093,518					1,243	2,185			
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									
● HARRISON	DUNDEE	1945		4,190 13 L	39.7		2	0	0	2	80	2,196	159,520					1,994	60			
LINCOLN TWP., 18N-5W, SECTIONS 1, 12, 13 HATTON TWP., 18N-4W, SECTIONS 6, 7 (MICHIGAN STRAY) DUNDEE IN HATTON TWP., SECTION 7																						
● HART	TRVERSE	1933	OCEANA	1,911 54 D	34.0 ST. PETER SS.	5,531	17	ABANDONED 1936	150				116,275					775				
HART TWP., 15N-17W, SECTION 36 ELBRIDGE TWP., 15N-16W, SECTION 31																						
⊗ HARTWICK	MICHIGAN STRAY	1968	OSCEOLA	1,681 25 S	MICHIGAN STRAY	1,706	1	0	0	1	160								NO MARKET			
HARTWICK TWP., 19N-8W, SECTION 11																						
● HATTON	DUNDEE	1941	CLARE	3,945 2 L	DUNDEE	4,000	4	ABANDONED 1948	160				139,272					870				
HATTON TWP., 18N-4W, SECTION 31 LINCOLN TWP., 18N-5W, SECTION 36																						
● HAWKHEAD	TRVERSE	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																						

POOL CLASSIFICATION				● ACTIVE OIL FIELD OR POOL	☀ ACTIVE GAS FIELD OR POOL	☀ GAS-CONDENSATE FIELD OR POOL	⊕ GAS STORAGE RESERVOIR	⊖ UNDEVELOPED GAS STORAGE RESERVOIR														
POOL CLASSIFICATION				● ABANDONED OIL FIELD OR POOL	☀ ABANDONED GAS FIELD OR POOL	☀ ABANDONED GAS-CONDENSATE FIELD OR POOL	⊕ UNDEVELOPED GAS STORAGE RESERVOIR	⊖ UNDEVELOPED GAS STORAGE RESERVOIR														
FIELD NAME	PRODUCING FORMATION OR POOL	YEAR OF DISC.	COUNTY TOWNSHIP	PAY ZONE	DEEPEST FORMATION OR POOL TESTED	DEPTH IN FEET	NUMBER OF WELLS	DRILLED ACRES	OIL PRODUCTION - BBLs	GAS PRODUCTION - Mcf	RECOVERY PER ACRE DRILLED (BBLs.)	TOTAL BARRELS BRINE PER DAY										
			PRODUCING SECTIONS	DEPTH IN FEET	OIL GRAVITY A.P.I.		TO END	IN	ABAND. IN	ACTIVE IN	PRODUCED IN 1974	CUMULATIVE THROUGH 1974	PRODUCED IN 1974	CUMULATIVE THROUGH 1974	PRODUCED IN 1974	CUMULATIVE THROUGH 1974	RECOVERY PER ACRE DRILLED (BBLs.)	TOTAL BARRELS BRINE PER DAY				
⊗ HEADQUARTERS	MICHIGAN STRAY	1945	CLARE-ROSCOMMON	1,240 6 S	BOIS BLANC	5,925	12	0	0	1	1,760								SHUT-IN			
● HEADQUARTERS	TRVERSE	1941		3,356 5 L	42.3		47	0	0	2	1,400								PRODUCTION COMBINED WITH RICHFIELD SHUT-IN			
● HEADQUARTERS	DUNDEE	1958		3,899 12 L	39.9		1	0	0	1	10								PRODUCTION COMBINED WITH RICHFIELD SHUT-IN			
● HEADQUARTERS	DETROIT RIVER SZ	1942		4,946 13 D	43.7														PRODUCTION COMBINED WITH RICHFIELD			
● HEADQUARTERS	RICHFIELD	1952		5,147 23 D	42.6		60	0	1	38	2,320	92,149	10,478,106					4,248,560	2,809	246		
ROSCOMMON TWP., 21N-3W, SECTIONS 17, 19, 20, 21, 28, 29, 30, 32, 33, 34 THE 38 WELLS INCLUDE 12 RICHFIELD, 20 SOUR ZONE & 6 RICHFIELD & SOUR ZONE																						
● HEATH	TRVERSE	1948	ALLEGAN	1,498 2 L	36.0 SALINA	2,716	25	0	0	3	270	597	209,355					776	2			
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	TRVERSE	1945	ALLEGAN	1,468 2 L	TRVERSE	1,470	1	ABANDONED 1946	10									559		56		
HEATH TWP., 3N-14W, SECTION 35																						
⊗ HERSEY	MICHIGAN STRAY	1971	OSCEOLA	1,510 3 S	MICHIGAN STRAY	1,638	5	0	0	5	800								SHUT-IN			
HERSEY TWP., 17N-9W, SECTIONS 26, 35, 36																						
⊗ HESSEN	NIAGARAN REEF	1965	ST. CLAIR	2,499 261 D	NIAGARAN	2,887	16	0	0	16	640	6,475	110,760	628,477	11,158,948	173						
CASCO TWP., 4N-15E, SECTIONS 2, 3, 10, 11 COLUMBUS TWP., 5N-15E, SECTIONS 34, 35																						
● HILLIARDS	TRVERSE	1944	ALLEGAN	1,576 1.2 L	NIAGARAN	3,157	17	ABANDONED 1961	300				124,401					415				
● HILLIARDS	SALINA A-1 CARB.	1958		2,938 30 D			6	0	0	6	960	669	13,223					0	2,240,007	14		
HOPKINS TWP., 3N-12W, SECTIONS 4, 5 (TRVERSE) DORR TWP., 4N-12W, SECTION 34 HOPKINS TWP., 3N-12W, SECTIONS 3, 4, 10 (SALINA)																						
● HOLTON	TRVERSE	1948	MUSKOGON	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	TRVERSE	1964	MONTCALM	3,096 10 L	45.3 REED CITY	3,618	2	0	0	1	20	536							CUMULATIVE PRODUCTION COMBINED WITH DUNDEE			
● HOME, SEC. 26	DUNDEE	1970		3,513 7 L			4	0	0	4	200	7,115	67,216					306	175			
HOME TWP., 12N-6W, SECTIONS 26, 27 (TRVERSE) SECTION 27 (DUNDEE) THE 5 WELLS INCLUDE 1 TRVERSE, 2 DUNDEE AND 2 TRVERSE AND DUNDEE COMINGLED																						
● HOPE	TRVERSE	1939	BARRY	1,869 3 L	37.6 PRAIRIE DU CHIEN	4,944	66	0	0	37	650	9,401	651,519					1,002				
HOPE TWP., 2N-9W, SECTIONS 26, 27, 28, 33, 34, 35 BARRY TWP., 1N-9W, SECTIONS 1, 2, 3, 12																						
● HOPKINS	TRVERSE	1939	ALLEGAN	1,633 4 L	41.5 DETROIT RIVER	1,965	10	ABANDONED 1956	110				145,513					1,323				

POOL CLASSIFICATION		● ACTIVE OIL FIELD OR POOL	☀ ACTIVE GAS FIELD OR POOL	☀ GAS-CONDENSATE FIELD OR POOL	⊕ GAS STORAGE RESERVOIR	⊖ UNDEVELOPED GAS STORAGE RESERVOIR	OIL PRODUCTION—BBLs.		GAS PRODUCTION—Mcf.		RECOVERY PER ACRE DRILLED (BBLs.)	TOTAL BARRELS BRINE PER DAY
FIELD NAME	PRODUCING FORMATION OR POOL	YEAR OF DISC.	COUNTY TOWNSHIP	PAY ZONE	DEEPEST FORMATION OR POOL TESTED	DEPTH IN FEET	NUMBER OF WELLS	PRODUCED IN 1974	CUMULATIVE THROUGH 1974	PRODUCED IN 1974	CUMULATIVE THROUGH 1974	
				THICKNESS AND LITHOLOGY			TO COMP. ABAND. IN 1974					
● LACOTA	TRVERSE	1946	VAN BUREN	1,110 2 L	TRVERSE	1,206	11	ABANDONED 1955	120		51,904	433
GENEVA TWP., 15-16W, SECTIONS 9, 10												
● LAKEFIELD	DUNDEE	1937	SAGINAW	3,185 12 L	DUNDEE	3,197	1	0	0	1	711	30,215
LAKEFIELD TWP., 11N-1E, SECTION 1												
● LAKE GEORGE	DUNDEE	1954	CLARE	3,968 2 L	DUNDEE	3,997	10	0	0	3	100	3,713 368,160
LINCOLN TWP., 18N-5W, SECTION 6												
● LAKETON	TRVERSE	1965	MUSKEGON	1,698 4 L	REED CITY	2,199	8	0	0	7	200	7,216 278,767
LAKETON TWP., 10N-17W, SECTIONS 10, 15												
● LAKEVIEW	TRVERSE	1961	MONTCALM	2,941 4 L	REED CITY	3,495	2	0	0	2	20	651 9,444
CATO TWP., 12N-8W, SECTION 22												
● LARKIN	BEREA	1935	MIDLAND	2,473 4 S	DUNDEE	3,829	2	ABANDONED 1945	20		7,070	353
LARKIN TWP., 15N-2E, SECTIONS 21, 32												
● LAWTON	TRVERSE	1939	VAN BUREN	1,140 1 L	TRENTON	2,775	65	0	4	4	650	851 211,893
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	
DENVER TWP., 15N-3W, SECTIONS 17, 19 (MICHIGAN STRAY) DENVER TWP., SECTIONS 19, 30, 31 ISABELLA TWP., 15N-4W, SECTIONS 24, 25 (DUNDEE)												
● LEBANON	TRVERSE	1948	CLINTON	2,548 1 L	TRVERSE	2,570	1	ABANDONED 1950	10		1,036	104
LEBANON TWP., 8N-4W, SECTION 34												
● LEE	TRVERSE	1941	ALLEGAN	1,170 1 L	TRVERSE	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	3	2	0	3	360	SHUT-IN
LEE TWP., 1S-5W, SECTION 2												
● LEE 3-1S-5W	SALINA-NIAGARAN REEF	1972	CALHOUN	3,219 85 D	NIAGARAN	3,686	4	2	0	4	160	707 1,922
LEE TWP., 1S-5W, SECTION 3												
☀ LEE 4-1S-5W	SALINA-NIAGARAN REEF	1972	CALHOUN	3,162 86 D	NIAGARAN	3,415	2	0	0	2	320	126 126 154,163 520,062
LEE TWP., 1S-5W, SECTIONS 4, 9												
☀ LEE 8-1S-5W	SALINA-NIAGARAN REEF	1974	CALHOUN	3,118	NIAGARAN	3,841	1	1	0	1	160	238 238 102,094 102,094
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	13,149 88,837
LEE TWP., 1S-5W, SECTION 10												
● LEE 10-1S-5W POOL A	NIAGARAN REEF	1974	CALHOUN	3,327 6 D	NIAGARAN	3,399	1	1	0	1	160	22,984 22,984 436 436 144
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	303 303 294,046 551,207
LEE TWP., 1S-5W, SECTION 12												
● LEE 13-1S-5W	NIAGARAN REEF	1973	CALHOUN	3,184 10 D	CLINTON	3,632	5	2	0	5	200	30,694 30,694 51,106 51,106 153 13
LEE TWP., 1S-5W, SECTION 13												
☀ LEE 13-1S-5W POOL A	NIAGARAN REEF	1973	CALHOUN	3,165 20 D	CLINTON	3,623	3	1	0	3	160	184 184 401,237 401,237 1
LEE TWP., 1S-5W, SECTION 13												
● LEE 14-1S-5W	NIAGARAN REEF	1974	CALHOUN	3,198 6 D	CLINTON	3,631	2	2	0	2	80	14,595 14,595 215 215 182
LEE TWP., 1S-5W, SECTION 14												
☀ LEE 15-1S-5W	NIAGARAN REEF	1974	CALHOUN	3,108 22 D	CLINTON	3,605	1	1	0	1	40	50 50 79,127 79,127 1
LEE TWP., 1S-5W, SECTION 15												
☀ 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, SEC. 33	TRVERSE	1971	ALLEGAN	1,155 5 L	TRVERSE	1,160	2	0	0	2	20	503 3,402
LEE TWP., 1N-15W, SECTION 33												
● LEE, SOUTH	TRVERSE	1949	ALLEGAN	1,171 1 L	TRENTON	2,960	12	ABANDONED 1953	120		91,117	759
LEE TWP., 1N-15W, SECTION 31 CASCO TWP., 1N-16W, SECTION 36												
⊕ LENOX	REFER TO TABLE 3 DEVELOPED GAS STORAGE RESERVOIRS											
● LEONARD	NIAGARAN REEF	1963	OAKLAND	4,245 21 D	CLINTON	4,450	12	4	0	12	640	968,603 968,603
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	2,741 36,094
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	3,055 8,485
LESLIE TWP., 1N-1W, SECTION 4												
● LIME LAKE	PRAIRIE DU CHIEN	1960	HILLSDALE	3,461 5 D	PRAIRIE DU CHIEN	3,533	1	ABANDONED 1965	20		7,842	392
WRIGHT TWP., 8S-1N, SECTION 11												
● LINCOLN, SEC. 18	TRVERSE	1957	ARENAC	2,717 1 L	DUNDEE	3,062	2	0	0	2	20	165 3,597
LINCOLN TWP., 18N-4E, SECTION 18												
● LINCOLN, SEC. 31	DUNDEE	1963	ARENAC	2,942 10 D	DUNDEE	2,986	1	ABANDONED 1968	10	COMBINED WITH SECTION 18 PRODUCTION		
LINCOLN TWP., 18N-4E, SECTION 31												
● LINCOLN, SEC. 27	DUNDEE	1974	ISABELLA		DUNDEE	3,711	1	1	0	1	40	548 548
LINCOLN TWP., 13N-4W, SECTION 27												

POOL CLASSIFICATION		● ACTIVE OIL FIELD OR POOL	☀ ACTIVE GAS FIELD OR POOL	☀ GAS-CONDENSATE FIELD OR POOL	⊕ GAS STORAGE RESERVOIR	⊖ UNDEVELOPED GAS STORAGE RESERVOIR	OIL PRODUCTION—BBLs.		GAS PRODUCTION—Mcf.		RECOVERY PER ACRE DRILLED (BBLs.)	TOTAL BARRELS BRINE PER DAY
FIELD NAME	PRODUCING FORMATION OR POOL	YEAR OF DISC.	COUNTY TOWNSHIP	PAY ZONE	DEEPEST FORMATION OR POOL TESTED	DEPTH IN FEET	NUMBER OF WELLS	PRODUCED IN 1974	CUMULATIVE THROUGH 1974	PRODUCED IN 1974	CUMULATIVE THROUGH 1974	
				THICKNESS AND LITHOLOGY			TO COMP. ABAND. IN 1974					
● LOGAN	RICHFIELD	1941	MASON	3,260 5 S	RICHFIELD	3,330	2	0	0	2	80	
LOGAN TWP., 17N-15W, SECTIONS 9, 16												
● LOGAN	WEIR	1949	OGEMAW	1,230 11 S	RICHFIELD	4,537	PRODUCTION COMBINED WITH BEREA					
BEREA												
LOGAN TWP., 22N-4E, SECTIONS 16, 17, 18, 20, 23, 25, 26 CHURCHILL TWP., 22N-3E, SECTIONS 1, 11, 12												
● LUHT	TRVERSE	1949	BAY	2,230 3 L	DUNDEE	3,240	5	0	0	1	50	579 195,241
PINCONNING TWP., 17N-4E, SECTION 29												
● LUTHER	TRVERSE	1965	LAKE	2,565 2 L	REED CITY	3,362	1	ABANDONED 1973	20	0	28,117	1,406
NEWKIRK TWP., 19N-12W, SECTION 14												
● LUTHER, NORTH	REED CITY	1970	LAKE	3,518 17 D	REED CITY	3,556	4	0	0	4	160	1,396 10,454
ELLSWORTH TWP., 19N-11W, SECTIONS 7, 8												
● LYNDON	TRVERSE	1958	WASHTENAW-LIVINGSTON	1,311 6 D	TRENTON	5,008	6	0	0	6	960	375,600 DOMESTIC USE
DETROIT RIVER												
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
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 RIVER SZ												
RICHFIELD												
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	CLINTON	2,428	18	0	0	13	660	20,728 410,329 316,496 4,451,894 622 42
COTTRELLVILLE TWP., 3N-16E, SECTIONS 2, 3, 10, 11, 15												
● MARINE CITY, SOUTH	SALINA-NIAGARAN	1962	ST. CLAIR	2,100 4 D	NIAGARAN	2,261	17	0	0	13	600	8,096 135,753
SALINA A-1 CARB.												
COTTRELLVILLE TWP., 3N-16E, SECTIONS 14, 25, 26, 27												
GAS WELLS COMBINED WITH OIL WELL TOTALS												
⊕ MARION (WINTERFIELD)	REFER TO TABLE 3 DEVELOPED GAS STORAGE RESERVOIRS											
● MARNE	"BEREA"	1940	OTTAWA	1,170 3 L	TRVERSE	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	1,681 450,325 3,885,698
CASCO TWP., 4N-15E, SECTIONS 29, 30												
● MARTIN	TRVERSE	1948	ALLEGAN	1,617 1 L	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	12,245 1,240,064
MARTINY TWP., 15N-8W, SECTIONS 12, 22, 23												
● MCBAIN	DUNDEE	1959	MISSAUKEE	3,969 15 L	DUNDEE	3,973	24	0	0	23	920	59,078 3,063,433
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												
● MEARS	TRVERSE	1951	OCEANA	1,745 2.5 DL	REED CITY	2,347	11	ABANDONED 1959	110		105,807	622
DUNDEE												
GOLDEN TWP., 15N-18W, SECTIONS 34, 35												
● MECOSTA	MICHIGAN STRAY	1966	MECOSTA	1,345 10 S	DUNDEE	3,709	2	0	0	2	320	1,226 114,553
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	PRAIRIE DU CHIEN	3,487	1	0	0	1	40	0 4,324
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	159 8,363
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												
SHERMAN TWP., 20N-9W, SECTIONS 16, 20, 21												
6,376 BARRELS OF TOTAL OIL PRODUCED IN TRVERSE												
● MID	RICHFIELD	1946	OGEMAW-OSCEOLA	4,219 6 D	CLINTON	8,544	4	0	0	2	160	879 59,107
MENTOR TWP., 25N-3E, SECTIONS 30, 32 ROSE TWP., 24N-3E, SECTIONS 3, 4												
● MOFFATT, SEC. 34	TRVERSE	1964	ARENAC	2,100 4 D	DUNDEE	3,027	1	0	0	1	10	46 403
DUNDEE												
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	TRVERSE	1938	ALLEGAN	1,618 3 L	CINCINNATIAN	3,266	99	0	0	6	1,030	2,267 1,015,691
MONTEREY TWP., 3N-13W, SECTIONS 2, 4, 8, 9, 10, 11, 14, 15, 16, 17, 18, 20, 21, 22, 23, 24, 27, 32, 36												

POOL CLASSIFICATION		● ACTIVE OIL FIELD OR POOL	☀ ACTIVE GAS FIELD OR POOL	☀ GAS-CONDENSATE FIELD OR POOL	⊕ GAS STORAGE RESERVOIR	⊖ UNDEVELOPED GAS STORAGE RESERVOIR	FIELD NAME		PRODUCING FORMATION OR POOL	YEAR OF DISC.	COUNTY TOWNSHIP	PAY ZONE	DEEPEST FORMATION OR POOL TESTED	DEPTH IN FEET	NUMBER OF WELLS	DRILLED ACRES	OIL PRODUCTION - BBLs	GAS PRODUCTION - Mcf	RECOVERY PER ACRE DRILLED (BBLs)	TOTAL BARRELS BRINE PER DAY
		● ABANDONED OIL FIELD OR POOL	☀ ABANDONED GAS FIELD OR POOL	☀ ABANDONED GAS-CONDENSATE FIELD OR POOL	⊕	⊖	FIELD NAME	PRODUCING FORMATION OR POOL	YEAR OF DISC.	COUNTY TOWNSHIP	PAY ZONE	DEEPEST FORMATION OR POOL TESTED	DEPTH IN FEET	NUMBER OF WELLS	DRILLED ACRES	OIL PRODUCTION - BBLs	GAS PRODUCTION - Mcf	RECOVERY PER ACRE DRILLED (BBLs)	TOTAL BARRELS BRINE PER DAY	
		TO COMP. ABAND. AT END		TO COMP. ABAND. AT END																
		1 9 7 4		1 9 7 4																
●	PORTER	DUNDEE	1933	MIDLAND	3,415	12 L	40.6	BLACK RIVER	3,519	529	0	3	129	6,690	97,690	45,547,540	4,992,995	7,406	4,764	
THE 129 WELLS INCLUDE 125 DUNDEE, 1 TRAVERSE, AND 3 DUNDEE AND TRAVERSE																				
●	PORT HURON	DUNDEE	1886	ST. CLAIR	575	20 L		CAMBRIAN	4,948	21										
FT. GRATIOT TWP., 7N-17E, SECTION 32																				
☀	PORT HURON	NIAGARAN REEF	1971	ST. CLAIR	3,160	10 D		NIAGARAN	3,185	1	0	0	1	160			2,274	6,972		
PORT HURON TWP., 7N-17E, SECTION 33																				
☀	PROSPER	MICHIGAN STRAY	1948	MISSAUKEE	1,269	6 S		RICHFIELD	5,254	3	0	0	2	480			152,862	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	10,220	1,779,627		3,422	2,200	
●		RICHFIELD	1954		5,128	21 D			1					40	7,088			177		
AETNA TWP., 22N-6W, SECTIONS 26, 35																				
●	PROSPER, SOUTH	DUNDEE	1967	MISSAUKEE	3,798	8 D		DUNDEE	3,808	7	0	0	7	280	103,297	751,371		2,683	900	
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				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	1	11	250	2,904	388,404		1,554	214	
☀		SALINA A-2 CARB.	1961		1,645	7 D			3					480			27,225			
LEE TWP., 1N-15W, SECTIONS 5, 6, 7, 8 (TRAVERSE) SECTIONS 5, 6, 8 (SALINA A-2 CARB.)																				
⊕	PUTTYGUT	REFER TO TABLE 3 DEVELOPED GAS STORAGE RESERVOIRS																		
●	RABBIT RIVER	TRAVERSE	1950	ALLEGAN	1,655	3 L		TRAVERSE	1,678	8				80	12,745			159		
SALEM TWP., 4N-13W, SECTIONS 28, 29, 32, 33																				
●	RAPID RIVER	TRAVERSE	1972	KALKASKA	1,521	10 L		NIAGARAN	6,351	1				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	0	459,240		629		
RAVENNA TWP., 9N-14W, SECTIONS 21, 27, 28, 29, 30, 31 SULLIVAN TWP., 9N-15W, SECTIONS 25, 36																				
☀	RAVENNA, SEC. 27	"BEREA"	1953	MUSKEGON	1,182	6 D		DUNDEE	2,500	3	0	0	2	480			32,243	DOMESTIC USE		
RAVENNA TWP., 9N-14W, SECTIONS 22, 27, 28																				
⊕	RAY	REFER TO TABLE 3 DEVELOPED GAS STORAGE RESERVOIRS																		
●	READING	TRENTON	1971	HILLSDALE	3,100	10 D	42	BLACK RIVER	3,478	2				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																				
●	REED CITY	TRAVERSE	1941	LAKE-OSCEOLA	2,925	5 L	43.7	ST. PETER SS.	8,917					4	1,600	9,202	3,669,749	388,638	2,294	
●		DUNDEE	1940		3,490	3 L	46.3										16,257,876			
●		REED CITY	1941		3,585	7 D	42.8	(LOREED UNIT-SEE TABLE 7)	167	5,320	226,981	41,739,046					7,846			
●		DETROIT RIVER SZ	1955		4,184	73 DL	48.2		45	0	0	20	1,800	70,548	2,275,879		3,476,188	1,264	196	
●		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																				
⊕	REED CITY (STRAY)	REFER TO TABLE 3 DEVELOPED GAS STORAGE RESERVOIRS																		
⊕	REED CITY (LOREED)	REFER TO TABLE 3 DEVELOPED GAS STORAGE RESERVOIRS																		
●	REED CITY, EAST	TRAVERSE	1947	OSCEOLA	3,106	1 L	41.2	DETROIT RIVER	3,840	8	0	0	3	80	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				320				0		
REEDER TWP., 22N-7W, SECTION 32																				
●	REENAN	TRAVERSE	1958	NEWAYGO	2,099	1 L		TRAVERSE	2,100	3				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	10,451	CUMULATIVE PRODUCTION COMBINED WITH REED CITY		435		
●		REED CITY	1954		3,343	2 D	44.3		53	0	1	8	2,100	21,314	4,591,975		408,555	2,187	785	
REYNOLDS TWP., 12N-10W, SECTIONS 1, 2, 12, 13 WINFIELD TWP., 12N-9W, SECTIONS 6, 7, 8, 17, 18 AETNA TWP., 13N-10W, SECTION 36																				
☀	RICH	BEREA	1970	LAPEER	1,380	29 S		SYLVANIA	3,267	2	0	0	2	320						
●		DETROIT RIVER SZ	1962		3,028	5 D	33.9		21	2	0	20	840	50,263	632,220	30,045	305,841	753	63	
RICH TWP., 10N-10E, SECTIONS 21, 22 (BEREA) SECTIONS 21, 27, 28, 34, 35 (DETROIT RIVER SZ)																				
●	RICHLAND	TRAVERSE	1936	SAGINAW	2,739	10 L	46.0	DUNDEE	3,264	1				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				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			8,332	177,287		
RICHMOND TWP., 5N-14E, SECTION 26																				
●	RIDGEWAY, SEC. 1	TRENTON	1954	LENAWEE	2,415	4 D		TRENTON	2,491	1				10	47			5		
RIDGEWAY TWP., 6S-5E, SECTION 1																				

POOL CLASSIFICATION		● ACTIVE OIL FIELD OR POOL	☀ ACTIVE GAS FIELD OR POOL	☀ GAS-CONDENSATE FIELD OR POOL	⊕ GAS STORAGE RESERVOIR	⊖ UNDEVELOPED GAS STORAGE RESERVOIR	FIELD NAME		PRODUCING FORMATION OR POOL	YEAR OF DISC.	COUNTY TOWNSHIP	PAY ZONE	DEEPEST FORMATION OR POOL TESTED	DEPTH IN FEET	NUMBER OF WELLS	DRILLED ACRES	OIL PRODUCTION - BBLs	GAS PRODUCTION - Mcf	RECOVERY PER ACRE DRILLED (BBLs)	TOTAL BARRELS BRINE PER DAY
		● ABANDONED OIL FIELD OR POOL	☀ ABANDONED GAS FIELD OR POOL	☀ ABANDONED GAS-CONDENSATE FIELD OR POOL	⊕	⊖	FIELD NAME	PRODUCING FORMATION OR POOL	YEAR OF DISC.	COUNTY TOWNSHIP	PAY ZONE	DEEPEST FORMATION OR POOL TESTED	DEPTH IN FEET	NUMBER OF WELLS	DRILLED ACRES	OIL PRODUCTION - BBLs	GAS PRODUCTION - Mcf	RECOVERY PER ACRE DRILLED (BBLs)	TOTAL BARRELS BRINE PER DAY	
		TO COMP. ABAND. AT END		TO COMP. ABAND. AT END																
		1 9 7 4		1 9 7 4																
●	RIVERSIDE	TRAVERSE	1961	MISSAUKEE	3,220	2 L	42.6	DUNDEE	3,953	1	0	0	1	10	1,424	19,560		1,956	25	
●		DUNDEE	1942		3,944	3 L	44.5		3	0	0	3	100	3,097	133,169			1,332	440	
RIVERSIDE TWP., 21N-7W, SECTIONS 14, 23, 24																				
⊕	RIVERSIDE	REFER TO TABLE 3 DEVELOPED GAS STORAGE RESERVOIRS																		
●	RIVERTON	TRAVERSE	1957	MASON	1,650	6 L	38.5	DUNDEE	2,317	19				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	1	2	30	595	15,762		525	5	
RIVERTON TWP., 17N-17W, SECTION 21																				
●	ROBINSON, SEC. 3	DUNDEE	1956	OTTAWA	2,107	7 L		DUNDEE	2,210	2				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	4,701	554,126		2,639	390	
ALGOMA TWP., 9N-11W, SECTIONS 25, 35, 36 COURTLAND TWP., 9N-10W, SECTION 19																				
☀	ROME, SEC. 10	SALINA-NIAGARAN REEF	1974	MACOMB	3,304	?	D	NIAGARAN	3,635	2	1	0	2	80						
WASHINGTON TWP., 4N-12E, SECTION 10																				
☀	ROME	NIAGARAN REEF	1965	MACOMB	3,290	?	D	CLINTON	3,686	1	0	0	1	40			561,271	4,755,089		
WASHINGTON TWP., 4N-12E, SECTION 11																				
☀	ROMULUS	SALINA A-1 CARB.	1955	WAYNE	1,980	20 D		NIAGARAN	2,259	2				320				45,045		
ROMULUS TWP., 35-9E, SECTIONS 15, 16																				
●	ROSEBUSH	DUNDEE	1933	ISABELLA	3,690	6 L	42.0	RICHFIELD	4,838	46	0	0	37	1,020			30,884	2,251,042		336
●		RICHFIELD	1969		4,790	4 D		(TWO WELLS COMMINGLED WITH DUNDEE)	80										2,046	
ISABELLA TWP., 15N-4W, SECTIONS 1, 2, 11, 12, 13 DENVER TWP., 15N-3W, SECTIONS 7, 18 VERNON TWP., 16N-4W, SECTION 36																				
●	ROSE CITY	RICHFIELD	1942	OGEMAW	4,125	9 D	41.2	CAMBRIAN	12,996	131	0	0	68	5,120	262,253	6,280,475	228,702	8,398,221	1,227	57
FOSTER TWP., 24N-1E, SECTIONS 14, 20, 21, 23, 24, 25 FOSTER TWP., 24N-2E, SECTIONS 19, 20, 21, 28, 29, 30, 31, 32, 33																				
ROSE TWP., 24N-2E, SECTIONS 27, 34, 35 KLACKING TWP., 23N-2E, SECTIONS 2, 3, 11																				
●	ROSE LAKE	TRAVERSE	1943	OSCEOLA	3,140	5 L	45.5	DETROIT RIVER	3,990	18	0	0	6	720	14,776	1,848,078		2,567	640	
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	4,589	63,050		525	16	
SAGE TWP., 19N-2W, SECTION 12																				
●	SAGINAW	BEREA	1925	SAGINAW	1,825	16 S	46.1	SYLVANIA	3,920	?	0	0	10	1,500	3,692	1,686,254		1,124	13	
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	3	91	3,390	29,248	9,180,162		2,708	55	
☀		DETROIT																		

POOL CLASSIFICATION				● ACTIVE OIL FIELD OR POOL		☀ ACTIVE GAS FIELD OR POOL		☁ GAS-CONDENSATE FIELD OR POOL		⊕ GAS STORAGE RESERVOIR						
FIELD NAME				● ABANDONED OIL FIELD OR POOL		☀ ABANDONED GAS FIELD OR POOL		☁ ABANDONED GAS-CONDENSATE FIELD OR POOL		⊖ UNDEVELOPED GAS STORAGE RESERVOIR						
PRODUCING FORMATION OR POOL	YEAR OF DISC.	COUNTY TOWNSHIP	PAY ZONE	DEEPEST FORMATION OR POOL TESTED	DEPTH IN FEET	NUMBER OF WELLS	DRILLED ACRES	OIL PRODUCTION - BBL.	GAS PRODUCTION - Mcf.	RECOVERY PER ACRE DRILLED (BBL.)	TOTAL BARRELS BRINE PER DAY					
FIELD NAME	PRODUCING FORMATION OR POOL	YEAR OF DISC.	COUNTY TOWNSHIP	DEPTH IN FEET	THICKNESS AND LITHOLOGY	OIL GRAVITY A.P.I.	DEEPEST FORMATION OR POOL TESTED	DEPTH IN FEET	NUMBER OF WELLS	DRILLED ACRES	OIL PRODUCTION - BBL.	GAS PRODUCTION - Mcf.	RECOVERY PER ACRE DRILLED (BBL.)	TOTAL BARRELS BRINE PER DAY		
WOODVILLE	TRAVERSE	1943	NEWAYGO	2,820	5 L	43.5	DETROIT RIVER	3,534	19	0	10	350	6,273	568,015	1,623	45
NORWICH TWP., 15N-11W, SECTIONS 20, 28, 29																
WOODVILLE (NORWICH) REFER TO TABLE 3 DEVELOPED GAS STORAGE RESERVOIRS																
WRIGHT	"BEREA"	1954	OTTAWA	1,170	3 L		DETROIT RIVER	2,337	7	0	0	4	60	0	47,302	788
SHUT-IN - LACK OF STORAGE																
	TRAVERSE	1953	OTTAWA	1,920	1 L			7	0	0	2	70	110	18,268	261	1
WRIGHT TWP., 2N-13W, SECTIONS 28, 32, 33 TALLMADGE TWP., 7N-13W, SECTION 4																
WYOMING PARK	TRAVERSE	1959	KENT	1,870	6 L	39.0	DETROIT RIVER	2,255	21	ABANDONED 1970	200		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	10,374	354,177	
ST. CLAIR TWP., 5N-16E, SECTION 25																
ZEELAND	"BEREA"	1946	OTTAWA	945	9 D		NIAGARAN	3,388	7	0	0	1	280			DOMESTIC USE
ZEELAND TWP., 5N-14W, SECTIONS 2, 11, 12, 13, 14																
ZEELAND	TRAVERSE	1942	OTTAWA	1,514	3 L	43.9	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 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																

1974 TOTALS: 292,780 10,220,514 630,271,849 25,541,771 798,320,028

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.

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.

1974 OIL AND CONDENSATE PRODUCTION FROM TABLE 2 7,891,298 BARRELS
 1974 OIL PRODUCTION FROM TABLE 3 10,220,514
 TOTAL 1974 OIL PRODUCTION 18,111,812
 CUMULATIVE OIL AND CONDENSATE PRODUCTION FROM TABLE 2 16,283,472
 CUMULATIVE OIL PRODUCTION FROM TABLE 3 630,271,849
 TOTAL STATE CUMULATIVE OIL PRODUCTION THROUGH 1974 646,555,321*

*CUMULATIVE FIGURE INCLUDES 18,586 BARRELS OF OIL FROM MISCELLANEOUS OIL WELLS DRILLED FROM 1925 THROUGH 1974 AND SUBSEQUENTLY COMPLETED AS DRY HOLES

1974 GAS PRODUCTION FROM TABLE 2 44,264,603 Mcf
 1974 GAS PRODUCTION FROM TABLE 3 25,541,771
 TOTAL 1974 GAS PRODUCTION 69,806,374

CUMULATIVE GAS PRODUCTION FROM TABLE 68,777,973 Mcf
 CUMULATIVE GAS PRODUCTION FROM TABLES 3, 4 AND 5 798,320,028
 TOTAL CUMULATIVE GAS PRODUCTION THROUGH 1974 867,098,001

1176 BARRELS OF ANNUAL OIL PRODUCTION AND 1241 BARRELS OF CUMULATIVE OIL PRODUCTION ARE INCLUDED IN THE TOTALS FROM FIELDS NOT CURRENTLY CARRIED IN THIS TABLE. THE FIELDS ARE AS FOLLOWS:

BLUE LAKE 21-28N-5W 718 BARRELS ANNUAL AND 718 BARRELS CUMULATIVE
 CHARLTON 30-31N-1W 212 BARRELS ANNUAL AND 212 BARRELS CUMULATIVE
 MAYFIELD 9-25N-11W 246 BARRELS ANNUAL AND 311 BARRELS CUMULATIVE

TABLE 4 DEVELOPED GAS STORAGE FIELD RESERVOIRS

POOL CLASSIFICATION				● ACTIVE OIL FIELD OR POOL		☀ ACTIVE GAS FIELD OR POOL		☁ GAS-CONDENSATE FIELD OR POOL		⊕ GAS STORAGE RESERVOIR					
FIELD NAME				● ABANDONED OIL FIELD OR POOL		☀ ABANDONED GAS FIELD OR POOL		☁ ABANDONED GAS-CONDENSATE FIELD OR POOL		⊖ UNDEVELOPED GAS STORAGE RESERVOIR					
PRODUCING FORMATION OR POOL	YEAR OF DISC.	COUNTY TOWNSHIP	PAY ZONE	DEEPEST FORMATION OR POOL TESTED	DEPTH IN FEET	NUMBER OF WELLS	DRILLED ACRES	OIL PRODUCTION - BBL.	GAS PRODUCTION - Mcf.	RECOVERY PER ACRE DRILLED (BBL.)	TOTAL BARRELS BRINE PER DAY				
FIELD NAME	PRODUCING FORMATION OR POOL	YEAR OF DISC.	COUNTY TOWNSHIP	DEPTH IN FEET	THICKNESS AND LITHOLOGY	OIL GRAVITY A.P.I.	DEEPEST FORMATION OR POOL TESTED	DEPTH IN FEET	NUMBER OF WELLS	DRILLED ACRES	OIL PRODUCTION - BBL.	GAS PRODUCTION - Mcf.	RECOVERY PER ACRE DRILLED (BBL.)	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															
COLUMBUS	SALINA-NIAGARAN	1964	ST. CLAIR	2,738	190 D		CLINTON	3,232	0	0	20	320			13,331,738
COLUMBUS TWP., 5N-15E, SECTIONS 15, 16, 21, 22															
COLDWATER	MICHIGAN STRAY	1945	ISABELLA	1,390	10 S		SYLVANIA	5,090	0	0	66	2,400			7,382,794
COLDWATER TWP., 16N-6W, SECTIONS 28 THROUGH 33 SHERMAN TWP., 15N-6W, SECTION 6															
COLUMBUS, WEST	SALINA-NIAGARAN REEF	1967	ST. CLAIR	3,183	144 D		CLINTON	3,447	29	16	4	25	520		1,124,796 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															
HOWELL	SALINA-NIAGARAN	1955	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 SE 1/4 AND S 1/2, NE 1/4, NW 1/4 AND W 1/2 SW 1/4 OF SECTION 15, T.15, 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 28, 25, 26 MIDDLE BRANCH TWP., 19N-7W, SECTION 1															
MARYSVILLE	SEE FOOTNOTE FOR GAS STORAGE FIELDS ON NEXT PAGE.														
NORTHVILLE	TRENT- BLK. RIVER	1954	WAYNE-WASHTENAW	4,395	70 D		CAMBRO-ORDOVICIAN	5,850	0	1	69	2,825			18,126,876
FOR LOCATION SEE NORTHVILLE, TABLE 2															
ORIENT	MICHIGAN STRAY	1945	OSCEOLA-CLARE	1,508	11 S		SYLVANIA	5,307	0	0	75	2,600			5,350,856
ORIENT TWP., 17N-7W, SECTIONS 2, 3, 10, 11, 12, 13, 14 GARFIELD TWP., 17N-6W, SECTIONS 18, 19															
OVERISEL	SALINA	1956	ALLEGAN	2,650	12 D		TRENTON	4,060	0	0	186	6,660			14,645,048
OVERISEL TWP., 4N-14W, SECTIONS 4, 5, 8, 9, 10, 14, 15, 16, 21, 22, 23, 27, 28															
PARTELLO	SALINA A-1 CARB.	1959	CALHOUN	3,192	30 D		TRENT- BLK RIVER	4,905	0	0	5	200			1,695,320
LEE TWP., 1S-5W, SECTIONS 12, 13															
PUTTYGUT	SALINA-NIAGARAN	1960	ST. CLAIR	2,423	60 D		NIAGARAN	2,774	0	0	24	440			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 6 FOR ADDITIONAL DETAILS															
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															
SALEM	SALINA	1937	ALLEGAN	2,725	2 D		TRENTON	3,792	0	0	87	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															

POOL CLASSIFICATION										● ACTIVE OIL FIELD OR POOL		☀ ACTIVE GAS FIELD OR POOL		☀ GAS-CONDENSATE FIELD OR POOL		⊕ GAS STORAGE RESERVOIR	
										● ABANDONED OIL FIELD OR POOL		☀ ABANDONED GAS FIELD OR POOL		☀ ABANDONED GAS-CONDENSATE FIELD OR POOL		⊖ UNDEVELOPED GAS STORAGE RESERVOIR	
FIELD NAME	PRODUCING FORMATION OR POOL	YEAR OF DISC.	COUNTY TOWNSHIP	PAY ZONE			DEEPEST FORMATION OR POOL TESTED	DEPTH IN FEET	NUMBER OF WELLS			OIL PRODUCTION—BBLs.		GAS PRODUCTION—Mcf.		RECOVERY PER ACRE DRILLED (BBLs.)	TOTAL BARRELS BRINE PER DAY
				DEPTH IN FEET	THICKNESS AND LITHOLOGY	OIL GRAVITY A.P.I.			TO END	COMP. IN 1974	ABAND. IN 1974	ACTIVE IN 1974	PRODUCED IN 1974	CUMULATIVE THROUGH 1974	PRODUCED IN 1974		
SWAN CREEK	SALINA-NIAGARAN	1967	ST. CLAIR	2,256	245 D		CLINTON	2,638	0	0	1	40	1,171	410,523			
CASCO TWP., 4N-15E, SECTION 36																	
WINFIELD	MICHIGAN STRAY	1935	MONTCALM	1,125	8 S		DETROIT RIVER	3,405	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																	
TOTAL ACREAGE 90,575																	

GAS STORAGE RESERVOIRS

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

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

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 PRODUCE OIL OR GAS WELL ASSIGNED TO THE FIELD OR POOL PRIOR TO CONVERSION OR DESIGNATION AS GAS STORAGE.

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

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.

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

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

TABLE 5 UNDEVELOPED GAS STORAGE RESERVOIRS

POOL CLASSIFICATION										● ACTIVE OIL FIELD OR POOL		☀ ACTIVE GAS FIELD OR POOL		☀ GAS-CONDENSATE FIELD OR POOL		⊕ GAS STORAGE RESERVOIR	
										● ABANDONED OIL FIELD OR POOL		☀ ABANDONED GAS FIELD OR POOL		☀ ABANDONED GAS-CONDENSATE FIELD OR POOL		⊖ UNDEVELOPED GAS STORAGE RESERVOIR	
FIELD NAME	PRODUCING FORMATION OR POOL	YEAR OF DISC.	COUNTY TOWNSHIP	PAY ZONE			DEEPEST FORMATION OR POOL TESTED	DEPTH IN FEET	NUMBER OF WELLS			OIL PRODUCTION—BBLs.		GAS PRODUCTION—Mcf.		RECOVERY PER ACRE DRILLED (BBLs.)	TOTAL BARRELS BRINE PER DAY
				DEPTH IN FEET	THICKNESS AND LITHOLOGY	OIL GRAVITY A.P.I.			TO END	COMP. IN 1974	ABAND. IN 1974	ACTIVE IN 1974	PRODUCED IN 1974	CUMULATIVE THROUGH 1974	PRODUCED IN 1974		
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																	
CAPAC	NIAGARAN	1961	ST. CLAIR	4,505	6 D		MT. SIMON SS.	6,337	54	0	0	48	9,120	0	5,983	434,364	21,262,697
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																	
EDMORE-RICHLAND	MICHIGAN STRAY	1936	MONTCALM	1,300	8 S		DUNDEE	3,700	47	0	0	10	6,900				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																	
TOTAL ACREAGE 24,000																	
TOTAL 43,288,453																	

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

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

TABLE 6 SECONDARY RECOVERY OPERATIONS

FIELD AND COUNTY	OPERATOR PROJECT	DISC. YEAR PROJECT BEGAN	FORM.	PAY ZONE		TOTAL UNIT ACRES	INJECTION FLUIDS PRESSURE PSIG		VOLUME OF INJECTED FLUID 1974		CUMULATIVE VOLUME OF INJECTED FLUID		UNIT PRODUCTION IN 1974		UNIT CUMULATIVE 1-1-75			
				THICK	DEPTH		MCF GAS	BARRELS WATER	BARRELS OIL	MCF GAS	BARRELS WATER	BARRELS OIL	SALES MCF GAS	BARRELS WATER	BARRELS OIL	NO. WELLS	WATER PRODUCED	SALES MCF GAS
AURELIUS 35 UNIT	(1)UWF	1971	NIAG.	110	4075	400	BRINE	600	NONE	390,327	2	NONE	91,233	NONE	4	469,729	223,010	NONE
INGHAM CO.	(2)UWF	1974	RICH.	17	4400	4680	FRESH WATER	600	NONE	5,836,198	58	NONE	88,360	334,888	52	18,539,745	2,942,551	
BEAVER CREEK	(3)UWF	1947	DD.	2	3876	480	FRESH WATER	2500	NONE	NONE	3	NONE	NONE	3,650	4	31,741	NONE	45,445
BEAVERTON, WEST	(4)UWF	1943	DD.	1	3510	440	BRINE	2416	NONE	132,628	4	NONE	946,605	40,880	7	385,700	NONE	360,840
GLADWIN CO.	(5)UWF	1966	NIAG.	30	3800	250	VACUUM	2416	NONE	251,010	1	NONE	1,450,710	15,148	3	344,560	NONE	29,748
BELTIN	(6)UWF	1960	NIAG.	49	3105	840	VACUUM	2400	NONE	559	1 WTR	61,797	559	55,480	20	1,026,259	NONE	194,195
ST. CLAIR CO.	(7)UWF	1970	NIAG.	15	5048	680	FRESH WATER	2650	NONE	430,468	7	NONE	1,936,778	37,595	7	1,162,302	NONE	416,465
ST. CLAIR CO.	(8)UWF	1971	RICH.	14	4640	4880	RECYCLE GAS & DISCONT.	2500	DISCONT.	1,394,656	56	11,659,478	15,956,983	562,716	68	5,800,000	8,390,154	133,065
CLARE CO.	(9)UWF	1947	RICH.	16	4405	1320	FRESH WTR. 2500	1562	DISCONT.	607,200	15	1,419,641	6,216,966	118,921	18	1,925,000	1,142,777	757,594
CLARE CO.	(10)UWF	1952	RICH.	10	5039	480	FRESH WATER	2300	NONE	212,666	3	NONE	2,832,837	88,786	10	900,000	NONE	637,834
CLARE CO.	(11)UWF	1952	RICH.	12	5145	1800	FRESH WATER	2400	NONE	831,749	17	NONE	13,679,416	464,828	26	2,800,000	3,783,292	3,231,966
HARTLTON	(12)UWF	1958	BLK.	117+	3984	130	BRINE	2400	NONE	523,306	2	NONE	523,306	218	4	3,645,401	1,108,970	70,110
CLARE CO.	(13)UWF	1972	RIVER	13	4946	720	VACUUM	2400	NONE	338,845	11	NONE	2,435,421	66,722	7	700,000	NONE	242,287
HEADQUARTERS	(14)UWF	1971	NIAG.	75	3784	1760	BRINE	2400	NONE	2,535,014	7	NONE	3,195,429	560,311	12	1,681,478	1,590,828	NONE
INGHAM CO.	(15)UWF	1973	NIAG.	21	3585	5000	PRODUCED BRINE - 2,232,650	EXTRANEOUS GAS	1,825,000	6 WTR	41,316,371	150,233,266	1,916,250	NONE	167	39,294,000	16,257,376	170,286,402
REED CITY**	(16)UWF	1963	DR(SZ)	11	4184	1097	FRESH WATER	2500	NONE	57,919	9	NONE	2,843,056	30,295	10	2,725,379	2,464,823	153,855
LAKE-OSCEOLA CO.	(17)UWF	1965	RICH.	9	4125	4500	FRESH WATER	2500	NONE	405,378	38	NONE	5,010,550	156,601	43	3,041,872	6,068,247	289,262
OSCEOLA CO.	(18)UWF	1965	RICH.	8	4125	1560	FRESH WATER	2300	NONE	307,202	9	NONE	1,240,271	7,463	12	1,056,692	970,221	75,811
OSCEOLA CO.	(19)UWF	1965	RICH.	10	4150	320	FRESH WATER	2400	NONE	219,000	5	NONE	1,456,699	365	3	510,888	816,452	32,940
OSCEOLA CO.	(20)UWF	1968	RICH.	9	4480	3920	RECYCLE GAS & DISCONT.	1920	DISCONT.	768,270	41	3,151,610	9,578,942	317,284	43	3,760,000	10,330,297	617,791
OSCEOLA CO.	(21)UWF	1968	DD.	28	2650	2790	FRESH WATER	1630	NONE	695,144	21	NONE	3,072,838	304,702	40	3,382,174	NONE	1,202,927

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

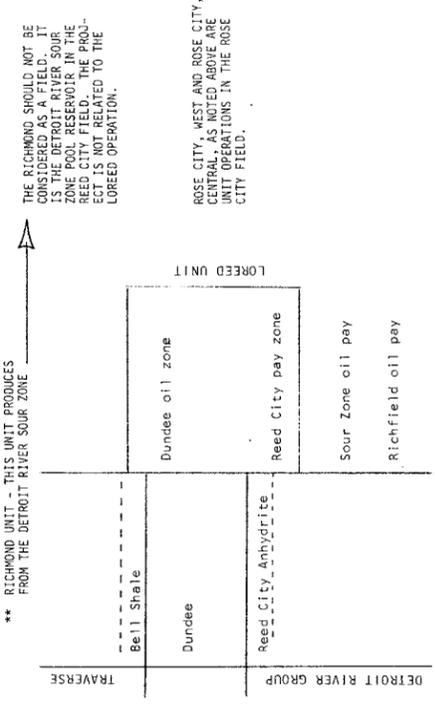
THE RICHMOND SHOULD NOT BE CONSIDERED AS A FIELD. IT IS THE DETROIT RIVER SOUR ZONE POOL RESERVOIR IN THE REED CITY FIELD. THE PRODUCTION IS NOT RELATED TO THE LOREED OPERATION.

TOTAL UNIT ACRES AND OTHER DATA NOT NECESSARILY ACCURATE. TOTAL ACRES AS NOTED ON TABLE 3.

* LOREED UNIT IN REED CITY FIELD

** RICHMOND UNIT - THIS UNIT PRODUCES FROM THE DETROIT RIVER SOUR ZONE

ALL DATA ON THE ABOVE SECONDARY RECOVERY PROJECTS WERE COMPILED BY ARTHUR D. MATZKANIN, PRODUCTION AND REGRATION UNIT. COMPILED BY: PETROLEUM GEOLOGY UNIT



NUMBER OF ACTIVE SECONDARY RECOVERY OPERATIONS 21

AMOUNT OF GAS INJECTED DURING 1974 3,294,487 MCF

AMOUNT OF WATER INJECTED DURING 1974 17,240,194 BBLs.

NUMBER OF WATER INJECTION WELLS 316

NUMBER OF GAS INJECTION WELLS 164

TOTAL PRIMARY OIL PRODUCTION IN 1974 1,342,348 BBLs.

TOTAL SECONDARY OIL PRODUCTION IN 1974 2,218,106 BBLs.

NUMBER OF PRODUCING WELLS 560

OIL PRODUCED BY SECONDARY RECOVERY METHODS AMOUNTS TO ABOUT 12 PERCENT OF THE TOTAL MICHIGAN PRODUCTION.

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

- OPERATOR
- (1) MOBIL OIL CORP.
 - (2) UNION OIL CO.
 - (3) ARCO INC.
 - (4) LEASE MANAGEMENT, INC.
 - (5) SUN OIL CO.
 - (6) MARATHON OIL CO.
 - (7) FARMERS PETROL. COOP.
 - (8) MICH. CONS. GAS CO.
 - (9) ISKANDERSON CO., INC.
 - (10) MUSKOGEE DEVELOPMENT CO.
- PROJECT TYPE
- UNF UNIT WATER FLOOD
 - URGMF UNIT RECYCLED GAS
 - GSOR GAS STORAGE
 - IN OIL RESERVOIR IN OIL RESERVOIR

TABLE 7 GAS PLANT OPERATIONS BY PLANT OR FIELD, 1974 (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	10,463,714	1,028,270	0	18,955	1,937	853,565	8,560,987	25,611,119
Aurelius	2,846,612	302,159	4,640	18,003	19,437	318,237	2,184,136	8,847,428
*Beaver Creek	149,874	6,533	64,006	0	0	10,330	69,005	92,900
Chester Interim (2)	703,022	0	0	0	158	0	702,864	0
Chester N-1 (1)	1,272,429	79,746	0	25,214	21,441	78,871	1,067,157	2,991,925
Eaton Rapids	2,956,553	39,649	0	178,844	0	11,067	2,726,993	405,258
*Hamilton	172,029	11,058	44,543	0	0	14,416	102,012	321,026
Kalkaska (Amoco) (1)	13,441,590	201,871	0	35,546	88	413,840	12,790,245	15,844,204 (3)
Kalkaska Interim (2)	887,404	0	0	0	2,013	4,307	881,084	136,584
Kalkaska (Shell) (1)	22,564,672	831,667	0	116,495	0	2,818,264	18,798,446	74,366,250 (3)
Leonard (1)	997,535	83,154	0	780	54,037	24,572	834,992	1,058,200
*Norwich East	866,766	89,149	95,980	0	0	0	681,637	0
Reed City	18,072,883	207,228	0	0	0	181,947	17,683,708	5,880,291
Reed City plant serves a combination storage and secondary recovery operation in an oil reservoir (Loreed Unit).								
*Rose City	215,287	7,152	0	0	0	0	208,135	0
*St. Helen	517,041	31,719	60,847	0	0	0	424,475	0
Totals	76,127,611	2,919,355	270,016	393,837	99,111	4,729,416	67,715,876	135,555,185

*Receives and processes oil well gas only.

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

- (1) New gas plant facility added in 1974.
- (2) Plant operations ceased during 1974.
- (3) These LPG figures include stabilized condensate.

NOTE: The column relating to storage and/or repressuring-recycling operations as shown in previous gas plant tables has been eliminated because operations of this nature have ceased.

All data from Production and Proration Unit records.

TABLE 8 PRIMARY SUPPLY LOCATIONS AND STORAGE FACILITIES FOR LIQUIFIED PETROLEUM GAS

Company	Plant Location	Type of Facility	Facility Capacity Gallons of LPG
Bay Refining Company	Bay City	Refinery Storage	155,200
Dow Chemical Company	Midland	Chemical Plant (Underground)	8,820,000
Leonard Refineries, Inc.	Gratiot	Refinery Storage	120,000
Marathon Oil Company	Hillsdale	Natural Gas Processing Plant	294,000
Cities Service Oil Company	Kent	Underground Storage	48,150,000
Ohio-Northwest Development, Inc.	Kent	Underground Storage	10,890,748
Consumers Power Company	Macomb	Natural Gas Processing Plant	150,000
Michigan Consolidated Gas Co.	St. Clair	Natural Gas Processing Plant	450,000
Michigan Consolidated Gas Co.	Washtenaw	Natural Gas Processing Plant	450,000
Mobil Oil Company	Wayne	Underground Storage	15,201,000
Sun Oil Company	Wayne	Underground Storage	29,280,000
Marathon Oil Company	Wayne	Underground Storage	30,831,000
Phillips Petroleum Company	Wayne	Underground Storage	8,400,000
Wyandotte Chemical Corp.	Wayne	Underground Storage	4,500,000
TOTAL PRIMARY STORAGE BY COUNTY, GALLONS LPG		TOTAL PRIMARY STORAGE, GALLONS LPG	
Bay	155,200	Refinery Storage	275,200
Gratiot	120,000	Gas Plant Storage	1,344,000
Hillsdale	294,000	Underground Storage	156,072,748
Kent	59,040,748	Combined Primary Storage	157,691,948
Macomb	150,000		
Midland	8,820,000	LPG underground storage reservoirs are in man-made caverns dissolved from Salina Group (Silurian) salt beds. The depth to storage reservoir salt beds varies with locality within the state.	
St. Clair	450,000		
Washtenaw	450,000		
Wayne	88,212,000		
Combined Primary Storage	157,691,948		

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

COMPANY	REFINERY LOCATION	NOMINAL CAPACITY* BBLs. DAY
Bay Refining, Division Dow Chemical Company	Bay City	14,000
Crystal Refining Company	Carson City	6,200
Lakeside Refining Company	Kalamazoo	5,300
Total Leonard, Inc. (Leonard Division)	Alma	42,182
Marathon Oil Company	Detroit	65,000
Osceola Refining Company	West Branch	9,500
Total Refinery Capacity		142,182

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

Michigan produced crude	36,446
Out-of-State produced crude	87,921
Total Daily Average	124,367

*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 9 CUMULATIVE OIL AND GAS PRODUCTION BY COUNTY THROUGH 1974

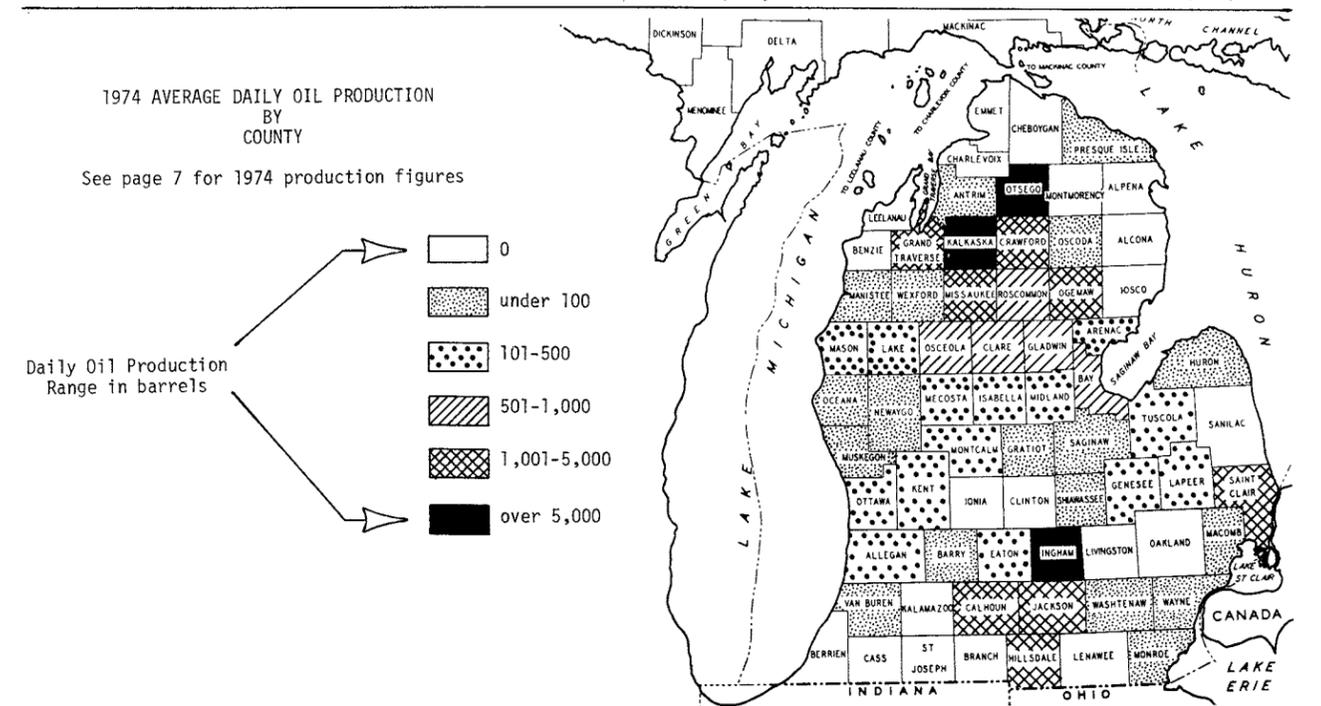
COUNTY	CUMULATIVE PRODUCTION	
	Barrels Oil	MCF Gas
Allegan	19,613,535	32,761,452
Antrim	37,045	130,721
Arenac	46,347,905	6,722,140
Barry	707,660	0
Bay	20,318,769	7,857
Berrien	29,757	0
Calhoun	32,422,389	60,205,406
Cass	102,754	0
Clare	34,303,298	58,876,027
Clinton	4,121	0
Crawford	8,648,155	15,144,147
Eaton	103,633	836,186
Genesee	356,822	0
Gladwin	34,175,401	9,834
Grand Traverse	999,696	15,733,382
Gratiot	1,139,543	13,897,670
Hillsdale	53,302,889	62,926,155
Huron	61,324	0
Ingham	4,955,876	13,367,324
Ionia	48,479	0
Isabella	51,921,916	35,143,797
Jackson	23,893,794	31,844,670
Kalamazoo	28,519	0
Kalkaska	7,497,024	41,475,445
Kent	9,848,196	3,791,348
Lake	1,139,178	182,438
Lapeer	725,657	340,614
Lenawee	7,071	155,983
Livingston	2,836	24,228,658
Macomb	52,986	51,433,744
Manistee	16,738	0
Mason	4,808,968	1,528,693
Mecosta	10,823,011	27,256,897
Midland	68,721,640	9,834,775
Missaukee	17,838,694	17,939,550
Monroe	726,883	0
Montcalm	18,332,563	57,028,265
Montmorency	7,688	0
Muskegon	8,004,232	9,759,137
Newaygo	8,800,036	13,132,198
Oakland	0	968,603
Oceana	15,404,481	1,132,363
Ogemaw	18,900,046	9,577,569
Osceola	57,606,212	42,091,830
Oscoda	59,107	0
Otsego	9,132,330	14,893,674
Ottawa	9,183,664	2,897,825
Presque Isle	4,512	0
Roscommon	14,696,591	14,404,636
Saginaw	2,537,386	0
Shiawassee	43,355	0
St. Clair	12,207,058	152,950,999
Tuscola	2,727,255	0
Van Buren	12,064,130	0
Washtenaw	169,766	7,019,944
Wayne	911,598	11,464,977
Wexford	11,322	950,925
57 Counties	**646,555,321	*864,047,858

**Includes 19,827 barrels of oil from miscellaneous fields.

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

TABLE 10 OIL PRODUCTION BY GEOLOGIC SYSTEM AND FORMATION - 1974 AND PRIOR YEARS
These data include estimates for multiple pay wells and leases when an accurate breakdown was not available

YEAR	First Year of Recorded Oil Production by Formation							Total Barrels Oil All Formations
	MISSISSIPPIAN		DEVONIAN		SILURIAN	ORDOVICIAN		
	Marshall	Berea	Traverse	Dundee-Reed City	Detroit River	Salina-Niagara	Trenton-Black River	
1925 Through 1929	(Cumulative)	876,559	873,777	4,017,451				5,767,787
1930 Through 1934	(Cumulative)	318,171	995,439	31,870,671				33,184,281
1935 Through 1939	7,411 (Cumulative)	310,313	13,814,816	72,339,293	14,000		43,565	86,529,398
1940 Through 1944	22,040 (Cumulative)	229,262	27,856,377	67,939,211	727,418		348,477	97,122,785
1945 Through 1949	17,283 (Cumulative)	166,687	16,914,771	62,438,443	4,302,309		106,510	83,946,003
1950 Through 1954	9,068 (Cumulative)	125,089	16,974,863	38,058,703	11,878,669	43,091	225,180	67,314,663
1955 Through 1959	8,183 (Cumulative)	110,639	8,788,785	25,618,934	13,716,790	568,085	3,108,341	51,920,757
1960 Through 1964	6,090 (Cumulative)	84,222	6,777,853	15,725,957	8,260,636	4,611,123	48,022,216	83,488,097
1965 Through 1969	5,293 (Cumulative)	113,898	3,851,321	12,186,197	8,387,775	4,195,694	39,132,615	67,852,793
1970	1,161	26,689	670,068	2,079,935	2,014,461	1,412,079	5,489,095	11,693,488
1971	899	26,600	621,964	2,038,997	2,142,522	2,313,202	4,749,226	11,893,410
1972	883	14,620	516,567	1,806,529	2,231,157	4,428,305	3,972,131	12,989,977
1973	729	9,564	440,770	1,648,744	2,246,718	6,934,482	3,214,678	14,495,685
1974	881	19,971	419,657	1,541,462	2,358,081	10,898,068	2,863,692	18,101,812



1974 AVERAGE DAILY OIL PRODUCTION BY COUNTY

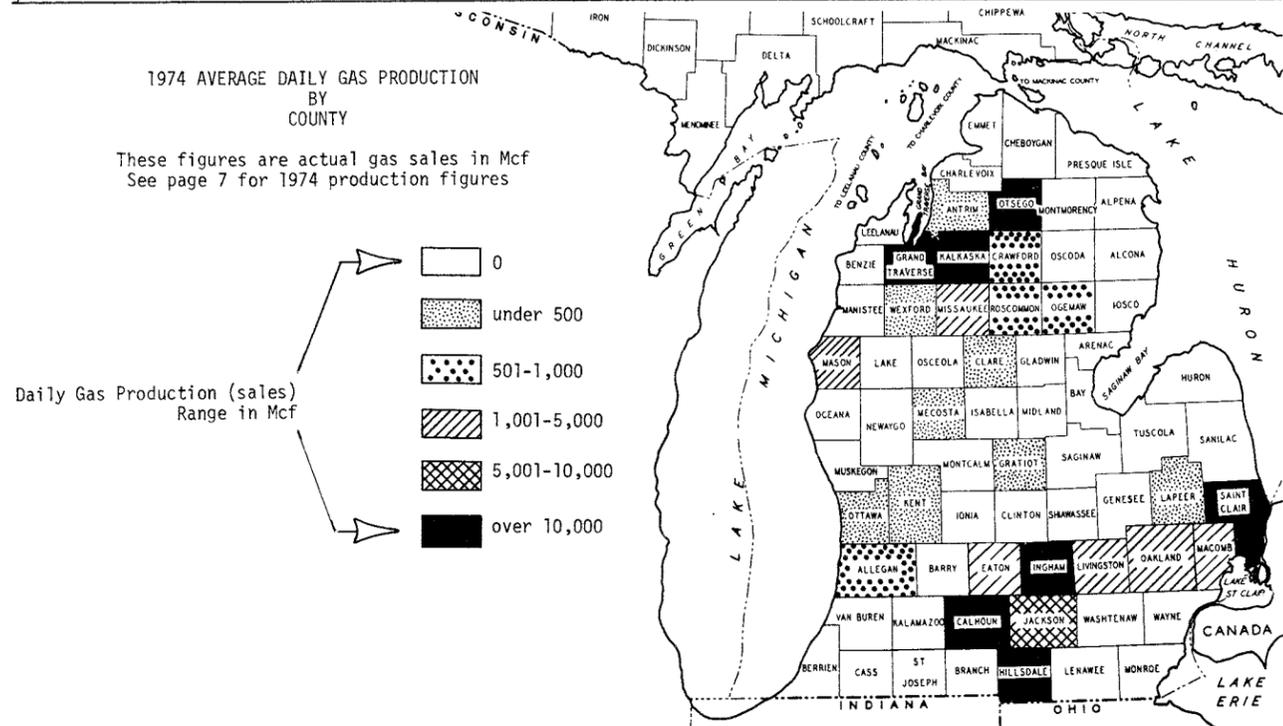
See page 7 for 1974 production figures

Daily Oil Production Range in barrels

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

TABLE 11 GAS PRODUCTION BY GEOLOGIC SYSTEM AND FORMATION - 1974 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	(Cumulative-5 year interval)									3,001,963 3,744 6,034,206 61,578 9,101,491
1935 Through 1939	(Cumulative-5 year interval)									30,769,471 1,391,076 69,894 8,862,165 6,331 41,098,937
1940 Through 1944	(Cumulative-5 year interval)									70,498,989 5,860,831 3,716,132 7,647,510 79,983 87,803,445
1945 Through 1949	(Cumulative-5 year interval)									8,020 80,217,680 1,467,460 52,495 1,414,004 15,710,636 793,763 7,393,744 107,057,802
1950 Through 1954	(Cumulative-5 year interval)									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
1955 Through 1959	(Cumulative-5 year interval)									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
1960 Through 1964	(Cumulative-5 year interval)									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
1965 Through 1969	(Cumulative-5 year interval)									0 2,636,857 814,223 220,305 454,198 150,659 10,649,603 106,149,601 57,253,914 178,329,360
1970	0	73,219	108,526	159,890	82,194	73,917	1,832,213	25,419,973	11,502,081	39,252,013
1971	0	25,986	98,702	152,700	67,882	65,222	1,735,681	12,546,934	11,237,514	25,930,621
1972	0	26,872	60,447	173,502	53,503	43,918	1,660,545	21,078,549	10,470,302	33,567,638
1973	0	15,789	58,367	163,011	62,271	31,960	1,692,461	31,899,164	10,230,608	44,153,631
1974	0	16,140	65,008	111,206	0	4,764	1,421,141	58,055,309	10,132,806	69,806,374



TRENDS IN MICHIGAN GAS PRODUCTION
PRINCIPAL PRODUCING FORMATIONS

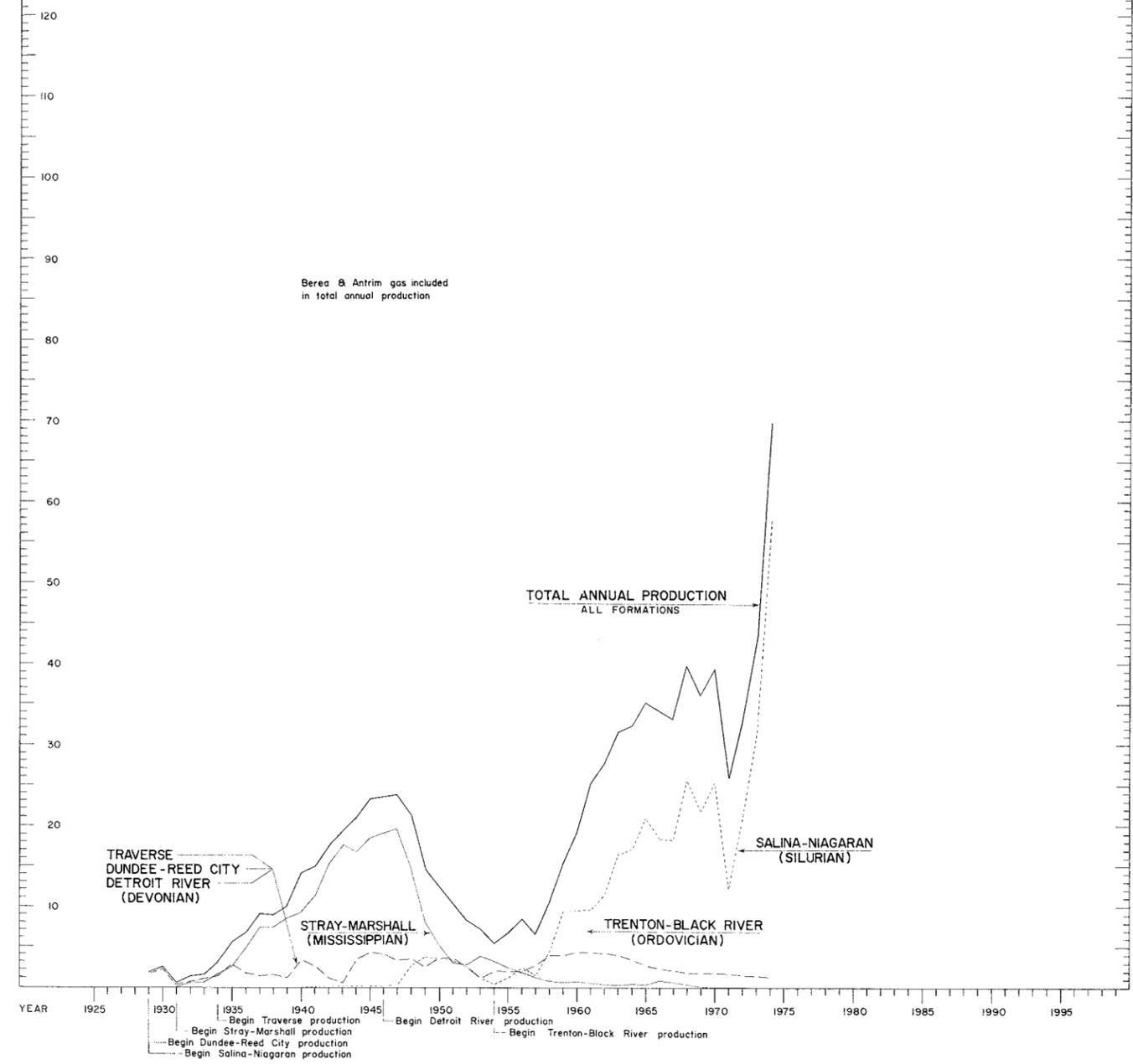


TABLE 12 CUMULATIVE OIL PRODUCTION BY GEOLOGIC SYSTEM AND FORMATION - 1974 AND PRIOR YEARS
 These data include estimates for multiple pay wells and leases when an accurate breakdown was not available

Y E A R	MISSISSIPPIAN		DEVONIAN		SILURIAN	ORDOVICIAN	Total Barrels Oil All Formations	
	Marshall	Berea	Traverse	Dundee Reed City	Detroit River	Salina- Niagaran		Trenton- Black River
	First Year of Recorded Oil Production by Formation							
	1938	1925	1927	1927	1939	1952	1935	
1925 Through 1929		876,559	873,777	4,017,451				5,767,787
1930 Through 1934		1,194,730	1,869,216	35,888,122				38,952,068
1935 Through 1939	7,411	1,505,043	15,684,032	108,227,415	14,000		43,565	125,481,466
1940 Through 1944	29,451	1,734,305	43,540,409	176,166,626	741,418		392,042	222,604,251
1945 Through 1949	46,734	1,900,992	60,455,180	238,605,069	5,043,727		498,552	306,550,254
1950 Through 1954	55,802	2,026,081	77,430,043	276,663,772	16,922,396	43,091	723,732	373,864,917
1955 Through 1959	63,985	2,136,720	86,218,828	302,282,706	30,640,186	611,176	3,832,073	425,785,674
1960 Through 1964	70,075	2,220,942	92,996,681	318,008,663	38,900,822	5,222,299	51,854,289	509,273,771
1965 Through 1969	75,368	2,334,840	96,848,002	330,194,860	47,288,597	9,417,993	90,986,904	577,126,564
1970	76,529	2,361,529	97,518,070	332,274,795	49,303,058	10,830,072	96,475,999	588,820,052
1971	77,428	2,388,129	98,140,034	334,313,792	51,445,580	13,143,274	101,225,225	600,713,462
1972	78,311	2,402,749	98,656,601	336,120,321	53,676,737	17,571,579	105,197,356	613,703,439
1973	79,040	2,412,313	99,097,371	337,769,065	55,923,455	24,506,061	108,412,034	628,199,124
1974**	79,668	2,077,719	83,788,468	311,232,618	102,632,670	35,417,637	111,307,955	*646,555,321

*Includes 18,586 barrels of oil from miscellaneous fields.

**Some formations show a loss in cumulative production from 1973 to 1974. This is due to recently initiated changes in the method of crediting production to each respective formation in multiple-pool fields.

TRENDS IN MICHIGAN OIL PRODUCTION

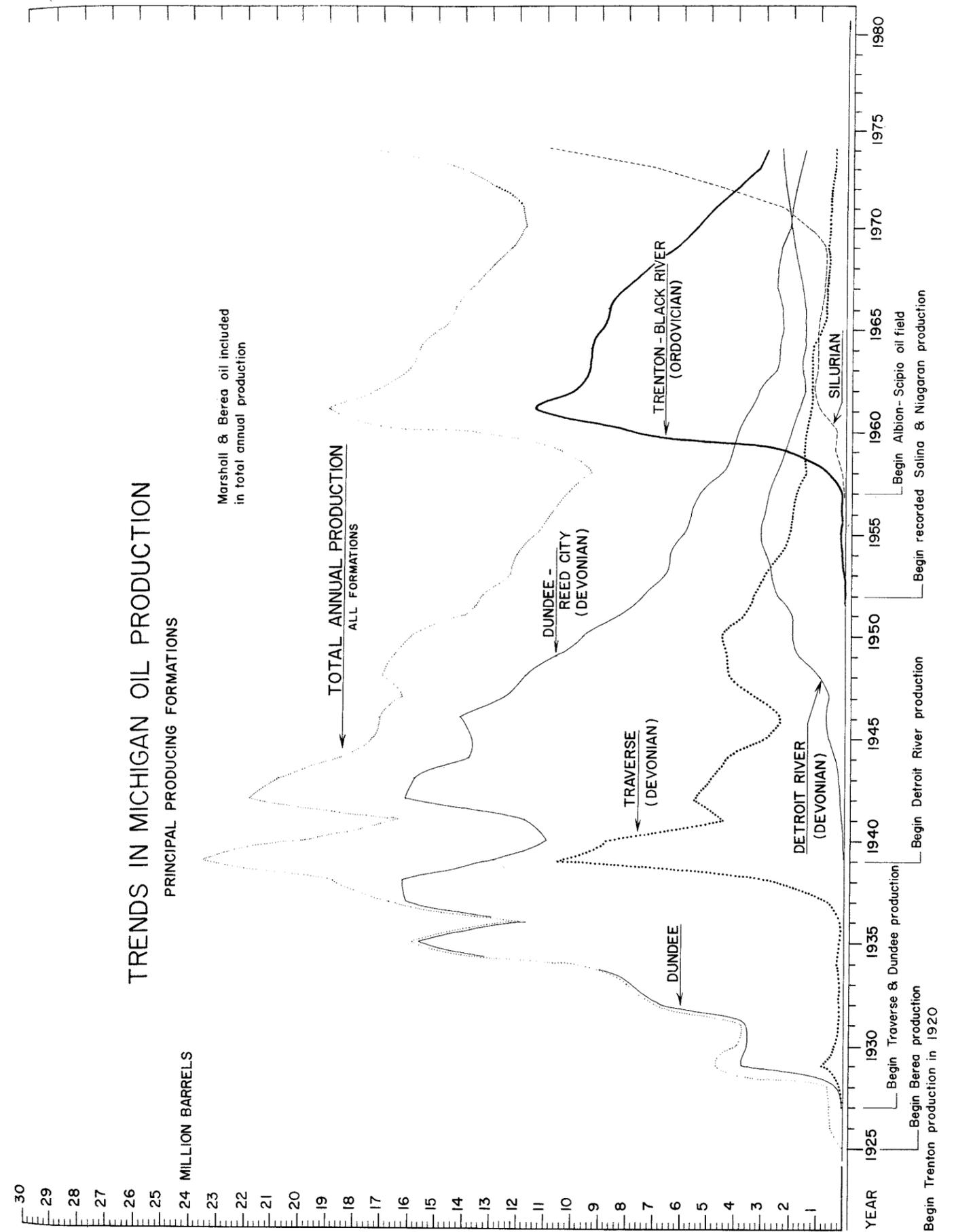


TABLE 13 CUMULATIVE GAS PRODUCTION BY GEOLOGIC SYSTEM AND FORMATION - 1974 AND PRIOR YEARS

Y E A R	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								1,887,732	74,867	1,962,599
1930 Through 1934		3,001,963			3,744	7,921,938		136,445		11,064,090
1935 Through 1939		33,771,434	1,391,076		73,638	16,784,103		142,776		52,163,027
1940 Through 1944		104,270,423	7,251,907		3,789,770	24,431,613		222,759		139,966,472
1945 Through 1949	8,020	184,488,103	8,719,367	52,495	5,203,774	40,142,249	793,763	7,616,503		247,024,274
1950 Through 1954	8,020	202,521,522	9,635,569	108,121	7,117,271	45,503,827	7,791,020	18,932,585	10,725	291,628,690
1955 Through 1959	8,020	209,355,971	9,783,654	164,807	7,383,894	47,790,893	20,330,272	39,050,109	6,620,118	340,487,738
1960 Through 1964	8,020	212,230,795	9,825,674	321,292	8,260,250	48,907,957	39,582,606	105,849,501	52,064,112	477,050,207
1965 Through 1969	8,020	214,867,652	10,639,897	541,597	8,714,448	49,058,616	50,232,209	211,999,102	109,318,026	655,379,567
1970	8,020	214,940,871	10,748,423	701,487	8,796,642	49,132,533	52,064,422	237,419,075	120,820,107	694,631,580
1971	8,020	214,966,857	10,847,125	854,187	8,864,524	49,197,755	53,800,103	249,966,009	132,057,621	720,562,201
1972	8,020	214,993,729	10,907,572	1,027,689	8,918,027	49,241,673	55,460,648	271,078,549	142,527,923	754,129,839
1973	8,020	215,009,518	10,965,939	1,190,700	8,980,298	49,273,633	57,153,109	302,977,713	152,758,531	798,283,470
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

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

**Some formations show a loss in cumulative production from 1973 to 1974. This is due to recently initiated changes in the method of crediting production to each respective formation in multiple-pool fields.

TABLE 14 CUMULATIVE WELL COMPLETIONS BY COUNTY THROUGH 1974

County	Area of County (including in- land water)		Classification of Completed Wells (New Hole) (does not include reworked wells)						Approximate Well Density (All Classes) Wells: Sq. Miles	
	Square Miles	Acres	Oil Wells	Gas Wells	Service Wells			Total Completions		
					GS - OBS	BDW	LPG			
					Dry Holes					
Alcona	694	444,160						21	21	1:33
Allegan	837	535,680	1,307	89	174			1,698	3,268	4:1
Alpena	590	377,600		1				13	14	1:42
Antrim	520	332,800	3	2				41	46	1:11
Arenac	369	236,160	406	44				404	854	2:1
Barry	571	365,440	74		4			137	215	1:3
Bay	451	288,640	458	1				222	681	2:1
Benzie	342	218,880						11	11	1:31
Berrien	584	373,760	9					72	81	1:7
Branch	517	330,880						59	59	1:9
Calhoun	716	458,240	250	35	3			343	631	1:1
Cass	505	323,200	30					127	157	1:3
Charlevoix	451	288,640						15	15	1:30
Cheboygan	798	510,720						18	18	1:44
Chippewa	1,651	1,056,640			Northern Peninsula County			5	5	1:330
Clare	577	369,280	386	172	492			366	1,416	2:1
Clinton	573	366,720	4					81	85	1:7
Crawford	566	362,240	91	5	8			32	136	1:4
Delta	1,202	769,280			Northern Peninsula County			1	1	1:1200
Eaton	572	366,080	12	5				59	76	1:8
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	28	38				83	149	1:3
Gratiot	566	362,240	46	74	20			273	413	1:1
Hillsdale	604	386,560	268	2				487	757	1:1
Huron	824	527,360	5					79	84	1:10
Ingham	560	358,400	65	12	10			93	179	1:3
Ionia	578	369,920	9					82	91	1:6
Iosco	563	360,320						26	26	1:22
Isabella	573	366,720	657	161	55			480	1,353	2:1
Jackson	717	458,880	136	3				277	416	1:2
Kalamazoo	580	371,200	18					110	128	1:5
Kalkaska	573	366,720	93	43				118	255	1:2
Kent	868	555,520	461	6	2	10		348	827	1:1
Lake	577	369,280	51	1	4			159	215	1:3
Lapeer	662	423,680	38	1				65	104	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	5	47	24			332	408	1:1
Manistee	568	363,520	33	20				54	107	1:5
Mason	505	323,200	136	13				304	453	1:1
Mecosta	570	364,800	128	196	183			413	920	2:1
Midland	523	334,720	899	2		2		274	1,177	2:1
Missaukee	572	366,080	181	63	103			213	560	1:1
Monroe	564	360,960	45					113	158	1:4
Montcalm	720	460,800	383	221	236			599	1,439	2:1
Montmorency	567	362,880	3	1				24	28	1:20
Muskegon	519	332,160	443	120				390	953	2:1
Newaygo	867	554,880	200	46	117			389	752	1:1
Oakland	899	575,360	6	10	4			67	87	1:10
Oceana	541	346,240	335	9				541	885	2:1
Ogemaw	580	371,200	506	21	11			171	709	1:1
Osceola	585	374,400	346	119	188			373	1,026	2:1
Oscoda	568	363,520	2					12	14	1:41
Otsego	538	344,320	83	31				130	244	1:2
Ottawa	572	366,080	473	19	2			497	991	2:1
Presque Isle	678	433,920	1					24	25	1:27
Roscommon	573	366,720	180	14				103	297	1:2
Saginaw	814	520,960	378	2				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					56	65	1:8
St. Clair	751	480,640	265	183	60	16		879	1,403	2:1
St. Joseph	518	331,520						16	16	1:32
Tuscola	820	524,800	153	4				107	264	1:3
Van Buren	615	393,600	722					1,000	1,722	3:1
Washtenaw	723	462,720	10	18	5	1		108	142	1:5
Wayne	625	400,000	12	24	18	30		54	138	1:5
Wexford	570	364,800	3	9				68	80	1:7
73 Counties	47,342	Totals:	11,619	1,994	1,778	59	14,493	29,943		

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

TABLE 15 PERMITS, DISCOVERIES, WELL COMPLETIONS, WELLS AT END OF YEAR, 1974 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		Dry Holes	Total Completions	Oil	Gas	Oil Wells	Gas Wells	GS OBS	Inj. P.M.	LPG
				GS-OBS-SWD	LPG									
1925	0	3				3	1		Incomplete records from 1925 through 1930					
1926	0	89			16	105	1	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	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	466	757	16	6	3,911	417	673		1	
1952	694	261	30	51	370	714	14	5	3,979	388	732		3	
1953	824	258	18	110	360	747	11	6	4,089	313	901		4	
1954	573	214	15	2	338	571	18		4,167	316	903		6	
1955	484	204	13	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	207	461	12	5	4,233	335	977		10	
1958	481	166	20	36	227	453	10	7	4,201	345	1,025		14	
1959	727	257	47	72	272	652	8	7	4,327	323	1,094		18	
1960	904	372	19	79	441	912	7	4	4,555	249	1,337	242	19	
1961	849	207	57	74	476	817	13	10	4,619	292	1,420	260	22	
1962	711	148	62	53	474	741	5	7	4,603	300	1,531	287	26	
1963	704	135	72	56	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	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	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	211	388	11	7	4,324	418	2,119	---	39	
1971	425	83	31	83	186	396	28	13	4,323	418	2,299	---	52	
1972	423	84	38	64	186	374	34	23	4,313	450	2,377	---	52	
1973	445	81	47	67	173	369	38	37	4,334	491	2,462	---	53	
1974	503	134	61	54	235	484	55	39	4,376	488	2,494	---	54	

Mainly facility wells in gas storage fields. See service well completions, page 5.

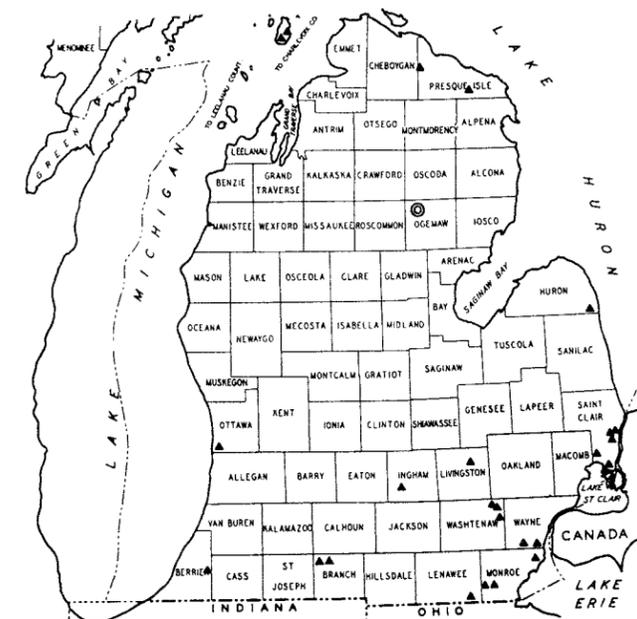
Figures in these columns represent the well count at the end of the year. Figures are subject to change due to well-abandonments, re-classification, etc. See Tables 2 and 3 for producible oil and gas wells in individual fields.

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

PERMIT				PRECAMBRIAN	TOTAL DEPTH	YEAR COMPLETED	
26112	Berrien Co. Berrien Twp.	10-6S-17W	Security Oil & Gas Thalman #1	4604 (-3800)	5647 (-4843)	1965	
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. Charlevoix Co. Peaine Twp.	6-37N-10W	McClure Oil Co. State-Beaver Island #2	4718 (-3977)	4803 (-4062)	1961	Age Rb-Sr K-Ar Biotite 1100 1090 Feldspar 1110
23435	Charlevoix Co. Peaine Twp.	27-38N-10W	McClure Oil Co. State-Beaver Island #1	4566 (-3888)	5383 (-4705)	1961	
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. 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 Santrant #1	3595 (-2926)	5495 (-4826)	1954	
25494	Monroe Co. Summerfield Twp.	16-7S-6E	Ferguson & Garrison Merlin Shimp #1	3637 (-2951)	3671 (-2985)	1964	
None	Ottawa Co. Holland Twp.	30-5N-15W	H. J. Heinz Co. H. J. Heinz Co. #2	6142 (-5523)	6221 (-5602)	1972	
29372	Presque Isle Co. Metz Twp.	13-33N-5E	Shell Oil Co. Taratuta #1-13	6738?(-5962)	6738 (-5962)	1973	Granite wash 6545? (-5769)
27199	Presque Isle Co. North Allis Twp.	29-35N-2E	Pan American Petro. Corp. D. E. Draysey #1	5877 (-5069)	5940 (-5132)	1968	
BD139	St. Clair Co. Casco Twp.	31-4N-15E	Consumers Power Co. Consumers Power Co. BD#1	4605 (-3989)	4627 (-4011)	1964	
25780	St. Clair Co. Clay Twp.	Projected 17-2N-16E	L. Bernhardt Puzzuoli #1	4152 (-3572)	4188 (-3608)	1965	
196	St. Clair Co. St. Clair Twp.	26-5N-16E	St. Clair Oil & Gas Corp. Hurst #1	4730 (-4080)	4770 (-4110)	1929	Age Rb-Sr Biotite 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 Rb-Sr Biotite 950
11341	Washtenaw Co. Superior Twp.	12-2S-7E	Colvin & Assoc. & Rot. St. Viola Meinzinger #1	5670 (-4852)	5692 (-4874)	1945	Age Rb-Sr Biotite 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	
25099	Ogemaw Co. Foster Twp.	28-24N-2E	Brazos Oil & Gas et al State-Foster #1	Trenton 9766 (-8290)	12,996 (-11,520)	Cambrian	

DEEPEST EXPLORATORY WELL DRILLED IN MICHIGAN

- ▲ REPORTED PRECAMBRIAN TEST
- ◎ DEEPEST EXPLORATORY WELL IN MICHIGAN (CAMBRIAN)



ABBREVIATIONS

A.A.P.G.	American Assoc. Petroleum Geologists
A.P.I.	American Petroleum Institute
(A) I.P.	(Acid) Initial Production or Potential
A-1 Carb.	A-1 Carbonate
A-2 Carb.	A-2 Carbonate
Bbls.	Barrels
B.B.	Bois Blanc formation
B.D.	Brine Disposal
BDW	Brine Disposal Well
BOPD	Barrels Oil Per Day
B.R.	Black River
Camb.	Cambrian
"Camb."	Unidentified Cambrian
Cat.	Cataract formation
c.f.p.b.	Cubic feet per barrel
C.H.	Cabot Head formation
Cinn.	Cincinnatian
Cl.	Clinton formation
Cold.	Coldwater formation
Comp.	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
Trent.-Blk	Trenton-Black River
River	Unitized

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
TOTAL	\$21,802,307.52	\$16,118,209.63	\$23,150,536.59	\$45,715.00	\$61,116,768.74

STRATIGRAPHIC SUCCESSION IN MICHIGAN

