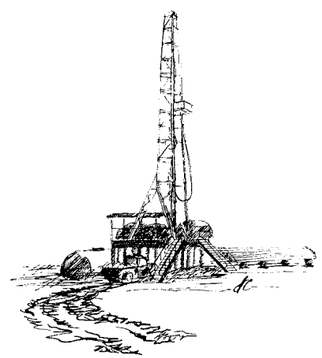
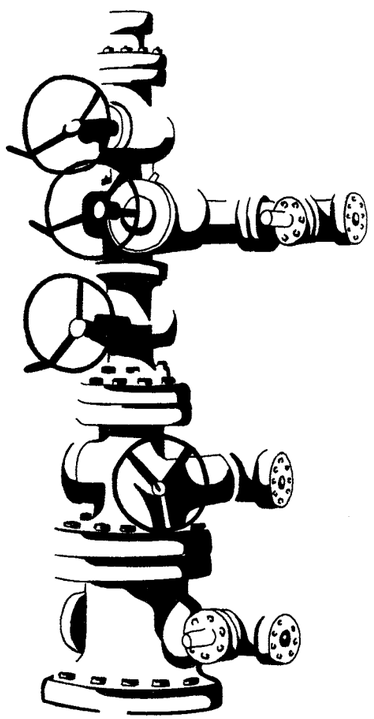


Michigan Geological Survey, Michigan Department of Natural Resources, Ann. Stat. Sum. 26, MICHIGAN'S OIL AND GAS FIELDS, 1976

Annual Statistical Summary 26

drilling statistics
production
exports and imports

MICHIGAN'S OIL AND GAS FIELDS, 1976



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As of November 14, 1977 the name GEOLOGICAL SURVEY DIVISION has been reinstated. This name replaces the names GEOLOGY DIVISION and DIVISION OF GEOLOGY, which were in use from July 1, 1976 to November 13, 1977.

MICHIGAN'S OIL AND GAS FIELDS, 1976

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ACKNOWLEDGEMENTS

The Division of Geology's Oil and Gas Section consists of a Regulatory Control Unit, a Production-Proration Unit, and a Petroleum Geology Unit. A Cartographic Subunit is under the management of the Petroleum Geology Unit. Field operations are handled by personnel assigned to field offices within DNR Regions II and III. A Regional Geologist, under the supervision of the Regional Director, guides the overall activities of the several field offices within his region. Field offices are located at Plainwell, Cadillac, Grayling, Gaylord, Mt. Pleasant, Imlay City, and Lansing. Field activities are mainly those associated with the responsibilities of the Regulatory Control and Production-Proration Units, but do include the gathering of certain year end oil-and-gas field statistics used to a limited extent in this report.

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

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

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

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

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

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

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

Compilers: G. D. Ells
D. M. Bricker
R. C. Elowski
A. G. Ostrander

Lansing, Michigan
November, 1977

MICHIGAN'S OIL AND GAS FIELDS, 1976

INTRODUCTION

Michigan has been recognized as an important oil and gas region since 1925, the beginning year for development of the Saginaw field. Today, the value of crude oil and natural gas produced ranks second only to iron ore of all minerals produced in the state. Throughout its history as a petroleum province, Michigan has experienced periodic upward and downward trends in oil and gas production as new reservoirs are discovered and older ones become depleted. Since 1969, we have been witnessing a strong upward trend in production which is linked to the discovery of numerous Niagaran reef reservoirs in the northern and southern parts of the basin.

The combined value of crude oil and natural gas produced in Michigan was calculated to be $449,889,298 in 1976 as compared with a combined value of a little over $327,455,000 in 1975. Additionally, several million dollars were no doubt expended on lease and royalty payments, exploratory and development drilling, geophysical exploration, and the many auxiliary services associated with the extraction of these natural resources during 1976. Hydrocarbon exploration and develment is clearly a major industry in this state and contributes significantly to Michigan's economy each year.

This issue of the oil and gas field statistical summary brings together information on various facets of Michigan's oil and gas industry activities during 1976. Certain indices which show the trend of these activities from year to year are shown in chart form along with figures for prior years. Other charts reflect cumulative data and other historical information useful in oil and gas field evaluation. This data is also of use for projecting Michigan's hydrocarbon resource potential which is critical to a state that must import a substantial portion of its energy needs from other areas.

It should be noted that certain figures for the number of exploratory, development, and service wells drilled and completed, the number of new fields and pools discovered, oil and gas production figures, and other data may differ from figures reported by regional or national trade publications or by industry reporting services in 1976. The differences in the various statistics are generally minor and are due to methods of gathering and reporting well data, determining cutoff dates for reporting yearly statistics, and the necessity for making projections and estimates for certain types of reports.

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

Certain well completion data are furnished to the American Petroleum Institute (API) and the American Association of Petroleum Geologists (AAPG) on a regular basis. Reports citing preliminary oil and gas statistics and production figures 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 are made available to authors of the AAPG yearly Development Papers and to others. Year-end figures published by API are in general agreement with figures for similar categories published in this summary. Differences which may occur are shown under the appropriate subject heading in this report. Oil and gas production data are supplied by request to the United States Bureau of Mines for publication in their minerals yearbook. Other organizations mentioned in the previous paragraph publish oil and gas statistics derived from other sources.

Consistent with past years, the information contained in the 1976 oil and gas summary has been treated as uniformly as possible from year to year so that the data reflect accurately the actual figures and other information that should be credited to this year. The data found herein are mainly derived from records maintained by the Oil and Gas Section, Division of Geology, Department of Natural Resources. None of the figures are derived from outside sources such as the aforementioned publications.

This publication is essentially divided into three parts. The first summarizes significant statistics on oil and gas field activities for 1976 and includes other related records kept by the Oil and Gas Section. Part 2 contains specific information on Michigan's oil and gas fields, gas storage fields, and other related subjects. Part 3 contains cumulative records of import to the oil and gas industry. Data for 1976 have been included in these cumulative records.

PART I

1976 STATISTICAL DATA

* * * OIL AND GAS PERMITS * * *

Oil and gas drilling permits issued under Act 61, P.A. of 1939, as amended, during 1976 began with permit number 30770 and ended with permit number 31414. The total number of permits issued during 1976 was 645 as compared with 653 in 1975. The initial classification of wells to be drilled under these permits was as follows:

INITIAL CLASSIFICATION	1974	1975	1976
Exploratory wells	299	319	331
Development wells	176	293	253
Gas storage facility wells .	28	37	36*
brine disposal wells . . .	0	4	25
	503	653	645

*Includes 1 LPG storage well.

The distribution of oil and gas drilling permits according to districts (See oil and gas districts map) through a five year period, including 1976, is as follows:

DRILLING PERMITS BY DISTRICT

DISTRICTS	Permits Issued				
	1972	1973	1974	1975	1976
Basin	154	120	98	100	110
Northern	137	173	210	219	221
Southeastern	62	67	62	70	98
Southwestern	32	28	44	108	73
Western	38	56	89	156	143
Totals	423*	444*	503*	653*	645*

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

Since 1975, permits to drill wells for oil field brine disposal have been issued under the regular permit numbering system rather than under a separate permit numbering system as was done in the past. Deepening permits were issued for 47 wells during 1976 as compared with 61 the previous year. Deepening permits issued in 1976 began with number 1819 and ended with number 1865.

Michigan's oil and gas permit system began in 1927 with the issuance of permit number 1. Since then, permit numbers have been issued in numerically consecutive order. In many cases, wells which have been previously drilled and abandoned have been reopened and reworked under a new permit number. Also, some well locations for which permit numbers were issued but later terminated have been repermitted and assigned new permit numbers. Such multiple permit numbers for the same well location may lead to some confusion. Therefore an attempt is being made to keep a published account of these possible sources of conflict. Terminated permits were listed for the first time in Annual Statistical Summary 16, 1972. Permit numbers issued for wells drilled under previous permits, or new permit numbers issued for terminated permits, were cited for the first time in Annual Statistical Summary 18, 1973. Permit numbers issued in 1976 for a previously drilled well or for a previously terminated permit are listed in Part 3. Permits issued in 1975 and terminated in 1976, and permits issued in 1976 and terminated in 1976 are shown below.

Permits issued in 1975 and terminated in 1976

30482	30575	30609	30667
30493	30577	30625	30668
30494	30580	30630	30679
30510	30586	30635	30686
30547	30597	30447	30690
30560	30599	30665	30709
30573	30605	30666	30763

Permits issued in 1976 and terminated in 1976

30787	30864	30959	31000
30798	30865	30969	31007
30824	30880	30975	31008
30853	30897	30976	31032
30854	30898	30999	31065

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

Each new directional hole, even if drilled from the same surface location and using the upper part of a previously drilled test, is treated as a separate test and is assigned its own unique permit number. Each additional hole drilled from the same surface location retains the same well name and number as the original hole, except that the suffix "A", "B", "C", etc., is added to the well number. In some instances, permits for directional holes were terminated and then repermitted under a new number. An attempt has been made to record and publish permit numbers for directionally drilled tests for the benefit of those people who may find the information useful in computer-well data systems. Permit numbers issued for directional holes for 1975 and directional holes with two or more permit numbers are listed in Part 3. Permits issued in 1976 for directional holes are as follows:

Permit numbers issued in 1976 for directional holes

30776	Otsego County	31103	Gd. Traverse County
30789	Gd. Traverse County	31105	Crawford County
30816	Eaton County	31121	Calhoun County
30817	Gd. Traverse County	31122	Otsego County
30835	Otsego County	31126	Manistee County
30836	Kalkaska County	31132	Otsego County
30837	Gd. Traverse County	31136	Kalkaska County
30848	Otsego County	31156	Presque Isle County
30851	Otsego County	31163	Manistee County
30869	Otsego County	31167	Manistee County
30875	Gd. Traverse County	31168	Kalkaska County
30876	Gd. Traverse County	31172	Macomb County
30878	Montcalm County	31177	Kalkaska County
30887	Otsego County	31178	Gd. Traverse County
30914	Kalkaska County	31182	Kalkaska County
30932	Gd. Traverse County	31194	Gd. Traverse County
30940	Presque Isle County	31199	St. Clair County
30946	Gd. Traverse County	31201	Montmorency County
30947	Macomb County	31205	Gd. Traverse County
30948	Manistee County	31211	Kalkaska County
30949	Gd. Traverse County	31222	Gd. Traverse County
30951	Otsego County	31228	Otsego County
30955	Otsego County	31237	Manistee County
30964	Manistee County	31244	Wexford County
30965	Manistee County	31254	Kalkaska County
30966	Kalkaska County	31255	Otsego County
30986	Manistee County	31274	Kalkaska County
30989	Antrim County	31275	Manistee County
30990	Calhoun County	31278	Gd. Traverse County
31002	Gd. Traverse County	31285	Hillsdale County
31003	Kalkaska County	31294	Otsego County
31016	Wexford County	31300	Kalkaska County
31019	Otsego County	31305	Oakland County
31021	Crawford County	31317	Manistee County
31023	Otsego County	31322	Wexford County
31026	Manistee County	31324	Kalkaska County
31035	Otsego County	31327	Manistee County
31052	Gd. Traverse County	31334	Manistee County
31053	Manistee County	31347	Oakland County
31057	Manistee County	31354	Manistee County
31058	Manistee County	31355	Wexford County
31059	Manistee County	31380	Otsego County
31062	Manistee County	31383	Kalkaska County
31073	Otsego County	31388	Wexford County
31074	Manistee County	31401	Otsego County
31076	Manistee County		
31077	Manistee County		
31082	Kalkaska County		
31083	Kalkaska County		
31088	Manistee County		

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

SERVICE WELL PERMITS

Type of Service Well	1972	1973	1974	1975	1976
Gas storage	74	66	30	37	28
LPG, Water Injection	9	8	11	0	14
Brine disposal, etc.	1	1	1	4	11
	84	75	42	41	53

Rework applications, transfers of ownership, etc. In addition to issuance of permits for various types of wells covered under Act No. 61, P.A. of 1939, as amended, 158 applications were received and approved for rework operations on existing wells. Letters of termination were sent out for 46 previously issued permits. Transfers of ownership were processed for 367 wells. Corrections of location, well name, or other detail involving specific permits were made for 137 wells, and cancel and transfer of permit were made for 11 others. The surface location as well as the projected bottom-hole location is published for each permitted directionally drilled hole. After the well is drilled and the directional survey is filed, the correct bottom-hole location is determined from the survey record and then published as a correction for the initial projected bottom-hole location. Corrections of this type were published for 95 wells drilled in 1975 and 1976.

Oil and gas hearings. During 1976, Oil and Gas Section activities also included scheduling and preparation for hearings on oil and gas matters and the issuance of orders resulting from these hearings. These activities are summarized as follows:

Oil Advisory Board Hearings held 11
Causes heard 24
(Includes 1 cause continued 7 times, and 1 cause continued 3 times)
Spacing Orders issued 19
(Includes 10 amendments to spacing orders)
Abrogation of Spacing Orders. 3
Compulsory Pooling Order issued. 1
Administrative Hearings held 9
Includes: 2 unitization hearings
1 environmental concern
3 exceptions to spacing orders
3 directional well applications
1 multiple zone completion
1 compulsory pooling
Show Cause hearing. 1

* * * WELL COMPLETIONS * * *

There were 510 new-hole exploratory and development wells which reached total depth and were considered either completed producers with production casing set, or dry holes during 1976. The 510 wells considered as completed during the past year do not include service wells, old wells drilled to deeper objectives, or reworked wells. Well completion figures for individual counties are shown in Table 1. The fluctuation in the number of new-hole completions and the resulting number of oil, gas, or dry holes over a five year period is as follows:

EXPLORATORY AND DEVELOPMENT WELL COMPLETIONS

Year	Exploratory Wells			Development Wells			Totals
	Oil	Gas	Dry	Oil	Gas	Dry	
1972	34	23	124	50	15	62	308
1973	38	37	117	43	10	56	301
1974	54	39	173	80	22	62	430
1975	53	17	213	112	21	117	533
1976	30	36	234	90	21	99	510

There were 50 new-hole service well completions in 1976. The figure does not include reworked wells or old wells converted to gas storage facility wells. The fluctuation in the number of service well completions over a five year period is as follows:

SERVICE WELL COMPLETIONS

Year	GS	INJ	LPG	BDW	Totals
1972	57	3	4	2	66
1973	60	5	2	1	68
1974	38	13	2	1	54
1975	37	0	0	1	38
1976	25	13	0	12	50

As previously mentioned, certain completion data for exploratory, development, and other types of wells are furnished to the American Petroleum Institute (API) and the American Association of Petroleum Geologists (AAPG) during the year. Statistical data published for Michigan by these organizations are correct according to the information submitted and approved at the time. The figures published by these organizations sometimes differ from those published later in the year by the Division of Geology. The differences in figures are primarily due to rules establishing a cutoff date for reporting or handling statistics on a yearly basis. Other factors which may result in statistical differences are internal decisions of the Oil and Gas Section regarding final year-end status of completed wells and decisions resulting from public hearings on oil and gas matters. For example, a well originally classified as a development well, and reported as such to one of the above organizations, may later be reclassified as the discovery well for a new pool or field, or a gas well might later be declared an oil well completion on the basis of new evidence. Frequently the changes in well status cannot be readily passed on to API and AAPG so that their records can be updated prior to publication of their final statistics. The discrepancies in year-end figures are almost without exception related to Niagaran reef exploration and development which has formed the largest part of Michigan drilling activities for the past several years.

Drilling statistics for Michigan published by API and derived from data supplied by the Division of Geology (D.G.) are shown below, along with figures for the same categories published herein as final year-end figures. API figures have been extracted from the Quarterly Review of Drilling Statistics for the United States, Fourth Quarter, 1976, Annual Summary 1976, American Petroleum Institute, Vol. X, No. 4, March 1977, Tables I, II, III, and V, pp. 14-22.

API EXPLORATORY AND DEVELOPMENT WELL COMPLETIONS

Year	Exploratory Wells			Development Wells			Totals
	Oil	Gas	Dry	Oil	Gas	Dry	
1976	29	36	217	89	28	99	498
D.G.	30	36	234	90	21	99	510

TOTAL WELLS DRILLED IN MICHIGAN (API)

Year	Oil Wells	Gas Wells	Dry Holes	Service Wells	Total Wells All Types
1976	118	64	316	24	522
D.G.	120	57	333	50*	560

*API does not require information on wells drilled for gas storage. The Division of Geology considers gas storage wells as a class of Service Well. 25 of the 50 Service Wells cited were gas storage facility wells.

NEW-FIELD WILDCAT WELLS DRILLED IN MICHIGAN (API)

Year	Oil	Gas	Total Producing Wells	Dry Holes	Total New-Field Wildcat Wells
1976	28	34	62	217	279
D.G.	30	36	66	234	300

Major and independent company well completions. Requests are frequently made for statistics on major oil company drilling activites in Michigan. Although there appears to be no single definition of what constitutes a major company, the following companies are frequently cited as belonging in that category: Atlantic-Richfield, Cities Service, Continental Oil Company, Exxon, Getty Oil Company, Gulf Oil Company, Marathon Oil Company, Mobil Oil Corporation, Phillips Petroleum Company, Shell Oil Company, Standard Oil of California, Standard Oil of Indiana, Standard Oil of Ohio, Sun Oil Company, Texaco, Inc., and Union Oil of California. The preceding list is not official nor necessarily complete. A number of these companies or their affiliates drilled wells in Michigan in 1976. The figures cited for the major companies do not include wells drilled by independents under farmout agreements with a major company or wells drilled by independents but partially supported by dry hole money or some other significant assistance from a major oil company. Independent oil companies, who have drilled most of Michigan's wells, are too numerous to cite individually. All figures cited for majors and independents were derived from inspection of operator names appearing on completion records. On the following chart, in cases where two or more companies were joint operators in a drilling venture, the well completion was attributed to the company whose name appears first (generally the major interest holder) on the official records.

WELL COMPLETIONS BY MAJORS AND INDEPENDENTS IN 1976

Major Company	Exploratory Oil	Exploratory Gas	Exploratory Dry	Development Oil	Development Gas	Development Dry	Service*	Totals
Amoco	2	3	7	3		2		17
Getty	1		8	1		1		11
Gulf			1					1
Marathon			5	10			13	28
Mobil		2	7	4		3		16
Shell	16[1]	14	78	21	3	46	10	188
Sun				2		1		3
Total Petroleum	1		5	1		4		11
Sub-totals	20	19	111	42	3	57	23	275
Independents	10[1]	17[2]	123[3]	48	18	42	27	285
Totals	30	36	234	90	21	99	50	560

*Includes GS-OBS, LPG, WI, BDW wells.
(1)Includes one extension discovery.
(2)Includes three extension discoveries.
(3)Includes one hole abandoned at 50 feet.

Total: Exploratory Wells 300; Development Wells 210; Service Wells 50.

Exploratory Wells drilled by Majors 50%.
Exploratory Wells drilled by Independents 50%.

Exploratory Discoveries made by Majors 59%.
Exploratory Discoveries made by Independents 41%.

Development Wells drilled by Majors 49%.
Development Wells drilled by Independents 51%.

Producing Development Wells drilled by Majors 41%.
Producing Development Wells drilled by Independents 59%.

Discovery to Exploratory Dry Hole ratio - Majors 1:2.85; Independents 1:4.56.

Well casing used in 1976 well completions. Periodically, inquiries are made concerning the amount of casing (pipe) used in Michigan wells during a given year. Almost all oil and gas tests drilled in this state utilize rotary drilling techniques and require the setting of surface pipe and an intermediate casing string. A conductor pipe is set on many holes, and all wells completed as producers require a string of production casing. Pipe size ranges and amounts have been determined from records of wells completed in 1976. For convenience, casing tallies have been related to a range of casing sizes as shown in the following chart.

	Conductor Pipe	Surface Pipe	Intermediate Pipe	Production Pipe
Casing Size Range Used	13"-20" Dia.	10"-13" Dia.	6"-10" Dia.	4 1/2"-6" Dia.
Normal Size Used	16"	11 3/4"	8 5/8"	5 1/2"
Average Weight	75#/ft.	53#/ft.	37#/ft.	19#/ft.
No. feet used (1)	32,338	262,226	1,245,640	818,385
Miles (2)	6.12	49.66	235.92	155.00
Tons (3)	743.77	6,031.20	28,649.72	18,822.86

(1) Total footage: 2,358,589.00
(2) Total miles: 446.70
(3) Total tonnage: 54,247.55 based on an average weight for all sizes of 46# per foot.

NEW WELL COMPLETIONS BY DISTRICTS, 1976

Classification of New Well Completions	Basin 1975	Basin 1976	Northern 1975	Northern 1976	Western 1975	Western 1976	Southwestern 1975	Southwestern 1976	Southeastern 1975	Southeastern 1976	Total 1975	Total 1976
Exploratory Wells												
Oil	6	2	24	17	17(2)	8(4)	7	3	1(1)	0	55	30
Gas	1	3(3)	14(1)	16	2	10	1	3	1(1)	4	19	36
D&A	39	32	101	101	37	45	23	24	13	32	213	234
Total	46	37	139	134	56	63	31	30	15	36	287	300
Development Wells												
Oil	18	18	25	17	35	29	24	14	9	12	111	90
Gas	2	2	6	6	3	2	2	1	8	10	21	21
D&A	18	14	44	43	26	28	25	11	5	3	118	99
Total	38	34	75	66	64	59	51	26	22	25	250	210
Service Wells												
WI	0	13	0	0	0	0	0	0	0	0	0	13
BDW	0	1	0	4	0	7	0	0	1	0	1	12
GS	6	13	0	0	25	12	0	0	6	0	37	25
LPG	0	0	0	0	0	0	0	0	0	0	0	0
Total	6	27	0	4	25	19	0	0	7	0	38	50
Total Completions	90	98	214	204	145	141	82	56	44	61	575	560

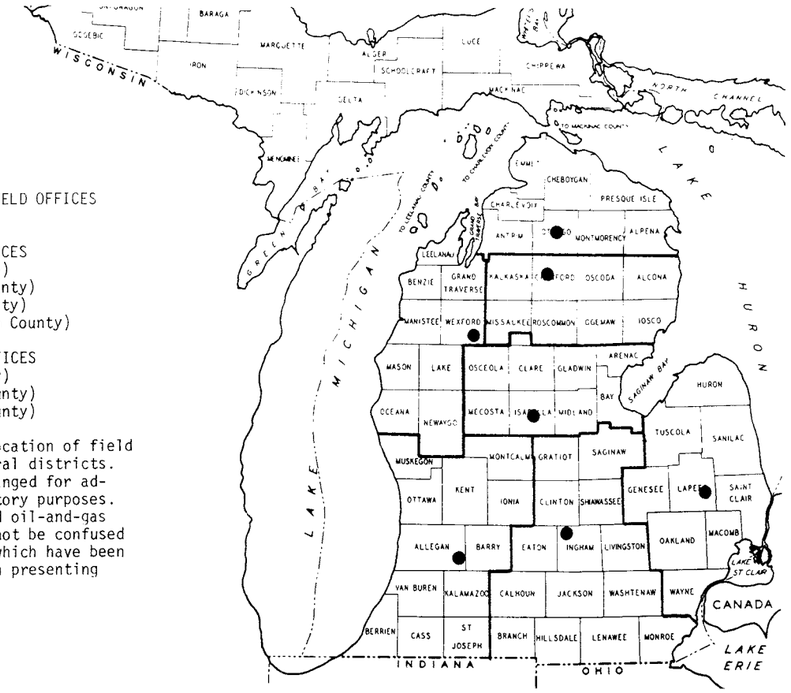
(1) Includes one gas well discovery resulting from reopening and completion of a dry hole credited to 1974 or a prior year.
(2) Includes one oil well discovery resulting from reopening and completion of a dry hole credited to 1974 or a prior year.
(3) Includes extension discovery to Morton Gas field, Mecosta County.
(4) Includes one oil well discovery resulting from reopening and completion of a dry hole credited to 1974.

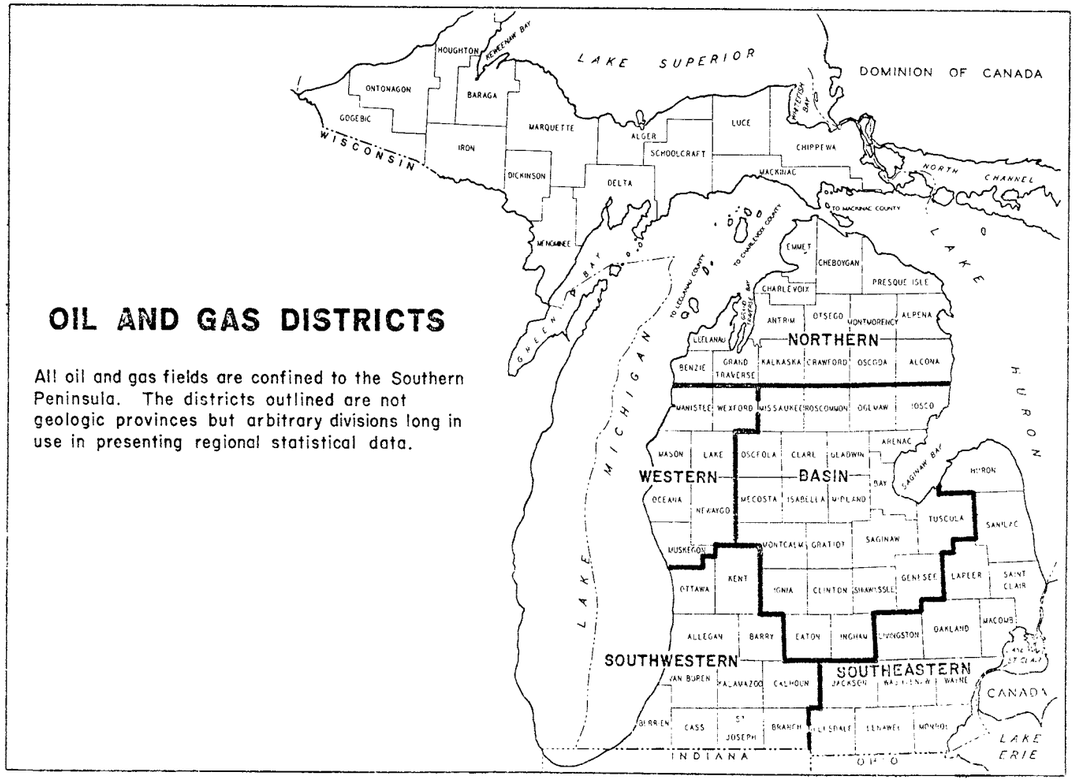
DIVISION OF GEOLOGY FIELD OFFICES

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

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

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





Drilled footage. The average depth, statewide, of exploratory wells drilled in 1976 was 4,830 feet compared with 4,937 feet in 1975. Development well depths averaged 4,350 feet compared with about 5,000 feet in 1975. Service wells drilled in 1976 averaged about 2,120 feet as compared with 1,893 feet in 1975. Drilled footage figures and average well depths for specific counties are shown in Table 1.

Total drilled footage figures from the Division of Geology records for 1976 and several prior years are as follows:

DRILLED FOOTAGE FIGURES-DIVISION OF GEOLOGY

Well Class	1973	1974	1975	1976
Exploratory	1,013,470	1,374,285	1,397,144	1,448,933
Development	573,522	829,709	1,124,863	913,530
Service Wells (All types)	132,577	151,661	71,919	105,975
Total:	1,719,569	2,355,655	2,593,926	2,468,438

Drilled footage figures are furnished to the American Petroleum Institute and these are published as part of their quarterly and annual summary. Drilled footage figures extracted from the 1976 API Annual Summary are as follows:

1976 API DRILLED FOOTAGE FIGURES

Exploratory Wells			Development Wells		
Oil	Gas	Dry	Oil	Gas	Dry
158,114	174,009	1,020,795	370,124	103,793	485,627

Total Exploratory Footage: 1,352,918 feet*
*API Table II, page 16

Total Development Footage: 959,544**
**API Table III, page 17

The difference in total drilled footage figures (96,015 Exploratory and 46,014 Development) as reported by API and by the Division of Geology are related to factors previously mentioned. API footage figures are correct on the basis of reporting-year criteria.

* * * 1976 OIL AND GAS PRODUCTION * * *

Oil and gas production figures are derived from Michigan Department of Treasury tax records and records submitted to the Production-Proration Unit, Oil and Gas Section, Division of Geology, Department of Natural Resources. Treasury Department records are primarily concerned with gross production figures needed to calculate revenues. These data are supported by records and reports required from producing companies and purchasers by the Division of Geology. 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 corrections as warranted.

Oil production, including stable condensate, amounted to 30,421,363 barrels in 1976, showing an increase of over 6,000,000 barrels from the previous year. Up by more than 17,000,000 Mcf from 1975 totals, this year's gas production stood at 120,250,105 Mcf. These gains are directly related to the continued development of Salina-Niagaran reef reservoirs in the northern and southern parts of Michigan's Lower Peninsula. With the completion of new pipeline gathering facilities, an increasing number of wells, particularly in the northern Niagaran reef trend, are coming on production and helping to boost Michigan's production figures. The spread of these reef fields across the northern Lower Peninsula is shown on the map accompanying Table 2. 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 BY COUNTY IN 1976

County	Barrels Oil	MCF Gas
Allegan	126,616	24,520
Antrim	180,866	1,060,504
Arenac	188,312	0
Barry	9,307	0
Bay	184,677	0
Benzie	255	0
Calhoun	1,559,153	4,932,516
Cass	5,665	0
Cheboygan	174	0
Clare	301,617	79,172
Crawford	983,555	976,288
Eaton	271,694	3,956,762
Genesee	19,077	0
Gladwin	250,264	0
Grand Traverse	3,472,047	33,484,253
Gratiot	9,546	2,643
Hillsdale	1,141,935	4,084,752
Ingham	2,409,844	4,048,047
Isabella	124,101	0
Jackson	368,699	2,553,312
Kalkaska	3,118,293	29,522,074
Kent	56,332	3,793
Lake	82,179	0
Lapeer	96,376	21,991
Livingston	2,288	1,203,642
Macomb	7,517	235,070
Manistee	5,149,841	11,279,045
Mason	290,464	4,581,241
Mecosta	31,201	44,566
Midland	158,112	0
Missaukee	636,166	588,259
Monroe	3,972	0
Montcalm	76,042	0
Muskegon	8,332	0
Newaygo	10,984	0
Oakland	43,739	916,818
Oceana	25,497	0
Ogemaw	554,980	205,536
Osceola	247,757	153,931
Oscoda	780	0
Otsego	6,351,796	11,122,582
Ottawa	62,583	0
Roscommon	381,392	321,983
Saginaw	16,761	0
St. Clair	1,066,416	2,087,497
Shiawassee	5,505	0
Tuscola	48,341	35,016
Van Buren	10,234	0
Washtenaw	1,171	0
Wayne	5,193	0
Wexford	263,711	2,721,250
Totals	30,421,363	120,250,105

OIL AND GAS PRODUCTION BY DISTRICT IN 1976

District	Barrels Oil	MCF Gas
Basin	5,915,389	9,435,915
Northern	14,107,766	76,165,701
Southeastern	2,737,306	11,121,082
Southwestern	1,829,890	4,960,829
Western	5,831,008	18,581,536
Totals	30,421,363	120,250,105

OIL AND GAS PRODUCTION BY MONTH IN 1976

	Barrels Oil	MCF Gas
January	2,353,666	9,466,071
February	2,219,433	9,482,505
March	2,370,588	9,868,036
April	2,470,492	9,956,307
May	2,577,605	10,748,311
June	2,613,241	10,342,299
July	2,742,687	10,346,949
August	2,722,944	11,311,868
September	2,619,625	10,121,246
October	2,584,854	8,547,529
November	2,598,279	9,887,170
December	2,547,954	10,171,814
Totals	30,421,363	120,250,105

* * * NATURAL GAS LIQUIDS * * *

The amount of liquids produced from gas-condensate reservoirs associated with northern and western Michigan Silurian reefs continues to increase. These liquids, produced from wells classified as gas wells, are included in the yearly oil production totals shown in 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 rates. There is no restriction on the amount of liquids produced along with the gas. Gas plants operated by Shell Oil Company and 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 condensate liquids:

CONDENSATE PRODUCTION

Year	Barrels
1969	0
1970	18,946
1971	98,668
1972	125,768
1973	335,041
1974	1,187,498
1975	1,863,338
1976	1,896,870
Total	5,526,129

Gas plant operations are summarized in Table 6. It should be noted that the LPG recovery figures for the Amoco and Shell plants in Kalkaska County include stabilized condensate as well as LPGs.

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

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

* * * OIL AND GAS VALUATION * * *

Records maintained by the Production-Proration Unit indicate the average price paid at the wellhead in 1976 for Michigan crude oil, including condensate, was $10.84 per barrel compared with $10.74 per barrel in 1975. The gross value of these products amounted to $329,636,770 as compared with $262,351,653 in 1975. The value of Michigan produced natural gas continued to rise in 1976. The average price of gas sold at the wellhead was $.878 per Mcf as compared with $.634 per Mcf in 1975. The gross value of this product amounted to $120,252,528 in 1976 as compared with $65,103,875 in 1975.

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

Total imports to Michigan refineries of U.S. domestic and foreign and Canadian crude oil amounted to 36,823,603 barrels in 1976, a decline from the 37,599,514 barrels imported in 1975. Imports of U.S. domestic and foreign crude to Michigan refineries increased from 15,321,840 barrels in 1975 to 19,366,106 barrels in 1976.

Area covered by Special Spacing and Proration Order

Area covered by "no flare" order

BASIC FULL ALLOWABLE

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

DRILLING UNIT

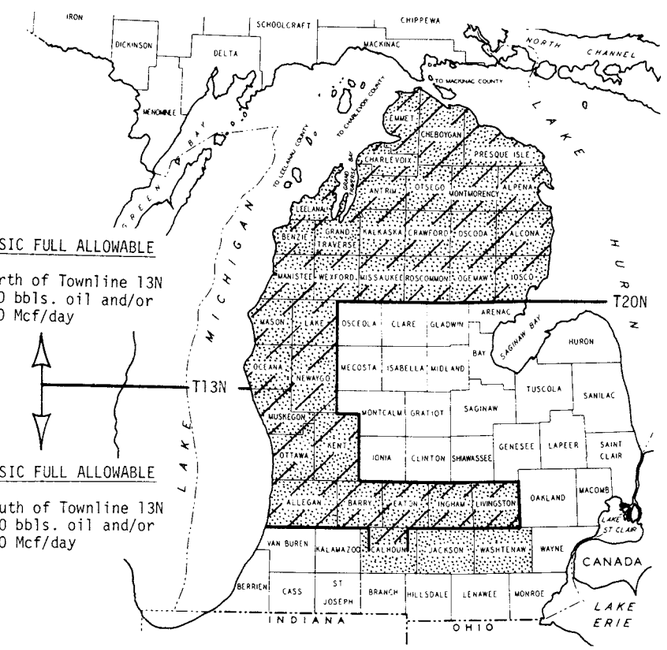
80 acres, more or less, by combining two (2) governmental surveyed quarter-quarter sections of land with a common boundary of approximately 1320 feet.

WELL SPACING

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

BASIC FULL ALLOWABLE

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



Imports of Canadian crude via pipeline from western Canada oil fields continued to decline. Canadian imports amounted to 22,277,674 in 1975 but declined to 17,457,497 in 1976. The trend of U.S. domestic and foreign and Canadian imports to Michigan refineries from 1962 through 1976 is shown graphically. Imports by month during 1976 are as follows:

1976 CRUDE OIL IMPORTS (Bbls.)

	Domestic and Foreign	Canadian	Total
January	1,505,540	1,459,471	2,965,011
February	1,477,598	1,682,121	3,159,719
March	2,256,498	1,860,657	4,117,155
April	1,747,318	1,699,811	3,447,129
May	1,660,091	1,558,957	3,219,048
June	1,486,598	1,758,151	3,244,749
July	1,165,478	1,436,082	2,601,560
August	1,264,098	1,747,790	3,011,888
September	1,480,348	1,551,367	3,031,715
October	1,521,942	990,734	2,512,676
November	1,921,837	843,419	2,765,256
December	1,878,760	868,937	2,747,697
Totals	19,366,106	17,457,497	36,823,603

Most Michigan produced crude oil goes to Michigan refineries but some is exported. The amount credited to out-of-state terminals increased from 6,899,744 barrels in 1975 to 7,753,993 barrels in 1976. Records kept by the Production-Proration Unit show the following exports, by month, of Michigan produced crude:

1976 CRUDE OIL EXPORTS (Bbls.)

January	612,002
February	533,534
March	596,912
April	552,033
May	717,679
June	567,888
July	754,690
August	769,164
September	703,249
October	748,393
November	630,990
December	567,459
Total	7,753,993

Natural gas imports to Michigan markets and gas storage fields in 1976 via interstate pipelines, primarily from Texas, Louisiana, Oklahoma, and Kansas fields, amounted to 793,678,469 Mcf, an increase over the 840,412,900 Mcf imported in 1975. Compilations by the Office of Gas Operations, Michigan Public Service Commission, show the following monthly imports during 1976:

1976 PIPELINE GAS IMPORTS (Mcf)

January	34,085,062
February	48,183,688
March	64,066,919
April	73,688,971
May	86,220,373
June	84,110,284
July	90,736,161
August	68,583,961
September	85,177,991
October	73,845,453
November	46,213,395
December	38,766,211
Total	793,678,469

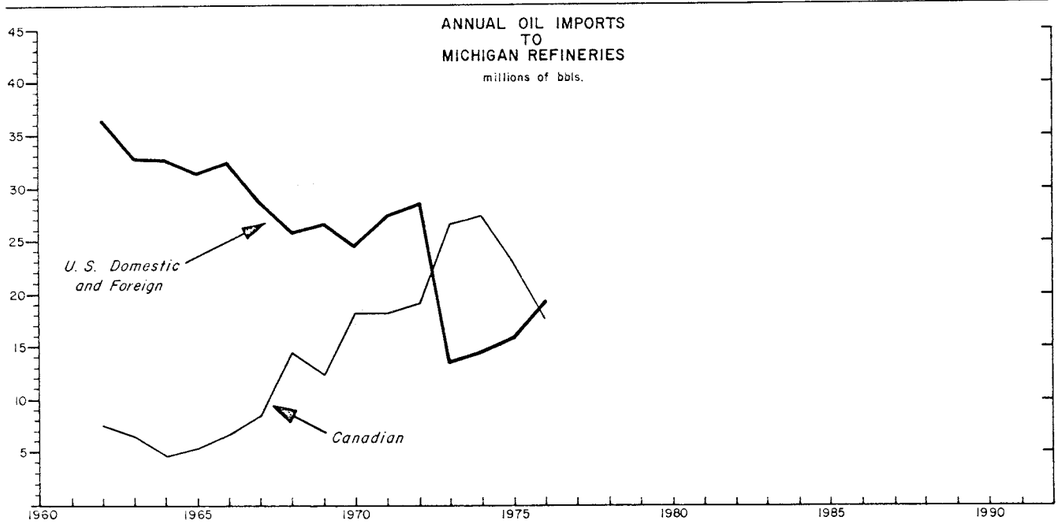
* * * NEW FIELD AND POOL DISCOVERIES * * *

Once again Silurian reefs were the main type of oil and gas trap found in 1976. All appear to have been located by seismic exploration methods. Most were found along the northern reef trend extending from Mason County to Presque Isle County. Others were found in the southern part of the basin in the Calhoun-Eaton-Ingham County area, and in the Macomb-St. Clair County area of the Southeastern District. Of the 66 exploratory wells initially classified as 1976 discoveries, 62 were Niagaran reef reservoirs.

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

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

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



1976 DISCOVERY WELLS

County Location	Field Name	Operator and Lease	Permit Number	Depth to Pay	Total Depth	Initial Production n=(N)IP BOPD	Initial Production t=(T)IP MCFGPD	Producing Formation	Basis for Loc.	AAPG Pool Class
NEW FIELDS										
Benzie 36-25N-13W	Colfax 36-25N-13W	Shell Oil Co. Dinger-St-Colfax #1-36	31197	5842	6015	F329 +344 Mcf[t]		Niagaran	Seis.	E
Calhoun 3-1S-5W	Lee 3-1S-5W, Pool B	Fortuna Oil & Sokoloski Persons-Jewel Unit #1-3	30710	3312	3511		SIGW-Gauge not available	Salina-Niagaran	Acreage	E
Calhoun 11-1S-5W	Lee 11-1S-5W	Wagner Gas & Oil Watson-O'Dell Unit #1	31020	3234	3358		4750[t]	Niagaran	Acreage	E
Calhoun 18-1S-5W	Lee 18-1S-5W	Mobil Oil Corp. Yost "A" Unit #2	30820	3104	3576		4291[t]	Niagaran	Seis.	E
Calhoun 29-1S-7W	Pennfield 29-1S-7W, Pool A	Sullivan and Co. Elmer Unit #1	30894	2681	2815	F110[t]		Salina-Niagaran	Seis.	E
Cass 13-8S-15W	Adamsville	Robert J. Mannes M. Harris #1	31271	675	680	P14[t]		Traverse	Acreage	E
Cass 11-8S-15W	Jefferson(1)	M. C. Barnett Carl #1-11	31251	709	711	P7[t]		Traverse	Acreage	E
Cheboygan 14-33N-1E	Forest 14-33N-1E	Shell Oil Co. St-Forest #1-14	31184	3671	4069	F390 +253 Mcf[t]		Niagaran	Seis.	E
Crawford 11-28N-4W	Frederic 11-28N-4W	Shell Oil Co. Talbot-Wood #1-11	31021*	6963	7127	F576 +488 Mcf[t]		Niagaran	Seis.	E
Crawford 16-28N-4W	Frederic 16-28N-4W	Shell Oil Co. Fisher-St-Frederic #1-16	30953	7254	7483	F429 +514 Mcf[t]		Niagaran	Seis.	E
Crawford 3-28N-3W	Maple Forest 3-28N-3W	Michigan Oil Co. St-Maple Forest-Diefenbach #1-3	30957	6710	7015		103 Cond./Day +1250[t]	Niagaran	Seis.	E
Eaton 25-2N-3W	Eaton Rapids 25-2N-3W	Amoco Prod. Co. Eaton Co. Rd. Comm. #1-25	30816	4010	4270	F135 +460 Mcf[t]		Niagaran	Seis.	E
Eaton 33-2N-3W	Eaton Rapids 33-2N-3W	Mobil Oil Corp. Owen Unit #1	30889	3715	3935		20 Cond./Day +14,633[t]	Niagaran	Seis.	E
Grand Traverse 21-26N-11W	Blair 21-26N-11W	NMECo. St-Blair #2-21A	31052*	5567	5795		59 Cond./Day +2500[t]	Niagaran	Seis.	E
Grand Traverse 11-26N-10W	East Bay 11-26N-10W	Total-Leonard Inc. Rotary Camps, Inc. #1-11	30756	6187	6400	F253[t]		Niagaran	Seis.	E
Grand Traverse 9-25N-12W	Grant 9-25N-12W	Getty Oil Co. St-Grant #1-9	31002	5620	5915	F376 +720 Mcf[t]		Niagaran	Seis.	E
Grand Traverse 32-25N-12W	Grant 32-25N-12W	Ind. Nat. Gas Corp. Henigan #1-32A	31036	5868	6145		9 Cond./Day +250[t]	Niagaran	Acreage	E
Grand Traverse 34-25N-12W	Grant 34-25N-12W	Shell Oil Co. Weber #1-34A	30946*	6252	6331		182 Cond./Day +3579[t]	Niagaran	Seis.	E
Grand Traverse 34-25N-12W	Grant 34-25N-12W, Pool A	Shell Oil Co. Myers-Kellogg et al #2-34	31276	5967	6267	F489 +445 Mcf[t]		Niagaran	Seis.	E
Grand Traverse 35-25N-12W	Grant 35-25N-12W	I. Weitzman R. C. Clous Unit #1-35	30765	6052	6337		240 Cond./Day +4000[t]	Niagaran	Seis.	E
Grand Traverse 36-25N-12W	Grant 36-25N-12W	Shell Oil Co. Grant Farms et al #1-36	31102	6129	6580		210 Cond./Day +4069[t]	Niagaran	Seis.	E
Grand Traverse 10-25N-11W	Mayfield 10-25N-11W, Pool A	Shell Oil Co. Steinbach et al #8-10	30859	6183	6381	355 +403 Mcf[t]		Niagaran	Seis.	E
Grand Traverse 11-25N-11W	Mayfield 11-25N-11W	Shell Oil Co. Schmuckal et al #3-11	31218	6333	6540		86 Cond./Day +3828[t]	Niagaran	Seis.	E
Grand Traverse 15-25N-11W	Mayfield 15-25N-11W	Traverse Corp. Mitchell et al #1-15	30950	6446	6671		360 Cond./Day +6000[t]	Niagaran	Seis.	E
Grand Traverse 28-25N-11W	Mayfield 28-25N-11W	Shell Oil Co. Phoenix Pet. Corp. #2-28	31148	6430	6580	F329[t]		Niagaran	Seis.	E
Grand Traverse 29-25N-11W	Mayfield 29-25N-11W	Shell Oil Co. Henshell et al #1-29A	30703*	6012	6621		110 Cond./Day +3400[t]	Niagaran	Seis.	E
Grand Traverse 31-25N-11W	Mayfield 31-25N-11W	Reef Pet. Corp. Bossingham et al #1-31	30944	6051	6696		6500[t]	Niagaran	Seis.	E
Grand Traverse 26-26N-10W	Paradise 26-26N-10W	Shell Oil Co. Edwards #3-26	31219	6422	6585		162 Cond./Day +3098[t]	Niagaran	Seis.	E
Grand Traverse 27-26N-10W	Paradise 27-26N-10W	Shell Oil Co. Edwards #2-27	30606	6060	6448	360 +1536 Mcf[t]		Salina-Niagaran	Seis.	E
Grand Traverse 22-26N-10W	Paradise 27-26N-10W(1)	Shell Oil Co. Edwards #1-22	30595	6173	6453	F144[t]		Niagaran	Seis.	E
Grand Traverse 33-26N-10W	Paradise 33-26N-10W, Pool A	Shell Oil Co. Brown et al #2-33	30670	6000	6595	264 +966 Mcf[t]		Salina-Niagaran	Seis.	E
Grand Traverse 16-26N-9W	Union 16-26N-9W, Pool A	Shell Oil Co. St-Union #1-16	30620	6392	6645		1243[t]	Niagaran	Seis.	E
Grand Traverse 36-27N-9W	Whitewater 36-27N-9W, Pool A	Amoco Prod. Co. St-Whitewater "F" #2-36	30846	6300	6757		972 Cond./Day +30,000[t]	Niagaran	Seis.	E
Ingham 20-1N-2W	Onondaga 20-1N-2W	Michigan Oil Co. Camp Ingham-Trefry #4	30645	3569	3710	F72 in 10 hrs.		Niagaran	Seis.	E
Kalkaska 7-28N-5W	Blue Lake 7-28N-5W	Miller Bros. Koenig et al #2-7	31003*	6615	6704		150 Cond./Day +1100[t]	Niagaran	Seis.	E
Kalkaska 17-28N-5W	Blue Lake 17-28N-5W	Shell Oil Co. Hall-Hensley #1-17	31203	7015	7255	F450 +592 Mcf[t]		Niagaran	Seis.	E
Kalkaska 19-28N-5W	Blue Lake 19-28N-5W, Pool A	Amoco Prod. Co. St-Blue Lake "G" #2-19	30984	6960	7265	308 +340 Mcf[t]		Niagaran	Seis.	E
Kalkaska 14-28N-6W	Cold Springs 14-28N-6W	Miller Bros. Simpson Est. et al #2-14	30684	6780	7095	360 +150 Mcf[t]		Niagaran	Seis.	E
Kalkaska 29-28N-6W	Cold Springs 29-28N-6W	Shell Oil Co. St-Cold Springs #1-29	30790	6865	7040	390 +385 Mcf[t]		Niagaran	Seis.	E
Kalkaska 5-28N-7W	Rapid River 5-28N-7W	Finders Oil & Gas Innis #1-5	30706	5915	6197		P7 Cond./Day +327+128 BW[t]	Niagaran	Seis.	E
Macomb 11-4N-12E	Washington Sec. 10(1)	Mich. Cons. Gas Co. T. Bowerman et al #1-11	30821	3256	3790		20,000[t]	Niagaran	Seis.	E
Macomb 10-4N-12E	Washington Sec. 10, Pool A	Mich. Cons. Gas Co. McIntyre et al #1-10	30516	3580	3722		SIGW-Gauge not available	Niagaran	Seis.	E
Manistee 15-23N-15W	Bear Lake 15-23N-15W	Shell Oil Co. et al Marshall et al #1-15	31209	4410	4740		21 Cond./Day +3584[t]	Niagaran	Seis.	E
Manistee 25-23N-15W	Bear Lake 25-23N-15W	Shell Oil Co. Argue et al #1-25	30554	4714	5061		66 Cond./Day +3501[t]	Niagaran	Seis.	E
Manistee 27-23N-15W	Bear Lake 27-23N-15W, Pool A	Shell Oil Co. & Miller Bros. Johnson et al #4-27	30752	4592	4801	336 +428 Mcf[t]		Niagaran	Seis.	E
Manistee 5-22N-15W	Brown 5-22N-15W	Shell Oil Co. Lyman et al #1-5	30906	4649	4762	400 +436 Mcf[t]		Niagaran	Seis.	E
Manistee 14-24N-13W	Cleon 14-24N-13W, Pool A	Reef Pet. Corp. Berry et al #1-14	30674	5728	5897	300 +350 Mcf[t]		Niagaran	Seis.	E
Manistee 19-24N-13W	Cleon 19-24N-13W	Miller Bros. et al St-Cleon #1-19	31157	5073	5453		120 Cond./Day +3000[t]	Niagaran	Seis.	E
Manistee 26-24N-13W	Cleon 26-24N-13W	Amoco Prod. Co. Pack. Corp. of Am. Unit "C" #1-26	30427	5616	5901		36 Cond./Day +6900[t]	Niagaran	Seis.	E
Manistee 26-24N-13W	Cleon 26-24N-13W(1)	Wolverine Gas & Oil Co. Jansma-Gordon-Altschul #1-26	30768	5374	5628		24 Cond./Day +600[t]	Niagaran	Seis.	E
Manistee 27-24N-13W	Cleon 27-24N-13W	Ind. Nat. Gas Corp. Smith-Sturt #1-27A	30791	5659	5937		50 Cond./Hour +7000[t]	Niagaran	Acreage	E
Manistee 3-22N-16W	Manistee 3-22N-16W	I. Weitzman Hadaway-St-Manistee #1-3	29539	4135	4365	Gauge not available		Niagaran	Acreage	E

1976 DISCOVERY WELLS CONTINUED

Manistee 13-22N-16W	Manistee 13-22N-16W(2)	Shell Oil Co. Olson et al #2-13	30497	4511	4832		3 Cond./Day +3496t	Salina-Niagaran	Seis.	E
Manistee 13-22N-16W	Manistee 13-22N-16W, Pool A	Shell Oil Co. Olson et al #3-13	30779	4604	4837		1899t	Niagaran	Seis.	E
Manistee 17-22N-16W	Manistee 17-22N-16W	Energy Acq. & Flynn Energy Diesing-Kott #1-17	31042	3930	4230	750 +600 Mcft		Niagaran	Seis.	E
Manistee 30-22N-16W	Manistee 30-22N-16W	Shell Oil Co. Miller et al #2-30	30526	3958	4348		3176t	Niagaran	Seis.	E
Manistee 20-23N-14W	Maple Grove 20-23N-14W	Shell-Miller-Total-Leonard-Wiser St-Maple Grove et al #1-20	30771	4904	5235		2.7 Cond./Day +866t	Niagaran	Seis.	E
Manistee 29-24N-14W	Springdale 29-24N-14W	Miller Bros. St-Springdale #2-29	31053*	4633	4959	300 +300 Mcft		Niagaran	Seis.	E
Mecosta 27-14N-8W	Morton(1)	Reef Pet. Corp. Eisenberg #1-27	31284	1325	3647		640t	Michigan Stray	Acreage	E
Newaygo 26-14N-11W	Carey Lake(1)	Hansen Bros. Miller #1	30622	3306	3445	25 +200 Mcft		Dundee	Acreage	E
Oakland 14-5N-11E	Addison 14-5N-11E	Reef Pet. Corp. Fallon #1-14	31262	4261	4470		5700t	Niagaran	Seis.	E
Otsego 36-29N-4W	Hayes 36-29N-4W	Shell Oil Co. St-Hayes #1-36	30985	6464	6875	488 +570 Mcft		Niagaran	Seis.	E
Presque Isle 26-34N-4E	Bismarck 26-34N-4E	Amoco Prod. Co. Sorgett Unit #1-26	31067	3302	3589		5 Cond./Day +4900t 6700t	Niagaran	Seis.	E
Presque Isle 12-34N-6E	Pulawski 12-34N-6E	Shell Oil Co. U.S. Steel Corp. #2-12	30958	2369	2840			Salina-Niagaran	Seis.	E
St. Clair 16-6N-15E	Wales 16-6N-15E	Reef Pet. Corp. Sullivan #1-16	31154	3264	3650		SIGW-Gauge not available	Salina-Niagaran	Seis.	E
Wexford 5-24N-12W	Wexford 5-24N-12W, Pool A	Shell Oil & NMECo. Dinger et al #2-5	30532	5785	6192	360 +2.023 Mcft		Niagaran	Seis.	E

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

(1) Extension Discovery

(2) Well was originally drilled as a development well in the Manistee 13-22N-16W field. Reclassified as a new field discovery after public hearing in July, 1976.

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

The wells listed as 1976 Niagaran reef discoveries are subject to reclassification as to product. Future development may also indicate reservoir connection with a nearby reef reservoir previously classified as a discovery and thus reclassified to development well status.

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

Discovery wells credited to 1976 are shown on the forthcoming list. The list may show a few wells that were reclassified during 1977. Reservoir performance may show that a well previously classified as a development well should actually be considered as being in a separate reservoir or pool. Likewise, a so-called discovery well may actually turn out to be a development well to a nearby reef reservoir. Also, a discovery well may be completed as an oil well but at sometime later be reclassified as a gas well and, conversely, a gas well may later be reclassified as an oil well. Changes in classification may be the result of action by the regulating agency after enough data has been accumulated on the well or wells, or may result from new data presented at public hearings and the decision of the Supervisor of Wells after thorough consideration of the new data.

An analysis of 1976 discovery wells according to geologic system and an analysis of drilling objectives penetrated at total depth by wells completed in 1975 follows.

ANALYSIS OF 1976 DISCOVERY WELLS BY GEOLOGIC SYSTEM

System	Formation or Pay	Number of Discoveries 1974	1975	1976
Pennsylvanian		-	-	-
Mississippian	"Michigan Stray Ss."	-	-	1
	"Berea Sandstone"	-	-	-
Devonian	Antrim Shale (Gas)	-	-	-
	"Traverse Lime"	-	1	2
	Dundee	1	1	1
	"Reed City"	-	-	-
	Detroit River "Sour Zone"	-	-	-
	Richfield	-	1	-
Silurian	Salina E Zone	-	1**	-
	Salina A-1 or A-2	-	3	-
	Niagaran reef*	91	68	62
Ordovician	Trenton-Black River	1	-	-
	Prairie du Chien	-	-	-
Cambrian	(Gas shows reported in past years)			

*Most reefs also have associated Salina A-1 oil or gas pays.
**This well was a dual discovery in both the Salina E Zone and the Niagaran.

DRILLING OBJECTIVES IN MICHIGAN

System	Formation or Pay	Percentage 1974	1975	1976
Pennsylvanian		-	-	-
Mississippian	"Michigan Stray Ss."	3.9	5.1	4.1
	"Berea Sandstone"	-	.2	.5
Devonian	Antrim Shale (Gas)	-	-	-
	"Traverse Lime"	.9	2.6	5.2
	Dundee	3.9	4.2	9.2
	"Reed City"	1.2	1.8	.5
	Detroit River "Sour Zone" & Richfield	4.1	3.9	4.0
Silurian	Salina-Niagaran	81.0	77.0	72.5
Ordovician	Trenton-Black River	3.2	3.2	2.9
	St. Peter Ss. or Prairie du Chien	1.0	1.6	.9
Cambrian or Precambrian	Undifferentiated	.8	.7	.2

* * * STATE OIL AND GAS REVENUE * * *

Total State revenue credited to 1976 and derived from royalty, rental, bonus from lease sales, and application-assignment fees amounted to $15,147,458.40. This figure is derived from these components:

Hydrocarbon royalties	
Oil and Condensate	$9,492,626.39
Gas, Casinghead gas, LPG and Shut-in royalty	3,800,582.88
Subtotal	$13,293,209.27
Rentals	$1,328,660.13
Bonus	524,973.00
Application-Assignment fees	616.00
Subtotal	$1,854,249.13
Total revenue	$15,147,458.40

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

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

OIL AND GAS WELL RECORDS. Descriptive geological logs and drillers logs are available for over 31,400 tests, including exploratory, development, facility and other types of wells. Individual well records may be purchased at a nominal cost from the Division of Geology. Electric or radiation logs of any type are not available for distribution or sale.

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

TABLE 1 DRILLING PERMITS, WELL COMPLETIONS, DRILLED FOOTAGE BY COUNTY, 1976

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

COUNTY	OIL/GAS PERMITS ISSUED	OIL AND GAS TESTS Completed Explor.	Devel.	RESULTS Oil Wells	Gas Wells	Dry Holes	SERVICE WELLS Completed G.S.	B.D.W.	TOTAL WELLS DRILLED	TOTAL DRILLED FOOTAGE Explor.	Devel.	Fac.	Average Well Depth
Allegan	9	1	3	3	0	1	0	0	4	2,550	9,623	0	3043
Antrim	5	3	0	0	0	3	0	1	4	20,469	0	2,830	5825
Arenac	5	2	0	0	0	2	0	0	2	5,900	0	0	2950
Barry	0	2	0	0	0	2	0	0	2	7,073	0	0	3537
Bay	3	3	0	0	0	3	0	0	3	8,473	0	0	2824
Benzie	3	2	1	1	0	2	0	0	3	12,017	5,936	0	5984
Berrien	1	0	0	0	0	0	0	0	0	0	0	0	0
Branch	5	3	0	0	0	3	0	0	3	11,085	0	0	3695
Calhoun	38	15	15	6	4	20	0	0	30	51,269	48,097	0	3312
Cass	10	2	6	6	0	2	0	0	8	1,391	4,203	0	699
Cheboygan	3	4	0	1	0	3	0	0	4	14,148	0	0	3537
Clare	3	0	2	1	0	1	0	0	2	0	9,063	0	4532
Crawford	11	4	3	3	1	3	0	0	7	28,662	20,777	0	7063
Eaton	8	5	5	2	2	6	0	0	10	20,672	17,954	0	3863
Gladwin	0	1	0	0	0	1	0	0	1	3,585	0	0	3585
Grand Traverse	86	50	28	13	15	50	0	1	79	301,118	173,720	2,300	6040
Gratiot	4	0	0	0	0	0	3	0	3	0	0	3,964	1321
Hillsdale	41	3	10	10	0	3	0	0	13	11,670	40,359	0	4002
Huron	1	0	0	0	0	0	0	0	0	0	0	0	0
Ingham	6	4	5	5	0	4	0	0	9	14,148	20,814	0	3885
Ionia	2	2	0	0	0	2	0	0	2	5,770	0	0	2885
Isabella	8	3	3	1	0	5	0	1	7	11,677	11,205	4,155*	3862
Jackson	1	2	0	0	0	2	0	0	2	7,300	0	0	3650
Kalamazoo	1	1	0	0	0	1	0	0	1	4,080	0	0	4080
Kalkaska	39	24	15	8	4	27	0	1	40	160,944	94,425	2,307	6442
Lake	2	0	0	0	0	0	1	0	1	0	0	3,957*	3957
Lapeer	2	0	6	2	4	0	0	0	6	0	13,559	0	2260
Macomb	27	15	9	0	8	16	0	0	24	50,197	29,584	0	3324
Manistee	105	53	46	27	11	61	0	6	105	270,276	197,416	9,118	4541
Mason	5	5	1	0	1	5	0	1	7	22,439	4,485	1,512	4062
Mecosta	5	3	2	0	2	3	0	0	5	11,271	3,280	156*	2941
Midland	5	1	2	0	0	3	0	0	3	3,951	7,836	0	3929
Missaukee	7	1	2	0	0	3	0	0	3	5,224	7,755	0	4326
Montcalm	12	4	1	0	0	5	6	0	11	14,190	3,399	8,866*	2405
Montmorency	3	3	0	0	0	3	0	0	3	14,158	0	0	4719
Muskegon	1	0	0	0	0	0	0	0	0	0	0	0	0
Newaygo	15	1	3	4	0	0	11	0	15	3,445	10,317	13,243*	1800
Oakland	11	6	0	0	1	5	0	0	6	26,192	0	0	4365
Oceana	3	0	4	2	0	2	0	0	4	574***	12,433	0	3254
Ogemaw	34	7	10	10	0	7	0	13(1)	30	20,642	27,699**	35,865*	2807
Osceola	6	0	1	0	1	0	4	0	5	0	1,602	15,380*	3396
Otsego	59	36	18	8	0	46	0	1	55	199,788	99,775	2,322	5489
Ottawa	3	2	1	1	0	2	0	0	3	7,119	1,821**	0	2980
Presque Isle	11	9	0	0	2	7	0	0	9	28,280	0	0	3142
Roscommon	2	0	2	1	0	1	0	0	2	0	9,237	0	4619
Sanilac	2	2	0	0	0	2	0	0	2	13,341	0	0	6671
St. Clair	9	8	0	0	1	7	0	0	8	21,966	0	0	2746
St. Joseph	3	2	0	0	0	2	0	0	2	1,880	0	0	940
Tuscola	3	0	0	0	0	0	0	0	0	0	0	0	0
Van Buren	3	2	1	1	0	2	0	0	3	4,213	1,126	0	1780
Wayne	1	0	0	0	0	0	0	0	0	0	0	0	0
Wexford	13	4	5	4	0	5	0	0	9	25,786	26,030	0	5757
Total	645	300	210	120	57	333	25	25	560	1,448,933	913,530	105,975	

*Includes some facility footage credited to old wells drilled deeper.
**Includes some development footage credited to old wells drilled deeper.
***Includes some exploratory footage credited to old wells drilled deeper.
(1)Water injection wells involved in secondary recovery operations.

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

TABLES 2, 3 and 4 list Michigan's oil and gas fields and gas storage reservoirs. The symbol on the left margin of the table indicates the official classification of fields and pools at the end of the year. Classifications may be changed as warranted. Official field names are listed alphabetically in the first column and the producing pool, or pools, are shown under the heading Producing Formation or Pool. Most fields consist of one pool with oil or gas production coming from a single reservoir within a formation. Some fields have two or more separate pools, each producing from a different formation or stratigraphic interval and at a different depth. Most multi-pool fields are associated with a common structural feature. Salina-Niagaran reef oil or gas accumulations are mostly single-pool fields. Some, however, have several separate reef reservoirs designated as Pool A, Pool B and so on. Most have been so designated by administrative action following public hearings. Also, a few of the listed fields actually consist of two or more hydrocarbon accumulations which for administrative purposes have been consolidated under one field name.

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

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

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

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

The Drilled Acres column indicates the total number of acres assigned to the field or pool according to individual well drilling units assigned to each producing well completed in the field or pool. Except as provided by special orders covering drilling units, rules promulgated under Act No. 61, P.A. of 1939, as amended, call for a minimum 40-acre unit consisting of a governmental quarter-quarter section of land. Special Order No. 1-73 calls for basic 80-acre drilling units for Salina-Niagaran or deeper tests in specified areas of the state. These 80-acre units are formed by two governmental quarter-quarter sections of land having a common boundary of approximately 1320 feet. In past years drilling units have been 10, 20 or 40 acres for oil wells. A field may have had a 10 or 20-acre drilling unit for one pool and a 40-acre unit for a deeper formation pool. During the development of a field or pool the drilling unit size may change. Subsequent wells are assigned acreage values in accordance with the new unit size. Gas well units, especially for Michigan Stray Sandstone reservoirs, have generally been 160-acre units. Other sizes currently in use for gas wells are 40, 80, 320 and 640-acre units, or a unit size based on seismic and reservoir data. Reef reservoirs, especially in the northern reef trend, have been assigned 80, 160, 640, or a unit based on seismic data. Changes in drilling units, off-pattern wells, etc., complicate the maintenance of accurate figures during the lifetime of a given field or pool.

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

Gas Fields, Gas-Condensate Fields. Some fields are listed as "shut-in" and show no production figures. In the case of Niagaran reef fields classified as gas-condensate reservoirs, virtually all those listed as shut-in at the end of 1976 were waiting pipeline construction or gas-handling facilities. Others, mainly small dry-gas reservoirs in shallower formations, are listed as shut-in because of slow field development, small reserves or lack of marketing facilities. Other fields, not considered to have commerical-size gas accumulations, produce small quantities of unmetered gas which is used for domestic purposes and in some cases, lease fuel.

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

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 Division of Geology, Michigan Department of Natural Resources, Lansing. Samples are contained in glass vials arranged in open trays. In addition, several thousand shallow geological test samples are also available for inspection. The Division does not maintain a core collection. Other sample and core repositories, not connected with the Division, are located at:

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

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

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

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

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

TABLE 2 NORTHERN MICHIGAN SALINA-NIAGARAN OIL AND GAS FIELDS

POOL CLASSIFICATION

OF ACTIVE OIL FIELD OR POOL
AOF ABANDONED OIL FIELD OR POOL
GF ACTIVE GAS FIELD OR POOL
AGF ABANDONED GAS FIELD OR POOL
G-C GAS-CONDENSATE FIELD OR POOL
AG-C ABANDONED GAS-CONDENSATE FIELD OR POOL
GS GAS STORAGE RESERVOIR

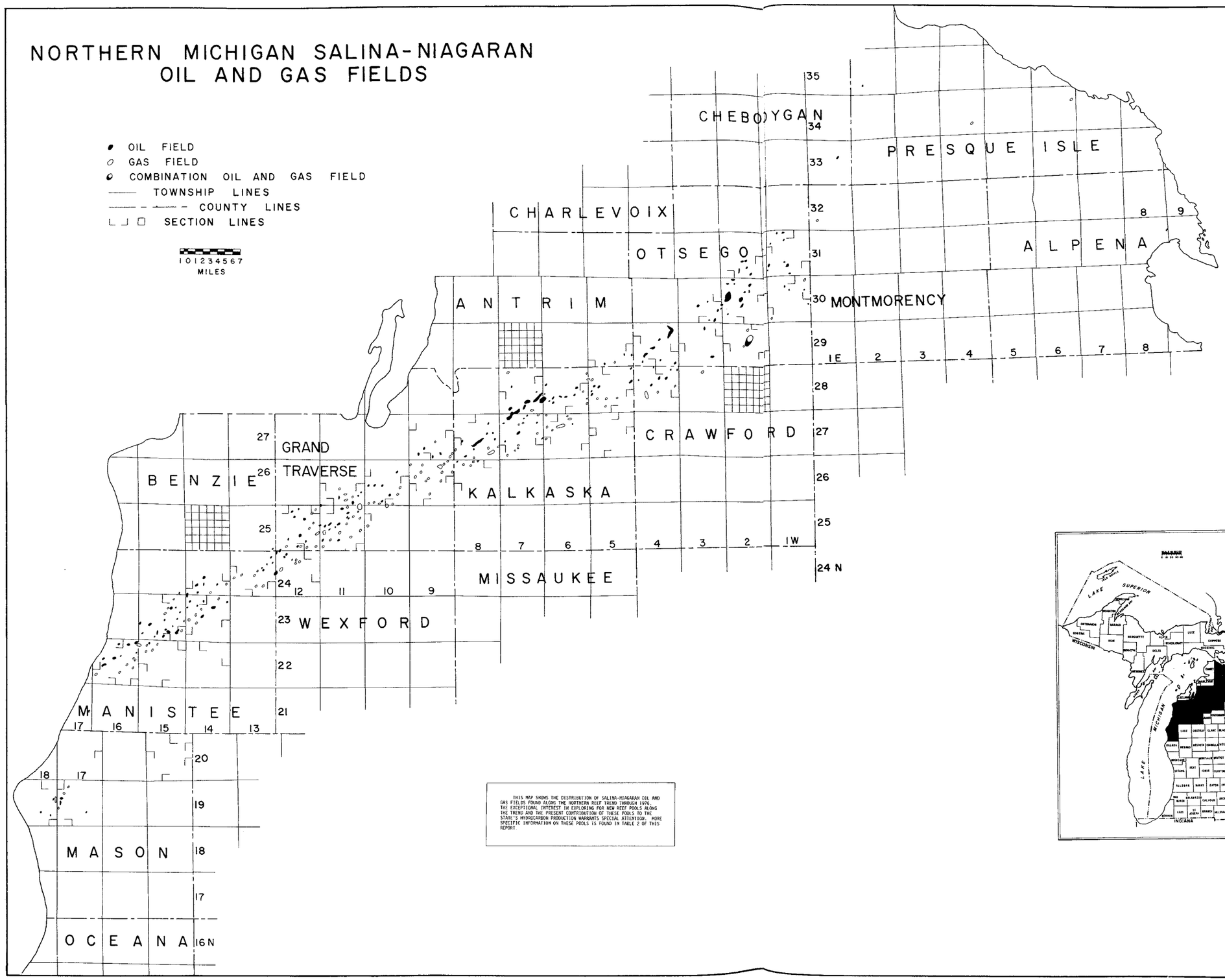
	FIELD NAME	PRODUCING FORMATION OR POOL	YEAR OF DISC	COUNTY TOWNSHIP PRODUCING SECTIONS	PAY ZONE DEPTH IN FEET	PAY ZONE THICKNESS AND LITHOLOGY	PAY ZONE OIL GRAVITY A.P.I.	DEEPEST FORMATION OR POOL TESTED	DEPTH IN FEET	NUMBER OF WELLS TO END	NUMBER OF WELLS COMP IN	NUMBER OF WELLS ABAND IN	NUMBER OF WELLS ACT VE AT END	DRILLED ACRES	OIL PRODUCTION - BBLS PRODUCED IN 1976	OIL PRODUCTION - BBLS CUMULATIVE THROUGH 1976	GAS PRODUCTION - Mcf PRODUCED IN 1976	GAS PRODUCTION - Mcf CUMULATIVE THROUGH 1976	RECOVERY PER ACRE DRILLED (BBLS)	TOTAL BARRELS BRINE PER DAY
	ALPENA COUNTY																			
OF	ALPENA 12-31N-6E	A-1 CARBONATE	1973	ALPENA	3,691	22 L		NIAGARAN	3,875	1	0	0	1	160			SHUT-IN			
				ALPENA TWP., 31N-6E, SECTION 12																
	ANTRIM COUNTY																			
OF	MANCELONA 25-29N-5W	NIAGARAN REEF	1973	ANTRIM	6,449	8 D	33.6	NIAGARAN	6,764	1	0	0	1	80	65,336	137,411	6,244	26,531	1,318	75
				MANCELONA TWP., 29N-5W, SECTION 25																
OF	MANCELONA 26-29N-5W	NIAGARAN REEF	1972	ANTRIM	6,493	61 D	40.7	NIAGARAN	6,850	1	0	0	1	80	37,353	103,482	3,693	32,294	1,294	160
				MANCELONA TWP., 29N-5W, SECTION 26																
OF	MANCELONA 33-29N-5W	NIAGARAN REEF	1974	ANTRIM	6,538	10 D	44.6	NIAGARAN	6,810	1	0	0	1	80	230	1,164	SHUT-IN		15	
				MANCELONA TWP., 29N-5W, SECTION 33																
G-C	MANCELONA 34-29N-5W	NIAGARAN REEF	1974	ANTRIM	6,580	20 D	54	NIAGARAN	6,780	1	0	0	1	80	77,947	181,710	1,050,567	2,527,251	2,271	
				MANCELONA TWP., 29N-5W, SECTION 34																
	BENZIE COUNTY																			
OF	COLFAX 36-25N-13W	NIAGARAN REEF	1976	BENZIE	5,842	10 D	39.5	NIAGARAN	6,015	1	1	0	1	80	255	255			3	
				COLFAX TWP., 25N-13W, SECTION 36																
	CHEBOYGAN COUNTY																			
OF	FOREST 14-33N-1E	NIAGARAN REEF	1976	CHEBOYGAN	3,671	13 D	42.9	NIAGARAN	4,069	1	1	0	1	80	174	174			2	
				FOREST TWP., 33N-1E, SECTION 14																
	CRAWFORD COUNTY																			
OF	FREDERIC 1-28N-4W	NIAGARAN REEF	1975	CRAWFORD	6,604	30 D	49.8	NIAGARAN	6,880	2	1	0	2	160	174	588	169	169	4	
				FREDERIC TWP., 28N-4W, SECTION 1																
OF	FREDERIC 2-28N-4W	NIAGARAN REEF	1973	CRAWFORD	6,390	92 D	47.0	NIAGARAN	7,019	2	0	0	2	160	118,862	233,600	127,226	256,849	1,460	
				FREDERIC TWP., 28N-4W, SECTION 2																
OF	FREDERIC 4-28N-4W	NIAGARAN REEF	1974	CRAWFORD	6,923	20 D	45.0	NIAGARAN	7,265	1	0	0	1	80	57,765	108,678	78,288	131,293	1,358	1
				FREDERIC TWP., 28N-4W, SECTION 4																
OF	FREDERIC 7-28N-4W	NIAGARAN REEF	1973	CRAWFORD	7,000	10 D	45.6	NIAGARAN	7,161	1	0	0	1	80	35,877	37,306	69,045	69,045	466	
				FREDERIC TWP., 28N-4W, SECTION 7																
OF	FREDERIC 8-28N-4W	NIAGARAN REEF	1974	CRAWFORD	6,740	30 D	43.4	NIAGARAN	7,164	2	0	0	2	160	126,403	193,756	259,047	369,562	1,211	
				FREDERIC TWP., 28N-4W, SECTION 8																
OF	FREDERIC 10-28N-4W	NIAGARAN REEF	1971	CRAWFORD	6,964	99 D	45.0	NIAGARAN	7,350	2	0	0	2	160	169,437	860,052	321,473	1,016,573	5,375	
				FREDERIC TWP., 28N-4W, SECTION 10																
OF	FREDERIC 11-28N-4W	NIAGARAN REEF	1976	CRAWFORD	6963	75 D	47.4	NIAGARAN	7,127	1	1	0	1	80	11,946	11,946	14,057	14,057	149	
				FREDERIC TWP., 28N-4W, SECTION 11																
G-C	FREDERIC 13-28N-4W	NIAGARAN REEF	1972	CRAWFORD	6,789	427 D	68.4	NIAGARAN	7,470	1	0	0	1	160	0	210	SHUT-IN		1	
				FREDERIC TWP., 28N-4W, SECTION 13																
OF	FREDERIC 16-28N-4W	NIAGARAN REEF	1976	CRAWFORD	7,254	19 D	46.1	NIAGARAN	7,483	1	1	0	1	80	383	383			5	
				FREDERIC TWP., 28N-4W, SECTION 16																
G-C	FREDERIC 22-28N-4W	SALINA-NIAGARAN REEF	1973	CRAWFORD	6,950	289 D	65.5	NIAGARAN	7,615	1	0	0	1	160	0	189	SHUT-IN		1	
				FREDERIC TWP., 28N-4W, SECTION 22																
G-C	FREDERIC 29-28N-4W	NIAGARAN REEF	1972	CRAWFORD	7,420	71 D	50.0	NIAGARAN	7,578	1	0	0	1	160	368	1,182	SHUT-IN		7	
				FREDERIC TWP., 28N-4W, SECTION 29																
G-C	FREDERIC 29-28N-4W POOL A	NIAGARAN REEF	1973	CRAWFORD	6,907	260 D	65.0	NIAGARAN	7,535	1	0	0	1	160			SHUT-IN			
				FREDERIC TWP., 28N-4W, SECTION 20 APP. C SW NE																
G-C	MAPLE FOREST 3-28N-3W	NIAGARAN REEF	1976	CRAWFORD	6,710	12 D		NIAGARAN	7,015	1	1	0	1	160	348	348	0	0	2	
				MAPLE FOREST TWP., 28N-3W, SECTION 3																
	GRAND TRAVERSE COUNTY																			
G-C	BLAIR 21-26N-11W	NIAGARAN REEF	1976	GRAND TRAVERSE	5,567	42 D	67.3	NIAGARAN	5,795	1	1	0	1	80			SHUT-IN			
				BLAIR TWP., 26N-11W, SECTION 21																
OF	BLAIR 25-26N-11W	NIAGARAN REEF	1974	GRAND TRAVERSE	5,863	41 D	47.2	NIAGARAN	6,120	2	0	0	2	160	64,692	77,196	254,866	287,883	482	
				BLAIR TWP., 26N-11W, SECTIONS 24, 25																
G-C	BLAIR 25-26N-11W POOL A	NIAGARAN REEF	1974	GRAND TRAVERSE	6,225	6 D	46.2	NIAGARAN	6,423	2	0	0	2	160	20,121	33,184	324,283	382,783	207	
				BLAIR TWP., 26N-11W, SECTIONS 25, 26																
G-C	BLAIR 26-26N-11W	NIAGARAN REEF	1975	GRAND TRAVERSE	5,804	76 D	53.0	NIAGARAN	6,035	1	0	0	1	80	0	176			2	
				BLAIR TWP., 26N-11W, SECTION 26																
G-C	BLAIR 27-26N-11W	NIAGARAN REEF	1975	GRAND TRAVERSE	5,563	125 D	61.5	NIAGARAN	5,820	1	0	0	1	80	848	913	12,856	12,856	11	140
				BLAIR TWP., 26N-11W, SECTION 27																
OF	BLAIR 33-26N-11W	NIAGARAN REEF	1973	GRAND TRAVERSE	5,844	11 D	45.8	NIAGARAN	6,123	3	0	0	3	240	130,996	331,341	349,015	723,932	1,381	9
				BLAIR TWP., 26N-11W, SECTIONS 28, 33																
G-C	BLAIR 34-26N-11W	NIAGARAN REEF	1970	GRAND TRAVERSE	5,826	124 D	60	CLINTON	6,316	2	0	0	2	320	5,093	28,939	252,348	1,280,683	90	60
				BLAIR TWP., 26N-11W, SECTION 34																
OF	BLAIR 35-26N-11W	NIAGARAN REEF	1975	GRAND TRAVERSE	6,126	58 D	45.0	NIAGARAN	6,320	1	0	0	1	160	79	1,524	0	11,178	10	
				BLAIR TWP., 26N-11W, SECTION 35																
G-C	BLAIR 36-26N-11W	NIAGARAN REEF	1972	GRAND TRAVERSE	6,205	14 D	52.0	NIAGARAN	6,405	2	0	0	2	320	69,725	280,508	2,268,274	9,979,108	877	
				BLAIR TWP., 26N-11W, SECTION 36 MAYFIELD TWP., 25N-11W, SECTION 1																
OF	EAST BAY 11-26N-10W	NIAGARAN REEF	1976	GRAND TRAVERSE	6,187	11 D	46.2	NIAGARAN	6,400	1	1	0	1	80	7,220	7,220	4,654	4,654	90	5
				EAST BAY TWP., 26N-10W, SECTION 11																
G-C	GRANT 1-25N-12W	NIAGARAN REEF	1975	GRAND TRAVERSE	5,807	32 D	67.6	NIAGARAN	6,060	1	0	0	1	80	0	36			1	
				GRANT TWP., 25N-12W, SECTION 1																

POOL CLASSIFICATION

OF ACTIVE OIL FIELD OR POOL
AOF ABANDONED OIL FIELD OR POOL
GF ACTIVE GAS FIELD OR POOL
AGF ABANDONED GAS FIELD OR POOL
G-C GAS-CONDENSATE FIELD OR POOL
AG-C ABANDONED GAS-CONDENSATE FIELD OR POOL
GS GAS STORAGE RESERVOIR

	FIELD NAME	PRODUCING FORMATION OR POOL	YEAR OF DISC	COUNTY TOWNSHIP PRODUCING SECTIONS	PAY ZONE DEPTH IN FEET	PAY ZONE THICKNESS AND LITHOLOGY	PAY ZONE OIL GRAVITY A.P.I.	DEEPEST FORMATION OR POOL TESTED	DEPTH IN FEET	NUMBER OF WELLS TO END	NUMBER OF WELLS COMP IN	NUMBER OF WELLS ABAND IN	NUMBER OF WELLS ACT VE AT END	DRILLED ACRES	OIL PRODUCTION - BBLS PRODUCED IN 1976	OIL PRODUCTION - BBLS CUMULATIVE THROUGH 1976	GAS PRODUCTION - Mcf PRODUCED IN 1976	GAS PRODUCTION - Mcf CUMULATIVE THROUGH 1976	RECOVERY PER ACRE DRILLED (BBLS)	TOTAL BARRELS BRINE PER DAY
OF	GRANT 3-25N-12W	NIAGARAN REEF	1974	GRAND TRAVERSE	5,353	33 D		NIAGARAN	5,744	2	0	0	2	80	62,959	102,863	15,528	33,676	1,286	183
				GRANT TWP., 25N-12W, SECTION 3																
OF	GRANT 4-25N-12W	NIAGARAN REEF	1975	GRAND TRAVERSE	5,465	18 D	37.7	NIAGARAN	5,724	1	1	0	1	80	3,113	3,247	728	728	41	
				GRANT TWP., 25N-12W, SECTION 4																
OF	GRANT 9-25N-12W	NIAGARAN REEF	1976	GRAND TRAVERSE	5,620	22 D	40.4	NIAGARAN	5,915	1	1	0	1	80	1,935	1,935			24	
				GRANT TWP., 25N-12W, SECTION 9																
OF	GRANT 10-25N-12W	NIAGARAN REEF	1975	GRAND TRAVERSE	5,634	119 D	38.1	NIAGARAN	5,875	2	1	0	2	160	3,177	3,305	910	910	21	29
				GRANT TWP., 25N-12W, SECTION 10																
G-C	GRANT 12-25N-12W	NIAGARAN REEF	1975	GRAND TRAVERSE	5,767	50 D	67.1	NIAGARAN	6,030	2	0	0	2	160	63,021	64,108	1,032,926	1,085,767	6,456	
				GRANT TWP., 25N-12W, SECTIONS 1, 12	DIRECTIONAL HOLE IN WHICH THE SURFACE LOCATION IS IN GRAND TRAVERSE COUNTY, GRANT TOWNSHIP SECTION 11-25N-12W; AND THE SUBSURFACE LOCATION IS IN GRAND TRAVERSE COUNTY, GRANT TOWNSHIP SECTION 12-25N-12W															
G-C	GRANT 13-25N-12W	NIAGARAN REEF	1974	GRAND TRAVERSE	5,943	54 D	65.0	NIAGARAN	6,192	3	0	0	3	640	229,561	380,476	9,287,824	14,081,091	595	10
				GRANT 25N-12W, SECTIONS 13, 14, 23																
OF	GRANT 22-25N-12W	NIAGARAN REEF	1975	GRAND TRAVERSE	5,741	156 D		NIAGARAN	6,188	1	0	0	1	160	78,914	79,893	31,770	31,770	499	
				GRANT TWP., 25N-12W, SECTION 22	DIRECTIONAL HOLE IN WHICH THE SURFACE LOCATION IS IN GRAND TRAVERSE COUNTY, GRANT TOWNSHIP SECTION 27-25N-12W; AND THE SUBSURFACE LOCATION IS IN GRAND TRAVERSE COUNTY, GRANT TOWNSHIP SECTION 22-25N-12W															
G-C	GRANT 24-25N-12W	SALINA-NIAGARAN REEF	1973	GRAND TRAVERSE	5,815	103 D	71.0	NIAGARAN	6,413	1	0	0	1	80	4,235	42,860	263,658	1,200,541	536	10
				GRANT TWP., 25N-12W, SECTION 24																
OF	GRANT 24-25N-12W POOL A	NIAGARAN REEF	1974	GRAND TRAVERSE	6,073	89 D	48.7	NIAGARAN	6,366	1	0	0	1	80	8,943	16,733	100,755	172,775	209	
				GRANT TWP., 25N-12W, SECTION 24																
OF	GRANT 26-25N-12W	NIAGARAN REEF	1971	GRAND TRAVERSE	5,961	80 D	46.9	CLINTON	6,383	2	0	0	2	160	49,575	123,834	74,398	202,437	774	23
				GRANT TWP., 25N-12W, SECTIONS 26, 27																
OF	GRANT 29-25N-12W	NIAGARAN REEF	1973	GRAND TRAVERSE	5,720	82 D	44.3	NIAGARAN	6,135	5	0	0	5	400	255,504	384,536	400,967	487,037	961	
				GRANT TWP., 25N-12W, SECTIONS 28, 29																
OF	GRANT 31-25N-12W	NIAGARAN REEF	1975	GRAND TRAVERSE	5,772	106 D		NIAGARAN	6,120	1	1	0	1	80	1,714	1,816			23	
				GRANT TWP., 25N-12W, SECTION 31	DIRECTIONAL HOLE IN WHICH THE SURFACE LOCATION IS IN WEXFORD COUNTY, WEXFORD TOWNSHIP SECTION 6-24N-12W; AND THE SUBSURFACE LOCATION IS IN GRAND TRAVERSE COUNTY, GRANT TOWNSHIP SECTION 31-25N-12W															
G-C	GRANT 32-25N-12W	NIAGARAN REEF	1976	GRAND TRAVERSE	5,868	194 D	61	NIAGARAN	6,145	1	1	0	1	80			SHUT-IN			
				GRANT TWP., 25N-12W, SECTION 32																
G-C	GRANT 34-25N-12W	NIAGARAN REEF	1976	GRAND TRAVERSE	6,252	10 D	69	NIAGARAN	6,331	1	1	0	1	80	60	60	0	0	1	
				GRANT TWP., 25N-12W, SECTION 34																
OF	GRANT 34-25N-12W POOL A	NIAGARAN REEF	1976	GRAND TRAVERSE	5,967	218 D	40.8	NIAGARAN	6,267	1	1	0	1	80			SHUT-IN			
				GRANT TWP., 25N-12W, SECTION 34																
G-C	GRANT 35-25N-12W	NIAGARAN REEF	1976	GRAND TRAVERSE	6,052	92 D		NIAGARAN	6,337	1	1	0	1	80	0	0	5,770	5,770		
				GRANT TWP., 25N-12W, SECTION 35																
G-C	GRANT 36-25N-12W	NIAGARAN REEF	1976	GRAND TRAVERSE	6,129	131 D	64.8	NIAGARAN	6,580	1	1	0	1	80	89	89	0	0	1	
				GRANT TWP., 25N-12W, SECTION 36																
OF	MAYFIELD 1-25N-11W	NIAGARAN REEF	1974	GRAND TRAVERSE	6,319	14 D	46.0	NIAGARAN	6,447	2	0	0	2	160	105,960	118,687	234,955	273,686	742	
				MAYFIELD TWP., 25N-11W, SECTIONS 1, 2																
OF	MAYFIELD 1-25N-11W POOL A	NIAGARAN REEF	1974	GRAND TRAVERSE	6,474	16 D	45.2	NIAGARAN	6,634	1	0	0	1	160	10,642	13,858	26,113	32,691	87	
				MAYFIELD TWP., 25N-11W, SECTION 1	RECLASSIFIED AS A SEPARATE POOL IN 1975															
G-C	MAYFIELD 3-25N-11W	NIAGARAN REEF	1973	GRAND TRAVERSE	5,940	230 D	68.0	NIAGARAN	6,424	1	0	0	1	160	4,119	31,748	242,080	2,008,341	198	40
				MAYFIELD TWP., 25N-11W, SECTION 3																
OF	MAYFIELD 3-25N-11W POOL A	NIAGARAN REEF	1975	GRAND TRAVERSE	6,019	18 D	49.0	NIAGARAN	6,325	1	0	0	1	80	83,652	110,456	66,322	87,112	1,381	
				MAYFIELD TWP., 25N-11W, SECTION 3																
OF	MAYFIELD 3-25N-11W POOL B	NIAGARAN REEF	1975	GRAND TRAVERSE	6,116	22 D	44.4	NIAGARAN	6,259	1	0	0	1	80	101,563	123,178	122,940	151,613	1,540	11
				MAYFIELD TWP., 25N-11W, SECTION 3																
OF	MAYFIELD 6-25N-11W	NIAGARAN REEF	1975	GRAND TRAVERSE	5,664	143 D	44	NIAGARAN	5,932	1	0	0	1	80	22,117	22,367	17,058	17,058	280	
				MAYFIELD TWP., 25N-11W, SECTION 6																
OF	MAYFIELD 10-25N-11W	NIAGARAN REEF	1974	GRAND TRAVERSE	6,283	64 D	47.8	NIAGARAN	6,442	3	1	0	3	240	177,224	273,374	286,388	441,836	1,139	
				MAYFIELD TWP., 25N-11W, SECTION 10																
OF	MAYFIELD 10-25N-11W POOL A	NIAGARAN REEF	1976	GRAND TRAVERSE	6,183	31 D	44.8	NIAGARAN	6,381	1	1	0	1	80	10,431	10,431	8,835	8,835	130	
				MAYFIELD TWP., 25N-11W, SECTION 10																
G-C	MAYFIELD 11-25N-11W	NIAGARAN REEF	1976	GRAND TRAVERSE	6,333	75 D	63.9	NIAGARAN	6,540	1	1	0	1	80	90	90	0	0	1	
				MAYFIELD TWP., 25N-11W, SECTION 11																
G-C	MAYFIELD 12-25N-11W	SALINA-NIAGARAN REEF	1974	GRAND TRAVERSE	6,171	325 D	60.4	NIAGARAN	6,677	1	0	0	1	160	2,661	2,752	182,391	182,391	17	
				MAYFIELD TWP., 25N-11W, SECTION 12																
G-C	MAYFIELD 12-25N-11W POOL A	SALINA-NIAGARAN REEF	1975	GRAND TRAVERSE	6,449	43 D	61.5	NIAGARAN	6,685	1	0	0	1	80	2,863	2,937	272,216	272,216	37	
				MAYFIELD TWP., 25N-11W, SECTION 12																
G-C	MAYFIELD 15-25N-11W	NIAGARAN REEF	1976	GRAND TRAVERSE	6,446	134 D		NIAGARAN	6,671	1	1	0	1	80			SHUT-IN			
				MAYFIELD TWP., 25N-11W, SECTION 15																
OF	MAYFIELD 16-25N-11W	NIAGARAN REEF	1972	GRAND TRAVERSE	6,341	68 D	47.9	NIAGARAN	6,580	3	0	0	3	240	246,170	534,367	273,576	561,140	2,227	
				MAYFIELD TWP., 25N-11W, SECTION 16																
OF	MAYFIELD 16-25N-11W POOL A	NIAGARAN REEF	1974	GRAND TRAVERSE	6,228	29 D	43.5	NIAGARAN	6,525	2	0	0	2	160	160,126	376,114	95,982	227,576	2,351	
				MAYFIELD TWP., 25N-11W, SECTIONS 16, 17																
OF	MAYFIELD 17-25N-11W	SALINA-NIAGARAN REEF	1974	GRAND TRAVERSE	5,855	178 D	42.7	NIAGARAN	6,504	2	0	0	2	160	211,767	508,974	127,154	314,413	3,181	
				MAYFIELD TWP., 25N-11W, SECTION 17																
OF	MAYFIELD 18-25N-11W	NIAGARAN REEF	1975	GRAND TRAVERSE	5,874	17 D	45.0	NIAGARAN	5,969	1	0	0	1	80	92,251	92,551	83,875	83,875	1,157	
				MAYFIELD TWP., 25N-11W, SECTION 18	DIRECTIONAL HOLE IN WHICH THE SURFACE LOCATION IS IN GRAND TRAVERSE COUNTY, GRANT TOWNSHIP SECTION 13-25N-12W; AND THE SUBSURFACE LOCATION IS IN GRAND TRAVERSE COUNTY, MAYFIELD TOWNSHIP SECTION 18-25N-11W															
G-C	MAYFIELD 19-25N-11W	SALINA-NIAGARAN REEF	1973	GRAND TRAVERSE	5,829	183 D	53.6	NIAGARAN	6,535	1	0	0	1	120	43,014	60,300	286,230	403,187	503	3
				MAYFIELD TWP., 25N-11W, SECTION 19																
OF	MAYFIELD 19-25N-11W POOL A	NIAGARAN REEF	1974	GRAND TRAVERSE	6,093	96 D	45.8	NIAGARAN	6,265	1	0	0	1	80	23,341	46,532	152,753	238,557	582	
				MAYFIELD TWP., 25N-11W, SECTION 19																

NORTHERN MICHIGAN SALINA-NIAGARAN OIL AND GAS FIELDS



THIS MAP SHOWS THE DISTRIBUTION OF SALINA-NIAGARAN OIL AND GAS FIELDS FOUND ALONG THE NORTHERN REEF TREND THROUGH 1976. THE EXCEPTIONAL INTEREST IN EXPLORING FOR NEW REEF POOLS ALONG THE TREND AND THE PRESENT CONTRIBUTION OF THESE POOLS TO THE STATE'S HYDROCARBON PRODUCTION WARRANTS SPECIAL ATTENTION. MORE SPECIFIC INFORMATION ON THESE POOLS IS FOUND IN TABLE 2 OF THIS REPORT

POOL CLASSIFICATION

OF ACTIVE OIL FIELD OR POOL
AOF ABANDONED OIL FIELD OR POOL
GF ACTIVE GAS FIELD OR POOL
AGF ABANDONED GAS FIELD OR POOL
G-C GAS-CONDENSATE FIELD OR POOL
AG-C ABANDONED GAS-CONDENSATE FIELD OR POOL
GS GAS STORAGE RESERVOIR

	FIELD NAME	PRODUCING FORMATION OR POOL	YEAR OF DISC	COUNTY TOWNSHIP / PRODUCING SECTIONS	PAY ZONE DEPTH IN FEET	PAY ZONE THICKNESS AND LITHOLOGY	PAY ZONE OIL GRAVITY A.P.I.	DEEPEST FORMATION OR POOL TESTED	DEPTH IN FEET	NUMBER OF WELLS TO ENC. (1976)	NUMBER OF WELLS COMP. IN (1976)	NUMBER OF WELLS ABAND. IN (1976)	NUMBER OF WELLS ACTIVE AT END (1976)	DRILLED ACRES	OIL PRODUCTION - BBLS PRODUCED IN 1976	OIL PRODUCTION - BBLS CUMULATIVE THROUGH 1976	GAS PRODUCTION - Mcf PRODUCED IN 1976	GAS PRODUCTION - Mcf CUMULATIVE THROUGH 1976	RECOVERY PER ACRE DRILLED (BBLS)	TOTAL BARRELS BRINE PER DAY
G-C	MAYFIELD 17-25N-11W POOL B	SALINA-NIAGARAN REEF	1974	GRAND TRAVERSE	6,229	137 D	61.4	NIAGARAN	6,357	1	1	0	1	80	239	239	5,716	5,716	3	
	MAYFIELD TWP., 25N-11W, SECTION 19																			
OF	MAYFIELD 20-25N-11W	NIAGARAN REEF	1974	GRAND TRAVERSE	6,241	51 D	45.0	NIAGARAN	6,365	3	0	0	3	240	248,827	413,162	407,280	599,249	1,722	7
	MAYFIELD TWP., 25N-11W, SECTION 20																			
G-C	MAYFIELD 21-25N-11W	SALINA-NIAGARAN REEF	1974	GRAND TRAVERSE	6,112	428 D	66.5	NIAGARAN	6,608	2	1	0	2	420	184,395	376,543	4,484,712	6,646,982	897	
	MAYFIELD TWP., 25N-11W, SECTION 21																			
G-C	MAYFIELD 24-25N-11W	NIAGARAN REEF	1973	GRAND TRAVERSE	6,508	153 D	65.7	NIAGARAN	6,783	2	0	0	2	360	20,873	25,936	210,983	257,223	72	
	MAYFIELD TWP., 25N-11W, SECTIONS 23, 24																			
G-C	MAYFIELD 26-25N-11W	NIAGARAN REEF	1974	GRAND TRAVERSE	6,323	169 D	65.0	NIAGARAN	6,756	1	0	0	1	160	0	103			1	
	MAYFIELD TWP., 25N-11W, SECTION 26																			
OF	MAYFIELD 28-25N-11W	NIAGARAN REEF	1976	GRAND TRAVERSE	6,430	19 D	49.4	NIAGARAN	6,580	1	1	0	1	160	277	277			2	
	MAYFIELD TWP., 25N-11W, SECTION 28																			
G-C	MAYFIELD 29-25N-11W	NIAGARAN REEF	1976	GRAND TRAVERSE	6,012	119 D	70.2	NIAGARAN	6,621	1	1	0	1	160	61	61	0	0	1	
	MAYFIELD TWP., 25N-11W, SECTION 29																			
OF	MAYFIELD 30-25N-11W	NIAGARAN REEF	1973	GRAND TRAVERSE	6,329	45 D	45.5	NIAGARAN	6,630	2	1	0	2	160	13,414	28,320	121,408	325,468	177	27
	MAYFIELD TWP., 25N-11W, SECTION 30																			
GF	MAYFIELD 31-25N-11W	NIAGARAN REEF	1976	GRAND TRAVERSE	6,051	101 D		NIAGARAN	6,696	1	1	0	1	80			SHUT-IN			
	MAYFIELD TWP., 25N-11W, SECTION 31																			
G-C	PARADISE 3-25N-10W	NIAGARAN REEF	1975	GRAND TRAVERSE	6,519	183 D	67	NIAGARAN	6,890	1	0	0	1	160	0	101			1	
	PARADISE TWP., 25N-10W, SECTION 3																			
G-C	PARADISE 18-25N-10W	NIAGARAN REEF	1973	GRAND TRAVERSE	6,455	102 D	65.8	NIAGARAN	6,841	1	0	0	1	80	22	22	6,798	6,798	1	
	PARADISE TWP., 25N-10W, SECTION 18																			
OF	PARADISE 19-26N-10W	SALINA-NIAGARAN REEF	1975	GRAND TRAVERSE	5,750	102 D	43.8	NIAGARAN	6,034	1	0	0	1	80	5,600	5,781	69,998	69,998	72	
	PARADISE TWP., 26N-10W, SECTION 19																			
OF	PARADISE 20-26N-10W	NIAGARAN REEF	1975	GRAND TRAVERSE	6,027	25 D	57?	NIAGARAN	6,252	1	0	0	1	80	7,919	8,037	111,248	111,248	101	
	PARADISE TWP., 26N-10W, SECTION 20																			
OF	PARADISE 21-26N-10W	NIAGARAN REEF	1975	GRAND TRAVERSE	5,848	6 D	40	NIAGARAN	6,198	3	2	0	3	240	107,027	107,719	91,802	91,802	449	
	PARADISE TWP., 26N-10W, SECTION 21																			
G-C	PARADISE 23-26N-10W	NIAGARAN REEF	1974	GRAND TRAVERSE	6,310	27 D	70.5	NIAGARAN	6,588	2	0	0	2	160	66,413	115,438	1,701,335	2,571,337	722	
	PARADISE TWP., 26N-10W, SECTIONS 23, 24																			
G-C	PARADISE 26-26N-10W	NIAGARAN REEF	1976	GRAND TRAVERSE	6,422	55 D	61.4	NIAGARAN	6,585	1	1	0	1	160	165	165	0	0	1	
	PARADISE TWP., 26N-10W, SECTION 26																			
OF	PARADISE 27-26N-10W	SALINA-NIAGARAN REEF	1976	GRAND TRAVERSE	6,060	230 D	46.3	SALINA-NIAGARAN	6,448	2	2	0	2	160	696	696			4	
	PARADISE TWP., 26N-10W, SECTION 27																			
G-C	PARADISE 31-26N-10W	SALINA-NIAGARAN REEF	1974	GRAND TRAVERSE	6,257	97 D	68.4	NIAGARAN	6,534	1	0	0	1	80	57,443	63,303	461,349	525,183	791	
	PARADISE TWP., 26N-10W, SECTION 31																			
G-C	PARADISE 32-26N-10W	NIAGARAN REEF	1974	GRAND TRAVERSE	6,087	231 D	60.0	NIAGARAN	6,582	1	0	0	1	80	1,242	2,759	11,903	37,021	35	
	PARADISE TWP., 26N-10W, SECTION 32																			
G-C	PARADISE 33-26N-10W	NIAGARAN REEF	1975	GRAND TRAVERSE	6,093	202 D	66.5	NIAGARAN	6,627	1	0	0	1	80	0	80			1	
	PARADISE TWP., 26N-10W, SECTION 33																			
OF	PARADISE 33-26N-10W POOL A	SALINA-NIAGARAN REEF	1976	GRAND TRAVERSE	6,000	158 D	50.3	SALINA-NIAGARAN	6,595	1	1	0	1	80	157	157			2	
	PARADISE TWP., 26N-10W, SECTION 33																			
G-C	PARADISE 34-26N-10W	NIAGARAN REEF	1975	GRAND TRAVERSE	6,332	236 D	70	NIAGARAN	6,808	1	0	0	1	80			SHUT-IN			
	PARADISE TWP., 26N-10W, SECTION 34																			
G-C	UNION 1-26N-9W	NIAGARAN REEF	1972	GRAND TRAVERSE	6,380	78 D		NIAGARAN	6,865	1	0	0	1	160	3,297	28,556	762,108	2,613,539	179	
	UNION TWP., 26N-9W, SECTION 1																			
G-C	UNION 3-26N-9W	NIAGARAN REEF	1972	GRAND TRAVERSE	6,514	14 D	62.3	NIAGARAN	6,878	4	0	0	4	560	65,832	74,179	1,945,367	2,144,955	132	
	UNION TWP., 26N-9W, SECTIONS 2, 3, 11																			
G-C	UNION 5-26N-9W	NIAGARAN REEF	1973	GRAND TRAVERSE	6,070	19 D	68.2	NIAGARAN	6,440	1	0	0	1	80	39,143	96,892	1,100,385	2,465,276	1,211	
	UNION TWP., 26N-9W, SECTION 5																			
G-C	UNION 6-26N-9W	SALINA-NIAGARAN REEF	1974	GRAND TRAVERSE	5,936	184 D	64.5	NIAGARAN	6,475	2	1	0	2	160	28,606	28,720	845,371	887,778	180	37
	UNION TWP., 26N-9W, SECTION 6																			
G-C	UNION 8-26N-9W (MUNCIE LAKES)	NIAGARAN REEF	1970	GRAND TRAVERSE	6,267	97 D	63.6	NIAGARAN	6,666	1	0	0	1	160	9,338	71,924	1,104,210	5,546,714	450	
	UNION TWP., 26N-9W, SECTION 8																			
G-C	UNION 11-26N-9W	NIAGARAN REEF	1972	GRAND TRAVERSE	6,580	118 D	61.0	NIAGARAN	6,802	1	0	0	1	160	40,793	53,671	1,762,486	2,058,892	335	
	UNION TWP., 26N-9W, SECTION 11																			
G-C	UNION 12-26N-9W (SOUTH BOARDMAN)	NIAGARAN REEF	1969	GRAND TRAVERSE	6,779	50 D	57.9	NIAGARAN	6,922	2	0	0	2	320	0	3,936	0	81,081	12	
	UNION TWP., 26N-9W, SECTION 12																			
G-C	UNION 14-26N-9W	NIAGARAN REEF	1973	GRAND TRAVERSE	6,660	24 D	59.0	NIAGARAN	6,860	1	0	0	1	160	0	75			1	
	UNION TWP., 26N-9W, SECTION 14																			
G-C	UNION 16-26N-9W	NIAGARAN REEF	1975	GRAND TRAVERSE	6,207	183 D	58.0	NIAGARAN	6,716	1	1	0	1	80			SHUT-IN			
	UNION TWP., 26N-9W, SECTION 16																			
GF	UNION 16-26N-9W POOL A	NIAGARAN REEF	1976	GRAND TRAVERSE	6,392	94 D	66	NIAGARAN	6,645	2	2	0	2	160	1,484	1,484	154,249	154,249	26	
	UNION TWP., 26N-9W, SECTION 16																			
G-C	UNION 18-26N-9W	NIAGARAN REEF	1973	GRAND TRAVERSE	6,298	14 D	59.3	NIAGARAN	6,471	1	0	0	1	80	376	4,705	28,209	226,516	59	
	UNION TWP., 26N-9W, SECTION 18																			
G-C	UNION 28-26N-9W	NIAGARAN REEF	1975	GRAND TRAVERSE	6,810	105 D	51.0	NIAGARAN	7,062	1	0	0	1	80			SHUT-IN			
	UNION TWP., 26N-9W, SECTION 28																			
G-C	WHITEWATER 22-27N-9W	NIAGARAN REEF	1973	GRAND TRAVERSE	6,172	62 D		NIAGARAN	6,516	1	0	0	1	80	247	8,978	363,046	363,046	112	
	WHITEWATER TWP., 27N-9W, SECTION 22																			

POOL CLASSIFICATION

OF ACTIVE OIL FIELD OR POOL
AOF ABANDONED OIL FIELD OR POOL
GF ACTIVE GAS FIELD OR POOL
AGF ABANDONED GAS FIELD OR POOL
G-C GAS-CONDENSATE FIELD OR POOL
AG-C ABANDONED GAS-CONDENSATE FIELD OR POOL
GS GAS STORAGE RESERVOIR

	FIELD NAME	PRODUCING FORMATION OR POOL	YEAR OF DISC	COUNTY TOWNSHIP / PRODUCING SECTIONS	PAY ZONE DEPTH IN FEET	PAY ZONE THICKNESS AND LITHOLOGY	PAY ZONE OIL GRAVITY A.P.I.	DEEPEST FORMATION OR POOL TESTED	DEPTH IN FEET	NUMBER OF WELLS TO ENC. (1976)	NUMBER OF WELLS COMP. IN (1976)	NUMBER OF WELLS ABAND. IN (1976)	NUMBER OF WELLS ACTIVE AT END (1976)	DRILLED ACRES	OIL PRODUCTION - BBLS PRODUCED IN 1976	OIL PRODUCTION - BBLS CUMULATIVE THROUGH 1976	GAS PRODUCTION - Mcf PRODUCED IN 1976	GAS PRODUCTION - Mcf CUMULATIVE THROUGH 1976	RECOVERY PER ACRE DRILLED (BBLS)	TOTAL BARRELS BRINE PER DAY
OF	WHITEWATER 29-27N-9W	NIAGARAN REEF	1975	GRAND TRAVERSE	6,096	22 D	43.8	NIAGARAN	6,310	1	0	0	1	80	41,022	48,596	73,622	73,200	608	97
	WHITEWATER TWP., 27N-9W, SECTION 29																			
OF	WHITEWATER 32-27N-9W	NIAGARAN REEF	1972	GRAND TRAVERSE	6,100	10 D	44.3	NIAGARAN	6,260	2	0	0	2	160	147,574	513,316	235,839	572,399	3,308	61
	WHITEWATER TWP., 27N-9W, SECTION 32																			
OF	WHITEWATER 34-27N-9W	NIAGARAN REEF	1972	GRAND TRAVERSE	6,292	16 D	44.9	NIAGARAN	6,580	1	0	0	1	80	6,421	60,679	0	3,642	759	50
	WHITEWATER TWP., 27N-9W, SECTION 34																			
OF	WHITEWATER 35-27N-9W	NIAGARAN REEF	1972	GRAND TRAVERSE	6,270	60 D	39	NIAGARAN	6,770	1	0	0	1	80	12,957	119,022	0	6,862	1,488	60
	WHITEWATER TWP., 27N-9W, SECTION 35																			
G-C	WHITEWATER 36-27N-9W	NIAGARAN REEF	1971	GRAND TRAVERSE	6,560	40 D	66	NIAGARAN	6,750	1	0	0	1	40	215	64,113	269,304	5,386,614	1,603	
	WHITEWATER TWP., 27N-9W, SECTION 36																			
G-C	WHITEWATER 36-27N-9W POOL A	NIAGARAN REEF	1976	GRAND TRAVERSE	6,300	334 D	61.9	NIAGARAN	6,757	1	1	0	1	80	240	240	0	0	3	
	WHITEWATER TWP., 27N-9W, SECTION 36																			
	KALKASKA COUNTY																			
OF	BLUE LAKE 1-28N-5W	NIAGARAN REEF	1971	KALKASKA	6,481	43 D	43.0	NIAGARAN	6,980	2	0	0	2	160	120,222	703,767	46,546	200,258	4,399	110
	BLUE LAKE TWP., 28N-5W, SECTION 1																			
G-C	BLUE LAKE 7-28N-5W	NIAGARAN REEF	1976	KALKASKA	6,615	16 D	51.6	NIAGARAN	6,704	1	1	0	1	80			SHUT-IN			
	BLUE LAKE TWP., 28N-5W, SECTION 7																			
OF	BLUE LAKE 12-28N-5W	NIAGARAN REEF	1971	KALKASKA	6,852	20 D	45.0	NIAGARAN	7,079	1	0	0	1	40	6,506	19,979	61,242	116,381	500	
	BLUE LAKE TWP., 28N-5W, SECTIONS 12, 13																			
G-C	BLUE LAKE 13-28N-5W	SALINA-NIAGARAN REEF	1973	KALKASKA	6,600	206 D	43	NIAGARAN	7,325	1	0	0	1	80	37,781	38,662	976,728	976,728	483	
	BLUE LAKE TWP., 28N-5W, SECTION 13																			
OF	BLUE LAKE 17-28N-5W	NIAGARAN REEF	1976	KALKASKA	7,015	62 D	46.7	NIAGARAN	7,255	1	1	0	1	80	523	523			6	
	BLUE LAKE TWP., 28N-5W, SECTION 17																			
OF	BLUE LAKE 18-28N-5W	NIAGARAN REEF	1975	KALKASKA	6,960	24 D	44.8	NIAGARAN	7,186	1	0	0	1	80	96,639	134,446	98,675	118,239	1,681	
	BLUE LAKE TWP., 28N-5W, SECTION 18																			
OF	BLUE LAKE 19-28N-5W	NIAGARAN REEF	1974	KALKASKA	6,920	20 D	45.3	NIAGARAN	7,115	1	0	0	1	80	107,683	231,988	66,483	155,548	2,900	
	BLUE LAKE TWP., 28N-5W, SECTION 19																			
OF	BLUE LAKE 19-28N-5W POOL A	NIAGARAN REEF	1976	KALKASKA	6,960	14 D	45.4	NIAGARAN	7,265	1	1	0	1	80	498	498			6	
	BLUE LAKE TWP., 28N-5W, SECTION 19																			
G-C	BLUE LAKE 27-28N-5W	NIAGARAN REEF	1972	KALKASKA	7,131	37 D	64.4	NIAGARAN	7,350	1	0	0	1	160	21,960	66,440	1,230,808	2,847,829	415	
	BLUE LAKE TWP., 28N-5W, SECTION 27																			
G-C	BLUE LAKE 28-28N-5W	NIAGARAN REEF	1970	KALKASKA	7,105	30 D	60	CLINTON	7,450	1	0	0	1	160	1,918	57,802	395,398	3,061,330	361	
	BLUE LAKE TWP., 28N-5W, SECTION 28																			
G-C	BLUE LAKE 29-28N-5W	NIAGARAN REEF	1974	KALKASKA	6,958	56 D	59.1	NIAGARAN	7,320	1	0	0	1	80	951	11,927	231,396	847,872	149	
	BLUE LAKE TWP., 28N-5W, SECTION 29																			
G-C	BLUE LAKE 33-28N-5W	LOWER NIAGARAN	1971	KALKASKA	7,350	25 D		CLINTON	7,610	1	0	0	1	160	578	8,674	103,425	718,663	54	
	BLUE LAKE TWP., 28N-5W, SECTION 33																			
G-C	BOARDMAN 3-26N-8W	NIAGARAN REEF	1973	KALKASKA	6,570	60 D	53.4	NIAGARAN	6,980	1	0	0	1	80	0	178	SHUT-IN		2	
	BOARDMAN TWP., 26N-8W, SECTION 3																			
OF	BOARDMAN 6-26N-8W	NIAGARAN REEF	1973	KALKASKA	6,477	180 D	46.1	NIAGARAN	6,975	1	0	0	1	80	15,385	41,794	110	13,791	522	
	BOARDMAN TWP., 26N-8W, SECTION 6																			
G-C	SOUTH BOARDMAN UNIT	NIAGARAN REEF POOL A	1971	KALKASKA	6,616	110 D		CLINTON	6,990	1	0	0	1	160						
G-C		NIAGARAN REEF POOL B	1971		6,778	38 D	65.7			1	0	0	1	160	PRODUCTION FOR POOLS A, B, & C ARE COMBINED					
G-C		NIAGARAN REEF POOL C	1972		6,450	290 D				1	0	0	1	160	13,753	117,127	651,713	3,024,437	244	
	BOARDMAN TWP., 26N-8W, SECTIONS 4, 5																			
G-C	COLD SPRINGS 1-28N-6W	SALINA-NIAGARAN REEF	1973	KALKASKA	6,578	194 D	61.0	NIAGARAN	6,950	3	1	0	3	240	77,579	273,262	3,534,349	7,153,073	1,139	
	COLD SPRINGS TWP., 28N-6W, SECTION 1; BLUE LAKE TWP., 28N-5W, SECTION 6																			
G-C	COLD SPRINGS 12-28N-6W	SALINA-NIAGARAN REEF	1973	KALKASKA	6,564	296 D	66.8	NIAGARAN	6,970	3	1	0	3	400	30,874	403,229	4,100,586	15,239,257	1,008	
	COLD SPRINGS TWP., 28N-6W, SECTION 12; BLUE LAKE TWP., 28N-5W, SECTION 7																			
OF	COLD SPRINGS 14-28N-6W	NIAGARAN REEF	1976	KALKASKA	6,780	10 5 D		NIAGARAN	7,095	1	1	0	1	80	15,745	15,745	3,265	3,265	197	100
	COLD SPRINGS TWP., 28N-6W, SECTION 14																			
OF	COLD SPRINGS 18-28N-6W	SALINA-NIAGARAN REEF	1974	KALKASKA	6,364	38 D		NIAGARAN	6,675	2	0	0	2	240	19,813	21,848	27,878	27,878	91	60
	COLD SPRINGS TWP., 28N-6W, SECTIONS 7, 18																			
OF	COLD SPRINGS 19-28N-6W	NIAGARAN REEF	1971	KALKASKA	6,596	8 D	44.9	CLINTON	7,036	5	0	0	5	400	84,056	401,785	564,772	1,919,349	1,005	107
	COLD SPRINGS TWP., 28N-6W, SECTIONS 19, 30; RAPID RIVER TWP., 28N-7W, SECTIONS 24, 25																			
OF	COLD SPRINGS 19-28N-6W POOL A	NIAGARAN REEF	1973	KALKASKA	6,628	14 D	44.3	NIAGARAN	6,767	1	0	0	1	80	14,977	45,374	82,083	224,878	567	
	COLD SPRINGS TWP., 28N-6W, SECTION 19																			
OF	COLD SPRINGS 20-28N-6W	NIAGARAN REEF	1971	KALKASKA	6,737	35 D	41.0	NIAGARAN	6,970	2	0	0	2	160	146,860	598,403	295,441	965,988	3,740	30
	COLD SPRINGS TWP., 28N-6W, SECTIONS 20, 29																			
OF	COLD SPRINGS 21-28N-6W	NIAGARAN REEF	1970	KALKASKA	6,764	45 D	45.6	CLINTON	7,315	2	0	0	1	160	196	89,326	0	92,123	558	
	COLD SPRINGS TWP., 28N-6W, SECTIONS 21, 28																			
OF	COLD SPRINGS 23-28N-6W	NIAGARAN REEF	1974	KALKASKA	6,970	20 D	44.4	NIAGARAN	7,218	2	0	0	2	160	64,301	68,739	31,272	33,602	430	4
	COLD SPRINGS TWP., 28N-6W, SECTIONS 22, 23																			
G-C	COLD SPRINGS 24-28N-6W	SALINA-NIAGARAN REEF	1974	KALKASKA	6,760	70 D	55.4	NIAGARAN	7,212	1	0	0	1	80	9,630	27,775	52,632	241,590	367	
	COLD SPRINGS TWP., 28N-6W, SECTION 24																			
AG-C	COLD SPRINGS 25-28N-6W	NIAGARAN REEF	1971	KALKASKA	6,734	544 D	62.3	NIAGARAN	7,383	1	ABANDONED 1975			160	0	936	0	37,188	6	
	COLD SPRINGS TWP., 28N-6W, SECTION 25																			
OF	COLD SPRINGS 25-28N-6W POOL A	NIAGARAN REEF	1972	KALKASKA	6,950	10 D		NIAGARAN	7,365	1	0	0	1	80	25,959	144,750	63,346	201,449	1,809	
	COLD SPRINGS TWP., 28N-6W, SECTION 25																			
OF	COLD SPRINGS 28-28N-6W	NIAGARAN REEF	1975	KALKASKA	6,790	10 D	43.6	NIAGARAN	7,150	1	0	0	1	80	17,840	18,450	17,594	17,594	231	11
	COLD SPRINGS TWP., 28N-6W, SECTION 28																			

POOL CLASSIFICATION

OF ACTIVE OIL FIELD OR POOL
AOF ABANDONED OIL FIELD OR POOL
GF ACTIVE GAS FIELD OR POOL
AGF ABANDONED GAS FIELD OR POOL
G-C GAS-CONDENSATE FIELD OR POOL
AG-C ABANDONED GAS-CONDENSATE FIELD OR POOL
GS GAS STORAGE RESERVOIR

	FIELD NAME	PRODUCING FORMATION OR POOL	YEAR OF DISC	COUNTY TOWNSHIP PRODUCING SECTIONS	PAY ZONE DEPTH IN FEET	PAY ZONE THICKNESS AND LITHOLOGY	PAY ZONE OIL GRAVITY A.P.I.	DEEPEST FORMATION OR POOL TESTED	DEPTH IN FEET	NUMBER OF WELLS TO END (1976)	NUMBER OF WELLS COMP. IN (1976)	NUMBER OF WELLS ABAND. IN (1976)	NUMBER OF WELLS ACTIVE AT END	DRILLED ACRES	OIL PRODUCTION - BBLS PRODUCED IN 1976	OIL PRODUCTION - BBLS CUMULATIVE THROUGH 1976	GAS PRODUCTION - Mcf PRODUCED IN 1976	GAS PRODUCTION - Mcf CUMULATIVE THROUGH 1976	RECOVERY PER ACRE DRILLED (BBLS)	TOTAL BARRELS BRINE PER DAY
OF	COLD SPRINGS 29-25N-6W	NIAGARAN REEF	1976	KALKASKA	6,865	8 D	43.5	NIAGARAN	7,040	2	2	0	2	160	13,623	13,623	22,873	22,873	85	3
	COLD SPRINGS TWP., 28N-6W, SECTION 29																			
OF	COLD SPRINGS 30-28N-6W	NIAGARAN REEF	1974	KALKASKA	6,719	39 D	44.4	NIAGARAN	6,858	2	0	0	2	120	132,561	206,380	329,141	467,222	1,720	2
	COLD SPRINGS TWP., 28N-6W, SECTION 30																			
G-C	EXCELSIOR 3-27N-6W	NIAGARAN REEF	1973	KALKASKA	7,211	10 D	64.0	NIAGARAN	7,402	2	0	0	2	320	29	62	SHUT-IN		1	
	EXCELSIOR TWP., 27N-6W, SECTION 3																			
G-C	EXCELSIOR 3-27N-6W POOL A	NIAGARAN REEF	1973	KALKASKA	6,952	139 D	71.5	NIAGARAN	7,346	1	0	0	1	160			SHUT-IN			
	EXCELSIOR TWP., 27N-6W, SECTION 3 SW SW NW																			
G-C	EXCELSIOR 6-27N-6W	NIAGARAN REEF	1973	KALKASKA	6,740	105 D	66.0	NIAGARAN	7,135	2	0	0	2	240	20,553	236,082	2,613,659	8,985,171	984	
	EXCELSIOR TWP., 27N-6W, SECTION 6; COLD SPRINGS TWP., 28N-6W, SECTION 31																			
G-C	EXCELSIOR 7-27N-6W	NIAGARAN REEF	1973	KALKASKA	6,987	27 D	63.8	NIAGARAN	7,232	1	0	0	1	80	3,890	3,911	85,812	85,812	49	
	EXCELSIOR TWP., 27N-6W, SECTION 18							DIRECTIONAL HOLE IN WHICH THE SURFACE LOCATION IS 18-27N-6W AND THE SUBSURFACE LOCATION IS 7-27N-6W												
G-C	EXCELSIOR 9-27N-6W	NIAGARAN REEF	1972	KALKASKA	7,034	47 D		NIAGARAN	7,526	3	0	0	3	480	5,655	6,745	160,609	347,042	14	
	EXCELSIOR TWP., 27N-6W, SECTIONS 8, 9																			
G-C	EXCELSIOR 17-27N-6W	NIAGARAN REEF	1973	KALKASKA	7,165	53 D	61.5	NIAGARAN	7,365	1	0	0	1	160	4,632	4,835	51,054	51,054	30	
	EXCELSIOR TWP., 27N-6W, SECTION 17																			
G-C	EXCELSIOR 19-27N-6W	NIAGARAN REEF	1975	KALKASKA	7,091	37 D	64.6	NIAGARAN	7,288	2	1	0	2	160	53	87			1	
	EXCELSIOR TWP., 27N-6W, SECTION 19																			
G-C	KALKASKA 1-27N-7W	NIAGARAN	1974	KALKASKA	6,693	20 D	65.0	NIAGARAN	6,784	1	0	0	1	160	5,533	23,265	898,582	1,523,959	145	
	KALKASKA TWP., 27N-7W, SECTION 1																			
OF	KALKASKA 3-27N-7W	SALINA-NIAGARAN REEF	1973	KALKASKA	6,396	180 D	42.7	NIAGARAN	6,850	1	0	0	1	160	12,776	68,085	155,410	508,801	426	31
	KALKASKA TWP., 27N-7W, SECTION 3																			
OF	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	9,596	99,368	15,304	231,321	1,242	50
	KALKASKA TWP., 27N-7W, SECTION 3																			
OF	KALKASKA 5-27N-7W	NIAGARAN REEF	1970	KALKASKA	6,314	68 D	41.5	CLINTON	6,921	5	0	0	5	400	116,825	758,007	162,591	646,063	1,895	288
	KALKASKA TWP., 27N-7W, SECTIONS 5, 6; RAPID RIVER TWP., 28N-7W, SECTION 32																			
OF	KALKASKA 7-27N-7W	NIAGARAN REEF	1972	KALKASKA	6,305	3 D		NIAGARAN	6,662	1	0	0	1	80	16,356	87,966	10,782	62,183	1,100	99
	KALKASKA TWP., 27N-7W, SECTION 7																			
G-C	KALKASKA 9-27N-7W	NIAGARAN REEF	1972	KALKASKA	6,482	89 D	55.0	NIAGARAN	6,830	1	0	0	1	160	9,171	26,839	137,879	471,014	168	
	KALKASKA TWP., 27N-7W, SECTION 9																			
G-C	KALKASKA 10-27N-7W	NIAGARAN REEF	1972	KALKASKA	6,470	188 D	64.0	NIAGARAN	6,859	1	0	0	1	320	15,462	91,534	653,279	3,036,902	286	
	KALKASKA TWP., 27N-7W, SECTION 10																			
OF	KALKASKA 12-27N-7W	NIAGARAN REEF	1972	KALKASKA	6,883	19 D		NIAGARAN	7,009	1	0	0	1	80	2,858	17,778	0	10,788	222	
	KALKASKA TWP., 27N-7W, SECTION 12																			
G-C	KALKASKA 13-27N-7W	NIAGARAN REEF	1972	KALKASKA	6,889	60 D	63.0	NIAGARAN	7,225	1	0	0	1	240	13,037	65,773	713,259	2,262,280	274	
	KALKASKA TWP., 27N-7W, SECTION 13																			
OF	KALKASKA 16-27N-7W	NIAGARAN REEF	1973	KALKASKA	6,572	158 D	47.4	NIAGARAN	7,077	1	0	0	1	40	1,162	1,782	1,812	1,812	45	
	KALKASKA TWP., 27N-7W, SECTION 16																			
OF	KALKASKA 16-27N-7W POOL A	NIAGARAN REEF	1973	KALKASKA	7,014	98 D	45.2	NIAGARAN	7,405	2	0	0	2	160	17,924	18,380	55,285	55,285	115	60
	KALKASKA TWP., 27N-7W, SECTIONS 15, 16																			
OF	KALKASKA 19-27N-7W	NIAGARAN REEF	1974	KALKASKA	6,626	10 D	44.0	NIAGARAN	7,003	1	0	0	1	320	6,228	13,750	738	6,444	43	119
	KALKASKA TWP., 27N-7W, SECTION 19																			
OF	KALKASKA 24-27N-7W	SALINA-NIAGARAN REEF	1974	KALKASKA	6,726	469 D	46.8	NIAGARAN	7,317	1	0	0	1	80	95	436	SHUT-IN		6	
	KALKASKA TWP., 27N-7W, SECTION 24																			
G-C	KALKASKA 28-27N-7W	NIAGARAN REEF	1970	KALKASKA	7,129	28 D	COND. 65.3	CLINTON	7,408	1	0	0	1	160	1,253	19,198	108,592	750,013	120	
G-C	KALKASKA 28-27N-7W POOL A	NIAGARAN REEF	1972		6,977	192 D	68.0			1	0	0	1	160	19,805	31,938	209,447	388,529	200	
G-C	KALKASKA 28-27N-7W POOL B	NIAGARAN REEF	1975		7,088	40 D		NIAGARAN	7,205	1	1	0	1	80	11,733	11,733	203,668	203,668	147	
	KALKASKA TWP., 27N-7W, SECTION 28																			
G-C	KALKASKA 32-27N-7W	NIAGARAN REEF	1971	KALKASKA	6,828	309 D	60	NIAGARAN	7,369	1	0	0	1	160	6,177	39,667	246,486	1,164,799	248	
	KALKASKA TWP., 27N-7W, SECTION 32																			
G-C	KALKASKA 32-27N-7W POOL A	NIAGARAN REEF	1975	KALKASKA	7,076	22 D		NIAGARAN	7,255	1	0	0	1	80	13,879	24,588	583,335	729,948	307	
	KALKASKA TWP., 27N-7W, SECTION 32																			
OF	KALKASKA 11-27N-8W	NIAGARAN REEF	1973	KALKASKA	6,449	17 D	44.2	NIAGARAN	6,776	1	0	0	1	80	14,098	66,276	0	27,884	829	27
	KALKASKA TWP., 27N-8W, SECTION 11																			
OF	KALKASKA 13-27N-8W	NIAGARAN REEF	1972	KALKASKA	6,950	10 D	47.8	NIAGARAN	7,365	2	0	0	2	240	53,189	233,797	290,897	775,235	1,112	
	KALKASKA TWP., 27N-8W, SECTION 13																			
G-C	KALKASKA 14-27N-8W	NIAGARAN REEF	1974	KALKASKA	6,551	43 D		NIAGARAN	6,790	1	0	0	1	160	8,101	50,050	542,496	1,472,074	313	
	KALKASKA TWP., 27N-8W, SECTION 14																			
OF	KALKASKA 20-27N-8W	NIAGARAN REEF	1975	KALKASKA	6,493	5 D		NIAGARAN	6,750	2	1	0	2	160	10,925	10,925	5,368	5,368	68	8
	KALKASKA TWP., 27N-8W, SECTION 20																			
OF	KALKASKA 21-27N-8W	NIAGARAN REEF	1971	KALKASKA	6,562	77 D	45.1	NIAGARAN	6,856	7	0	0	7	400	PRODUCTION COMBINED WITH A-1 CARBONATE PRODUCTION					
OF		A-1 CARBONATE	1972		6,591	31 D								80	670,628	2,707,707	1,478,277	4,629,087	5,641	
	KALKASKA TWP., 27N-8W, SECTIONS 21, 22, 28																			
OF	KALKASKA 24-27N-8W	SALINA-NIAGARAN REEF	1973	KALKASKA	6,380	220 D	46.1	NIAGARAN	6,852	1	0	0	1	40	76,073	263,051	155,521	647,330	6,576	
	KALKASKA TWP., 27N-8W, SECTION 24																			
G-C	KALKASKA 25-27N-8W	NIAGARAN	1972	KALKASKA	6,491	114 D		NIAGARAN	7,000	2	0	0	2	320	15,285	142,051	304,677	4,602,470	444	
	KALKASKA TWP., 27N-8W, SECTIONS 25, 35																			
G-C	KALKASKA 25-27N-8W POOL A	NIAGARAN REEF	1974	KALKASKA	6,798	40 D	59	NIAGARAN	6,980	1	0	0	1	160	22,848	59,355	344,273	626,457	371	
	KALKASKA TWP., 27N-8W, SECTION 25																			
OF	KALKASKA 26-27N-8W	SALINA-NIAGARAN REEF	1973	KALKASKA	6,372	397 D	55.0	NIAGARAN	6,968	1	0	0	1	160	30,617	127,717	336,074	1,028,715	798	
	KALKASKA TWP., 27N-8W, SECTION 26																			

POOL CLASSIFICATION

OF ACTIVE OIL FIELD OR POOL
AOF ABANDONED OIL FIELD OR POOL
GF ACTIVE GAS FIELD OR POOL
AGF ABANDONED GAS FIELD OR POOL
G-C GAS-CONDENSATE FIELD OR POOL
AG-C ABANDONED GAS-CONDENSATE FIELD OR POOL
GS GAS STORAGE RESERVOIR

	FIELD NAME	PRODUCING FORMATION OR POOL	YEAR OF DISC	COUNTY TOWNSHIP PRODUCING SECTIONS	PAY ZONE DEPTH IN FEET	PAY ZONE THICKNESS AND LITHOLOGY	PAY ZONE OIL GRAVITY A.P.I.	DEEPEST FORMATION OR POOL TESTED	DEPTH IN FEET	NUMBER OF WELLS TO END (1976)	NUMBER OF WELLS COMP. IN (1976)	NUMBER OF WELLS ABAND. IN (1976)	NUMBER OF WELLS ACTIVE AT END	DRILLED ACRES	OIL PRODUCTION - BBLS PRODUCED IN 1976	OIL PRODUCTION - BBLS CUMULATIVE THROUGH 1976	GAS PRODUCTION - Mcf PRODUCED IN 1976	GAS PRODUCTION - Mcf CUMULATIVE THROUGH 1976	RECOVERY PER ACRE DRILLED (BBLS)	TOTAL BARRELS BRINE PER DAY
OF	KALKASKA 28-27N-8W	NIAGARAN REEF	1971	KALKASKA	6,717	6 D		NIAGARAN	6,838	1	0	0	1	160	5,716	26,505			166	40
	KALKASKA TWP., 27N-8W, SECTION 28																			
G-C	KALKASKA 30-27N-8W	NIAGARAN REEF	1974	KALKASKA	6,496	22 D	64.7	NIAGARAN	6,692	1	0	0	1	480	32,218	135,829	1,032,511	3,420,901	283	
	KALKASKA TWP., 27N-8W, SECTION 30							DIRECTIONAL HOLE IN WHICH THE SURFACE LOCATION IS IN GRAND TRAVERSE COUNTY, WHITEWATER TOWNSHIP SECTION 36-27N-9W; AND THE SUBSURFACE LOCATION IS IN KALKASKA COUNTY, KALKASKA TOWNSHIP SECTION 30-27N-8W												
OF	KALKASKA 32-27N-8W	NIAGARAN REEF	1975	KALKASKA	6,585	7 D	45.0	NIAGARAN	6,890	2	0	0	2	160	49,275	52,524	55,473	55,473	328	
	KALKASKA TWP., 27N-8W, SECTION 30																			
G-C	KALKASKA 33-27N-8W	NIAGARAN REEF	1972	KALKASKA	6,620	15 D		NIAGARAN	6,754	1	0	0	1	160	210	25,773	38,105	1,258,967	161	
	KALKASKA TWP., 27N-8W, SECTION 33																			
G-C	RAPID RIVER 5-28N-7W	NIAGARAN REEF	1976	KALKASKA	5,915	10 D		NIAGARAN	6,197	1	1	0	1	80			SHUT-IN			
	RAPID RIVER TWP., 28N-7W, SECTION 5																			
OF	RAPID RIVER 24-28N-7W	NIAGARAN REEF	1970	KALKASKA	6,590	44 D	50	NIAGARAN	6,810	5	0	0	5	400	113,124	655,329	1,457,140	6,786,914	1,638	77
	RAPID RIVER TWP., 28N-7W, SECTIONS 24, 25, 26																			
OF	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	9,714	41,613	3,800	37,280	520	19
	RAPID RIVER TWP., 28N-7W, SECTION 24																			
OF	RAPID RIVER 27-28N-7W	NIAGARAN REEF	1972	KALKASKA	6,487	29 D	47.2	NIAGARAN	6,850	4	0	0	4	160	27,179	149,411	259,588	1,036,506	934	1
	RAPID RIVER TWP., 28N-7W, SECTIONS 26, 27																			
OF	RAPID RIVER 27-28N-7W POOL A	NIAGARAN REEF	1972	KALKASKA	6,552	8 D	44	NIAGARAN	6,773	4	0	0	4	240	55,344	221,044	419,567	1,204,550	921	141
	RAPID RIVER TWP., 28N-7W, SECTIONS 27, 34																			
OF	RAPID RIVER 32-28N-7W	NIAGARAN REEF	1973	KALKASKA	6,413	20 D	43.5	NIAGARAN	6,550	6	0	0	6	440	386,315	908,624	631,487	1,256,623	2,065	121
	*NEW FIELD DISCOVERY CREATED BY REVISED SPACING ORDER FOR KALKASKA 5-27N-7W			RAPID RIVER TWP., 28N-7W, SECTIONS 29, 32																
OF	RAPID RIVER 33-28N-7W	NIAGARAN REEF	1971	KALKASKA	6,522	14 D	52.4	NIAGARAN	6,764	3	0	0	3	200	52,548	139,726	832,519	1,977,195	699	360
	RAPID RIVER TWP., 28N-7W, SECTION 33; KALKASKA TWP., 27N-7W, SECTION 4																			
OF	RAPID RIVER 33-28N-7W POOL A	NIAGARAN REEF	1972	KALKASKA	6,510	9 D	43.5	CLINTON	6,695	2	0	0	2	160	4,598	52,615	183,946	740,144	329	
	RAPID RIVER TWP., 28N-7W, SECTION 33; KALKASKA TWP., 27N-7W, SECTION 4																			
G-C	RAPID RIVER 35-28N-7W	NIAGARAN REEF	1973	KALKASKA	6,719	27 D	66.5	NIAGARAN	6,886	2	0	0	2	240	6,362	251,105	877,455	11,537,159	1,046	
	RPAID RIVER TWP., 28N-7W, SECTION 35																			
	MANISTEE COUNTY																			
G-C	BEAR LAKE 2-23N-15W	NIAGARAN REEF	1974	MANISTEE	4,646	23 D	74.0	NIAGARAN	4,874	1	0	0	1	80	0	149	0	27,851	2	
	BEAR LAKE TWP., 23N-15W, SECTION 2																			
G-C	BEAR LAKE 10-23N-15W	SALINA-NIAGARAN REEF	1974	MANISTEE	4,457	120 D	64.0	NIAGARAN	4,758	1	0	0	1	80	179	179	SHUT-IN		2	
	BEAR LAKE TWP., 23N-15W, SECTION 10																			
OF	BEAR LAKE 11-23N-15W	NIAGARAN REEF	1974	MANISTEE	4,688	36 D	43.3	NIAGARAN	4,922	4	1	0	4	320	295,363	374,855	260,636	336,180	1,171	13
OF	BEAR LAKE 11-23N-15W POOL A	NIAGARAN REEF	1975	MANISTEE	4,668	11 D	40.8	NIAGARAN	4,740	2	0	0	2	160	131,586	137,990	85,267	89,792	862	55
	BEAR LAKE TWP., 23N-15W, SECTIONS 10, 11, 14																			
OF	BEAR LAKE 13-23N-15W	NIAGARAN REEF	1974	MANISTEE	4,591	16 D		NIAGARAN	5,030	3	0	0	3	240	314,454	506,671	260,020	424,271	2,111	
	BEAR LAKE TWP., 23N-15W, SECTIONS 12, 13																			
G-C	BEAR LAKE 15-23N-15W	NIAGARAN REEF	1976	MANISTEE	4,410	137 D	67.5	NIAGARAN	4,740	1	1	0	1	80			SHUT-IN			
	BEAR LAKE TWP., 23N-15W, SECTION 15																			
OF	BEAR LAKE 19-23N-15W	NIAGARAN REEF	1975	MANISTEE	4,262	11 D	36.7	NIAGARAN	4,556	2	1	0	2	240	8,468	8,637	4,127	4,127	36	150
	BEAR LAKE TWP., 23N-15W, SECTION 19																			
OF	BEAR LAKE 20-23N-15W	SALINA-NIAGARAN REEF	1975	MANISTEE	4,338	32 D	38.4	NIAGARAN	4,722	2	0	0	2	160	38,556	57,862	8,373	14,268	362	100
	BEAR LAKE TWP., 23N-15W, SECTION 20																			
OF	BEAR LAKE 22-23N-15W	NIAGARAN REEF	1974	MANISTEE	4,541	10 D	44.5	NIAGARAN	4,885	7	3	0	7	560	281,266	348,901	418,544	472,063	623	12
	BEAR LAKE TWP., 23N-15W, SECTIONS 15, 21, 22																			
OF	BEAR LAKE 23-23N-15W	NIAGARAN REEF	1973	MANISTEE	4,786	7 D	49.6	NIAGARAN	5,035	4	0	0	4	320	121,798	144,291	443,830	636,517	451	1
	BEAR LAKE TWP., 23N-15W, SECTION 23																			
G-C	BEAR LAKE 24-23N-15W	NIAGARAN REEF	1974	MANISTEE	4,808	58 D	69.0	NIAGARAN	5,070	1	0	0	1	80	42,966	45,788	920,815	1,011,713	572	
	BEAR LAKE TWP., 23N-15W, SECTION 24																			
G-C	BEAR LAKE 25-23N-15W	NIAGARAN REEF	1976	MANISTEE	4,714	118 D	63.3	NIAGARAN	5,061	1	1	0	1	80	38	38	0	0	1	
	BEAR LAKE TWP., 23N-15W, SECTION 25																			
OF	BEAR LAKE 26-23N-15W	NIAGARAN REEF	1974	MANISTEE	4,828	34 D	45.0	NIAGARAN	4,933	4	1	0	4	320	47,450	71,123	319,804	465,306	222	7
OF	BEAR LAKE 26-23N-15W POOL A	NIAGARAN REEF	1975	MANISTEE	4,861	10 D	43.5	NIAGARAN	5,036	3	0	0	3	240	217,509	280,278	262,951	328,194	1,168	6
	BEAR LAKE TWP., 23N-15W, SECTIONS 23, 25, 26																			
OF	BEAR LAKE 27-23N-15W	NIAGARAN REEF	1975	MANISTEE	4,673	64 D	44.2	NIAGARAN	4,870	2	1	0	2	160	77,408	77,550	226,736	226,736	485	2
	BEAR LAKE TWP., 23N-15W, SECTION 27																			
OF	BEAR LAKE 27-23N-15W POOL A	NIAGARAN REEF	1976	MANISTEE	4,592	9 D	44	NIAGARAN	4,801	1	1	0	1	80	58,692	58,692	50,797	50,797	734	
	BEAR LAKE TWP., 23N-15W, SECTION 27																			
OF	BEAR LAKE 31-23N-15W	NIAGARAN REEF	1974	MANISTEE	4,168	59 D	40.0	NIAGARAN	4,580	1	0	0	1	80	92,563	124,902	54,131	74,395	1,561	
	BEAR LAKE TWP., 23N-15W, SECTION 31																			
OF	BEAR LAKE 32-23N-15W	NIAGARAN REEF	1974	MANISTEE	4,592	62 D	45.3	NIAGARAN	4,860	2	0	0	2	160	218,561	280,583	180,074	229,761	1,754	
	BEAR LAKE TWP., 23N-15W, SECTION 32																			
OF	BEAR LAKE 33-23N-15W	NIAGARAN REEF	1974	MANISTEE	4,621	21 D	42.6	NIAGARAN	4,806	5	1	0	5	400	413,884	539,341	451,236	519,040	1,348	
	BEAR LAKE TWP., 23N-15W, SECTIONS 28, 33																			
OF	BEAR LAKE 34-23N-15W	NIAGARAN REEF	1975	MANISTEE	4,783	18 D	44.6	NIAGARAN	4,957	3	1	0	3	240	198,748	199,065	227,936	227,936	829	
	BEAR LAKE TWP., 23N-15W, SECTION 34																			
G-C	BROWN 4-22N-15W	NIAGARAN REEF	1974	MANISTEE	4,397	331 D	69.5	NIAGARAN	4,907	2	0	0	2	320	65	146	66,082	66,082	1	
	BROWN TWP., 22N-15W, SECTION 4								TWO 160-ACRE UNITS ESTABLISHED BY ORDER 12-5-76, EFFECTIVE JUNE 8, 1976											
G-C	BROWN 4-22N-15W POOL A	NIAGARAN REEF	1975	MANISTEE	4,419	306 D	64.2	NIAGARAN	4,926	1	0	0	1	120	0	15	0	0	1	
	BROWN TWP., 22N-15W, SECTIONS 3, 4																			
OF	BROWN 5-22N-15W	NIAGARAN REEF	1976	MANISTEE	4,649	12 D	45.3	NIAGARAN	4,762	1	1	0	1	80	18,789	18,789	13,291	13,291	235	
	BROWN TWP., 22N-15W, SECTION 5																			

POOL CLASSIFICATION — OF ACTIVE OIL FIELD OR POOL; AOF ABANDONED OIL FIELD OR POOL; GF ACTIVE GAS FIELD OR POOL; AGF ABANDONED GAS FIELD OR POOL; G-C GAS-CONDENSATE FIELD OR POOL; AG-C ABANDONED GAS-CONDENSATE FIELD OR POOL; GS GAS STORAGE RESERVOIR

Pool Classification	Field Name	Producing Formation or Pool	Year of Disc	County Township Producing Sections	Pay Zone Depth in Feet	Pay Zone Thickness and Lithology	Pay Zone Oil Gravity A.P.I.	Deepest Formation or Pool Tested	Depth in Feet	Number of Wells To End 1976	Number of Wells Comp.	Number of Wells Aband.	Number of Wells Act. at End	Drilled Acres	Oil Production – Bbls Produced in 1976	Oil Production – Bbls Cumulative Through 1976	Gas Production – Mcf Produced in 1976	Gas Production – Mcf Cumulative Through 1976	Recovery Per Acre Drilled (Bbls)	Total Barrels Brine Per Day
G-C	BROWN 6-22N-15W	SALINA-NIAGARAN REEF	1974	MANISTEE	4,267	44 D	67.3	NIAGARAN	4,809	1	0	0	1	120	0	52	0	0	1	
	BROWN TWP., 22N-15W, SECTION 6																			
G-C	BROWN 7-22N-15W	NIAGARAN REEF	1974	MANISTEE	4,374	232 D	65.0	NIAGARAN	4,750	1	0	0	1	160	10,639	10,639	913,670	913,670	66	
	BROWN TWP., 22N-15W, SECTION 7																			
G-C	BROWN 8-22N-15W	NIAGARAN REEF	1974	MANISTEE	4,692	27 D	66.0	NIAGARAN	4,888	1	0	0	1	80	0	52	0	0	1	
	BROWN TWP., 22N-15W, SECTION 8																			
OF	CLEON 11-24N-13W	NIAGARAN REEF	1973	MANISTEE	5,624	121 D	42.6	NIAGARAN	6,167	2	0	0	2	160	0	2,019	0	1,356	13	
	CLEON TWP., 24N-13W, SECTIONS 11, 12																			
OF	CLEON 12-24N-13W	NIAGARAN REEF	1974	MANISTEE	5,861	35 D	39.3	NIAGARAN	6,119	1	0	0	1	80	14,686	20,454	7,074	10,152	256	36
OF	CLEON 12-24N-13W POOL A	NIAGARAN REEF	1975	MANISTEE	5,702	238 D	41.1	NIAGARAN	6,043	1	0	0	1	80	72,395	72,594	35,589	35,589	907	
	CLEON TWP., 24N-13W, SECTION 12																			
OF	CLEON 14-24N-13W	NIAGARAN REEF	1973	MANISTEE	5,655	69 D	44.3	NIAGARAN	5,928	2	1	0	2	80	1,500	5,004	897	3,617	63	
	CLEON TWP., 24N-13W, SECTION 14 — DISCOVERY WELL ACTUALLY COMPLETED AS DEVELOPMENT WELL IN 1973, RECLASSIFIED AS A DISCOVERY IN 1974																			
OF	CLEON 14-24N-13W POOL A	NIAGARAN REEF	1976	MANISTEE	5,728	59 D		NIAGARAN	5,897	1	1	0	1	80	5,227	5,227	1,528	1,528	65	
	CLEON TWP., 24N-13W, SECTION 14																			
G-C	CLEON 15-24N-13W	NIAGARAN REEF	1974	MANISTEE	5,464	20 D		NIAGARAN	5,770	1	0	0	1	80	15,645	20,626	683,435	870,443	258	
	CLEON TWP., 24N-13W, SECTION 15																			
G-C	CLEON 19-24N-13W	NIAGARAN REEF	1976	MANISTEE	5,073	129 D	72.25	NIAGARAN	5,453	1	1	0	1	80			SHUT-IN			
	CLEON TWP., 24N-13W, SECTION 19																			
G-C	CLEON 20-24N-13W	NIAGARAN REEF	1974	MANISTEE	5,145	202 D		NIAGARAN	5,534	1	0	0	1	80	389	546	23,203	36,035	7	
	CLEON TWP., 24N-13W, SECTION 20																			
G-C	CLEON 22-24N-13W	NIAGARAN REEF	1975	MANISTEE	5,436	73.5 D	65.5	NIAGARAN	5,701	2	1	0	2	120	59,263	59,263	2,366,131	2,366,131	494	
	CLEON TWP., 24N-13W, SECTION 22																			
G-C	CLEON 26-24N-13W	NIAGARAN REEF	1976	MANISTEE	5,616	154 D	74.8	NIAGARAN	5,901	1	1	0	1	160	140	140	0	0	1	
	CLEON TWP., 24N-13W, SECTION 26																			
G-C	CLEON 27-24N-13W	NIAGARAN REEF	1976	MANISTEE	5,659	36 D		NIAGARAN	5,937	1	1	0	1	80			SHUT-IN			
	CLEON TWP., 24N-13W, SECTION 27																			
AGF	MANISTEE	SALINA	1959	MANISTEE	3,616	94 D		NIAGARAN	4,165	1	ABANDONED 1961			160						
	FILER TWP., 21N-17W, SECTION 24																			
OF	MANISTEE 1-22N-16W	NIAGARAN REEF	1973	MANISTEE	4,283	254 D	58.6	NIAGARAN	4,807	2	0	0	2	320	137,467	138,919	5,482	5,482	434	
OF	MANISTEE 1-22N-16W POOL A	NIAGARAN REEF	1975	MANISTEE	4,408	81 D	47.5	NIAGARAN	4,630	2	0	0	2	160	9,415	9,889	92,975	92,975	62	
	MANISTEE TWP., 22N-16W, SECTION 1; BROWN TWP., 22N-15W, SECTION 6																			
OF	MANISTEE 2-22N-16W	NIAGARAN REEF	1975	MANISTEE	4,245	15 D		NIAGARAN	4,558	1	0	0	1	80	48,417	54,901	15,430	15,430	686	
	MANISTEE TWP., 22N-16W, SECTION 2																			
OF	MANISTEE 3-22N-16W	NIAGARAN REEF	1976	MANISTEE	4,135	46 D		SALINA-NIAGARAN	4,365	1	1	0	1	80	317	317			4	
	MANISTEE TWP., 22N-16W, SECTION 3																			
OF	MANISTEE 12-22N-16W	NIAGARAN REEF	1974	MANISTEE	4,701	17 D	45.0	NIAGARAN	4,844	2	1	0	2	160	157	326			2	
	MANISTEE TWP., 22N-16W, SECTION 12																			
G-C	MANISTEE 13-22N-16W	SALINA-NIAGARAN REEF	1976	MANISTEE	4,511	201 D		SALINA-NIAGARAN	4,832	1	1	0	1	160			SHUT-IN			
	MANISTEE TWP., 22N-16W, SECTION 13																			
GF	MANISTEE 13-22N-16W POOL A	NIAGARAN REEF	1976	MANISTEE	4,604	62 D		NIAGARAN	4,837	1	1	0	1	80			SHUT-IN			
	MANISTEE TWP., 22N-16W, SECTION 13																			
OF	MANISTEE 15-22N-16W	NIAGARAN REEF	1974	MANISTEE	4,467	15 D	42.8	NIAGARAN	4,725	3	1	0	3	240	96,114	96,602	285,107	285,107	403	13
	MANISTEE TWP., 22N-16W, SECTIONS 10, 15																			
OF	MANISTEE 16-22N-16W	NIAGARAN REEF	1975	MANISTEE	4,049	34 D	43.2	NIAGARAN	4,228	2	0	0	2	160	124,898	125,275	78,622	78,622	783	18
	MANISTEE TWP., 22N-16W, SECTION 16																			
OF	MANISTEE 17-22N-16W	NIAGARAN REEF	1976	MANISTEE	3,930	10 D		NIAGARAN	4,230	1	1	0	1	80	7,188	7,188			90	
	MANISTEE TWP., 22N-16W, SECTION 17																			
OF	MANISTEE 20-22N-16W	NIAGARAN REEF	1975	MANISTEE	3,996	34 D	43.2	NIAGARAN	4,225	2	1	0	2	160	232	471			3	
	MANISTEE TWP., 22N-16W, SECTION 20																			
G-C	MANISTEE 23-22N-16W	NIAGARAN REEF	1974	MANISTEE	4,220	277 D	68.0	NIAGARAN	4,680	2	0	0	2	160	0	45			1	
	MANISTEE TWP., 22N-16W, SECTIONS 22, 23																			
G-C	MANISTEE 24-22N-16W	NIAGARAN REEF	1974	MANISTEE	4,171	483 D	67.5	NIAGARAN	4,722	1	0	0	1	80	0	244			3	
	MANISTEE TWP., 22N-16W, SECTION 24																			
G-C	MANISTEE 27-22N-16W	NIAGARAN REEF	1974	MANISTEE	4,288	224 D	63.4	NIAGARAN	4,600	1	0	0	1	80	0	40			1	
	MANISTEE TWP., 22N-16W, SECTION 27																			
GF	MANISTEE 30-22N-16W	NIAGARAN REEF	1976	MANISTEE	3,958	225 D		NIAGARAN	4,348	2	2	0	2	160	368	368	15,140	15,140	2	
	MANISTEE TWP., 22N-16W, SECTION 30																			
OF	MAPLE GROVE 1-23N-14W	NIAGARAN REEF	1974	MANISTEE	5,473	23 D	42.2	NIAGARAN	5,610	1	0	0	1	80	48,712	49,023	47,361	47,361	613	
	MAPLE GROVE TWP., 23N-14W, SECTION 1																			
G-C	MAPLE GROVE 2-23N-14W	NIAGARAN REEF	1973	MANISTEE	5,055	52 D	70.6	NIAGARAN	5,498	2	0	0	2	240	403	7,083	6,247	302,758	30	
	MAPLE GROVE TWP., 23N-14W, SECTION 2																			
OF	MAPLE GROVE 4-23N-14W	NIAGARAN REEF	1975	MANISTEE	4,895	26 D		NIAGARAN	5,153	1	0	0	1	80	82,418	88,400	113,683	119,701	1,105	
	MAPLE GROVE TWP., 23N-14W, SECTION 4																			
OF	MAPLE GROVE 6-23N-14W	NIAGARAN REEF	1973	MANISTEE	4,514	27 D	42.0	ST. PETER	6,360	5	1	0	5	400	380,280	462,738	173,352	214,580	1,157	20
	MAPLE GROVE TWP., 23N-14W, SECTION 6; SPRINGDALE TWP., 24N-14W, SECTION 31																			
OF	MAPLE GROVE 6-23N-14W POOL A	SALINA-NIAGARAN REEF	1974	MANISTEE	4,518	27 D	40.2	NIAGARAN	4,975	1	0	0	1	80	18,344	28,326	7,128	12,747	354	138
	MAPLE GROVE TWP., 23N-14W, SECTION 6																			
OF	MAPLE GROVE 7-23N-14W	NIAGARAN REEF	1974	MANISTEE	4,510	35 D	35.0	NIAGARAN	4,829	3	1	0	3	240	55,366	79,136	30,562	45,718	330	62
	MAPLE GROVE TWP., 23N-14W, SECTION 7																			

POOL CLASSIFICATION — OF ACTIVE OIL FIELD OR POOL; AOF ABANDONED OIL FIELD OR POOL; GF ACTIVE GAS FIELD OR POOL; AGF ABANDONED GAS FIELD OR POOL; G-C GAS-CONDENSATE FIELD OR POOL; AG-C ABANDONED GAS-CONDENSATE FIELD OR POOL; GS GAS STORAGE RESERVOIR

Pool Classification	Field Name	Producing Formation or Pool	Year of Disc	County Township Producing Sections	Pay Zone Depth in Feet	Pay Zone Thickness and Lithology	Pay Zone Oil Gravity A.P.I.	Deepest Formation or Pool Tested	Depth in Feet	Number of Wells To End 1976	Number of Wells Comp.	Number of Wells Aband.	Number of Wells Act. at End	Drilled Acres	Oil Production – Bbls Produced in 1976	Oil Production – Bbls Cumulative Through 1976	Gas Production – Mcf Produced in 1976	Gas Production – Mcf Cumulative Through 1976	Recovery Per Acre Drilled (Bbls)	Total Barrels Brine Per Day
OF	MAPLE GROVE 8-23N-14W	NIAGARAN REEF	1974	MANISTEE	4,905	26 D	44.8	NIAGARAN	5,082	3	0	0	3	240	290,089	345,253	218,300	276,274	1,439	45
	MAPLE GROVE TWP., 23N-14W, SECTIONS 8, 9																			
G-C	MAPLE GROVE 9-23N-14W	SALINA-NIAGARAN REEF	1973	MANISTEE	4,590	366 O	72.8	NIAGARAN	5,295	1	0	0	1	80	12,616	15,833	283,707	374,793	198	
	MAPLE GROVE TWP., 23N-14W, SECTION 9																			
OF	MAPLE GROVE 10-23N-14W	NIAGARAN REEF	1973	MANISTEE	4,832	263 D	43.8	NIAGARAN	5,457	2	0	0	2	160	52,602	78,749	67,188	115,848	492	2
	MAPLE GROVE TWP., 23N-14W, SECTION 10																			
OF	MAPLE GROVE 16-23N-14W	NIAGARAN REEF	1973	MANISTEE	4,950	211 D	46.2	NIAGARAN	5,409	2	0	0	2	120	64,459	93,189	222,670	310,210	777	
	MAPLE GROVE TWP., 23N-14W, SECTION 16																			
OF	MAPLE GROVE 17-23N-14W	NIAGARAN REEF	1974	MANISTEE	4,637	102 D	73.0	NIAGARAN	5,225	2	0	0	2	160	66,599	66,812	256,112	256,112	418	
	MAPLE GROVE TWP., 23N-14W, SECTION 17																			
G-C	MAPLE GROVE 19-23N-14W	NIAGARAN REEF	1975	MANISTEE	4,597	259 D	67.8	NIAGARAN	5,110	1	0	0	1	160	10,952	10,972	386,840	386,840	69	
	MAPLE GROVE TWP., 23N-14W, SECTION 19																			
G-C	MAPLE GROVE 20-23N-14W	NIAGARAN REEF	1976	MANISTEE	4,904	188 D		NIAGARAN	5,235	1	1	0	1	160			SHUT-IN			
	MAPLE GROVE TWP., 23N-14W, SECTION 20																			
OF	PLEASANTON 36-24N-15W	NIAGARAN REEF	1974	MANISTEE	4,474	16 D	40.6	NIAGARAN	4,620	4	2	0	4	240	207,759	214,483	92,815	92,815	894	
	PLEASANTON TWP., 24N-15W, SECTION 36																			
OF	SPRINGDALE 21-24N-14W	NIAGARAN REEF	1975	MANISTEE	4,883	24 D	39.0	NIAGARAN	5,085	2	1	0	2	160	164,238	191,429	60,926	73,924	1,196	
	SPRINGDALE TWP., 24N-14W, SECTION 21																			
OF	SPRINGDALE 25-24N-14W	NIAGARAN REEF	1972	MANISTEE	5,006	71 D	43.2	NIAGARAN	5,448	1	0	0	1	40	61,288	61,418	112,792	112,792	1,536	
	SPRINGDALE TWP., 24N-14W, SECTION 25																			
OF	SPRINGDALE 26-24N-14W	NIAGARAN REEF	1974	MANISTEE	5,094	12 D	44.5	NIAGARAN	5,195	1	0	0	1	160	104,968	127,897	102,573	120,582	799	
	SPRINGDALE TWP., 24N-14W, SECTION 26																			
OF	SPRINGDALE 28-24N-14W	SALINA-NIAGARAN REEF	1973	MANISTEE	4,719	134 D	34.4	NIAGARAN	5,180	1	0	0	1	80	109,449	136,786	40,398	53,132	1,710	
	SPRINGDALE TWP., 24N-14W, SECTION 28																			
OF	SPRINGDALE 29-24N-14W	NIAGARAN REEF	1976	MANISTEE	4,633	14 D		NIAGARAN	4,959	1	1	0	1	80	4,338	4,338			54	
	SPRINGDALE TWP., 24N-14W, SECTION 29																			
OF	SPRINGDALE 32-24N-14W	NIAGARAN REEF	1974	MANISTEE	4,634	16 D	41.9	NIAGARAN	5,050	2	0	0	2	240	5,763	8,739	2,460	2,460	36	240
	SPRINGDALE TWP., 24N-14W, SECTION 32; MAPLE GROVE TWP., 23N-14W, SECTION 5																			
G-C	SPRINGDALE 34-24N-14W	SALINA-NIAGARAN REEF	1974	MANISTEE	4,764	168 D	68.0	NIAGARAN	5,315	2	1	0	2	320	7,678	15,099	129,498	237,149	47	
	SPRINGDALE TWP., 24N-14W, SECTION 34																			
OF	SPRINGDALE 34-24N-14W POOL A	NIAGARAN REEF	1975	MANISTEE	4,995	18 D	40.6	NIAGARAN	5,180	2	1	0	2	80	114,066	120,097	50,208	53,991	1,501	
	SPRINGDALE TWP., 24N-14W, SECTION 34 — RECLASSIFIED AS A SEPARATE POOL IN 1976																			
	MASON COUNTY																			
OF	HAMLIN 13-19N-18W	NIAGARAN REEF	1972	MASON	4,284	12 D	46.2	NIAGARAN	4,500	3	0	0	3	200	101,814	272,358	133,817	360,938	1,362	81
	HAMLIN TWP., 19N-18W, SECTION 13																			
G-C	HAMLIN 13-19N-18W POOL A	NIAGARAN REEF	1973	MASON	4,392	6 D		NIAGARAN	4,460	2	0	0	2	200	7,114	41,261	1,986,648	5,023,310	206	23
	HAMLIN TWP., 19N-18W, SECTIONS 13, 24																			
OF	HAMLIN 13-19N-18W POOL B	NIAGARAN REEF	1975	MASON	4,464	11 D	48.0	NIAGARAN	4,671	1	0	0	1	80	26,632	26,871	23,989	23,989	336	101
	HAMLIN TWP., 19N-18W, SECTION 13																			
OF	HAMLIN 25-19N-18W	NIAGARAN REEF	1972	MASON	4,251	14 D	46.2	NIAGARAN	4,556	3	0	0	3	320	31,788	54,369	178,712	280,849	170	300
	HAMLIN TWP., 19N-18W, SECTION 25																			
AGF	HAMLIN	SALINA-NIAGARAN REEF	1952	MASON	3,950	? D		CAMBRIAN	6,622	1	ABANDONED 1962			160						
AOF		NIAGARAN REEF	1952		4,224	20 D	46.2			1	ABANDONED 1958			40		60,532			1,513	
	HAMLIN TWP., 19N-18W, SECTION 27																			
G-C	VICTORY 5-19N-17W	NIAGARAN REEF	1974	MASON	4,199	200 D	69.0	NIAGARAN	4,779	1	0	0	1	80	0	17			1	
	VICTORY TWP., 19N-17W, SECTION 5																			
G-C	VICTORY 7-19N-17W	NIAGARAN REEF	1973	MASON	4,052	369 D	61.2	NIAGARAN	4,730	2	0	0	2	160	15,398	29,861	163,103	250,778	187	
	VICTORY TWP., 19N-17W, SECTION 7																			
OF	VICTORY 18-19N-17W	NIAGARAN REEF	1973	MASON	4,344	22 D	50.0	NIAGARAN	4,658	2	0	0	2	160	17,711	40,210	28,221	55,013	251	184
	VICTORY TWP., 19N-17W, SECTION 18																			
G-C	VICTORY 18-19N-17W POOL A	NIAGARAN REEF	1974	MASON	4,467	5 D	73.3	NIAGARAN	4,555	2	1	0	2	160	2,182	9,119	398,886	653,259	57	
	VICTORY TWP., 19N-17W, SECTION 18																			
OF	VICTORY 19-19N-17W	NIAGARAN REEF	1972	MASON	4,387	14 D		NIAGARAN	4,537	2	0	0	2	160	49,600	190,515	200,261	481,946	1,191	53
G-C	VICTORY 19-19N-17W POOL A	NIAGARAN REEF	1974	MASON	4,358	16 D	69.2	NIAGARAN	4,516	1	0	0	1	80	14,004	38,939	1,435,185	2,536,829	487	
	VICTORY TWP., 19N-17W, SECTIONS 18, 19																			
	MONTMORENCY COUNTY																			
G-C	MONTMORENCY 29-32N-1E	NIAGARAN REEF	1975	MONTMORENCY	4,794	24 D	72.3	NIAGARAN	4,939	1	0	0	1	80	0	47			1	
	MONTMORENCY TWP., 32N-1E, SECTION 29																			
	OTSEGO COUNTY																			
OF	BAGLEY 21-30N-3W	NIAGARAN REEF	1975	OTSEGO	5,962	28 D	38.6	NIAGARAN	6,219	1	0	0	1	80	2,704	7,983	1,575	1,575	100	50
	BAGLEY TWP., 30N-3W, SECTION 21																			
OF	BAGLEY 23-30N-3W	NIAGARAN REEF	1973	OTSEGO	5,868	13 D	43.3	NIAGARAN	6,194	2	0	0	2	120	19,595	93,931	14,048	69,287	783	70
	BAGLEY TWP., 30N-3W, SECTIONS 22, 23																			
OF	BAGLEY 25-30N-3W	NIAGARAN REEF	1972	OTSEGO	6,090	55 D	44.9	NIAGARAN	6,372	1	0	0	1	62	58,999	333,577	169,167	495,391	5,380	
	BAGLEY TWP., 30N-3W, SECTION 25																			
OF	BAGLEY 25-30N-3W POOL A	A-1 CARBONATE & NIAGARAN REEF	1972	OTSEGO	6,070	30 D	41.8	NIAGARAN	6,451	3	1	0	3	240	152,915	587,994	290,014	955,525	2,450	41
	BAGLEY TWP., 30N-3W, SECTION 25																			
OF	BAGLEY 35-30N-3W	NIAGARAN REEF	1974	OTSEGO	6,110	50 D	43.0	NIAGARAN	6,365	1	0	0	1	240	122,835	194,471	102,628	160,126	810	
	BAGLEY TWP., 30N-3W, SECTION 35																			
G-C	CHARLTON 1-30N-1W	NIAGARAN REEF	1975	OTSEGO	5,885	6 D	68.1	NIAGARAN	6,165	1	0	0	1	80	77,043	77,043	1,068,804	1,068,804	963	
	CHARLTON TWP., 30N-1W, SECTION 1																			

POOL CLASSIFICATION

OF ACTIVE OIL FIELD OR POOL
AOF ABANDONED OIL FIELD OR POOL
GF ACTIVE GAS FIELD OR POOL
AGF ABANDONED GAS FIELD OR POOL
G-C GAS-CONDENSATE FIELD OR POOL
AG-C ABANDONED GAS-CONDENSATE FIELD OR POOL
GS GAS STORAGE RESERVOIR

	FIELD NAME	PRODUCING FORMATION OR POOL	YEAR OF DISC	COUNTY TOWNSHIP / PRODUCING SECTIONS	PAY ZONE DEPTH IN FEET	PAY ZONE THICKNESS AND LITHOLOGY	PAY ZONE OIL GRAVITY A.P.I.	DEEPEST FORMATION OR POOL TESTED	DEPTH IN FEET	NUMBER OF WELLS TO END (1976)	NUMBER OF WELLS COMP IN (1976)	NUMBER OF WELLS ABAND IN (1976)	NUMBER OF WELLS ACTIVE AT END (1976)	DRILLED ACRES	OIL PRODUCTION - BBLS PRODUCED IN 1976	OIL PRODUCTION - BBLS CUMULATIVE THROUGH 1976	GAS PRODUCTION - Mcf PRODUCED IN 1976	GAS PRODUCTION - Mcf CUMULATIVE THROUGH 1976	RECOVERY PER ACRE DRILLED (BBLS)	TOTAL BARRELS BRINE PER DAY
OF	CHARLTON 3-30N-1W	NIAGARAN REEF	1972	OTSEGO	5,432	226 D	46.4	NIAGARAN	6,216	1	0	0	1	80	109,234	296,890	101,187	222,432	3,686	
	CHARLTON TWP., 30N-1W, SECTION 9																			
OF	CHARLTON 10-30N-1W	NIAGARAN REEF	1974	OTSEGO	6,093	96 D	45.8	NIAGARAN	6,265	1	0	0	1	80	111,002	152,683	94,526	131,702	1,909	
	CHARLTON TWP., 30N-1W, SECTION 10																			
OF	CHARLTON 12-30N-1W	NIAGARAN REEF	1973	OTSEGO	5,935	127 D	50.3	NIAGARAN	6,330	2	0	0	2	160	22,498	59,389	104,587	150,405	371	1
	CHARLTON TWP., 30N-1W, SECTIONS 12, 13																			
OF	CHARLTON 24-30N-1W	NIAGARAN REEF	1973	OTSEGO	6,234	26 D		NIAGARAN	6,390	1	0	0	1	80	26,237	77,084	158,328	429,689	964	
	CHARLTON TWP., 30N-1W, SECTION 24																			
G-C	CHARLTON 31-30N-1W	A-2 CARBONATE & NIAGARAN REEF	1972	OTSEGO	5,676 6,166	13 D 104 D	51.8	NIAGARAN	6,400	2	0	0	2	430	66,598	169,453	831,748	2,775,117	394	
	CHARLTON TWP., 30N-1W, SECTION 31																			
OF	CHARLTON 4-31N-1W	NIAGARAN REEF	1970	OTSEGO	4,766	116 D	55	CLINTON	5,270	2	0	0	2	480	276,908	1,584,071	376,831	1,297,732	1,980	1
	CHARLTON TWP., 31N-1W, SECTION 4																			
OF	CHARLTON 4-31N-1W POOL A	NIAGARAN REEF	1973	OTSEGO	4,780	15 D	44.3	NIAGARAN	4,860	1	0	0	1	320	PRODUCTION COMBINED WITH CHARLTON 4					
	REDETERMINED A SEPARATE POOL IN 1974			CHARLTON TWP., 31N-1W, SECTION 5				DIRECTIONAL HOLE IN WHICH THE SURFACE LOCATION IS 4-31N-1W AND THE SUBSURFACE LOCATION IS 5-31N-1W												
OF	CHARLTON 7-31N-1W	NIAGARAN REEF	1974	OTSEGO	4,897	16 D	46.1	NIAGARAN	5,184	3	1	0	3	240	200	1,048	SHUT-IN		4	
	CHARLTON TWP., 31N-1W, SECTION 7																			
OF	CHARLTON 9-31N-1W	SALINA-NIAGARAN REEF	1972	OTSEGO	4,843	3 D	44.2	NIAGARAN	5,045	2	0	0	2	160	216,842	748,933	186,432	653,849	4,681	
	CHARLTON TWP., 31N-1W, SECTION 9																			
OF	CHARLTON 27-31N-1W	NIAGARAN REEF	1972	OTSEGO	5,202	26 D	45.4	NIAGARAN	5,228	5	1	0	5	360	263,306	950,706	385,543	1,036,083	2,641	
	CHARLTON TWP., 31N-1W, SECTIONS 27, 28																			
G-C	CHARLTON 28-31N-1W	SALINA-NIAGARAN REEF	1974	OTSEGO	4,923	45 D	64.8	NIAGARAN	5,421	2	0	0	2	80	136,796	236,009	640,651	966,495	2,950	
	CHARLTON TWP., 31N-1W, SECTION 28								INCLUDES 1 WELL WHICH MAY BE ASSIGNED TO CHARLTON 28-31N-1W, POOL A											
OF	CHARLTON 30-31N-1W	NIAGARAN REEF	1975	OTSEGO	5,435	11 D	43.4	NIAGARAN	5,650	2	0	0	2	160	186,543	310,605	85,449	146,211	1,941	
	CHARLTON TWP., 31N-1W, SECTION 30																			
OF	CHARLTON 31-31N-1W	NIAGARAN REEF	1973	OTSEGO	5,391	54 D	41.9	NIAGARAN	5,770	2	0	0	2	240	168,411	338,115	65,488	140,843	1,409	
	CHARLTON TWP., 31N-1W, SECTIONS 30, 31																			
OF	CHARLTON 34-31N-1W	NIAGARAN REEF	1974	OTSEGO	5,492	10 D	44.5	NIAGARAN	5,830	2	1	0	2	160	121,496	154,709	79,258	92,116	967	
	CHARLTON TWP., 31N-1W, SECTION 34																			
G-C	CHESTER 10-29N-2W	NIAGARAN REEF	1975	OTSEGO	6,145	47 D	68.5	NIAGARAN	6,644	1	0	0	1	240	82,091	125,897	1,026,747	1,419,018	525	
	CHESTER TWP., 29N-2W, SECTION 10																			
OF	CHESTER, SEC. 15	A-2 CARBONATE & LOWER NIAGARAN	1951	OTSEGO	6,610	5 D	41.0	NIAGARAN	6,870	2	0	0	1	80	3,435	37,591	143,307	335,108	470	2
	CHESTER TWP., 29N-2W, SECTIONS 15, 22																			
G-C	CHESTER, SEC. 15	NIAGARAN REEF	1970	OTSEGO	5,930	348 D	COND.	CLINTON	6,697	1	0	0	1	160	12,627	264,595	1,275,547	9,925,779	1,654	
	CHESTER TWP., 29N-2W, SECTION 15																			
G-C	CHESTER 21-29N-2W	NIAGARAN REEF	1973	OTSEGO	6,273	29 D		NIAGARAN	6,770	1	0	0	1	160	10,982	127,641	1,059,877	4,003,191	798	
	CHESTER TWP., 29N-2W, SECTION 21																			
OF	CHESTER 2-30N-2W	NIAGARAN REEF	1971	OTSEGO	5,653	247 D	43.2	NIAGARAN	6,051	4	0	0	4	320	146,490	310,291	37,981	63,812	970	7
	CHESTER TWP., 30N-2W, SECTIONS 2, 3, 10, 11																			
OF	CHESTER 5-30N-2W	NIAGARAN REEF	1972	OTSEGO	5,538	10 D		NIAGARAN	5,750	1	0	0	1	40	0	3,985			100	
OF	CHESTER 5-30N-2W POOL A	A-1 CARBONATE	1975	OTSEGO	5,634	10 D	44.8	NIAGARAN	5,938	1	0	0	1	80	3,569	4,836	8	8	61	
	CHESTER TWP., 30N-2W, SECTION 5																			
OF	CHESTER 6-30N-2W	A-1 CARBONATE	1973	OTSEGO	5,659	21 D	43.0	NIAGARAN	6,022	2	0	0	2	160	162,319	369,357	95,383	227,529	2,309	3
	CHESTER TWP., 30N-2W, SECTIONS 5, 6																			
OF	CHESTER 10-30N-2W	NIAGARAN REEF	1972	OTSEGO	5,986	28 D		NIAGARAN	6,200	1	0	0	1	80	50,889	402,160	69,774	218,740	5,027	85
	CHESTER TWP., 30N-2W, SECTION 10																			
OF	CHESTER 10-30N-2W POOL A	NIAGARAN REEF	1973	OTSEGO	5,898	66 D	42.6	NIAGARAN	6,240	2	0	0	2	160	195,447	381,288	89,725	164,926	2,383	1
	CHESTER TWP., 30N-2W, SECTION 10																			
OF	CHESTER 16-30N-2W	NIAGARAN REEF	1971	OTSEGO	5,760	300 D		NIAGARAN	6,350	5	0	0	5	360	224,782	1,261,785	223,044	805,066	3,505	20
	CHESTER TWP., 30N-2W, SECTIONS 16, 21																			
OF	CHESTER 18-30N-2W	NIAGARAN REEF	1971	OTSEGO	5,930	20 D	45	NIAGARAN	6,330	12	0	0	12	840	969,938	3,997,704	593,382	2,274,993	4,759	30
	CHESTER TWP., 30N-2W, SECTIONS 8, 17, 18, 19																			
OF	CHESTER 19-30N-2W	NIAGARAN REEF	1971	OTSEGO	6,054	30 D	44.4	NIAGARAN	6,512	2	0	0	2	120	164,078	624,731	108,719	375,225	5,206	1
	CHESTER TWP., 30N-2W, SECTION 19; BAGLEY TWP., 30N-3W, SECTION 24																			
OF	CHESTER 21-30N-2W	NIAGARAN REEF	1970	OTSEGO	5,772	283 D	43.0	CLINTON	6,483	3	0	0	3	200	240,681	1,374,393	228,833	921,394	6,872	4
	CHESTER TWP., 30N-2W, SECTION 21								CENTRAL FACILITY -- PRODUCTION FIGURES INCLUDE CHESTER 16 & 18											
OF	CHESTER 30-30N-2W	NIAGARAN REEF	1973	OTSEGO	6,232	39 D	37.7	NIAGARAN	6,350	1	0	0	1	80	105,097	224,213	62,895	123,556	2,803	
	CHESTER TWP., 30N-2W, SECTION 30																			
OF	DOVER 12-31N-2W	SALINA-NIAGARAN REEF	1974	OTSEGO	4,932	5 D	43.4	NIAGARAN	5,044	1	0	0	1	80	0	217			3	
	DOVER TWP., 31N-2W, SECTION 12																			
OF	DOVER 21-31N-2W	SALINA-NIAGARAN REEF	1975	OTSEGO	5,210	10 D	41.2	NIAGARAN	5,527	1	0	0	1	80	9,929	10,440	1,491	1,491	131	90
	DOVER TWP., 31N-2W, SECTION 21							DIRECTIONAL HOLE IN WHICH THE SURFACE LOCATION IS IN OTSEGO COUNTY, DOVER TOWNSHIP SECTION 22-31N-2W; AND THE SUBSURFACE LOCATION IS IN OTSEGO COUNTY, DOVER TOWNSHIP SECTION 21-31N-2W												
OF	DOVER 22-31N-2W	SALINA-NIAGARAN REEF	1975	OTSEGO	5,223	10 D	41.1	NIAGARAN	5,531	1	0	0	1	80	20,218	20,762	2,097	2,097	260	90
	DOVER TWP., 31N-2W, SECTION 22																			
OF	DOVER 27-31N-2W	A-1 CARBONATE	1975	OTSEGO	5,179	49 D		NIAGARAN	5,564	1	0	0	1	80	5,713	9,149			114	8
	DOVER TWP., 31N-2W, SECTION 27																			
OF	DOVER 33-31N-2W	NIAGARAN REEF	1974	OTSEGO	5,413	9 D	43.6	NIAGARAN	5,678	3	0	0	3	240	225,758	406,267	128,424	232,739	1,693	85
	DOVER TWP., 31N-2W, SECTIONS 28, 33																			
OF	DOVER 35-31N-2W	NIAGARAN REEF	1973	OTSEGO	5,475	41 D	42.3	NIAGARAN	5,810	3	0	0	3	240	131,395	226,862	96,143	141,569	945	10
	DOVER TWP., 31N-2W, SECTION 35																			
OF	DOVER 36-31N-2W	NIAGARAN REEF	1973	OTSEGO	5,485	135 D	42.7	NIAGARAN	5,835	3	0	0	3	240	174,082	487,208	126,296	321,550	2,030	14
	DOVER TWP., 31N-2W, SECTIONS 35, 36																			

POOL CLASSIFICATION

OF ACTIVE OIL FIELD OR POOL
AOF ABANDONED OIL FIELD OR POOL
GF ACTIVE GAS FIELD OR POOL
AGF ABANDONED GAS FIELD OR POOL
G-C GAS-CONDENSATE FIELD OR POOL
AG-C ABANDONED GAS-CONDENSATE FIELD OR POOL
GS GAS STORAGE RESERVOIR

	FIELD NAME	PRODUCING FORMATION OR POOL	YEAR OF DISC	COUNTY TOWNSHIP / PRODUCING SECTIONS	PAY ZONE DEPTH IN FEET	PAY ZONE THICKNESS AND LITHOLOGY	PAY ZONE OIL GRAVITY A.P.I.	DEEPEST FORMATION OR POOL TESTED	DEPTH IN FEET	NUMBER OF WELLS TO END (1976)	NUMBER OF WELLS COMP IN (1976)	NUMBER OF WELLS ABAND IN (1976)	NUMBER OF WELLS ACTIVE AT END (1976)	DRILLED ACRES	OIL PRODUCTION - BBLS PRODUCED IN 1976	OIL PRODUCTION - BBLS CUMULATIVE THROUGH 1976	GAS PRODUCTION - Mcf PRODUCED IN 1976	GAS PRODUCTION - Mcf CUMULATIVE THROUGH 1976	RECOVERY PER ACRE DRILLED (BBLS)	TOTAL BARRELS BRINE PER DAY
OF	HAYES 11-29N-4W	NIAGARAN REEF	1969	OTSEGO	6,180	57 D	47.0	NIAGARAN	6,515	5	1	0	4	800	56,587	730,143	25,776	292,115	913	151
	HAYES TWP., 29N-4W, SECTIONS 2, 11, 12, 14																			
OF	HAYES 15-29N-4W	NIAGARAN REEF	1973	OTSEGO	6,350	39 D	42.6	NIAGARAN	6,615	2	0	0	2	160	275,220	889,200	142,375	489,962	5,558	14
	HAYES TWP., 29N-4W, SECTION 15																			
OF	HAYES 21-29N-4W	NIAGARAN REEF	1972	OTSEGO	6,581	6 D	44.9	NIAGARAN	6,972	3	0	0	3	240	323,805	950,774	202,285	634,588	3,962	6
	HAYES TWP., 29N-4W, SECTION 21																			
OF	HAYES 29-29N-4W	SALINA-NIAGARAN REEF	1973	OTSEGO	6,474	53 D	42.7	NIAGARAN	6,982	2	0	0	2	160	220,066	289,430	136,058	184,766	1,809	2
	HAYES TWP., 29N-4W, SECTION 29																			
OF	HAYES 32-29N-4W	NIAGARAN REEF	1972	OTSEGO	6,462	5 D	42.7	NIAGARAN	6,873	3	0	0	3	320	190,410	436,737	93,130	241,635	1,365	246
	HAYES TWP., 29N-4W, SECTIONS 29, 31, 32																			
OF	HAYES 34-29N-4W	NIAGARAN REEF	1974	OTSEGO	6,836	25 D	42.4	NIAGARAN	7,050	2	0	0	2	160	133,600	293,533	69,696	159,375	1,835	6
	HAYES TWP., 29N-4W, SECTIONS 27, 34																			
OF	HAYES 36-29N-4W	NIAGARAN REEF	1976	OTSEGO	6,464	65 D	47.5	NIAGARAN	6,875	1	1	0	1	80	331	331			4	
	HAYES TWP., 29N-4W, SECTION 36																			
OF	OTSEGO LAKE 3-29N-3W	SALINA-NIAGARAN REEF	1971	OTSEGO	6,272	122 D	44.2	NIAGARAN	6,860	2	0	0	2	120	69,098	565,415	243,402	765,573	4,712	
	OTSEGO LAKE TWP., 29N-3W, SECTIONS 3, 10																			
OF	OTSEGO LAKE 26-29N-3W	NIAGARAN REEF	1975	OTSEGO	6,810	12 D	52.7	NIAGARAN	6,968	1	0	0	1	80	2,997	3,716			47	
	OTSEGO LAKE TWP., 29N-3W, SECTION 26																			
	PRESQUE ISLE COUNTY																			
G-C	BISMARCK 26-34N-4E	NIAGARAN REEF	1976	PRESQUE ISLE	3,302	65 D		NIAGARAN	3,589	1	1	0	1	80			SHUT-IN			
	BISMARCK TWP., 34N-4E, SECTION 26																			
OF	NORTH ALLIS 29-35N-2E	NIAGARAN REEF	1969	PRESQUE ISLE	2,727	10 D		PRECAMBRIAN	5,940	1	0	0	1	40	0	4,748			119	
	NORTH ALLIS TWP., 35N-2E, SECTION 29																			
GF	PULAWSKI 12-34N-6E	SALINA-NIAGARAN REEF	1976	PRESQUE ISLE	2,369	76 D		NIAGARAN	2,840	1	1	0	1	80			SHUT-IN			
	PULAWSKI TWP., 34N-6E, SECTION 12																			
	WEXFORD COUNTY																			
OF	WEXFORD 5-24N-12W	NIAGARAN REEF	1974	WEXFORD	5,820	127 D		NIAGARAN	6,119	3	2	0	3	80	35,311	42,532	21,203	21,203	532	
	WEXFORD TWP., 24N-12W, SECTION 5																			
OF	WEXFORD 5-24N-12W POOL A	NIAGARAN REEF	1976	WEXFORD	5,785	229 D	48.3	NIAGARAN	6,192	1	1	0	1	80	617	617			8	
	WEXFORD TWP., 24N-12W, SECTION 5																			
OF	WEXFORD 6-24N-12W	NIAGARAN REEF	1975	WEXFORD	5,775	153 D	41.1	NIAGARAN	6,061	1	0	0	1	240	61,902	62,061	28,408	28,408	259	
	WEXFORD TWP., 24N-12W, SECTION 6																			
G-C	WEXFORD 9-24N-12W	NIAGARAN REEF	1973	WEXFORD	6,232	4 D	69.8	NIAGARAN	6,265	1	0	0	1	80	4,626	12,260	30,332	109,311	153	
	WEXFORD TWP., 24N-12W, SECTION 9																			
G-C	WEXFORD 9-24N-12W POOL A	NIAGARAN REEF	1973	WEXFORD	6,041	101 D	69.8	NIAGARAN	6,414	1	0	0	1	80			SHUT-IN			
	WEXFORD TWP., 24N-12W, SECTION 9																			
OF	WEXFORD 9-24N-12W POOL B	NIAGARAN REEF	1974	WEXFORD	6,081	71 D	42.4	NIAGARAN	6,324	3	2	0	3	240	47,072	78,675	41,920	54,896	328	
	WEXFORD TWP., 24N-12W, SECTION 9																			
G-C	WEXFORD 10-24N-12W	NIAGARAN REEF	1972	WEXFORD	6,124	107 D	68.9	NIAGARAN	6,352	1	0	0	1	160	18,041	75,789	1,067,801	2,125,609	474	
	WEXFORD TWP., 24N-12W, SECTION 10																			
G-C	WEXFORD 18-24N-12W	NIAGARAN REEF	1973	WEXFORD	5,842	96 D		NIAGARAN	6,130	2	0	0	2	280	26,105	44,831	1,484,841	2,178,190	160	
OF	WEXFORD 18-24N-12W POOL A	NIAGARAN REEF	1975	WEXFORD-MANISTEE	5,885	54 D	42.1	NIAGARAN	6,165	3	0	0	3	240	164,671	165,279	123,537	123,537	689	
	WEXFORD TWP., 24N-12W, SECTION 18; CLEON TWP., MANISTEE CO., SECTION 13																			
									TOTALS					54,472	19,084,477	48,741,245	94,506,351	239,466,726		5,666

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.

TABLE 3 **MICHIGAN OIL AND GAS FIELDS**

POOL CLASSIFICATION: OF ACTIVE OIL FIELD OR POOL; AOF ABANDONED OIL FIELD OR POOL; GF ACTIVE GAS FIELD OR POOL; AGF ABANDONED GAS FIELD OR POOL; G-C GAS-CONDENSATE FIELD OR POOL; AG-C ABANDONED GAS-CONDENSATE FIELD OR POOL; GS GAS STORAGE RESERVOIR

Pool Class.	Field Name	Producing Formation or Pool	Year of Disc	County / Township / Producing Sections	Pay Zone: Depth in Feet	Pay Zone: Thickness and Lithology	Pay Zone: Oil Gravity A.P.I.	Deepest Formation or Pool Tested	Depth in Feet	Wells 1976: To End	Wells 1976: Comp In	Wells 1976: Aband In	Wells 1976: Active at End	Drilled Acres	Oil Production - BBLS: Produced in 1976	Oil Production - BBLS: Cumulative through 1976	Gas Production - Mcf: Produced in 1976	Gas Production - Mcf: Cumulative through 1976	Recovery per Acre Drilled (BBLS)	Total Barrels Brine per Day
OF	ADAIR	SALINA-NIAGARAN	1961	ST. CLAIR	2,719	10 D	41.4	NIAGARAN	2,755	14	0	0	10	560	5,525	328,864	0	468,773	557	128
				CHINA TWP., 4N-16E, SECTION 7 CASCO TWP., 4N-15E, SECTIONS 12, 13					3 OF ORIGINAL 18 WELLS TRANSFERRED TO PUTTYGUT											
OF	ADAMS	TRAVERSE	1937	ARENAC-BAY	2,032	15 L	37.0	BOIS BLANC	5,079	24	0	0	7	240	1,770					112
OF		DUNDEE	1937		2,958	15 L	34.7			31	0	0	17	310	6,453					47
OF		DETROIT RIVER SZ	1956		3,943	5 L	39.6									CUMULATIVE PRODUCTION FROM ALL POOLS COMBINED				
OF		RICHFIELD	1941		4,278	5 L	35.5			31	0	0	7	1,080	3,055	1,548,798			950	2
				ADAMS TWP., 19N-3E, SECTIONS 21, 23 THROUGH 27, 34, 35, 36 DEEP RIVER TWP., 19N-4E, SECTION 31 GIBSON TWP., 18N-3E, SECTIONS 1, 2								THE 7 WELLS INCLUDE 4 RICHFIELD, 1 SOUR ZONE, AND 2 DUAL COMPLETIONS, RICHFIELD & SOUR ZONE								
AGF	ADAMS, NORTH	BEREA	1942	ARENAC	1,605	1 S		DUNDEE	3,101	1	ABANDONED		1948	40				1,280		
OF		DUNDEE	1940		2,905	15 D	32.0	DETROIT RIVER	4,489	49	0	1	18	470	28,870	9,385,156			19,968	4,480
				ADAMS TWP., 19N-3E, SECTIONS 11, 14, 15, 22, 23, 27 BEREA PRODUCTION - SECTION 4																
AGF	ADAMS, SEC. 8	TRAVERSE	1962	HILLSDALE	1,420	4 L		PRAIRIE DU CHIEN	4,169	1	ABANDONED		1965	20				18,919		
				ADAMS TWP., 6S-2W, SECTION 8																
OF	ADAMSVILLE	TRAVERSE	1976	CASS	675	5 L	28	TRAVERSE	680	1	1	0	1	40						
				ONTWA TWP., 8S-15W, SECTION 13																
GF	ADDISON 14-5N-11E	NIAGARAN REEF	1976	OAKLAND	4,261	21 D		NIAGARAN	4,470	1	1	0	1	40						
				ADDISON TWP., 5N-11E, SECTION 14																
OF	AKRON	DUNDEE	1936	TUSCOLA	2,678	17 L	37.3	NIAGARAN	7,941	50	0	0	29	1,100	18,257					103
OF		DETROIT RIVER SZ	1938		3,422	11 D	35.9			27	0	0	15	500	10,740	2,040,536			1,275	11
OF		RICHFIELD	1954		3,774	6 D	39.2					THE 15 WELLS INCLUDE 2 RICHFIELD, 10 SOUR ZONE AND 3 DUAL COMPLETIONS - SZ & DD								
OF		A-2 CARBONATE	1973		6,868	107 D	46.9			1	0	0	1	160	0	1,472	35,016	35,016	3	
GF		A-1 CARBONATE	1973		7,452	60 D				2	0	0	2	320			PRODUCTION COMBINED WITH A-1 CARBONATE			
				AKRON TWP., 14N-8E, SECTIONS 19, 20, 21, 28, 29, 30 WISNER TWP., 14N-7E, SECTIONS 22, 23, 24, 25, 26 SALINA PRODUCTION - SECTIONS 32, 33, 14N-8E																
AOF	ALAMO	TRAVERSE	1949	KALAMAZOO	1,310	2 L		TRAVERSE	1,420	16	ABANDONED		1962	160		27,545			172	
				ALAMO TWP., 1S-12W, SECTIONS 19, 29, 30																
AGF	ALBION	TRAVERSE	1941	CALHOUN	1,610	7 L		PRAIRIE DU CHIEN	4,623	4	ABANDONED		1948	120				6,114		
				ALBION TWP., 3S-4W, SECTIONS 14, 15																
	ALBION-PULASKI-SCIPIO TREND: FIELD AND PRODUCTION DATA LISTED BY TOWNSHIP AND COUNTY																			
GF	CAL-LEE	NIAGARAN REEF	1962	CALHOUN	3,036	8 D		PRAIRIE DU CHIEN	4,975	9	1	0	6	520	60	434	158,506	2,217,576	1	
				LEE TWP., 1S-5W, SECTIONS 9, 15, 16, 22					1 WELL TRANSFERRED TO LEE 16, 1S-5W GAS STORAGE FIELD											
AOF	LEE TWP.	NIAGARAN REEF	1961	CALHOUN	3,060	20 D	24.2	PRAIRIE DU CHIEN	4,926	1	ABANDONED		1972	80	CUMULATIVE PRODUCTION COMBINED WITH TRENTON-BLACK RIVER					
OF		TRENT.-BLK.RIVER	1960		4,600	24+ D				31	0	0	22	450	48,867	2,533,615			5,630	2,035
				LEE TWP., 1S-5W, SECTIONS 17, 22, 23, 25, 26, 36																
OF	SHERIDAN TWP.	TRENT.-BLK.RIVER	1960	CALHOUN	4,179	10+ D	40.0	PRAIRIE DU CHIEN	4,791	45	0	2	36	810	64,820	4,731,617	101,125	3,336,913	5,842	954
				SHERIDAN TWP., 2S-4W, SECTIONS 17, 18, 19, 20, 21, 28, 33																
OF	ALBION TWP.	TRENT.-BLK.RIVER	1958	CALHOUN	3,952	? D	44.0	PRAIRIE DU CHIEN	4,623	143	0	0	132	2,780	408,735	23,416,837	1,732,568	44,086,415	8,423	3,310
				ALBION TWP., 3S-4W, SECTIONS 3, 4, 10, 11, 14, 15, 22, 23, 26, 27, 35, 36																
OF	PULASKI-HOMER TWPS.	TRENT.-BLK.RIVER	1959	JACKSON-CALHOUN	3,766	66+ D	39.6	PRAIRIE DU CHIEN	4,395	140	0	0	134	2,680	428,720	26,284,364	2,968,967	47,735,787	9,808	5,189
				PULASKI TWP., 4S-3W, SECTIONS 6, 7, 8, 17, 18, 19, 20, 21, 28, 29, 32, 33, 34 HOMER TWP., 4S-4W, SECTIONS 1, 12																
OF	SCIPIO-FAYETTE-MOSCOW TWPS.	TRENT.-BLK.RIVER	1957	HILLSDALE	3,576	50+ D	41.4	PRAIRIE DU CHIEN	4,202	206	1	0	187	3,560	942,208	48,110,180	3,320,367	59,599,557	13,514	4,320
				SCIPIO TWP., 5S-3W, SECTIONS 3, 4, 10 THROUGH 15, 23, 24, 25, 26 FAYETTE TWP., 5S-3W, SECTIONS 35, 36 MOSCOW TWP., 5S-2W, SECTIONS 19, 31, 32																
OF	ADAMS TWP.	TRENT.-BLK.RIVER	1959	HILLSDALE	3,984	6+ D	42.0	PRAIRIE DU CHIEN	4,162	88	11	1	69	1,480	199,727	7,633,402	764,385	11,900,177	5,158	335
				ADAMS TWP., 6S-2W, SECTIONS 3, 4, 5, 6, 7, 8, 10, 11, 14, 15, 16, 17, 23																
	TREND TOTAL (NOTE: ONLY TRENTON-BLACK RIVER FIGURES INCLUDED IN TREND TOTALS)-----									663	13	3	586	11,840	2,093,137	112,710,449	8,905,918	168,876,425	9,520	16,143
	SEE CENTER SPREAD MAP FOR TOWNSHIPS ASSOCIATED WITH ALBION-SCIPIO TREND																			
AGF	ALGONAC	ANTRIM	1947	ST. CLAIR	302	6 SH		CABOT HEAD	2,504	2	ABANDONED		1951	80				7,830		
				CLAY TWP., 3N-16E, SECTIONS 20, 29																
OF	ALLEGAN	TRAVERSE	1937	ALLEGAN	1,563	2 L	38.0	CINCINNATIAN	2,987	19	0	0	1	190	215	18,427	FIELD REACTIVATED-1971		97	2
				ALLEGAN TWP., 2N-13W, SECTIONS 2, 5, 9, 10, 13, 22, 23, 26, 27, 34, 35, 36																
GF	ALPINE	NIAGARAN REEF	1963	ST. CLAIR	3,151	25 D		CLINTON	3,470	3	0	0	2	120			114,395	1,625,951		
				WALES TWP., 6N-15E, SECTION 32																
OF	ARBELA	DUNDEE	1946	TUSCOLA	2,557	7 L	35.3	DETROIT RIVER	3,375	35	0	0	2	350	2,688	342,125			978	
				ARBELA TWP., 10N-7E, SECTIONS 28, 33, 34																
AOF	ASHLAND, SEC. 8	TRAVERSE	1959	NEWAYGO	2,238	1 L		TRAVERSE	2,239	1	ABANDONED		1962	10		267			27	
				ASHLAND TWP., 11N-13W, SECTION 8																
GF	ASHTON	MICHIGAN STRAY	1946	OSCEOLA	1,215	2 S		DETROIT RIVER	3,779	3	0	0	1	400				205,680		
OF		TRAVERSE	1945		2,950	4 L	42.0			4	0	0	3	80	1,152	CUMULATIVE PRODUCTION INCLUDED WITH DUNDEE				80
OF		DUNDEE	1945		3,645	5 L	40.0			4	0	0	4	200	3,743	482,274			709	6
				LINCOLN TWP., 18N-10W, SECTIONS 5, 6																
AGF	ASHTON, EAST	MICHIGAN STRAY	1962	OSCEOLA	1,297	5 S		REED CITY	3,750	1	ABANDONED		1970	160						
				LINCOLN TWP., 18N-10W, SECTION 3																
OF	ATLANTA	DETROIT RIVER	1945	MONTMORENCY	2,183	5 D	36.2	DETROIT RIVER	2,550	3	0	0	1	30	0	7,688			256	
				AVERY TWP., 30N-3E, SECTIONS 10, 15																
OF	AU GRES	DETROIT RIVER SZ	1956	ARENAC	3,822	14 L	31.4	RICHFIELD	4,315	DETROIT RIVER SZ COMBINED WITH RICHFIELD										
OF		RICHFIELD	1953		4,152	11 L	36.5			4	0	0	3	160	2,505	58,570			366	
				AU GRES TWP., 19N-6E, SECTIONS 2, 3, 10, 11									THE 3 WELLS INCLUDE 2 RICHFIELD AND 1 RICHFIELD AND SOUR ZONE								
GF	AURELIUS 26-2N-2W	NIAGARAN REEF	1974	INGHAM	3,954	100 D		NIAGARAN	4,445	2	0	0	2	160	1,365	4,686	559,989	1,365,989	29	
				AURELIUS TWP., 2N-2W, SECTION 26																
OF	AURELIUS 35-2N-2W	NIAGARAN REEF	1971	INGHAM	3,942	60 D	37.3	NIAGARAN	4,445	5	1	0	5	320	353,832	1,115,023	199,732	579,227	3,484	
				AURELIUS TWP., 2N-2W, SECTIONS 26, 35, 36																

POOL CLASSIFICATION: OF ACTIVE OIL FIELD OR POOL; AOF ABANDONED OIL FIELD OR POOL; GF ACTIVE GAS FIELD OR POOL; AGF ABANDONED GAS FIELD OR POOL; G-C GAS-CONDENSATE FIELD OR POOL; AG-C ABANDONED GAS-CONDENSATE FIELD OR POOL; GS GAS STORAGE RESERVOIR

Pool Class.	Field Name	Producing Formation or Pool	Year of Disc	County / Township / Producing Sections	Pay Zone: Depth in Feet	Pay Zone: Thickness and Lithology	Pay Zone: Oil Gravity A.P.I.	Deepest Formation or Pool Tested	Depth in Feet	Wells 1976: To End	Wells 1976: Comp In	Wells 1976: Aband In	Wells 1976: Active at End	Drilled Acres	Oil Production - BBLS: Produced in 1976	Oil Production - BBLS: Cumulative through 1976	Gas Production - Mcf: Produced in 1976	Gas Production - Mcf: Cumulative through 1976	Recovery per Acre Drilled (BBLS)	Total Barrels Brine per Day
GS	AUSTIN	REFER TO TABLE 4 DEVELOPED GAS STORAGE RESERVOIRS																		
AOF	BANGOR	TRAVERSE	1939	VAN BUREN	1,002	2 L	29.5	TRENTON	2,552	65	ABANDONED 1959			610		933,965			1,531	
				BANGOR TWP., 2S-16W, SECTIONS 4, 5, 9, 10, 14, 15, 16, 21, 28, 29																
OF	BARD	DUNDEE	1949	GLADWIN	3,933	6 L	42.8	DUNDEE	4,017	17	0	0	2	170	2,234	584,289			3,437	140
				BEAVERTON TWP., 17N-2W, SECTIONS 5, 6 GROUT TWP., 18N-2W, SECTIONS 31, 32																
AOF	BARTON	TRAVERSE	1947	NEWAYGO	3,097	1 L	30.0	DETROIT RIVER	3,745	3	ABANDONED 1963			50		20,227			405	
				BARTON TWP., 16N-11W, SECTION 16																
AOF	BEAVER, SEC. 31	BEREA	1954	BAY	2,413	16 SL		SYLVANIA	4,754	1	ABANDONED 1961			10		1,053			105	
				BEAVER TWP., 15N-3E, SECTION 31																
OF	BEAVER CREEK UNIT	RICHFIELD	1947	CRAWFORD-KALKASKA	4,160	20 D	44.7	ST. PETER	10,142	105	0	0	52	4,240	537,825	11,369,976	124,544	18,795,185	2,682	1,413
				BEAVER CREEK TWP., 25N-4W, SECTIONS 7, 8, 16 THROUGH 21, 27, 28, 29 GARFIELD TWP., 25N-5W, SECTIONS 12, 13																
OF	BEAVERTON	DUNDEE	1934	GLADWIN	3,929	12 L	41.3	RICHFIELD	5,225	26	0	0	2	330	2,766	889,236			2,695	65
				BEAVERTON TWP., 17N-2W, SECTIONS 2, 3, 11, 13																
OF	BEAVERTON, SOUTH	TRAVERSE	1956	GLADWIN	3,231	6 L	41.0	DETROIT RIVER	4,977	TRAVERSE COMBINED WITH DUNDEE										
OF		DUNDEE	1936		3,845	12 L	34.5			33	0	0	19	700	15,559	1,750,821			2,501	33
				BEAVERTON TWP., 17N-2W, SECTIONS 26, 27, 35, 36 TOBACCO TWP., 17N-1W, SECTION 31								THE 19 WELLS INCLUDE 18 DUNDEE & 1 DUNDEE & TRAVERSE								
OF	BEAVERTON, WEST	DUNDEE	1943	GLADWIN	3,876	2 L	41.2	DETROIT RIVER	5,094	7	0	0	4	260	5,365	214,060			823	30
				BEAVERTON TWP., 17N-2W, SECTION 19																
GS	BELLE RIVER MILLS	REFER TO TABLE 4 DEVELOPED GAS STORAGE RESERVOIRS																		
OF	BELLY ACHERS	DUNDEE	1944	MONTCALM	3,470	1.3 D	48.2	DUNDEE	3,615	7	0	0	3	220	3,057	345,529			1,571	650
				HOME TWP., 12N-6W, SECTIONS 11, 14																
AOF	BENONA, SEC. 13	TRAVERSE	1949	OCEANA	1,640	3 L		DETROIT RIVER	2,276	2	ABANDONED 1956			20		4,951			248	
				BENONA TWP., 14N-18W, SECTION 13																
OF	BENTLEY	TRAVERSE	1952	GLADWIN	2,855	6 L	34.1	SYLVANIA	5,114	TRAVERSE COMBINED WITH DUNDEE & RICHFIELD										
OF		DUNDEE	1937		3,510	13 L	42.1			87	0	2	36							163
OF		RICHFIELD	1952		4,440	14 L	40.0			1	0	0	1	1,920	32,269	3,023,059			1,575	2
				BENTLEY TWP., 17N-2E, SECTIONS 16 THROUGH 21, 27, 28, 29, 34, 35							THE 37 WELLS INCLUDE 36 DUNDEE AND 1 MULTIPLE COMPLETION TRAVERSE, DUNDEE, & RICHFIELD									
OF	BERLIN	NIAGARAN	1960	ST. CLAIR	3,800	25 D	42.8	CINCINNATIAN	4,310	4	0	0	3	140	3,598	373,034			2,665	25
				BERLIN TWP., 6N-13E, SECTIONS 32, 33																
AGF	BEVENS LAKE	MICHIGAN STRAY	1952	MECOSTA	1,244	6 S		REED CITY	3,731	3	ABANDONED 1969							515,405		
OF		TRAVERSE	1951		2,997	1 L	44.2			4	0	0	1	40	359	96,958			2,424	100
GF		DUNDEE	1951		3,536	11 L				3	0	0	1	320			31,707	1,002,112		
				GREEN TWP., 16N-10W, SECTION 13																
OF	BIG HAND	NIAGARAN	1961	ST. CLAIR	2,898	5+ D	39.5	CLINTON	3,097	10	0	0	10	200	29,729	894,291	126,526	783,012	4,471	20
				COLUMBUS TWP., 5N-15E, SECTION 24																
AGF	BIG PRAIRIE	MICHIGAN STRAY	1944	NEWAYGO	1,030	5 S		REED CITY	3,322	1	ABANDONED 1961			160				152,864		
				BIG PRAIRIE TWP., 13N-11W, SECTION 16																
AGF	BIG PRAIRIE, SEC. 33	DUNDEE	1947	NEWAYGO	2,896	2 L		DUNDEE	2,900	1	ABANDONED 1952			40				62,324		
				BIG PRAIRIE TWP., 13N-11W, SECTION 33																
AGF	BIG RAPIDS	MICHIGAN STRAY	1943	MECOSTA	1,145	7 S		REED CITY	3,595	9	ABANDONED 1969			1,440				2,393,033		
AGF		DUNDEE	1965		3,420	6 L				1	ABANDONED 1974			160			0	44,498		
				BIG RAPIDS TWP., 15N-10W, SECTIONS 3, 9, 10, 11, 13																
OF	BILLINGS	DUNDEE	1949	GLADWIN	3,549	6 L	39.7	RICHFIELD	4,995	20	0	0	19	400	6,329	CUMULATIVE PRODUCTION COMBINED WITH DETROIT RIVER				2
OF		DETROIT RIVER	1950		4,070	7 D	43.5			10	0	0	9	200	3,974	837,718			1,396	3
				BILLINGS TWP., 17N-1E, SECTIONS 2, 3, 10, 11						THE 9 WELLS INCLUDE 8 SOUR ZONE & 1 SOUR ZONE & DUNDEE										
OF	BILLINGS, SOUTH	DUNDEE	1957	GLADWIN	3,540	5 ?	39.5	DETROIT RIVER	4,152	8	0	0	8	70	6,016	199,460			2,849	3
				BILLINGS TWP., 17N-1E, SECTIONS 12, 13 BENTLEY TWP., 17N-2E, SECTION 18																
OF	BIRCH-BELA	DUNDEE	1951	SAGINAW-TUSCOLA	2,504	7 L	36.0	DETROIT RIVER	3,263	31	0	0	31	350	15,302	368,007			1,051	
				BIRCH RUN TWP., 10N-6E, SECTIONS 25, 36 ARBELA TWP., 10N-7E, SECTIONS 30, 31, 32																
AOF	BIRCH RUN	BEREA	1934	SAGINAW	1,530	5 S	43.3	DUNDEE	2,646	26	ABANDONED 1951			250		215,876			864	
OF		DUNDEE	1954		2,536	10 L	36.2	DUNDEE	2,716	34	0	0	32	480	10,060	581,100			1,211	
				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)																
AOF	BISHOP	TRAVERSE	1950	NEWAYGO	2,226	3 L		TRAVERSE	2,238	7	ABANDONED 1952			110		33,327			303	
				GARFIELD TWP., 12N-13W, SECTIONS 19, 20, 30																
GF	BLISSFIELD	TRENT.-BLK.RIVER	1963	LENAWEE	2,686	9 D		GLENWOOD	3,251	1	0	0	1	40	0	567	0	52,905	14	
				BLISSFIELD TWP., 7S-5E, SECTION 5												GAS RESERVOIR PRODUCING SMALL QUANTITIES OF OIL (SHUT-IN)				
OF	BLOOMER	TRAVERSE	1944	MONTCALM-IONIA	2,640	3.3 L	42.3	DETROIT RIVER	3,271	29	0	0	3	530	2,058	1,962,077			3,702	440
				BLOOMER TWP., 9N-5W, SECTIONS 31, 32 BUSHNELL TWP., 9N-6W, SECTION 36 NORTH PLAINS TWP., 8N-5W, SECTIONS 5, 6																
AOF	BLOOMER, SEC. 18	TRAVERSE	1936	MONTCALM	2,717	6 L		DUNDEE	3,138	1	ABANDONED 1936			10		814			81	
				BLOOMER TWP., 9N-5W, SECTION 18																
OF	BLOOMINGDALE	TRAVERSE	1938	VAN BUREN	1,244	4 L	42.0	ST. PETER SS.	3,422	431	0	0	16	4,040	6,587	10,022,623			2,481	379
				BLOOMINGDALE TWP., 1S-14W, SECTIONS 1, 2, 3, 6 THROUGH 18, 24 COLUMBIA TWP., 1S-15W, SECTIONS 1, 2, 10 THROUGH 16, 23, 24 PINE GROVE TWP., 1S-13W, SECTION 18																
OF	BOYD	SALINA-NIAGARAN	1958	ST. CLAIR	2,457	292 D	37.7	PRECAMBRIAN	4,634	49	0	0	37	1,840	36,747	2,018,722	547,107	17,409,294	1,097	152
				CASCO TWP., 4N-15E, SECTIONS 29, 31, 32, W½ 28, W½ 33 IRA TWP., 3N-15E, SECTIONS 5, 6																
AOF	BREEDSVILLE	TRAVERSE	1943	VAN BUREN	1,061	2 L	33.0	DETROIT RIVER	1,445	32	ABANDONED 1961			300		285,584			952	
				GENEVA TWP., 1S-16W, SECTIONS 23, 24, 25, 26																
OF	BRINTON	DUNDEE	1967	ISABELLA	4,082	3 D		DUNDEE	4,085	1	0	0	1	40	0	19,308	SHUT-IN		483	
				COLDWATER TWP., 16N-6W, SECTION 5																
GF	BROOMFIELD-DEERFIELD	MICHIGAN STRAY	1930	ISABELLA	1,355	5 S		SYLVANIA	4,994	91	0	0	14	8,240				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																

POOL CLASSIFICATION

OF ACTIVE OIL FIELD OR POOL
AOF ABANDONED OIL FIELD OR POOL
GF ACTIVE GAS FIELD OR POOL
AGF ABANDONED GAS FIELD OR POOL
G-C GAS-CONDENSATE FIELD OR POOL
AG-C ABANDONED GAS-CONDENSATE FIELD OR POOL
GS GAS STORAGE RESERVOIR

	FIELD NAME	PRODUCING FORMATION OR POOL	YEAR OF DISC	COUNTY TOWNSHIP / PRODUCING SECTIONS	PAY ZONE DEPTH IN FEET	PAY ZONE THICKNESS AND LITHOLOGY	OIL GRAVITY & API	DEEPEST FORMATION OR POOL TESTED	DEPTH IN FEET	NUMBER OF WELLS (1976) TO COMP END	COMP IN	ABAND IN	ACTIVE AT END	DRILLED ACRES	OIL PRODUCTION - BBLS PRODUCED IN 1976	OIL PRODUCTION - BBLS CUMULATIVE THROUGH 1976	GAS PRODUCTION - Mcf PRODUCED IN 1976	GAS PRODUCTION - Mcf CUMULATIVE THROUGH 1976	RECOVERY PER ACRE DRILLED (BBLS)	TOTAL BARRELS BRINE PER DAY
GF	BRUCE	NIAGARAN REEF	1974	MACOMB	3,098			NIAGARAN	4,029	2	0	0	2	320			SHUT-IN			
	BRUCE TWP., 5N-12E, SECTIONS 30, 31																			
OF	BUCKEYE, NORTH	DUNDEE	1936	GLADWIN	3,615	14 L	39.0	SYLVANIA	5,351	287	0	0	53	3,030	99,156	19,724,258		9,834	6,510	4,665
	BUCKEYE TWP., 18N-1W, SECTIONS 1, 2, 3, 4, 9 THROUGH 15 HAY TWP., 19N-1E, SECTIONS 15, 16, 21, 22																			
AOF	BUCKEYE, SOUTH	TRAVERSE	1956	GLADWIN	2,891	3 D	42.0	DETROIT RIVER	4,802	7	ABANDONED 1960 - PRODUCTION COMBINED WITH BUCKEYE, SOUTH DUNDEE									
OF		DUNDEE	1936		3,570	11 L	39.0			197	0	1	26	2,270	26,373	5,096,080			2,245	168
OF		DETROIT RIVER SZ	1964		4,481	14 D	46.0			1	0	0	1	40	3,469	101,444			2,536	
	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																			
OF	BURDELL	DUNDEE	1959	OSCEOLA	3,678	4 L		REED CITY	3,804	6	0	0	1	120	883	155,216			1,293	60
AOF		REED CITY	1960		3,802	2 D				1	ABANDONED 1969			40						
	BURDELL TWP., 20N-10W, SECTION 19																			
AOF	BUSHNELL	DUNDEE	1935	MONTCALM	3,105	2 L	33.9	DUNDEE	3,125	1	ABANDONED 1939			10		4,035			404	
	BUSHNELL TWP., 9N-6W, SECTION 1																			
AOF	BUTMAN	TRAVERSE	1950	GLADWIN	2,789	2 L		SYLVANIA	5,027	1	ABANDONED 1953 - PRODUCTION COMBINED WITH BUTMAN RICHFIELD									
AOF		DUNDEE	1949		3,596	6 L	41.4			1	ABANDONED 1963 - PRODUCTION COMBINED WITH BUTMAN RICHFIELD									
OF		RICHFIELD	1949	GLADWIN	4,921	10 D	41.6			5	0	0	5	240	4,811	331,836			1,383	21
	BUTMAN TWP., 20N-1W, SECTION 12 (TRAVERSE) BUTMAN TWP., 20N-1W, SECTIONS 11, 12, 13, 14 (DUNDEE & RICHFIELD)																			
GF	CAL-LEE	REFER TO ALBION-PULASKI-SCIPIO TREND PRIMARILY NIAGARAN OIL AND GAS PRODUCTION - LEE TOWNSHIP																		
AGF	CANNON CREEK	TRAVERSE	1950	HISSUAKEE-KALKASKA	2,695	11 L		RICHFIELD	4,810	21	ABANDONED 1956			3,360				851,369		
	NORWICH TWP., 24N-6W, SECTIONS 6, 7, 18 PIONEER TWP., 24N-7W, SECTIONS 1, 2, 12, 13 GARFIELD TWP., 25N-6W, SECTION 31 GARFIELD TWP., 25N-7W, SECTIONS 25, 36																			
GF	CAPAC	NIAGARAN	1961	ST. CLAIR	4,505	6 D		MT. SIMON SS.	6,337	54	0	0	48	9,120	0	5,983	28,124	21,333,009	1	
	MUSSEY TWP., 7N-13E, SECTIONS 4, 5, 8, 9, 16 THROUGH 21, 28, 29, 30, 32, 33 LYNN TWP., 8N-13E, SECTIONS 21, 27, 28, 29, 32, 33, 34																	GAS RESERVOIR PRODUCING SMALL QUANTITIES OF COND.		
OF	CAREY LAKE	REED CITY	1966	NEWAYGO	3,411	2 D		REED CITY	3,413	6	4	0	6	360	3,842	28,974			80	11
	GOODWELL TWP., 14N-11W, SECTION 26																			
AOF	CASCO	TRAVERSE	1940	ALLEGAN-VAN BUREN	1,095	1 S L	38.6	TRAVERSE	1,115	9	ABANDONED 1959			50		17,382			348	
	CASCO TWP., 1N-16W, SECTIONS 34, 35 GENEVA TWP., 1S-16W, SECTION 4																			
OF	CAT CREEK	DUNDEE	1968	OSCEOLA	3,696	4 L		DUNDEE	3,890	8	0	0	7	300	15,045	439,744			1,466	1,425
	HERSEY TWP., 17N-9W, SECTIONS 4, 9																			
OF	CATO	REED CITY	1944	MONTCALM-MECOSTA	3,542	3 D	44.7	DETROIT RIVER	3,731	22	1	0	11	670	17,259	1,120,963			1,807	1,375
	CATO TWP., 12N-8W, SECTIONS 3, 4, 6, 8, 9 DEERFIELD TWP., 13N-9W, SECTION 36																			
GF	CEDAR	MICHIGAN STRAY	1945	OSCEOLA	1,490	7 S		SYLVANIA	5,165	5	0	0	4	800				1,402,820		
OF		DUNDEE	1943		3,810	2 L	46.0			10	0	0	5	400	4,841	CUMULATIVE PRODUCTION COMBINED WITH RICHFIELD				810
OF		RICHFIELD	1945		5,060	6 L	44.7			4	0	0	4	140	7,101	1,169,963			8,357	
	CEDAR TWP., 18N-9W, SECTIONS 27, 28, 32, 33 (MICHIGAN STRAY) CEDAR TWP., 18N-9W, SECTIONS 10, 27, 28, 33, 34 (DUNDEE AND RICHFIELD)																			
AGF	CEDAR CREEK	"BEREA"	1940	MUSKEGON	1,125	7 D		DUNDEE	2,252	7	ABANDONED 1960			1,120				624,528		
	CEDAR CREEK TWP., 11N-15W, SECTIONS 7, 17, 18, 19, 20, 32																			
AOF	CEDAR CREEK, SEC.23	TRAVERSE	1949	MUSKEGON	1,951	2 L		DUNDEE	2,453	2	ABANDONED 1968			50		2,652			53	
	CEDAR CREEK TWP., 11N-15W, SECTION 23																			
OF	CHASE	"BEREA"	1943	LAKE	2,460	4 SL		DETROIT RIVER	3,734	2	0	0	1	20	169	9,105			455	
	CHASE TWP., 17N-11W, SECTIONS 19, 29																			
AOF	CHERRY GROVE	TRAVERSE	1952	WEXFORD	3,145	4 D		DUNDEE	3,998	1	ABANDONED 1953			10		4,814			481	
	CHERRY GROVE TWP., 21N-10W, SECTION 27																			
AGF	CHERRY GROVE, SEC. 13	MICHIGAN STRAY	1957	WEXFORD	1,326	35 S		DUNDEE	4,080	5	ABANDONED 1973			640				924,719		
	CHERRY GROVE TWP., 21N-10W, SECTION 13 CLAM LAKE TWP., 21N-9W, SECTIONS 7, 18																			
AOF	CHESHIRE	TRAVERSE	1947	ALLEGAN	1,289	2 L	35	TRAVERSE	1,348	3	ABANDONED 1958			30		9,290			310	
	CHESHIRE TWP., 1N-14W, SECTIONS 26, 27																			
GF	CHESTER	ANTRIM	1965	OTSEGO	1,360	? SH		NIAGARAN	6,870	16	0	0	16	640			47,043	865,886		235
	CHESTER TWP., 29N-2W, SECTIONS 10, 11, 14, 15, 16																			
OF	CHESTERFIELD	NIAGARAN	1962	MACOMB	2,508	7 D	40.3	CLINTON	2,707	7	0	0	2	280	1,557	56,059		124,698	200	
	CHESTERFIELD TWP., 3N-14E, SECTION 28, 29																			
AGF	CHINA BELLE	NIAGARAN REEF	1963	ST. CLAIR	2,365	15 D		NIAGARAN	2,451	3	ABANDONED 1971			120		2,227		461,508	19	
	CHINA TWP., 4N-16E, SECTIONS 34, 35 GAS RESERVOIR PRODUCING SMALL QUANTITIES OF OIL																			
AOF	CHINA, SEC. 12	NIAGARAN REEF	1962	ST. CLAIR	2,509	11 D	39.1	CLINTON	2,631	2	ABANDONED 1970			80		11,895		27,721	149	
	CHINA TWP., 4N-16E, SECTION 12																			
AOF	CHINA, SEC. 31	SALINA	1959	ST. CLAIR	2,378	13 D		CLINTON	2,641	1	ABANDONED 1964 PRODUCTION COMBINED WITH COTTRELLVILLE IN 1962									
	CHINA TWP., 4N-16E, SECTION 31																			
GF	CHINA, SOUTH	SALINA-NIAGARAN REEF	1961	ST. CLAIR	2,324	14 D		CLINTON	2,743	11	0	0	5	440	DOMESTIC USE			523,443		
	CHINA TWP., 4N-16E, SECTIONS 28, 33, 34 COTTRELLVILLE TWP., 3N-16E, SECTIONS 3, 4																			
AOF	CHIPPEWA, SEC. 10	TRAVERSE	1961	ISABELLA	3,193	1 L		TRAVERSE	3,220	1	ABANDONED 1964			10		1,250	PRODUCTION CARRIED IN MT. PLEASANT FIELD TOTALS			
	CHIPPEWA TWP., 14N-3W, SECTION 10																			
GF	CLARE CITY	MICHIGAN STRAY	1937	CLARE-ISABELLA	1,290	5 S		DUNDEE	3,865	8	0	0	1	720				2,294,990		
	GRANT TWP., 17N-4W, SECTIONS 25, 26, 35, 36 SHERIDAN TWP., 17N-3W, SECTION 31 WISE TWP., 16N-3W, SECTION 6																			
OF	CLARE CITY	MICHIGAN STRAY	1938	CLARE-ISABELLA	1,303	2 S	30.2	DUNDEE	3,853	7	0	0	4	120	892	81,490			679	
	GRANT TWP., 17N-4W, SECTIONS 24, 35, 36 WISE TWP., 16N-3W, SECTION 6																			
GS	CLARENCE 19-1S-4W	REFER TO TABLE 4 DEVELOPED GAS STORAGE RESERVOIRS																		
GF	CLAYTON	BEREA	1936	ARENAC	1,180	10 S		SYLVANIA	4,163	31	0	0	17	1,560				5,111,048		
	CLAYTON TWP., 20N-4E, SECTIONS 4, 5, 8, 9, 10, 11, 14, 15																			
OF	CLAYTON	DUNDEE	1935	ARENAC-OGEMAW	2,465	12 DL	34.2	SYLVANIA	4,163	80	0	0	47	1,290	35,405	CUMULATIVE PRODUCTION COMBINED WITH RICHFIELD				1,457
OF		DETROIT RIVER	1953		3,507	9 D	45.9													
OF		RICHFIELD	1947		3,790	9 D	36.2			5	0	0	5	200	3,757	6,588,781			4,422	2
	CLAYTON TWP., 20N-4E, SECTIONS 3, 4, 5, 8, 9, 10, 11 RICHLAND TWP., 21N-4E, SECTION 31 THE 5 WELLS INCLUDE 3 RICHFIELD, 1 SZ & 1 DUAL COMPLETION RICHFIELD & SZ MILLS TWP., 21N-3E, SECTION 36																			

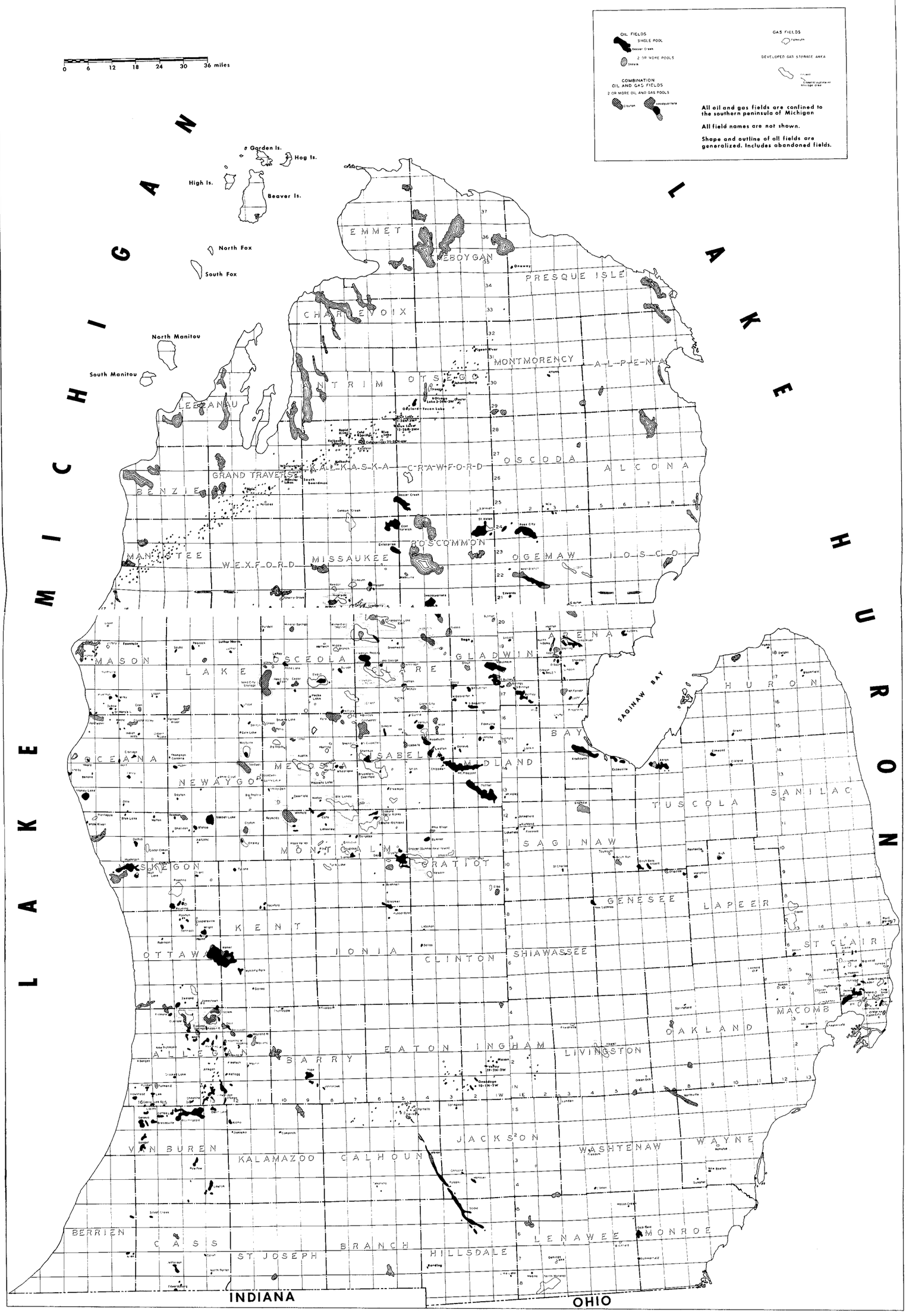
POOL CLASSIFICATION

OF ACTIVE OIL FIELD OR POOL
AOF ABANDONED OIL FIELD OR POOL
GF ACTIVE GAS FIELD OR POOL
AGF ABANDONED GAS FIELD OR POOL
G-C GAS-CONDENSATE FIELD OR POOL
AG-C ABANDONED GAS-CONDENSATE FIELD OR POOL
GS GAS STORAGE RESERVOIR

	FIELD NAME	PRODUCING FORMATION OR POOL	YEAR OF DISC	COUNTY TOWNSHIP / PRODUCING SECTIONS	PAY ZONE DEPTH IN FEET	PAY ZONE THICKNESS AND LITHOLOGY	OIL GRAVITY & API	DEEPEST FORMATION OR POOL TESTED	DEPTH IN FEET	NUMBER OF WELLS (1976) TO COMP END	COMP IN	ABAND IN	ACTIVE AT END	DRILLED ACRES	OIL PRODUCTION - BBLS PRODUCED IN 1976	OIL PRODUCTION - BBLS CUMULATIVE THROUGH 1976	GAS PRODUCTION - Mcf PRODUCED IN 1976	GAS PRODUCTION - Mcf CUMULATIVE THROUGH 1976	RECOVERY PER ACRE DRILLED (BBLS)	TOTAL BARRELS BRINE PER DAY
AOF	CLEAR LAKE	TRAVERSE	1950	VAN BUREN	1,389	1 L		TRAVERSE	1,399	14	ABANDONED 1953			140		17,490				125
	PINE GROVE TWP., 1S-13W, SECTIONS 3, 4, 9, 10																			
AOF	CLINTON	TRAVERSE	1953	WASHTENAW	986	2 D		TRENTON	3,606	2	ABANDONED 1962			20		2,093				105
	BRIDGEWATER TWP., 4S-4E, SECTION 26																			
OF	COFFEE LAKE	TRAVERSE	1946	VAN BUREN	1,128	1 L		TRAVERSE	1,130	13	1	0	2	110	3,404	40,282				366	270
	COLUMBIA TWP., 1S-15W, SECTIONS 17, 18 ABANDONED IN 1954, REACTIVATED IN 1975																			
GS	COLDWATER	REFER TO TABLE 4 DEVELOPED GAS STORAGE RESERVOIRS																		
OF	COLDWATER	DUNDEE	1944	ISABELLA	3,692	25 L	48.0	DETROIT RIVER	5,090	81	0	14	31	3,200	32,236	22,033,071		6,311,307	6,885	15,092
	COLDWATER TWP., 16N-6W, SECTIONS 19, 20, 21, 28 THROUGH 34 SHERMAN TWP., 15N-6W, SECTIONS 5, 6																			
AOF	COLDWATER, SOUTH	DUNDEE	1951	ISABELLA	3,739	4 D		DUNDEE	3,743	1	ABANDONED 1959			20		10,941				547	
	SHERMAN TWP., 15N-6W, SECTION 8																			
OF	COLE LAKE	TRAVERSE	1968	NEWAYGO	2,928	8 L		TRAVERSE	2,938	2	0	0	1	40	233	30,502				763	230
	BARTON TWP., 16N-11W, SECTIONS 29, 30																			
GF	COLFAX	MICHIGAN STRAY	1945	MECOSTA	1,240	8 S		DETROIT RIVER	4,043	4	0	0	1	640					485,844	DOMESTIC USE
AOF		DUNDEE	1964		3,503	25 L	43.0			2	ABANDONED 1967			40		2,188				55	
GF		DUNDEE-RED CITY	1957		3,474	9 D				1	0	0	1	160					5,121	DOMESTIC USE
	COLFAX TWP., 15N-9W, SECTIONS 4, 5																			
GF	COLLIN	SALINA-NIAGARAN REEF	1968	ST. CLAIR	2,196	4 D		NIAGARAN	2,364	2	0	0	2	80		2,019	24,965	1,621,381	25	1
	COTTRELLVILLE TWP., 3N-16E, SECTION 20																			
GS	COLUMBUS	REFER TO TABLE 4 DEVELOPED GAS STORAGE RESERVOIRS																		
OF	COLUMBUS, SEC. 2	NIAGARAN REEF	1971	ST. CLAIR	2,798	8 D	29	NIAGARAN	3,210	2	0	0	1	80	1,125	5,009			26,492	63
	COLUMBUS TWP., 5N-15E, SECTION 2 WALES TWP., 6N-15E, SECTION 35																			
OF	COLUMBUS, SEC. 3	NIAGARAN REEF	1968	ST. CLAIR	3,105	15 D		NIAGARAN	3,340	23	0	0	20	460	737,938	3,518,846	GAS REINJECTED TO RESERVOIR			7,650	84
	COLUMBUS TWP., 5N-15E, SECTIONS 3, 10 WALES TWP., 6N-15E, SECTION 34																			
AGF	COLUMBUS, SEC. 20	NIAGARAN REEF	1972	ST. CLAIR	3,128	5 D		NIAGARAN	3,155	1	ABANDONED 1975			160					425	
	COLUMBUS TWP., 5N-15E, SECTION 20																			
GF	COLUMBUS, SEC. 23	NIAGARAN REEF	1965	ST. CLAIR	2,900	46+ D		CLINTON	3,122	6	0	0	5	240	1,525	21,203	22,087	999,237	88	60
	COLUMBUS TWP., 5N-15E, SECTIONS 23, 25 GAS RESERVOIR PRODUCING SMALL QUANTITIES OF OIL																			
GF	COLUMBUS, SEC. 32	NIAGARAN REEF	1970	ST. CLAIR	2,983	16 D		NIAGARAN	3,050	2	0	0	2	80				24,735		
	COLUMBUS TWP., 5N-15E, SECTION 32																			
OF	COLUMBUS, NORTH	NIAGARAN REEF	1968	ST. CLAIR	3,266	8 D		NIAGARAN	3,374	11	0	0	11	260	100,289	978,024	32,440	135,253	3,762	44
	COLUMBUS TWP., 5N-15E, SECTIONS 5, 6																			
GS	COLUMBUS, WEST	REFER TO TABLE 4 DEVELOPED GAS STORAGE RESERVOIRS																		
AOF	COMSTOCK, SEC. 5	TRAVERSE	1949	KALAMAZOO	1,430	3 L		TRAVERSE	1,480	2	ABANDONED 1952			20		974				49	
	COMSTOCK TWP., 2S-10W, SECTION 5																			
AOF	CONCORD	TRAVERSE	1953	JACKSON	1,627	1 L		SALINA	2,417	5	ABANDONED 1958			50		6,437				129	
	CONCORD TWP., 3S-3W, SECTIONS 35, 36																			
OF	CONVIS 8-1S-6W	SALINA-NIAGARAN REEF	1975	CALHOUN	2,978	10 D		CLINTON	3,555	3	1	0	3	240	56,249	59,472	5,755	5,755	248	14
	CONVIS TWP., 1S-6W, SECTION 8																			
OF	CONVIS 18-1S-6W	SALINA-NIAGARAN REEF	1975	CALHOUN	2,909	62 D	33.5	CLINTON	3,427	6	0	0	6	520	167,434	240,216	8,352	8,352	462	43
	CONVIS TWP., 1S-6W, SECTIONS 7, 18																			
OF	CONVIS 25-1S-6W	SALINA-NIAGARAN REEF	1975	CALHOUN	2,876	20 D		CLINTON	3,430	1	0	0	1	80	2,012	4,816			60	40
	CONVIS TWP., 1S-6W, SECTION 25																			
OF	CONVIS 30-1S-6W	SALINA-NIAGARAN REEF	1975	CALHOUN	2,819	35 D	27.5	CLINTON	3,346	5	3	0	5	400	59,221	67,417			169	
	CONVIS TWP., 1S-6W, SECTION 30																			
AGF	COON CREEK	NIAGARAN	1963	MACOMB	3,034	20 D		NIAGARAN	3,093	2	ABANDONED 1968			80				134,116		
	LENOX TWP., 4N-14E, SECTION 18																			
AGF	COOPERSVILLE	"BEREA"	1939	OTTAWA	1,240	5 D		TRAVERSE	1,900	3	ABANDONED 1959			240				108,839		
	WRIGHT TWP., 8N-13W, SECTIONS 7, 19																			
OF	COTTRELLVILLE	SALINA-NIAGARAN REEF	1961	ST. CLAIR	2,262	6 D	38.7	CLINTON	2,511	12	0	0	7	280	5,781	151,109			540	1
	CHINA TWP., 4N-16E, SECTION 31 COTTRELLVILLE TWP., 3N-16E, SECTIONS 6, 7, 8 IRA TWP., 3N-15E, SE¼ SECTION 1, NE¼ SECTION 12																			
GF	COTTRELLVILLE	NIAGARAN REEF	1959	ST. CLAIR	2,293	37 D		CLINTON	2,511	2	0	0	2	240			74,567	2,814,956		
	COTTRELLVILLE TWP., 3N-16E, SECTIONS 6, 7, 8																			
GS	CRANBERRY LAKE	REFER TO TABLE 4 DEVELOPED GAS STORAGE RESERVOIRS																		
AOF	CRANBERRY LAKE	TRAVERSE	1952	CLARE	3,120	7 L	39.0	RICHFIELD	5,223	7	ABANDONED 1965				PRODUCTION COMBINED WITH CRANBERRY LAKE DUNDEE AND RICHFIELD					
OF		DUNDEE	1943		3,835	2 L	42.8			8	0	0	2	70	1,888	CUMULATIVE PRODUCTION COMBINED WITH RICHFIELD				400
AOF		DETROIT RIVER SZ	1953		4,801	16 D	48.8			1	ABANDONED 1962				PRODUCTION COMBINED WITH CRANBERRY LAKE DUNDEE AND RICHFIELD					
OF		RICHFIELD	1951		5,048	15 D	51.0			18	0	0	7	680	45,396	1,698,855			2,265	170
	WINTERFIELD TWP., 20N-6W, SECTIONS 1, 2, 11, 12																			
OF	CRANBERRY LAKE, EAST	TRAVERSE	1963	CLARE	3,057	6 L	39.2	DETROIT RIVER	5,139		REACTIVATED 1972				21,955					
OF		DUNDEE	1963		3,760	6 L	43.5							200	4,915	CUMULATIVE PRODUCTION COMBINED WITH RICHFIELD				
OF		RICHFIELD	1964		5,087	12 D	44.0			7	1	0	7	80	5,570	677,031			2,418	1,200
	SUMMERFIELD TWP., 20N-5W, SECTIONS 7, 8, 17 THE 7 WELLS INCLUDE 3 DUNDEE, 2 RICHFIELD, 1 DUNDEE & TRAVERSE AND 1 DUNDEE AND RICHFIELD DUAL COMPLETION																			
AOF	CROOKED LAKE	TRAVERSE	1949	ALLEGAN	1,278	1 L		TRAVERSE	1,312	2	ABANDONED 1956			40		115,452			2,886	
	CLYDE TWP., 2N-15W, SECTION 25																			
GS	CROTON	REFER TO TABLE 4 DEVELOPED GAS STORAGE RESERVOIRS																		
AOF	CROTON	TRAVERSE	1951	NEWAYGO	2,543	2 L		SALINA	3,993	10	ABANDONED 1958			200		91,678			458	
	CROTON TWP., 12N-11W, SECTIONS 20, 29																			
AOF	CRUMP	DUNDEE	1950	SAY	3,294	7 L		DUNDEE	3,354	1	ABANDONED 1951			10		1,043			104	
	GARFIELD TWP., 16N-3E, SECTION 23																			

MICHIGAN OIL AND GAS FIELDS

SOUTHERN PENINSULA



POOL CLASSIFICATION

OF ACTIVE OIL FIELD OR POOL
AOF ABANDONED OIL FIELD OR POOL
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GS GAS STORAGE RESERVOIR

	FIELD NAME	PRODUCING FORMATION OR POOL	YEAR OF DISC	COUNTY TOWNSHIP PRODUCING SECTIONS	PAY ZONE DEPTH IN FEET	PAY ZONE THICKNESS AND LITHOLOGY	PAY ZONE OIL GRAVITY A.P.I.	DEEPEST FORMATION OR POOL TESTED	DEPTH IN FEET	NUMBER OF WELLS TO END	NUMBER OF WELLS COMP IN 1 9 7 6	NUMBER OF WELLS ABAND IN 1 9 7 6	NUMBER OF WELLS ACT-VE AT END	DRILLED ACRES	OIL PRODUCTION - BBLS PRODUCED IN 1976	OIL PRODUCTION - BBLS CUMULATIVE THROUGH 1976	GAS PRODUCTION - Mcf PRODUCED IN 1976	GAS PRODUCTION - Mcf CUMULATIVE THROUGH 1976	RECOVERY PER ACRE DRILLED (BBLS)	TOTAL BARRELS BRINE PER DAY
OF	CRYSTAL	TRAVERSE	1964	MONTCALM	2,769	4 L	41.8	DETROIT RIVER	3,591	2	0	0	1	20	PRODUCTION COMBINED WITH DUNDEE					
OF		DUNDEE	1935		3,187	4 D	48.0			193	0	0	7	2,000	8,872	3,340,166			3,484	1,200
	CRYSTAL TWP., 17N-6W, SECTIONS 1, 2, 3, 4, 10, 11, 12, 13 TENNYO TWP., 17N-5W, SECTIONS 26, 34, 35, 36																			
OF	CRYSTAL VALLEY	TRAVERSE	1945	OCEANA	1,369	3 L	37.0	ST. PETER SS.	4,062	51	0	0	1	50	PRODUCTION COMBINED WITH DUNDEE					
AOF		DUNDEE	1957		2,575	12 D	42.5			19	ABANDONED 1974			420		203,747			434	
	CRYSTAL TWP., 16N-15W, SECTIONS 9, 10, 11, 14, 15, 16																			
AGF	CRYSTAL VALLEY	DUNDEE	1946	OCEANA	2,400	7 L		TRENTON-BLK. RIVER	5,985	4	ABANDONED 1966			160				162,079		
AGF		SALINA	1961		4,102	10 D				1	ABANDONED 1966			40				PRODUCTION COMBINED		
	CRYSTAL TWP., 16N-16W, SECTIONS 11, 14, 15, 16																			
OF	CRYSTAL VALLEY, SEC. 19	TRAVERSE	1971	OCEANA	1,689	1 S L		DUNDEE	2,233	2	0	0	2	40	1,520	23,480			587	15
GF		DUNDEE	1971		2,222	11 L				1	0	0	1	100			SHUT-IN			3
	CRYSTAL TWP., 16N-16W, SECTION 19																			
OF	CRYSTAL VALLEY, SOUTH	TRAVERSE	1969	OCEANA	1,739	1 L		TRAVERSE	1,740	1	0	0	1	40	0	9,310			233	
	CRYSTAL TWP., 16N-16W, SECTION 20																			
OF	CURRIE	DUNDEE	1936	ISABELLA	3,918	2 D	45.9	DUNDEE	4,042	2	0	0	2	40	662	207,447			5,186	
	VERNON TWP., 16N-4W, SECTIONS 5, 8																			
AOF	DALLAS	TRAVERSE	1942	CLINTON	2,482	2 L		DETROIT RIVER	2,934	3	ABANDONED 1948			40		3,085			77	
	DALLAS TWP., 7N-4W, SECTION 21																			
OF	DALTON	TRAVERSE	1940	MUSKEGON	1,851	5 L	40.0	DUNDEE	2,515	16	0	0	2	300	167	108,945			363	8
	DALTON TWP., 11N-16W, SECTIONS 10, 11, 15																			
AGF	DAY	MICHIGAN STRAY	1934	MONTCALM	1,352	4 S		MARSHALL	1,395	2	ABANDONED 1944			80				8,494		
	DAY TWP., 11N-6W, SECTION 1 HOME TWP., 12N-6W, SECTION 36																			
AOF	DAY	TRAVERSE	1946	MONTCALM	2,900	2 L	43.0	DUNDEE	3,387	1	ABANDONED 1967			10		3,095			310	
AOF		DUNDEE	1946		3,337	2 L				2	ABANDONED 1954			20		16,239			812	
	DAY TWP., 11N-6W, SECTION 25 (TRAVERSE) DAY TWP., 11N-6W, SECTION 36 (DUNDEE)																			
OF	DAY, SEC. 13	DUNDEE	1971	MONTCALM	3,414	15 L		DUNDEE	3,475	1	0	0	1	20	1,878	20,816			1,041	180
	DAY TWP., 11N-6W, SECTION 13																			
GF	DEEP RIVER	BEREA	1936	ARENAC	1,490	10 S		SYLVANIA	4,311	12	0	0	3	1,520				1,609,812	DOMESTIC USE	
	DEEP RIVER TWP., 19N-4E, SECTIONS 7, 8, 16, 17, 18, 20																			
OF	DEEP RIVER	DUNDEE	1944	ARENAC	2,795	145 D	35.8	RICHFIELD	4,258	106	0	1	34	1,060	59,868	26,788,154			25,272	7,439
OF		RICHFIELD	1953	(CONSOLIDATED WITH STERLING DETROIT RIVER - RICHFIELD IN 1954) THE 34 WELLS INCLUDE 33 DUNDEE AND 1 TRAVERSE																
	DEEP RIVER TWP., 19N-4E, SECTIONS 6, 7, 8, 9, 14, 15, 16, 23, 24																			
OF	DEERFIELD	TRENTON	1920	MONROE	2,115	10 L	42.7	CAMBRIAN	3,250	47	0	0	20	450	3,972	735,715			1,635	6
	DUNDEE TWP., 6S-6E, SECTIONS 19, 29, 30 SUMMERFIELD TWP., 6S-6E, SECTION 31																			
GF	DEMINGS LAKE	TRAVERSE	1968	LENAWEE	734	2 L		TRAVERSE	741	1	0	0	1	40						
	DOVER TWP., 7S-2E, SECTION 27																			
AOF	DENNISON	TRAVERSE	1963	OTTAWA	1,874	4 L	38.0	SALINA	3,202	15	ABANDONED 1971			300		312,956			1,043	
	POLKTON TWP., 8N-14W, SECTIONS 21, 27, 28																			
AGF	DIAMOND CRYSTAL SALT	NIAGARAN REEF	1927	ST. CLAIR	2,483	17 D		NIAGARAN	2,500	1	ABANDONED 1931			40				136,445		
	ST. CLAIR TWP., 5N-17E, SECTION 31																			
OF	DIAMOND SPRINGS	TRAVERSE	1938	ALLEGAN	1,461	3 L	41.0	SALINA	2,651	56	0	0	7	420	694	1,013,175			2,412	155
OF		SALINA-E ZONE	1958		2,389	21 D	25.5			3	0	0	3	30	6,681	72,743			2,425	12
	OVERISEL TWP., 4N-14W, SECTION 36 SALEM TWP., 4N-13W, SECTION 31 HEATH TWP., 3N-14W, SECTION 1 MONTEREY TWP., 3N-13W, SECTION 6																			
OF	DORR	TRAVERSE	1938	ALLEGAN	1,617	4 L	41.0	NIAGARAN	3,319	41	0	0	4	410	304	423,193			1,032	25
OF		DETROIT RIVER	1955		2,082	6 D	38.0			14	0	0	4	280	243	75,055			268	25
OF		SALINA	1956		2,922	7 D	17.0			18	0	0	11	540	3,593	322,289	14,520	1,380,247	597	39
	DORR TWP., 4N-12W, SECTIONS 19, 29 THROUGH 33 SALEM TWP., 4N-13W, SECTION 25																			
GF	DORR	DETROIT RIVER	1957	ALLEGAN	1,918	1 D		NIAGARAN	3,319	1	0	0	1	160				4,710	NO MARKET	
	DORR TWP., 4N-12W, SECTION 33																			
AGF	DORR, SEC. 17	"BEREA"	1951	ALLEGAN	953	8 D		TRAVERSE	1,642	1	ABANDONED 1967			40				0		
	DORR TWP., 4N-12W, SECTION 17																			
GF	DORR, SEC. 21	"BEREA"	1940	ALLEGAN	957	1 D		TRAVERSE	1,687	1	0	0	1	40					DOMESTIC USE	
	DORR TWP., 4N-12W, SECTION 21																			
OF	DOUGLASS	DUNDEE	1945	MONTCALM	3,400	2 L	47.1	DUNDEE	3,458	6	0	0	2	120	834	254,976			2,125	250
	DOUGLASS TWP., 11N-7W, SECTION 1																			
AGF	DOUGLASS	MICHIGAN STRAY	1943	MONTCALM	1,190	5 S		DUNDEE	3,423	4	ABANDONED 1951			640				184,806		
	DOUGLASS TWP., 11N-7W, SECTIONS 27, 28																			
AOF	DOUGLASS, SEC. 3	TRAVERSE	1954	MONTCALM	3,025	8 L		DUNDEE	3,666	1	ABANDONED 1956			20		3,155			158	
	DOUGLASS TPW., 11N-7W, SECTION 3																			
OF	DUNNINGVILLE	TRAVERSE	1950	ALLEGAN	1,435	3 L	38.0	TRAVERSE	1,438	5	0	0	1	50	228	121,630			2,433	
	HEATH TWP., 3N-14W, SECTIONS 22, 27, 33																			
AOF	DWIGHT	DETROIT RIVER	1945	HURON	2,862	4 L	36.2	SYLVANIA	3,290	1	ABANDONED 1972			40		41,165			1,029	
	DWIGHT TWP., 18N-13E, SECTION 21																			
GF	EAST CHINA	NIAGARAN REEF	1969	ST. CLAIR	2,344	19 D		NIAGARAN	2,363	2	0	0	2	80	1,818	6,615	2,234	12,240	83	19
	EAST CHINA TWP., 4N-16E, SECTION 25																			
AOF	EAST NORWICH	TRAVERSE	1944	MISSAUKEE-ROSCOMMON	2,410	1 L		BASS ISLANDS	5,520	1	ABANDONED 1944			PRODUCTION COMBINED WITH EAST NORWICH RICHFIELD						
AOF		DUNDEE	1942		3,082	4 L	44.2			1	ABANDONED 1947			PRODUCTION COMBINED WITH EAST NORWICH RICHFIELD						
OF		RICHFIELD	1942		4,390	14 D	40.9			118	1	0	74	4,640	411,699	10,455,389	531,627	9,478,722	2,253	743
	NORWICH TWP., 24N-5W, SECTION 16 (TRAVERSE); SECTION 14 (DUNDEE) LYON TWP., 24N-4W, SECTIONS 6, 7, 18 (RICHFIELD) THE 74 WELLS INCLUDE 60 RICHFIELD & 13 SOUR ZONE & 1 RICHFIELD & SOUR ZONE																			
	NORWICH TWP., 24N-5W, SECTIONS 1, 2, 3, 9 THROUGH 16, 21, 22 (RICHFIELD)																			

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GF ACTIVE GAS FIELD OR POOL
AGF ABANDONED GAS FIELD OR POOL
G-C GAS-CONDENSATE FIELD OR POOL
AG-C ABANDONED GAS-CONDENSATE FIELD OR POOL
GS GAS STORAGE RESERVOIR

	FIELD NAME	PRODUCING FORMATION OR POOL	YEAR OF DISC	COUNTY TOWNSHIP PRODUCING SECTIONS	PAY ZONE DEPTH IN FEET	PAY ZONE THICKNESS AND LITHOLOGY	PAY ZONE OIL GRAVITY A.P.I.	DEEPEST FORMATION OR POOL TESTED	DEPTH IN FEET	NUMBER OF WELLS TO END	NUMBER OF WELLS COMP IN 1 9 7 6	NUMBER OF WELLS ABAND IN 1 9 7 6	NUMBER OF WELLS ACTIVE AT END	DRILLED ACRES	OIL PRODUCTION - BBLS PRODUCED IN 1976	OIL PRODUCTION - BBLS CUMULATIVE THROUGH 1976	GAS PRODUCTION - Mcf PRODUCED IN 1976	GAS PRODUCTION - Mcf CUMULATIVE THROUGH 1976	RECOVERY PER ACRE DRILLED (BBLS)	TOTAL BARRELS BRINE PER DAY
GF	EATON RAPIDS 17-2N-3W	SALINA-NIAGARAN REEF	1973	EATON	3,985	79 D	42.0	CLINTON	4,316	4	0	0	4	400	1,862	2,007	410,488	410,488	5	
	EATON RAPIDS TWP., 2N-3W, SECTION 17																			
OF	EATON RAPIDS 20-2N-3W	SALINA-NIAGARAN REEF	1974	EATON	3,940			NIAGARAN	4,323	4	0	0	4	320	39,128	50,730	65,275	70,567	159	213
	EATON RAPIDS TWP., 2N-3W, SECTION 20																			
OF	EATON RAPIDS 25-2N-3W	NIAGARAN REEF	1976	EATON	4,010	6 D		NIAGARAN	4,270	1	1	0	1	160	479	479	18,990	18,990	3	
	EATON RAPIDS TWP., 2N-3W, SECTION 25																			
OF	EATON RAPIDS 28-2N-3W	SALINA-NIAGARAN REEF	1974	EATON	3,858			NIAGARAN	4,056	1	0	0	1	80	4,920	14,335			179	
	EATON RAPIDS TWP., 2N-3W, SECTION 28																			
OF	EATON RAPIDS 32-2N-3W	NIAGARAN	1975	EATON	3,799	10 D	36.7	NIAGARAN	3,917	1	0	0	1	160	29,080	29,080	14,627	14,627	182	
	EATON RAPIDS TWP., 2N-3W, SECTION 32																			
G-C	EATON RAPIDS 33-2N-3W	NIAGARAN REEF	1976	EATON	3,715	111 D	62.8	NIAGARAN	3,935	1	1	0	1	80	35	35			1	
	EATON RAPIDS TWP., 2N-3W, SECTION 33																			
OF	EATON RAPIDS 35-2N-3W	A-1 CARBONATE & NIAGARAN REEF	1972	EATON	3,750	30 D		NIAGARAN	4,210	1	0	0	1	40	24,259	61,870	9,705	62,393	1,547	
	EATON RAPIDS TWP., 2N-3W, SECTION 35																			
G-C	EATON RAPIDS 36-2N-3W	NIAGARAN REEF	1971	EATON-INGHAM	3,740	55 D	47	NIAGARAN	4,305	7	0	0	7	1,120	820	17,537	2,392,826	10,542,074	16	
	EATON RAPIDS TWP., 2N-3W, SECTION 36 AURELIUS TWP., 2N-2W, SECTION 31 ONONDAGA TWP., 1N-2W, SECTIONS 6, 7																			
OF	EDEN	TRAVERSE	1948	NASON	1,679	3 L	34.5	CAMBRIAN	7,249	10	0	0	5	90	PRODUCTION COMBINED WITH REED CITY					200
GF		TRAVERSE	1958		1,960	7 L				1	0	0	1	160				SHUT-IN		
OF		DUNDEE	1948		2,240	2 L	45.3			38	0	0	27	380	PRODUCTION COMBINED WITH REED CITY					1,642
OF		REED CITY	1948		2,345	8 D	42.8			5	0	0	2	40	18,858	3,025,135	32,419	308,220	4,515	3
	EDEN TWP., 17N-16W, SECTION 26 (TRAVERSE GAS) SECTIONS 25, 26, 35, 36 (TRAVERSE, DUNDEE, REED CITY OIL COMBINED IN ABOVE FIGURES)																			
OF	EDENVILLE	DUNDEE	1938	MIDLAND	3,790	8 L	41.0	DUNDEE	3,962	36	0	0	1	370	898	1,369,613			3,702	7
	EDENVILLE TWP., 16N-1W, SECTIONS 5, 26, 27																			
GF	EDENVILLE, SEC. 5	SAGINAW FM.	1956	MIDLAND	382	12 S		DUNDEE	4,028	3	0	0	1	160					TO PLUG	
	EDENVILLE TWP., 16N-1W, SECTION 5																			
OF	EDMORE	TRAVERSE	1933	MONTCALM	3,102	4 L	43.2	DUNDEE	3,613	35	0	0	7	500	8,955	1,419,916		1,094,960	2,840	700
	HOME TWP., 12N-6W, SECTIONS 2, 3, 9, 10, 11																			
GF	EDMORE-RICHLAND	MICHIGAN STRAY	1936	MONTCALM	1,300	8 S		DUNDEE	3,700	47	0	3	7	6,800				8,956,687		
	HOME TWP., 12N-6W, SECTIONS 11, 12, 13, 14, 15, 19, 21 THROUGH 30, 33 RICHLAND TWP., 12N-5W, SECTIONS 7, 8, 17, 18																			
OF	EDWARDS	DUNDEE	1951	OGEMAW	3,362	10 L		SYLVANIA-BOIS BLANC	5,260	4	0	0	3	90	1,611	40,000			444	500
	EDWARDS TWP., 21N-1E, SECTION 15																			
AGF	EGELSTON	"BEREA"	1951	MUSKEGON	1,120	5 D		DUNDEE	2,282	7	ABANDONED 1966			1,120				291,097		
	EGELSTON TWP., 10N-15W, SECTIONS 3, 4, 9, 10, 15																			
AGF	ELBA	MICHIGAN STRAY	1928	GRATIOT	670	10 S		DUNDEE	3,044	10	ABANDONED 1957			520				246,058		
AOF		TRAVERSE	1927		2,440	2 L	47.0			8	ABANDONED 1962			90		42,925			477	
	ELBA TWP., 9N-1W, SECTIONS 9, 14, 15, 16 (MICHIGAN STRAY) SECTIONS 14, 15, 22, 23 (TRAVERSE)																			
OF	ELBRIDGE	TRAVERSE	1961	OCEANA	2,112	2 L	39.4	REED CITY	2,725	19	0	0	4	380	0	415,067	SHUT-IN		1,092	
	ELBRIDGE TWP., 15N-16W, SECTIONS 22, 26, 27, 28																			
AOF	ELKLAND	DUNDEE	1946	TUSCOLA	2,653	14 L		SYLVANIA	3,735	2	ABANDONED 1947			20		1,546			77	
	ELKLAND TWP., 14N-11E, SECTION 31 NOVESTA TWP., 13N-11E, SECTION 6																			
OF	ELMWOOD	DUNDEE	1945	TUSCOLA	2,740	8 L	31.3	BOIS BLANC	3,945	10	0	0	7	90	2,492	98,317			1,092	25
	ELMWOOD TWP., 14N-10E, SECTIONS 17, 20, 21																			
GF	ENSLEY	MARSHALL	1958	NEWAYGO	826	5 S		DETROIT RIVER	3,018	8	0	0	8	1,280	SHUT-IN			906,626		
AOF		TRAVERSE	1954		2,439	2 L				6	ABANDONED 1959			120		70,415			587	
	ENSLEY TWP., 11N-11W, SECTIONS 6, 7, 8, 17, 18 GRANT TWP., 11N-12W, SECTION 12 (MARSHALL) ENSLEY TWP., 11N-11W, SECTIONS 6, 7, 8 (TRAVERSE)																			
OF	ENTERPRISE	RICHFIELD	1943	MISSAUKEE-ROSCOMMON	4,405	15 D	41.8	RICHFIELD	4,625	34	2	1	19	1,360	153,385	3,090,977	105,732	1,367,947	2,273	153
	ENTERPRISE TWP., 23N-5W, SECTIONS 10 THROUGH 14 LAKE TWP., 23N-4W, SECTION 18																			
GF	ENTERPRISE, SEC.32	MICHIGAN STRAY	1953	MISSAUKEE	1,986	5 S		DETROIT RIVER	4,200	2	0	0	2	320					DOMESTIC USE	
	ENTERPRISE TWP., 23N-5W, SECTION 32 BUTTERFIELD TWP., 22N-5W, SECTION 4																			
AOF	ENTRICAN	TRAVERSE	1966	MONTCALM	2,870	4 L		DUNDEE	3,426	1	ABANDONED 1968			40	PRODUCTION COMBINED WITH DUNDEE					
AOF		DUNDEE	1967		3,312	2 D				2	ABANDONED 1973			40		8,014			100	
	DOUGLASS TWP., 11N-7W, SECTION 21																			
OF	ESSEXVILLE	DUNDEE	1944	BAY	2,835	17 L	35.3	SYLVANIA	4,130	50	0	0	41	1,730	34,581	3,563,858		3,267	2,060	42
	HAMPTON TWP., 14N-6E, SECTIONS 7, 8, 9, 15, 16, 17, 18 HAMPTON TWP., 14N-5E, SECTION 12																			
AOF	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																			
AGF	EVART	MICHIGAN STRAY	1941	OSCEOLA	1,410	7 S		DETROIT RIVER	4,457	33	ABANDONED 1974			5,120				4,895,722		
	OSCEOLA TWP., 18N-8W, SECTIONS 19, 21, 22, 23, 26 THROUGH 35																			
AOF	EXCELSIOR	TRAVERSE	1950	KALKASKA	2,003	2 L	33.4	TRAVERSE	2,136	1	ABANDONED 1970			10		10,455			1,046	
	EXCELSIOR TWP., 27N-6W, SECTION 11																			
AOF	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																			
GF	FALMOUTH	MICHIGAN STRAY	1962	MISSAUKEE	1,279	3 S		REED CITY	4,035	8	0	0	1	1,280				1,102,815	DOMESTIC USE	
	AETNA TWP., 22N-6W, SECTIONS 30, 31 REEDER TWP., 22N-7W, SECTIONS 25, 36																			
AOF	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																			
GF	FERRY, SEC. 25	"BEREA"	1961	OCEANA	1,310	5 D		REED CITY	2,650	1	0	0	1	40			DOMESTIC USE			
	FERRY TWP., 14N-16W, SECTION 25																			

POOL CLASSIFICATION: OF — ACTIVE OIL FIELD OR POOL; AOF — ABANDONED OIL FIELD OR POOL; GF — ACTIVE GAS FIELD OR POOL; AGF — ABANDONED GAS FIELD OR POOL; G-C — GAS-CONDENSATE FIELD OR POOL; AG-C — ABANDONED GAS-CONDENSATE FIELD OR POOL; GS — GAS STORAGE RESERVOIR

POOL CLASSIFICATION	FIELD NAME	PRODUCING FORMATION OR POOL	YEAR OF DISC	COUNTY TOWNSHIP PRODUCING SECTIONS	PAY ZONE DEPTH IN FEET	PAY ZONE THICKNESS AND LITHOLOGY	PAY ZONE OIL GRAVITY API	DEEPEST FORMATION OR POOL TESTED	DEPTH IN FEET	NUMBER OF WELLS 1976: TO END	COMP IN	ABAND IN	ACTIVE AT END	DRILLED ACRES	OIL PRODUCTION - BBLS PRODUCED IN 1976	OIL CUMULATIVE THROUGH 1976	GAS PRODUCTION - Mcf PRODUCED IN 1976	GAS CUMULATIVE THROUGH 1976	RECOVERY PER ACRE DRILLED (BBLS)	TOTAL BARRELS BRINE PER DAY
OF	FILLMORE	TRAVERSE	1942	ALLEGAN-OTTAWA	1,516	27 L	41.1	NIAGARAN	3,045	63	0	1	4	770	1,749	950,985			1,274	25
GF		SALINA A-2 CARB.	1959		2,632	14 D				11	0	1	6	1,500			0	4,756,098		
GF		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)																
AOF	FOREST RIVER	TRAVERSE	1965	OCEANA	1,954	1 L		DUNDEE	2,598	1	ABANDONED 1965			40		781			20	
				COLFAX TWP., 16N-15W, SECTION 12																
AOF	FORK	DUNDEE	1942	MECOSTA	3,845	8 L	49.0	BOIS BLANC	5,294	64	ABANDONED 1969			2,700		7,777,026			2,880	
AOF		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																
AGF	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																
GF	FORK, NORTH	MICHIGAN STRAY	1956	OSCEOLA	1,433	19 S		DUNDEE	3,982	1	0	0	1	160			14,903	89,967		
OF		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)																
GF	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																
AGF	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																
GF	FOSTORIA	BEREA	1970	TUSCOLA	1,514	16 S		RICHFIELD	3,267	1	0	0	1	160					SHUT-IN	
				WATERTOWN TWP., 10N-9E, SECTION 14																
OF	FOUNTAIN	REED CITY	1970	MASON	2,442	6 D		REED CITY	2,448	1	0	0	1	40		170	SHUT-IN		4	
				SHERMAN TWP., 19N-16W, SECTION 12																
GS	FOUR CORNERS	REFER TO TABLE 4 DEVELOPED GAS STORAGE RESERVOIRS																		
GF	FOWLERVILLE	SALINA-NIAGARAN	1961	LIVINGSTON	3,880	45 D		PRAIRIE DU CHIEN	5,695	18	0	0	18	2,560	2,288	3,707	1,203,642	3,052,145	1	3
				HANDY TWP., 3N-3E, SECTIONS 1, 2, 12 CONWAY TWP., 4N-3E, SECTION 35 HOWELL TWP., 3N-4E, SECTION 7																
AGF	FREEDOM	TRAVERSE	1971	WASHTENAW	1,038	24 L		CAMBRO-ORDOVICIAN	4,691	3	ABANDONED 1973			120						
AGF		DUNDEE	1971		1,198	28 L					ABANDONED 1973			120						
AOF		TRENTON	1954		3,963	20 D	43.5			1	ABANDONED 1956			40		7,217			180	
				FREEDOM TWP., 3S-4E, SECTIONS 6, 8																
GS	FREEMAN-LINCOLN	REFER TO TABLE 4 DEVELOPED GAS STORAGE RESERVOIRS																		
OF	FREEMAN-REDDING	DUNDEE	1938	CLARE	3,885	19 L	44.4	SYLVANIA	5,462	170	0	0	17	2,800	26,454	16,752,741		1,956,056	5,983	2,225
				REDDING TWP., 19N-6W, SECTIONS 27, 28, 29, 32, 33, 34 FREEMAN TWP., 18N-6W, SECTIONS 3, 4																
AOF	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																
AOF	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																
AGF	FREMONT	MICHIGAN STRAY	1941	ISABELLA	1,235	5 S		DUNDEE	3,700	5	ABANDONED 1956			800				381,330		
AOF		DUNDEE	1938		3,696	4 D				2	ABANDONED 1956			30		3,045			102	
				FREMONT TWP., 13N-5W, SECTIONS 20, 21, 22, 27, 28 (MICHIGAN STRAY) SECTIONS 5, 8 (DUNDEE)																
GF	FREMONT, SEC. 32	MICHIGAN STRAY	1958	ISABELLA	1,264	6 S		DUNDEE	3,619	1	0	0	1	160				27,134		
AOF		TRAVERSE	1957		3,058	2 L				1	ABANDONED 1958			10		892			89	
				FREMONT TWP., 13N-5W, SECTION 32																
AOF	FREMONT	BEREA DUNDEE	1937 1946	SAGINAW	2,122 3,125	3 S 1 L		DUNDEE	3,150	1 1	ABANDONED 1941 ABANDONED 1947			10 10		2,000	(DUNDEE AND BEREA PRODUCTION COMBINED)		100	
				FREMONT TWP., 11N-2E, DUNDEE SECTION 3, BEREA SECTION 5																
AOF	GARFIELD	DETROIT RIVER	1946	CLARE	5,038	10 S		SYLVANIA	5,307	1	ABANDONED 1948			40		13,769		535,811	344	
				GARFIELD TWP., 17N-6W, SECTION 18																
AOF	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																
AOF	GENEVA	TRAVERSE	1940	VAN BUREN	1,042	2 L	31.5	TRENTON	2,950	77	ABANDONED 1973			760		495,063			651	
				GENEVA TWP., 1S-16W, SECTIONS 20, 21, 22, 27, 28, 29, 32, 33																
OF	GENEVA, SEC. 4	DUNDEE	1975	MIDLAND	3,718	32 L		DUNDEE	3,795	1	0	0	1	40	2,249	3,255			81	
				GENEVA TWP., 15N-2W, SECTION 4																
OF	GENEVA, SEC. 15	TRAVERSE	1975	MIDLAND	3,186	2 L		DETROIT RIVER	3,990	1	0	0	1	40	551	551			14	1
				GENEVA TWP., 15N-2W, SECTION 15																
AOF	GIBSON	TRAVERSE	1935	BAY	2,036	4 L		DETROIT RIVER	4,343	12	ABANDONED 1957			130		51,892			399	
AOF		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																
OF	GIBSON, SEC. 20	DUNDEE	1951	BAY	3,097	11 L		DUNDEE	3,195	3	0	0	2	30	789	34,751			1,158	
				GIBSON TWP., 18N-3E, SECTIONS 20, 29																
OF	GILBERT LAKE	TRAVERSE	1956	OCEANA	2,032	8 L	42.5	REED CITY	2,711	5	0	0	1	50	458	59,834			1,197	10
				COLFAX TWP., 16N-15W, SECTIONS 34, 35																
AGF	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																
OF	GILMORE	DUNDEE	1955	ISABELLA	3,803	3 L	48.6	DUNDEE	3,812	12	0	0	2	120	1,300	398,237			3,319	720
				GILMORE TWP., 16N-5W, SECTIONS 30, 31, 32 NOTTAWA TWP., 15N-5W, SECTION 5																
OF	GOODWELL	TRAVERSE	1943	NEWAYGO	2,760	12 L	43.0	BASS ISLANDS	4,342	31	0	0	2	1,240	1,400	1,129,833			911	36
				GOODWELL TWP., 14N-11W, SECTIONS 5, 6, 7, 8, 9, 16, 17																
GS	GOODWELL	REFER TO TABLE 4 DEVELOPED GAS STORAGE RESERVOIRS																		
AGF	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																

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POOL CLASSIFICATION	FIELD NAME	PRODUCING FORMATION OR POOL	YEAR OF DISC	COUNTY TOWNSHIP PRODUCING SECTIONS	PAY ZONE DEPTH IN FEET	PAY ZONE THICKNESS AND LITHOLOGY	PAY ZONE OIL GRAVITY API	DEEPEST FORMATION OR POOL TESTED	DEPTH IN FEET	NUMBER OF WELLS 1976: TO END	COMP IN	ABAND IN	ACTIVE AT END	DRILLED ACRES	OIL PRODUCTION - BBLS PRODUCED IN 1976	OIL CUMULATIVE THROUGH 1976	GAS PRODUCTION - Mcf PRODUCED IN 1976	GAS CUMULATIVE THROUGH 1976	RECOVERY PER ACRE DRILLED (BBLS)	TOTAL BARRELS BRINE PER DAY
AGF	GRANT	GLACIAL DRIFT	1929	MASON	632	1 S		DUNDEE	2,385	3	ABANDONED 1955			120				8,020		
				GRANT TWP., 20N-17W, SECTION 15																
OF	GRANT, SEC 29	DETROIT RIVER	1953	HURON	3,358	8 D	38.8	BOIS BLANC	3,918	3	0	0	3	120	0	20,159			168	
				GRANT TWP., 15N-11E, SECTION 29																
AGF	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																
AOF	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																
OF	GREENWOOD, SEC. 3	TRAVERSE	1968	CLARE	3,438	14 L		DUNDEE	4,048	2	0	0	2	40	3,975	62,941			1,574	700
				GREENWOOD TWP., 19N-5W, SECTIONS 2, 3																
AOF	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																
AOF	GROUT	DUNDEE	1940	GLADWIN	3,825	4 L		DETROIT RIVER	5,240	5	ABANDONED 1957				PRODUCTION COMBINED WITH GROUT RICHFIELD					
AOF		DETROIT RIVER SZ	1958		4,801	12 D				1	ABANDONED 1963				PRODUCTION COMBINED WITH GROUT RICHFIELD					
OF		RICHFIELD	1956		5,039	10 D	41.7			17	0	2	9	680	39,349	1,712,876			2,519	293
				GROUT TWP., 18N-2W, SECTIONS 10, 11, 14, 15																
AGF	HAMILTON	MICHIGAN STRAY	1940	CLARE	1,270	3 S		RICHFIELD	5,395	4	ABANDONED 1954			440				275,606		
AOF		DUNDEE	1940		4,041	10 L	41.8			3	ABANDONED 1959			30	PRODUCTION COMBINED WITH HAMILTON RICHFIELD					
OF		RICHFIELD	1952		5,145	12 D	42.2			45	0	0	26	1,870	140,401	6,199,114	79,172	3,975,037	3,315	1,554
				HAMILTON TWP., 19N-3W, SECTIONS 5, 6, 7, 8, 15 HAYES TWP., 19N-4W, SECTIONS 1, 2 FROST TWP., 20N-4W, SECTIONS 35, 36 MICHIGAN STRAY IN HAMILTON TWP., SECTIONS 15, 23, 26																
GS	HAMILTON, NORTH	REFER TO TABLE 4 DEVELOPED GAS STORAGE RESERVOIRS																		
OF	HAMLIN 5-1N-3W	NIAGARAN REEF	1975	EATON	3,650	60 D		NIAGARAN	3,900	2	0	0	2	160	35,655	36,366	13,833	13,833	227	
G-C	HAMLIN 5-1N-3W POOL A	NIAGARAN REEF	1975	EATON	3,801	12 D		NIAGARAN	3,867	1	0	0	1	160			0	0		
				HAMLIN TWP., 1N-3W, SECTION 5																
OF	HAMLIN 8-1N-3W	NIAGARAN REEF	1972	EATON	3,640	65 D		CLINTON	4,058	2	0	0	2	160	75,973	262,490	116,053	263,640	1,641	
OF	HAMLIN 8-1N-3W POOL A	NIAGARAN REEF	1975	EATON	3,697	11 D		CLINTON	4,056	1	0	0	1	80	1,320	1,754	0	0	22	
				HAMLIN TWP., 1N-3W, SECTION 8											DECLARED SEPARATE POOLS AS A RESULT OF PUBLIC HEARINGS					
OF	HAMLIN 10-1N-3W	NIAGARAN REEF	1974	EATON	3,657	5 D		NIAGARAN	3,805	3	1	0	3	320	53,173	81,680	92,757	109,958	255	49
				HAMLIN TWP., 1N-3W, SECTIONS 2, 10																
GF	HAMLIN 23-1N-3W	NIAGARAN REEF	1974	EATON	3,640	38 D		NIAGARAN	3,808	2	1	0	2	160	878	1,287	347,830	535,698	8	
				HAMLIN TWP., 1N-3W, SECTION 23																
OF	HANOVER	TRENT.-BLK.RIVER	1959	JACKSON	4,012	120+ D	43.0	PRAIRIE DU CHIEN	4,604	10	0	0	2	180	0	1,319,470		586,017	7,330	
				HANOVER TWP., 4S-2W, SECTIONS 8, 9																
OF	HARDY DAM	REED CITY	1966	MECOSTA	3,351	5 D	44.8	DETROIT RIVER	3,482	22	0	0	15	880	16,679	1,130,555			1,285	1,850
				AETNA TWP., 13N-10W, SECTIONS 5, 6, 7, 8																
AGF	HARRISON	MICHIGAN STRAY	1945	CLARE	1,675	3 S		SYLVANIA	5,633	7	ABANDONED 1962			760				598,465		
OF		DUNDEE	1945		4,190	13 L	39.7			2	0	0	2	80	2,202	163,670			2,046	15
				LINCOLN TWP., 18N-5W, SECTIONS 1, 12, 13 HATTON TWP., 18N-4W, SECTIONS 6, 7 (MICHIGAN STRAY) DUNDEE IN HATTON TWP., SECTION 7																
AOF	HART	TRAVERSE	1933	OCEANA	1,911	54 D	34.0	ST. PETER SS.	5,531	17	ABANDONED 1936			150		116,275			775	
				HART TWP., 15N-17W, SECTION 36 ELBRIDGE TWP., 15N-16W, SECTION 31																
GF	HARTWICK	MICHIGAN STRAY	1968	OSCEOLA	1,681	25 S		MICHIGAN STRAY	1,706	1	0	0	1	160			5,087	7,062		
				HARTWICK TWP., 19N-8W, SECTION 11																
AOF	HATTON	DUNDEE	1941	CLARE	3,945	2 L		DUNDEE	4,000	4	ABANDONED 1948			160		139,272			871	
				HATTON TWP., 18N-4W, SECTION 31 LINCOLN TWP., 18N-5W, SECTION 36																
AOF	HAWKHEAD	TRAVERSE	1946	ALLEGAN	1,103	1 L	36.0	DETROIT RIVER	1,385	16	ABANDONED 1960			160		68,292			427	
				CASCO TWP., 1N-16W, SECTIONS 20, 29																
GF	HEADQUARTERS	MICHIGAN STRAY	1945	CLARE-ROSCOMMON	1,340	6 S		BOIS BLANC	5,929	12	0	0	1	1,760			SHUT-IN			
OF		TRAVERSE	1941		3,356	5 L	42.3			47	0	0	2	1,400	PRODUCTION COMBINED WITH RICHFIELD SHUT-IN					
OF		DUNDEE	1958		3,899	12 L	39.9			1	0	0	1	10	PRODUCTION COMBINED WITH RICHFIELD SHUT-IN					
OF		DETROIT RIVER SZ	1942		4,946	13 D	43.7								PRODUCTION COMBINED WITH RICHFIELD					
OF		RICHFIELD	1952		5,147	23 D	42.6			60	0	0	37	2,320	78,144	10,639,859		4,248,560	2,853	134
				ROSCOMMON TWP., 21N-3W, SECTIONS 17, 19, 20, 21, 28, 29, 30, 32, 33, 34 FRANKLIN TWP., 20N-3W, SECTIONS 3, 4, 10, 11, 15											THE 37 WELLS INCLUDE 12 RICHFIELD, 19 SOUR ZONE & 6 RICHFIELD & SOUR ZONE					
OF	HEATH	TRAVERSE	1948	ALLEGAN	1,498	2 L	38.0	SALINA	2,716	25	0	0	3	270	879	211,253			782	2
				HEATH TWP., 3N-14W, SECTIONS 11, 12, 13, 14																
AGF	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																
AOF	HEATH, SEC. 35	TRAVERSE	1945	ALLEGAN	1,468	2 L		TRAVERSE	1,470	1	ABANDONED 1946			10		559			56	
				HEATH TWP., 3N-14W, SECTION 35																
OF	HENDERSON, SEC. 23	RICHFIELD	1975	WEXFORD	4,894	8 D		AMHERSTBURG	4,970	1	0	0	1	40	0	141			4	
				HENDERSON TWP., 21N-11W, SECTION 23																
GF	HERSEY	MICHIGAN STRAY	1971	OSCEOLA	1,510	3 S		MICHIGAN STRAY	1,638	7	2	0	7	1,120			133,941	173,139		
				HERSEY TWP., 17N-9W, SECTIONS 26, 35, 36																
GS	HESSEN	REFER TO TABLE 4 DEVELOPED GAS STORAGE RESERVOIRS																		
AOF	HILLIARDS	TRAVERSE	1944	ALLEGAN	1,576	1.2 L		NIAGARAN	3,157	17	ABANDONED 1961			300		124,401			415	
GF		SALINA A-1 CARB.	1958		2,938	30 D				6	0	0	6	960	604	14,709		2,240,007	15	
				HOPKINS TWP., 3N-12W, SECTIONS 4, 5 (TRAVERSE) DORR TWP., 4N-12W, SECTION 34 HOPKINS TWP., 3N-12W, SECTIONS 3, 4, 10 (SALINA)																
AOF	HOLTON	TRAVERSE	1948	MUSKEGON	1,993	1 L	37.3	DUNDEE	2,554	3	ABANDONED 1963			60		95,911			1,598	
				HOLTON TWP., 12N-15W, SECTIONS 4, 9																
OF	HOME, SEC. 26	TRAVERSE	1964	MONTCALM	3,096	10 L	45.3	REED CITY	3,618	2	0	0	1	20	1,343	CUMULATIVE PRODUCTION COMBINED WITH DUNDEE				
OF		DUNDEE	1970		3,513	7 L				4	0	0	4	200	4,968	80,384			365	350
				HOME TWP., 12N-6W, SECTIONS 26, 27 (TRAVERSE) SECTION 27 (DUNDEE) THE 5 WELLS INCLUDE 1 TRAVERSE, 2 DUNDEE AND 2 TRAVERSE AND DUNDEE COMMINGLED																

POOL CLASSIFICATION

OF ACTIVE OIL FIELD OR POOL
AOF ABANDONED OIL FIELD OR POOL
GF ACTIVE GAS FIELD OR POOL
AGF ABANDONED GAS FIELD OR POOL
G-C GAS-CONDENSATE FIELD OR POOL
AG-C ABANDONED GAS-CONDENSATE FIELD OR POOL
GS GAS STORAGE RESERVOIR

	FIELD NAME	PRODUCING FORMATION OR POOL	YEAR OF DISC	COUNTY TOWNSHIP / PRODUCING SECTIONS	PAY ZONE DEPTH IN FEET	PAY ZONE THICKNESS AND LITHOLOGY	OIL GRAVITY A.P.I.	DEEPEST FORMATION OR POOL TESTED	DEPTH IN FEET	NUMBER OF WELLS TO END	NUMBER OF WELLS COMP. IN 1976	NUMBER OF WELLS ABAND. IN 1976	NUMBER OF WELLS ACTIVE AT END	DRILLED ACRES	OIL PRODUCTION - BBLS PRODUCED IN 1976	OIL PRODUCTION - BBLS CUMULATIVE THROUGH 1976	GAS PRODUCTION - Mcf PRODUCED IN 1976	GAS PRODUCTION - Mcf CUMULATIVE THROUGH 1976	RECOVERY PER ACRE DRILLED (BBLS)	TOTAL BARRELS BRINE PER DAY
OF	HOPE	TRAVERSE	1939	BARRY	1,969	3 L	37.6	PRAIRIE DU CHIEN	1,944	EE	0	0	1	37	610	8,368	668,541		1,929	
	HOPE TWP., 2N-9W, SECTIONS 26, 27, 28, 33, 34, 35 BARRY TWP., 1N-9W, SECTIONS 1, 2, 3, 12																			
AOF	HOPKINS	TRAVERSE	1939	ALLEGAN	1,633	4 L	41.5	DETROIT RIVER	1,365	10	ABANDONED 1956			110		145,513			1,323	
	HOPKINS TWP., 3N-12W, SECTIONS 22, 23																			
OF	HOPKINS, SOUTH	TRAVERSE	1949	ALLEGAN	1,538	3 L	38.0	TRAVERSE	1,611	35	0	0	1	330	399	270,574			820	1
	HOPKINS TWP., 3N-12W, SECTIONS 19, 30, 31, 32																			
AOF	HOPKINS, WEST	TRAVERSE	1941	ALLEGAN	1,371	2 L	41.5	CLINTON	3,140	31	ABANDONED 1951			370		388,777			1,051	
AOF		SALINA	1956		2,755	7 D	17.9			2	ABANDONED 1968			20		1,649			93	
	HOPKINS TWP., 3N-12W, SECTIONS 7, 18																			
GS	HOWELL	REFER TO TABLE 4 DEVELOPED GAS STORAGE RESERVOIRS																		
AOF	HUBBARDSTON	DUNDEE	1947	IONIA	3,028	5 L		DUNDEE	3,072	5	ABANDONED 1959			50		48,479			970	
	NORTH PLAINS TWP., 8N-5W, SECTION 4																			
OF	HUBER	TRAVERSE	1955	NEWAYGO	2,109	2 L	41.3	DETROIT RIVER	3,400	13	0	0	3	260	186	557,195			2,143	375
	DENVER TWP., 14N-14W, SECTIONS 4, 5, 8																			
OF	INGHAM 12-2N-1E	SALINA-NIAGARAN REEF	1973	INGHAM	4,186	60 D		NIAGARAN	4,450	4	0	0	4	320	116,078	328,015	48,902	148,983	1,025	380
	INGHAM TWP., 2N-1E, SECTION 12																			
OF	INGHAM 13-2N-1E	NIAGARAN REEF	1972	INGHAM	4,190	30 D	41	TRENTON	6,224	5	0	0	5	400	189,612	413,660	126,995	245,088	1,034	171
	INGHAM TWP., 2N-1E, SECTION 13																			
OF	INGHAM 25-2N-1E	SALINA-NIAGARAN REEF	1973	INGHAM	4,048	66 D		CLINTON	4,600	3	0	0	3	320	109,781	268,258	40,088	98,916	838	131
	INGHAM TWP., 2N-1E, SECTION 25																			
GS	IRA	REFER TO TABLE 4 DEVELOPED GAS STORAGE RESERVOIRS																		
AGF	ISABELLA	MICHIGAN STRAY	1949	ISABELLA	1,454	7 S		DETROIT RIVER	3,993	6	ABANDONED 1956			240				335,791		
OF		DUNDEE	1948		3,783	9 D	46.9			20	0	0	1	370	534	827,371		138,559	2,236	
	ISABELLA TWP., 15N-4W, SECTIONS 7, 18 (MICHIGAN STRAY) ISABELLA TWP., SECTIONS 7, 18 NOTTAWA TWP., 15N-5W, SECTIONS 12, 13 (DUNDEE)																			
AGF	ITHACA	MICHIGAN STRAY	1943	GRATIOT	900	16 S		DUNDEE	3,419	5	ABANDONED 1965			800				1,520,995		
	ARCADIA TWP., 11N-3W, SECTIONS 25, 35, 36																			
OF	JEFFERSON	TRAVERSE	1961	CASS	710	3 L	32.0	PRAIRIE DU CHIEN	2,603	28	5	0	8	640	5,665	106,995			167	
	JEFFERSON TWP., 7S-15W, SECTIONS 22, 23, 26, 27, 35 ABANDONED IN 1971, REACTIVATED IN 1975																			
OF	JEROME	DUNDEE	1947	MIDLAND	3,743	10 L	39.0	DETROIT RIVER	4,001	12	0	0	3	260	2,790	247,126			951	
	JEROME TWP., 15N-1W, SECTIONS 6, 7, 8																			
OF	JOHNSTOWN	TRAVERSE	1951	BARRY	1,870	2 L	37.0	TRAVERSE	1,899	5	0	0	2	50	939	36,807			736	
	JOHNSTOWN TWP., 1N-8W, SECTIONS 7, 8, 17																			
OF	KAWKAWLIN	BEREA	1941	BAY	1,505	4 S	38.0	ST. PETER SS.	10,477	4	0	0	4	40	1,214	CUMULATIVE WITH DETROIT RIVER				3
OF		DUNDEE	1938		2,830	45 L	35.0			320	0	0	288	6,400	116,850	CUMULATIVE WITH DETROIT RIVER		4,590		238
OF		DETROIT RIVER	1939		3,515	5 D	42.0			9	0	0	8	280	18,286	15,052,212			2,240	1
AGF		SALINA	1941		7,760	16 D				1	ABANDONED 1946			40				NO RECORDS		
	MONITOR TWP., 14N-4E, SECTION 2 (SALINA) KAWKAWLIN TWP., 15N-4E, SECTIONS 26, 27, 28, 29, 33, 34, 35, 36 MONITOR TWP., 14N-4E, SECTIONS 1, 2, 3, 11, 12 BANGOR TWP., 14N-5E, SECTIONS 4, 5, 6, 7, 8, 9																			
	BANGOR TWP., 15N-5E, SECTION 31																			
OF	KIMBALL LAKE	TRAVERSE	1947	NEWAYGO	2,332	6 L	43.0	ST. PETER SS.	6,689	106	0	0	3	2,120	1,464	6,230,700		2,123,116	2,939	330
OF		REED CITY	1955		2,852	37 ?	39.2			2	0	0	1	20			GAS TO OPERATE TRAVERSE WELLS			
	GARFIELD TWP., 12N-13W, SECTIONS 2, 10, 11, 12, 13, 14, 15, 24																			
AOF	LACOTA	TRAVERSE	1946	VAN BUREN	1,110	2 L		TRAVERSE	1,208	11	ABANDONED 1955			120		51,904			433	
	GENEVA TWP., 1S-16W, SECTIONS 9, 10																			
OF	LAKEFIELD	DUNDEE	1937	SAGINAW	3,185	12 L	39.0	DUNDEE	3,197	1	0	0	1	10	626	31,498			3,150	
	LAKEFIELD TWP., 11N-1E, SECTION 1																			
OF	LAKE GEORGE	DUNDEE	1954	CLARE	3,968	2 L	43.8	DUNDEE	3,997	10	0	0	2	100	3,135	373,925			3,739	450
	LINCOLN TWP., 18N-5W, SECTION 6																			
OF	LAKETON	TRAVERSE	1965	MUSKEGON	1,698	4 L	41.4	REED CITY	2,199	9	0	1	6	200	6,310	292,379			1,462	72
OF		DUNDEE	1972		2,073	21 L				1	0	0	1	40						
	LAKETON TWP., 10N-17W, SECTIONS 10, 15																			
OF	LAKEVIEW	TRAVERSE	1961	MONTCALM	2,941	4 L	42.5	REED CITY	3,495	2	0	0	2	20	447	10,389			520	
	CATO TWP., 12N-8W, SECTION 22																			
AOF	LARKIN	BEREA	1935	MIDLAND	2,473	4 S	39.0	DUNDEE	3,829	2	ABANDONED 1945			20		7,070			354	
	LARKIN TWP., 15N-2E, SECTIONS 21, 32																			
OF	LAWTON	TRAVERSE	1939	VAN BUREN	1,140	1 L	37.5	TRENTON	2,775	65	0	0	3	650	243	212,633			327	
	PORTER TWP., 4S-13W, SECTIONS 5, 8, 17, 18, 19, 20 DECATUR TWP., 4S-14W, SECTION 24																			
AGF	LEATON	MICHIGAN STRAY	1935	ISABELLA	1,240	2 S		DUNDEE	3,710	5	ABANDONED 1940			400				185,609		
OF		DUNDEE	1929		3,657	7.5 L	43.0	DETROIT RIVER	4,390	41	1	0	3	500	4,769	1,786,710			3,573	360
	DENVER TWP., 15N-3W, SECTIONS 17, 19 (MICHIGAN STRAY) DENVER TWP., SECTIONS 19, 30, 31 ISABELLA TWP., 15N-4W, SECTIONS 24, 25 (DUNDEE)																			
AOF	LEBANON	TRAVERSE	1948	CLINTON	2,548	1 L		TRAVERSE	2,570	1	ABANDONED 1950			10		1,036			104	
	LEBANON TWP., 8N-4W, SECTION 34																			
AOF	LEE	TRAVERSE	1941	ALLEGAN	1,170	1 L		TRAVERSE	1,207	6	ABANDONED 1952			60		3,030			51	
	LEE TWP., 1N-15W, SECTIONS 18, 19 CASCO TWP., 1N-16W, SECTION 13																			
GF	LEE 2-1S-5W	NIAGARAN REEF	1973	CALHOUN	3,377	12 D		CLINTON	3,710	4	0	0	4	400	13,794	14,394	696,819	959,841	36	
	LEE TWP., 1S-5W, SECTION 2																			
GF	LEE 3-1S-5W	SALINA-NIAGARAN REEF	1972	CALHOUN-EATON	3,219	85 D		NIAGARAN	3,686	4	0	0	4	160	4,112	8,581	711,212	865,571	54	1
GF	LEE 3-1S-5W POOL A	SALINA-NIAGARAN REEF	1975	CALHOUN	3,160	196 D		NIAGARAN	3,532	3	0	0	3	160	193	193	428,659	487,344	1	
GF	LEE 3-1S-5W POOL B	SALINA-NIAGARAN REEF	1976	CALHOUN	3,312	16 D		NIAGARAN	3,511	1	1	0	1	40	0	0	48,462	48,462		
	LEE TWP., 1S-5W, SECTION 3 WALTON TWP., 1N-5W, SECTIONS 34, 35 POOL A DECLARED A SEPARATE POOL AS A RESULT OF PUBLIC HEARINGS																			

POOL CLASSIFICATION

OF ACTIVE OIL FIELD OR POOL
AOF ABANDONED OIL FIELD OR POOL
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G-C GAS-CONDENSATE FIELD OR POOL
AG-C ABANDONED GAS-CONDENSATE FIELD OR POOL
GS GAS STORAGE RESERVOIR

	FIELD NAME	PRODUCING FORMATION OR POOL	YEAR OF DISC	COUNTY TOWNSHIP / PRODUCING SECTIONS	PAY ZONE DEPTH IN FEET	PAY ZONE THICKNESS AND LITHOLOGY	OIL GRAVITY A.P.I.	DEEPEST FORMATION OR POOL TESTED	DEPTH IN FEET	NUMBER OF WELLS TO END	NUMBER OF WELLS COMP. IN 1976	NUMBER OF WELLS ABAND. IN 1976	NUMBER OF WELLS ACTIVE AT END	DRILLED ACRES	OIL PRODUCTION - BBLS PRODUCED IN 1976	OIL PRODUCTION - BBLS CUMULATIVE THROUGH 1976	GAS PRODUCTION - Mcf PRODUCED IN 1976	GAS PRODUCTION - Mcf CUMULATIVE THROUGH 1976	RECOVERY PER ACRE DRILLED (BBLS)	TOTAL BARRELS BRINE PER DAY
GF	LEE 4-1S-5W	SALINA-NIAGARAN REEF	1972	CALHOUN	3,162	86 D		NIAGARAN	3,415	2	0	0	2	320	0	178	31,068	702,544	1	
	LEE TWP., 1S-5W, SECTIONS 4, 9																			
GF	LEE 8-1S-5W	SALINA-NIAGARAN REEF	1974	CALHOUN	3,118			NIAGARAN	3,841	2	0	0	2	320	91	980	282,963	739,112	3	
	LEE TWP., 1S-5W, SECTION 8																			
GF	LEE 10-1S-5W	NIAGARAN REEF	1973	CALHOUN	3,172	30 D		NIAGARAN	3,329	1	0	0	1	160	645	1,110	17,865	106,702	7	
	LEE TWP., 1S-5W, SECTION 10																			
OF	LEE 10-1S-5W POOL A	NIAGARAN REEF	1974	CALHOUN	3,327	6 D		NIAGARAN	3,399	1	0	0	1	160	48,676	132,485	44,775	77,594	828	
	LEE TWP., 1S-5W, SECTION 10																			
GF	LEE 11-1S-5W	NIAGARAN REEF	1976	CALHOUN	3,234	16 D		NIAGARAN	3,358	1	1	0	1	80						
	LEE TWP., 1S-5W, SECTION 11																			
GF	LEE 12-1S-5W	NIAGARAN REEF	1972	CALHOUN	3,180	34 D		NIAGARAN	3,370	1	0	0	1	160	103	674	393,012	1,246,557	4	
	LEE TWP., 1S-5W, SECTION 12																			
OF	LEE 13-1S-5W	NIAGARAN REEF	1973	CALHOUN	3,184	10 D	26.3	FRANCONIA	6,000	5	0	0	5	200	53,903	165,409	36,778	164,910	827	69
	LEE TWP., 1S-5W, SECTION 13																			
GF	LEE 13-1S-5W POOL A	NIAGARAN REEF	1973	CALHOUN	3,165	20 D		CLINTON	3,623	3	0	0	3	160	35	219	79,780	745,092	1	
	LEE TWP., 1S-5W, SECTION 13																			
OF	LEE 14-1S-5W	NIAGARAN REEF	1974	CALHOUN	3,198	6 D		CLINTON	3,631	2	0	0	2	80	48,106	126,176	20,163	64,979	1,557	99
	LEE TWP., 1S-5W, SECTION 14																			
GF	LEE 15-1S-5W	NIAGARAN REEF	1974	CALHOUN	3,108	22 D		CLINTON	3,605	1	0	0	1	40	0	118	171,034	383,964	3	
	LEE TWP., 1S-5W, SECTION 15																			
AGF	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																			
GF	LEE 18-1S-5W	NIAGARAN REEF	1976	CALHOUN	3,104	28 D		NIAGARAN	3,576	1	1	0	1	160						
	LEE TWP., 1S-5W, SECTION 18																			
OF	LEE 30-1S-5W	NIAGARAN REEF	1975	CALHOUN	2,950	8 D		NIAGARAN	3,040	1	0	0	1	80	1,352	1,352			17	
	LEE TWP., 1S-5W, SECTION 30																			
GF	LEE 32-1S-5W	*SALINA E ZONE & A-1 C.& NIAGARAN	1975	CALHOUN	2,557	48 D		CLINTON	3,415	2	1	0	2	80	918	1,701			21	
	LEE TWP., 1S-5W, SECTION 32 *REFER TO 1975 DISCOVERY WELL LIST FOR PAY ZONE DETAILS																			
OF	LEE, SEC. 33	TRAVERSE	1971	ALLEGAN	1,155	5 L		TRAVERSE	1,160	2	0	0	2	20	468	4,487			224	
	LEE TWP., 1N-15W, SECTION 33																			
AOF	LEE, SOUTH	TRAVERSE	1949	ALLEGAN	1,171	1 L		TRENTON	2,960	12	ABANDONED 1953			120		91,117			759	
	LEE TWP., 1N-15W, SECTION 31 CASCO TWP., 1N-16W, SECTION 36																			
GS	LENOX	REFER TO TABLE 4 DEVELOPED GAS STORAGE RESERVOIRS																		
GF	LEONARD	NIAGARAN REEF	1963	OAKLAND	4,245	21 D		CLINTON	4,450	14	0	0	14	640	43,739	86,176	916,818	3,211,940	135	
	ADDISON TWP., 5N-11E, SECTIONS 14, 15, 22																			
OF	LEROY	REED CITY	1965	OSCEOLA	3,796	4 D		REED CITY	3,800	2	0	0	2	80	1,999	40,011			500	
	LEROY TWP., 19N-10W, SECTION 27																			
OF	LESLIE 4-1N-1W	SALINA-NIAGARAN REEF	1973	INGHAM	3,775	46 D		CLINTON	4,390	1	0	0	1	80	2,765	13,824			173	
	LESLIE TWP., 1N-1W, SECTION 4																			
AOF	LIME LAKE	PRAIRIE DU CHIEN	1960	HILLSDALE	3,461	5 D	44.6	PRAIRIE DU CHIEN	3,533	1	ABANDONED 1965			20		7,842			392	
	WRIGHT TWP., 8S-1W, SECTION 11																			
OF	LINCOLN, SEC. 18	TRAVERSE	1957	ARENAC	2,717	1 L		DUNDEE	3,062	2	0	0	2	20	0	3,597			180	
	LINCOLN TWP., 18N-4E, SECTION 18																			
OF	LINCOLN, SEC. 27	DUNDEE	1974	ISABELLA	3,577	10 D		DUNDEE	3,711	2	0	0	2	80	3,926	10,529			132	44
	LINCOLN TWP., 13N-4W, SECTIONS 27, 28																			
AOF	LINCOLN, SEC. 31	DUNDEE	1963	ARENAC	2,942	10 D	34.9	DUNDEE	2,986	1	ABANDONED 1968			10	COMBINED WITH SECTION 18 PRODUCTION					
	LINCOLN TWP., 18N-4E, SECTION 31																			
AGF	LOGAN	RICHFIELD	1941	MASON	3,260	5 S		RICHFIELD	3,330	2	ABANDONED 1975			80				13,289		
	LOGAN TWP., 17N-15W, SECTIONS 9, 16																			
GF	LOGAN	WEIR	1949	OGEMAW	1,230	11 S		RICHFIELD	4,537	PRODUCTION COMBINED WITH BEREA										
GF		BEREA	1944		1,420	6 S				16	0	0	14	2,240			38,827	1,207,699		
	LOGAN TWP., 22N-4E, SECTIONS 16, 17, 18, 20, 23, 25, 26 CHURCHILL TWP., 22N-3E, SECTIONS 1, 11, 12																			
OF	LUCHT	TRAVERSE	1949	BAY	2,230	3 L	37.2	DUNDEE	3,240	5	0	0	1	50	592	196,272			3,925	
	PINCONNING TWP., 17N-4E, SECTION 29																			
AOF	LUTHER	TRAVERSE	1965	LAKE	2,565	2 L	42.0	REED CITY	3,362	1	ABANDONED 1973			20		28,117			1,406	
	HEWKIRK TWP., 19N-12W, SECTION 14																			
OF	LUTHER, NORTH	REED CITY	1970	LAKE	3,518	17 D		REED CITY	3,556	4	0	0	4	160	751	12,527			78	
	ELLSWORTH TWP., 19N-11W, SECTIONS 7, 8																			
GF	LYNDON	TRAVERSE	1958	WASHTENAW-LIVINGSTON	1,311	6 D		TRENTON	5,008	6	0	0	6	960				375,600	DOMESTIC USE	
GF		DETROIT RIVER	1959		1,733	11 D				PRODUCTION COMBINED WITH TRAVERSE										
	LYNDON TWP., 1S-3E, SECTIONS 6, 7 UNADILLA TWP., 1N-3E, SECTION 31																			
OF	MACON CREEK	TRENT.-BLK.RIVER	1961	LENAWEE	2,548	36+ D		TRENT.-BLK. RIVER	3,303	1	0	0	1	40		1,062	SHUT-IN		27	
	MACON TWP., 5S-5E, SECTION 23																			
GF	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																			
GF	MARATHON	BEREA	1955	LAPEER	1,449	18 S		RICHFIELD	3,172	4	0	0	4	40				34,773	DESIGNATED AS GAS RESERVOIR IN 1970	
OF		DETROIT RIVER SZ	1969		3,013	47 D				0				720	PRODUCTION COMBINED WITH RICHFIELD					
OF		RICHFIELD	1971		3,102	8 D				12	0	0	12	320	0	93,520			90	
	MARATHON TWP., 9N-9E, SECTIONS 16, 17, 18, 21 (DETROIT RIVER SZ) SECTION 16 (BEREA) SECTION 18 (RICHFIELD)																			
OF	MARINE CITY	SALINA-NIAGARAN	1955	ST. CLAIR	2,176	21 D	38.0	CLINTON	2,428	18	0	0	13	660	15,189	442,385	235,484	5,442,067	670	81
	COTTRELLVILLE TWP., 3N-16E, SECTIONS 2, 3, 10, 11, 15																			

POOL CLASSIFICATION	FIELD NAME	PRODUCING FORMATION OR POOL	YEAR OF DISC	COUNTY TOWNSHIP PRODUCING SECTIONS	PAY ZONE DEPTH IN FEET	PAY ZONE THICKNESS AND LITHOLOGY	PAY ZONE OIL GRAVITY A.P.I.	DEEPEST FORMATION OR POOL TESTED	DEPTH IN FEET	NUMBER OF WELLS 1976 TO END	NUMBER OF WELLS 1976 COMP IN	NUMBER OF WELLS 1976 ABAND IN	NUMBER OF WELLS 1976 ACTIVE AT END	DRILLED ACRES	OIL PRODUCTION - BBLS PRODUCED IN 1976	OIL PRODUCTION - BBLS CUMULATIVE THROUGH 1976	GAS PRODUCTION - Mcf PRODUCED IN 1976	GAS PRODUCTION - Mcf CUMULATIVE THROUGH 1976	RECOVERY PER ACRE DRILLED (BBLS)	TOTAL BARRELS BRINE PER DAY
OF	MARINE CITY [illegible]	SALINA-NIAGARAN	1962	ST. CLAIR	2,100	4 D	38.7	NIAGARAN	2,261	17	0	0	13	600	4,994	146,699			245	11
GF		SALINA A-1 CARB.	1962		2,100	4 D											174,414	3,932,884		
				COTTRELLVILLE TWP., 3N-16E, SECTIONS 14, 23, 26, 27											GAS WELLS COMBINED WITH OIL WELL TOTALS					
GS	MARION (WINTERFIELD)	REFER TO TABLE 4 DEVELOPED GAS STORAGE RESERVOIRS																		
AOF	MARNE	BEREA	1940	OTTAWA	1,170	3 L		TRAVERSE	1,904	2	ABANDONED 1946			20		6,253			313	
				TALLMADGE TWP., 7N-13W, SECTION 5 WRIGHT TWP., 8N-13W, SECTION 32																
GF	MARSAC CREEK	SALINA-NIAGARAN REEF	1965	ST. CLAIR	2,450	190 D		CLINTON	2,903	5	0	0	5	200		1,681	14,154	3,922,558	8	20
				CASCO TWP., 4N-15E, SECTIONS 29, 30																
AOF	MARTIN	TRAVERSE	1948	ALLEGAN	1,617	1 L	36.0	ST. PETER SS.	4,290	2	ABANDONED 1960			20		2,188			109	
				MARTIN TWP., 2N-11W, SECTION 18																
GF	MARTINY	MICHIGAN STRAY	1934	MECOSTA	1,370	2 S		DETROIT RIVER	3,807	5	0	0	4	680			12,559	1,263,879		
				MARTINY TWP., 15N-8W, SECTIONS 12, 22, 23																
OF	MCBAIN	DUNDEE	1959	MISSAUKEE	3,969	15 L	45.0	DUNDEE	3,973	24	0	0	22	920	47,018	3,159,619			3,434	7,105
				RIVERSIDE TWP., 21N-7W, SECTIONS 19, 20, 30 RICHLAND TWP., 21N-8W, SECTION 24																
GF	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																
AOF	MEARS	TRAVERSE	1951	OCEANA	1,745	2.5 DL	36.1	REED CITY	2,347	11	ABANDONED 1959			110		105,807			622	
AOF		DUNDEE	1949		2,210	3 L	32.2			3	ABANDONED 1959			60	PRODUCTION COMBINED WITH MEARS TRAVERSE					
				GOLDEN TWP., 15N-18W, SECTIONS 34, 35																
GF	MECOSTA	MICHIGAN STRAY	1966	MECOSTA	1,345	10 S		DUNDEE	3,709	2	0	0	2	320			300	115,571		
				MORTON TWP., 14N-8W, SECTION 10																
AGF	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																
OF	MEDINA	TRENT.-BLK.RIVER	1961	LENAWEE	2,921	18 D	40	PRAIRIE DU CHIEN	3,487	1	0	0	1	40		4,324			108	
				MEDINA TWP., 8S-1E, SECTION 3													CONVERTED TO GAS WELL FOR DOMESTIC USE			
GF	MIDDLE BRANCH	MICHIGAN STRAY	1964	OSCEOLA	1,630	10 S		DETROIT RIVER	4,283	4	0	0	2	640				256,756		
				MIDDLE BRANCH TWP., 19N-7W, SECTIONS 17, 18																
OF	MILLS, SEC. 1	DUNDEE	1957	MIDLAND	3,450	2 D		DUNDEE	3,463	1	0	0	1	10	0	8,363			836	2
				MILLS TWP., 16N-2E, SECTION 1																
AGF	MINERAL SPRINGS	MICHIGAN STRAY	1952	OSCEOLA	1,397	3 S		DETROIT RIVER	3,963	4	ABANDONED 1960			480				228,762		
OF		DUNDEE	1951		3,854	7 D	44.5			12	0	0	1	240	1,033	307,427			1,281	120
				SHERMAN TWP., 20N-9W, SECTIONS 16, 20, 21											6,376 BARRELS OF TOTAL OIL PRODUCED IN TRAVERSE					
OF	MIO	RICHFIELD	1946	OGEMAW-OSCODA	4,219	6 D	32.9	CLINTON	6,544	4	0	0	2	160	780	60,527			378	
				MENTOR TWP., 25N-3E, SECTIONS 30, 32 ROSE TWP., 24N-3E, SECTIONS 3, 4																
OF	MOFFATT, SEC. 34	TRAVERSE	1964	ARENAC	2,100	4 D		DUNDEE	3,027	1	0	0	1	10	0	403			40	
AOF		DUNDEE	1953		2,984	4 L				1	ABANDONED 1956			10		8,392			839	
				MOFFATT TWP., 20N-3E, SECTION 34																
AGF	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																
OF	MONTEREY	TRAVERSE	1938	ALLEGAN	1,618	3 L	37.6	CINCINNATIAN	3,266	99	0	0	6	1,030	2,097	1,019,590			990	4
				MONTEREY TWP., 3N-13W, SECTIONS 2, 4, 8, 9, 10, 11, 14, 15, 16, 17, 18, 20, 21, 22, 23, 24, 27, 32, 36																
GF	MORTON	MICHIGAN STRAY	1946	MECOSTA	1,279	2 S		DUNDEE	3,691	3	1	0	1	360				118,377		
				MORTON TWP., 14N-8W, SECTIONS 15, 22							ABANDONED 1973 REACTIVATED IN 1976									
GF	MT. CLEMENS	SALINA	1961	MACOMB	2,590	18 D		CAMBRIAN?	4,695	1	0	0	1	40						DOMESTIC USE
				MACOMB TWP., 3N-13E, SECTION 34 ORIGINALLY OIL WELL CONVERTED TO A DOMESTIC GAS WELL 1967																
OF	MT. FOREST	TRAVERSE	1952	BAY	2,124 2,224	2 L 3 L	36.2	RICHFIELD	4,305	4	0	0	2	80	PRODUCTION COMBINED WITH DUNDEE					36
OF		DUNDEE	1947		3,025	9 D	34.1			37	0	0	26	960	9,381	912,413			877	5
				PINCONNING TWP., 17N-4E, SECTIONS 18, 19 MT. FOREST TWP., 17N-3E, SECTIONS 13, 24																
AOF	MT. FOREST, SEC. 1	DUNDEE	1946	BAY	2,960	2 L		DUNDEE	3,057	1	ABANDONED 1946			10		1,906			191	
				MT. FOREST TWP., 17N-3E, SECTION 1																
AOF	MT. HALEY	DUNDEE	1934	MIDLAND	3,477	3 D	39.6	DUNDEE	3,500	1	ABANDONED 1947			10		36,069			3,607	
				MT. HALEY TWP., 13N-1E, SECTION 28																
OF	MT. PLEASANT	DUNDEE	1928	ISABELLA-MIDLAND	3,545	15 L	41.8	SYLVANIA	4,821	485	0	0	138	5,710	86,705	27,995,519		7,809,323	4,903	626
										THE 138 WELLS INCLUDE 133 DUNDEE, 1 TRAVERSE AND 4 DUNDEE AND TRAVERSE										
				GREENDALE TWP., 14N-2W, SECTIONS 6 THROUGH 19 LEE TWP., 14N-1W, SECTIONS 7, 8, 18 CHIPPEWA TWP., 14N-3W, SECTIONS 1, 2, 3, 4, 11, 12, 13 DENVER TWP., 15N-3W, SECTIONS 28, 33, 34																
GF	MUSKEGON	TRAVERSE-DUNDEE-DETROIT RIVER	1927	MUSKEGON	1,640 2,025	6 L		ST. PETER SS.	4,754	?	0	0	2	1,520				7,237,438	DOMESTIC USE & LEASE FUEL	
				MUSKEGON TWP., 10N-16W, SECTIONS 4, 5, 6, 7, 8, 9, 15, 22 LAKETON TWP., 10N-17W, SECTION 12																
OF	MUSKEGON	TRAVERSE & DUNDEE	1928	MUSKEGON	1,700	3.5 L	37.4	ST. PETER SS.	4,754	?	0	1	11	3,170	1,855	7,020,721			2,215	211
				MUSKEGON TWP., 10N-16W, SECTIONS 3 THROUGH 10, 15, 16, 17, 21, 22 LAKETON TWP., 10N-17W, SECTIONS 1, 11, 12, 13, 14																
GS	MUTTONVILLE	REFER TO TABLE 4 DEVELOPED GAS STORAGE RESERVOIRS																		
AOF	NELLSVILLE	DUNDEE	1957	ROSCOMMON	3,710	6 D	40.3	DETROIT RIVER	5,165	1	ABANDONED 1967			10		16,528			1,653	
AOF		RICHFIELD	1956		4,932	17 D	42.2			1	ABANDONED 1967			40		10,912			273	
				ROSCOMMON TWP., 22N-4W, SECTIONS 8, 17																
AGF	NEWARK	MICHIGAN STRAY	1948	GRATIOT	979	5 S		DUNDEE	3,255	6	ABANDONED 1968			960				441,757		
				NEW HAVEN TWP., 10N-4W, SECTIONS 23, 24, 25, 26																
AOF	NEW BOSTON	TRENTON	1943	WAYNE	2,635	4 L		TRENTON	2,983	2	ABANDONED 1949			20		2,349			118	
				HURON TWP., 4S-9E, SECTION 18																
OF	NEW LOTHROP	BEREA	1967	SHIAWASSEE-GENESEE	1,623	4 S	46	SYLVANIA	3,494	19	0	0	14	680	14,564	129,772			191	6
				FLUSHING TWP., 8N-5E, SECTIONS 7, 8, 18 HAZELTON TWP., 8N-4E, SECTIONS 1, 12																
AOF	NEW RICHMOND	TRAVERSE	1965	ALLEGAN	1,364	1 L		TRAVERSE	1,365	1	ABANDONED 1966			10		104			10	
				MANLIUS TWP., 3N-15W, SECTION 16																

POOL CLASSIFICATION	FIELD NAME	PRODUCING FORMATION OR POOL	YEAR OF DISC	COUNTY TOWNSHIP PRODUCING SECTIONS	PAY ZONE DEPTH IN FEET	PAY ZONE THICKNESS AND LITHOLOGY	PAY ZONE OIL GRAVITY A.P.I.	DEEPEST FORMATION OR POOL TESTED	DEPTH IN FEET	NUMBER OF WELLS 1976 TO END	NUMBER OF WELLS 1976 COMP IN	NUMBER OF WELLS 1976 ABAND IN	NUMBER OF WELLS 1976 ACTIVE AT END	DRILLED ACRES	OIL PRODUCTION - BBLS PRODUCED IN 1976	OIL PRODUCTION - BBLS CUMULATIVE THROUGH 1976	GAS PRODUCTION - Mcf PRODUCED IN 1976	GAS PRODUCTION - Mcf CUMULATIVE THROUGH 1976	RECOVERY PER ACRE DRILLED (BBLS)	TOTAL BARRELS BRINE PER DAY
AOF	NILES	TRAVERSE	1940	BERRIEN	602	7 L	21.5	TRENTON	2,069	7	ABANDONED 1956			70		29,672			424	
				NILES TWP., 7S-17W, SECTIONS 1, 2, 3																
GF	NORTH MORENCI	TRAVERSE	1962	LENAWEE	638	2 D		PRAIRIE DU CHIEN	3,284	69	0	0	69	2,840				103,078	FIELD SHUT-IN NO MARKET	
				SENECA TWP., 8S-2E, SECTIONS 10, 13, 14, 15, 16, 17, 19, 20, 21, 22, 23, 25, 27, 28, 29, 30 MEDINA TWP., 8S-1E, SECTIONS 24, 25, 35																
AOF	NORTH PORTER	TRAVERSE	1930	CASS	660	2 L	37.0	TRENTON	2,382	2	ABANDONED 1955			20		1,424			71	
				PORTER TWP., 7S-13W, SECTION 32																
GF	NORTH STAR	MICHIGAN STRAY	1940	GRATIOT	870	7 S		DUNDEE	3,100	1	0	0	1	40			2,643	578,834		
				NORTH STAR TWP., 10N-2W, SECTION 4																
AGF	NORTHVILLE	DUNDEE	1948	WASHTENAW-WAYNE-OAKLAND	788	2 L		CAMBRO-ORDOVICIAN	5,850	4	ABANDONED 1961			640				0		
GF		SALINA-NIAGARAN	1937		2,905	2 D							6	1,200	FACILITY WELLS IN GAS STORAGE RESERVOIR					
OF		NIAGARAN	1960		3,515	25 D	42.5								PRODUCTION INCLUDED WITH TRENTON			3,794,518		
OF		TRENT.-BLK.RIVER	1954		4,395	70 D	39.8						3	2,835	6,364	1,082,066		14,332,358	382	
															NIAGARAN OIL COMBINED WITH TRENTON-BLACK RIVER					
				SALEM TWP., 1S-7E, SECTIONS 1, 2 LYON TWP., 1N-7E, SECTION 36 (DUNDEE) LYON TWP., 1N-7E, SECTIONS 34, 35, 36 SALEM TWP., 1S-7E, SECTIONS 1, 2, 12 NORTHVILLE TWP., 1S-8E, SECTIONS 7, 16, 17																
				PLYMOUTH TWP., 1S-8E, SECTIONS 21, 22, 23, 25, 26 (SALINA-NIAGARAN AND TRENTON-BLACK RIVER)																
GS	NORTHVILLE	REFER TO TABLE 4 DEVELOPED GAS STORAGE RESERVOIRS CONVERTED TO GAS STORAGE AND SECONDARY RECOVERY JULY 2, 1968																		
AOF	OLIVET	TRENT.-BLK.RIVER	1969	EATON	4,450	5 D		PRAIRIE DU CHIEN	5,020	1	ABANDONED 1971			20	0	340			17	
				BELLEVUE TWP., 1N-16W, SECTION 24																
OF	ONONDAGA 10-1N-2W	NIAGARAN REEF	1971	INGHAM	3,784	40 D	38.4	PRAIRIE DU CHIEN	5,744	15	2	0	14	1,080	1,067,814	3,954,053	1,071,943	3,392,786	3,661	
				ONONDAGA TWP., 1N-2W, SECTIONS 2, 3, 10, 11, 14																
OF	ONONDAGA 17-1N-2W	SALINA-NIAGARAN REEF	1973	INGHAM	3,620	50 D		NIAGARAN	3,850	1	0	0	1	80	41,480	197,940	30,615	113,333	2,474	54
OF	ONONDAGA 17-1N-2W POOL A	SALINA-NIAGARAN REEF	1975	INGHAM	3,610	92 D	37	NIAGARAN	3,830	1	0	0	1	80	1,220	1,220	19,459	19,459	15	
				ONONDAGA TWP., 1N-2W, SECTION 17																
OF	ONONDAGA 20-1N-2W	NIAGARAN REEF	1976	INGHAM	3,569	5 D		NIAGARAN	3,710	1	1	0	1	160						
				ONONDAGA TWP., 1N-2W, SECTION 20																
OF	ONONDAGA 21-1N-2W	NIAGARAN REEF	1971	INGHAM	3,629	31 D	33.2	MANITOULIN	4,125	18	1	0	18	1,360	339,315	2,611,042	966,570	4,002,397	1,920	33
				ONONDAGA TWP., 1N-2W, SECTIONS 15, 16, 17, 21, 22																
GS	ORIENT	REFER TO TABLE 4 DEVELOPED GAS STORAGE RESERVOIRS																		
AOF	OTISVILLE	BEREA	1949	GENESEE-TUSCOLA	1,446	5 S		DUNDEE	2,694	1	ABANDONED 1956			10	PRODUCTION COMBINED WITH DUNDEE					
AOF		TRAVERSE	1941		1,895	2 L				1	ABANDONED 1946			10	PRODUCTION COMBINED WITH DUNDEE					
OF		DUNDEE	1944		2,450	3 L	37.0			5	0	0	2	50	2,306	124,912			1,785	2
				FOREST TWP., 9N-8E, SECTIONS 5, 6 MILLINGTON TWP., 10N-8E, SECTIONS 31, 32 TRAVERSE PRODUCTION IN FOREST TWP., SECTION 5																
AOF	OTSEGO	TRAVERSE	1938	ALLEGAN	1,532	1 L		TRAVERSE	1,600	7	ABANDONED 1972			110		2,290			21	
				OTSEGO TWP., 1N-12W, SECTIONS 19, 30 TROWBRIDGE TWP., 1N-13W, SECTION 36																
GF	OTSEGO	ANTRIM	1940	OTSEGO	1,385	4 SH		DUNDEE	3,944	9	0	0	3	840			36,880	631,901		125
				BAGLEY TWP., 30N-3W, SECTIONS 21, 22, 27, 28, 34																
AOF	OTSEGO, SEC. 9	TRAVERSE	1950	ALLEGAN	1,456	1 L		TRAVERSE	1,457	4	ABANDONED 1951			40	0	681			17	
				OTSEGO TWP., 1N-12W, SECTIONS 5, 8, 9											REACTIVATED BRIEFLY IN 1958					
OF	OTTER LAKE	BEREA	1945	GENESEE	1,502	4 S	35.5	DETROIT RIVER	3,142	10	0	0	6	110	CUMULATIVE THROUGH 1976 COMBINED WITH OTISVILLE DUNDEE					8
OF		DETROIT RIVER SZ	1970		2,968	10 D				10	0	0	10	400	7,712	187,620			368	
				FOREST TWP., 9N-8E, SECTION 12 (BEREA) SECTIONS 11, 12 (DETROIT RIVER SZ)																
AOF	OTTO, SEC. 30	"BEREA"	1958	OCEANA	1,428	9 S		TRAVERSE	1,860	2	ABANDONED 1960			10		COMBINED WITH OTTO SECTION 32				
AOF		TRAVERSE	1955		1,857	3 L				1	ABANDONED 1960			20		COMBINED WITH OTTO SECTION 32				
				OTTO TWP., 13N-16W, SECTIONS 19, 30																
AOF	OTTO, SEC. 32	"BEREA"	1950	OCEANA	1,445	1 L		TRAVERSE	1,895	2	ABANDONED 1976			10	0	4,308			108	
				OTTO TWP., 13N-16W, SECTION 32																
OF	OVERISEL	TRAVERSE	1938	ALLEGAN	1,478	3 L	42.1	TRENTON	4,060	164	0	0	23	1,770	12,018	2,978,602			1,683	144
				OVERISEL TWP., 4N-14W, SECTIONS 5, 8, 9, 15, 16, 21, 22, 27, 28, 34 HEATH TWP., 3N-14W, SECTIONS 3, 4, 9, 10																
GS	OVERISEL	REFER TO TABLE 4 DEVELOPED GAS STORAGE RESERVOIRS																		
AOF	OVERISEL, SEC. 11	TRAVERSE	1940	ALLEGAN	1,553	4 L		TRAVERSE	1,578	1	ABANDONED 1944			10	0	6,370			637	
				OVERISEL TWP., 4N-14W, SECTION 11																
OF	OXBOW	TRAVERSE	1958	MASON	1,652	1 L	35.4	REED CITY	2,354	4	0	0	2	40	852	91,062			2,277	24
				RIVERTON TWP., 17N-17W, SECTIONS 26, 27																
GF	PARADISE	TRAVERSE	1965	GRAND TRAVERSE	1,889	8 L		DUNDEE	1,897	3	0	0	3	400					SHUT-IN FOR MARKET	
				PARADISE TWP., 25N-10W, SECTIONS 9, 16																
GF	PARIS	MICHIGAN STRAY	1951	MECOSTA	1,217	5 S		REED CITY	3,545	2	0	0	1	560				375,564	DOMESTIC USE	
OF		TRAVERSE	1949		2,890	10 D	43.6			22	0	0	11	440	6,535	1,283,016			2,916	530
AGF		DUNDEE	1949		3,404	5 L				2	ABANDONED 1959			20				268,667		
				GREEN TWP., 16N-10W, SECTIONS 16, 21, 22, 27, 28																
GS	PARTELLO	REFER TO TABLE 4 DEVELOPED GAS STORAGE RESERVOIRS																		
AOF	PAW PAW	TRAVERSE	1963	VAN BUREN	1,096	2 L	41.4	TRENTON	2,912	8	ABANDONED 1973			160	0	20,209			126	
				PAW PAW TWP., 3S-14W, SECTIONS 2, 10, 11, 15																
AOF	PAW PAW, SEC. 33	TRAVERSE	1964	VAN BUREN	1,028	1 L	38.0	TRAVERSE	1,032	1	ABANDONED 1972			10	0	0				
				PAW PAW TWP., 3S-14W, SECTION 33																
OF	PEACOCK	TRAVERSE	1966	LAKE	2,292	2 L	34.0	REED CITY	3,047	27	0	0	16	1,060	80,446	1,108,687			1,046	2,740
AOF		REED CITY	1966		3,001	4 D				1	ABANDONED 1974			40	0	4,442			111	
				PEACOCK TWP., 19N-13W, SECTIONS 7, 8, 9, 16, 17, 18																
AOF	PECKS LAKE	DUNDEE	1967	OSCEOLA	3,866	2 L		REED CITY	3,854	1	ABANDONED 1969			40	0	2,885			72	
				EVART TWP., 17N-8W, SECTION 18																
OF	PENNFIELD 21-1S-7W	SALINA-NIAGARAN REEF	1975	CALHOUN	2,743	48 D	27.2	NIAGARAN	2,850	1	0	0	1	80	13,311	22,747			284	90
				PENNFIELD TWP., 1S-7W, SECTION 21																

POOL CLASSIFICATION

OF ACTIVE OIL FIELD OR POOL
AOF ABANDONED OIL FIELD OR POOL
GF ACTIVE GAS FIELD OR POOL
AGF ABANDONED GAS FIELD OR POOL
G-C GAS-CONDENSATE FIELD OR POOL
AG-C ABANDONED GAS-CONDENSATE FIELD OR POOL
GS GAS STORAGE RESERVOIR

	FIELD NAME	PRODUCING FORMATION OR POOL	YEAR OF DISC	COUNTY TOWNSHIP / PRODUCING SECTIONS	PAY ZONE DEPTH IN FEET	PAY ZONE THICKNESS AND LITHOLOGY	PAY ZONE OIL GRAVITY A.P.I.	DEEPEST FORMATION OR POOL TESTED	DEPTH IN FEET	NUMBER OF WELLS TO END (1976)	NUMBER OF WELLS COMP. IN (1976)	NUMBER OF WELLS ABAND. IN (1976)	NUMBER OF WELLS ACTIVE AT END (1976)	DRILLED ACRES	OIL PRODUCTION - BBLS PRODUCED IN 1976	OIL PRODUCTION - BBLS CUMULATIVE THROUGH 1976	GAS PRODUCTION - Mcf PRODUCED IN 1976	GAS PRODUCTION - Mcf CUMULATIVE THROUGH 1976	RECOVERY PER ACRE DRILLED (BBLS)	TOTAL BARRELS BRINE PER DAY
OF	PENNFIELD 23-15-7W	SALINA-NIAGARAN REEF	1973	CALHOUN	2,676	70 O		NIAGARAN	3,701	2	0	0	2	160	53,447	130,804			818	50
	PENNFIELD TWP., 15-7W, SECTIONS 26, 29																			
OF	PENNFIELD 23-15-7W REC. A	SALINA-NIAGARAN REEF	1976	CALHOUN	2,681	113 O	19	NIAGARAN	2,835	1	1	0	1	80	7,197	7,197			90	150
	PENNFIELD TWP., 15-7W, SECTION 29																			
OF	PENNFIELD 35-15-7W	SALINA-NIAGARAN REEF	1974	CALHOUN	2,843	26 O	23.6	CLINTON	3,323	12	1	0	12	880	449,249	694,411	22,343	22,343	789	
	PENNFIELD TWP., 15-7W, SECTIONS 26, 27, 35, 36																			
OF	PENTWATER	TRAVERSE	1948	OCEANA-MASON	1,585	8 L	40.4	PRAIRIE DU CHIEN	5,383	149	0	0	49	1,400	12,513	CUMULATIVE PRODUCTION COMBINED WITH DUNDEE				
OF		DUNDEE	1945		2,088	10 O	43.1							2,000	6,572	6,730,056		1,010,713	1,979	254
GF		A-2 CARBONATE	1973		3,470	40 L				2	0	0	2				SHUT-IN			
	THE 49 WELLS INCLUDE 26 TRAVERSE, 9 DUNDEE AND 14 DUNDEE AND TRAVERSE																			
	WEARE TWP., 16N-17W, SECTIONS 4, 5, 6, 7, 8 PENTWATER TWP., 16N-18W, SECTIONS 1, 2, 12 SUMMIT TWP., 17N-17W, SECTION 31 SUMMIT TWP., 17N-18W, SECTIONS 26, 35, 36																			
OF	PENTWATER LAKE	TRAVERSE	1969	OCEANA	1,612	2 L		NIAGARAN	4,078	3	0	0	3	120	3,027	94,620			789	20
	PENTWATER TWP., 16N-18W, SECTION 26																			
OF	PETERS	SALINA-NIAGARAN REEF	1955	ST. CLAIR	2,386	47 D	39.0	CLINTON	2,842	89	0	0	65	1,780	116,117	5,184,501	633,602	18,198,588	2,423	274
	CASCO TWP., 4N-15E, SECTIONS 33 15, SE¼ 16, 22, 23, 26, 27, E½ 28, NE¼ 33, N½ 34																			
GF	PETERS, EAST	SALINA-NIAGARAN REEF	1961	ST. CLAIR	2,590	17 D	41.6	CLINTON	2,777	9	0	0	8	360	PRODUCTION COMBINED WITH PETERS					29
	CASCO TWP., 4N-15E, SECTIONS 24, 25 CHINA TWP., 4N-16E, SECTION 19																			
AOF	PINCONNING	TRAVERSE	1958	BAY	2,151	1 L		DETROIT RIVER	3,790	1	ABANDONED 1960			10	PRODUCTION COMBINED WITH PINCONNING DUNDEE					
OF		DUNDEE	1944		2,898	7 D	36.2			12	0	0	2	100	2,984	881,648			8,015	160
	PINCONNING TWP., 17N-4E, SECTIONS 25, 35, 36 FRASER TWP., 16N-4E, SECTION 2																			
AOF	PINE	TRAVERSE	1938	MONTCALM	2,836	1 L	45.0	DUNDEE	3,308	2	ABANDONED 1963			20		105,506			5,275	
	PINE TWP., 11N-8W, SECTION 29																			
AOF	PINE RIVER	TRAVERSE	1956	GRATIOT	2,890	5 L		DUNDEE	3,285	1	ABANDONED 1958			10		760			76	
AOF		DUNDEE	1942		3,280	2 L				2	ABANDONED 1956			90		13,285			148	
	PINE RIVER TWP., 12N-3W, SECTION 31 SEVILLE TWP., 12N-4W, SECTION 36																			
GF	PINE, SECS. 9 & 17	MICHIGAN STRAY	1951	MONTCALM	1,251	1 S		DUNDEE	3,469	2	0	0	2	80				37,272	DOMESTIC USE	
	PINE TWP., 11N-8W, SECTIONS 9, 17																			
GF	PIONEER	TRAVERSE	1931	MISSAUKEE	3,025	5 L		DUNDEE	3,583	1	0	0	1	40			SHUT-IN			
	PIONEER TWP., 24N-7W, SECTION 24																			
AOF	PIPESTONE	TRAVERSE	1962	BERRIEN	822	2 L	22.4	NIAGARAN	1,353	2	ABANDONED 1966			20		85			4	
	PIPESTONE TWP., 5S-17W, SECTION 24																			
OF	POLKTON	TRAVERSE	1942	OTTAWA	1,878	2 L	37.8	DUNDEE	2,351	13	0	0	3	170	2,032	75,557			445	
	POLKTON TWP., 8N-14W, SECTIONS 8, 9, 10, 11, 14, 15, 16																			
OF	PORTER	DUNDEE	1933	MIDLAND	3,415	12 L	40.6	BLACK RIVER	9,519	529	0	3	126	6,690	96,550	49,741,271		4,992,995	7,435	
	THE 126 WELLS INCLUDE 122 DUNDEE, 1 TRAVERSE, AND 3 DUNDEE AND TRAVERSE																			
	PORTER TWP., 13N-1W, SECTIONS 7, 8, 9, 10, 14 THROUGH 23, 26, 27, 28 JASPER TWP., 13N-2W, SECTIONS 1, 2, 3, 11, 12 GREENDALE TWP., 16N-2W, SECTIONS 34, 35																			
AOF	PORT HURON	DUNDEE	1886	ST. CLAIR	575	20 L		CAMBRIAN	4,948	21	ABANDONED 1921			EST.15		NO RECORD				
	FT. GRATIOT TWP., 7N-17E, SECTION 32																			
GF	PORT HURON 31-7N-17E	NIAGARAN	1975	ST. CLAIR	3,242	55 D		NIAGARAN	3,297	1	0	0	1	40			2,132	3,755		
	PORT HURON TWP., 7N-17E, SECTION 31																			
GF	PORT HURON 33-7N-17E	NIAGARAN REEF	1971	ST. CLAIR	3,160	10 D		NIAGARAN	3,185	1	0	0	1	160			1,881	11,673		
	PORT HURON TWP., 7N-17E, SECTION 33																			
GF	PROSPER	MICHIGAN STRAY	1948	MISSAUKEE	1,269	6 S		RICHFIELD	5,254	3	0	0	2	480				152,682	LEASE FUEL	
	AETNA TWP., 22N-6W, SECTIONS 34, 35 CLAM UNION TWP., 21N-6W, SECTION 2																			
OF	PROSPER	DUNDEE	1942	MISSAUKEE	3,837	4 L	43.2	RICHFIELD	5,254	13	0	0	6	520	8,601	1,796,677			3,455	2,350
AOF		RICHFIELD	1954		5,128	21 D				1	ABANDONED 1957			40		7,088			177	
	AETNA TWP., 22N-6W, SECTIONS 26, 35																			
OF	PROSPER, SOUTH	DUNDEE	1967	MISSAUKEE	3,798	8 D		DUNDEE	3,808	7	0	0	6	280	51,445	873,204			3,119	1,262
	AETNA TWP., 22N-6W, SECTION 36 CLAM UNION TWP., 21N-6W, SECTIONS 1, 2																			
AOF	PULLMAN	TRAVERSE	1949	ALLEGAN	1,185	1 L		BASS ISLANDS	1,942	9	ABANDONED 1951			90		26,840			298	
	CASCO TWP., 1N-16W, SECTIONS 11, 12																			
OF	PULLMAN, EAST	TRAVERSE	1949	ALLEGAN	1,131	2 L	39.0	TRENTON	3,020	25	0	0	11	250	2,839	394,038			1,576	244
AGF		SALINA A-2 CARB.	1961		1,645	7 D				3	ABANDONED 1968			480				27,225		
	LEE TWP., 1N-15W, SECTIONS 5, 6, 7, 8 (TRAVERSE) SECTIONS 5, 6, 8 (SALINA A-2 CARB.)																			
GS	PUTTYGUT	REFER TO TABLE 4 DEVELOPED GAS STORAGE RESERVOIRS						OIL PRODUCTION COMBINED WITH ADAIR												
AOF	RABBIT RIVER	TRAVERSE	1950	ALLEGAN	1,655	3 L		TRAVERSE	1,678	8	ABANDONED 1959			80		12,745			159	
	SALEM TWP., 4N-13W, SECTIONS 28, 29, 32, 33																			
AOF	RAPID RIVER 17-28N-7W	TRAVERSE	1972	KALKASKA	1,521	10 L		NIAGARAN	6,351	1	ABANDONED 1973			40		429			11	
	RAPID RIVER TWP., 28N-7W, SECTION 17																			
GF	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 MOOPLAND TWP., 10N-14W, SECTIONS 32, 33																			
OF	RAVENNA	TRAVERSE	1952	MUSKEGON	1,842	15 L		DETROIT RIVER	2,601	37	0	0	1	730	0	459,456			629	
	RAVENNA TWP., 9N-14W, SECTIONS 21, 27, 28, 29, 30, 31 SULLIVAN TWP., 9N-15W, SECTIONS 25, 36																			
GF	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																			
GS	RAY	REFER TO TABLE 4 DEVELOPED GAS STORAGE RESERVOIRS																		
AOF	READING	TRENTON	1971	HILLSDALE	3,100	10 D	42	BLACK RIVER	3,478	2	ABANDONED 1973			80		5,431			68	
	READING TWP., 7S-4W, SECTION 29																			
GF	REDDING	MICHIGAN STRAY	1940	CLARE	1,475	3 S		SYLVANIA	5,462	7	0	0	3	160				32,692	LEASE FUEL	
	REDDING TWP., 19N-6W, SECTIONS 27, 32 FREEMAN TWP., 18N-6W, SECTION 2																			

POOL CLASSIFICATION

OF ACTIVE OIL FIELD OR POOL
AOF ABANDONED OIL FIELD OR POOL
GF ACTIVE GAS FIELD OR POOL
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AG-C ABANDONED GAS-CONDENSATE FIELD OR POOL
GS GAS STORAGE RESERVOIR

	FIELD NAME	PRODUCING FORMATION OR POOL	YEAR OF DISC	COUNTY TOWNSHIP / PRODUCING SECTIONS	PAY ZONE DEPTH IN FEET	PAY ZONE THICKNESS AND LITHOLOGY	PAY ZONE OIL GRAVITY A.P.I.	DEEPEST FORMATION OR POOL TESTED	DEPTH IN FEET	NUMBER OF WELLS TO END (1976)	NUMBER OF WELLS COMP. IN (1976)	NUMBER OF WELLS ABAND. IN (1976)	NUMBER OF WELLS ACTIVE AT END (1976)	DRILLED ACRES	OIL PRODUCTION - BBLS PRODUCED IN 1976	OIL PRODUCTION - BBLS CUMULATIVE THROUGH 1976	GAS PRODUCTION - Mcf PRODUCED IN 1976	GAS PRODUCTION - Mcf CUMULATIVE THROUGH 1976	RECOVERY PER ACRE DRILLED (BBLS)	TOTAL BARRELS BRINE PER DAY
OF	REED CITY	TRAVERSE	1941	LAKE-OSCEOLA	2,925	5 L	43.7	ST. PETER SS.	8,917		0	0	4	1,600	13,419	3,686,441		388,638	2,304	685
OF		DUNDEE	1940		3,490	3 L	46.3	}										16,217,576		
OF		REED CITY	1941		3,585	7 O	42.8	(LOREED UNIT-SEE	TABLE 6)				167	5,320	121,369	42,048,597			7,904	
OF		DETROIT RIVER SZ	1959		4,184	73 OL	48.2	}			45	0	0	20	1,800	64,001	2,459,061	3,476,188	1,366	80
OF		RICHFIELD	1954		4,633	12 SL	45.8	}			(TWO WELLS COMMINGLED WITH SOUR ZONE)									
	LINCOLN TWP., 18N-10W, SECTIONS 17, 18, 19, 20, 29, 30, 31, 32 RICHMOND TWP., 17N-10W, SECTIONS 4 THROUGH 9 PINORA TWP., 18N-11W, SECTIONS 24, 25, 36																			
GS	REED CITY (STRAY)	REFER TO TABLE 4 DEVELOPED GAS STORAGE RESERVOIRS																		
GS	REED CITY (LOREED)	REFER TO TABLE 4 DEVELOPED GAS STORAGE RESERVOIRS																		
OF	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																			
AGF	REEDER	MICHIGAN STRAY	1964	MISSAUKEE	1,385	4 S		DUNDEE	4,002	2	ABANDONED 1966			320				0		
	REEDER TWP., 11N-7W, SECTION 32																			
AOF	REEMAN	TRAVERSE	1958	NEWAYGO	2,099	1 L		TRAVERSE	2,100	3	ABANDONED 1967			30		44,886			1,500	
	SHERIDAN TWP., 12N-14W, SECTION 8																			
OF	REYNOLDS	TRAVERSE	1955	MONTCALM-MECOSTA	2,787	4 O	39.8	BASS ISLANDS	4,300	16	0	0	5	110	8,820	CUMULATIVE PRODUCTION COMBINED WITH REED CITY				445
OF		REED CITY	1954		3,343	2 O	44.3			53	0	0	8	2,100	18,396	4,646,843		408,555	2,103	895
	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																			
GF	RICH	BEREA	1970	LAPEER	1,380	29 S		SYLVANIA	3,267	6	3	0	6	960						
OF		DETROIT RIVER SZ	1962		3,028	5 O	33.9			26	3	0	26	1,000	96,376	806,449	21,991	361,469	412	22
	RICH TWP., 10N-10E, SECTIONS 21, 22, 27 (BEREA) SECTIONS 21, 26, 27, 28, 34, 35 (DETROIT RIVER SZ)																			
AOF	RICHLAND	TRAVERSE	1936	SAGINAW	2,739	10 L	46.0	DUNDEE	3,264	1	ABANDONED 1936			10		1,871			187	
	RICHLAND TWP., 12N-2E, SECTION 31																			
AGF	RICHLAND, SEC. 27	MICHIGAN STRAY	1963	MONTCALM	1,247	1 S		DUNDEE	3,530	1	ABANDONED 1964			160				0		
	RICHLAND TWP., 12N-5W, SECTION 27																			
AGF	RICHMOND	NIAGARAN REEF	1968	MACOMB	3,195	12 D		NIAGARAN	3,254	1	ABANDONED 1976			40			0	179,249		
	RICHMOND TWP., 5N-14E, SECTION 26																			
AOF	RIDGEWAY, SEC. 1	TRENTON	1954	LENAWEE	2,415	4 O		TRENTON	2,491	1	ABANDONED 1962			10		47			5	
	RIDGEWAY TWP., 6S-5E, SECTION 1																			
OF	RIVERSIDE	TRAVERSE	1961	MISSAUKEE	3,220	2 L	42.6	DUNDEE	3,953	1	0	0	1	10	819	21,571			2,157	30
OF		DUNDEE	1942		3,944	3 L	44.5			3	0	0	3	100	2,763	138,286			1,383	440
	RIVERSIDE TWP., 21N-7W, SECTIONS 14, 23, 24																			
GS	RIVERSIDE (STRAY)	REFER TO TABLE 4 DEVELOPED GAS STORAGE RESERVOIRS																		
AOF	RIVERTON	TRAVERSE	1957	MASON	1,650	6 L	38.5	DUNDEE	2,317	19	ABANDONED 1971			190		242,206			1,275	
	RIVERTON TWP., 17N-17W, SECTIONS 10, 11, 15																			
OF	RIVERTON, SEC. 21	TRAVERSE	1964	MASON	1,683	4 L	38.2	DUNDEE	2,290	3	0	0	2	30	462	17,041			568	7
	RIVERTON TWP., 17N-17W, SECTION 21																			
AOF	ROBINSON, SEC. 3	DUNDEE	1956	OTTAWA	2,107	7 L		DUNDEE	2,210	2	ABANDONED 1972			20		10,630			532	
	ROBINSON TWP., 7N-15W, SECTION 3																			
OF	ROCKFORD	TRAVERSE	1945	KENT	2,204	3 L	44.0	DETROIT RIVER	2,850	23	0	0	3	210	3,778	562,145			2,677	458
	ALGOMA TWP., 9N-11W, SECTIONS 25, 35, 36 COURTLAND TWP., 9N-10W, SECTION 19																			
GF	NOTE: NAME CHANGED TO WASHINGTON, SEC. 11 (FORMERLY ROMEO)																			
GF	NOTE: NAME CHANGED TO WASHINGTON, SEC. 10 (FORMERLY ROMEO, SEC. 10)																			
AGF	ROMULUS	SALINA A-1 CARB.	1955	WAYNE	1,980	20 D		NIAGARAN	2,259	2	ABANDONED 1972			320				45,045		
	ROMULUS TWP., 3S-9E, SECTIONS 15, 16																			
OF	ROSEBUSH	DUNDEE	1933	ISABELLA	3,690	6 L	42.0	RICHFIELD	4,838	46	0	0	37	1,020						273
OF		RICHFIELD	1969		4,790	4 D		(TWO WELLS COMMINGLED WITH DUNDEE)					80		25,972	2,304,763			89	
	ISABELLA TWP., 15N-4W, SECTIONS 1, 2, 11, 12, 13 DENVER TWP., 15N-5W, SECTIONS 7, 18 VERNON TWP., 16N-4W, SECTION 36																			
OF	ROSE CITY	RICHFIELD	1942	OGEMAW	4,125	9 D	41.2	CAMBRIAN	12,996	132	0	0	69	5,160	318,158	6,904,755	166,709	8,768,235	1,338	147
	FOSTER TWP., 24N-1E, SECTIONS 14, 20, 21, 23, 24, 25 FOSTER TWP., 24N-2E, SECTIONS 19, 20, 21, 27, 28, 29, 30, 31, 32, 33, 34, 35 ROSE TWP., 24N-2E, SECTIONS 27, 34, 35 KLACKING TWP., 23N-2E, SECTIONS 2, 3, 11																			
OF	ROSE LAKE	TRAVERSE	1943	OSCEOLA	3,140	5 L	45.5	DETROIT RIVER	3,990	18	0	0	6	720	14,167	1,877,990			2,608	724
	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																			
OF	SAGE	DUNDEE	1971	GLADWIN	3,867	2 L		DETROIT RIVER	4,235	3	0	0	2	120	2,483	67,519			563	
	SAGE TWP., 19N-2W, SECTION 12																			
OF	SAGINAW	BEREA	1925	SAGINAW	1,825	16 S	46.1	SYLVANIA	3,920	7	0	2	5	1,500	4,937	1,695,562			1,130	6
	SAGINAW TWP., 12N-4E, SECTIONS 10, 11, 12, 13, 14, 15, 24																			
OF	SALEM	TRAVERSE	1937	ALLEGAN-OTTAWA	1,583	8 L	38.3	TRENTON	4,347	337	0	0	90	3,390	28,921	9,241,107			320	69
AGF		DETROIT RIVER	1958		1,969	6 D				3	ABANDONED 1966			320				49,582		
OF		SALINA	1937		2,725	2 D		REFER TO GAS STORAGE RESERVOIRS-PRODUCES SMALL AMOUNT OF OIL-INCLUDED AS MISCELLANEOUS PRODUCTION IN ABANDONED TOTALS												
	SALEM TWP., 4N-13W, SECTIONS 16, 21 (DETROIT RIVER) SALEM TWP., 4N-13W, SECTIONS 1, 2, 3, 10 THROUGH 17, 20, 21, 22, 23, 24, 34 JAMESTOWN TWP., 5N-13W, SECTIONS 35, 36 (TRAVERSE)																			
GS	SALEM	REFER TO TABLE 4 DEVELOPED GAS STORAGE RESERVOIRS																		
OF	SANFORD	TRAVERSE	1959	MIDLAND	3,125	2 L		DETROIT RIVER	4,811	13	0	0	11	260	2,063	204,453			99	5
OF		DUNDEE	1951		3,755	3 L	42.6			3	THE 11 WELLS INCLUDE 9 DUNDEE, 1 TRAVERSE AND 1 DUNDEE AND TRAVERSE									
	JEROME TWP., 15N-1W, SECTIONS 12, 13																			
OF	SAUBLE	TRAVERSE	1942	LAKE	2,111	2 L	35.6	TRAVERSE	2,156	5	0	0	1	200		144,763			724	
	SAUBLE TWP., 19N-14W, SECTION 16																			
OF	SCOTTVILLE	TRAVERSE	1961	MASON	1,646	3 L	34.6	CINCINNATIAN	5,129	17	0	1	4	340	0	CUMULATIVE PRODUCTION COMBINED WITH REED CITY				
OF		REED CITY	1962		2,319	3 L	37.2			11	0	0	3	220	2,266	521,088			931	55
	AMBER TWP., 15N-17W, SECTIONS 13, 14, 23																			
AGF	SEARS	MICHIGAN STRAY	1964	OSCEOLA	1,492	12 S		DUNDEE	3,988	1	ABANDONED 1965			160				0		
	SYLVAN TWP., 18N-7W, SECTION 32																			

POOL CLASSIFICATION	FIELD NAME	PRODUCING FORMATION OR POOL	YEAR OF DISC	COUNTY TOWNSHIP PRODUCING SECTIONS	PAY ZONE DEPTH IN FEET	PAY ZONE THICKNESS AND LITHOLOGY	PAY ZONE OIL GRAVITY A P I	DEEPEST FORMATION OR POOL TESTED	DEPTH IN FEET	NUMBER OF WELLS 1976 TO END	COMP IN	ABAND IN	ACTIVE AT END	DRILLED ACRES	OIL PRODUCTION - BBLS PRODUCED IN 1976	OIL CUMULATIVE THROUGH 1976	GAS PRODUCTION - Mcf PRODUCED IN 1976	GAS CUMULATIVE THROUGH 1976	RECOVERY PER ACRE DRILLED (BBLS)	TOTAL BARRELS BRINE PER DAY
AOF	SECORD	DUNDEE	1937	GLADWIN	3,437	5 L	35.0	DUNDEE	3,500	2	ABANDONED 1941			20		12,024			601	
	SECORD TWP., 19N-1E, SECTIONS 11, 12																			
GS	SHAVER (SUMNER-NEW HAVEN)	REFER TO TABLE 4 DEVELOPED GAS STORAGE RESERVOIRS																		
AOF	SHELBY	TRAVERSE	1951	OCEANA	1,743	3 L	43.0	DUNDEE	2,234	20	ABANDONED 1971			350		226,092			652	
	BENONA TWP., 14N-18W, SECTION 18 BENONA TWP., 14N-19W, SECTION 13																			
GF	SHERIDAN	MICHIGAN STRAY	1935	MECOSTA	1,375	2 S		DUNDEE	3,904	5	0	0	1	480				271,374	DOMESTIC USE	
	SHERIDAN TWP., 15N-7W, SECTIONS 13, 14																			
AOF	SHERIDAN, SEC. 25	TRAVERSE	1951	NEWAYGO	2,204	1 L		TRAVERSE	2,205	1	ABANDONED 1955			10		628			63	
	SHERIDAN TWP., 12N-14W, SECTION 25																			
OF	SHERMAN	DUNDEE	1936	ISABELLA	3,650	4 D	42.0	SYLVANIA	4,994	88	0	0	5	1,020	4,712	4,750,975		641,217	4,658	408
	SHERMAN TWP., 15N-6W, SECTIONS 29, 32, 33, 34 BROOMFIELD TWP., 14N-6W, SECTIONS 3, 4, 5																			
AOF	SHERMAN, SEC. 18	TRAVERSE	1939	ISABELLA	3,217	4 L		DUNDEE	3,835	3	ABANDONED 1947			20		1,364			68	
	SHERMAN TWP., 15N-6W, SECTION 18																			
GS	SIX LAKES	REFER TO TABLE 4 DEVELOPED GAS STORAGE RESERVOIRS																		
OF	SKELLS	TRAVERSE	1955	CLARE-GLADWIN	3,102	6 L	38.4	SYLVANIA	6,016	4	0	0	2	40	556	44,955			1,124	1
OF		DUNDEE	1950		3,840	7 D	39.6			5	0	0	4	50	3,448	983,525			19,670	
OF		DETROIT RIVER SZ	1942		4,844	4 D	47.4			31	0	0	24	40	18,221	1,272,710			31,818	
OF		RICHFIELD	1953		5,080	17 D	44.8							1,240	THE 24 WELLS INCLUDE 16 RICHFIELD, 4 SOUR ZONE & 4 RICHFIELD & SOUR ZONE					
	SHERMAN TWP., 20N-2W, SECTIONS 30, 31 FRANKLIN TWP., 20N-3W, SECTIONS 25, 36																			
AGF	SOUTH BRANCH	RICHFIELD	1968	CRAWFORD	4,203	12 D		DETROIT RIVER	4,436	1	ABANDONED 1971			40				0		
	SOUTH BRANCH TWP., 25N-1W, SECTION 32																			
AOF	SPRINGPORT	TRENT.-BLK.RIVER	1960	JACKSON	4,696	12+ D	46.5	PRAIRIE DU CHIEN	5,250	2	ABANDONED 1970			80		3,430			43	
	SPRINGPORT TWP., 1S-3W, SECTIONS 11, 14																			
AOF	ST. CHARLES	TRAVERSE	1957	SAGINAW	2,305	3 L	51.6	TRAVERSE	2,308	1	ABANDONED 1967			10		13,250			1,325	
	ST. CHARLES TWP., 10N-3E, SECTION 26																			
AGF	ST. CLAIR, SEC. 18	SALINA-NIAGARAN	1953	ST. CLAIR	2,567	2 D		CINCINNATIAN	3,240	1	ABANDONED 1961			160				16,101		
	ST. CLAIR TWP., 5N-17E, SECTION 18																			
OF	ST. HELEN	RICHFIELD	1941	ROSCOMMON	4,180	11 D	43.3	SALINA	5,440	101	0	0	54	4,040	267,189	5,594,996	272,883	10,928,972	1,385	313
	AU SABLE TWP., 24N-1W, SECTIONS 10, 14, 15, 16, 17, 19 THROUGH 30, 32																			
OF	ST. MARY'S LAKE	TRAVERSE	1968	MASON	1,641	3 L		TRAVERSE	1,644	2	0	0	2	40	603	26,911			673	30
	RIVERTON TWP., 17N-17W, SECTION 35																			
AOF	STANDISH	RICHFIELD	1948	ARENAC	4,108	3 D	35.4	RICHFIELD	4,210	9	ABANDONED 1967			360		147,062			409	
	LINCOLN TWP., 18N-4E, SECTIONS 10, 11, 15																			
OF	STANTON	TRAVERSE	1951	MONTCALM	2,916	7 DL	43.0	DUNDEE	3,492	17	0	0	6	340	6,320	980,408			2,884	140
	DOUGLASS TWP., 11N-7W, SECTIONS 26, 27, 34, 35																			
OF	STARRVILLE	NIAGARAN REEF	1967	ST. CLAIR	2,336	5 D		NIAGARAN	2,396	3	0	0	3	120	3,734	124,149			1,035	9
	COTTRELLVILLE TWP., 3N-16E, SECTION 9																			
OF	STERLING	TRAVERSE	1948	ARENAC	1,970	5 L	36.2	RICHFIELD	4,285	22	0	0	16	220	4,385	277,224			1,260	5
OF		DUNDEE	1947		2,872	17 L	33.6			20	0	0	17	200	7,424	434,479			2,172	1
OF		DETROIT RIVER SZ	1952		3,918	5 D	41.1			41	0	0	35	1,600	36,837	1,812,168			1,133	
OF		RICHFIELD	1950		4,153	8 D	37.6					THE 35 WELLS INCLUDE 11 RICHFIELD, 15 SOUR ZONE & 9 RICHFIELD & SOUR ZONE								
	DEEP RIVER TWP., 19N-4E, SECTIONS 9, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23																			
OF	STOCKBRIDGE 6-1N-2E	A-1 CARBONATE	1972	INGHAM	3,960	12 D	33.6	CLINTON	4,471	3	0	1	2	200	11,560	53,308	4,494	13,830	267	220
	STOCKBRIDGE TWP., 1N-2E, SECTION 6																			
OF	STOCKBRIDGE 7-1N-2E	A-1 CARBONATE	1974	INGHAM	3,906	10 D		NIAGARAN	4,445	1	0	0	1	80	2,067	12,806	SHUT-IN		160	
	STOCKBRIDGE TWP., 1N-2E, SECTION 7																			
AOF	STONY LAKE	"BEREA"	1949	OCEANA	930	1 SL	48.0	NIAGARAN	3,837	2	ABANDONED 1965				PRODUCTION COMBINED WITH STONY LAKE TRAVERSE					
OF		TRAVERSE	1946		1,630	19 L	44.9			79	0	0	16	1,540	2,170	7,563,623			4,911	1,600
	CLAYBANKS TWP., 13N-18W, SECTIONS 9, 10, 11, 14, 15, 16																			
AOF	SUMMERFIELD	TRENT.-BLK.RIVER	1958	MONROE-LENAWEE	1,940	10 DL		TRENT.-BLK. RIVER	2,382	2	ABANDONED 1964			20		2,142			107	
	SUMMERFIELD TWP., 7S-6E, SECTION 30 DEERFIELD TWP., 7S-5E, SECTION 24																			
OF	SUMNER	TRAVERSE	1953	GRATIOT	2,853	1 L	44.5	DUNDEE	3,366	35	0	1	16	350	9,546	1,097,302			3,135	850
	SUMNER TWP., 11N-4W, SECTIONS 11, 12																			
GF	SURREY	MICHIGAN STRAY	1945	CLARE	1,460	3 S		DUNDEE	4,000	?	0	0	2	320				12,667	DOMESTIC USE	
	SURREY TWP., 17N-5W, SECTIONS 23, 24																			
GS	SWAN CREEK	REFER TO TABLE 4 DEVELOPED GAS STORAGE RESERVOIRS																		
AGF	SYLVAN	MICHIGAN STRAY	1941	OSCEOLA	1,525	10 S		DETROIT RIVER	4,100	1	ABANDONED 1953			40				80,714		
OF		DUNDEE	1948		3,925	13.7 D	48.0			11	0	0	2	440	2,817	1,194,721			2,715	500
	SYLVAN TWP., 18N-7W, SECTION 7 (MICHIGAN STRAY) SECTIONS 8, 9, 16 (DUNDEE)																			
GF	TAYMOUTH	TRAVERSE	1957	SAGINAW	2,085	6 L		TRAVERSE	2,135	1	0	0	1	160	0	318			SHUT-DOWN	
	TAYMOUTH TWP., 10N 5E, SECTION 11																			
OF	TEKONSHA	TRENTON	1959	CALHOUN	3,553	? DL	34.5	PRAIRIE DU CHIEN	4,147	4	0	0	2	90	524	19,309	SHUT-IN		215	
	TEKONSHA TWP., 4S-6W, SECTION 17							ABANDONED IN 1969, REACTIVATED IN 1974												
AOF	THOMPSON CORNERS	TRAVERSE	1968	NEWAYGO	2,138	2 L		TRAVERSE	2,140	1	ABANDONED 1973			40	0	9,374			234	
	BEAVER TWP., 15N-14W, SECTION 30																			
AOF	THORNAPPLE, SEC. 4	TRAVERSE	1952	BARRY	1,951	2 L		TRAVERSE	1,973	2	ABANDONED 1961			20		2,716			136	
	THORNAPPLE TWP., 4N-10W, SECTIONS 3, 4																			
AOF	TRENT	TRAVERSE	1949	MUSKEGON	2,039	1 L		TRAVERSE	2,118	2	ABANDONED 1969			40		30,771			769	
	CASNOVIA TWP., 10N-13W, SECTION 19																			
OF	TROWBRIDGE	TRAVERSE	1937	ALLEGAN	1,358	2 L	41.2	CINCINNATIAN	2,952	162	0	0	5	1,840	997	525,213			285	59
	TROWBRIDGE TWP., 1N-13W, SECTIONS 1, 3 THROUGH 10, 12, 13, 15 THROUGH 23, 27, 28, 29, 30, 31, 32 OTSEGO TWP., 1N-12W, SECTIONS 7, 18																			

POOL CLASSIFICATION	FIELD NAME	PRODUCING FORMATION OR POOL	YEAR OF DISC	COUNTY TOWNSHIP PRODUCING SECTIONS	PAY ZONE DEPTH IN FEET	PAY ZONE THICKNESS AND LITHOLOGY	PAY ZONE OIL GRAVITY A P I	DEEPEST FORMATION OR POOL TESTED	DEPTH IN FEET	NUMBER OF WELLS 1976 TO END	COMP IN	ABAND IN	ACTIVE AT END	DRILLED ACRES	OIL PRODUCTION - BBLS PRODUCED IN 1976	OIL CUMULATIVE THROUGH 1976	GAS PRODUCTION - Mcf PRODUCED IN 1976	GAS CUMULATIVE THROUGH 1976	RECOVERY PER ACRE DRILLED (BBLS)	TOTAL BARRELS BRINE PER DAY
GF	TURK LAKE	MICHIGAN STRAY	1947	MONTCALM	1,081	4 S		DETROIT RIVER	3,413	4	0	1	1	640				217,584	DOMESTIC USE	
	MONTCALM TWP., 10N-8W, SECTIONS 9, 10, 14																			
AOF	TYRONE	TRAVERSE	1952	KENT	2,379	2 L		DETROIT RIVER	2,900	7	ABANDONED 1956			140		31,558			225	
	TYRONE TWP., 10N-12W, SECTIONS 10, 11, 14																			
AOF	UNION	TRAVERSE	1950	ISABELLA	3,191	2 L		DETROIT RIVER	4,096	1	ABANDONED 1963			20		58,263		55,354	2,913	
	UNION TWP., 14N-4W, SECTION 20																			
GF	UNION, SEC. 6	MICHIGAN STRAY	1965	ISABELLA	1,382	3 S		DUNDEE	3,777	2	0	0	2	240		SHUT-IN				
	UNION TWP., 14N-4W, SECTION 6																			
OF	VERNON	DUNDEE	1930	ISABELLA	3,755	3 DL	38.6	BOIS BLANC	5,118	78	0	0	1	890	1,613	5,049,075			5,673	1,000
	VERNON TWP., 16N-4W, SECTIONS 15, 16, 21, 22, 23, 26, 27																			
AGF	VERNON	MICHIGAN STRAY	1939	ISABELLA	1,300	2 S		DETROIT RIVER	3,907	25	ABANDONED 1956			920				1,464,249		
	VERNON TWP., 16N-4W, SECTIONS 25, 26, 35, 36 ISABELLA TWP., 15N-4W, SECTION 1																			
GF	VEVAY 8-2N-1W	NIAGARAN REEF	1975	INGHAM	4,140	44 D	43.8	NIAGARAN	4,312	1	1	0	1	80						
	VEVAY TWP., 2N-1W, SECTION 8																			
OF	VEVAY 16-2N-1W (MASON)	NIAGARAN REEF	1970	INGHAM	4,165	39 D	49.4	CLINTON	4,555	2	0	0	2	120	14,186	163,547	91,924	527,604	1,363	
	VEVAY TWP., 2N-1W, SECTION 16																			
OF	VEVAY 17-2N-1W	NIAGARAN REEF	1972	INGHAM	4,162	12 D		NIAGARAN	4,300	3	0	0	3	240	43,267	125,709	123,112	276,162	524	
	VEVAY TWP., 2N-1W, SECTION 17																			
AOF	VEVAY 19-2N-1W	TRAVERSE	1971	INGHAM	2,141	65 L	37	CINCINNATIAN	4,600	2	ABANDONED 1972			80	0	12,930			161	
GF	NIAGARAN POOL A	NIAGARAN REEF	1971		3,942	24 D	46.8			2	0	0	2	320	34,654	185,594	108,553	2,673,551	580	172
OF	NIAGARAN POOL B	NIAGARAN REEF					42			4	0	0	4	640	48,171	211,559	573,785	2,838,742	331	
OF	NIAGARAN POOL C	NIAGARAN REEF								1	0	0	1	160	13,361	31,907	78,830	200,596	199	
	FIELD DECLARED TO HAVE 3 SEPARATE RESERVOIRS OR POOLS (ORDER NO. 2-1-73)			POOL (A) INCLUDES THE F. MILLER & A. IMLAY WELLS LOCATED IN THE SE¼ OF SECTION 24, T.2N., R.2W., & THE SW¼ OF SECTION 19, T.2N., R.1W.								POOL (B) INCLUDES THE CARTER, LYON, DART, & KRANZ WELLS LOCATED IN THE N½ OF SECTION 19 & THE S½ OF SECTION 18, T.2N., R.1W.							POOL (C) INCLUDES THE LOVETTE WELL LOCATED IN THE SW¼ OF THE NE¼ OF SECTION 18, T.2N., R.1W.	
	VEVAY TWP., 2N-1W, SECTIONS 18, 19 AURELIUS TWP., 2N-2W, SECTION 24																			
OF	VEVAY 20-2N-1W	NIAGARAN REEF	1972	INGHAM	3,939	2 D		PRAIRIE DU CHIEN	5,985	1	0	0	1	80	0	17,013	0	126,542	213	
	VEVAY TWP., 2N-1W, SECTION 20																			
AOF	VICTORY, SEC. 10	TRAVERSE	1957	MASON	1,603	9 L	36.0	TRAVERSE	1,616	1	ABANDONED 1958			10		580			58	DOMESTIC USE
	VICTORY TWP., 19N-17W, SECTION 10														NONCOMMERCIAL GAS PRODUCTION IN BASE OF GLACIAL DRIFT					
OF	VOGEL CENTER	DUNDEE	1966	MISSAUKEE	3,892	3 L		DUNDEE	3,895	2	0	1	1	80	1,105	45,206			565	150
	CLAM UNION TWP., 21N-6W, SECTION 32																			
GF	WALES 16-6N-15E	SALINA-NIAGARAN REEF	1976	ST. CLAIR	3,264	195 5 D		SALINA-NIAGARAN	3,650	2	2	0	2	40						
	WALES TWP., 6N-15E, SECTION 16																			
OF	WALKER	"BEREA"	1940	KENT-OTTAWA	1,121	21 SL		ST. PETER SS.	5,222						436	48,081				
OF		TRAVERSE	1938		1,872	8 L	36.0			784	2	6	342	8,560	112,081	17,042,228		3,678,731	1,994	
															THE 342 WELLS INCLUDE 339 TRAVERSE AND 3 "BEREA"					
OF		DETROIT RIVER	1957		2,132	12 D				1	0	0	1	10	PRODUCTION COMBINED WITH TRAVERSE					1
GF		"BEREA", TRAVERSE & DETROIT RIVER								14	0	0	5	THE 5 WELLS INCLUDE 3 BEREA, 1 DETROIT RIVER & 1 TRAVERSE			3,793	1,321,279	DOMESTIC USE & LEASE FUEL	
	WALKER TWP., 7N-12W, SECTIONS 19, 20, 27, 28, 29, 30, 31, 32, 33, 34 WALKER TWP., 6N-12W, SECTIONS 3, 4, 5, 6 WYOMING TWP., 6N-12W, SECTIONS 2, 3, 4, 7, 8																			
	TALLMADGE TWP., 7N-13W, SECTIONS 14, 15, 22 THROUGH 28, 33, 34, 35, 36 TALLMADGE TWP., 6N-13W, SECTIONS 1, 12 GEORGETOWN TWP., 6N-13W, SECTIONS 1, 2 GEORGETOWN TWP., 7N-13W, SECTION 35																			
GF	WASHINGTON, SEC. 10	SALINA-NIAGARAN REEF	1974	MACOMB	3,304	179 D		NIAGARAN	3,635	5	3	0	5	80						
GF	WASHINGTON, SEC. 10 POOL A	NIAGARAN REEF	1976	MACOMB	3,352	234 D		SALINA-NIAGARAN	3,722	4	4	0	4	160						
	WASHINGTON TWP., 4N-12E, SECTION 10																			
GF	WASHINGTON, SEC. 11	NIAGARAN REEF	1965	MACOMB	3,290	180 D		CLINTON	3,686	1	0	0	1	40			195,666	5,273,100		1
	WASHINGTON TWP., 4N-12E, SECTION 11																			
OF	WASHINGTON SEC. 28	SALINA A-1 CARBONATE	1975	MACOMB	3,357	18 D		NIAGARAN	3,546	5	0	0	5	240	5,960	6,511	39,404	39,404	27	20
	WASHINGTON TWP., 4N-1E, SECTIONS 22, 28																			
OF	WAYLAND	TRAVERSE	1944	ALLEGAN	1,799	6 L	36.0	TRENT.-BLK. RIVER	4,400	54	0	0	2	530	452	266,229			502	
OF		SALINA	1960		3,132	12 D	28.0			34	3	0	31	1,360	62,838	1,419,552			1,044	
	WAYLAND TWP., 3N-11W, SECTIONS E½ 8, 9, 16, 17, 18, 20, 21																			
OF	WAYLAND, NORTH	TRAVERSE	1957	ALLEGAN	1,696	7 L		TRAVERSE	1,712	15	0	0	5	150	936	112,250			748	5
	WAYLAND TWP., 3N-11W, SECTIONS 6, 7, NW¼ 8																			
AOF	WEARE	TRAVERSE	1961	OCEANA	1,681	2 L		TRAVERSE	1,737	3	ABANDONED 1964			30		6,919			231	
	WEARE TWP., 16N-17W, SECTIONS 12, 13																			
AOF	WEARE, SEC. 14	TRAVERSE	1952	OCEANA	1,674	1 L	41.4	DUNDEE	2,217	1	ABANDONED 1954			10		1,096			110	
	WEARE TWP., 16N-17W, SECTION 14																			
OF	WEST BRANCH	TRAVERSE	1933	OGEMAW	1,796	2 L		CAMBRO-ORDOVICIAN	11,012					PRODUCTION COMBINED WITH WEST BRANCH DUNDEE			SOME TRAVERSE OIL PRODUCED IN CONNECTION WITH WATER FLOOD PROJECT			
OF		DUNDEE	1933		2,650	20 L	36.8			291	10	5	164	2,830	176,079	9,526,080			3,366	1,953
OF		DETROIT RIVER SZ	1951		3,585	9 D	38.9						THE 164 WELLS INCLUDE 162 DUNDEE & 1 TRAVERSE & 1 TRAVERSE & DUNDEE							
OF		RICHFIELD	1952		4,127		33.0			63	0	0	60	2,520	57,315	3,164,768		61,430	1,256	4
													THE 60 WELLS INCLUDE 29 RICHFIELD, 25 SOUR ZONE, AND 6 RICHFIELD & SOUR ZONE							
	WEST BRANCH TWP., 22N-2E, SECTIONS 18, 19, 20, 21, 26, 27, 28, 29 34, 35, 36 OGEMAW TWP., 22N-1E, SECTIONS 10, 13, 14, 23, 24 CHURCHILL TWP., 22N-3E, SECTION 31																			
	HORTON TWP., 21N-2E, SECTIONS 1, 2 MILLS TWP., 21N-3E, SECTIONS 5, 6																			
GF	WHEATLAND	MICHIGAN STRAY	1947	MECOSTA	1,399	3 S		DETROIT RIVER	3,849	4	0	0	1	160				506,369	DOMESTIC USE	
AOF		DUNDEE	1945		3,690	2 L	43.0			6	ABANDONED 1960			100		141,631			1,416	
	WHEATLAND TWP., 14N-7W, SECTIONS 7, 8, 9																			
AOF	WHITE CLOUD	TRAVERSE	1963	NEWAYGO	2,537	1 L		TRAVERSE	2,540	1	ABANDONED 1964			40		1,295			32	
	WILCOX TWP., 14N-12W, SECTION 19																			
OF	WHITE OAK 32-2N-2E	SALINA-NIAGARAN REEF	1973	INGHAM	3,970	8 D		CATARACT	4,583	4	1	0	4	320	19,316	63,440	3,056	10,020	198	141
	WHITE OAK TWP., 2N-2E, SECTIONS 29, 31, 32 WELLS IN SECTION 29 ARE PROBABLY IN A SEPARATE RESERVOIR																			
AOF	WHITE RIVER	DUNDEE	1950	MUSKEGON	2,053	2 L	28.0	DUNDEE	2,055	1	ABANDONED 1951			20		7,061			353	
	WHITE RIVER TWP., 12N-18W, SECTION 15																			

POOL CLASSIFICATION

OF ACTIVE OIL FIELD OR POOL
AOF ABANDONED OIL FIELD OR POOL

GF ACTIVE GAS FIELD OR POOL
AGF ABANDONED GAS FIELD OR POOL

G-C GAS-CONDENSATE FIELD OR POOL
AG-C ABANDONED GAS-CONDENSATE FIELD OR POOL

GS GAS STORAGE RESERVOIR

	FIELD NAME	PRODUCING FORMATION OR POOL	YEAR OF DISC	COUNTY TOWNSHIP / PRODUCING SECTIONS	PAY ZONE: DEPTH IN FEET	PAY ZONE: THICKNESS AND LITHOLOGY	PAY ZONE: OIL GRAVITY A.P.I.	DEEPEST FORMATION OR POOL TESTED	DEPTH IN FEET	NUMBER OF WELLS 1976: TO END	NUMBER OF WELLS 1976: COMP IN	NUMBER OF WELLS 1976: ABAND IN	NUMBER OF WELLS 1976: ACTIVE AT END	DRILLED ACRES	OIL PRODUCTION - BBLS: PRODUCED IN 1976	OIL PRODUCTION - BBLS: CUMULATIVE THROUGH 1976	GAS PRODUCTION - Mcf: PRODUCED IN 1976	GAS PRODUCTION - Mcf: CUMULATIVE THROUGH 1976	RECOVERY PER ACRE DRILLED (BBLS)	TOTAL BARRELS BRINE PER DAY
OF	WILEY	TRAVERSE	1962	MASON	1,663	5 L	39.9	ST. PETER SS.	5,890	18	0	0	4	380	417	425,896			1,121	99
	EDEN TWP., 17N-16W, SECTION 18 RIVERTON TWP., 17N-17W, SECTION 12																			
GF	WINFIELD	DUNDEE, REED CITY	1936	MONTCALM	3,340	1 L	43.2	REED CITY	3,500	8	0	0	2	120	357	118,899			991	45
	WINFIELD TWP., 12N-9W, SECTIONS 20, 28, 29																			
GS	WINFIELD (STRAY)	REFER TO TABLE 4 DEVELOPED GAS STORAGE RESERVOIRS																		
OF	WINTERFIELD	TRAVERSE	1940	CLARE	3,105	1 L		SYLVANIA	5,273					260	4,155	297,721	0	256,586	1,145	
OF		DUNDEE	1940		3,794	3 L	44.2							740	12,895	4,826,449			6,522	1,901
OF		RICHFIELD	1942		5,015	15 D				50	0	0	13	100	2,292	183,410			1,834	
	WINTERFIELD TWP., 20N-6W, SECTIONS 28 THROUGH 32, 35, 36 REDDING TWP., 19N-6W, SECTIONS 1, 5 GREENWOOD TWP., 19N-5W, SECTION 6 THE 13 WELLS INCLUDE 8 TRAVERSE, 4 DUNDEE & 1 TRAVERSE & RICHFIELD																			
GF	WISE	MICHIGAN STRAY	1940	ISABELLA	1,250	5 S		SYLVANIA	5,205	?	0	0	5	1,280	0	0		1,705,130	DOMESTIC USE & LEASE FUEL	
OF		TRAVERSE	1953		3,090	31 L	43.0								1,391	50,420				
OF		DUNDEE	1938		3,700	11 L	45.2			79	0	0	23	1,640	10,928	3,946,523			2,437	964
OF		DETROIT RIVER SZ	1955		4,415	48 DL	42.6			2	0	0	1	80	2,186	65,757			822	28
	WISE TWP., 16N-3W, SECTIONS 8, 9, 16, 17, 20, 21, 28, 29, 32, 33 THE 23 WELLS INCLUDE 17 DUNDEE, 1 STRAY, 4 TRAVERSE AND DUNDEE AND 1 DUNDEE AND DETROIT RIVER																			
AGF	WOLF LAKE	"BEREA"	1949	MUSKEGON	1,050	7 D		DETROIT RIVER	2,250	2	ABANDONED 1956			320				99,756		
OF		TRAVERSE	1968		1,741	23 L				3	0	0	1	60		4,614			77	
	EGELSTON TWP., 10N-15W, SECTIONS 7, 8, 18 MUSKEGON TWP., 10N-16W, SECTION 13																			
GF	WOODSTOCK	TRAVERSE	1969	LENAWEE	1,465	2 L		TRAVERSE	1,467	2	0	0	1	80			SHUT-IN FOR MARKET			
	WOODSTOCK TWP., 5S-1E, SECTION 18																			
OF	WOODVILLE	TRAVERSE	1943	NEWAYGO	2,820	5 L	43.5	DETROIT RIVER	3,534	10	0	0	10	350	3,859	576,046			1,646	65
	NORWICH TWP., 15N-11W, SECTIONS 20, 28, 29																			
GS	WOODVILLE (NORWICH)	REFER TO TABLE 4 DEVELOPED GAS STORAGE RESERVOIRS																		
OF	WRIGHT	"BEREA"	1954	OTTAWA	1,170	3 L		DETROIT RIVER	2,337	7	0	0	4	60	0	47,195	SHUT-IN -- LACK OF STORAGE		787	
OF		TRAVERSE	1953	OTTAWA	1,920	1 L				7	0	0	2	70	0	18,498			264	
	WRIGHT TWP., 8N-13W, SECTIONS 28, 32, 33 TALLMADGE TWP., 7N-13W, SECTION 4																			
AOF	WYOMING PARK	TRAVERSE	1939	KENT	1,870	6 L	39.0	DETROIT RIVER	2,255	21	ABANDONED 1970			300		157,873			526	
	WYOMING TWP., 6N-12W, SECTIONS 13, 14, 23																			
GF	YANKEE	NIAGARAN REEF	1963	ST. CLAIR	2,620	20 D		CLINTON	2,829	2	0	0	2	80				354,177		
	ST. CLAIR TWP., 5N-16E, SECTION 25																			
AGF	ZEELAND	"BEREA"	1946	OTTAWA	945	9 D		NIAGARAN	3,388	7	ABANDONED 1975			280					DOMESTIC USE	
	ZEELAND TWP., 5N-14W, SECTIONS 2, 11, 12, 13, 14																			
AOF	ZEELAND	TRAVERSE	1942	OTTAWA	1,514	3 L	41.9	NIAGARAN	3,052	21	ABANDONED 1967			400		310,085			775	
AOF		SALINA	1958		2,792	5 D	20.5			1	ABANDONED 1962			10		1,606			161	
	ZEELAND TWP., 5N-14W, SECTIONS 25, 30, 31, 32, 36 HOLLAND TWP., 5N-15W, SECTIONS E½ 35, 36 (TRAVERSE) ZEELAND TWP., 5N-14W, SECTION 29 (SALINA)																			
AOF	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																			
								1976 TOTALS:						332,030	11,334,579	652,559,212	25,694,369	496,991,324		108,703

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.

1976 OIL AND CONDENSATE PRODUCTION FROM TABLE 2	19,084,477 BARRELS
1976 OIL PRODUCTION FROM TABLE 3 AND 4	11,336,886
TOTAL 1976 OIL PRODUCTION	30,421,363
CUMULATIVE OIL AND CONDENSATE PRODUCTION FROM TABLE 2	48,741,245
CUMULATIVE OIL PRODUCTION FROM TABLE 3 AND 4	652,685,143
TOTAL STATE CUMULATIVE OIL PRODUCTION THROUGH 1976	701,426,388*

*CUMULATIVE FIGURE INCLUDES 11,779 BARRELS OF OIL FROM MISCELLANEOUS OIL WELLS DRILLED FROM 1925 THROUGH 1976 AND SUBSEQUENTLY COMPLETED AS DRY HOLES

1976 GAS PRODUCTION FROM TABLE 2	94,506,351 MCF
1976 GAS PRODUCTION FROM TABLE 3 AND 4	25,743,754
TOTAL 1976 GAS PRODUCTION	120,250,105
CUMULATIVE GAS PRODUCTION FROM TABLE 2	239,466,726 MCF
CUMULATIVE GAS PRODUCTION FROM TABLE 3 AND 4	854,355,841
TOTAL CUMULATIVE GAS PRODUCTION THROUGH 1976	1,093,822,567

TABLE 4 GAS STORAGE RESERVOIRS

POOL CLASSIFICATION

OF ACTIVE OIL FIELD OR POOL
AOF ABANDONED OIL FIELD OR POOL

GF ACTIVE GAS FIELD OR POOL
AGF ABANDONED GAS FIELD OR POOL

G-C GAS-CONDENSATE FIELD OR POOL
AG-C ABANDONED GAS-CONDENSATE FIELD OR POOL

GS GAS STORAGE RESERVOIR

	FIELD NAME	PRODUCING FORMATION OR POOL	YEAR OF DISC	COUNTY TOWNSHIP / PRODUCING SECTIONS	PAY ZONE: DEPTH IN FEET	PAY ZONE: THICKNESS AND LITHOLOGY	PAY ZONE: OIL GRAVITY A.P.I.	DEEPEST FORMATION OR POOL TESTED	DEPTH IN FEET	NUMBER OF WELLS 1976: TO END	NUMBER OF WELLS 1976: COMP IN	NUMBER OF WELLS 1976: ABAND IN	NUMBER OF WELLS 1976: ACTIVE AT END	DRILLED ACRES	OIL PRODUCTION - BBLS: PRODUCED IN 1976	OIL PRODUCTION - BBLS: CUMULATIVE THROUGH 1976	GAS PRODUCTION - Mcf: PRODUCED IN 1976	GAS PRODUCTION - Mcf: CUMULATIVE THROUGH 1976	RECOVERY PER ACRE DRILLED (BBLS)	TOTAL BARRELS BRINE PER DAY
GS	AUSTIN	MICHIGAN STRAY	1933	HECOSTA	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																			
GS	BELLE RIVER MILLS	SALINA-NIAGARAN	1961	ST. CLAIR	2,215	305 D		CLINTON	2,694		0	0	43	840		1,212		23,977,940		
	CHINA TWP., 4N-16E, SECTIONS 11, 14, 15																			
GS	CLARENCE 19-15-4W	NIAGARAN REEF	1971	CALHOUN	3,154	24 D		NIAGARAN	3,240	1	0	0	1	160				1,057,655		
	CLARENCE TWP., 1S-4W, SECTION 19																			
GS	COLDWATER	MICHIGAN STRAY	1945	ISABELLA	1,390	10 S		SYLVANIA	5,090		8	0	72	2,400				7,382,794		
	COLDWATER TWP., 16N-6W, SECTIONS 28 THROUGH 33 SHERMAN TWP., 15N-6W, SECTION 6																			
GS	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																			
GS	COLUMBUS, WEST	SALINA-NIAGARAN REEF	1967	ST. CLAIR	3,183	14+ D		CLINTON	3,447	29	0	0	25	520				16,287,759		
	COLUMBUS TWP., 5N-15E, SECTIONS 7, 17, 18																			
GS	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																			
GS	CROTON	MARSHALL	1951	NEWAYGO	917	4 S		SALINA	3,993		0	0	60	860				1,320,835		
	CROTON TWP., 12N-11W, SECTIONS 29, 32																			
GS	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																			
GS	FREEMAN-LINCOLN	MICHIGAN STRAY	1938	CLARE	1,500	10 S		DETROIT RIVER	3,957		24	0	169	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																			
GS	GOODWELL	MICHIGAN STRAY	1943	NEWAYGO	1,142	20 S		DETROIT RIVER	3,562		11	0	101	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																			
GS	HAMILTON, NORTH	MICHIGAN STRAY-MARSHALL	1952	CLARE	1,487	8 S		RICHFIELD	5,395		1	0	63	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																			
GS	HESSEN	NIAGARAN REEF	1965	ST. CLAIR	2,499	261 D		NIAGARAN	2,887		3	0	21	640	2,307	117,492	49,385	11,516,867	184	
	CASCO TWP., 4N-15E, SECTIONS 2, 3, 10, 11 COLUMBUS TWP., 5N-15E, SECTIONS 34, 35																			
GS	HOWELL	SALINA-NIAGARAN	1935	LIVINGSTON	3,920	9 D		ST. PETER SS.	5,958		0	0	69	2,400				23,678,120		
	GENOA TWP., 2N-5E, SECTIONS 5, 6, 7, 8, 17 MARION TWP., 2N-4E, SECTIONS 1, 2, 12 HOWELL TWP., 3N-4E, SECTION 35																			
GS	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																			
GS	LACEY STATION	A-2 SALT SOLUTION CAVERN	1971	BARRY				CAMBRIAN		2	0	0	2							
	JOHNSTOWN TWP., 1N-8W, SECTION 14																			
GS	LEE 16	SALINA-NIAGARAN		CALHOUN	3,200					1	0	0	1							
	LEE 16 STORAGE AREA CREATED BY SPACING ORDER OF MARCH 30, 1973. INCLUDES SE¼ AND S½, NE SECTION 16, NW OF SW¼ AND W½ SW SW¼ OF SECTION 15, T.1S, R.5W																			
GS	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																			
GS	MARION (WINTERFIELD)	MICHIGAN STRAY	1940	CLARE-OSCEOLA	1,344	15 S		SYLVANIA	5,100		0	0	284	10,720				20,084,934		
	WINTERFIELD TWP., 20N-6W, SECTIONS 17 THROUGH 21, 27 THROUGH 35 REDDING TWP., 19N-6W, SECTIONS 1, 2, 3, 4, 6 MARION TWP., 20N-7W, SECTIONS 24, 25, 36 MIDDLE BRANCH TWP., 19N-7W, SECTION 1																			
GS	MARYSVILLE-MORTON	SEE FOOTNOTE FOR GAS STORAGE FIELDS ON NEXT PAGE.																		
GS	MUTTONVILLE	SALINA-NIAGARAN REEF	1966	MACOMB	2,576	194 D		CLINTON	3,039		0	0	13	280				8,886,647		
	LENOX TWP., 4N-14E, SECTION 13																			
GS	NORTHVILLE	TRENT., BLK. RIVER	1954	WAYNE-WASHTENAW	4,395	70 D		CAMBRO-ORDOVICIAN	5,850		0	0	69	2,825+				18,126,876		22
	FOR LOCATION SEE NORTHVILLE, TABLE 2																	INCLUDES BOTH SALINA-NIAGARAN & TRENTON GAS		
GS	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																			
GS	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																			
GS	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																			
GS	PUTTYGUT	SALINA-NIAGARAN	1960	ST. CLAIR	2,423	60 D		NIAGARAN	2,774		0	0	25	440	OIL PRODUCTION COMBINED WITH ADAIR			11,260,480		
	CASCO TWP., 4N-15E, SECTIONS 11, 14, 15																			
GS	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																			
GS	REED CITY	MICHIGAN STRAY	1940	OSCEOLA-LAKE	1,217	12 S		ST. PETER SS.	8,960		3	0	105	4,880				7,642,246		
		REED CITY	1941		3,585	7 D					3	0	247	COMBINATION GAS STORAGE AND SECONDARY RECOVERY PROJECT - REFER TO TABLE 5 FOR ADDITIONAL DETAILS						
	LINCOLN TWP., 18N-10W, SECTIONS 8, 9, 16, 17, 18, 19, 20, 21, 29, 30, 31, 32 PINORA TWP., 18N-11W, SECTIONS 24, 25																			
GS	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																			
GS	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																			
GS	SHAVER (SUMNER-NEW HAVEN)	MICHIGAN STRAY	1935	GRATIOT-MONTCALM	1,020	11 S		DUNDEE	3,536		0	1	48	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																			
GS	SIX LAKES	MICHIGAN STRAY	1934	ISABELLA-HECOSTA MONTCALM	1,270	25 S		DETROIT RIVER	3,790		4	0	250	11,480				51,604,719		
	ROLLAND TWP., 13N-6W, SECTIONS 29, 30 HINTON TWP., 13N-8W, SECTIONS 23, 24, 25 HILLBROOK 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																			
GS	SWAN CREEK	SALINA-NIAGARAN	1967	ST. CLAIR	2,256	245 D		CLINTON	2,638		0	0	1	40				409,352		
	CASCO TWP., 4N-15E, SECTION 36																			
GS	WINFIELD	MICHIGAN STRAY	1935	MONTCALM	1,125	8 S		DETROIT RIVER	3,405		2	0	127	3,240				4,836,132		
	WINFIELD TWP., 12N-9W, SECTIONS 6, 7, 8, 16, 17, 18 REYNOLDS TWP., 12N-10W, SECTIONS 1, 12																			

POOL CLASSIFICATION		OF ACTIVE OIL FIELD OR POOL AOF ABANDONED OIL FIELD OR POOL						GF ACTIVE GAS FIELD OR POOL AGF ABANDONED GAS FIELD OR POOL						G-C GAS-CONDENSATE FIELD OR POOL AG-C ABANDONED GAS-CONDENSATE FIELD OR POOL				GS GAS STORAGE RESERVOIR			
	FIELD NAME	PRODUCING FORMATION OR POOL	YEAR OF DISC	COUNTY TOWNSHIP PRODUCING SECTIONS	PAY ZONE			DEEPEST FORMATION OR POOL TESTED	DEPTH IN FEET	NUMBER OF WELLS 1976				DRILLED ACRES	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	ABAND IN	ACTIVE AT END		PRODUCED IN 1976	CUMULATIVE THROUGH 1976	PRODUCED IN 1976	CUMULATIVE THROUGH 1976		
GS	WOODVILLE(NORWICH)	MICHIGAN STRAY	1943	NEWAYGO	1,185	13 S		DETROIT RIVER	3,405		0	0	46	2,240				2,683,259		
	NORWICH TWP., 15N-11W, SECTIONS 16, 17, 20, 21, 28, 29																			
										TOTALS:				92,015	2,307	125,931	49,385	357,364,517		22

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

MARYSVILLE-MORTON: THIS STORAGE OPERATION, OPERATED BY SOUTHEASTERN MICHIGAN GAS COMPANY, UTILIZES WELLS PREVIOUSLY USED IN SALT SOLUTION-EXTRACTION OPERATIONS. THE OPERATIONS IS SO NAMED TO DISTINGUISH IT FROM THE MARYSVILLE SYNTHETIC GAS MANUFACTURING FACILITIES.

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

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

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

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

GAS STORAGE RESERVOIR OPERATORS

BATTLE CREEK GAS COMPANY
- LACEY STATION

CONSUMERS POWER COMPANY
- FOUR CORNERS
- HESSEN
- IRA
- LENOX
- NORTHVILLE
- OVERISEL
- PUTTYGUT
- RAY
- SALEM
- SWAN CREEK
- ORIENT
- REED CITY
- SIX LAKES
- SHAVER (SUMNER-NEW HAVEN)
- WOODVILLE

MGU DEVELOPMENT COMPANY
- CLARENCE 19-1S-4W

MICHIGAN CONSOLIDATED GAS COMPANY
- AUSTIN
- BELLE RIVER MILLS
- COLUMBUS
- COLUMBUS, WEST
- FREEMAN-LINCOLN
- GOODWELL
- HAMILTON, NORTH

MICHIGAN GAS STORAGE COMPANY
- CRANBERRY LAKE
- MARION

MICHIGAN GAS UTILITIES COMPANY
- LEE 16
- PARTELLO

MICHIGAN-WISCONSIN PIPELINE COMPANY
- CAPAC
- COLDWATER
- CROTON
- MUTTONVILLE
- WINFIELD

PANHANDLE EASTERN PIPELINE
- HOWELL

SOUTHEASTERN MICHIGAN GAS COMPANY
- MARYSVILLE-MORTON

TABLE 5 SECONDARY RECOVERY OPERATIONS

FIELD AND COUNTY	OPERATOR TYPE OF PROJECT	DISC. YEAR YEAR PROJECT BEGAN	PAY ZONE			TOTAL UNIT ACRES	INJECTION FLUIDS	VOLUME OF INJECTED FLUID 1976			CUMULATIVE VOLUME OF INJECTED FLUID		UNIT PRODUCTION IN 1976				UNIT CUMULATIVE 1-1-77		
			FORM.	THICK	DEPTH		PRESSURE PSIG	MCF GAS	BARRELS WATER	INJ. WELLS	MCF GAS	BARRELS WATER	BARRELS OIL	SALES MCF GAS	WATER PRODUCED	NO. WELLS	BARRELS OIL	SALES MCF GAS	BARRELS WATER
AURELIUS 35 UNIT INGHAM CO.	(1)UWF	1971 1974	NIAG.	110	4075	400	BRINE 940	NONE	579,360	2	NONE	1,616,123	(P) 63,809 (S)290,023	199,732	95,000	5	(P) 805,000 (S) 310,023	579,227	121,250
BEAVER CREEK CRAWFORD-KALKASKA CO.	(2)UWF	1947 1963	RICH.	17	4400	4640	FRESH WATER 2285	NONE	5,807,393	58	NONE	63,476,882	(P) 22,000 (S)515,825	124,544	515,745	50	(P) 6,600,659 (S) 4,769,317	18,795,185	3,880,618
BEAVERTON, WEST GLADWIN CO.	(3)UWF	1943 1966	DD.	2	3876	480	FRESH WATER 2100	NONE	14,544	3	NONE	653,000	(P) NONE (S) 5,365	NONE	10,950	4	(P) 180,188 (S) 33,872	NONE	65,520
BENTLEY DUNDEE GLADWIN CO.	(4)UWF	1937 1964	DD.	13	3510	440	BRINE 2308	NONE	124,440	4	NONE	1,209,571	(P) 1,300 (S) 10,960	NONE	37,960	7	(P) 381,268 (S) 87,318	NONE	438,950
BERLIN ST. CLAIR CO.	(5)UWF	1960 1970	NIAG.	30	3800	200	FRESH WATER VACUUM	NONE	7,564	1	NONE	1,645,624	(P) 1,000 (S) 2,598	NONE	9,125	3	(P) 346,860 (S) 26,174	NONE	66,248
COLUMBUS 3 UNIT ST. CLAIR CO.	(5)URG&WF	1968 1974	NIAG.	49	3105	860	RECYCLE GAS & BRINE, VACUUM	340,759	18,677	2 GAS 1 WTR	720,819	37,618	(P)294,092 (S)443,846	NONE	30,660	20	(P) 3,075,000 (S) 443,846	NONE	254,785
CRANBERRY LAKE CLARE CO.	(4)UWF	1951 1969	RICH.	15	5048	680	FRESH WATER 2532	NONE	379,613	7	NONE	2,712,656	(P) 7,200 (S) 38,196	NONE	62,050	7	(P) 1,107,393 (S) 114,233	NONE	500,415
EAST NORWICH MISSAUKEE CO.	(5)URG&WF	1942 1947	RICH.	14	4880	4880	RECYCLE GAS & FRESH WTR, 2450	DISCONT. 1962	1,421,130	56	11,699,478	18,785,483	(P) NONE (S)411,699	531,627	271,195	72	(P) 5,800,000 (S) 4,655,389	9,478,722	2,076,226
ENTERPRISE MISSAUKEE CO.	(5)URG&WF	1943 1953	RICH.	16	4405	1320	RECYCLE GAS & FRESH WTR, 2500	DISCONT. 1961	478,170	16	1,419,641	7,174,750	(P) NONE (S)153,385	105,732	55,845	19	(P) 1,925,000 (S) 1,165,977	1,367,947	855,611
GROUT GLADWIN CO.	(5)UWF	1956 1960	RICH.	10	5039	480	FRESH WATER 2300	NONE	202,245	5	NONE	3,209,712	(P) NONE (S) 39,349	NONE	106,763	7	(P) 900,000 (S) 812,876	NONE	961,472
HAMILTON CLARE CO.	(5)UWF	1952 1958	RICH.	12	5145	1800	FRESH WATER 1900-2440	NONE	832,020	17	NONE	15,383,096	(P) NONE (S)140,401	79,172	567,210	26	(P) 2,800,000 (S) 3,399,114	3,975,037	4,559,076
HASKELL UNIT HILLSDALE CO.	(6)UWF	1964 1972	BLK. RIVER	117	3984	130	BRINE VACUUM	NONE	7,388	1	NONE	578,725	(P) 265 (S) NONE	319	7,388	4	(P) 666,175 (S) NONE	1,109,958	184,490
HEADQUARTERS ROSCOMMON CO.	(7)UWF	1952 1969	RICH.	13	4946	720	FRESH WATER 2518	NONE	252,452	11	NONE	2,967,317	(P) 19,344 (S) 40,657	NONE	36,354	7	(P) 722,295 (S) 355,264	NONE	333,902
KALKASKA 21 POOL D KALKASKA CO.	(10)URG	1971 1976	NIAG.	170	6590	1040	RECYCLE GAS 1600	59,242A	NONE	1	59,242A	NONE	(P)224,102 (S) NONE	678,286	NONE	2	(P) 1,037,578 (S) NONE	1,831,707	NONE
MANISTEE 1 UNIT MANISTEE CO.	(11)URG	1973 1976	NIAG.	158	4440	320	RECYCLE GAS 1700	168,584B	NONE	1	168,584B	NONE	(P)137,467 (S) NONE	5,482	NONE	2	(P) 137,823 (S) NONE	5,482	NONE
ONONDAGA 10 UNIT INGHAM CO.	(1)UWF	1971 1973	NIAG.	75	3784	1760	BRINE 840	NONE	2,120,902	6	NONE	7,788,019	(P) NONE (S)1,067,814	1,071,943	326,000	15	(P) 2,703,000 (S) 1,251,053	3,392,786	378,500
PENNFIELD 35 UNIT CALHOUN CO.	(1)UWF	1974 1976	NIAG.	4	2820	1360	BRINE 460	NONE	97,259	4	NONE	97,259	(P)449,249 (S) NONE	22,343	NONE	8	(P) 694,411 (S) NONE	22,343	NONE
REED CITY** LAKE-OSCEOLA CO.	(8)GSOR	1940 1963	DD. R.C.	21	3585	5000	PRODUCED BRINE EXTRANEOUS GAS	WITHDRAWN 5,951,753	749,203	168 GAS 10 WTR	34,594,221	153,100,655	(P) NONE (S)134,391	NONE	749,203	168	(P)39,294,000 (S) 2,811,905	16,257,876	172,993,618
ROSE CITY OGEMAW CO.	(9)UWF	1945 1955	RICH.	9	4125	4600	FRESH WATER 2500	NONE	390,146	38	NONE	5,814,809	(P) 5,000 (S)230,911	125,525	27,193	42	(P) 3,559,944 (S) 1,128,936	6,314,012	356,240
ROSE CITY, CENTRAL OGEMAW CO.	(9)UWF	1951 1971	RICH.	8	4125	1560	FRESH WATER 2379	NONE	328,638	9	NONE	1,853,623	(P) 2,000 (S) 13,400	5,751	1,643	10	(P) 1,062,652 (S) 41,274	985,601	81,104
ROSE CITY, WEST OGEMAW CO.	(5)UWF	1952 1968	RICH.	10	4150	320	FRESH WATER VACUUM	NONE	233,296	5	NONE	1,908,995	(P) NONE (S) 38,003	7,168	23,360	3	(P) 510,888 (S) 236,316	837,956	80,755
ST. HELEN ROSCOMMON CO.	(5)URG&WF	1941 1958	RICH.	9	4480	4480	RECYCLE GAS & FRESH WTR,VACUUM	DISCONT. 1957	784,365	41	3,151,610	11,212,102	(P) NONE (S)264,191	269,821	114,245	45	(P) 3,760,000 (S) 1,831,998	10,925,910	840,258
WEST BRANCH OGEMAW CO.	(6)UWF	1933 1966	DD.	28	2650	2730	BRINE 1500	NONE	924,944	49	NONE	4,922,749	(P) 26,000 (S)115,349	NONE	645,867	57	(P) 3,408,176 (S) *552,915	NONE	2,246,461

NUMBER OF ACTIVE SECONDARY RECOVERY OPERATIONS 23

AMOUNT OF GAS INJECTED IN 1976 -5,383,168 MCF. THIS NUMBER IS NEGATIVE BECAUSE A TOTAL OF 5,951,753 MCF OF GAS WAS WITHDRAWN FROM THE REED CITY (LOREED) STORAGE FIELD.
AMOUNT OF WATER INJECTED IN 1976. . . . . . .15,753,749 BBLS.

NUMBER OF WATER INJECTION WELLS 344
NUMBER OF GAS INJECTION WELLS 172

TOTAL PRIMARY OIL PRODUCTION IN 1976 . . . . 1,252,828 BBLS.
TOTAL SECONDARY OIL PRODUCTION IN 1976 . . . 3,956,363 BBLS.

OIL PRODUCED IN EXCESS OF THAT EXPECTED THROUGH PRIMARY DEPLETION IN THE PRESSURE MAINTENANCE AND SECONDARY RECOVERY PROJECTS IS APPROXIMATELY 13% OF THE TOTAL MICHIGAN PRODUCTION FOR 1976.

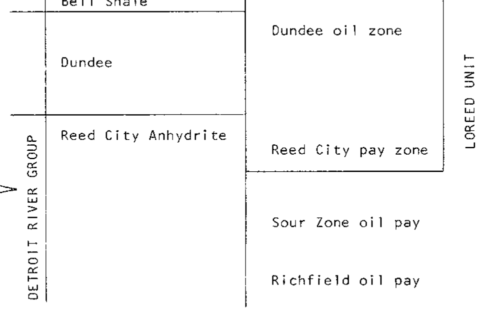
TOTAL UNIT ACRES AND OTHER DATA DOES NOT NECESSARILY CORRESPOND WITH DRILLED ACRES AS NOTED ON TABLES 2 AND 3.

A. INCLUDES 45,193 MCF PURCHASED FROM OUTSIDE KALKASKA 21 POOL D

B. INCLUDES 21,487 MCF PURCHASED FROM OUTSIDE MANISTEE 1 UNIT

(S)*36,456 BBLS. OF SECONDARY OIL CREDITED TO WEST BRANCH PROJECT ARE FROM TWO TRAVERSE FORMATION WATER SOURCE WELLS.

**LOREED UNIT IN REED CITY FIELD



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

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

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

COMPILERS: PETROLEUM GEOLOGY UNIT

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

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

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

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

TABLE 6 GAS PLANT OPERATIONS BY PLANT OR FIELD, 1976 (All figures in MCF)

Plant or Field	Innut Totals	Plant Fuel	Lease Fuel	Line Loss	Vented	Extration Loss	Sales To Pipe Line	L.P.G. Recovery Gallons
Albion-Scipio	9,055,316	928,770	0	126,584	70,000	785,276	7,144,686	23,602,766
Aurelius	7,169,419	452,017	0	122,063	34,181	472,017	6,089,141	15,921,478
Beaver Creek	259,510	10,174	124,792	0	0	29,003	95,541	58,200
Chester	1,499,393	101,235	0	0	0	91,634	1,306,524	5,452,056
Columbus, Section 3	429,246	58,000	23,721	0	0	85,065	0	2,546,277
Convis	17,142	1,839	0	0	1,932	751	12,620	25,114
*Hamilton	145,004	12,004	41,725	0	0	12,103	79,172	301,770
Kalkaska (Amoco)	32,682,992	481,434	0	135,171	2,363	859,201	31,204,823	29,479,526 (1)
Kalkaska (Shell)	60,604,544	1,278,937	0	19,173	0	7,308,705	51,997,729	181,001,256 (1)
Leonard	930,799	118,732	0	0	85,363	27,585	699,119	888,115
Loreed	8,997,652	143,885	0	0	0	130,170	8,723,597	3,437,826
Totals	121,791,017	3,587,027	190,238	402,991	193,839	9,801,510	107,352,952	262,714,384

*Receives and processes oil well gas only.

(1) These LPG figures include stabilized condensate.

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

All data from Production and Proration Unit records.

MICHIGAN OIL REFINERIES

COMPANY	REFINERY LOCATION	NOMINAL CAPACITY* BBLS. DAY
Bay Refining, Division Dow Chemical Company	Bay City	17,000
Crystal Refining Company	Carson City	6,200
Lakeside Refining Company	Kalamazoo	5,600
Total Leonard, Inc. (Leonard Division)	Alma	42,000
Marathon Oil Company	Detroit	65,000
Osceola Refining Company	West Branch	12,500
	Total Refinery Capacity	148,300

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

Michigan produced crude	60,165
Out-of-State produced crude	64,010
Total Daily Average	124,175

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

PART 3
CUMULATIVE RECORDS
EXPLANATION

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

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

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

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

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

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

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

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

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

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

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

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

TABLE 7 CUMULATIVE OIL AND GAS PRODUCTION BY COUNTY THROUGH 1976

COUNTY	CUMULATIVE PRODUCTION Barrels Oil	MCF Gas
Allegan	19,851,384	32,835,362
Antrim	423,767	2,586,076
Arenac	46,724,013	6,722,140
Barry	727,293	0
Bay	20,697,048	7,857
Benzie	255	0
Berrien	29,757	0
Calhoun	35,295,393	70,162,099
Cass	108,419	0
Cheboygan	174	0
Clare	34,936,027	59,067,772
Clinton	4,121	0
Crawford	10,489,477	16,719,573
Eaton	552,603	7,742,873
Genesee	388,266	0
Gladwin	34,661,790	9,834
Grand Traverse	6,623,999	69,060,481
Gratiot	1,154,272	13,902,650
Hillsdale	55,756,855	71,518,653
Huron	61,324	0
Ingham	9,828,445	21,406,002
Ionia	48,479	0
Isabella	52,163,607	35,143,797
Jackson	24,694,549	36,714,443
Kalamazoo	28,519	0
Kalkaska	14,078,564	107,310,813
Kent	9,964,172	3,801,222
Lake	1,308,454	182,438
Lapeer	899,969	396,242
Lenawee	7,071	155,983
Livingston	6,543	26,792,865
Macomb	62,570	51,993,121
Manistee	6,207,518	13,236,182
Mason	5,383,170	10,036,869
Mecosta	10,890,660	27,315,912
Midland	69,046,580	9,834,775
Missaukee	19,129,523	19,160,233
Monroe	736,786	0
Montcalm	18,488,538	57,028,265
Montmorency	7,735	0
Muskegon	8,022,510	9,759,137
Newaygo	8,825,347	13,132,198
Oakland	77,062	3,211,940
Oceana	15,463,200	1,132,363
Ogemaw	19,964,374	10,037,364
Osceola	58,222,608	42,301,820
Oscoda	60,527	0
Otsego	21,203,305	36,616,994
Ottawa	9,311,667	2,949,310
Presque Isle	4,748	0
Roscommon	15,433,723	15,096,966
Saginaw	2,571,065	0
Shiawassee	54,018	0
St. Clair	14,302,746	157,881,446
Tuscola	2,822,413	35,016
Van Buren	12,083,616	0
Washtenaw	172,976	7,019,944
Wayne	920,749	11,464,977
Wexford	392,365	5,489,081
59 Counties	**701,426,388	*1,093,822,567

**Includes 11,779 barrels of oil from miscellaneous fields.

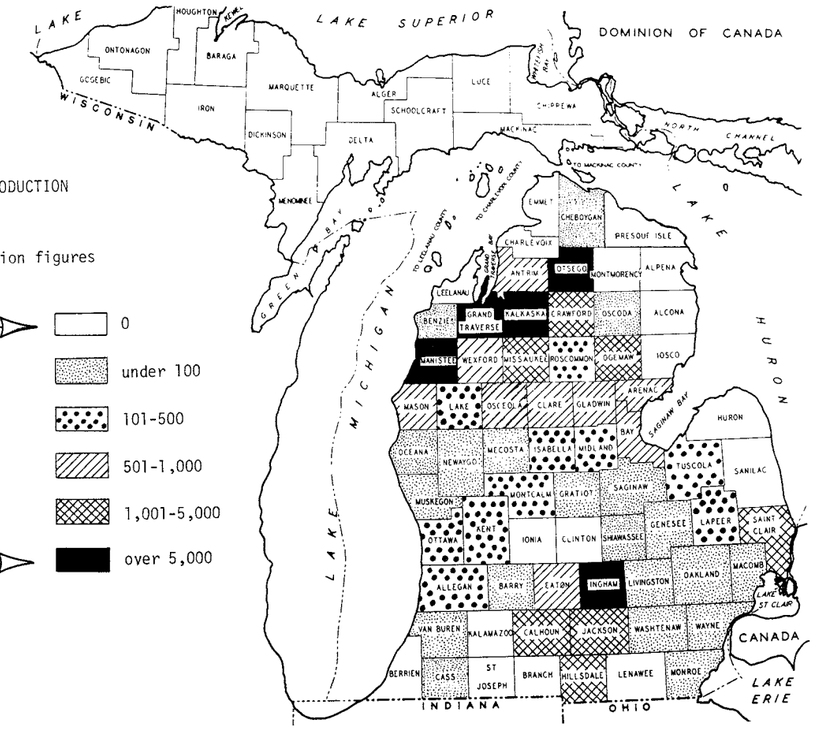
*Does not include 3,050,143 MCF of unassigned gas shown on early records

1976 AVERAGE DAILY OIL PRODUCTION
BY
COUNTY

See page 54 for 1976 production figures

Daily Oil Production
Range in barrels

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



1976 AVERAGE DAILY GAS PRODUCTION
BY
COUNTY

These figures are actual gas sales in Mcf
See page 56 for 1976 production figures

Daily Gas Production (sales)
Range in Mcf

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

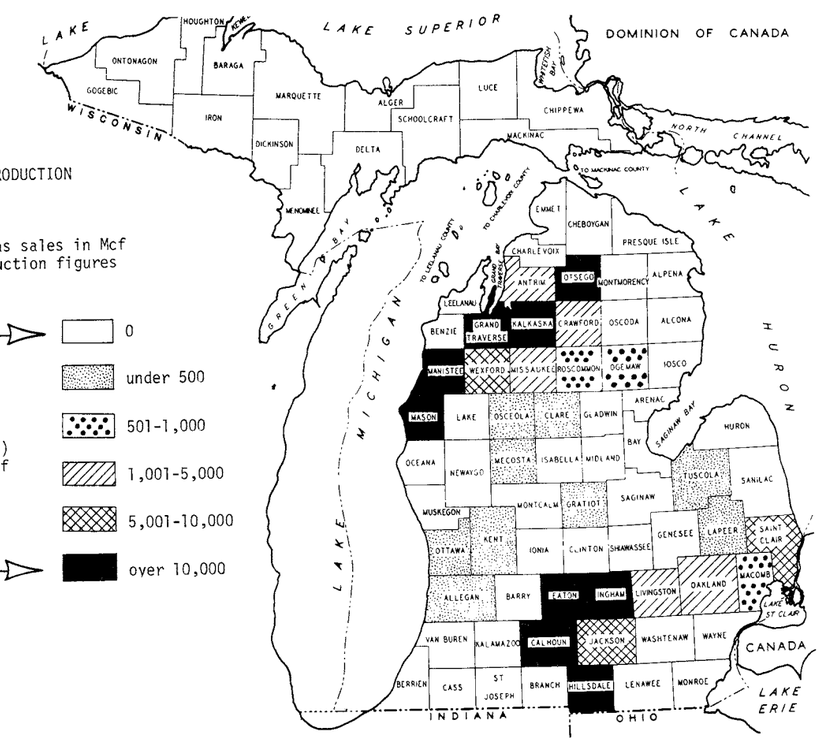


TABLE 8 OIL PRODUCTION BY GEOLOGIC SYSTEM AND FORMATION - 1976 AND PRIOR YEARS

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

YEAR	MISSISSIPPIAN			DEVONIAN		SILURIAN	ORDOVICIAN	Total Barrels Oil All Formations
	Marshall	Berea	Traverse	Dundee-Reed City	Detroit River	Salina-Niagaran	Trenton-Black River	
	First Year of Recorded Oil Production by Formation							
	1938	1925	1927	1927	1939	1952	1935	
1925 Through 1929	. . . . .	876,559	873,777	4,017,451	. . . . .	. . . . .	. . . . .	5,767,787
	(Cumulative-5 year interval)							
1930 Through 1934	. . . . .	318,171	995,439	31,870,671	. . . . .	. . . . .	. . . . .	33,184,281
	(Cumulative-5 year interval)							
1935 Through 1939	7,411	310,313	13,814,816	72,339,293	14,000	. . . . .	43,565	86,529,398
	(Cumulative-5 year interval)							
1940 Through 1944	22,040	229,262	27,856,377	67,939,211	727,418	. . . . .	348,477	97,122,785
	(Cumulative-5 year interval)							
1945 Through 1949	17,283	166,687	16,914,771	62,438,443	4,302,309	. . . . .	106,510	83,946,003
	(Cumulative-5 year interval)							
1950 Through 1954	9,068	125,089	16,974,863	38,058,703	11,878,669	43,091	225,180	67,314,663
	(Cumulative-5 year interval)							
1955 Through 1959	8,183	110,639	8,788,785	25,618,934	13,716,790	568,085	3,108,341	51,920,757
	(Cumulative-5 year interval)							
1960 Through 1964	6,090	84,222	6,777,853	15,725,957	8,260,636	4,611,123	48,022,216	83,488,097
	(Cumulative-5 year interval)							
1965 Through 1969	5,293	113,898	3,831,321	12,186,197	8,387,775	4,195,694	39,132,615	67,852,793
	(Cumulative-5 year interval)							
1970 Through 1974	4,553	97,444	2,669,026	9,115,667	10,992,939	25,986,136	20,288,822	69,174,372
	(Cumulative-5 year interval)							
1975	930	21,702	435,364	1,487,417	2,377,358	17,604,834	2,492,270	24,419,525
1976	892	22,089	414,762	1,425,009	2,339,423	24,115,191	2,103,997	30,421,363

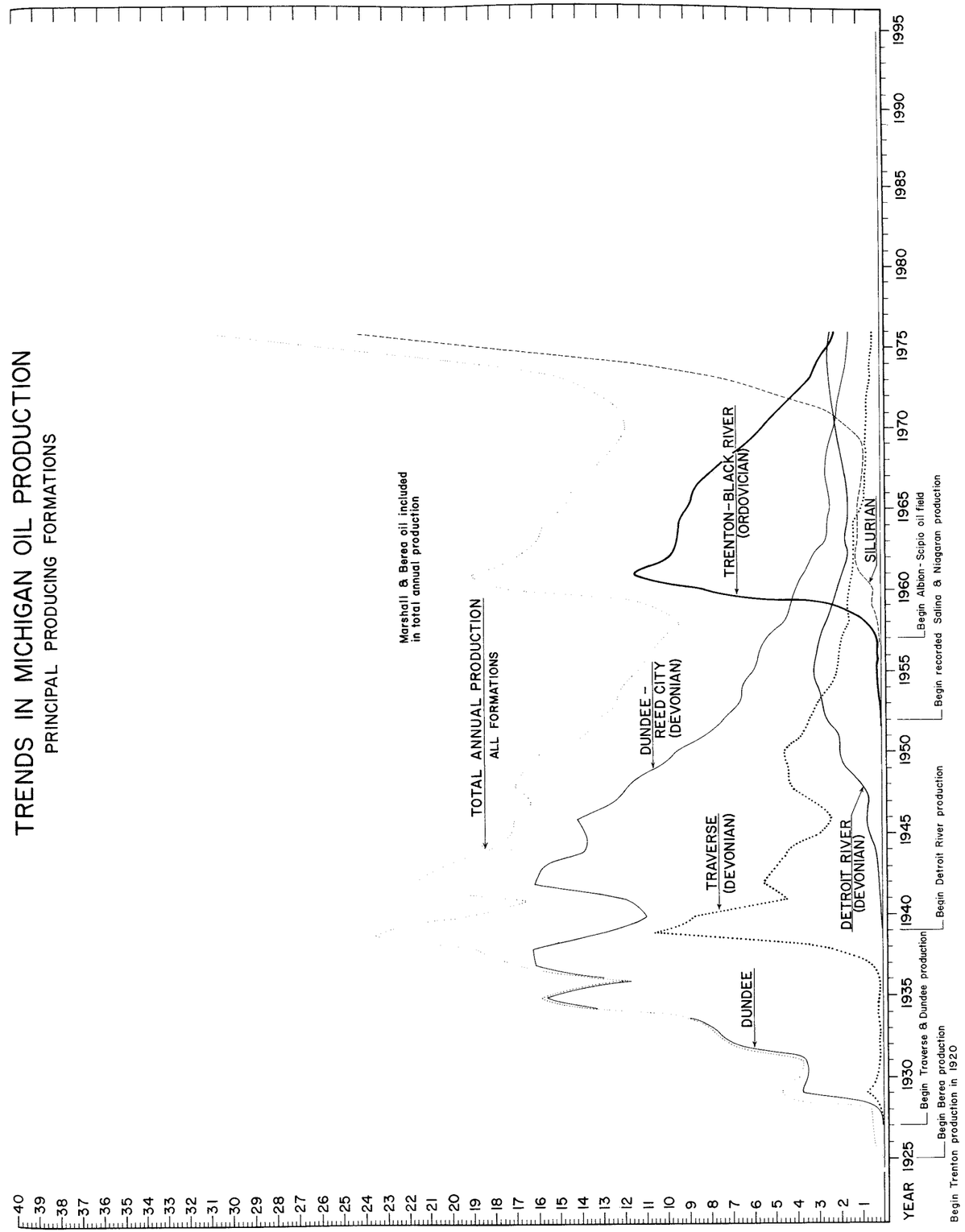


TABLE 9 GAS PRODUCTION BY GEOLOGIC SYSTEM AND FORMATION - 1976 AND PRIOR YEARS

YEAR	CENOZOIC	MISSISSIPPIAN			DEVONIAN			SILURIAN	ORDOVICIAN	Total MCF Gas All Formations
	Glacial Drift	Stray-Marshall	Berea	Antrim Shale	Traverse	Dundee-Reed City	Detroit River	Salina-Niagaran	Trenton-Black River	
	First Year of Recorded Gas Production by Formation									
	1949	1931	1936	1947	1934	1929	1946	1929	1954	
1925 Through 1929	(Cumulative-5 year interval)					1,887,732		74,867		1,962,599
1930 Through 1934		3,001,963			3,744	6,034,206		61,578		9,101,491
	(Cumulative-5 year interval)									
1935 Through 1939		30,769,471	1,391,076		69,894	8,862,165		6,331		41,098,937
	(Cumulative-5 year interval)									
1940 Through 1944		70,498,989	5,860,831		3,716,132	7,647,510		79,983		87,803,445
	(Cumulative-5 year interval)									
1945 Through 1949	8,020	80,217,680	1,467,460	52,495	1,414,004	15,710,636	793,763	7,393,744		107,057,802
	(Cumulative-5 year interval)									
1950 Through 1954	0	18,033,449	916,202	55,626	1,913,497	5,361,578	6,997,257	11,316,082	10,725	44,604,416
	(Cumulative-5 year interval)									
1955 Through 1959	0	6,834,419	148,085	56,686	266,623	2,287,066	12,539,252	20,117,524	6,609,393	48,859,048
	(Cumulative-5 year interval)									
1960 Through 1964	0	2,874,824	42,020	156,485	876,356	1,117,064	19,252,334	66,799,392	45,443,994	136,562,469
	(Cumulative-5 year interval)									
1965 Through 1969	0	2,636,857	814,223	220,305	454,198	150,659	10,649,603	106,149,601	57,253,914	178,329,360
	(Cumulative-5 year interval)									
1970 Through 1974	0	157,966	391,050	760,309	265,850	219,781	8,342,041	148,999,929	53,573,311	212,710,237
	(Cumulative-5 year interval)									
1975	0	70,370	84,591	136,853	0	2,475	1,457,146	91,142,482	9,784,250	102,678,067
1976	0	169,433	38,827	83,923	0	64,126	1,306,451	109,681,927	8,905,918	120,250,105

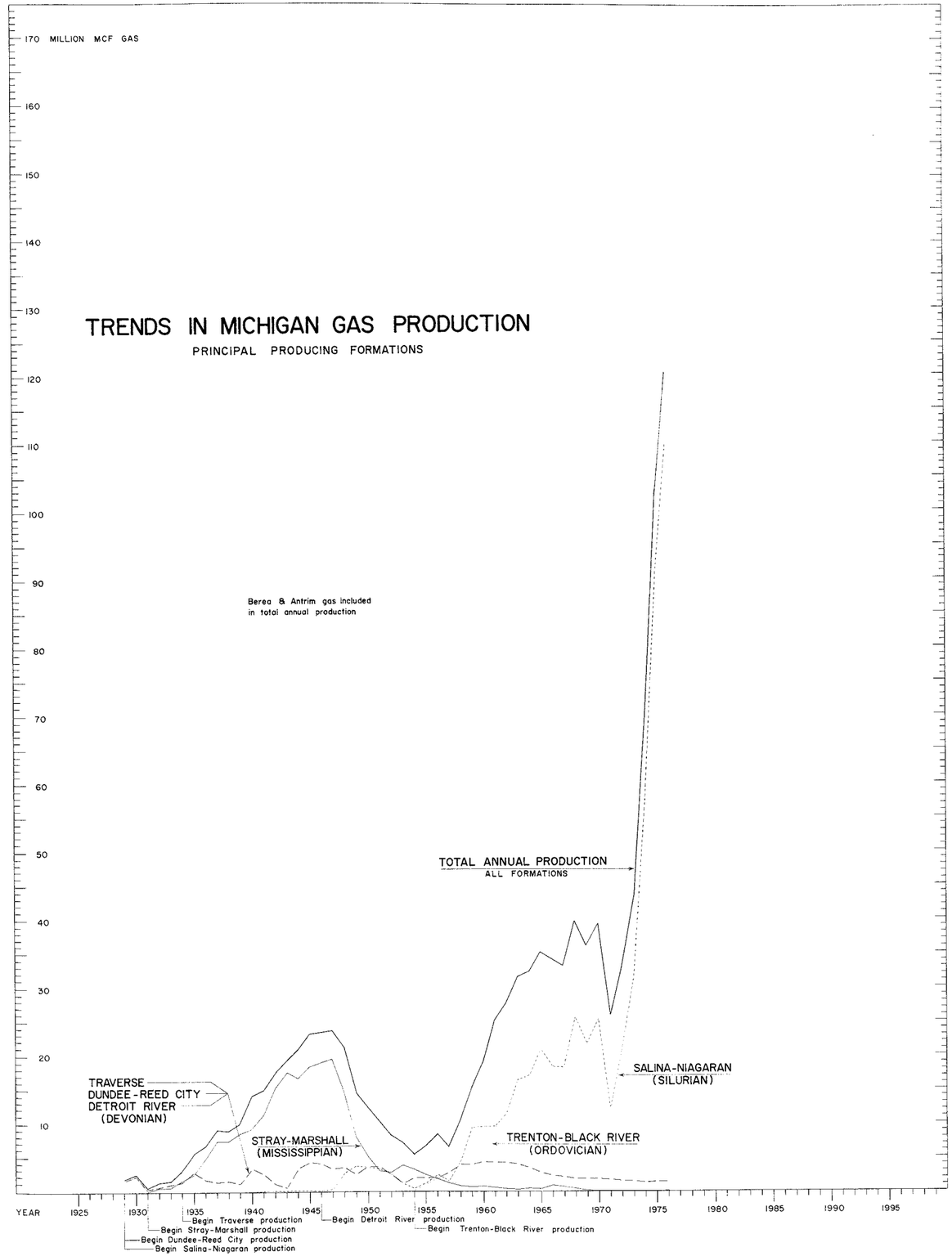


TABLE 10 CUMULATIVE OIL PRODUCTION BY GEOLOGIC SYSTEM AND FORMATION - 1976 AND PRIOR YEARS

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

YEAR	MISSISSIPPIAN Marshall	MISSISSIPPIAN Berea	MISSISSIPPIAN Traverse	DEVONIAN Dundee Reed City	DEVONIAN Detroit River	SILURIAN Salina-Niagaran	ORDOVICIAN Trenton-Black River	Total Barrels Oil All Formations
	First Year of Recorded Oil Production by Formation							
	1938	1925	1927	1927	1939	1952	1935	
1925 Through 1929	(Cumulative-5 year interval)	876,559	873,777	4,017,451	. . . . .	. . . . .	. . . . .	5,767,787
1930 Through 1934	(Cumulative-5 year interval)	1,194,730	1,869,216	35,888,122	. . . . .	. . . . .	. . . . .	38,952,068
1935 Through 1939	7,411 (Cumulative-5 year interval)	1,505,043	15,684,032	108,227,415	14,000	. . . . .	43,565	125,481,466
1940 Through 1944	29,451 (Cumulative-5 year interval)	1,734,305	43,540,409	176,166,626	741,418	. . . . .	392,042	222,604,251
1945 Through 1949	46,734 (Cumulative-5 year interval)	1,900,992	60,455,180	238,605,069	5,043,727	. . . . .	498,552	306,550,254
1950 Through 1954	55,802 (Cumulative-5 year interval)	2,026,081	77,430,043	276,663,772	16,922,396	43,091	723,732	373,864,917
1955 Through 1959	63,985 (Cumulative-5 year interval)	2,136,720	86,218,828	302,282,706	30,639,186	611,176	3,832,073	425,784,674
1960 Through 1964	70,075 (Cumulative-5 year interval)	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 (Cumulative-5 year interval)	2,334,840	96,848,002	330,194,860	47,288,597	9,417,993	90,986,904	577,126,564
1970 Through 1974	79,668 (Cumulative-5 year interval)	2,077,719	83,788,468	311,232,618	102,632,670	35,417,637	111,307,955	646,555,321
1975	80,598	2,442,977	104,909,422	335,513,416	61,197,257	53,052,303	113,800,446	671,084,960
1976	81,490	2,465,066	105,324,184	336,938,425	63,536,680	77,167,494	115,904,443	701,426,388

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

TABLE 11 CUMULATIVE GAS PRODUCTION BY GEOLOGIC SYSTEM AND FORMATION - 1976 AND PRIOR YEARS

YEAR	CENOZOIC Glacial Drift	MISSISSIPPIAN Stray-Marshall	MISSISSIPPIAN Berea	DEVONIAN Antrim Shale	DEVONIAN Traverse	DEVONIAN Dundee-Reed City	DEVONIAN Detroit River	SILURIAN Salina-Niagaran	ORDOVICIAN Trenton-Black River	Cumulative MCF All Formations
	First Year of Recorded Gas Production by Formation									
	1949	1931	1936	1947	1934	1929	1946	1929	1954	
1925 Through 1929	(Cumulative-5 year interval)				. . . . .	1,887,732	. . . . .	74,867	. . . . .	1,962,599
1930 Through 1934	(Cumulative-5 year interval)	3,001,963	. . . . .		3,744	7,921,938	. . . . .	136,445	. . . . .	11,064,090
1935 Through 1939	(Cumulative-5 year interval)	33,771,434	1,391,076	. . . . .	73,638	16,784,103	. . . . .	142,776	. . . . .	52,163,027
1940 Through 1944	(Cumulative-5 year interval)	104,270,423	7,251,907	. . . . .	3,789,770	24,431,613	. . . . .	222,759	. . . . .	139,966,472
1945 Through 1949	8,020 (Cumulative-5 year interval)	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 (Cumulative-5 year interval)	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 (Cumulative-5 year interval)	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 (Cumulative-5 year interval)	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 (Cumulative-5 year interval)	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 Through 1974	8,020 (Cumulative-5 year interval)	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
1975	8,020	213,369,158	10,854,319	1,421,694	8,971,034	41,283,187	69,832,340	448,196,030	176,537,235	973,572,058
1976	8,020	213,538,591	10,893,146	1,505,617	8,971,034	41,347,313	71,138,791	557,877,957	185,443,153	1,093,822,567

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

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

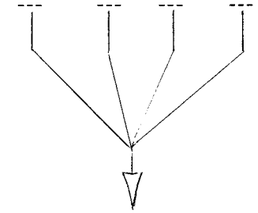
TABLE 12 CUMULATIVE WELL COMPLETIONS BY COUNTY THROUGH 1976

County	Area of County (including inland water)		Classification of Completed Wells (New Hole) (does not include reworked wells)						Approximate Well Density (All Classes)
	Square Miles	Acres	Oil Wells	Gas Wells	Service Wells GS - OBS - BDW	Service Wells LPG	Dry Holes	Total Completions	Wells:Sq. Miles
Alcona	694	444,160					21	21	1:33
Allegan	837	535,680	1,310	89	174		1,700	3,273	4:1
Alpena	590	377,600		1			13	14	1:42
Antrim	520	332,800	3	2	1		47	53	1:10
Arenac	369	236,160	406	44			407	857	2:1
Barry	571	365,440	74		4		140	218	1:3
Bay	451	288,640	458	1			225	684	2:1
Benzie	342	218,880	1				17	18	1:19
Berrien	584	373,760	9				75	84	1:7
Branch	517	330,880					62	62	1:8
Calhoun	716	458,240	283	42	3		402	730	1:1
Cass	505	323,200	39				129	168	1:3
Charlevoix	451	288,640					15	15	1:30
Cheboygan	798	510,720	1				24	25	1:32
Chippewa	1,651	1,056,640	Northern Peninsula County				5	5	1:330
Clare	577	369,280	387	172	492		369	1,420	2:1
Clinton	573	366,720	4				81	85	1:7
Crawford	566	362,240	96	6	8		36	146	1:4
Delta	1,202	769,280	Northern Peninsula County				1	1	1:1200
Eaton	572	366,080	21	9			77	107	1:5
Emmet	477	305,280					5	5	1:95
Genesee	649	415,360	31	1			45	77	1:8
Gladwin	512	327,680	739				283	1,022	2:1
Grand Traverse	490	313,600	62	66	1		189	318	1:2
Gratiot	566	362,240	46	74	23		278	421	1:1
Hillsdale	604	386,560	285	2			493	780	1:1
Huron	824	527,360	5				79	84	1:10
Ingham	560	358,400	72	13	10		110	204	1:3
Ionia	578	369,920	9				85	94	1:6
Iosco	563	360,320					26	26	1:22
Isabella	573	366,720	659	161	56		491	1,367	2:1
Jackson	717	458,880	136	3			282	421	1:2
Kalamazoo	580	371,200	18				112	130	1:4
Kalkaska	573	366,720	114	50	1		169	334	1:2
Kent	868	555,520	461	6	2	10	349	828	1:1
Lake	577	369,280	51	1	5		159	216	1:3
Lapeer	662	423,680	42	6			65	113	1:6
Leelanau	374	239,360					9	9	1:42
Lenawee	760	486,400	3	72			111	186	1:4
Livingston	583	373,120	1	34	55		92	182	1:3
Luce	929	594,560	Northern Peninsula County				2	2	1:465
Mackinac	1,081	691,840	Northern Peninsula County				2	2	1:541
Macomb	481	307,840	6	60	30		351	447	1:1
Manistee	568	363,520	104	36	6		162	308	1:2
Mason	505	323,200	139	14	1		313	467	1:1
Mecosta	570	364,800	129	198	183		420	930	2:1
Midland	523	334,720	901	2		2	278	1,183	2:1
Missaukee	572	366,080	187	63	103		217	570	1:1
Monroe	564	360,960	45				113	158	1:4
Montcalm	720	460,800	383	221	243		611	1,458	2:1
Montmorency	567	362,880	3	2			38	43	1:13
Muskegon	519	332,160	444	120			390	954	2:1
Newaygo	867	554,880	204	46	153		389	792	1:1
Oakland	899	575,360	6	13	5		75	99	1:9
Oceana	541	346,240	337	9			552	898	2:1
Ogemaw	580	371,200	517	21	24		178	740	1:1
Osceola	585	374,400	346	120	197		377	1,040	2:1
Oscoda	568	363,520	2				12	14	1:41
Otsego	538	344,320	104	33	1		211	349	1:2
Ottawa	572	366,080	474	19	2		500	995	2:1
Presque Isle	678	433,920	1	2			38	41	1:17
Roscommon	573	366,720	184	14			104	302	1:2
Saginaw	814	520,960	378	2			175	555	1:1
Sanilac	961	615,040					54	54	1:18
Schoolcraft	1,229	786,560	Northern Peninsula County				2	2	1:615
Shiawassee	540	345,600	9				57	66	1:8
St. Clair	751	480,640	265	184	60	16	890	1,415	2:1
St. Joseph	518	331,520					18	18	1:29
Tuscola	820	524,800	154	4			107	265	1:3
Van Buren	615	393,600	724				1,003	1,727	3:1
Washtenaw	723	462,720	10	18	5	1	109	143	1:5
Wayne	625	400,000	12	24	18	30	54	138	1:5
Wexford	570	364,800	10	9			76	95	1:6
73 Counties	47,342	Totals:	11,903	2,089	1,866	59	15,156	31,073	

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

TABLE 13 PERMITS, DISCOVERIES, WELL COMPLETIONS, WELLS AT END OF YEAR, 1976 AND PRIOR YEARS

Year	Permits Issued	Classification of Well Completions						Fields or Pools Discovered		Wells at End of Year				
		Oil Wells	Gas Wells	Service Wells GS-OBS-SWD	Service Wells LPG	Dry Holes	Total Completions	Oil	Gas	Oil Wells	Gas Wells	GS OBS	Inj.* P.M.	LPG*
1925	0	3					3	1		Incomplete records from 1925 through 1930				
1926	0	89				16	105		1					
1927	16	218	3			46	267	1	1					
1928	283	79	30			49	158	1		*LPG injection and extraction wells in LPG storage facilities.				
1929	576	324	22			137	483							
1930	257	154	19			158	331	2	3					
1931	111	59	17			52	128		1	634	64			
1932	184	109	10			64	183	1		645	72			
1933	429	223	10			85	318	3	1	831	70			
1934	444	272	47			150	469	3	2	977	117			
1935	700	319	101			221	641	1	5	1,167	212			
1936	777	333	206			268	807	6	5	1,360	402			
1937	973	622	66			267	985	6	1	1,778	442			
1938	996	580	27			411	1,018	17	2	2,141	448			
1939	1,465	845	56			578	1,479	8	2	2,684	485			
1940	1,121	557	59			565	1,181	8	13	2,928	510			
1941	1,044	441	97			413	951	7	8	3,158	577	13		
1942	570	297	74			331	682	14	4	3,324	631	13		
1943	627	233	47			355	635	12	8	3,386	639	13		
1944	741	246	64			400	710	10	2	3,433	651	13		
1945	755	271	57	6		467	801	11	11	3,536	663	19		
1946	822	223	53	86		461	823	19	10	3,520	547	226		
1947	886	318	43	148		387	896	10	4	3,532	534	409		
1948	918	371	32	77		437	917	10	5	3,554	502	482		
1949	999	439	22	73		473	1,007	21	2	3,818	471	554		
1950	901	336	28	47		473	884	18	4	3,954	471	610		
1951	744	227	20	43	1	466	757	16	6	3,911	417	673		1
1952	694	261	30	51	2	370	714	14	5	3,979	388	732		3
1953	824	258	18	110	1	360	747	11	6	4,089	313	901		4
1954	573	214	15	2	2	338	571	18		4,167	316	903		6
1955	484	204	13	1	1	291	510	12	2	4,223	321	904		7
1956	476	196	12	28		227	463	12	2	4,191	310	932		7
1957	461	176	40	35	3	207	461	12	5	4,233	335	977		10
1958	481	166	20	36	4	227	453	10	7	4,201	345	1,025		14
1959	727	257	47	72	4	272	652	8	7	4,327	323	1,094		18
1960	904	372	19	79	1	441	912	7	4	4,555	249	1,337	242	19
1961	849	207	57	74	3	476	817	13	10	4,619	292	1,420	260	22
1962	711	148	62	53	4	474	741	5	7	4,603	300	1,531	287	26
1963	704	135	72	56	2	384	650	7		4,598	367	1,601	287	28
1964	583	82	48	126		376	632	6	4	4,588	404	1,632	288	28
1965	494	53	34	107		291	485	6	7	4,368	424	1,859	341	28
1966	430	56	45	11	2	290	404	8	3	4,315	429	1,896	233	30
1967	405	69	38	26		287	420	8	2	4,273	481	1,921	333	30
1968	378	70	12	30	6	251	369	9	4	4,372	414	2,010	394	36
1969	379	73	9	26		239	347	7	3	4,349	410	2,034	---	36
1970	425	50	16	108	3	211	388	11	7	4,324	418	2,119	---	39
1971	425	83	31	83	13	186	396	28	13	4,323	418	2,299	---	52
1972	423	84	38	64	2	186	374	34	23	4,313	450	2,377	---	52
1973	445	81	47	67	0	173	369	38	37	4,334	491	2,462	---	53
1974	503	134	61	54	2	235	484	55	39	4,376	488	2,494	---	54
1975	653	167	40	38	0	330	575	55	19	---	---	---	---	54
1976	645	120	57	50	0	333	560	30	36	---	---	---	---	54



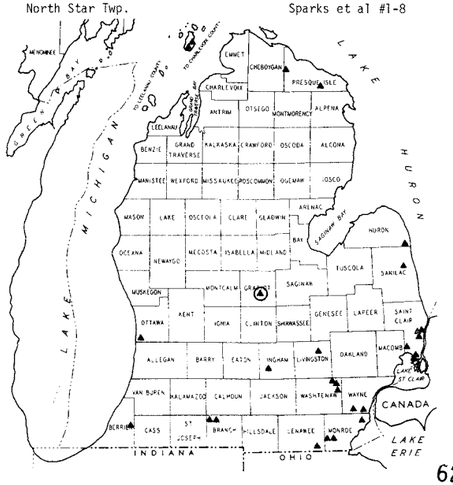
Figures in these columns represent the well count at the end of the year. Figures are subject to change due to well-abandonments, reclassification, etc. The figures in these columns have been discontinued. See Tables 2, 3, 4 and 5 for producible wells and service wells in individual fields.

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

PERMIT				PRECAMBRIAN	TOTAL DEPTH	YEAR COMPLETED	
26112	Berrien Co. Berrien Twp.	10-6S-17W	Security Oil & Gas Thalmann #1	4604 (-3800)	5647 (-4843)	1965	
29779	Branch Co. Sherwood Twp.	7-5S-8W	Consumers Power Co. et al Lindsey-Hostetler #1	5375 (-4485)	5439 (-4549)	1974	
29969	Branch Co. Sherwood Twp.	8-5S-8W	Consumers Power Co. et al H. Clark #1	5418 (-4539)	5475 (-4586)	1974	
23478	Charlevoix Co. Peaine Twp.	6-37N-10W	McClure Oil Co. State-Beaver Island #2	4718 (-3977)	4803 (-4062)	1961 -	Age 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	
30682	Cheboygan Co. Waverly Twp.	24-35N-1W	North. Mich. Explor. Co. et al State-Waverly #1-24	5617 (-4816)	5753 (-4952)	1975	
29191	Huron Co. Sherman Twp.	26-15N-15E	Mobil Oil Corp. C. J. Volmering #1	8872 (-8161)	9086 (-8375)	1973	
28607	Ingham Co. Vevay Twp.	29-2N-1W	Mobil Oil Corp. Walter Kranz, Jr. #1	7690 (-6751)	7866 (-6927)	1971	
10448	Lenawee Co. Riga Twp.	32-8S-5E	Walter H. Eckert Harry Taylor #1	3865 (-3150)	3902 (-3186)	1944	
27986	Livingston Co. Osceola Twp.	11-3N-5E	Mobil Oil Corp. H. J. Messmore #1	7150?(-6170)	7589 (-6609)	1970	
11221	Monroe Co. Berlin Twp.	29-5S-10E	Joseph W. Sturman D. L. & R. L. Chapman #1	3342 (-2745)	3377 (-2780)	1945	
7702	Monroe Co. Ida Twp.	19-7S-7E	Jacob Beck Mrs. James Sancrant #1	3595 (-2926)	5495 (-4826)	1954	
25494	Monroe Co. Summerfield Twp.	16-7S-6E	Ferguson & Garrison Merlin Shimp #1	3637 (-2951)	3671 (-2985)	1964	
None	Ottawa Co. Holland Twp.	30-5N-15W	H. J. Heinz Co. H. J. Heinz Co. #2	6142 (-5523)	6221 (-5602)	1972	
29372	Presque Isle Co. Metz Twp.	13-33N-5E	Shell Oil Co. Taratuta #1-13	6738?(-5962)	6738 (-5962)	1973	Granite wash 6545? (-5769)
27199	Presque Isle Co. North Allis Twp.	29-35N-2E	Pan American Petro. Corp. D. E. Draysey #1	5877 (-5069)	5940 (-5132)	1968	
BD139	St. Clair Co. Casco Twp.	31-4N-15E	Consumers Power Co. Consumers Power Co. BD#1	4605 (-3989)	4627 (-4011)	1964	
25780	St. Clair Co. Clay Twp.	Projected 17-2N-16E	L. Bernhardt Puzzuoli #1	4152 (-3572)	4188 (-3608)	1965	
30376	St. Clair Co. Ira Twp.	14-3N-15E	Mich. Cons. Gas Co. Osterland #1-14	4449 (-3846)	4550 (-3947)	1975	
196	St. Clair Co. St. Clair Twp.	26-5N-16E	St. Clair Oil & Gas Corp. Hurst #1	4730 (-4080)	4770 (-4110)	1929 -	Age 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	
30974	Sanilac Co. Bridgehampton Twp.	20-12N-15E	McClure Oil & Mich. Nat. Res. Hewett-Shadd Unit #1-20	8676 (-7891)	8975 (-8190)	1976	
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	

DEEPEST EXPLORATORY WELL DRILLED IN MICHIGAN

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



▲ REPORTED PRECAMBRIAN TEST

Ⓐ DEEPEST EXPLORATORY WELL IN MICHIGAN (PRECAMBRIAN)

STATE OIL AND GAS REVENUE

Years	Royalty	Rental	Bonus	Application and Assignment Fees	Total Income
1927-1931	$ 85,262.60	$ 43,821.60	$ 27,707.50	$ 1,204.00	$ 157,995.70
1932-1936	209,125.99	205,349.64	87,211.25	4,506.00	506,192.88
1937-1941	1,302,355.65	724,330.32	515,705.83	7,367.00	2,549,758.80
1942-1946	1,645,462.42	2,021,512.76	601,065.34	3,759.00	4,271,799.52
1947-1951	1,813,632.16	2,256,913.51	1,307,470.34	4,398.00	5,382,414.01
1952-1956	2,727,410.47	1,989,342.96	257,186.50	3,028.00	4,976,967.93
1957-1961	1,879,927.18	769,593.64	475,840.80	3,702.00	3,129,063.62
1962-1966	1,259,162.06	1,476,949.69	409,809.00	4,982.00	3,150,902.75
1967-1971	2,160,038.71	3,258,021.87	2,168,524.59	6,009.00	7,592,594.17
1972	944,440.64	831,057.14	10,165,150.69	2,854.00	11,943,502.47
1973	1,960,853.63	1,261,207.88	3,132.75	1,658.00	3,226,852.26
1974	5,814,636.01	1,280,108.62	7,131,732.00	2,248.00	14,228,724.63
1975	9,637,835.43	1,297,691.74	514,247.80	2,603.00	11,452,377.97
1976	13,293,209.27	1,328,660.13	524,973.00	616.00	15,147,458.40
TOTAL	$44,733,352.22	$18,744,561.50	$24,189,757.39	$48,934.00	$87,716,605.11

ABBREVIATIONS

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

Permit numbers issued in 1975 for directional holes.

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

Directional holes with two or more permit number.

29629** and 29553	30744** and 30712
29671**, 29650** and 29478	30748** and 30693
	30791** and 29309
29729 and 29466*	30817***, 30789**, and 30656
29828 and 29451*	30836** and 30398
29900**, 29827 and 29426*	30837***, 30744** and 30712
29912** and 29842	30851** and 30741
29918*** and 29839	30858** and 30739
29929** and 29905	30869 and 30586*
29995** and 29947	30878** and 29952
30049**, 30013** and 29914	30887** and 30848
	30946** and 30891
30034** and 29955	30947** and 30629
30052** and 30001	30948** and 30905
30077** and 29942	30949** and 30896
30099** and 30051	30965** and 30883
30113*** and 30038	30966** and 30908
30115** and 30008	30986** and 30961
30530** and 30459	30989** and 30788
30458** and 30363	31003** and 30564
30583** and 30502	31035** and 30910
30603** and 30557	31052** and 30818
30604** and 30562	31057** and 30675
30118** and 30458	31058 and 30213*
30132** and 30098	31062** and 29417
30172** and 30092	31073***, 30876** and 30840
30211** and 29703	31103** and 30900
30234** and 30188	31132***, 30835** and 30461
30245*** and 30030	31156** and 31091
30251***, 30211** and 29703	31163***, 31126** and 31074
	31177** and 31127
30356** and 30197	31178** and 31144
30460** and 30413	31211***, 31182** and 30914
30372** and 30313	31237** and 31198
30422*** and 30301	31244** and 31215
30423** and 30175	31300** and 31168
30428****, 30422, 30383 and 30242	31305** and 31262
	31317** and 31216
30444** and 30349	31355***, 31322** and 31221
30496**, 30476** and 30364	31334** and 31167
30512** and 30221	31347** and 31304
30626** and 30499	31380** and 31183
30662** and 30602	31388** and 30295
30685** and 30651	

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

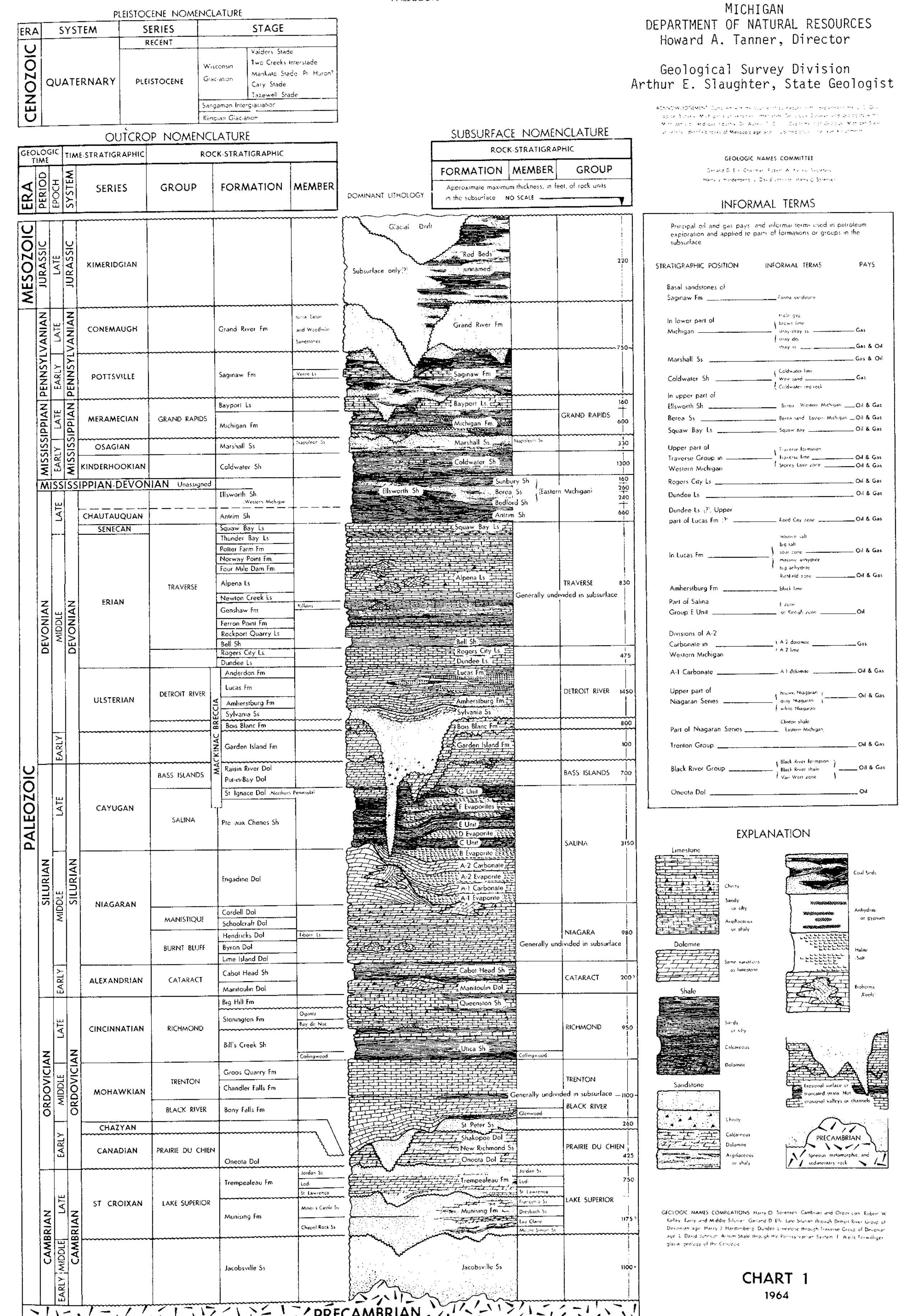
New permits (left column) issued for a previously drilled well or for a previously issued but terminated permit.

Year of issue: 1976

30791	issued for well	drilled or permitted under	29309
30800	"	"	" 30285
30817	"	"	30789 & 30656
30836	"	"	" 30398
30837	"	"	30744 & 30712
30846	"	"	" 30478
30851	"	"	" 30741
30858	"	"	" 30739
30869	"	"	" 30586
30878	"	"	" 29952
30879	"	"	30595 & 30199
30887	"	"	" 30848
30934	"	"	" 30374
30935	"	"	" 8313
30946	"	"	" 30891
30947	"	"	" 30629
30948	"	"	" 30905
30949	"	"	" 30896
30963	"	"	30164 & 29895
30965	"	"	" 30883
30966	"	"	" 30908
30986	"	"	" 30961
30989	"	"	" 30788
31003	"	"	" 30564
31027	"	"	" 30721
31035	"	"	" 30910
31036	"	"	" 29877
31049	"	"	" 24903
31050	"	"	" 2207
31051	"	"	30436, 29801 & 26118
31052	"	"	" 30818
31057	"	"	" 30675
31058	"	"	" 30213
31062	"	"	" 29417
31066	"	"	" 22073
31073	"	"	30876 & 30840
31087	"	"	" 30763
31103	"	"	" 30900
31132	"	"	30835 & 30461
31156	"	"	" 31091
31163	"	"	31126 & 31074
31177	"	"	" 31127
31178	"	"	" 31144
31182	"	"	31211 & 30914
31186	"	"	" 22684
31231	"	"	" 25476
31237	"	"	" 31198
31244	"	"	" 31215
31249	"	"	" 29686
31256	"	"	" 29505
31286	"	"	" 26477
31299	"	"	" 24345
31300	"	"	" 31168
31305	"	"	" 31262
31307	"	"	" 8093
31310	"	"	" 23018
31311	"	"	" 30447
31312	"	"	" 30865
31313	"	"	" 24659
31317	"	"	" 31216
31322	"	"	31355 & 31221
31323	"	"	" 30976
31334	"	"	" 31167
31347	"	"	" 31304
31380	"	"	" 31183
31388	"	"	" 30295
31396	"	"	" 28404
31404	"	"	" 20124
31405	"	"	" 9565
31406	"	"	" 20213

STRATIGRAPHIC SUCCESSION IN MICHIGAN

PALEOZOIC THROUGH RECENT

MICHIGAN
DEPARTMENT OF NATURAL RESOURCES
Howard A. Tanner, Director

Geological Survey Division
Arthur E. Slaughter, State Geologist