



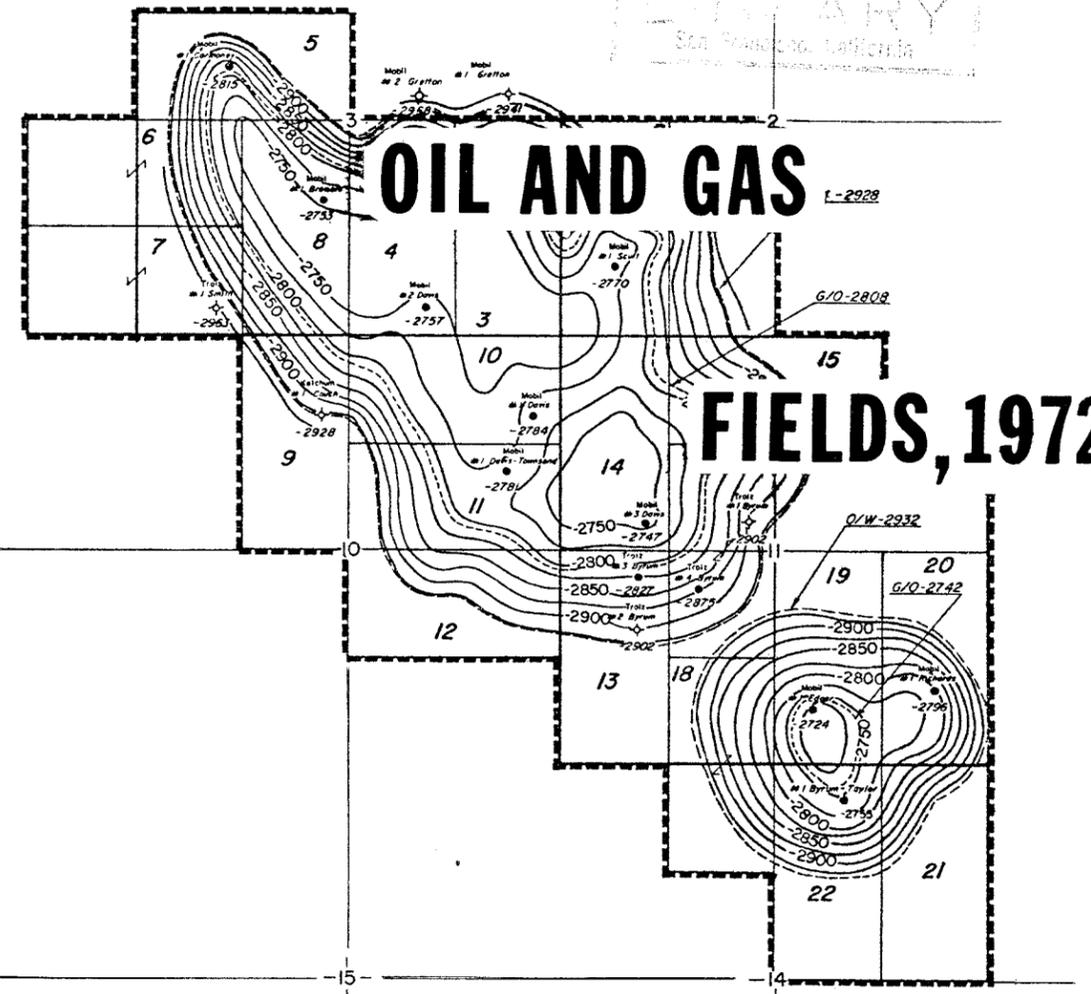
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OIL AND GAS

FIELDS, 1972



1973

Department of Natural Resources
Geological Survey Division

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

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

W. G. Smiley, Supervisor, and J. S. Lorenz, Production and Proration Section. Contribution: All Michigan oil and gas production data, oil import and export figures, monetary valuations, refinery and LPG storage data, secondary recovery data, and oil recovery per acre drilled (Table 2).

Oil and gas production figures are compiled by the Production and Proration Section from records obtained from the Michigan Department of Revenue. Gas import figures are obtained from the Public Service Commission, Gas Section, compilations. All hydrocarbon figures are preliminary and subject to correction as warranted.

Cover Illustrations: Structure contours on the top of the A-1 Carbonate, Onondaga field, Ingham County. After public hearing, approval was granted in April, 1973, to Mobil Oil Corporation to begin pressure maintenance operations on this Salina-Niagaran reef reservoir. The pool, known as Onondaga 10 Unit and comprised of 22, 80-acre units for purposes of pressure maintenance, was discovered by Mobil in March, 1971. The pool has produced 700,775 barrels of oil and 504,578 Mcf gas through January 1, 1973. The unitized pressure maintenance operation, by water injection, is expected to recover about 7.6 million barrels of oil, including about 2.5 million barrels of expected primary recovery.

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

Inquiries concerning information contained in this summary should be directed to appropriate personnel as noted above. The oil and gas summaries are not printed in large numbers. They are distributed to various federal government agencies and to various government agencies in all 50 states, to numerous libraries in the United States and several abroad, and to many individuals and companies engaged in petroleum or other mineral industries. Current and some back issues are available at nominal cost from Publications Room as noted inside the front cover.

Manuscript preparation by G. D. Ells, assisted by Beverly L. Champion, Richard Lilienthal and Margaret Schineman, Petroleum Geology Section.

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MICHIGAN'S OIL AND GAS FIELDS, 1972

INTRODUCTION

Oil and gas are one of Michigan's important natural resources. The value of these raw products, nearly all of which were refined and used in the State, amounted to about \$49,373,169 in 1972. Monies spent in leasing, exploration and development and other auxiliary activities connected with the utilization of these resources contribute substantially to the State's economy each year. To help further the orderly development of these hydrocarbon resources, statistical and other useful data have been maintained and published for many years.

This issue of the oil and gas field statistical summary brings together data on various facets of the State's oil and gas industry during 1972. Certain indices which show the trend of activities from year to year are presented in chart form along with figures for prior years. Other charts show cumulative figures along with abundant information of an historical nature, useful in oil and gas field evaluation. Furthermore, the gathering, maintenance and compilation of the data reflect, in part, the varied functions of the Oil and Gas Conservation Group of the Geological Survey.

Certain figures for 1972, such as the number of exploratory, development and service wells drilled, and the number of new field and pool discoveries, may differ from figures reported for that year by regional or national trade journals, or by industry reporting services. Preliminary 1972 oil and gas production and valuation figures cited in other publications may differ slightly from those shown herein. The differences in the various statistics are generally minor and due to methods of gathering and reporting well data, determining cut-off dates for reporting statistics on a yearly basis, and the necessity of making estimates and projections of data for some types of reports.

The kinds of data listed herein are mainly derived from records received and maintained by the Oil and Gas Conservation Group, Geological Survey Division. The data contained in this and previous oil and gas summaries have been treated uniformly as near as possible from year to year. They reflect as near as possible the actual figures and other information that should be credited to the year in review.

This publication is divided essentially into three parts. The first summarizes significant statistics on oil and gas field drilling activities during 1972 and related records kept by the Oil and Gas Conservation Group. Part 2 contains specific information on the State's oil and gas fields, gas storage fields, and other related subjects. Part 3 contains cumulative records of importance to the industry. Data for 1972 have been included in the Part 3 cumulative records.

PART I

1972 STATISTICAL DATA

*** OIL AND GAS PERMITS ***

Oil and gas drilling permits issued during 1972 began with number 28747 and ended with number 29169. A total of 423 were issued during the year as compared with 425 during 1971. The initial classification of wells to be drilled under these permits was as follows:

INITIAL CLASSIFICATION	1972	1971
Exploratory wells	211	173
Development wells	133*	179
Gas storage facility wells	74	60
LPG storage operations	5	13
	423	425

*Includes 4 water injection wells

In addition to regular permits, 1 BDW permit (No. 155) was issued and 26 deepening permits were issued. Deepening permits began with number 1662 and ended with number 1687. One deepening permit, number 1611, was terminated. No geological test permits were issued during 1972.

The distribution of permits by oil and gas districts (See oil and gas districts map) through a five-year period including 1972 is as follows:

DISTRICTS	DRILLING PERMITS BY DISTRICT				
	Permits Issued				
	1968	1969	1970	1971	1972
Basin	88	113	169	138	154
Northern	17	32	52	81	137
Southeastern	143	126	121	130	62
Southwestern	61	41	33	30	32
Western	69	67	50	46	38
Totals	378	379	425	425*	423**

*The following permits issued in 1971 were also terminated in 1971 after operators failed to commence drilling operations within 6 months of issue date:
28322 28366 28386 28466
28352 28385 28393 28476

*In addition, these permits issued in the latter part of 1971 were terminated in 1972:
28490 28571 28595 28619 28673
28512 28578 28605 28638 28683
28542 28555 28615 28672 28719
28553 28584

**The following permits issued in 1972 were also terminated in 1972:
28750 28779 28849 28867 28908
28751 28836 28851 28871 28933
28754 28844 28855

**Terminated permits were cited for the first time in Annual Statistical Summary 16, 1972. Included in the 423 oil and gas permits issued in 1972 were 11 permits to reopen and replug or to deepen holes drilled under other permit numbers. Permits issued for wells drilled under previous permits are listed herein for the first time. They are:

28941 issued for well drilled under permit 17220	
28942 " " " " " " " " " " " "	17331
28847 " " " " " " " " " " " "	15630
28985 " " " " " " " " " " " "	10169
28992 " " " " " " " " " " " "	5302
28993 " " " " " " " " " " " "	5168
29008 " " " " " " " " " " " "	25626
29024 " " " " " " " " " " " "	26469
29161 " " " " " " " " " " " "	2904
29162 " " " " " " " " " " " "	3095
29163 " " " " " " " " " " " "	3202

**Included in the 423 permits issued in 1972 were 4 to drill holes directionally. They were:
28916 - Otsego County 28988 - Kalkaska County
28951 - Otsego County 29038 - Kalkaska County

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

TYPE OF SERVICE WELL	1968	1969	1970	1971	1972
Gas storage	27	48	115	60	74
LPG, Water Injection	9	10	1	16	9
Brine disposal, etc.				3	1
	36	58	116	79	84

The distribution of 1972 oil and gas permits by county is shown in Table 1.

In addition to issuance of permits for various types of wells, 137 applications were received and approved for rework operations on existing wells. Transfers of ownership were processed for 321 wells plus blanket transfer of Leonard Refinery wells to Total Leonard, Inc. Corrections of location, name and other detail were made for 41 wells, and cancel and transfer of location were made for 5 others.

*** WELL COMPLETIONS ***

There were 308 new-hole exploratory and development wells which reached total depth and were completed as producers or dry holes during 1972. The 308 well completions do not include service wells, old wells drilled to deeper objectives, or reworked wells. The fluctuation in the number of new-hole completions and the resulting number of oil, gas, or dry holes over a five-year period is as follows:

EXPLORATORY AND DEVELOPMENT WELL COMPLETIONS							
Year	Exploratory Wells			Development Wells			Totals
	Oil	Gas	Dry	Oil	Gas	Dry	
1968	9	4	151	61	8	100	333
1969	7	3	148	66	6	91	321
1970	8	6	139	43	9	72	277
1971	28	11	122	55	20	64	300
1972	34	23	124	50	15	62	308

The number of new-hole service well completions, mainly facility wells in gas storage reservoirs, amounted to 66 in 1972. The figure does not include reworked wells or old wells converted to service wells of various types. The fluctuations in service well completions over a five-year period is as follows:

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

Well completion figures by county are shown in Table 1. The number of well completions of various types with the oil and gas districts is shown in the Chart below.

Certain completion data for exploratory, development and other types of wells are provided during the year for the American Association of Petroleum Geologists (AAPG) and the American Petroleum Institute (API). Statistical data published for Michigan by these agencies are correct according to data submitted and approved but sometimes differ slightly from Geological Survey figures published later in the year. The differences are primarily due to method of determining a cut-off date for handling statistics on a yearly basis as required by these agencies, and to internal decisions relating to final year-end status of a completed well

NEW WELL COMPLETIONS BY DISTRICTS, 1972

Classification of New Well Completions	Basin		Northern		Western		Southwestern		Southeastern		Total	
	1971	1972	1971	1972	1971	1972	1971	1972	1971	1972	1971	1972
Exploratory Wells												
Oil	8	7	15	24	2	3	1	0	2	0	28	34*
Gas	2	2	6	14	1	2	1	4	1	1	11	23
D&A	32	35	21	34	13	7	15	12	41	36	122	124
Totals	42	44	42	72	16	12	17	16	44	37	161	181
Development Wells												
Oil	26	15	12	26	3	2	0	2	13	5	54	50
Gas	4	10	0	2	0	0	1	2	16	1	21	15
D&A	24	25	6	13	1	1	6	8	27	15	64	62
Totals	54	50	18	41	4	3	7	12	56	21	139	127
Service Wells												
INJ	0	3	0	0	0	0	0	0	0	0	0	3
BDW	0	0	0	0	1	0	0	2	2	0	3	2
GS	48	47	0	0	14	9	1	1	18	0	81	57
LPG	0	0	0	0	0	0	0	0	13	4	13	4
Total Completions	144	144	60	113	35	24	25	31	133	62	397	374

*Does not include a Dundee oil discovery resulting from a hole reworked in 1971. The well is accounted for in Table 2.

as determined by the Survey. The following exploratory and development well statistics have been extracted from the Quarterly Review of Drilling Statistics for the United States, Fourth Quarter, 1972 and Annual Summary, 1972, American Petroleum Institute, Vol. VI, No. 4, February, 1972, Table II and III, pages 16-17.

API EXPLORATORY AND DEVELOPMENT WELL COMPLETIONS							
Year	Exploratory Wells			Development Wells			Totals
	Oil	Gas	Dry	Oil	Gas	Dry	
1972	34	21	127	53	13	61	309

*** DRILLED FOOTAGE ***

The average depth, statewide, of exploratory wells drilled in 1972 was about 5,050 feet as compared with 4,374 feet the prior year. Development well depths averaged about 4,580 as compared with 3,993 feet the prior year. Service well depths, mostly gas storage facility wells completed in shallow Mississippian Stray Sandstone, averaged 1,670 feet. Drilled footage figures and average well depths for specific counties are shown in Table 1.

Survey records show the following total drilled footage figures for 1972 and the 3 prior years:

Well Class	1969	1970	1971	1972
Exploratory	544,160	615,952	704,192	913,797
Development	559,936	454,016	554,968	581,886
Service Well (all types)	69,126	162,344	180,418	110,177
Totals:	1,173,222	1,232,312	1,439,578	1,605,860

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

1972 API DRILLED FOOTAGE FIGURES						
	Exploratory Wells			Development Wells		
	Oil	Gas	Dry	Oil	Gas	Dry
	203,169	119,206	587,165	268,037	55,152	253,529
Total Exploratory Footage:	909,540			Total Development Footage:		
	576,718					

*** 1972 OIL AND GAS PRODUCTION ***

Oil production amounted to 12,989,977 barrels as compared with 11,893,411 barrels produced in 1971. Included with 1972 oil production are 125,768 barrels of high-gravity condensate produced from northern Michigan Niagaran gas-condensate pools during 1972. The increase is primarily due to the new Niagaran reef pools in the northern part of the Southern Peninsula.

Gas production amounted to 33,567,638 Mcf in 1972, an increase over the 25,930,622 Mcf produced in 1971. The increase is also related to new Niagaran pools discovered since 1969 in northern Michigan. A number of newly discovered Niagaran gas fields and oil fields, most of which are single-well pools, are shut-in and awaiting gathering facilities. A few single-well oil fields are shut-in due to prohibition of flaring of oil well gas.

Production by month and oil and gas districts during 1972 is as follows:

OIL AND GAS PRODUCTION BY MONTH		
	Barrels Oil	MCF Gas
January	1,055,154	2,407,577
February	916,594	2,226,380
March	994,268	2,612,657
April	1,020,826	2,658,658
May	1,076,700	2,717,324
June	1,075,570	2,682,405
July	1,120,956	2,807,507
August	1,174,991	2,861,930
September	1,158,364	2,995,982
October	1,218,429	3,053,548
November	1,097,819	2,998,498
December	1,080,306	3,545,172
Totals	12,989,977	33,567,638

OIL AND GAS PRODUCTION BY DISTRICT		
District	Barrels Oil	MCF Gas
Basin	4,612,311	4,761,939
Northern	2,889,494	6,126,990
Southeastern	3,715,665	17,830,774
Southwestern	1,491,673	4,847,663
Western	280,834	272
Totals	12,989,977	33,567,638

The Albion-Scipio Trend, the state's most prolific field, produced about 30% of the oil and 32% of the gas in 1972 as compared with about 40% of the oil and 43% of the gas in 1971.

*** LPG PRODUCTION ***

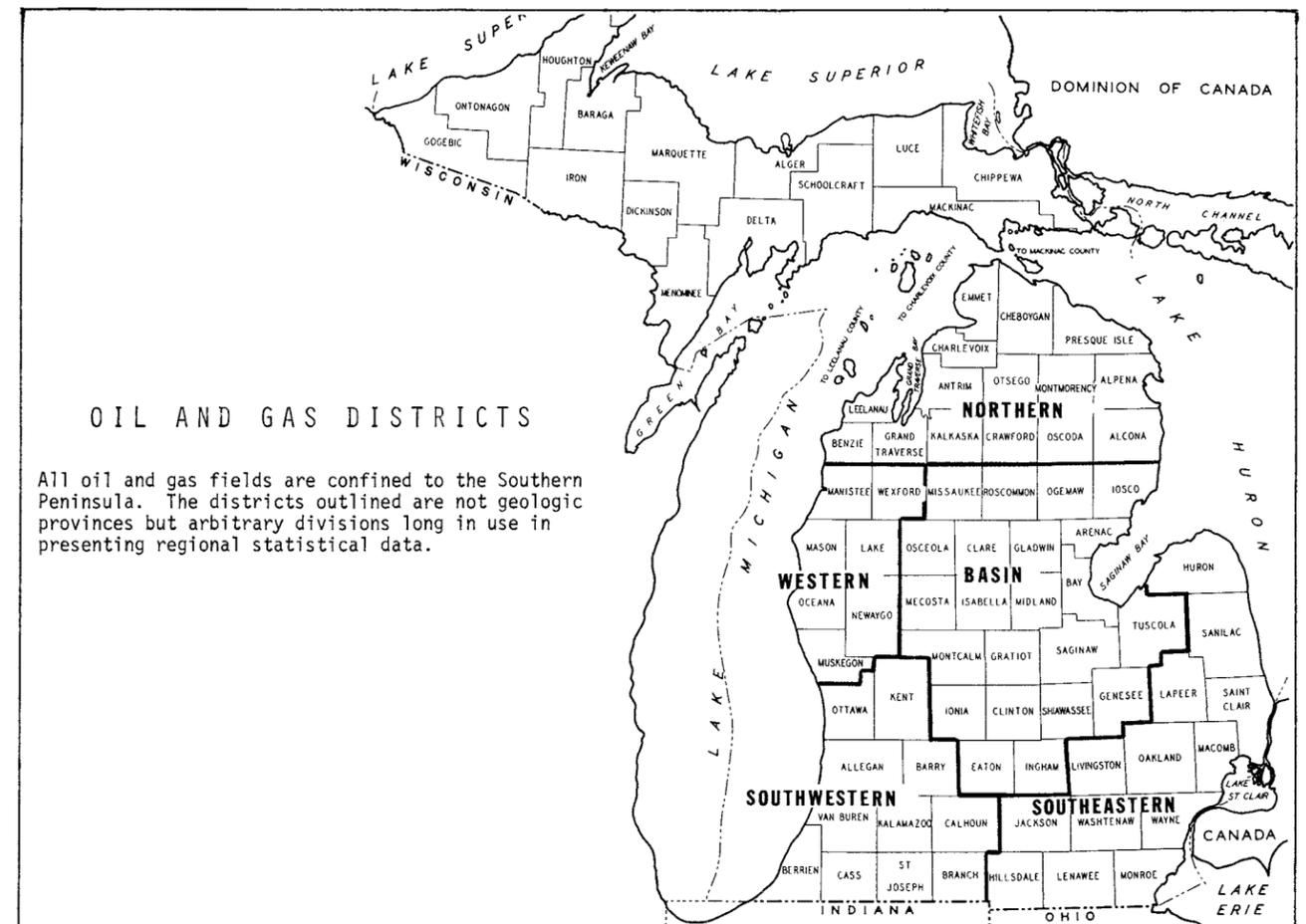
Total LPG production in 1972 amounted to 1,312,642 barrels as compared with 1,451,956 barrels in 1971. LPG's are stripped from Michigan produced gas and gas imported via pipeline from western sources. Additional details on LPG production and gas plant operations are found in Part 2 of this publication.

*** CONDENSATE PRODUCTION ***

Condensate is a new Michigan resource, the first having been produced from the northern Michigan retrograde reservoirs found the past few years. There were 36 definite gas-condensate fields in the northern counties of the Lower Peninsula as of June 1, some of which are 1973 discoveries and thus not listed in the Oil and Gas Table, Part 2. It is expected that the number of fields will be increased many-fold over the next decade.

Condensate production is shown in Part 2 for pools classified as gas-condensate reservoirs but is included in the yearly oil production total cited in various tabulations in this publication. Condensate production is as follows:

1969	0 barrels
1970	18,946 barrels
1971	98,668 barrels
1972	125,768 barrels
Total:	243,382 Barrels



*** OIL AND GAS VALUATION ***

The average price paid at the wellhead for Michigan produced crude, including condensate, was \$3.20 per barrel. The gross value of these products amounted to \$41,556,432 as compared with \$38,858,706 in 1971.

The average price of Michigan produced gas sold at the wellhead was about \$.31 per Mcf. The gross value of this product amounted to \$10,314,222 as compared with \$6,775,629 in 1971.

The estimated value of LPG's produced in 1972 was about \$2.94 per barrel or \$.07 per gallon. The value of this product amounted to about \$3,859,167 as compared with \$3,658,929 in 1971.

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

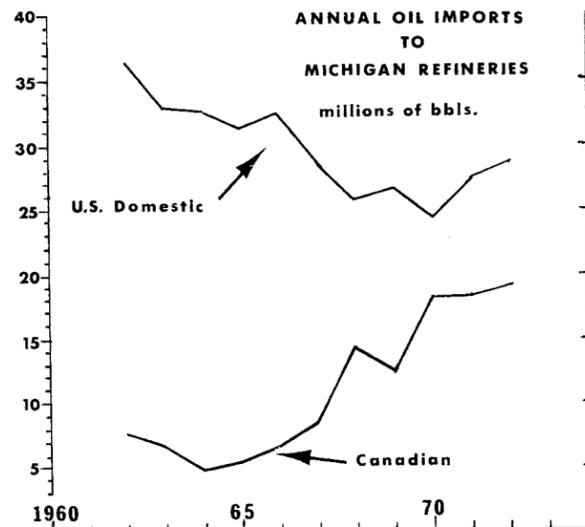
Imports of U.S. domestic crude oil via pipeline from western and midwestern states continued to increase during 1972. Imports amounted to 28,522,233 barrels, an increase over the 27,428,311 barrels imported to Michigan refineries in 1971.

Imports of Canadian crude via pipeline from western Canada oil fields also continued to increase. Imports amounted to 18,959,192 barrels in 1972 as compared with 17,723,813 the prior year.

Total imports to Michigan refineries amounted to 47,481,425 barrels as compared with 45,152,124 in 1971. Imports by month during 1972 are as follows:

1972 CRUDE OIL IMPORTS (Bbls.)			
	Domestic	Canadian	Total
January	2,469,494	1,732,686	4,202,180
February	2,324,664	1,440,831	3,765,495
March	2,068,734	1,915,026	3,983,760
April	1,957,846	1,766,284	3,724,130
May	1,106,537	1,401,868	2,508,405
June	2,638,024	1,245,275	3,883,299
July	2,563,458	1,513,160	4,076,618
August	2,717,160	1,380,316	4,097,476
September	2,752,373	1,387,174	4,139,547
October	2,827,940	1,621,800	4,449,740
November	2,732,241	1,306,262	4,038,503
December	2,363,762	2,248,510	4,612,272
Totals	28,522,233	18,959,192	47,481,425

The trend in U.S. domestic and in Canadian crude oil imports to Michigan refineries from 1962 through 1972 are illustrated graphically.



Exports of Michigan produced crude oil to northern Indiana (Ft. Wayne) and Ohio (Cleveland) refineries or terminals amounted to 1,013,637 barrels in 1972, a slight decrease over the 1,021,228 barrels exported in 1971. Export of Michigan produced crude is expected to increase when pipeline systems from northern reef fields are completed and operational.

1972 CRUDE OIL EXPORTS (Bbls.)	
January	92,801
February	90,101
March	88,469
April	84,167
May	91,010
June	76,490
July	88,942
August	81,397
September	80,385
October	81,197
November	84,099
December	74,579
Total	1,013,637

Gas imports to Michigan markets and gas storage fields via pipelines, primarily from Texas, Louisiana, Oklahoma and Kansas fields amounted to 906,684,020 Mcf in 1972, a decrease of about 2 1/2 billion cubic feet from 1971 imports of 909,209,140 Mcf. Compilations by the Gas Section, Michigan Public Service Commission show the following imports, by month, during 1972:

1972 PIPELINE GAS IMPORTS (Mcf)	
January	49,950,801
February	51,359,433
March	67,459,268
April	80,362,692
May	95,381,425
June	95,784,804
July	98,974,716
August	95,107,495
September	96,534,940
October	76,912,738
November	53,256,607
December	45,599,101
Total	906,684,020

*** NEW DISCOVERIES ***

Statewide, the discovery-to-dry hole ratio for all exploratory wells drilled and completed during the year was about 1:3, the same as in 1971. About 67% of the new field discoveries were made in the Northern Oil and Gas District. The discovery ratio in this 15-county area was about 1:2 in 1972, 1:3 in 1971, 1:3 in 1970 and about 1:5 in 1969. Nearly all the discoveries were Niagaran reef reservoirs found by seismic surveys. A few Niagaran reef discoveries were also perforated in the overlying Salina A-1 Carbonate unit as well as the reef.

ANALYSIS OF DISCOVERY WELLS BY GEOLOGIC SYSTEM				
System	Formation or Pay	Number of Discoveries		
		1970	1971	1972
Pennsylvanian	"Michigan Stray Ss."	-	1	-
Mississippian	"Berea Ss."	2	-	-
Devonian	Antrim Shale	-	-	-
	"Traverse Lime"	-	4	1
	Dundee	1	4	1
	"Reed City"	2	-	-
	Detroit River	-	-	-
	"Sour Zone"	1	-	1
Silurian	Richfield	-	1	-
	Salina A-1 or A-2	-	-	2
Ordovician	Niagaran reef*	12	30	53
	Trenton-Black River	-	1	-
Cambrian	Prairie du Chien	-	-	-
	(Gas shows reported in past years)	-	-	-

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

DRILLING OBJECTIVES IN MICHIGAN

System	Formation or Pay	Percentage	
		1971	1972
Pennsylvanian		-	-
Mississippian	"Michigan Stray Ss."	1.5	15.0
	"Berea Ss."	-	-
Devonian	Antrim Shale	-	-
	"Traverse Lime"	8.0	3.2
	Dundee	9.0	4.6
	"Reed City"	4.0	1.9
	Detroit River	-	-
	"Sour Zone" - Richfield	3.0	4.3
Silurian	Salina-Niagaran	54.0	61.9
Ordovician	Trenton-Black River	9.0	3.2
	St. Peter Ss. or	-	-
Cambrian or Precambrian	Prairie du Chien	10.0	4.8
	Undifferentiated)	1.5	1.1

The sizeable percentage of wells drilled only to Niagaran rocks reflects the high interest in Niagaran reef exploration in the northern part of the state and around the southern edge of the basin.

Most of the discoveries are tentatively classified as Class E pools with yields as defined by the Committee on Statistics of Drilling, American Association of Petroleum Geologists. The classifications are based on potential yields and are as follows:

- 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

*** OIL AND GAS 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. This system was satisfactory for hydrocarbon accumulations related to structural closure and for some reef reservoirs. The increasing number of Niagaran reef discoveries has led to a modification of the name system for most reef fields. Beginning in 1971 most were named according to township name, followed by the section number wherein the discovery was made, and then by the numerical town and range designation.

The majority of northern Michigan reefs are of small areal size, probably not exceeding 160 to 200 surface acres. Most of them are or will be under spacing orders wherein the limits of the field are defined geographically. Most spaced areas, designated as a pool and synonymous with field, are underlain by a single reservoir. Others such as the South Boardman Unit cover several square miles and contain several laterally separated, single-well, reef reservoirs. The pools are designated: Pool A, Pool B, Pool C, and so on. A few wells, originally classified as development wells, have been designated as being in separate reservoirs and have been given discovery well status.

Throughout Michigan's oil and gas producing history an effort has been made to keep accurate records on each individual oil or gas accumulation. Most of the state's fields are related to structural or anticlinal traps, and many of the larger structures produce from different reservoir formations and are thus multipool fields. The maintenance, and availability of individual field and pool records should be useful in studies of future oil and gas possibilities within the Michigan basin.

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

Oil and gas production by counties for 1972 is shown below. Production by individual field and pool within a county is found in Part 2, Table 2. Annual and cumulative production by year and geologic formation is found in Part 3. Significant gains were made in certain northern Lower Peninsula counties during the year but certain conservation measures tended to curtail production which otherwise might have been greater. These are briefly discussed below and under the section relating to northern developments.

A special no-flare order in effect since late 1971 prohibits the flaring of oil well gas and requires Niagaran oil wells in specified counties to be closed in until a market connection is achieved or an exception to the order is granted. Another special order, contemplated in late 1972 and put into effect in April, 1973, deals with spacing and proration of Niagaran oil wells in specified counties. The counties covered by the no-flare order and the spacing-proration order are shown on the inset map. This latter order establishes 80-acre spacing for Niagaran oil wells and establishes for the first time statewide proration for Niagaran oil reservoirs in these specified counties. Drilling unit, well spacing, and oil-gas allowables are shown on the inset map. These prudent and justifiable conservation measures effectively prevent waste of millions of cubic feet of needed gas. Both orders may be rescinded or revised as warranted.

OIL AND GAS PRODUCTION BY COUNTY IN 1972		
County	Barrels Oil	MCF Gas
Allegan	113,763	219,844
Arenac	200,765	---
Antrim	402	---
Barry	10,097	---
Bay	217,847	---
Calhoun	1,255,020	4,359,511
Clare	382,940	165,024
Crawford	586,313	488,339
Eaton	3,325	---
Genesee	46,160	---
Gladwin	273,659	---
Grand Traverse	69,042	922,439
Gratiot	2,684	3,149
Hillsdale	2,017,966	4,919,032
Huron	114	---
Ingham	1,149,364	3,356,404
Isabella	143,991	---
Jackson	688,192	2,252,758
Kalkaska	828,484	2,990,220
Kent	52,871	10,511
Lake	137,152	---
Lapeer	95,084	46,931
Lenawee	---	3,171
Macon	2,627	1,524,752
Mason	64,201	---
Mecosta	53,645	64,483
Midland	154,361	---
Missaukee	571,783	572,701
Monroe	1,584	---
Montcalm	106,979	---
Muskegon	15,571	---
Newaygo	12,640	272
Oakland	304	---
Oceana	51,139	---
Ogemaw	411,430	312,806
Oseola	531,046	2,887
Oscoda	1,434	---
Otsego	1,403,536	1,725,992
Ottawa	53,670	257,797
Presque Isle	283	---
Roscommon	287,366	284,485
Saginaw	18,490	---
Shiawassee	3,771	---
St. Clair	900,211	9,084,130
Tuscola	52,705	---
Van Buren	6,252	---
Washtenaw	3,364	---
Wayne	6,219	---
Wexford	131	---
Totals	12,989,977	33,567,638

NORTHERN MICHIGAN OIL AND GAS DEVELOPMENT

The series of graphs and explanations, 1 through 7, in this section were prepared under the direction of James S. Lorenz, Petroleum Engineer, Production and Proration Section. Originally prepared as a part of testimony given before a Michigan Public Service Commission inquiry, Case No. U-4100, in October 1972, these graphs provide insight into the production aspects related to northern Michigan reef fields. The graphs have been up-dated through 1972 but the explanations are the same.

Northern Michigan as defined in relation to these graphs means all the counties above Towlne 20 in the Southern Peninsula. It includes Manistee, Wexford, Missaukee, Roscommon, Ogemaw and Iosco Counties, and all the counties included within the Northern Oil and Gas District. Figures 1 and 2 include production data from recent discoveries in Ingham and Calhoun Counties. Reference to Shell Oil Company's Chester N-1 in Figure 3 is to the Chester field, a single-well Niagaran reef pool discovered in 1970. This field, located in Otsego County, is listed in Table 2, Part 2, of this publication. The Onaway field (North Allis 29-35N-2E), Presque Isle County was the first reef discovery in the Northern District and is now abandoned.

EXPLANATION OF FIGURES 1 THROUGH 7

Figure 1. Total State Gas Sales vs Total Recent Niagaran Gas Sales

This graph shows the decline curve of the entire state's gas sales, excluding recent Niagaran production, in relationship to total gas sales including Niagaran production. The production shown herein includes the recent Niagaran production north of Towlne 20, and the recent Niagaran production in Ingham and Calhoun counties.

Figure 2. Total State Oil and Condensate Production vs Total Recent Niagaran Oil and Condensate Production

This graph shows the decline curve for the entire state's oil and condensate, excluding recent Niagaran production in relationship to the total state's oil and condensate production. The production includes all the recent Niagaran production north of Towlne 20, and the recent Niagaran production in Ingham and Calhoun counties.

Figure 3. Monthly Gas Production--Northern Michigan Niagaran Formation

This graph shows by month the gas well gas, casing-head gas, and total gas. Also the effects that the no flare order and the pipeline proration had on this production. As can be seen on the graph the only gas well on production for the first 15 months was Shell Oil Company's Chester #N-1. This northern Michigan production is from Niagaran reefs north of Towlne 20.

Figure 4. Monthly Oil Production--Northern Michigan Niagaran Formation

This graph shows the relationship of the oil and condensate to the total oil and condensate produced from the Niagaran formation north of Towlne 20. Also shown are the effects of the no flare order and pipeline proration.

Figure 5. Successful Oil and Gas Completions in Northern Michigan

This graph shows the relationship between the number of successful gas well completions in northern Michigan (north of Towlne 20). Also shown are the total successful completions by month. These wells are all in the Niagaran formation. The Onaway field in Presque Isle County, which was completed and went on production in 1969, was not included as part of this graph due to its low productivity.

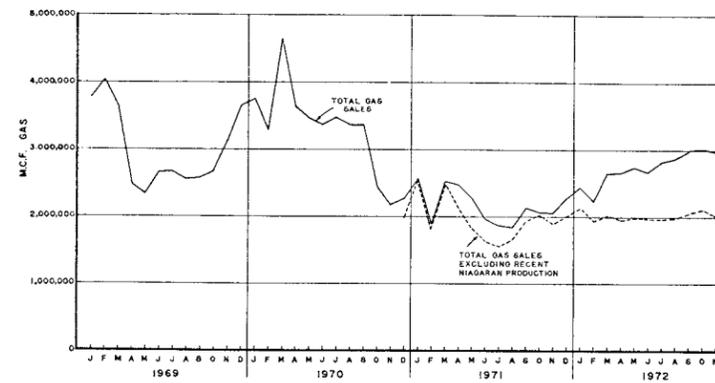
Figure 6. Total Gas Well Completions vs Total Gas Wells on Production

This graph shows the relationship to the number of successful gas well completions north of Towlne 20 to the number of gas wells actually on production.

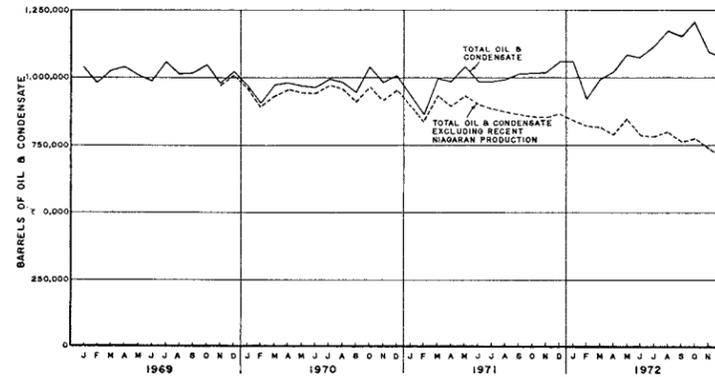
Figure 7. Total Oil Well Completion vs Total Oil Wells on Production

This graph shows the relationship to the number of successful oil well completions north of Towlne 20 to the number of oil wells actually on production. The Onaway field in Presque Isle County, which was completed and went on production in 1969, was not included in this graph due to its low productivity.

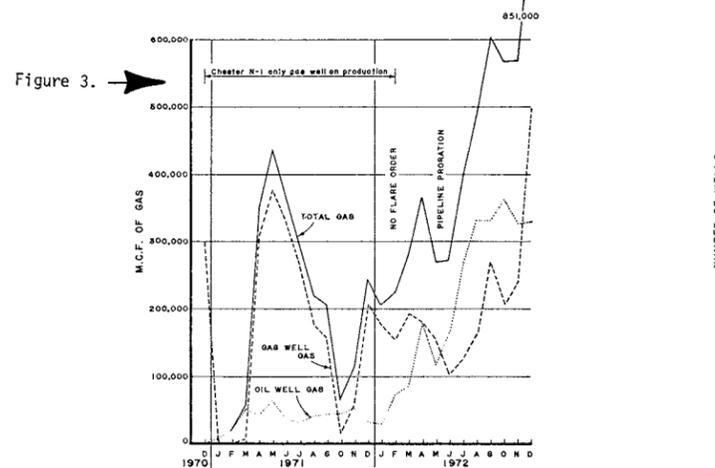
Figure 1. TOTAL STATE GAS SALES VS. TOTAL RECENT NIAGARAN GAS SALES



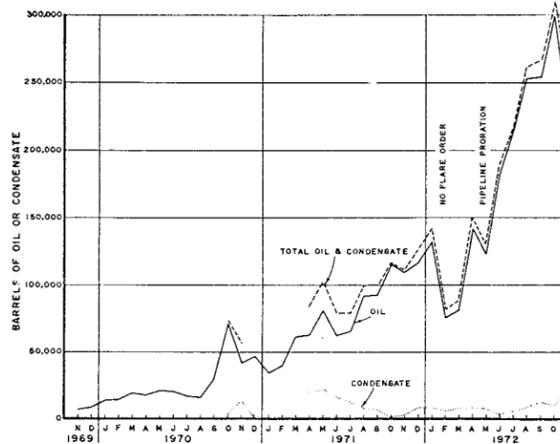
TOTAL STATE OIL & CONDENSATE PRODUCTION VS. TOTAL RECENT NIAGARAN OIL & CONDENSATE PRODUCTION



GAS PRODUCTION - MONTHLY - NORTHERN MICHIGAN NIAGARAN FORMATION



OIL PRODUCTION - MONTHLY - NORTHERN MICHIGAN NIAGARAN FORMATION



SUCCESSFUL OIL & GAS COMPLETIONS IN NORTHERN MICHIGAN

Figure 5.

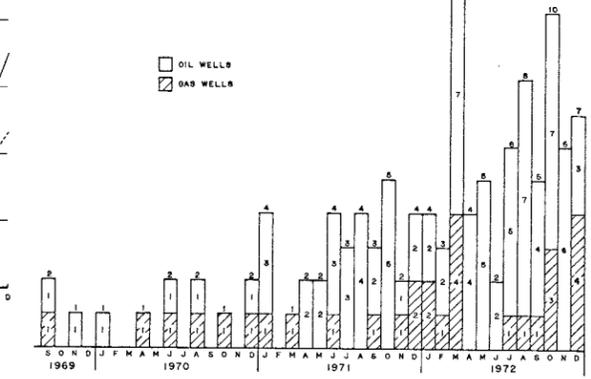


Figure 2.

Figure 6.

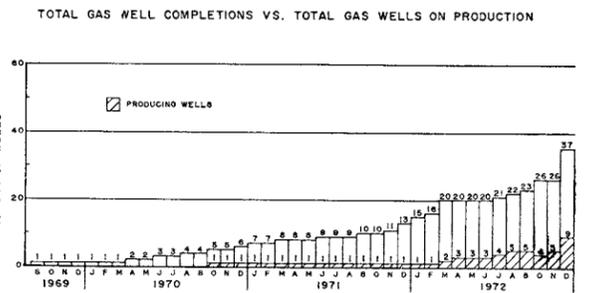
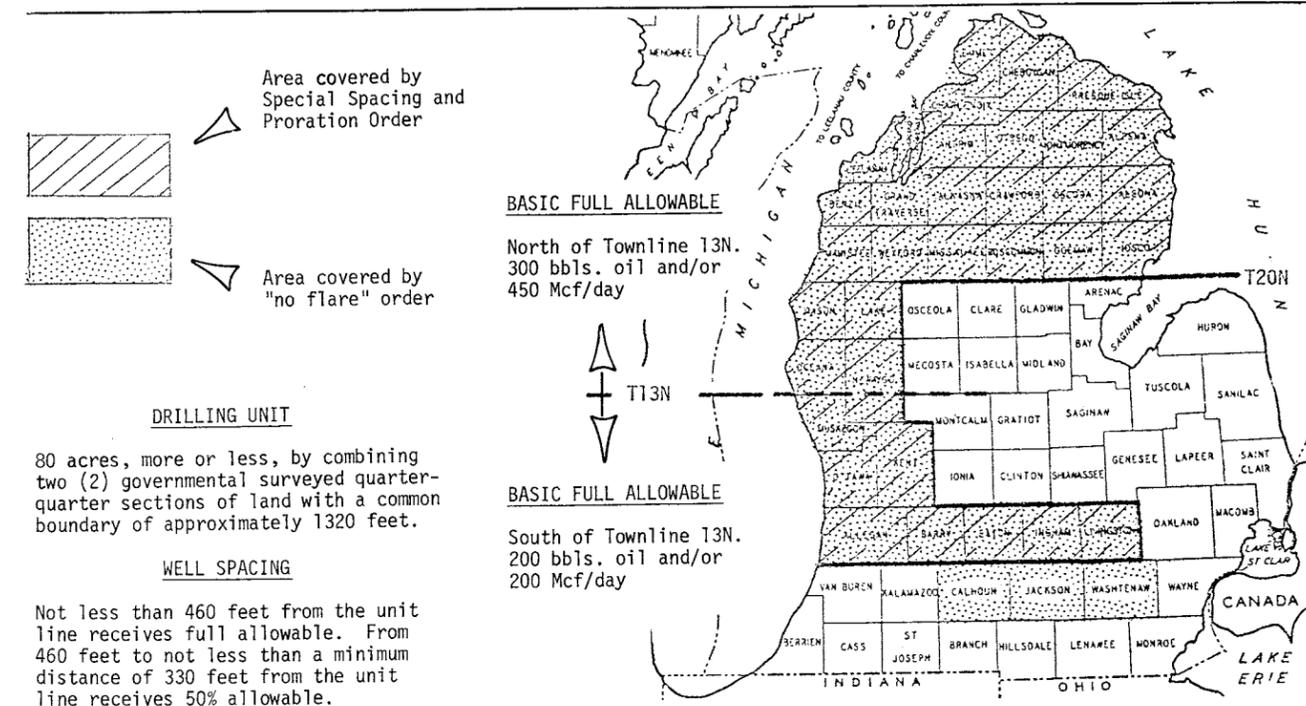
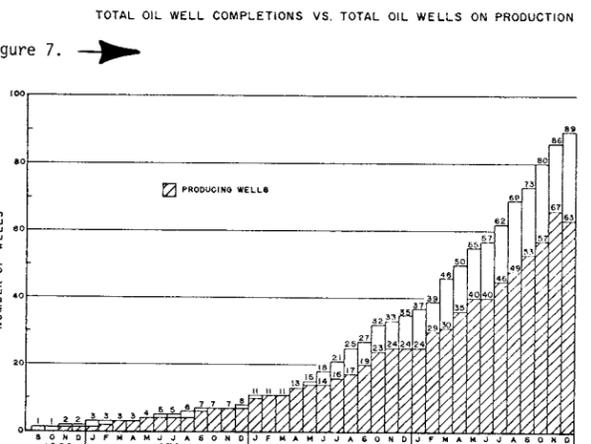


Figure 7.



1972 DISCOVERY WELLS

County Location	Field Name	Operator and Lease	Permit Number	Depth to Pay	Total Depth	Initial Production		Producing Formation	Basis for Loc.	AAPG Pool Class	
						n=(N)IP BOPD	t=(T)IP MCFGPD				
NEW FIELDS											
Antrim	Mancelona	Shell Oil Co.	29019	6499	6850	F480		Niagaran	Seis.	E	
26-29N-5W	26-29N-5W	State-Mancelona #1-26				+330 Mcf ^t					
Calhoun	Lee	MGU-Mask-Marke1-Wood	28901	3219	3427		20,000 ^t	Salina-Niagaran	Seis.	E	
3-1S-5W	3-1S-5W	C. C. Fuller #1						Niagaran	Seis.	E	
Calhoun	Lee	MGU-Mask-Marke1-Wood	28969	3162	3415			Salina-Niagaran	Seis.	E	
4-1S-5W	4-1S-5W	Neil Cortright #1						Niagaran	Seis.	E	
Calhoun	Lee	MGU-Mask-Marke1-Wood	29121	3180	3370			Salina-Niagaran	Seis.	E	
12-1S-5W	12-1S-5W	Piepkow et ux #1						Niagaran	Seis.	E	
Calhoun	Lee	Mobil Oil Corp.	28702	3074	4896		11,834.8 ^t	Salina-Niagaran	Seis.	E	
17-1S-5W	17-1S-5W	M. C. Velliquette #1						Niagaran	Seis.	E	
Crawford	Frederic	Shell Oil Co.	28987	6789	7470		300 Cond. +3674 ^t	Salina-Niagaran	Seis.	E	
13-28N-4W	13-28N-4W	Salling-Hanson #1-13						Niagaran	Seis.	E	
Crawford	Frederic	Shell Oil Co.	29001	7420	7578		3434 Mcf +80 BC/MMcft	Niagaran	Seis.	E	
29-28N-4W	29-28N-4W	State-Frederic #1-29						Niagaran	Seis.	E	
Eaton	Eaton Rapids	Amoco Production Co.	29000	3750	4210	P90		Salina-Niagaran	Seis.	E	
35-2N-3W	35-2N-3W	Miller Dairy #1-35				+30 Mcf ^t		Niagaran	Seis.	E	
Eaton	Hamlin	Mobil Oil Corp.	29070	3640	3830	F1065		Niagaran	Seis.	E	
8-1N-3W	8-1N-3W	C. R. Wilson #1				+480 Mcf ^t		Niagaran	Seis.	E	
Grand Traverse	Blair	Shell Oil Co.	29078	6205	6389		46.8 Cond/MMcf +8200 ^t	Niagaran	Seis.	E	
36-26N-11W	36-26N-11W	Morgan #1-36						Niagaran	Seis.	E	
Grand Traverse	Mayfield	Shell Oil Co.	29049	6341	6580	F429		Niagaran	Seis.	E	
16-25N-11W	16-25N-11W	Wurm #1-16				+767 Mcf ^t		Niagaran	Seis.	E	
Grand Traverse	Union	Amoco Production Co.	29035	6360	6865		6 Cond/MMcf +1590 ^t	Niagaran	Seis.	E	
1-26N-9W	1-26N-9W	State-Union F #1-1						Niagaran	Seis.	E	
Grand Traverse	Union	Amoco Production Co.	28722	6514	6878		F44 Cond. +1500 ^t	Niagaran	Seis.	E	
3-26N-9W	3-26N-9W	State-Union B #1-3						Niagaran	Seis.	E	
Grand Traverse	Union	Amoco Production Co.	28805	6580	6802		F68 Cond. +2450 ^t	Niagaran	Seis.	E	
11-26N-9W	11-26N-9W	State-Union B #1-11						Niagaran	Seis.?	E	
Grand Traverse	Whitewater	A. G. Hill	28997	6100	6260	F260		Niagaran	Seis.	E	
32-27N-9W	32-27N-9W	Michael Gelbke #1				+270 Mcf ^t		Niagaran	Seis.	E	
Grand Traverse	Whitewater	Amoco Production Co.	28897	6292	6580	F242		Niagaran	Seis.	E	
34-27N-9W	34-27N-9W	St.-Whitewater C #1-34				+145 Mcf ^t		Niagaran	Seis.	E	
Grand Traverse	Whitewater	Amoco Production Co.	28632	6270	6770	F201		Niagaran	Seis.	E	
35-27N-9W	35-27N-9W	St.-Whitewater B #1-35				+101 Mcf ^t		Niagaran	Seis.	E	
Ingham	Ingham	Mobil Oil Corp.	29055	4190	6224	F244		Niagaran	Seis.	E	
13-2N-1E	13-2N-1E	F. C. Anderson #1	DP1685			+111 Mcf ^t		Salina	Seis.	E	
Ingham	Stockbridge	Mobil Oil Corp.	28858	3960	4471	P26 + 41 BWP		A-1 Carb. Niagaran	Seis.	E	
6-1N-2E	6-1N-2E	Barber-Kopicko Unit #1				+25 Mcf ^t		Niagaran	Seis.	E	
Ingham	Vevay	Glynn Trolz & Assoc.	29029	4162	4300	F70-90		Niagaran	Seis.	E	
17-2N-1W	17-2N-1W	Frederick Unit #1				+100 Mcf ^t		Niagaran	Seis.	E	
Ingham	Vevay	Bermax Oil Co., Inc.	28737	3939	4488	81		Niagaran	Seis.	E	
20-2N-1W	20-2N-1W	R. V. Danto #1				+541 Mcf ^t		Niagaran	Seis.	E	
Kalkaska	Blue Lake	Shell Oil Co.	28691	7131	7350		10 Cond/Hr. +3200 ^t	Niagaran	Seis.	E	
27-28N-5W	27-28N-5W	St.-Blue Lake #1-27A						Niagaran	Seis.	E	
Kalkaska	Cold Springs	Amoco Production Co.	29086	6950	7365	F183 + 75 BWP		Niagaran	Seis.	E	
25-28N-6W	25A-28N-6W	Simpson E #2-25				+150 Mcf ^t		Niagaran	Seis.	E	
Kalkaska	Excelsior	Shell Oil Co.	28781	7034	7526		Cond. +10,000 ^t	Niagaran	Seis.	E	
9-27N-6W	9-27N-6W	Eyck #1-9						Detroit	Seis.	E	
Kalkaska	Excelsior	Shell Oil Co.	29011	3607	7399	P16 + 15 BWP		River	Seis.	E	
10-27N-6W	10-27N-6W	J. B. Whitmer #1-10				+42 Mcf ^t		Niagaran	Seis.	E	
Kalkaska	Kalkaska	Shell Oil Co.	28810	6305	6662	F384		Niagaran	Seis.	E	
7-27N-7W	7-27N-7W	State-Kalkaska #1-7				+250 Mcf ^t		Niagaran	Seis.	E	
Kalkaska	Kalkaska	Shell Oil Co.	28900	6482	6830		F172 Cond. +2620 ^t	Niagaran	Seis.	E	
9-27N-7W	9-27N-7W	Heckman #1-9						Niagaran	Seis.	E	
Kalkaska	Kalkaska	Shell Oil Co.	28606	6470	6859		266 Cond. +5300 ^t	Niagaran	Seis.	E	
10-27N-7W	10-27N-7W	McKinney #1-10						Niagaran	Seis.	E	
Kalkaska	Kalkaska	Shell Oil Co.	28967	6883	7000	F348 ^t		Niagaran	Seis.	E	
12-27N-7W	12-27N-7W	Cross #1-12						Niagaran	Seis.	E	
Kalkaska	Kalkaska	Amoco Production Co.	28604	6889	7225		28 Cond. +2600 ^t	Niagaran	Seis.	E	
13-27N-7W	13-27N-7W	Henderson, Inc. #1						Niagaran	Seis.	E	
Kalkaska	Kalkaska	Northern Mich. Explor.	29016	6950	7365	F183 + 75 BWP		Niagaran	Seis.	E	
13-27N-8W	13-27N-8W	St.-Kalkaska D #1-13				+150 Mcf ^t		Niagaran	Seis.	E	
Kalkaska	Kalkaska	Amoco Production Co.	28887	6491	7000		240 Cond. +4350 ^t	Niagaran	Seis.	E	
25-27N-8W	25-27N-8W	St.-Kalkaska B #1-25						Niagaran	Seis.	E	
Kalkaska	Kalkaska	Amoco Production Co.	28988	6724	6870		F53 Cond. +2500 ^t	Niagaran	Seis.	E	
33-27N-8W	33-27N-8W	St.-Kalkaska #1A-33						Trav. Ls.	Seis.	E	
Kalkaska	Rapid River	Shell Oil Co.	29018	1521	6351	P18 + 12 BWP		Niagaran	Seis.	E	
17-28N-7W	17-28N-7W	Homes-Stake #1						Niagaran	Seis.	E	
Kalkaska	Rapid River	Amoco Production Co.	28872	6487	6850	F112		Niagaran	Seis.	E	
27-28N-7W	27-28N-7W	Wlosinski #1-27				+680 Mcf ^t		Niagaran	Seis.	E	
Kalkaska	Rapid River	Shell Oil Co.	28892	6552	6773	F268		Niagaran	Seis.	E	
27-28N-7W	27-28N-7W Pool A	Curtis #1-27				+396 Mcf ^t		Niagaran	Seis.	E	
Manistee	Springdale	Shell Oil Co.	29072	5006	5448			SIGW	Niagaran	Seis.	E
25-24N-14W	25-24N-14W	St.-Springdale #1-25						Niagaran	Seis.	E	
Mason	Hamlin	Miller Brothers	28865	4284	4477	F335		Niagaran	Seis.	E	
13-19N-18W	13-19N-18W	Malstrom etal #1-13				+ Gas ^t		Niagaran	Seis.	E	
Mason	Hamlin	Miller Brothers etal	28989	4251	4556	F14 ^t		Niagaran	Seis.	E	
25-19N-18W	25-19N-18W	Stolberg etal #1-25						Niagaran	Seis.	E	
Mason	Victory	Miller Brothers etal	29054	4387	4537	F30/hr. t		Niagaran	Seis.	E	
19-19N-17W	19-19N-17W	Peterson #1-19						Salina-Niagaran	Seis.	E	
Otsego	Bagley	Amoco Production Co.	28799	6070	6451	F204		Niagaran	Seis.	E	
25-30N-3W	25-30N-3W Pool A	State-Bagley #1-25				+175 Mcf ^t		Niagaran	Seis.	E	
Otsego	Charlton	Shell Oil Co.	28821	5832	6174	F402		Niagaran	Seis.	E	
9-30N-1W	9-30N-1W	Schroeder etal #1-9				+352 Mcf ^t		Niagaran	Seis.	E	
Otsego	Charlton	Shell Oil Co.	29091	5676	6400		117 Cond/MMcf +4100 ^t	Niagaran	Seis.	E	
31-30N-1W	31-30N-1W	State-Charlton #1-31						Salina-Niagaran	Seis.	E	
Otsego	Charlton	Shell Oil Co.	28850	4843	5094	F960		Niagaran	Seis.	E	
9-31N-1W	9-31N-1W	State-Charlton #1-9				+936 Mcf ⁿ		Niagaran	Seis.	E	

1972 DISCOVERY WELLS CONTINUED

Otsego	Charlton	Wolverine Oil & Gas	28755	5202	5228	F262/5 Hrs. ⁿ		Niagaran	Seis.	E
27-31N-1W	27-31N-1W	Marstrand #1-27						Niagaran	Seis.	E
Otsego	Chester	Woody's Oil & Gas	28682	5538	5746	P31		Niagaran	Seis.	E
5-30N-2W	5-30N-2W	Victor Borowiak #1				+451 BWP ^t		Niagaran	Seis.	E
Otsego	Chester	Woody's Oil & Gas	28681	5986	6200	F70/Hr. t		Niagaran	Seis.	E
10-30N-2W	10-30N-2W	Nicholas Nowicki #1						Niagaran	Seis.	E
Otsego	Hayes	Shell Oil Co.	28819	6581	6972	F480		Niagaran	Seis.	E
21-29N-4W	21-29N-4W	N. Mich. Ld. #1-21				+321 Mcf ^t		Niagaran	Seis.	E
Otsego	Hayes	Michigan Oil Co.	28886	6462	6873	F55/Hr. t		Niagaran	Seis.	E
32-29N-4W	32-29N-4W	Annear-State #1-32						Niagaran	Seis.	E
St. Clair	Columbus, Sec.20	Hal Rasmussen	28775	3128	3155		Est. 500 ^t	Niagaran	Sub.	E
20-5N-15E		Schreiber #2						Niagaran	Seis.	E
Wexford	Wexford	Shell Oil Co.	28637	6124	6352		464 Cond. +9000 ^t	Niagaran	Seis.	E
10-24N-12W	10-24N-12W	Luther #1-10						Niagaran	Seis.	E
EXTENSION DISCOVERIES										
Ingham	Eaton Rapids	Mobil Oil Corp.	28809	3650	4147		41,260 ^t	Salina-Niagaran	Seis.	E
7-1N-2W	36-2N-3W	Aleo #1						Salina-Niagaran	Seis.	E
Ingham	Onondaga	Mobil Oil Corp.	28864	3654	4156	F228		Salina-Niagaran	Seis.	E
15-1N-2W	21-1N-2W	J. A. Rae #1				+94 Mcf ^t		Salina-Niagaran	Seis.	E
Ingham	Vevay	Mobil Oil Corp.	28833	4142	4542	F534		Salina-Niagaran	Seis.	E
18-2N-1W	19-2N-1W	F. Lovette Unit #1				+2323 Mcf ^t		Salina-Niagaran	Seis.	E
NEW POOL DISCOVERIES										
Kalkaska	Kalkaska	Northern Mich. Explor.	28843	6591	6816	F110 ^t		Salina	Seis.	E
22-27N-8W	21-27N-8W	State-Kalkaska #3-22						A-1 Carb. Niagaran	Seis.	E
Kalkaska	Kalkaska	Shell Oil Co.	28674	6977	7278		15 Cond. +3800 ^t	Niagaran	Seis.	E
28-27N-7W	28-27N-7W Pool A	Myers #2-28						Niagaran	Seis.	E
Kalkaska	Rapid River	Shell Oil Co.	28926	6407	6805	F328		Niagaran	Seis.	E
24-28N-7W	24-28N-7W Pool A	Waier #3-24								

TABLE 1 DRILLING PERMITS, WELL COMPLETIONS, DRILLED FOOTAGE BY COUNTY, 1972

COUNTY	OIL/GAS PERMITS ISSUED	OIL AND GAS TESTS		RESULTS			SERVICE WELLS		TOTAL WELLS DRILLED	TOTAL DRILLED FOOTAGE			Average Well Depth
		Completed Explor.	Devel.	Oil Wells	Gas Wells	Dry Holes	Completed G.S.	B.D.W.		Explor.	Devel.	Fac.	
Allegan	2	2	1	1	0	2	0	0	3	3,867	1,154	0	1674
Alpena	1	0	0	0	0	0	0	0	0	0	0	0	0
Antrim	2	2	0	1	0	1	0	0	2	12,367	0	0	6184
Arenac	1	2	0	0	0	2	0	0	2	6,960	0	0	3480
Barry	3	4	0	0	0	4	1(1)	2	7	16,944	0	13,337	4326
Bay	3	2	0	0	0	2	0	0	2	6,946	0	0	3473
Benzie	0	1	0	0	0	1	0	0	1	5,165	0	0	5165
Berrien	1	2	0	0	0	2	0	0	2	1,438	0	0	719
Calhoun	22	6	10	1	6	9	0	0	16	21,838	35,624	0	3591
Charlevoix	2	0	0	0	0	0	0	0	0	0	0	0	0
Clare	24	0	0	0	0	0	17	0	17	0	0	25,822	1519
Clinton	1	1	0	0	0	1	0	0	1	3,111	0	0	3111
Crawford	7	3	2	1	2	2	0	0	5	23,348	14,350	0	7540
Eaton	11	8	1	2	0	7	0	0	9	37,707	4,305	0	4668
Gladwin	14	4	9	1	0	12	0	0	13	12,421	39,260	0	3975
Grand Traverse	24	18	1	5	4	10	0	0	19	117,294	6,140	0	6497
Gratiot	1	1	0	0	0	1	0	0	1	3,270	0	0	3270
Hillsdale	6	4	3	0	0	7	0	0	7	15,865	12,210	0	4011
Huron	2	2	0	0	0	2	0	0	2	15,595	0	0	7798
Ingham	48	18	34	18	10	24	0	0	52	83,641	139,903	0	4299
Ionia	1	2	0	0	0	2	0	0	2	7,567	0	0	3784
Isabella	11	0	0	0	0	0	11	0	11	0	0	15,617	1420
Jackson	5	6	2	0	0	8	0	0	8	26,208	8,753	0	4370
Kalkaska	46	26	15	20	9	12	0	0	41	182,333	101,798	0	6930
Kent	1	1	0	0	0	1	0	0	1	2,115	0	0	2115
Lake	3	0	1	1	0	0	0	0	1	0	3,555	0	3555
Lapeer	2	2	5	5	0	2	0	0	7	7,476	15,383	0	3266
Lenawee	2	2	0	0	0	2	0	0	2	7,704	0	0	3852
Livingston	6	2	1	0	1	2	0	0	3	10,477	5,695	0	5391
Macomb	11	5	2	0	0	7	0	0	7	21,631	7,190	0	4117
Manistee	4	2	0	0	1	1	0	0	2	11,125	0	0	5563
Mason	5	3	1	4	0	0	0	0	4	14,060	1,672	0	3933
Mecosta	4	4	0	0	0	4	0	0	4	15,552	0	0	3888
Missaukee	1	1	1	1	0	1	0	0	2	3,582	4,514	0	4048
Montcalm	20	0	2	0	0	2	16	0	18	0	6,775	18,256	1391
Montmorency	1	1	0	0	0	1	0	0	1	5,350	0	0	5350
Muskegon	1	1	0	0	0	1	0	0	1	4,000	0	0	4000
Newaygo	16	0	0	0	0	0	9	0	9	0	0	8,496	944
Oceana	4	2	1	0	0	3	0(2)	0	3	4,000	1,742	0	1914
Ogemaw	5	0	0	0	0	0	3	0	3	0	39	7,998	2679
Osceola	8	0	3	0	2	1	3	0	6	0	4,879	10,811	2615
Otsego	49	18	23	23	1	17	0	0	41	109,381	137,707	0	6027
Ottawa	0	1	0	0	0	1	0	0	1	1,620	0	0	1620
Presque Isle	5	3	0	0	0	3	0	0	3	10,319	0	0	3440
Sanilac	1	0	0	0	0	0	0	0	0	0	0	0	0
St. Clair	23	10	7	0	1	16	4(3)	0	21	31,342	20,394	9,840	2932
Tuscola	1	1	0	0	0	1	0	0	1	4,256	3,685	0	7941
Van Buren	3	0	1	0	0	1	0	0	1	0	1,182	0	1182
Washtenaw	3	4	1	0	0	5	0	0	5	20,421	3,977	0	4880
Wayne	1	0	0	0	0	0	0	0	0	0	0	0	0
Wexford	5	4	0	0	1	3	0	0	4	25,501	0	0	6375
Totals	423	181	127	84	38	186	64	2	374	913,797	581,886	110,177	
51 Counties													

Does not include 1 permit issued for Chippewa County, Upper Peninsula

- (1) Gas Storage project in Salina salt beds. (Lacey Station) See Gas Storage Reservoirs.
- (2) Water injection wells, water flood project.
- (3) LPG Storage project in Salina salt beds. (Marysville) See Gas Storage Reservoirs.

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

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

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

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

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

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

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

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

GAS FIELDS. Because of slow field development, small reserves or lack of marketing facilities, some fields are listed as "shut-in" and show no production figures. Other fields, not considered to have commercial size

gas accumulations, produce small quantities of unmetered gas which is used for domestic purposes and in some cases, lease fuel.

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

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

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

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

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

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

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

TABLE 2 MICHIGAN OIL AND GAS FIELDS

POOL CLASSIFICATION		● ACTIVE OIL FIELD OR POOL	☀ ACTIVE GAS FIELD OR POOL	☀ GAS-CONDENSATE FIELD OR POOL	⊕ GAS STORAGE RESERVOIR																	
FIELD NAME		● ABANDONED OIL FIELD OR POOL	☀ ABANDONED GAS FIELD OR POOL	☀ ABANDONED GAS-CONDENSATE FIELD OR POOL	⊖ UNDEVELOPED GAS STORAGE RESERVOIR																	
PRODUCING FORMATION OR POOL	YEAR OF DISC.	COUNTY TOWNSHIP	PAY ZONE	DEEPEST FORMATION OR POOL TESTED	DEPTH IN FEET	NUMBER OF WELLS	DRILLED ACRES	OIL PRODUCTION - 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.	DEPTH IN FEET	TO COMP. ABAND. IN 1972	IN 1972	IN 1972	IN 1972	IN 1972	IN 1972	IN 1972	IN 1972											
● ADAIR	SALINA-NIAGARAN	1961	ST. CLAIR	2,719	10 D	41.4	NIAGARAN	2,755	15	0	0	12	560	7,682	307,284	0	468,773	548	108			
CHINA TWP., 4N-16E, SECTION 7 CASCO TWP., 4N-15E, SECTION 12, 13												3 OF ORIGINAL 18 WELLS TRANSFERRED TO PUTTYGUT										
● ADAMS	TRVERSE	1937	ARENAC-BAY	2,032	15 L	37.0	BOIS BLANC	5,079	24	0	0	8	240	1,320					22			
●	DUNDEE	1937		2,958	15 L	34.7		31	0	0	17	310	10,467						18			
●	DETROIT RIVER SZ	1956		3,943	5 L	39.6								CUMULATIVE PRODUCTION FROM ALL POOLS COMBINED								
●	RICHFIELD	1941		4,278	5 L	35.5		31	0	0	8	1,080	3,929	1,495,567				918	2			
ADAMS TWP., 19N-3E, SECTIONS 21, 23 THROUGH 27, 34, 35, 36 DEEP RIVER TWP., 19N-4E, THE 8 WELLS INCLUDE 5 RICHFIELD, 1 SOUR ZONE, AND 2 DUAL COMPLETIONS, SECTION 31 GIBSON TWP., 19N-3E, SECTIONS 1, 2																						
⊕ ADAMS, NORTH	BEREA	1942	ARENAC	1,605	1 S		DUNDEE	3,101	1	ABANDONED 1948			40					1,280				
●	DUNDEE	1940		2,905	15 D	32.0	DETROIT RIVER	4,489	49	0	0	19	470	21,948	9,298,976			19,785	3,866			
ADAMS TWP., 19N-3E, SECTIONS 11, 14, 15, 22, 23, 27 BEREA PRODUCTION - SECTION 4																						
⊕ ADAMS, SEC. 8	TRVERSE	1962	HILLSDALE	1,420	4 L		PRAIRIE DU CHIEN	4,169	1	ABANDONED 1965			20					18,919				
ADAMS TWP., 6S-2W, SECTION 8																						
● AKRON	DUNDEE	1936	TUSCOLA	2,678	17 L	37.3	NIAGARAN	7,941	50	0	0	34	1,100	16,079					148			
●	DETROIT RIVER SZ	1938		3,422	11 D	35.9		27	0	0	19	500	17,418	1,920,600				1,200	42			
●	RICHFIELD	1954		3,774	6 D	39.2								THE 19 WELLS INCLUDE 2 RICHFIELD, 13 SOUR ZONE AND 4 DUAL COMPLETIONS - SZ & DD								
AKRON TWP., 14N-8E, SECTIONS 19, 20, 21, 28, 29, 30 WISNER TWP., 14N-7E, SECTIONS 22, 23, 24, 25, 26																						
● ALAMO	TRVERSE	1949	KALAMAZOO	1,310	2 L		TRVERSE	1,420	16	ABANDONED 1962			160					27,545	172			
ALAMO TWP., 15-12W, SECTIONS 19, 29, 30																						
⊕ ALBION	TRVERSE	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-SCIPPIO TREND: FIELD AND PRODUCTION DATA LISTED BY TOWNSHIP AND COUNTY																						
⊕ CAL-LEE	NIAGARAN REEF	1962	CALHOUN	3,036	8 D		PRAIRIE DU CHIEN	4,912	8	1	0	5	400					415,866	1,291,860			
LEE TWP., 1S-5W, SECTIONS 9, 15, 16, 22																						
● LEE TWP.	NIAGARAN REEF	1961	CALHOUN	3,060	20 D	24.2	PRAIRIE DU CHIEN	4,926	1	ABANDONED 1972			80	0	5,269			66				
●	TRENT.-BLK. RIVER	1960		4,600	24+ D			27	0	1	18	410	228,110	2,207,634				5,384	798			
LEE TWP., 1S-5W, SECTIONS 17, 22, 23, 25, 26, 36																						
● SHERIDAN TWP.	TRENT.-BLK. RIVER	1960	CALHOUN	4,179	10+ D	40.0	PRAIRIE DU CHIEN	4,791	45	0	0	38	810	171,258	4,379,307	310,298	2,510,888	5,407	817			
SHERIDAN TWP., 2S-4W, SECTIONS 17, 18, 19, 20, 21, 28, 33																						
● ALBION TWP.	TRENT.-BLK. RIVER	1958	CALHOUN	3,952	7 D	44.0	PRAIRIE DU CHIEN	4,623	143	0	0	136	2,760	777,867	21,160,774	2,300,483	35,822,594	7,667	2,783			
ALBION TWP., 3S-4W, SECTIONS 3, 4, 10, 11, 14, 15, 22, 23, 26, 27, 35, 36																						
● PULASKI-HOMER TWPS.	TRENT.-BLK. RIVER	1959	JACKSON-CALHOUN	3,766	66+ D	39.6	PRAIRIE DU CHIEN	4,399	140	0	0	134	2,680	756,082	24,102,712	2,937,319	35,385,267	8,994	6,857			
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																						
● SCIPPIO-FAYETTE-MOSCOW TWPS.	TRENT.-BLK. RIVER	1957	HILLSDALE	3,576	50+ D	41.4	PRAIRIE DU CHIEN	4,202	205	0	0	188	3,560	803,294	43,428,560	4,036,939	45,129,443	12,199	4,264			
SCIPPIO TWP., 5S-3W, SECTIONS 3, 4, 10 THROUGH 15, 23, 24, 25, 26 FAYETTE TWP., 5S-3W, SECTIONS 35, 36 MOSCOW TWP., 5S-2W, SECTIONS 19, 31, 32																						
● ADAMS TWP.	TRENT.-BLK. RIVER	1959	HILLSDALE	3,984	6+ D	42.0	PRAIRIE DU CHIEN	4,162	55	0	3	41	930	213,524	6,821,361	882,093	8,694,733	7,335	574			
ADAMS TWP., 6S-2W, SECTIONS 3, 4, 5, 6, 8, 10, 16, 17																						
TREND TOTAL (NOTE: CAL-LEE FIGURES NOT INCLUDED IN TREND TOTALS)-----												616	0	5	555	11,150	3,950,095	102,100,348	10,467,132	127,542,925	9,157	16,093
SEE CENTER SPREAD MAP FOR TOWNSHIPS ASSOCIATED WITH ALBION-SCIPPIO TREND																						
⊕ ALGONAC	ANTRIM	1947	ST. CLAIR	302	6 SH		CABOT HEAD	2,504	2	ABANDONED 1951			80					7,830				
CLAY TWP., 3N-16E, SECTIONS 20, 29																						
● ALLEGAN	TRVERSE	1937	ALLEGAN	1,563	2 L	38.0	CINCINNATIAN	2,987	19	0	0	1	190	0	16,404	FIELD REACTIVATED - 1971		86	10			
ALLEGAN TWP., 2N-13W, SECTIONS 2, 5, 9, 10, 13, 22, 23, 26, 27, 34, 35, 36																						
⊕ ALPINE	NIAGARAN REEF	1963	ST. CLAIR	3,151	25 D		CLINTON	3,470	3	0	0	3	120					181,789	984,954	5		
WALES TWP., 6N-15E, SECTION 32																						
● ARBELA	DUNDEE	1946	TUSCOLA	2,557	7 L	35.3	DETROIT RIVER	3,375	35	0	0	2	350	2,690	331,493				947			
ARBELA TWP., 10N-7E, SECTIONS 28, 33, 34																						
● ASHLAND, SEC. 8	TRVERSE	1959	NEWAYGO	2,238	1 L		TRVERSE	2,239	1	ABANDONED 1962			10					267	27			
ASHLAND TWP., 11N-13W, SECTION 8																						
⊕ ASHTON	MICHIGAN STRAY	1946	OSCEOLA	1,215	2 S		DETROIT RIVER	3,779	3	0	0	1	400									
●	TRVERSE	1945		2,950	4 L	42.0		4	0	0	3	80	2,970	CUMULATIVE PRODUCTION INCLUDED WITH DUNDEE				460				
●	DUNDEE	1945		3,645	5 L	40.0		4	0	0	4	200	3,218	462,020				1,650				
LINCOLN TWP., 18N-10W, SECTIONS 5, 6																						
⊕ ASHTON, EAST	MICHIGAN STRAY	1962	OSCEOLA	1,297	5 S		REED CITY	3,750	1	ABANDONED 1970			160									
LINCOLN TWP., 18N-10W, SECTION 3																						
● ATLANTA	DETROIT RIVER	1945	MONTMORENCY	2,183	5 D	36.2	DETROIT RIVER	2,550	3	0	0	1	30	0	7,688				256			
AVERY TWP., 30N-3E, SECTIONS 10, 15																						
● AU GRES	DETROIT RIVER SZ	1956	ARENAC	3,822	14 L	31.4	RICHFIELD	4,315	DETROIT RIVER SZ COMBINED WITH RICHFIELD										328			
●	RICHFIELD	1953		4,152	11 L	36.5		4	0	0	3	160	2,014	52,512								
AU GRES TWP., 19N-6E, SECTIONS 2, 3, 10, 11												THE 3 WELLS INCLUDE 2 RICHFIELD AND 1 RICHFIELD AND SOUR ZONE										
● AURELIUS 35-2N-2W	NIAGARAN REEF	1971	INGHAM	3,942	60 D	37.3	NIAGARAN	4,395	4	3	0	4	320	126,522	127,985	63,668	63,668	400				
AURELIUS TWP., 2N-2W, SECTIONS 26, 35, 36																						

POOL CLASSIFICATION		● ACTIVE OIL FIELD OR POOL	☀ ACTIVE GAS FIELD OR POOL	☀ GAS-CONDENSATE FIELD OR POOL	⊕ GAS STORAGE RESERVOIR															
FIELD NAME		● ABANDONED OIL FIELD OR POOL	☀ ABANDONED GAS FIELD OR POOL	☀ ABANDONED GAS-CONDENSATE FIELD OR POOL	⊖ UNDEVELOPED GAS STORAGE RESERVOIR															
PRODUCING FORMATION OR POOL	YEAR OF DISC.	COUNTY TOWNSHIP	PAY ZONE	DEEPEST FORMATION OR POOL TESTED	DEPTH IN FEET	NUMBER OF WELLS	DRILLED ACRES	OIL PRODUCTION - 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.	DEPTH IN FEET	TO COMP. ABAND. IN 1972	IN 1972	IN 1972	IN 1972	IN 1972	IN 1972	IN 1972	IN 1972									
⊕ AUSTIN	REFER TO TABLE 3 DEVELOPED GAS STORAGE RESERVOIRS																			
● BAGLEY 25-30N-3W	NIAGARAN REEF	1972	OTSEGO	6,090	55 D	44.9	NIAGARAN	6,372	1	1	0	1	80	17,948	17,948	12,133	12,133	224		
BAGLEY TWP., 30N-3W, SECTION 25																				
● BAGLEY 25-30N-3W POOL A	A-1 CARBONATE & NIAGARAN REEF	1972	OTSEGO	6,070	30 D	41.8	NIAGARAN	6,451	1	1	0	1	80	7,443	7,443				93	
BAGLEY TWP., 30N-3W, SECTION 25																				
● BANGOR	TRVERSE	1939	VAN BUREN	1,002	2 L	29.5	TRENTON	2,552	65	ABANDONED 1959			610					933,965	1,531	
BANGOR TWP., 2S-15W, SECTIONS 4, 5, 9, 10, 14, 15, 16, 21, 28, 29																				
● BARD	DUNDEE	1949	GLADWIN	3,933	6 L	42.8	DUNDEE	4,017	17	0	0	3	170	1,337	574,022				3,377	98
BARD TWP., 17N-2W, SECTIONS 5, 6 GROUT TWP., 18N-2W, SECTIONS 31, 32																				
● BARTON	TRVERSE	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																				
● 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																				
● BEAVER CREEK UNIT	RICHFIELD	1947	CRAWFORD-KALKASKA	4,160	20 D	44.7	ST. PETER	10,142	105	0	0	52	4,240	585,821	9,145,186	383,207	18,150,171	2,157	806	
BEAVER CREEK TWP., 25N-4W, SECTIONS 7, 8, 16 THROUGH 21, 27, 28, 29 GARFIELD TWP., 25N-5W, SECTIONS 12, 13																				
● BEAVERTON	DUNDEE	1934	GLADWIN	3,929	12 L	41.3	RICHFIELD	5,225	26	0	0	4	330	2,566	879,559				2,665	85
BEAVERTON TWP., 17N-2W, SECTIONS 2, 3, 11, 13																				
● BEAVERTON, SOUTH	TRVERSE	1956	GLADWIN	3,231	6 L	41.0	DETROIT RIVER	4,977	TRVERSE COMBINED WITH DUNDEE											
●	DUNDEE	1936		3,845	12 L	34.5		33	0	0	19	700	16,016	1,681,696				2,402	75	
BEAVERTON TWP., 17N-2W, SECTIONS 26, 27, 35, 36 TOBACCO TWP., 17N-1W, SECTION 31 THE 19 WELLS INCLUDE 18 DUNDEE & 1 DUNDEE & TRVERSE																				
● BEAVERTON, WEST	DUNDEE	1943	GLADWIN	3,876	2 L	41.2	DETROIT RIVER	5,094	7	0	0	4	260	9,902	185,921				715	20
BEAVERTON TWP., 17N-2W, SECTION 19																				
⊕ BELLE RIVER MILLS	REFER TO TABLE 3 DEVELOPED GAS STORAGE RESERVOIRS																			
● BELLY ACHERS	DUNDEE	1944	MONTCALM	3,470	1.3 D	48.2	DUNDEE	3,615	7	0	0	3	220	1,635	338,540				1,539	200
HOME TWP., 12N-6W, SECTIONS 11, 14																				
● BENONA, SEC. 13	TRVERSE	1949	OCEANA	1,640	3 L		DETROIT RIVER	2,276	2	ABANDONED 1956			20					4,951	248	
BENONA TWP., 14N-18W, SECTION 13																				
● BENTLEY	TRVERSE	1952	GLADWIN	2,855	6 L	34.1	SYLVANIA	5,114	TRVERSE COMBINED WITH DUNDEE & RICHFIELD											
●	DUNDEE	1937		3,510	13 L	42.1		87	0	0	40								1	

POOL CLASSIFICATION			● ACTIVE OIL FIELD OR POOL	☀ ACTIVE GAS FIELD OR POOL	☀ GAS-CONDENSATE FIELD OR POOL	⊕ GAS STORAGE RESERVOIR	● ABANDONED OIL FIELD OR POOL	☀ ABANDONED GAS FIELD OR POOL	☀ ABANDONED GAS-CONDENSATE FIELD OR POOL	⊖ UNDEVELOPED GAS STORAGE RESERVOIR										
FIELD NAME	PRODUCING FORMATION OR POOL	YEAR OF DISC.	COUNTY	TOWNSHIP	PAY ZONE	DEEPEST FORMATION OR POOL TESTED	DEPTH IN FEET	NUMBER OF WELLS	DRILLED ACRES	OIL PRODUCTION - BBLs		GAS PRODUCTION - Mcf		RECOVERY PER ACRE DRILLED (BBLs.)	TOTAL BARRELS BRINE PER DAY					
										PRODUCED IN 1972	CUMULATIVE THROUGH 1972	PRODUCED IN 1972	CUMULATIVE THROUGH 1972							
DEPTH IN FEET	THICKNESS AND LITHOLOGY	OIL GRAVITY A.P.I.	TO END	IN 1972	AT END	TO END	IN 1972	AT END	TO END	IN 1972	AT END	TO END	IN 1972	AT END						
BLOOMER	TRAVERSE	1944	MONTCALM-IONIA	2,640	3.3 L	42.3	DETROIT RIVER	3,271	29	0	4	530	2,779	1,952,135	3,653	240				
BLOOMER TWP., 9N-54, SECTIONS 31, 32 BUSHNELL TWP., 9N-6W, SECTION 36 NORTH PLAINS TWP., 8N-5W, SECTIONS 5, 6																				
BLOOMER, SEC. 18	TRAVERSE	1936	MONTCALM	2,717	6 L		DUNDEE	3,138	1	ABANDONED 1936	10				81					
BLOOMER TWP., 9N-5W, SECTION 18																				
BLOOMINGDALE	TRAVERSE	1938	VAN BUREN	1,244	4 L	42.0	ST. PETER SS.	3,422	431	0	4	21	4,040	5,395	9,997,035	2,475				
BLOOMINGDALE TWP., 15-14W, SECTIONS 1, 2, 3, 6 THROUGH 18, 24 COLUMBIA TWP., 15-15W, SECTIONS 1, 2, 10 THROUGH 16, 23, 24 PINE GROVE TWP., 15-13W, SECTION 18																				
BLUE LAKE 1-28N-5W	NIAGARAN REEF	1971	KALKASKA	6,481	43 D	43.0	NIAGARAN	6,980	1	0	0	1	160	74,609	126,557	24,412				
BLUE LAKE TWP., 28N-5W, SECTION 1																				
BLUE LAKE 12-28N-5W	NIAGARAN REEF	1971	KALKASKA	6,852	20 D	45.0	NIAGARAN	7,079	1	0	0	1	80	2,866	10,575	29,310				
BLUE LAKE TWP., 28N-5W, SECTION 12																				
BLUE LAKE 27-28N-5W	NIAGARAN REEF	1972	KALKASKA	7,131	37 D		NIAGARAN	7,350	1	1	0	1	160	164	164	1				
BLUE LAKE TWP., 28N-5W, SECTION 27																				
BLUE LAKE 28-28N-5W (BLUE LAKE)	NIAGARAN REEF	1970	KALKASKA	7,105	30 D	60 COND.	CLINTON	7,450	1	0	0	1	160	31,324 BBLs. CONDENSATE	31,413 BBLs. CONDENSATE	850,802				
BLUE LAKE TWP., 28N-5W, SECTION 28																				
BLUE LAKE 33-28N-5W	LOWER NIAGARAN	1971	KALKASKA	7,350	25 D		CLINTON	7,610	1	0	0	1	160	4,401 BBLs. CONDENSATE	4,401 BBLs. CONDENSATE	28				
BLUE LAKE TWP., 28N-5W, SECTION 33																				
BOYD	SALINA-NIAGARAN	1958	ST. CLAIR	2,457	292 D	37.7	PRECAMBRIAN	4,634	49	0	4	37	1,840	71,712	1,823,284	803,401				
CASCO TWP., 4N-15E, SECTIONS 29, 31, 32, W8 28, W8 33 IRA TWP., 3N-15E, SECTIONS 5, 6																				
BREEDSVILLE	TRAVERSE	1943	VAN BUREN	1,061	2 L	33.0	DETROIT RIVER	1,445	32	ABANDONED 1961	300			285,584		952				
GENEVA TWP., 15-16W, SECTIONS 23, 24, 25, 26																				
BRINTON	DUNDEE	1967	ISABELLA	4,082	3 D		DUNDEE	4,085	1	0	0	1	40	262	19,308		483			
COLDWATER TWP., 16N-6W, SECTION 5																				
BROOMFIELD-DEERFIELD REFER TO TABLE 4 UNDEVELOPED GAS STORAGE RESERVOIRS																				
BUCKEYE, NORTH	DUNDEE	1936	GLADWIN	3,615	14 L	39.0	SYLVANIA	5,351	287	0	0	54	3,030	93,290	19,340,522	9,834				
BUCKEYE TWP., 18N-1W, SECTIONS 1, 2, 3, 4, 9 THROUGH 15 MAY TWP., 18N-1E, SECTIONS 15, 16, 21, 22																				
BUCKEYE, SOUTH	TRAVERSE	1956	GLADWIN	2,891	3 D	42.0	DETROIT RIVER	4,802	7	ABANDONED 1960 -										
PRODUCTION COMBINED WITH BUCKEYE, SOUTH DUNDEE																				
	DUNDEE	1936		3,570	11 L	39.0		197	0	0	27	2,270	17,089	5,016,235		2,210				
	DETROIT RIVER SZ	1964		4,481	14 D	46.0		1	0	0	1	40	4,611	86,707		2,168				
BUCKEYE TWP., 18N-1W, SECTIONS 22 THROUGH 27, 35, 36 MAY TWP., 18N-1E, SECTION 33 BILLINGS TWP., 17N-1E, SECTIONS 4, 9, 10 TOBACCO TWP., 17N-1W, SECTION 1																				
BURDELL	DUNDEE	1959	OSCEOLA	3,678	4 L		REED CITY	3,804	6	0	0	2	120	654	152,119		951			
	REED CITY	1960		3,802	2 D			1	ABANDONED 1969	40										
BURDELL TWP., 20N-10W, SECTION 19																				
BUSHNELL	DUNDEE	1935	MONTCALM	3,105	2 L	33.9	DUNDEE	3,125	1	ABANDONED 1939	10			4,035		403				
BUSHNELL TWP., 9N-6W, SECTION 1																				
BUTMAN	TRAVERSE	1950	GLADWIN	2,789	2 L		SYLVANIA	5,027	1	ABANDONED 1953 -										
PRODUCTION COMBINED WITH BUTMAN RICHFIELD																				
	DUNDEE	1949		3,596	6 L	41.4		1	ABANDONED 1963 -											
PRODUCTION COMBINED WITH BUTMAN RICHFIELD																				
	RICHFIELD	1949	GLADWIN	4,921	10 D	41.6		5	0	0	5	240	4,678	313,543		1,306				
BUTMAN TWP., 20N-1W, SECTION 12 (TRAVERSE) BUTMAN TWP., 20N-1W, SECTIONS 11, 12, 13, 14 (DUNDEE & RICHFIELD)																				
CAL-LEE REFER TO ALBION-PULASKI-SCIPPIO TREND																				
CANNON CREEK	TRAVERSE	1950	MISSAUKEE-KALKASKA	2,695	11 L		RICHFIELD	4,810	21	ABANDONED 1956	3,360				851,369					
NORWICH TWP., 24N-6W, SECTIONS 6, 7, 18 PIONEER TWP., 24N-7W, SECTIONS 1, 2, 12, 13 GARFIELD TWP., 25N-6W, SECTION 31 GARFIELD TWP., 25N-7W, SECTIONS 25, 36																				
CAPAC	NIAGARAN	1961	ST. CLAIR	4,505	6 D		MT. SIMON SS.	6,337	54	0	0	48	9,120	0	5,826 BBLs. CONDENSATE	1,782,679				
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																				
CAREY LAKE	REED CITY	1966	NEWAYGO	3,411	2 D		REED CITY	3,413	2	0	0	2	80	0	19,021		238			
GOODWELL TWP., 14N-11W, SECTION 26																				
CASCO	TRAVERSE	1940	ALLEGAN-VAN BUREN	1,095	1.5 L	38.6	TRAVERSE	1,115	9	ABANDONED 1959	50			17,382		348				
CASCO TWP., 1N-16W, SECTIONS 34, 35 GENEVA TWP., 15-16W, SECTION 4																				
CAT CREEK	DUNDEE	1968	OSCEOLA	3,696	4 L		DUNDEE	3,890	8	0	0	8	300	50,921	359,993		1,200			
HERSEY TWP., 17N-9W, SECTIONS 4, 9																				
CATO	REED CITY	1944	MONTCALM-MCCOSTA	3,542	3 D	44.7	DETROIT RIVER	3,731	21	0	0	10	630	23,167	1,046,223		1,661			
CATO TWP., 12N-8W, SECTIONS 3, 4, 6, 8, 9 DEERFIELD TWP., 13N-9W, SECTION 36																				
CEDAR	MICHIGAN STRAY	1945	OSCEOLA	1,490	7 S		SYLVANIA	5,165	5	0	0	4	800		1,402,820		LEASE OPERATION			
	DUNDEE	1943		3,810	2 L	46.0		10	0	0	6	400	4,093	CUMULATIVE PRODUCTION COMBINED WITH RICHFIELD		840				
	RICHFIELD	1945		5,060	6 L	44.7		2	0	0	2	60	5,209	1,125,586		2,447				
CEDAR TWP., 19N-9W, SECTIONS 27, 28, 32, 33 (MICHIGAN STRAY) CEDAR TWP., 18N-9W, SECTIONS 10, 27, 28, 33, 34 (DUNDEE AND RICHFIELD)																				
CEDAR CREEK	"BEREA"	1940	MUSKEGON	1,125	7 D		DUNDEE	2,252	7	ABANDONED 1960	1,120				624,528					
CEDAR CREEK TWP., 11N-15W, SECTIONS 7, 17, 18, 19, 20, 32																				
CEDAR CREEK, SEC. 23	TRAVERSE	1949	MUSKEGON	1,951	2 L		DUNDEE	2,453	2	ABANDONED 1968	50			2,652		53				
CEDAR CREEK TWP., 11N-15W, SECTION 23																				
CHARLTON 9-30N-1W	NIAGARAN REEF	1972	OTSEGO	5,832	226 D	46.4	NIAGARAN	6,170	1	1	0	1	80	408	408		5			
CHARLTON TWP., 30N-1W, SECTION 9																				
CHARLTON 31-30N-1W	A-2 CARBONATE & NIAGARAN REEF	1972	OTSEGO	5,676	13 D		NIAGARAN	6,381	1	1	0	1	215	0	0					
CHARLTON TWP., 30N-1W, SECTION 31																				
CHARLTON 4-31N-1W (PICEON RIVER)	NIAGARAN REEF	1970	OTSEGO	4,766	116 D	55	CLINTON	5,270	3	2	0	3	720	107,966	271,261		377			
CHARLTON TWP., 31N-1W, SECTIONS 4, 5																				

POOL CLASSIFICATION			● ACTIVE OIL FIELD OR POOL	☀ ACTIVE GAS FIELD OR POOL	☀ GAS-CONDENSATE FIELD OR POOL	⊕ GAS STORAGE RESERVOIR	● ABANDONED OIL FIELD OR POOL	☀ ABANDONED GAS FIELD OR POOL	☀ ABANDONED GAS-CONDENSATE FIELD OR POOL	⊖ UNDEVELOPED GAS STORAGE RESERVOIR										
FIELD NAME	PRODUCING FORMATION OR POOL	YEAR OF DISC.	COUNTY	TOWNSHIP	PAY ZONE	DEEPEST FORMATION OR POOL TESTED	DEPTH IN FEET	NUMBER OF WELLS	DRILLED ACRES	OIL PRODUCTION - BBLs		GAS PRODUCTION - Mcf		RECOVERY PER ACRE DRILLED (BBLs.)	TOTAL BARRELS BRINE PER DAY					
										PRODUCED IN 1972	CUMULATIVE THROUGH 1972	PRODUCED IN 1972	CUMULATIVE THROUGH 1972							
DEPTH IN FEET	THICKNESS AND LITHOLOGY	OIL GRAVITY A.P.I.	TO END	IN 1972	AT END	TO END	IN 1972	AT END	TO END	IN 1972	AT END	TO END	IN 1972	AT END						
CHARLTON 9-31N-1W	SALINA-NIAGARAN REEF	1972	OTSEGO	4,843	3 D		NIAGARAN	5,043	1	1	0	1	80	336	336	66,244				
CHARLTON TWP., 31N-1W, SECTION 9																				
CHARLTON 27-31N-1W	NIAGARAN REEF	1972	OTSEGO	5,202	26 D		NIAGARAN	5,288	1	1	0	1	120	23,961	23,961	13,188				
CHARLTON TWP., 31N-1W, SECTION 27																				
CHASE	"BEREA"	1943	LAKE	2,460	4 SL		DETROIT RIVER	3,734	2	0	0	1	20	322	8,487		424			
CHASE TWP., 17N-11W, SECTIONS 19, 29																				
CHERRY GROVE	TRAVERSE	1952	WEXFORD	3,145	4 D		DUNDEE	3,998	1	ABANDONED 1953	10			4,814		481				
CHERRY GROVE TWP., 21N-10W, SECTION 27																				
CHERRY GROVE, SEC. 13	MICHIGAN STRAY	1957	WEXFORD	1,326	35 S		DUNDEE	4,080	5	0	0	1	640			924,719				
CHERRY GROVE TWP., 21N-10W, SECTION 13 CLAM LAKE TWP., 21N-9W, SECTIONS 7, 18																				
CHESHIRE	TRAVERSE	1947	ALLEGAN	1,289	2 L	35	TRAVERSE	1,348	3	ABANDONED 1958	30			9,290		310				
CHESHIRE TWP., 1N-14W, SECTIONS 26, 27																				
CHESTER	ANTRIM	1965	OTSEGO	1,360	7 SH		NIAGARAN	6,870	16	0	0	16	640		124,671	531,548				
CHESTER TWP., 29N-2W, SECTIONS 10, 11, 14, 15, 16																				
	A-2 CARBONATE & LOWER NIAGARAN	1951	OTSEGO	6,610	5 D	41.0	NIAGARAN	6,870	2	0	0	1	80	1,520	16,749	183				
CHESTER TWP., 29N-2W, SECTION 15, 22																				
CHESTER	NIAGARAN REEF	1970	OTSEGO	5,930	348 D	COND.	CLINTON	6,697	1	0	0	1	160	30,084 BBLs. CONDENSATE	145,394 BBLs. CONDENSATE	787,403				
CHESTER TWP., 29N-2W, SECTION 15																				
CHESTER 2-30N-2W	NIAGARAN REEF	1971	OTSEGO	5,653	247 D		NIAGARAN	6,051	1	0	0	1	80	10,566	13,559		169			
CHESTER TWP., 30N-2W, SECTION 2																				
CHESTER 5-30N-2W	NIAGARAN REEF	1972	OTSEGO	5,538	10 D		NIAGARAN	5,750	1	1	0	1	40	2,841	2,841		71			
CHESTER TWP., 30N-2W, SECTION 5																				
CHESTER 10-30N-2W	NIAGARAN REEF	1972	OTSEGO	5,986	28 D		NIAGARAN	6,200	1	1	0	1	80	28,124	28,124	7,078				
CHESTER TWP., 30N-2W, SECTION 10																				
CHESTER 16-30N-2W	NIAGARAN REEF	1971	OTSEGO	5,760	300 D		NIAGARAN	6,350	5	2	0	5	360	PRODUCTION COMBINED WITH CHESTER 21		2				
CHESTER TWP., 30N-2W, SECTIONS 16, 21																				
CHESTER 18-30N-2W	NIAGARAN REEF	1971	OTSEGO	5,930	20 D	45	NIAGARAN	6,330	10	7	0	10	680	PRODUCTION COMBINED WITH CHESTER 21		7				
CHESTER TWP., 30N-2W, SECTIONS 17, 18, 19																				
CHESTER 19-30N-2W	NIAGARAN REEF	1971	OTSEGO	6,054	30 D		NIAGARAN	6,512	1	0	0	1	80	50,658	71,727	20,125				
CHESTER TWP., 30N-2W, SECTION 19																				
CHESTER 21-30N-2W (JOHANNESBURG)	NIAGARAN REEF	1970	OTSEGO	5,772	283 D		CLINTON	6,483	3	1	0	3	200	895,867	1,308,707	536,933				
CHESTER TWP., 30N-2W, SECTION 21																				
CHESTERFIELD	NIAGARAN	1962	MACOMB	2,508	7 D	40.3	CLINTON	2,707	7	0	0	2	280	2,627	49,368		124,698			
CHESTERFIELD TWP., 3N-14E, SECTION 28, 29																				
CHINA BELLE	NIAGARAN REEF	1963	ST. CLAIR	2,365	15 D															

POOL CLASSIFICATION										● ACTIVE OIL FIELD OR POOL		☀ ACTIVE GAS FIELD OR POOL		☀ GAS-CONDENSATE FIELD OR POOL		⊕ GAS STORAGE RESERVOIR	
										● ABANDONED OIL FIELD OR POOL		☀ ABANDONED GAS FIELD OR POOL		☀ ABANDONED GAS-CONDENSATE FIELD OR POOL		⊖ UNDEVELOPED GAS STORAGE RESERVOIR	
FIELD NAME	PRODUCING FORMATION OR POOL	YEAR OF DISC.	COUNTY TOWNSHIP	DEPTH IN FEET	THICKNESS AND LITHOLOGY	OIL GRAVITY A.P.F. 1.	DEEPEST FORMATION OR POOL TESTED	DEPTH IN FEET	NUMBER OF WELLS	DRILLED ACRES	PRODUCED IN 1972	CUMULATIVE THROUGH 1972	PRODUCED IN 1972	CUMULATIVE THROUGH 1972	RECOVERY PER ACRE DRILLED (BBL.)	TOTAL BARRELS DRILLED PER DAY	
● COLD SPRINGS 20-28N-6W	NIAGARAN REEF	1971	KALKASKA	6,757	35 0		NIAGARAN	6,970	1 0 0 1	80	7,183	16,319			204		
COLD SPRINGS TWP., 28N-6W, SECTION 20																	
● COLD SPRINGS 21-29N-6W (COLD SPRINGS)	NIAGARAN REEF	1970	KALKASKA	6,764	45 0	45.6	CLINTON	7,315	1 0 0 1	80	7,232	79,273	22,398	85,032	991		
COLD SPRINGS TWP., 28N-6W, SECTION 21																	
● COLD SPRINGS 25-28N-6W	NIAGARAN REEF	1971	KALKASKA	6,734	54 0		NIAGARAN	7,383	1 0 0 1	160	199 BBL. CONDENSATE	226 BBL. CONDENSATE	24,339	24,339	1		
COLD SPRINGS TWP., 28N-6W, SECTION 25																	
● COLD SPRINGS 25-28N-6W POOL A	NIAGARAN REEF	1972	KALKASKA	6,950	10 0		NIAGARAN	7,365	1 1 0 1	80	732	732			9		
COLD SPRINGS TWP., 28N-6W, SECTION 25																	
⊕ COLDWATER REFER TO TABLE 3 DEVELOPED GAS STORAGE RESERVOIRS																	
● COLDWATER	DUNDEE	1944	ISABELLA	3,692	25 L	48.0	DETROIT RIVER	5,090	81 0 0 52	3,200	47,661	21,898,369		6,311,307	6,843	19,162	
COLDWATER TWP., 16N-6W, SECTIONS 19, 20, 21, 28 THROUGH 34 SHERMAN TWP., 15N-6W, SECTIONS 5, 6																	
● COLDWATER, SOUTH	DUNDEE	1951	ISABELLA	3,739	4 0		DUNDEE	3,743	1 ABANDONED 1959	20		10,941			547		
SHERMAN TWP., 15N-6W, SECTION 8																	
● COLE LAKE	TRAVERSE	1968	NEWAYGO	2,928	8 L		TRAVERSE	2,938	2 0 0 2	40	690	28,626			716	220	
BARTON TWP., 16N-17W, SECTIONS 29, 30																	
☀ COLFAX	MICHIGAN STRAY	1945	MCCOSTA	1,240	8 S		DETROIT RIVER	4,043	4 0 0 1	640				485,844	DOMESTIC USE		
●	DUNDEE	1964		3,503	25 L	43.0			2 ABANDONED 1967	40		2,260			57		
☀	DUNDEE-REED CITY	1957		3,474	9 D				1 0 0 1	160				5,121	DOMESTIC USE		
COLFAX TWP., 15N-9W, SECTIONS 4, 5																	
☀ COLLIN	SALINA-NIAGARAN REEF	1968	ST. CLAIR	2,196	4 0		NIAGARAN	2,364	2 0 0 2	80	0	2,019	420,217	1,039,102	25	1	
COTTRELLVILLE TWP., 5N-16E, SECTION 20																	
⊕ COLUMBUS REFER TO TABLE 3 DEVELOPED GAS STORAGE RESERVOIRS																	
● COLUMBUS, SEC. 2	NIAGARAN REEF	1971	ST. CLAIR	2,798	8 0	29	NIAGARAN	3,210	2 0 0 2	80	849	849	7,189	7,189			
COLUMBUS TWP., 5N-15E, SECTION 2 WALES TWP., 6N-15E, SECTION 35																	
● COLUMBUS, SEC. 3	NIAGARAN REEF	1968	ST. CLAIR	3,105	15 0		NIAGARAN	3,340	23 0 0 23	460	401,631	1,362,805			2,962	67	
COLUMBUS TWP., 5N-15E, SECTIONS 3, 10 WALES TWP., 6N-15E, SECTION 34																	
☀ COLUMBUS, SEC. 20	NIAGARAN REEF	1972	ST. CLAIR	3,128	5 0		NIAGARAN	3,155	1 1 0 1	160			355	355			
COLUMBUS TWP., 5N-15E, SECTION 20																	
☀ COLUMBUS, SEC. 23	NIAGARAN REEF	1965	ST. CLAIR	2,900	46 0		CLINTON	3,122	6 0 0 6	240	2,393	14,824	84,360	876,249	62	50	
COLUMBUS TWP., 5N-15E, SECTIONS 23, 25																	
GAS RESERVOIR PRODUCING SMALL QUANTITIES OF OIL																	
☀ COLUMBUS, SEC. 32	NIAGARAN REEF	1970	ST. CLAIR	2,983	16 0		NIAGARAN	3,050	2 0 0 2	80		24,735	24,735				
COLUMBUS TWP., 5N-15E, SECTION 32																	
● COLUMBUS, NORTH	NIAGARAN REEF	1968	ST. CLAIR	3,266	8 0		NIAGARAN	3,374	11 0 0 11	260	141,758	511,185			1,966	84	
COLUMBUS TWP., 5N-15E, SECTIONS 5, 6																	
☀ COLUMBUS, WEST	SALINA-NIAGARAN REEF	1967	ST. CLAIR	3,183	14 0		CLINTON	3,447	13 0 0 13	520		1,587,447	15,162,963			60	
COLUMBUS TWP., 5N-15E, SECTIONS 7, 17, 18																	
● COMSTOCK, SEC. 5	TRAVERSE	1949	KALAMAZOO	1,430	3 L		TRAVERSE	1,480	2 ABANDONED 1952	20		974			49		
COMSTOCK TWP., 25-10W, SECTION 5																	
● CONCORD	TRAVERSE	1953	JACKSON	1,627	1 L		SALINA	2,417	5 ABANDONED 1958	50		6,437			129		
CONCORD TWP., 35-34, SECTIONS 35, 36																	
☀ COON CREEK	NIAGARAN	1965	MACOMB	3,034	20 0		NIAGARAN	3,093	2 ABANDONED 1968	80				134,116			
LENOX TWP., 4N-14E, SECTION 18																	
☀ COOPERSVILLE	"BEREA"	1939	OTTAWA	1,240	5 0		TRAVERSE	1,900	3 ABANDONED 1959	240				108,839			
WRIGHT TWP., 8N-13W, SECTIONS 7, 19																	
● COTTRELLVILLE	SALINA-NIAGARAN REEF	1961	ST. CLAIR	2,262	6 0	38.7	CLINTON	2,511	12 0 0 7	280	6,332	130,162			465		
CHINA TWP., 4N-16E, SECTION 31 COTTRELLVILLE TWP., 3N-16E, SECTIONS 6, 7, 8 IRA TWP., 3N-15E, SEN SECTION 1, NEX SECTION 12																	
☀ COTTRELLVILLE	NIAGARAN REEF	1959	ST. CLAIR	2,293	37 0		CLINTON	2,511	2 0 0 2	240		779,935	2,298,943			20	
COTTRELLVILLE TWP., 5N-16E, SECTIONS 6, 7, 8																	
⊕ CRANBERRY LAKE REFER TO TABLE 3 DEVELOPED GAS STORAGE RESERVOIRS																	
● CRANBERRY LAKE	TRAVERSE	1952	CLARE	3,120	7 L	39.0	RICHFIELD	5,223	7 ABANDONED 1965								
●	DUNDEE	1943		3,835	2 L	42.8			8 0 0 3	70	6,210	CUMULATIVE PRODUCTION COMBINED WITH RICHFIELD			456		
●	DETROIT RIVER S2	1953		4,801	16 0	48.8			1 ABANDONED 1962								
●	RICHFIELD	1951		5,048	15 0	51.0			17 0 0 6	680	16,550	1,540,763			2,054	35	
WINTERFIELD TWP., 20N-6W, SECTIONS 1, 2, 11, 12																	
● CRANBERRY LAKE, EAST	TRAVERSE	1963	CLARE	3,057	6 L	39.2	DETROIT RIVER	5,139	1 REACTIVATED 1972								
●	DUNDEE	1963		3,760	6 L	43.5				200	18,610	CUMULATIVE PRODUCTION COMBINED WITH RICHFIELD			1,320		
●	RICHFIELD	1964		5,087	12 0	44.0			6 0 0 6	80	6,884	591,124			2,111		
SUMMERFIELD TWP., 20N-5W, SECTIONS 7, 8, 17																	
THE 6 WELLS INCLUDE 3 DUNDEE, 1 RICHFIELD, 1 DUNDEE & TRAVERSE AND 1 DUNDEE AND RICHFIELD DUAL COMPLETION																	
● CROOKED LAKE	TRAVERSE	1949	ALLEGAN	1,278	1 L		TRAVERSE	1,312	2 ABANDONED 1956	40		115,452			2,886		
CLYDE TWP., 2N-15W, SECTION 25																	
⊕ CROTON REFER TO TABLE 3 DEVELOPED GAS STORAGE RESERVOIRS																	
● CROTON	TRAVERSE	1951	NEWAYGO	2,543	2 L		SALINA	3,993	10 ABANDONED 1958	200		91,678			458		
CROTON TWP., 12N-17W, SECTIONS 20, 29																	
● CRUMP	DUNDEE	1950	BAY	3,294	7 L		DUNDEE	3,354	1 ABANDONED 1951	10		1,043			104		
GARFIELD TWP., 16N-3E, SECTION 23																	

POOL CLASSIFICATION										● ACTIVE OIL FIELD OR POOL		☀ ACTIVE GAS FIELD OR POOL		☀ GAS-CONDENSATE FIELD OR POOL		⊕ GAS STORAGE RESERVOIR	
										● ABANDONED OIL FIELD OR POOL		☀ ABANDONED GAS FIELD OR POOL		☀ ABANDONED GAS-CONDENSATE FIELD OR POOL		⊖ UNDEVELOPED GAS STORAGE RESERVOIR	
FIELD NAME	PRODUCING FORMATION OR POOL	YEAR OF DISC.	COUNTY TOWNSHIP	DEPTH IN FEET	THICKNESS AND LITHOLOGY	OIL GRAVITY A.P.F. 1.	DEEPEST FORMATION OR POOL TESTED	DEPTH IN FEET	NUMBER OF WELLS	DRILLED ACRES	PRODUCED IN 1972	CUMULATIVE THROUGH 1972	PRODUCED IN 1972	CUMULATIVE THROUGH 1972	RECOVERY PER ACRE DRILLED (BBL.)	TOTAL BARRELS DRILLED PER DAY	
● CRYSTAL	TRAVERSE	1954	MONTCALM	2,769	4 L	41.8	DETROIT RIVER	3,391	2 0 0 1	20							
●	DUNDEE	1955		3,187	4 0	43.5			193 0 0 7	2,000			7,281	7,810,990		3,867 1,200	
CRYSTAL TWP., 10N-5W, SECTIONS 1, 2, 3, 4, 10, 11, 12, 13 FERRIS TWP., 11N-5W, SECTIONS 26, 34, 35, 36																	
● CRYSTAL VALLEY	TRAVERSE	1945	OCEANA	1,809	3 L	37.0	ST. PETER SS.	6,062	5 0 0 1	50							
●	DUNDEE	1957		2,575	12 0	42.5			19 0 0 1	420			0	203,747		434 TO PLUG	
CRYSTAL TWP., 16N-16W, SECTIONS 9, 10, 11, 14, 15, 16																	
☀ CRYSTAL VALLEY	DUNDEE	1946	OCEANA	2,400	7 L		TRENTON-BLACK RIVER	5,985	4 ABANDONED 1966	160					*162,079		
☀	SALINA	1961		4,102	10 0				1 ABANDONED 1966	40					*PRODUCTION COMBINED		
CRYSTAL TWP., 16N-16W, SECTIONS 11, 14, 15, 16																	
● CRYSTAL VALLEY, SEC. 19	TRAVERSE	1971	OCEANA	1,689	1.5 L		DUNDEE	2,233	2 0 0 2	40	7,205	16,550			414	20	
●	DUNDEE	1971		2,222	11 L				1 0 0 1	20			0	0			
CRYSTAL TWP., 16N-16W, SECTION 19																	
● CRYSTAL VALLEY, SOUTH	TRAVERSE	1969	OCEANA	1,739	1 L		TRAVERSE	1,740	1 0 0 1	40	897	8,123			203	15	
CRYSTAL TWP., 16N-16W, SECTION 20																	
● CURRIE	DUNDEE	1956	ISABELLA	3,918	2 0	45.9	DUNDEE	4,042	2 0 0 2	40	713	204,381				5,110	
VERNON TWP., 16N-4W, SECTIONS 5, 8																	
● DALLAS	TRAVERSE	1942	CLINTON	2,482	2 L		DETROIT RIVER	2,934	3 ABANDONED 1948	40			3,085			770	
DALLAS TWP., 7N-4W, SECTION 21																	
● DALTON	TRAVERSE	1940	MUSKOGON	1,851	5 L	40.0	DUNDEE	2,515	16 0 0 2	300	0	107,788				359	
DALTON TWP., 11N-16W, SECTIONS 10, 11, 15																	
☀ DAY	MICHIGAN STRAY	1934	MONTCALM	1,352	4 S		MARSHALL	1,395	2 ABANDONED 1944	80					8,494		
DAY TWP., 11N-6W, SECTION 1 HOME TWP., 12N-6W, SECTION 36																	
● DAY	TRAVERSE	1946	MONTCALM	2,900	2 L	43.0	DUNDEE	3,387	1 ABANDONED 1967	10		3,095				310	
●	DUNDEE	1946		3,337	2 L				2 ABANDONED 1954	20			16,239			812	
DAY TWP., 11N-6W, SECTION 25 (TRAVERSE) DAY TWP., 11N-6W, SECTION 36 (DUNDEE)																	
● DAY, SEC. 13	DUNDEE	1971	MONTCALM	3,414	15 L		DUNDEE	3,475	1 0 0 1	20	4,758	11,686			584	175	
DAY TWP., 11N-6W, SECTION 13																	
☀ DEEP RIVER	BEREA	1936	ARENAC	1,490	10 S		SYLVANIA	4,311	12 0 0 3	1,520				1,609,812	DOMESTIC USE		
DEEP RIVER TWP., 19N-4E, SECTIONS 7, 8, 16, 17, 18, 20																	
● DEEP RIVER	DUNDEE	1944	ARENAC	2,795	145 D	35.8	RICHFIELD	4,258	106 0 0 38	1,060	68,331	26,539,334			25,037	7,953	
●	RICHFIELD	1953							(CONSOLIDATED WITH STERLING DETROIT RIVER - RICHFIELD IN 1954)								
THE 38 WELLS INCLUDE 37 DUNDEE AND 1 TRAVERSE																	
DEEP RIVER TWP., 19N-4E, SECTIONS 6, 7, 8, 9, 14, 15, 16, 23, 24																	
● DEERFIELD	TRENTON	1920	MONROE	2,115	10 L	42.7	CAMBRIAN	3,250	47 0 0 20	450	1,584	715,545			1,590	7	
DUNDEE TWP., 6S-6E, SECTIONS 19, 29, 30 SUMMERFIELD TWP., 6S-6E, SECTION 31																	
☀ DEMINGS LAKE	TRAVERSE	1968	LENAAE	734	2 L		TRAVERSE	741	1 0 0 1	40						NO MARKET	
DOVER TWP., 7S-2E, SECTION 27																	
● DENNISON	TRAVERSE	1963	OTAWA	1,874	4 L	38.0	SALINA	3,202	15 ABANDONED 1971	300		312,956			1,043		
POLKTON TWP., 8N-14W, SECTIONS 21, 27, 28																	
☀ DIAMOND CRYSTAL SALT	NIAGARAN REEF	1927	ST. CLAIR	2,483	17 0		NIAGARAN	2,500	1 ABANDONED 1931	40					136,445		
ST. CLAIR TWP., 5N-17E, SECTION 31																	
● DIAMOND SPRINGS	TRAVERSE	1938	ALLEGAN	1,461	3 L	41.0	SALINA	2,651	56 0 0 7</								

POOL CLASSIFICATION		● ACTIVE OIL FIELD OR POOL	☀ ACTIVE GAS FIELD OR POOL	☀ GAS-CONDENSATE FIELD OR POOL	⊕ GAS STORAGE RESERVOIR													
		● ABANDONED OIL FIELD OR POOL	☀ ABANDONED GAS FIELD OR POOL	☀ ABANDONED GAS-CONDENSATE FIELD OR POOL	⊖ UNDEVELOPED GAS STORAGE RESERVOIR													
FIELD NAME	PRODUCING FORMATION OR POOL	YEAR OF DISC.	COUNTY TOWNSHIP	PAY ZONE	DEEPEST FORMATION OR POOL TESTED	DEPTH IN FEET	NUMBER OF WELLS	DRILLED ACRES	OIL PRODUCTION - BBLs	GAS PRODUCTION - Mcf	RECOVERY PER ACRE DRILLED (BBLs.)	TOTAL BARRELS BRINE PER DAY						
			PRODUCING SECTIONS	THICKNESS AND LITHOLOGY			TO COMP. IN 1972		PRODUCED IN 1972	CUMULATIVE THROUGH 1972	PRODUCED IN 1972	CUMULATIVE THROUGH 1972						
● EAST NORWICH	TRAVERSE	1944	MISSAUKEE-ROSCOMMON	2,410 1 L	BASS ISLANDS	5,520	1	ABANDONED 1944	PRODUCTION COMBINED WITH EAST NORWICH RICHFIELD									
●	DUNDEE	1942		3,082 4 L			1	ABANDONED 1947	PRODUCTION COMBINED WITH EAST NORWICH RICHFIELD									
●	RICHFIELD	1942		4,590 14 D			110	1	69	4,400	297,842	8,888,320	473,258	7,243,665	2,020	308		
NORWICH TWP., 24N-5W, SECTION 16 (TRAVERSE), SECTION 14 (DUNDEE) LYON TWP., 24N-4W, SECTIONS 6, 7, 18 (RICHFIELD) THE 69 WELLS INCLUDE 54 RICHFIELD & 14 SOUR ZONE & 1 RICHFIELD & SOUR ZONE																		
NORWICH TWP., 24N-5W, SECTIONS 1, 2, 3, 9 THROUGH 16, 21, 22 (RICHFIELD)																		
● EATON RAPIDS	A-1 CARBONATE & NIAGARAN REEF	1922	EATON	3,750 30 D	NIAGARAN	4,210	1	1	0	1	80	3,325	3,325			42		
EATON RAPIDS TWP., 2N-3W, SECTION 35																		
☀ EATON RAPIDS	NIAGARAN REEF	1971	EATON-INGHAM	3,740 55 D	NIAGARAN	4,305	6	5	0	6	960					SHUT-IN		
EATON RAPIDS TWP., 2N-3W, SECTION 36 AURELIUS TWP., 2N-2W, SECTION 31 ONONDAGA TWP., 1N-2W, SECTIONS 6, 7																		
● EDEN	TRAVERSE	1948	MASON	1,679 3 L	CAMBRIAN	7,249	10	0	0	5	90					200		
●	TRAVERSE	1958		1,960 7 L			1	0	0	1	160					SHUT-IN		
●	DUNDEE	1948		2,240 2 L			38	0	0	27	380					2,505		
●	REED CITY	1948		2,345 8 D			5	0	0	2	40	13,453	2,958,662	0	275,801	5,801	20	
EDEN TWP., 17N-16W, SECTION 26 (TRAVERSE GAS) SECTIONS 25, 26, 35, 36 (TRAVERSE, DUNDEE, REED CITY OIL COMBINED IN ABOVE FIGURES)																		
● EDENVILLE	DUNDEE	1938	MIDLAND	3,790 8 L	DUNDEE	3,962	36	0	0	1	370	91	1,366,382			3,693	7	
EDENVILLE TWP., 16N-1W, SECTIONS 5, 26, 27																		
☀ EDENVILLE, SEC. 5	SAGINAW FM.	1956	MIDLAND	382 12 S	DUNDEE	4,028	3	0	0	1	160					0	0	TO PLUG
EDENVILLE TWP., 16N-1W, SECTION 5																		
● EDMORE	TRAVERSE	1933	MONTCALM	3,102 4 L	DUNDEE	3,613	35	0	0	8	500	10,612	1,381,362	0	1,094,960	2,763	790	
HOME TWP., 12N-6W, SECTIONS 2, 3, 9, 10, 11																		
EDMORE-RICHLAND REFER TO TABLE 4 UNDEVELOPED GAS STORAGE RESERVOIRS																		
● EDWARDS	DUNDEE	1951	OSHEW	3,362 10 L	SYLVANIA-BOIS BLANC	5,260	4	0	0	3	90	2,014	33,965			377	500	
EDWARDS TWP., 21N-1E, SECTION 15																		
☀ EDELSTON	"BEREA"	1951	MUSKOGON	1,120 5 D	DUNDEE	2,282	7	ABANDONED 1966		1,120						291,097		
EDELSTON TWP., 10N-15W, SECTIONS 3, 4, 9, 10, 15																		
● ELBA	MICHIGAN STRAY	1928	GRATIOT	670 10 S	DUNDEE	3,044	10	ABANDONED 1957		520						246,058		
●	TRAVERSE	1927		2,440 2 L			8	ABANDONED 1962		90						42,925		477
ELBA TWP., 9N-1W, SECTIONS 9, 14, 15, 16 (MICHIGAN STRAY) SECTIONS 14, 15, 22, 23 (TRAVERSE)																		
● ELBRIDGE	TRAVERSE	1961	OCEANA	2,112 2 L	REED CITY	2,725	19	0	0	5	380	0	414,945			SHUT-IN	1,092	
ELBRIDGE TWP., 15N-16W, SECTIONS 22, 26, 27, 28																		
● ELKLAND	DUNDEE	1946	TUSCOLA	2,653 14 L	SYLVANIA	3,735	2	ABANDONED 1947		20			1,546			77		
ELKLAND TWP., 14N-11E, SECTION 31 NOVESTA TWP., 13N-11E, SECTION 6																		
● ELMWOOD	DUNDEE	1945	TUSCOLA	2,740 8 L	BOIS BLANC	3,945	10	0	0	7	90	3,230	86,763			964	17	
ELMWOOD TWP., 14N-10E, SECTIONS 17, 20, 21																		
☀ ENSLEY	MARSHALL	1958	NEWAYGO	826 5 S	DETROIT RIVER	3,018	8	0	0	8	1,280					906,626		MAY CONVERT TO STORAGE
●	TRAVERSE	1954		2,439 2 L			6	ABANDONED 1959		120			70,415			587		
ENSLEY TWP., 11N-11W, SECTIONS 6, 7, 8, 17, 18 GRANT TWP., 11N-12W, SECTION 12 (MARSHALL) ENSLEY TWP., 11N-11W, SECTIONS 6, 7, 8 (TRAVERSE)																		
● ENTERPRISE	RICHFIELD	1943	MISSAUKEE-ROSCOMMON	4,405 15 D	RICHFIELD	4,625	32	0	2	18	1,280	118,391	2,537,008	99,443	902,661	1,382	54	
ENTERPRISE TWP., 23N-5W, SECTIONS 10 THROUGH 14 LAKE TWP., 23N-4W, SECTION 18																		
☀ ENTERPRISE, SEC. 32	MICHIGAN STRAY	1953	MISSAUKEE	1,986 5 S	DETROIT RIVER	4,200	2	0	0	2	320					0	DOMESTIC USE	
ENTERPRISE TWP., 23N-5W, SECTION 32 BUTTERFIELD TWP., 22N-5W, SECTION 4																		
● ENTRICAN	TRAVERSE	1966	MONTCALM	2,870 4 L	DUNDEE	3,426	1	ABANDONED 1968		40			441			10		
●	DUNDEE	1967		3,312 2 D			2	0	0	1	40		7,517			188		
DOUGLASS TWP., 11N-7W, SECTION 21																		
● ESSEXVILLE	DUNDEE	1944	BAY	2,835 17 L	SYLVANIA	4,150	50	0	0	41	1,730	40,545	3,422,391		3,267	1,978	47	
HAMPTON TWP., 14N-6E, SECTIONS 7, 8, 9, 15, 16, 17, 18 HAMPTON TWP., 14N-5E, SECTION 12																		
● EVART	DUNDEE	1942	OSCEOLA	3,755 6 L	SYLVANIA	5,292	29	ABANDONED 1970		1,100			3,812,127			3,466		
OSCEOLA TWP., 18N-8W, SECTIONS 21, 22, 23, 25, 26, 27, 28																		
EVART REFER TO TABLE 4 UNDEVELOPED GAS STORAGE RESERVOIRS																		
● EXCELSIOR	TRAVERSE	1950	KALKASKA	2,003 2 L	TRAVERSE	2,136	1	ABANDONED 1970		10			10,455			1,045		
EXCELSIOR TWP., 27N-6W, SECTION 11																		
☀ EXCELSIOR 9-27N-6W	NIAGARAN REEF	1972	KALKASKA	7,034 47 D	NIAGARAN	7,526	1	1	0	1	160	64	64					
EXCELSIOR TWP., 27N-6W, SECTION 9																		
● EXCELSIOR 10-27N-6W	DETROIT RIVER	1972	KALKASKA	3,607 20 D	NIAGARAN	7,399	1	1	0	1	80		0					
EXCELSIOR TWP., 27N-6W, SECTION 10																		
☀ FALMOUTH	MICHIGAN STRAY	1962	MISSAUKEE	1,279 3 S	REED CITY	4,035	8	0	0	1	1,280					1,102,815	DOMESTIC USE	
ALTA TWP., 22N-6W, SECTIONS 30, 31 REEDER TWP., 22N-7W, SECTIONS 25, 36																		
● FERRY	TRAVERSE	1960	OCEANA	1,949 2 L	REED CITY	2,581	14	ABANDONED 1970		280			164,263			587		
FERRY TWP., 14N-16W, SECTIONS 16, 20, 21																		
☀ FERRY, SEC. 25	"BEREA"	1961	OCEANA	1,310 5 D	REED CITY	2,650	1	0	0	1	40						DOMESTIC USE	
FERRY TWP., 14N-16W, SECTION 25																		
● FILLMORE	TRAVERSE	1940	ALLEGAN-OTTAWA	1,516 2.7 L	NIAGARAN	3,045	63	0	0	10	770	1,983	972,853			1,263	19	
☀	SALINA A-2 CARB.	1959		2,632 16 D			11	0	1	7	1,500		383,661		4,119,463			
☀	SALINA A-1 CARB.	1959		2,792 16 D							1,600							
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)																		

POOL CLASSIFICATION		● ACTIVE OIL FIELD OR POOL	☀ ACTIVE GAS FIELD OR POOL	☀ GAS-CONDENSATE FIELD OR POOL	⊕ GAS STORAGE RESERVOIR												
		● ABANDONED OIL FIELD OR POOL	☀ ABANDONED GAS FIELD OR POOL	☀ ABANDONED GAS-CONDENSATE FIELD OR POOL	⊖ UNDEVELOPED GAS STORAGE RESERVOIR												
FIELD NAME	PRODUCING FORMATION OR POOL	YEAR OF DISC.	COUNTY TOWNSHIP	PAY ZONE	DEEPEST FORMATION OR POOL TESTED	DEPTH IN FEET	NUMBER OF WELLS	DRILLED ACRES	OIL PRODUCTION - BBLs	GAS PRODUCTION - Mcf	RECOVERY PER ACRE DRILLED (BBLs.)	TOTAL BARRELS BRINE PER DAY					
			PRODUCING SECTIONS	THICKNESS AND LITHOLOGY			TO COMP. IN 1972		PRODUCED IN 1972	CUMULATIVE THROUGH 1972	PRODUCED IN 1972	CUMULATIVE THROUGH 1972					
● FOREST RIVER	TRAVERSE	1965	OCEANA	1,934 1 L	DUNDEE	2,598	1	ABANDONED 1965				781				20	
COLFAX TWP., 16N-15W, SECTION 12																	
● FORK	DUNDEE	1942	MECOSTA	3,845 8 L	BOIS BLANC	5,294	64	ABANDONED 1969		2,700		7,777,026				2,880	
●	RICHFIELD	1945		5,001 11 D			1	ABANDONED 1966								854,415	
FORK TWP., 16N-2W, SECTIONS 4, 5, 6, 7, 8, 16, 18 CHIPPEWA TWP., 16N-8W, SECTIONS 1, 12																	
☀ FORK, EAST	MICHIGAN STRAY	1942	MECOSTA	1,480 5 S	DUNDEE	3,865	4	ABANDONED 1946		640						102,708	
FORK TWP., 16N-7W, SECTIONS 2, 11																	
☀ FORK, NORTH	MICHIGAN STRAY	1956	OSCEOLA	1,433 19 S	DUNDEE	3,982	1	0	0	1	160					60,178	DOMESTIC USE
●	DUNDEE	1951		3,788 3 D			6	0	0	1	120		153,661				
ORIENT TWP., 17N-7W, SECTION 33 (MICHIGAN STRAY) SECTIONS 28, 33 (DUNDEE)																	
☀ FORK, WEST	MICHIGAN STRAY	1943	MECOSTA	1,490 5 S	SYLVANIA	5,198	17	0	0	2	2,880					2,405,539	DOMESTIC USE
FORK TWP., 16N-7W, SECTIONS 5, 6, 7, 8, 16 CHIPPEWA TWP., 16N-8W, SECTIONS 1, 2 EVART TWP., 17N-8W, SECTIONS 35, 36																	
☀ FORWARD	MICHIGAN STRAY	1961	MISSAUKEE	1,393 7 S	DETROIT RIVER	5,225	6	ABANDONED 1969		960						467,409	
RIVERSIDE TWP., 21N-7W, SECTIONS 25, 36 CLAM UNION TWP., 21N-6W, SECTION 31																	
☀ FOSTORIA	BEREA	1970	TUSCOLA	1,514 16 S	RICHFIELD	3,267	1	0	0	1	160					0	SHUT-IN
WATERTOWN TWP., 10N-9E, SECTION 14																	
● FOUNTAIN	REED CITY	1970	MASON	2,442 6 D	REED CITY	2,448	1	0	0	1	40		170				4
SHERMAN TWP., 19N-16W, SECTION 12																	
FOUR CORNERS REFER TO TABLE 3 DEVELOPED GAS STORAGE RESERVOIRS																	
☀ FOWLerville	SALINA-NIAGARAN	1961	LIVINGSTON	3,880 45 D	PRAIRIE DU CHIEN	5,695	16	1	0	16	2,400					0	SHUT-IN
HANDY TWP., 3N-3E, SECTIONS 1, 2, 12 CONWAY TWP., 4N-3E, SECTION 35 HOWELL TWP., 3N-4E, SECTION 7																	
● FREDERIC 10-28N-4W	NIAGARAN REEF	1971	CRAWFORD	6,964 99 D	NIAGARAN	7,350	2	1	0	2	160	100,500	116,883				731
FREDERIC TWP., 28N-4W, SECTION 10																	
☀ FREDERIC 13-28N-4W	NIAGARAN REEF	1972	CRAWFORD	6,789 427 D	NIAGARAN	7,470	1	1	0	1	160		105,132	105,132			
FREDERIC TWP., 28N-4W, SECTION 13																	
☀ FREDERIC 29-28N-4W	NIAGARAN REEF	1972	CRAWFORD	7,420 71 D	NIAGARAN	7,578	1	1	0	1	160		0	0			SHUT-IN
FREDERIC TWP., 28N-4W, SECTION 29																	
☀ FREEDOM	TRAVERSE	1971	WASHTENAW	1,038 24 L	CAMBRO-OROVICIAN	4,691	3	2	0	3	120					0	SHUT-IN
●	DUNDEE	1971		1,198 28 L							120					0	SHUT-IN
●	TRENTON	1954		3,963 20 D			1	ABANDONED 1956		40			7,217				180
FREEDOM TWP., 35-4E, SECTIONS 6, 8																	
FREEMAN-LINCOLN REFER TO TABLE 3 DEVELOPED GAS STORAGE RESERVOIRS																	
● FREEMAN-REDDING	DUNDEE	1938	CLARE	3,885 19 L	SYLVANIA	5,462	170	0	0	16	2,800	28,902	16,642,382		1,956,056	5,944	3,693
REDDING TWP., 19N-6W, SECTIONS 27, 28, 29, 32, 33, 34 FREEMAN TWP., 18N-6W, SECTIONS 3, 4																	
● FREEMAN, SEC. 15	DUNDEE	1963	CLARE	3,894 8 L	DUNDEE	3,902	1	ABANDONED 1965		40			736				18
FREEMAN TWP., 18N-6W, SECTION 15																	
● FREEPORT	TRAVERSE	1949	BARRY	2,031 3 L	DETROIT RIVER	2,430	1	ABANDONED 1951		10			19,229				1,923
CARLTON TWP., 4N-8W, SECTION 6																	
☀																	

POOL CLASSIFICATION		● ACTIVE OIL FIELD OR POOL	☀ ACTIVE GAS FIELD OR POOL	☀ GAS-CONDENSATE FIELD OR POOL	⊕ GAS STORAGE RESERVOIR	● ABANDONED OIL FIELD OR POOL	☀ ABANDONED GAS FIELD OR POOL	☀ ABANDONED GAS-CONDENSATE FIELD OR POOL	⊖ UNDEVELOPED GAS STORAGE RESERVOIR										
FIELD NAME	PRODUCING FORMATION OR POOL	YEAR OF DISC.	COUNTY TOWNSHIP	DEPTH IN FEET	THICKNESS AND LITHOLOGY	OIL GRAVITY A.P.I.	DEEPEST FORMATION OR POOL TESTED	DEPTH IN FEET	NUMBER OF WELLS	OIL PRODUCTION - BBLs	GAS PRODUCTION - Mcf	RECOVERY PER ACRE DRILLED (BBLs.)	TOTAL BARRELS DRINE PER DAY						
			PRODUCING SECTIONS						TO END	COMPL. IN 3H	ABAND. IN 3H	ACTIVE AT END							
									1 2 3	1 2 3	1 2 3								
⊕ GOODWELL	REFER TO TABLE 3	DEVELOPED GAS STORAGE RESERVOIRS																	
⊕ GOODWELL, EAST	MICHIGAN STRAY	1945	NEWAYGO	1,190	4 S		DETROIT RIVER	3,498	2	ABANDONED 1950		200	7,504						
			GOODWELL TWP., 14N-11W, SECTIONS 23, 24																
⊕ GRANT	GLACIAL DRIFT	1929	MASON	632	1 S		DUNDEE	2,385	3	ABANDONED 1955		120	8,020						
			GRANT TWP., 20N-17W, SECTION 15																
● GRANT 26-25N-12W	NIAGARAN REEF	1971	GRAND TRAVERSE	5,961	80 D	65.7	CLINTON	6,383	1	0	0	1	80	14,411	16,401	16,410	16,410	205	
			GRANT TWP., 25N-12W, SECTION 26																
● GRANT, SEC. 29	DETROIT RIVER	1953	HURON	3,358	8 D	38.8	BOIS BLANC	3,918	3	0	0	3	120	114	19,705			164	
			GRANT TWP., 15N-11E, SECTION 29																
⊕ GREEN	MICHIGAN STRAY	1946	MECOSTA	1,250	3 S		REED CITY	3,710	2	ABANDONED 1951		320	73,368						
			GREEN TWP., 16N-10W, SECTION 18																
● GREEN OAK	TRENT.-BLK. RIVER	1967	LIVINGSTON	4,682	10 D		BLACK RIVER	5,560	1	ABANDONED 1970		40	2,836					71	
			GREEN OAK TWP., 1N-6E, SECTION 14																
● GREENWOOD, SEC. 3	TRAVERSE	1968	CLARE	3,438	14 L		DUNDEE	4,048	2	0	0	2	40	9,132	46,690			1,167	560
			GREENWOOD TWP., 19N-5W, SECTIONS 2, 3																
● GREENWOOD, SEC. 11	DUNDEE	1952	CLARE	4,054	10 L		RICHFIELD	5,432	1	ABANDONED 1953		10	1,324					132	
			GREENWOOD TWP., 19N-5W, SECTION 11																
● GROUT	DUNDEE	1940	GLADWIN	3,825	4 L		DETROIT RIVER	5,240	5	ABANDONED 1957									
			PRODUCTION COMBINED WITH GROUT RICHFIELD																
●	DETROIT RIVER S2	1958		4,801	12 D				1	ABANDONED 1963									
			PRODUCTION COMBINED WITH GROUT RICHFIELD																
●	RICHFIELD	1956		5,039	10 D	41.7			17	0	1	11	680	46,171	1,544,579			2,271	159
			GROUT TWP., 18N-2W, SECTIONS 10, 11, 14, 15																
⊕ HAMILTON	MICHIGAN STRAY	1940	CLARE	1,270	3 S		RICHFIELD	5,395	4	ABANDONED 1954		440	275,606						
			HAMILTON TWP., 19N-3W, SECTIONS 5, 6, 7, 8, 15																
●	DUNDEE	1940		4,041	10 L	41.8			3	ABANDONED 1959		30							
			PRODUCTION COMBINED WITH HAMILTON RICHFIELD																
●	RICHFIELD	1952		5,145	12 D	42.2			45	0	0	26	1,830	227,894	5,521,105	111,521	3,667,428	2,968	1,024
			HAMILTON TWP., 19N-3W, SECTIONS 5, 6, 7, 8, 15																
⊕ HAMILTON, NORTH	REFER TO TABLE 3	DEVELOPED GAS STORAGE RESERVOIRS																	
⊕ HAMLIN	SALINA-NIAGARAN REEF	1952	MASON	3,950	? D		CAMBRIAN	6,622	1	ABANDONED 1962		160	0						
			HAMLIN TWP., 19N-18W, SECTION 27																
●	NIAGARAN REEF	1952		4,224	20 D	46.2			1	ABANDONED 1958		40	60,532					1,513	
			HAMLIN TWP., 19N-18W, SECTION 27																
● HAMLIN 13-19N-18W	NIAGARAN REEF	1972	MASON	4,284	12 D	46.2	NIAGARAN	4,470	1	1	0	1	80	25,760	25,760				
			HAMLIN TWP., 19N-18W, SECTION 13																
● HAMLIN 25-19N-18W	NIAGARAN REEF	1972	MASON	4,251	14 D		NIAGARAN	4,556	1	1	0	1	80	2,140	2,140			27	
			HAMLIN TWP., 19N-18W, SECTION 25																
● HAMLIN 8-1N-3W	NIAGARAN REEF	1972	EATON	3,640	65 D		NIAGARAN	3,830	1	1	0	1	80	0	0				
			HAMLIN TWP., 1N-3W, SECTION 8																
● HANOVER	TRENT.-BLK. RIVER	1959	JACKSON	4,012	120+ D	43.0	PRAIRIE DU CHIEN	4,604	10	0	4	3	180	9,376	1,309,871	0	586,017	7,277	50
			HANOVER TWP., 4S-2W, SECTIONS 8, 9																
● HARDY DAM	REED CITY	1966	MECOSTA	3,351	5 D	44.8	DETROIT RIVER	3,482	22	0	1	19	880	31,136	1,047,255			1,190	2,190
			AETNA TWP., 13N-10W, SECTIONS 5, 6, 7, 8																
⊕ HARRISON	MICHIGAN STRAY	1945	CLARE	1,675	3 S		SYLVANIA	5,633	7	ABANDONED 1962		760	598,465						
			HARRISON TWP., 18N-5W, SECTIONS 1, 12, 13																
●	DUNDEE	1945		4,190	13 L	39.7			2	0	0	2	80	2,467	155,012			1,938	14
			LINGOLN TWP., 18N-5W, SECTIONS 1, 12, 13																
● 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																
⊕ HARTWICK	MICHIGAN STRAY	1968	OSCEOLA	1,681	25 S		MICHIGAN STRAY	1,706	1	0	0	1	160						
			HARTWICK TWP., 19N-8W, SECTION 11																
● HATTON	DUNDEE	1941	CLARE	3,945	2 L		DUNDEE	4,000	4	ABANDONED 1948		160	139,272					870	
			HATTON TWP., 18N-4W, SECTION 31																
● HAWKHEAD	TRAVERSE	1946	ALLEGAN	1,103	1 L	36.0	DETROIT RIVER	1,385	16	ABANDONED 1960		160	68,292					427	
			CASCO TWP., 1N-16W, SECTIONS 20, 29																
● HAYES 11-29N-4W (GAYLORD-TEGON LAKE)	NIAGARAN REEF	1969	OTSEGO	6,180	57 D	47	NIAGARAN	6,420	4	0	0	4	640	120,548	432,713	64,347	95,010	676	278
			HAYES TWP., 29N-4W, SECTIONS 2, 11, 12, 14																
● HAYES 21-29N-4W	NIAGARAN REEF	1972	OTSEGO	6,581	6 D		NIAGARAN	6,972	2	2	0	2	160	248	248			2	
			HAYES TWP., 29N-4W, SECTION 21																
● HAYES 32-29N-4W	NIAGARAN REEF	1972	OTSEGO	6,462	5 D		NIAGARAN	6,873	1	1	0	1	160	511	511			3	
			HAYES TWP., 29N-4W, SECTION 32																
⊕ HEADQUARTERS	MICHIGAN STRAY	1945	CLARE-ROSCOMMON	1,340	6 S		BOIS BLANC	5,929	12	0	0	2	1,260						
			HEADQUARTERS TWP., 21N-3W, SECTIONS 17, 19, 20, 21, 28, 29, 30, 32, 33, 34																
●	TRAVERSE	1941		3,356	5 L	42.3			47	0	1	2	1,400						
			PRODUCTION COMBINED WITH RICHFIELD SHUT-IN																
●	DUNDEE	1958		3,899	12 L	39.9			1	0	0	1	10						
			PRODUCTION COMBINED WITH RICHFIELD SHUT-IN																
●	DETROIT RIVER S2	1942		4,946	13 D	43.7													
			PRODUCTION COMBINED WITH RICHFIELD																
●	RICHFIELD	1952		5,147	23 D	42.6			60	0	0	40	2,320	89,593	10,292,290		4,248,560	2,759	144
			ROSCOMMON TWP., 21N-3W, SECTIONS 17, 19, 20, 21, 28, 29, 30, 32, 33, 34																
			FRANKLIN TWP., 20N-3W, SECTIONS 3, 4, 10, 11, 15																
			THE 40 WELLS INCLUDE 12 RICHFIELD, 22 SOUR ZONE & 6 RICHFIELD & SOUR ZONE																
● HEATH	TRAVERSE	1948	ALLEGAN	1,498	2 L	38.0	SALINA	2,716	25	0	1	3	270	361	208,159			771	1
			HEATH TWP., 3N-14W, SECTIONS 11, 12, 13, 14																

POOL CLASSIFICATION		● ACTIVE OIL FIELD OR POOL	☀ ACTIVE GAS FIELD OR POOL	☀ GAS-CONDENSATE FIELD OR POOL	⊕ GAS STORAGE RESERVOIR	● ABANDONED OIL FIELD OR POOL	☀ ABANDONED GAS FIELD OR POOL	☀ ABANDONED GAS-CONDENSATE FIELD OR POOL	⊖ UNDEVELOPED GAS STORAGE RESERVOIR										
FIELD NAME	PRODUCING FORMATION OR POOL	YEAR OF DISC.	COUNTY TOWNSHIP	DEPTH IN FEET	THICKNESS AND LITHOLOGY	OIL GRAVITY A.P.I.	DEEPEST FORMATION OR POOL TESTED	DEPTH IN FEET	NUMBER OF WELLS	OIL PRODUCTION - BBLs	GAS PRODUCTION - Mcf	RECOVERY PER ACRE DRILLED (BBLs.)	TOTAL BARRELS DRINE PER DAY						
			PRODUCING SECTIONS						TO END	COMPL. IN 3H	ABAND. IN 3H	ACTIVE AT END							
									1 2 3	1 2 3	1 2 3	1 2 3							
⊕ HEATH, SEC. 21	SALINA	1960	ALLEGAN	2,492	19 D		SALINA	2,789	1	ABANDONED 1965		160	63,430						
			HEATH TWP., 3N-14W, SECTION 21																
● HEATH, SEC. 35	TRAVERSE	1945	ALLEGAN	1,468	2 L		TRAVERSE	1,470	1	ABANDONED 1946		10	559					36	
			HEATH TWP., 3N-14W, SECTION 35																
⊕ HERSEY	MICHIGAN STRAY	1971	OSCEOLA	1,510	3 S		MICHIGAN STRAY	1,638	5	2	0	5	800					SHUT-IN	
			HERSEY TWP., 17N-9W, SECTIONS 26, 35, 36																
⊕ HESSEN	NIAGARAN REEF	1965	ST. CLAIR	2,499	261 D		NIAGARAN	2,887	16	0	0	16	640	7,826	95,973	684,031	9,794,757	150	106
			CASCO TWP., 4N-15E, SECTIONS 2, 3, 10, 11																
● HILLIARDS	TRAVERSE	1944	ALLEGAN	1,576															

POOL CLASSIFICATION				ACTIVE OIL FIELD OR POOL				ACTIVE GAS FIELD OR POOL				GAS-CONDENSATE FIELD OR POOL				GAS STORAGE RESERVOIR			
ABANDONED OIL FIELD OR POOL				ABANDONED GAS FIELD OR POOL				ABANDONED GAS-CONDENSATE FIELD OR POOL				UNDEVELOPED GAS STORAGE RESERVOIR							
FIELD NAME	PRODUCING FORMATION OR POOL	YEAR OF DISC.	COUNTY TOWNSHIP PRODUCING SECTIONS	PAY ZONE		DEEPEST FORMATION OR POOL TESTED	DEPTH IN FEET	NUMBER OF WELLS				OIL PRODUCTION-BBLS.		GAS PRODUCTION-McF.		RECOVERY PER ACRE DRILLED (BBLS.)	TOTAL BARRELS BRINE PER DAY		
				DEPTH IN FEET	THICKNESS AND LITHOLOGY			OIL GRAVITY A.P.I.	TO END	ABAND. IN	ACTIVE IN	AT END	DRILLED ACRES	PRODUCED IN 1972	CUMULATIVE THROUGH 1972			PRODUCED IN 1972	CUMULATIVE THROUGH 1972
KALKASKA 21-27N-8W	NIAGARAN REEF	1971	KALKASKA	6,562	77 D	NIAGARAN	6,562	5	3	0	5	320	260,220	261,655	297,711	297,711	654		
KALKASKA TWP., 27N-8W, SECTIONS 21, 22, 28																			
KALKASKA 25-27N-8W	NIAGARAN REEF	1972	KALKASKA	6,491	114 D	NIAGARAN	7,000	1	1	0	1	160	1,454	1,454	30,194	30,194	9		
KALKASKA TWP., 27N-8W, SECTION 25																			
KALKASKA 28-27N-8W	NIAGARAN REEF	1971	KALKASKA	6,717	6 D	NIAGARAN	6,813	1	0	0	1	80	5,352	5,352			67	25	
KALKASKA TWP., 27N-8W, SECTION 28																			
KALKASKA 33-27N-8W	NIAGARAN REEF	1972	KALKASKA	6,620	15 D	NIAGARAN	6,754	1	1	0	1	160	461	461				3	
KALKASKA TWP., 27N-8W, SECTION 33																			
KAWKAWLIN	BEREA	1941	BAY	1,505	4 S	ST. PETER SS.	10,472	4	0	0	4	40	821	CUMULATIVE WITH DETROIT RIVER					
	DUNDEE	1938		2,830	45 L		320	0	4	288	6,400	150,185	CUMULATIVE WITH DETROIT RIVER		4,590		429		
	DETROIT RIVER	1939		3,515	5 D	42.0	9	0	0	8	280	13,131	14,474,190				2,153		
	SALINA	1941		7,760	16 D		1	ABANDONED 1946			40		NO RECORD						
MONITOR TWP., 14N-4E, SECTION 2 (SALINA) KAWKAWLIN TWP., 15N-4E, SECTIONS 26, 27, 28, 29, 33, 34, 35, 36 MONITOR TWP., 14N-4E, SECTIONS 1, 2, 3, 11, 12 BANGOR TWP., 15N-5E, SECTIONS 4, 5, 6, 7, 8, 9																			
KIMBALL LAKE	TRAVERSE	1947	NEWAYGO	2,332	6 L	ST. PETER SS.	6,689	106	0	0	3	2,120	1,039	6,226,176		2,123,116	2,937	1,680	
	REED CITY	1955		2,852	37 ?	39.2	2	0	0	1	20		GAS TO OPERATE TRAVERSE WELLS						
GARFIELD TWP., 12N-13W, SECTIONS 2, 10, 11, 12, 13, 14, 15, 24																			
LACOTA	TRAVERSE	1946	VAN BUREN	1,110	2 L	TRAVERSE	1,208	11	ABANDONED 1955			120		51,904				433	
GENEVA TWP., 15-16W, SECTIONS 9, 10																			
LAKEFIELD	DUNDEE	1937	SAGINAW	3,185	12 L	39.0	DUNDEE	3,197	1	0	0	1	10	469	28,642			2,864	
LAKEFIELD TWP., 11N-1E, SECTION 1																			
LAKE GEORGE	DUNDEE	1954	CLARE	3,968	2 L	43.8	DUNDEE	3,997	10	0	3	100	3,211	361,929				3,619	
LINGOLN TWP., 18N-5W, SECTION 6																			
LAKETON	TRAVERSE	1965	MUSKOGON	1,698	4 L	41.4	REED CITY	2,199	8	0	0	7	200	13,453	260,983			1,305	
	DUNDEE	1972		2,073	21 L			1	1	0	1								
LAKETON TWP., 10N-17W, SECTIONS 10, 15																			
LAKEVIEW	TRAVERSE	1961	MONTCALM	2,941	4 L	42.5	REED CITY	3,495	2	0	2	20	429	8,148				407	
CATO TWP., 12N-8W, SECTION 22																			
LARKIN	BEREA	1935	MIDLAND	2,473	4 S	39.0	DUNDEE	3,829	2	ABANDONED 1945		20		7,070				353	
LARKIN TWP., 15N-2E, SECTIONS 21, 32																			
LAWTON	TRAVERSE	1939	VAN BUREN	1,140	1 L	37.5	TRENTON	2,775	65	0	0	8	650	737	210,336			324	
PORTER TWP., 4S-13W, SECTIONS 5, 8, 17, 18, 19, 20 DECATUR TWP., 4S-14W, SECTION 24																			
LEATON	MICHIGAN STRAY	1935	ISABELLA	1,240	2 S		DUNDEE	3,710	5	ABANDONED 1940		400			185,609				
	DUNDEE	1929		3,657	7.5 L	43.0	DETROIT RIVER	4,390	40	0	0	2	500	5,437	1,767,967			3,536	
DENVER TWP., 15N-3W, SECTIONS 17, 19 (MICHIGAN STRAY) DENVER TWP., SECTIONS 19, 30, 31 ISABELLA TWP., 15N-4W, SECTIONS 24, 25 (DUNDEE)																			
LEBANON	TRAVERSE	1948	CLINTON	2,548	1 L		TRAVERSE	2,570	1	ABANDONED 1950		10		1,036				104	
LEBANON TWP., 8N-4W, SECTION 34																			
LEE	TRAVERSE	1941	ALLEGAN	1,170	1 L		TRAVERSE	1,207	6	ABANDONED 1952		60		3,030				51	
LEE TWP., 1N-15W, SECTIONS 18, 19 CASCO TWP., 1N-16W, SECTION 13																			
LEE 3-1S-5W	SALINA-NIAGARAN REEF	1972	CALHOUN	3,219	85 D		NIAGARAN	3,485	2	2	0	2	320		0	0			
LEE TWP., 1S-5W, SECTION 3																			
LEE 4-1S-5W	SALINA-NIAGARAN REEF	1972	CALHOUN	3,162	86 D		NIAGARAN	3,415	2	2	0	2	320		0	0			
LEE TWP., 1S-5W, SECTIONS 4, 9																			
LEE 12-1S-5W	NIAGARAN REEF	1972	CALHOUN	3,180	34 D		NIAGARAN	3,370	1	1	0	1	160		0	0			
LEE TWP., 1S-5W, SECTION 12																			
LEE 17-1S-5W	A-1 CARBONATE & NIAGARAN REEF	1972	CALHOUN	3,074	10 D	PRAIRIE DU CHIEN	4,896	1	1	0	1	160	512	512	GAS PRODUCTION INCLUDED WITH CAL-LEE		3		
LEE TWP., 1S-5W, SECTION 17																			
LEE, SEC. 33	TRAVERSE	1971	ALLEGAN	1,159	5 L		TRAVERSE	1,160	2	1	0	2	20	1,857	1,857			93	
LEE TWP., 1N-15W, SECTION 33																			
LEE, SOUTH	TRAVERSE	1949	ALLEGAN	1,171	1 L		TRENTON	2,960	12	ABANDONED 1953		120		91,117				759	
LEE TWP., 1N-15W, SECTION 31 CASCO TWP., 1N-16W, SECTION 36																			
LENOX	REFER TO TABLE 3 DEVELOPED GAS STORAGE RESERVOIRS																		
LEONARD	NIAGARAN REEF	1953	OAKLAND	4,245	21 D	CLINTON	4,450	8	0	0	8	320						SHUT-IN FOR MARKET	
ADDISON TWP., 5N-11E, SECTIONS 14, 15, 22																			
LEROY	REED CITY	1965	OSCEOLA	3,796	4 D	REED CITY	3,800	2	0	2	2	80	2,496	31,302				391	
LEROY TWP., 19N-10W, SECTION 27																			
LIME LAKE	PRAIRIE DU CHIEN	1960	HILLSDALE	3,461	5 D	44.6	PRAIRIE DU CHIEN	3,533	1	ABANDONED 1965		20		7,842				392	
WRIGHT TWP., 8S-1W, SECTION 11																			
LINCOLN, SEC. 18	TRAVERSE	1957	ARENAC	2,717	1 L		DUNDEE	3,062	2	0	0	2	20	128	3,269			163	
LINCOLN TWP., 18N-4E, SECTION 18																			
LINCOLN, SEC. 31	DUNDEE	1963	ARENAC	2,942	10 D	34.9	DUNDEE	2,986	1	ABANDONED 1968		10	COMBINED WITH SECTION 18 PRODUCTION						
LINCOLN TWP., 18N-4E, SECTION 31																			
LOGAN	RICHFIELD	1941	MASON	3,260	5 S		RICHFIELD	3,330	2	0	0	2	80					SHUT-IN 13,289	
LOGAN TWP., 17N-15W, SECTIONS 9, 16																			

POOL CLASSIFICATION				ACTIVE OIL FIELD OR POOL				ACTIVE GAS FIELD OR POOL				GAS-CONDENSATE FIELD OR POOL				GAS STORAGE RESERVOIR			
ABANDONED OIL FIELD OR POOL				ABANDONED GAS FIELD OR POOL				ABANDONED GAS-CONDENSATE FIELD OR POOL				UNDEVELOPED GAS STORAGE RESERVOIR							
FIELD NAME	PRODUCING FORMATION OR POOL	YEAR OF DISC.	COUNTY TOWNSHIP PRODUCING SECTIONS	PAY ZONE		DEEPEST FORMATION OR POOL TESTED	DEPTH IN FEET	NUMBER OF WELLS				OIL PRODUCTION-BBLS.		GAS PRODUCTION-McF.		RECOVERY PER ACRE DRILLED (BBLS.)	TOTAL BARRELS BRINE PER DAY		
				DEPTH IN FEET	THICKNESS AND LITHOLOGY			OIL GRAVITY A.P.I.	TO END	ABAND. IN	ACTIVE IN	AT END	DRILLED ACRES	PRODUCED IN 1972	CUMULATIVE THROUGH 1972			PRODUCED IN 1972	CUMULATIVE THROUGH 1972
LOGAN	WEIR	1949	OGEMAW	1,230	11 S	RICHFIELD	4,537												
	BEREA	1944		1,420	6 S			16	0	0	14	2,240			52,872	1,033,322			
LOGAN TWP., 22N-4E, SECTIONS 16, 17, 18, 20, 23, 25, 26 CHURCHILL TWP., 22N-5E, SECTIONS 1, 11, 12																			
LUCHT	TRAVERSE	1949	BAY	2,230	3 L	37.2	DUNDEE	3,240	5	0	0	1	50	692	194,008			3,882	
PINGCONG TWP., 17N-4E, SECTION 29																			
LUTHER	TRAVERSE	1965	LAKE	2,565	2 L	42.0	REED CITY	3,362	1	0	0	1	20	402	28,117			1,406	
NEWKIRK TWP., 19N-12W, SECTION 14																			
LUTHER, NORTH	REED CITY	1970	LAKE	3,518	17 0		REED CITY	3,556	4	1	0	4	160	1,704	6,936			43	
ELLSWORTH TWP., 19N-11W, SECTIONS 7, 8																			
LYNDON	TRAVERSE	1958	WASHTENAW-LIVINGSTON	1,311	6 D		TRENTON	5,008	6	0	0	6	960			0	375,600	DOMESTIC USE	
	DETROIT RIVER	1959		1,733	11 0									PRODUCTION COMBINED WITH TRAVERSE					
LYNDON TWP., 15-3E, SECTIONS 6, 7 UNADILLA TWP., 1N-3E, SECTION 31																			
MACON CREEK	TRENT.-BLK. RIVER	1961	LENAAEE	2,548	36.0		TRENT.-BLK. RIVER	3,303	1	0	0	1	40	0	1,062			27	
MACON TWP., 5S-5E, SECTION 23																			
MANCELONA 26-29N-5W	NIAGARAN REEF	1972	ANTRIM	6,499	61 D	40.7	NIAGARAN	6,850	1	1	0	1	80	402	402			5	
MANCELONA TWP., 29N-5W, SECTION 26																			
MANISTEE	SALINA	1959	MANISTEE	3,616	94 D		NIAGARAN	4,165	1	ABANDONED 1961		160						0	
FILER TWP., 21N-17W, SECTION 24																			
MAPLE VALLEY, SEC. 16	MICHIGAN STRAY	1958	MONTCALM	1,120	5 S		REED CITY	3,365	1	0	0	1	160					0	
MAPLE VALLEY TWP., 11N-9W, SECTION 16																			
MARATHON	BEREA	1955	LAPEER	1,449	18 S		RICHFIELD	3,172	4	0	0	4	40			0	34,773	DESIGNATED AS GAS RESERVOIR IN 1970	
	DETROIT RIVER SZ	1969		3,013	47 0									720	PRODUCTION COMBINED WITH RICHFIELD				
	RICHFIELD	1971		3,102	8 0									12	4	0	12	320	
MARATHON TWP., 9N-9E, SECTIONS 16, 17, 18, 21 (DETROIT RIVER SZ) SECTION 16 (BEREA) SECTION 18 (RICHFIELD)																			
MARINE CITY	SALINA-NIAGARAN	1955	ST. CLAIR	2,176	21 D	38.0	CLINTON	2,428	18	0	0	13	660	24,364	367,661	341,100	4,259,552	557	
COTTRELLVILLE TWP., 3N-16E, SECTIONS 2, 3, 10, 11, 15																			
MARINE CITY, SOUTH	SALINA-NIAGARAN	1962	ST. CLAIR	2,100	4 D	38.7	NIAGARAN	2,261	17	1	0	13	600	8,107	120,283			200	
	SALINA A-1 CARB.	1962		2,100	4 0													1,448,924	
COTTRELLVILLE TWP., 3N-16E, SECTIONS 14, 23, 26, 27																			
GAS WELLS COMBINED WITH OIL WELL TOTALS																			
MARION (WINTERFIELD)	REFER TO TABLE 3 DEVELOPED GAS STORAGE RESERVOIRS																		
MARNE	"BEREA"	1940	OTTAWA	1,170	3 L		TRAVERSE	1,904	2	ABANDONED 1946		20		6,253				313	
TALLMADGE TWP., 7N-13W, SECTION 5 WRIGHT TWP., 8N-13W, SECTION 32																			
MARSAC CREEK	SALINA-NIAGARAN REEF	1965	ST. CLAIR	2,450	190 D		CLINTON	2,903	5	0	0	5	200	0	1,681	363,327	3,196,041	10	
CASCO TWP., 4N-15E, SECTIONS 29, 30																			
MARTIN	TRAVERSE	1948	ALLEGAN	1,617	1 L	36.0	ST. PETER SS.	4,290	2	ABANDONED 1960		20		2,188				109	
MARTIN TWP., 2N-17W, SECTION 18																			
MARTINY	MICHIGAN STRAY	1934	MECOSTA	1,370	2 S		DETROIT RIVER	3,807	5	0	0	4	680		16,335	1,216,053			
MARTINY TWP., 15N-8W, SECTIONS 12, 22, 23																			
MAYFIELD 16-25N-11W	NIAG																		

POOL CLASSIFICATION		● ACTIVE OIL FIELD OR POOL	☀ ACTIVE GAS FIELD OR POOL	☀ GAS-CONDENSATE FIELD OR POOL	⊕ GAS STORAGE RESERVOIR												
		● ABANDONED OIL FIELD OR POOL	☀ ABANDONED GAS FIELD OR POOL	☀ ABANDONED GAS-CONDENSATE FIELD OR POOL	⊖ UNDEVELOPED GAS STORAGE RESERVOIR												
FIELD NAME	PRODUCING FORMATION OR POOL	YEAR OF DISC.	COUNTY TOWNSHIP PRODUCING SECTIONS	PAY ZONE DEPTH IN FEET THICKNESS AND LITHOLOGY OIL GRAVITY A.P.I.	DEEPEST FORMATION OR POOL TESTED	DEPTH IN FEET	NUMBER OF WELLS TO COMP. IN 1 9 7 2	DRILLED ACRES	OIL PRODUCTION-BBLS. PRODUCED IN 1972 CUMULATIVE THROUGH 1972	GAS PRODUCTION - Mcf. PRODUCED IN 1972 CUMULATIVE THROUGH 1972	RECOVERY PER ACRE DRILLED (BBLS.)	TOTAL BARRELS BRINE PER DAY					
MCNTAGUE	SALINA-NIAGARAN REEF	1953	MUSKEGON	3,734? 80 D	TRENTON	4,517	3	480		41,482							
MONTAGUE TWP., 12N-17W, SECTION 7 WHITE RIVER TWP., 12N-18W, SECTION 12																	
MCNTAGUE	TRVERSE	1938	ALLEGAN	1,618 3 L 37.6	CINCINNATI	3,266	99	1,030	1,273	1,011,674	982	3					
MONTAGUE TWP., 3N-13W, SECTIONS 2, 4, 8, 9, 10, 11, 14, 15, 16, 17, 18, 20, 21, 22, 23, 24, 27, 32, 36																	
MORTON	MICHIGAN STRAY	1946	MECOSTA	1,279 2 S	DUNDEE	3,691	2	0	0	118,377		DOMESTIC USE					
MORTON TWP., 14N-8W, SECTIONS 15, 22																	
MT. CLEMENS	SALINA	1961	MACOMB	2,590 18 D	CAMBRIAN ?	4,695	1	0	0	65	0	2					
MACOMB TWP., 3N-13E, SECTION 34 ORIGINALLY OIL WELL CONVERTED TO A DOMESTIC GAS WELL 1967																	
MT. FOREST	TRVERSE	1952	BAY	2,124 2 L 36.2	RICHFIELD	4,305	4	0	0	80		36					
	DUNDEE	1947		3,025 9 D 34.1		37	0	0	26	9,687	873,323	840					
PINCORNING TWP., 17N-4E, SECTIONS 18, 19 MT. FOREST TWP., 17N-3E, SECTIONS 13, 24																	
MT. FOREST, SEC. 1	DUNDEE	1946	BAY	2,960 2 L	DUNDEE	3,057	1	ABANDONED 1946	10	1,906		191					
MT. FOREST TWP., 17N-3E, SECTION 1																	
MT. MALEY	DUNDEE	1934	MIDLAND	3,477 3 D 39.6	DUNDEE	3,500	1	ABANDONED 1947	10	36,069		3,607					
MT. MALEY TWP., 13N-1E, SECTION 28																	
MT. PLEASANT	DUNDEE	1928	ISABELLA-MIDLAND	3,545 15 L 41.8	SYLVANIA	4,821	485	0	0	144	5,710	83,437	27,652,769	7,809,323	4,843	795	
THE 144 WELLS INCLUDE 140 DUNDEE, 1 TRVERSE AND 3 DUNDEE AND TRVERSE																	
MUSKEGON	TRVERSE-DUNDEE-DETROIT RIVER	1927	MUSKEGON	1,640 6 L 2,025	ST. PETER SS.	4,754	1	0	0	2	1,520		2,237,438	DOMESTIC USE & LEASE FUEL			
MUSKEGON TWP., 10N-16W, SECTIONS 4, 5, 6, 7, 8, 9, 15, 22 LAKETON TWP., 10N-17W, SECTION 12																	
MUSKEGON	TRVERSE & DUNDEE	1928	MUSKEGON	1,700 3.5 L 37.4	ST. PETER SS.	4,754	2	0	1	12	3,170	2,118	7,012,150	2,212	210		
MUSKEGON TWP., 10N-16W, SECTIONS 3 THROUGH 10, 15, 16, 17, 21, 22 LAKETON TWP., 10N-17W, SECTIONS 1, 11, 12, 13, 14																	
MUTTONVILLE	SALINA-NIAGARAN REEF	1966	MACOMB	2,576 19H D	CLINTON	3,039	7	0	0	7	280		309,966	7,937,674	12		
LENOX TWP., 4N-14E, SECTION 13																	
NELLSVILLE	DUNDEE	1957	ROSCOMMON	3,710 6 D 40.3	DETROIT RIVER	5,165	1	ABANDONED 1967	10	16,528		1,653					
	RICHFIELD	1956		4,932 17 D 42.2		1	ABANDONED 1967	40		10,912		273					
ROSCOMMON TWP., 22N-4W, SECTIONS 8, 17																	
NEWARK	MICHIGAN STRAY	1948	GRATIOT	979 5 S	DUNDEE	3,255	6	ABANDONED 1968	960			441,757					
NEW HAVEN TWP., 10N-4W, SECTIONS 23, 24, 25, 26																	
NEW BOSTON	TRENTON	1943	WAYNE	2,635 4 L	TRENTON	2,983	2	ABANDONED 1949	20	2,349		118					
MURON TWP., 4S-9E, SECTION 18																	
NEW LOTHROP	BEREA	1967	SHIWAASSEE-GENESE	1,623 4 S 46	SYLVANIA	3,494	19	0	1	15	680	7,889	81,825	120			
FLUSHING TWP., 8N-5E, SECTIONS 7, 8, 18 HAZELTON TWP., 8N-4E, SECTIONS 1, 12																	
NEW RICHMOND	TRVERSE	1965	ALLEGAN	1,364 1 L	TRVERSE	1,365	1	ABANDONED 1966	10	104		10					
MANLIUS TWP., 3N-15W, SECTION 16																	
NILES	TRVERSE	1940	BERRIEN	602 7 L 21.5	TRENTON	2,089	7	ABANDONED 1958	70	29,672		424					
NILES TWP., 7S-17W, SECTIONS 1, 2, 3																	
NORTH ALLIS 29-35N-2E (ONAWAY)	NIAGARAN REEF	1969	PRESQUE ISLE	2,727 10 D	PRECAMBRIAN	5,940	1	0	0	1	40	283	4,043	101			
NORTH ALLIS TWP., 35N-2E, SECTION 29																	
NORTH MORENCI	TRVERSE	1962	LENAE	638 2 D	PRAIRIE DU CHIEN	3,284	69	0	0	69	2,840	59	0	103,078	FIELD SHUT-IN NO MARKET		
SENECA TWP., 8S-2E, SECTIONS 10, 13, 14, 15, 16, 17, 19, 20, 21, 22, 23, 25, 27, 28, 29, 30 MEDINA TWP., 8S-1E, SECTIONS 24, 25, 35																	
NORTH PORTER	TRVERSE	1930	CASS	660 2 L 37.0	TRENTON	2,382	2	ABANDONED 1955	20	1,424		71					
PORTER TWP., 7S-13W, SECTION 32																	
NORTH STAR	MICHIGAN STRAY	1940	GRATIOT	870 7 S	DUNDEE	3,100	1	0	0	1	40	3,149	569,988				
NORTH STAR TWP., 10N-2W, SECTION 4																	
NORTHVILLE	DUNDEE	1948	WASHTENAW-WAYNE-DAKLAND	788 2 L	CAMBRO-ORDOVICIAN	5,850	4	ABANDONED 1961	640			0					
	SALINA-NIAGARAN	1937		2,905 2 D		6	1,200	FACILITY WELLS IN GAS STORAGE RESERVOIR									
	NIAGARAN	1960		3,515 25 D 42.5				PRODUCTION INCLUDED WITH TRENTON 3,794,518									
	TRENT.-BLK. RIVER	1954		4,395 70 D 39.8		4	2,835	9,888	1,040,969		14,332,358	367	20				
NIAGARAN OIL COMBINED WITH TRENTON-BLACK RIVER																	
SALEM TWP., 15-7E, SECTIONS 1, 2 LYON TWP., 1N-7E, SECTION 36 (DUNDEE) LYON TWP., 1N-7E, SECTIONS 34, 35, 36 SALEM TWP., 15-7E, SECTIONS 1, 2, 12 NORTHVILLE TWP., 15-8E, SECTIONS 7, 16, 17																	
PLYMOUTH TWP., 15-8E, SECTIONS 21, 22, 23, 25, 26 (SALINA-NIAGARAN AND TRENTON-BLACK RIVER)																	
NORTHVILLE	REFER TO TABLE 3 DEVELOPED GAS STORAGE RESERVOIRS CONVERTED TO GAS STORAGE AND SECONDARY RECOVERY JULY 2, 1968																
OLIVET	TRENT.-BLK. RIVER	1969	EATON	4,450 3 D	PRAIRIE DU CHIEN	5,020	1	ABANDONED 1971	20	0	340						
BELLEVUE TWP., 1N-16W, SECTION 24																	
ONONDAGA 10-1N-2W	NIAGARAN REEF	1971	INGHAM	3,784 40 D 38.4	PRAIRIE DU CHIEN	5,744	13	1	0	13	920	466,129	700,775	504,578	504,578	762	
ONONDAGA TWP., 1N-2W, SECTIONS 2, 3, 10, 11, 14																	
ONONDAGA 21-1N-2W	NIAGARAN REEF	1971	INGHAM	3,629 31 D 33.2	MANITOULIN	4,125	15	10	0	15	1,120	448,384	503,716	480,747	480,747	450	35
ONONDAGA TWP., 1N-2W, SECTIONS 15, 16, 17, 21, 22																	
ORIENT	REFER TO TABLE 3 DEVELOPED GAS STORAGE RESERVOIRS																
OTISVILLE	BEREA	1949	GENESE-TUSCOLA	1,446 5 S	DUNDEE	2,694	1	ABANDONED 1956	10	PRODUCTION COMBINED WITH DUNDEE							
	TRVERSE	1941		1,895 2 L		1	ABANDONED 1946	10	PRODUCTION COMBINED WITH DUNDEE								
	DUNDEE	1944		2,450 3 L 37.0		5	0	0	2	50	1,709	115,543		1,651	2		
FOREST TWP., 9N-8E, SECTIONS 5, 6 MILLINGTON TWP., 10N-8E, SECTIONS 31, 32 TRVERSE PRODUCTION IN FOREST TWP., SECTION 5																	

POOL CLASSIFICATION		● ACTIVE OIL FIELD OR POOL	☀ ACTIVE GAS FIELD OR POOL	☀ GAS-CONDENSATE FIELD OR POOL	⊕ GAS STORAGE RESERVOIR												
		● ABANDONED OIL FIELD OR POOL	☀ ABANDONED GAS FIELD OR POOL	☀ ABANDONED GAS-CONDENSATE FIELD OR POOL	⊖ UNDEVELOPED GAS STORAGE RESERVOIR												
FIELD NAME	PRODUCING FORMATION OR POOL	YEAR OF DISC.	COUNTY TOWNSHIP PRODUCING SECTIONS	PAY ZONE DEPTH IN FEET THICKNESS AND LITHOLOGY OIL GRAVITY A.P.I.	DEEPEST FORMATION OR POOL TESTED	DEPTH IN FEET	NUMBER OF WELLS TO COMP. IN 1 9 7 2	DRILLED ACRES	OIL PRODUCTION-BBLS. PRODUCED IN 1972 CUMULATIVE THROUGH 1972	GAS PRODUCTION - Mcf. PRODUCED IN 1972 CUMULATIVE THROUGH 1972	RECOVERY PER ACRE DRILLED (BBLS.)	TOTAL BARRELS BRINE PER DAY					
OTSEGO	TRVERSE	1938	ALLEGAN	1,532 1 L	TRVERSE	1,600	7	ABANDONED 1972	110	0	2,290	21					
OTSEGO TWP., 1N-12W, SECTIONS 19, 30 TROUBRIDGE TWP., 1N-13W, SECTION 36																	
OTSEGO	ANTRIM	1940	OTSEGO	1,385 4 SH	DUNDEE	3,944	9	0	0	3	840	48,831	488,311				
BAGLEY TWP., 30N-3W, SECTIONS 21, 22, 27, 28, 34																	
OTSEGO, SEC. 9	TRVERSE	1950	ALLEGAN	1,456 1 L	TRVERSE	1,457	4	ABANDONED 1951	40		681	17					
OTSEGO TWP., 1N-12W, SECTIONS 5, 8, 9																	
REACTIVATED BRIEFLY IN 1958																	
OTSEGO LAKE 3-29N-3W	SALINA-NIAGARAN REEF	1971	OTSEGO	6,272 122 D	NIAGARAN	6,860	2	1	0	2	120	102,487	163,397	44,856	68,616	1,362	
OTSEGO LAKE TWP., 29N-3W, SECTIONS 3, 10																	
OTTER LAKE	BEREA	1945	GENESE	1,502 4 S 35.5	DETROIT RIVER	3,142	10	0	0	6	110	CUMULATIVE THROUGH 1972 COMBINED WITH OTISVILLE DUNDEE					
	DETROIT RIVER S2	1970		2,968 10 D		10	0	0	10	400	40,333	113,449	222	19			
FOREST TWP., 9N-8E, SECTION 12 (BEREA) SECTIONS 11, 12 (DETROIT RIVER S2)																	
OTTO, SEC. 30	"BEREA"	1958	OCEANA	1,428 9 S	TRVERSE	1,860	2	ABANDONED 1960	10	COMBINED WITH OTTO SECTION 32							
	TRVERSE	1955		1,857 3 L		1	ABANDONED 1960	20	COMBINED WITH OTTO SECTION 32								
OTTO TWP., 13N-16W, SECTIONS 19, 30																	
OTTO, SEC. 32	"BEREA"	1950	OCEANA	1,445 1 L	TRVERSE	1,895	2	0	0	2	10	0	4,508	108			
OTTO TWP., 13N-16W, SECTION 32																	
OVERISEL	TRVERSE	1938	ALLEGAN	1,478 3 L 42.1	TRENTON	4,060	164	0	0	27	1,770	4,544	2,941,158	1,662	95		
OVERISEL TWP., 4N-14W, SECTIONS 5, 8, 9, 15, 16, 21, 22, 27, 28, 34 HEATH TWP., 3N-14W, SECTIONS 3, 4, 9, 10																	
OVERISEL	REFER TO TABLE 3 DEVELOPED GAS STORAGE RESERVOIRS																
OVERISEL, SEC. 11	TRVERSE	1940	ALLEGAN	1,553 4 L	TRVERSE	1,578	1	ABANDONED 1944	10		6,370	637					
OVERISEL TWP., 4N-14W, SECTION 11																	
OXBOW	TRVERSE	1958	MASON	1,652 1 L 35.4	REED CITY	2,354	4	0	0	2	40	239	87,793	2,195	34		
RIVERTON TWP., 17N-17W, SECTIONS 26, 27																	
PARADISE	TRVERSE	1965	GRAND TRVERSE	1,889 8 L	DUNDEE	1,897	3	0	0	3	400	0	SHUT-IN FOR MARKET				
PARADISE TWP., 25N-10W, SECTIONS 9, 16																	
PARIS	MICHIGAN STRAY	1951	MECOSTA	1,217 5 S	REED CITY	3,545	2	0	0	1	560		375,564	DOMESTIC USE			
	TRVERSE	1949		2,890 10 D 43.6		22	0	0	12	440	10,731	1,250,243	2,841	811			
	DUNDEE	1949		3,404 5 L		2	ABANDONED 1959	20			268,667						
GREEN TWP., 16N-10W, SECTIONS 16, 21, 22, 27, 28																	
PARTELLO	REFER TO TABLE 3 DEVELOPED GAS STORAGE RESERVOIRS																
PAW PAW	TRVERSE	1963	VAN BUREN	1,096 2 L 41.4	TRVERSE	1,098	8	0	1	2	160	120	20,209	126			
PAW PAW TWP., 3S-14W, SECTIONS 2, 10, 11, 15																	
PAW PAW, SEC. 33	TRVERSE	1964	VAN BUREN	1,028 1 L 38.0	TRVERSE	1,032	1	ABANDONED 1972	10	0	0						
PAW PAW TWP., 3S-14W, SECTION 33																	
PEACOCK	TRVERSE	1966	LAKE	2,292 2 L 34.0	REED CITY	3,047	27	0	0	24	1,060	130,744	762,547	719	1,590		
	REED CITY	1966		3,001 4 D		1	0	0	1	40	565	4,339	108				
PEACOCK TWP., 19N-17W, SECTIONS 7, 8, 9, 16, 17, 18																	
PECKS LAKE	DUNDEE	1967	OSCEOLA	3,866 2 L	REED CITY	3,854	1	ABANDONED 1969	40		2,885	72					
EVART TWP., 17N-8W, SECTION 18																	
PENTWATER	TRVERSE	1948	OCEANA-MASON	1,585 8 L 40.4	PRAIRIE DU CHIEN	5,383	143	0	0	57	1,400	12,619	CUMULATIVE PRODUCTION COMBINED WITH DUNDEE				
	DUNDEE	1948		2,088 10 D 43.1		2,000	7,098	6,650,048	1,010,713	1,956	570						
THE 57 WELLS INCLUDE 25 TRVERSE, 13 DUNDEE AND 19 DUNDEE AND TRVERSE																	
PENTWATER LAKE	TRVERSE	1969	OCEANA	1,612 2 L	NIAGARAN	4,078	3	0	0	3	120	10,658	71,872	599	60		
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																	
PETERS	SALINA-NIAGARAN REEF	1955	ST. CLAIR	2,386 47 D 39.0	CLINTON	2,842	89	0	1	75	1,780	175,493	4,643,560	813,789	15,322,293	2,170	324
CASCO TWP., 4N-15E, SECTIONS 5/8 15, 32K 16, 22, 23, 26, 27, 28, 29, 33, 34																	
PETERS, EAST	SALINA-NIAGARAN REEF	1961	ST. CLAIR	2,590 17 D 41.6	CLINTON	2,777	9	0	0	8	360	PRODUCTION COMBINED WITH PETERS					
CASCO TWP., 4N-15E, SECTIONS 24, 25 CHINA TWP., 4N-16E, SECTION 19																	
PINCORNING	TRVERSE	1958	BAY	2,151 1 L	DETROIT RIVER	3,790	1	ABANDONED 1960	10	PRODUCTION COMBINED WITH PINCORNING DUNDEE							

POOL CLASSIFICATION				● ACTIVE OIL FIELD OR POOL		☀ ACTIVE GAS FIELD OR POOL		☀ GAS-CONDENSATE FIELD OR POOL		⊕ GAS STORAGE RESERVOIR		● ABANDONED OIL FIELD OR POOL		☀ ABANDONED GAS FIELD OR POOL		☀ ABANDONED GAS-CONDENSATE FIELD OR POOL		⊖ UNDEVELOPED GAS STORAGE RESERVOIR	
FIELD NAME	PRODUCING FORMATION OR POOL	YEAR OF DISC.	COUNTY TOWNSHIP	PAY ZONE			DEEPEST FORMATION OR POOL TESTED	DEPTH IN FEET	NUMBER OF WELLS			DRILLED ACRES	OIL PRODUCTION - BBLs.		GAS PRODUCTION - Mcf.		RECOVERY PER ACRE DRILLED (BBLs.)	TOTAL BARRELS PER ACRE PER DAY	
				DEPTH IN FEET	THICKNESS AND LITHOLOGY	OIL GRAVITY A.P.F. 1.			TO COMP. IN	ABAND. IN	ACTIVE AT END		PRODUCED IN 1972	CUMULATIVE THROUGH 1972	PRODUCED IN 1972	CUMULATIVE THROUGH 1972			
PORTER	DUNDEE	1933	MIDLAND	3,415	12 L	40.6	BLACK RIVER	9,519	529	0	132	6,690	104,866	49,355,205	0	4,992,995	7,377	5,989	
THE 132 WELLS INCLUDE 128 DUNDEE, 1 TRAVERSE, AND 3 DUNDEE AND TRAVERSE																			
PORTER TWP., 13N-14W, SECTIONS 7, 8, 9, 10, 14 THROUGH 25, 26, 27, 28 JASPER TWP., 13N-24W, SECTIONS 1, 2, 3, 11, 12 GREENDALE TWP., 14N-24W, SECTIONS 34, 35																			
PORT HURON	DUNDEE	1886	ST. CLAIR	575	20 L		CAMBRIAN	4,948	21	ABANDONED 1921	EST. 15								
FT. GRATIOT TWP., 7N-17E, SECTION 32																			
PORT HURON 33-7N-17E	NIAGARAN REEF	1971	ST. CLAIR	3,160	10 0		NIAGARAN	3,185	1	0	0	1	160		2,944	2,944			
PORT HURON TWP., 7N-17E, SECTION 33																			
PROSPER	MICHIGAN STRAY	1948	MISSAUKEE	1,269	6 S		RICHFIELD	5,254	3	0	0	2	480			152,882			LEASE FUEL
AETNA TWP., 22N-6W, SECTIONS 34, 35 CLAM UNION TWP., 21N-6W, SECTION 2																			
PROSPER	DUNDEE	1942	MISSAUKEE	3,837	4 L	43.2	RICHFIELD	5,254	13	0	0	6	520	9,837	1,751,690		3,369	2,150	
PROSPER	RICHFIELD	1954		5,128	21 0				1	ABANDONED 1957		40		7,088			177		
AETNA TWP., 22N-6W, SECTIONS 26, 35																			
PROSPER, SOUTH	DUNDEE	1967	MISSAUKEE	3,798	8 0		DUNDEE	3,808	7	0	0	7	280	97,068	541,051		1,932	976	
AETNA TWP., 22N-6W, SECTION 36 CLAM UNION TWP., 21N-6W, SECTIONS 1, 2																			
PULLMAN	TRAVERSE	1949	ALLEGAN	1,185	1 L		BASS ISLANDS	1,942	9	ABANDONED 1951		90		26,840				298	
CASCO TWP., 1N-16W, SECTIONS 11, 12																			
PULLMAN, EAST	TRAVERSE	1949	ALLEGAN	1,131	2 L	39.0	TRENTON	3,020	25	0	0	12	250	2,890	382,795		1,531	167	
PUTTYGUT	REFER TO TABLE 3 DEVELOPED GAS STORAGE RESERVOIRS																		
RABBIT RIVER	TRAVERSE	1950	ALLEGAN	7,655	3 L		TRAVERSE	1,678	8	ABANDONED 1959		80		12,745				159	
SALEM TWP., 4N-13W, SECTIONS 28, 29, 32, 33																			
RAPID RIVER 17-28N-7W	TRAVERSE	1972	KALKASKA	1,521	10 L		NIAGARAN	6,351	1	1	0	1	40	0	0				SHUT-IN
RAPID RIVER TWP., 28N-7W, SECTION 17																			
RAPID RIVER 24-28N-7W (RAPID RIVER)	NIAGARAN REEF	1970	KALKASKA	6,590	44 0	50	NIAGARAN	6,810	5	0	0	5	400	130,079	172,237	996,276	1,310,709	431	
RAPID RIVER TWP., 28N-7W, SECTIONS 24, 25, 26																			
RAPID RIVER 24-28N-7W POOL A	NIAGARAN REEF	1972	KALKASKA	6,407	20 0	42.3	NIAGARAN	6,805	1	1	0	1	80	207	207				3
RAPID RIVER TWP., 28N-7W, SECTION 24																			
RAPID RIVER 27-28N-7W	NIAGARAN REEF	1972	KALKASKA	6,487	29 0	47.2	NIAGARAN	6,850	1	1	0	1	40	3,286	3,286	17,475	17,475	82	
RAPID RIVER TWP., 28N-7W, SECTION 27																			
RAPID RIVER 27-28N-7W POOL A	NIAGARAN REEF	1972	KALKASKA	6,552	8 0	44	NIAGARAN	6,773	2	2	0	2	160	4,576	4,576				29
RAPID RIVER TWP., 28N-7W, SECTION 27																			
RAVENNA	"BEREA"	1936	MUSKEGON	1,205	10 0		DUNDEE	2,306	31	0	0	5	4,480			1,432,593			DOMESTIC USE
RAVENNA TWP., 9N-14W, SECTIONS 4, 5, 6, 7, 8, 9, 17 SULLIVAN TWP., 9N-15W, SECTION 12 MOORLAND TWP., 10N-14W, SECTIONS 32, 33																			
RAVENNA	TRAVERSE	1952	MUSKEGON	1,842	15 L		DETROIT RIVER	2,601	37	0	0	2	730	0	459,090				629
RAVENNA TWP., 9N-14W, SECTIONS 21, 27, 28, 29, 30, 31 SULLIVAN TWP., 9N-15W, SECTIONS 25, 36																			
RAVENNA, SEC. 27	"BEREA"	1953	MUSKEGON	1,182	6 0		DUNDEE	2,500	3	0	0	2	480				32,243		DOMESTIC USE
RAVENNA TWP., 9N-14W, SECTIONS 22, 27, 28																			
RAY	REFER TO TABLE 3 DEVELOPED GAS STORAGE RESERVOIRS																		
READING	TRENTON	1971	HILLSDALE	3,100	10 0	42	BLACK RIVER	3,478	2	0	0	2	80	1,188	4,851				61 190
READING TWP., 7S-4W, SECTION 29																			
REDDING	MICHIGAN STRAY	1940	CLARE	1,475	3 S		SYLVANIA	5,462	1	0	0	5	160			32,692			LEASE FUEL
REDDING TWP., 19N-6W, SECTIONS 27, 32 FREEMAN TWP., 18N-6W, SECTION 2																			
REED CITY	TRAVERSE	1941	LAKE-OSCEOLA	2,925	5 L	43.7	ST. PETER SS.	8,917			10	1,600	2,375	3,653,485		388,638	2,283	513	
REED CITY	DUNDEE	1940		3,490	3 L	46.3										16,257,876			
REED CITY	1941			3,585	7 0	42.8	(LOREED UNIT-SEE TABLE 7)		172	5,320	325,720	41,247,873				7,753	3,519		
REED CITY	DETROIT RIVER S2	1955		4,184	73 DL	48.2		45	0	2	24	1,800	113,439	2,133,017	0	3,476,188	1,185	60	
REED CITY	RICHFIELD	1954		4,633	12 SL	45.8													
(TWO WELLS COMINGLED WITH SOUR ZONE)																			
LINCOLN TWP., 18N-10W, SECTIONS 17, 18, 19, 20, 29, 30, 31, 32 RICHMOND TWP., 17N-10W, SECTIONS 4 THROUGH 9 PINORA TWP., 18N-11W, SECTIONS 24, 25, 36																			
REED CITY (STRAY)	REFER TO TABLE 3 DEVELOPED GAS STORAGE RESERVOIRS																		
REED CITY (LOREED)	REFER TO TABLE 3 DEVELOPED GAS STORAGE RESERVOIRS																		
REED CITY, EAST	TRAVERSE	1947	OSCEOLA	3,106	1 L	41.2	DETROIT RIVER	3,840	8	0	0	3	80	2,974	393,191		18,569	4,915	400
LINCOLN TWP., 18N-10W, SECTION 26																			
REEDER	MICHIGAN STRAY	1964	MISSAUKEE	1,385	4 S		DUNDEE	4,002	2	ABANDONED 1966		320							0
REEDER TWP., 22N-7W, SECTION 32																			
REEMAN	TRAVERSE	1958	NEWAYGO	2,099	1 L		TRAVERSE	2,100	3	ABANDONED 1967		30		44,886				1,500	
SHERIDAN TWP., 12N-14W, SECTION 8																			
REYNOLDS	TRAVERSE	1955	MONTCALM-MECOSTA	2,787	4 0	39.8	BASS ISLANDS	4,300	16	0	0	6	110	14,315	CUMULATIVE PRODUCTION COMBINED WITH REED CITY				515
REYNOLDS	REED CITY	1954		3,343	2 0	44.3		53	0	0	17	2,100	26,009	4,525,899		408,555	2,048	1,027	
REYNOLDS TWP., 12N-10W, SECTIONS 1, 2, 12, 13 WINFIELD TWP., 12N-9W, SECTIONS 6, 7, 8, 17, 18 AETNA TWP., 13N-10W, SECTION 36																			
RICH	BEREA	1970	LAPEER	1,380	29 S		SYLVANIA	3,267	2	0	0	2	320		7,575				
RICH	DETROIT RIVER S2	1962		3,028	5 0	33.9		19	1	0	19	760	66,549	513,864	39,356	243,200	676	79	
RICH TWP., 10N-10E, SECTIONS 21, 22 (BEREA), SECTIONS 27, 28, 34, 35 (DETROIT RIVER S2)																			
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																			

POOL CLASSIFICATION				● ACTIVE OIL FIELD OR POOL		☀ ACTIVE GAS FIELD OR POOL		☀ GAS-CONDENSATE FIELD OR POOL		⊕ GAS STORAGE RESERVOIR		● ABANDONED OIL FIELD OR POOL		☀ ABANDONED GAS FIELD OR POOL		☀ ABANDONED GAS-CONDENSATE FIELD OR POOL		⊖ UNDEVELOPED GAS STORAGE RESERVOIR	
FIELD NAME	PRODUCING FORMATION OR POOL	YEAR OF DISC.	COUNTY TOWNSHIP	PAY ZONE			DEEPEST FORMATION OR POOL TESTED	DEPTH IN FEET	NUMBER OF WELLS			DRILLED ACRES	OIL PRODUCTION - BBLs.		GAS PRODUCTION - Mcf.		RECOVERY PER ACRE DRILLED (BBLs.)	TOTAL BARRELS PER ACRE PER DAY	
				DEPTH IN FEET	THICKNESS AND LITHOLOGY	OIL GRAVITY A.P.F. 1.			TO COMP. IN	ABAND. IN	ACTIVE AT END		PRODUCED IN 1972	CUMULATIVE THROUGH 1972	PRODUCED IN 1972	CUMULATIVE THROUGH 1972			
RICHLAND, SEC. 27	MICHIGAN STRAY	1963	MONTCALM	1,247	1 S		DUNDEE	3,530	1	ABANDONED 1964		160							0
RICHLAND TWP., 12N-5W, SECTION 27																			
RICHMOND	NIAGARAN REEF	1968	MACOMB	3,195	12 0		NIAGARAN	3,254	1	0	0	1	40			41,563	142,372		
RICHMOND TWP., 5N-14E, SECTION 26																			
RIDGEWAY, SEC. 1	TRENTON	1954	LENAAVEE	2,415	4 0		TRENTON	2,491	1	ABANDONED 1962		10							5
RIDGEWAY TWP., 6S-5E, SECTION 1																			
RIVERSIDE	TRAVERSE	1961	MISSAUKEE	3,220	2 L	42.6	DUNDEE	3,953	1	0	0	1	10	0	16,914				1,691
RIVERSIDE	DUNDEE	1942		3,944	3 L	44.5			3	0	0	3	100	2,481	124,664				1,247
RIVERSIDE TWP., 21N-7W, SECTIONS 14, 23, 24																			
RIVERSIDE	REFER TO TABLE 3 DEVELOPED GAS STORAGE RESERVOIRS																		
RIVERTON	TRAVERSE	1957	MASON	1,650	6 L	38.5	DUNDEE	2,317	19	ABANDONED 1971		190			242,206				1,275
RIVERTON TWP., 17N-17W, SECTIONS 10, 11, 15																			
RIVERTON, SEC. 21	TRAVERSE	1964	MASON	1,683	4 L	38.2	DUNDEE	2,290	3	0	0	3	30	781	13,959				465 4
RIVERTON TWP., 17N-17W, SECTION 21																			
ROBINSON, SEC. 3	DUNDEE	1956	OTTAWA	2,107	7 L		DUNDEE	2,210	2	ABANDONED 1972		20		0	10,630				532
ROBINSON TWP., 7N-15W, SECTION 3																			
ROCKFORD	TRAVERSE	1945	KENT	2,204	3 L	44.0	DETROIT RIVER	2,850	23	0	0	3	210	4,064	545,064				2,596 445
ALGOMA TWP., 9N-11W, SECTIONS 25, 25, 36 COURTLAND TWP., 9N-10W, SECTION 19																			
ROMEO	NIAGARAN REEF	1965	MACOMB	3,290	1 0		CLINTON	3,686	1	0	0	1	40			1,173,223	3,165,077		1
WASHINGTON TWP., 4N-12E, SECTION 11																			
ROMULUS	SALINA A-1 CARB.	1955	WAYNE	1,980	20 0		NIAGARAN	2,259	2	ABANDONED 1972		320			0	45,045			
ROMULUS TWP., 3S-9E, SECTIONS 15, 16																			
ROSEBUSH	DUNDEE	1933	ISABELLA	3,690	6 L	42.0	RICHFIELD	4,838	46	0	0	38	1,020						525
ROSEBUSH	RICHFIELD	1969		4,790	4 0		(TWO WELLS COMINGLED WITH DUNDEE)					80		31,914	2,191,281				1,992
ISABELLA TWP., 15N-4W, SECTIONS 1, 2, 11, 12, 13 DENVER TWP., 15N-3W, SECTIONS 7, 18 VERNON TWP., 16N-4W, SECTION 36																			
ROSE CITY	RICHFIELD	1942	OGEMAW	4,125	9 0	41.2	CAMBRIAN	12,996	131	0	0	68	5,120	221,596	5,784,529	259,935	7,934,746	1,130	60
FOSTER TWP., 24N-1E, SECTIONS 14, 20, 21, 23, 24, 25 FOSTER TWP., 24N-2E, SECTIONS 19, 20, 21, 28, 29, 30, 31, 32, 35 KILACKING TWP., 23N-2E, SECTIONS 2, 3, 11																			
ROSE LAKE	TRAVERSE	1943	OSCEOLA	3,140	5 L	45.5	DETROIT RIVER	3,990	18	0	0	6	720	17,810	1,817,702				2,525 910
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																			

POOL CLASSIFICATION				● ACTIVE OIL FIELD OR POOL		☀ ACTIVE GAS FIELD OR POOL		☀ GAS-CONDENSATE FIELD OR POOL		⊕ GAS STORAGE RESERVOIR									
POOL CLASSIFICATION				● ABANDONED OIL FIELD OR POOL		☀ ABANDONED GAS FIELD OR POOL		☀ ABANDONED GAS-CONDENSATE FIELD OR POOL		⊖ UNDEVELOPED GAS STORAGE RESERVOIR									
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				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	DRILLED ACRES	PRODUCED IN 1972	CUMULATIVE THROUGH 1972			PRODUCED IN 1972	CUMULATIVE THROUGH 1972
SKELLS	TRAVERSE	1955	CLARE-GLADWIN	3,102	6 L	38.4	SYLVANIA	6,016	4	0	0	2	40	286	44,463		1,112	1	
	DUNDEE	1950		3,840	7 D	39.6			5	0	0	4	50	4,010	971,626		19,433		
	DETROIT RIVER SZ	1942		4,844	4 D	47.4			31	0	0	25	40	24,345	1,187,142		927		
	RICHFIELD	1953		5,080	17 D	44.8								1,240					
SHERMAN TWP., 20N-2W, SECTIONS 30, 31 FRANKLIN TWP., 20N-3W, SECTIONS 25, 36																			
SOUTH BOARDMAN UNIT	NIAGARAN REEF POOL A	1971	KALKASKA	6,616	110 D		CLINTON	6,990	1	0	0	1	160						
	NIAGARAN REEF POOL B	1971		6,778	38 D	65.7			1	0	0	1	160						
	NIAGARAN REEF POOL C	1972		6,450	290 D				1	1	0	1	160	367 BBLs. CONDENSATE	577 BBLs. CONDENSATE			PRODUCTION FOR POOLS A, B & C ARE COMBINED	
BOARDMAN TWP., 26N-8W, SECTIONS 4, 5																			
SOUTH BRANCH	RICHFIELD	1968	CRAWFORD	4,203	12 D		DETROIT RIVER	4,436	1	ABANDONED 1971			40						
SOUTH BRANCH TWP., 25N-1W, SECTION 32																			
SPRINGDALE 25-2W-14W	NIAGARAN REEF	1972	MANISTEE	5,006	71 D			5,448	1	1	0	1	160					SHUT-IN	
SPRINGDALE TWP., 24N-14W, SECTION 25																			
SPRINGPORT	TRENT-BLK. RIVER	1960	JACKSON	4,694	12+ D	46.5	PRAIRIE DU CHIEN	5,250	2	ABANDONED 1970			80		3,430			43	
SPRINGPORT TWP., 15-3W, SECTIONS 11, 14																			
ST. CHARLES	TRAVERSE	1957	SAGINAW	2,305	3 L	51.6	TRAVERSE	2,308	1	ABANDONED 1967			10		13,250			1,325	
ST. CHARLES TWP., 10N-5E, SECTION 26																			
ST. CLAIR, SEC. 18	SALINA-NIAGARAN	1953	ST. CLAIR	2,567	2 D		CINCINNATIAN	3,240	1	ABANDONED 1961			160					16,101	
ST. CLAIR TWP., 5N-17E, SECTION 18																			
ST. HELEN	RICHFIELD	1941	ROSCOMON	4,180	11 D	43.3	SALINA	5,440	99	0	0	54	3,960	179,379	4,410,101	284,485	9,763,073	1,114	111
AU SABLE TWP., 24N-1W, SECTIONS 10, 14, 15, 16, 17, 19 THROUGH 30, 32																			
ST. MARY'S LAKE	TRAVERSE	1968	MASON	1,641	3 L		TRAVERSE	1,644	2	0	0	2	40	8,421	19,446				486
RIVERTON TWP., 17N-17W, SECTION 35																			
STANDISH	RICHFIELD	1948	ARENAC	4,108	3 D	35.4	RICHFIELD	4,210	9	ABANDONED 1967			360		147,062				409
LINCOLN TWP., 18N-4E, SECTIONS 10, 11, 15																			
STANTON	TRAVERSE	1951	MONTICM	2,916	7 DL	43.0	DUNDEE	3,492	17	0	2	9	340	8,837	951,099				2,797
DOUGLASS TWP., 11N-2W, SECTIONS 26, 27, 34, 35																			
STARRVILLE	NIAGARAN REEF	1967	ST. CLAIR	2,336	5 D		NIAGARAN	2,396	3	0	0	3	120	8,603	104,258				869
COTTRELLVILLE TWP., 3N-16E, SECTION 9																			
STERLING	TRAVERSE	1948	ARENAC	1,970	5 L	36.2	RICHFIELD	4,285	22	0	0	16	220	3,625	262,828				1,195
	DUNDEE	1947		2,872	17 L	33.6			20	0	0	18	200	7,251	408,871				2,044
	DETROIT RIVER SZ	1952		3,918	5 D	41.1			41	0	0	35	1,600	40,914	1,660,577				1,038
	RICHFIELD	1950		4,153	8 D	37.6													2
THE 35 WELLS INCLUDE 13 RICHFIELD, 13 SOUR ZONE AND 9 RICHFIELD AND SOUR ZONE																			
DEEP RIVER TWP., 19N-4E, SECTIONS 9, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23																			
STOCKBRIDGE 6-1N-2E	A-1 CARBONATE	1972	INGHAM	3,960	12 D	33.6	CLINTON	4,471	1	1	0	1	80	1,391	1,391				17
TO PLUG																			
STOCKBRIDGE TWP., 7N-2E, SECTION 6																			
STONY LAKE	"BEREA"	1949	OCEANA	930	1 SL	48.0	NIAGARAN	3,837	2	ABANDONED 1965									PRODUCTION COMBINED WITH STONY LAKE TRAVERSE
	TRAVERSE	1946		1,630	19 L	44.9			78	0	0	15	1,540	10,749	7,542,616				4,898
CLAYBANKS TWP., 13N-18W, SECTIONS 9, 10, 11, 14, 15, 16																			
SUMMERFIELD	TRENT-BLK. RIVER	1958	MORNOE-LENAXE	1,940	10 DL		TRENT-BLK. RIVER	2,382	2	ABANDONED 1964			20		2,142				107
SUMMERFIELD TWP., 7S-6E, SECTION 30 OBERFIELD TWP., 7S-5E, SECTION 24																			
SUMNER	TRAVERSE	1953	GRATIOT	2,853	1 L	44.5	DUNDEE	3,366	35	0	0	18	350	2,683	1,081,350				3,090
SUMNER TWP., 11N-4W, SECTIONS 11, 12																			
SURREY	MICHIGAN STRAY	1945	CLARE	1,460	3 S		DUNDEE	4,000	2	0	0	2	320						12,667
DOMESTIC USE																			
SURREY TWP., 17N-5W, SECTIONS 23, 24																			
REFER TO TABLE 3 DEVELOPED GAS STORAGE RESERVOIRS																			
SYLVAN	MICHIGAN STRAY	1941	OSCEOLA	1,525	10 S		DETROIT RIVER	4,100	1	ABANDONED 1953			40						80,714
	DUNDEE	1948		3,925	13.7 D	48.0			11	0	0	2	440	1,185	1,190,061				2,705
SYLVAN TWP., 18N-2W, SECTION 7 (MICHIGAN STRAY) SECTIONS 8, 9, 16 (DUNDEE)																			
TAYMOUTH	TRAVERSE	1957	SAGINAW	2,085	6 L		TRAVERSE	2,135	1	0	0	1	160						318
TAYMOUTH TWP., 10N-5E, SECTION 11																			
TEKONSHA	TRENTON	1959	CALHOUN	3,553	7 DL	34.9	PRAIRIE DU CHIEN	4,147	2	ABANDONED 1969			30		18,785				626
TEKONSHA TWP., 4S-6W, SECTION 17																			
THOMPSON CORNERS	TRAVERSE	1968	NEWAYGO	2,138	2 L		TRAVERSE	2,140	1	0	0	1	40		9,394				234
BEAVER TWP., 15N-14W, SECTION 30																			
THORNAPPLE, SEC. 4	TRAVERSE	1952	BARRY	1,951	2 L		TRAVERSE	1,973	2	ABANDONED 1961			20		2,716				136
THORNAPPLE TWP., 4N-10W, SECTIONS 3, 4																			
TRENT	TRAVERSE	1949	MUSKEGON	2,039	1 L		TRAVERSE	2,118	2	ABANDONED 1969			40		30,771				769
CASNOVIA TWP., 10N-13W, SECTION 19																			
TROWBRIDGE	TRAVERSE	1937	ALLEGAN	1,358	2 L	41.2	CINCINNATIAN	2,952	762	0	0	7	1,840	2,712	520,274				283
TROWBRIDGE TWP., 1N-13W, SECTIONS 1, 3 THROUGH 10, 12, 13, 15 THROUGH 23, 27, 28, 29, 30, 31, 32 OTSEGO TWP., 1N-12W, SECTIONS 7, 18																			
TURK LAKE	MICHIGAN STRAY	1947	MONTICM	1,081	4 S		DETROIT RIVER	3,413	4	0	0	2	640						217,584
DOMESTIC USE																			
MONTICM TWP., 10N-8W, SECTIONS 9, 10, 14																			
TYNNE	TRAVERSE	1952	KENT	2,379	2 L		DETROIT RIVER	2,900	7	ABANDONED 1956			140		31,558				225
TYNNE TWP., 10N-12W, SECTIONS 10, 11, 14																			

POOL CLASSIFICATION				● ACTIVE OIL FIELD OR POOL		☀ ACTIVE GAS FIELD OR POOL		☀ GAS-CONDENSATE FIELD OR POOL		⊕ GAS STORAGE RESERVOIR									
POOL CLASSIFICATION				● ABANDONED OIL FIELD OR POOL		☀ ABANDONED GAS FIELD OR POOL		☀ ABANDONED GAS-CONDENSATE FIELD OR POOL		⊖ UNDEVELOPED GAS STORAGE RESERVOIR									
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				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	DRILLED ACRES	PRODUCED IN 1972	CUMULATIVE THROUGH 1972			PRODUCED IN 1972	CUMULATIVE THROUGH 1972
UNION	TRAVERSE	1950	ISABELLA	3,191	2 L		DETROIT RIVER	4,096	1	ABANDONED 1963			20		58,263			55,354	
UNION TWP., 14N-4W, SECTION 20																			
UNION, SEC. 6	MICHIGAN STRAY	1965	ISABELLA	1,382	3 S		DUNDEE	3,777	2	0	0	2	240						SHUT-IN
UNION TWP., 14N-4W, SECTION 6																			
UNION 1-26N-9W	NIAGARAN REEF	1972	GRAND TRAVERSE	6,360	78 D		NIAGARAN	6,865	1	1	0	1	160						SHUT-IN
UNION TWP., 26N-9W, SECTION 1																			
UNION 3-26N-9W	NIAGARAN REEF	1972	GRAND TRAVERSE	6,514	14 D	62.3	NIAGARAN	6,878	1	1	0	1	160	126	126				1
UNION TWP., 26N-9W, SECTION 3																			
UNION 8-26N-9W (MUNCIE LAKES)	NIAGARAN REEF	1970	GRAND TRAVERSE	6,267	97 D	COND.	NIAGARAN	6,666	1	0	0	1	160						8,035
UNION TWP., 26N-9W, SECTION 8																			
UNION 11-26N-9W	NIAGARAN REEF	1972	GRAND TRAVERSE	6,580	118 D	61	NIAGARAN	6,802	1	1	0	1	160						
UNION TWP., 26N-9W, SECTION 11																			
UNION 12-26N-9W (SOUTH BOARDMAN)	NIAGARAN REEF	1969	GRAND TRAVERSE	6,779	50 D	57.9 COND.	NIAGARAN	6,922	1	0	0	1	640	3,259 BBLs. CONDENSATE	3,935 BBLs. CONDENSATE			79,105	79,105
UNION TWP., 26N-9W, SECTION 12																			
VERNON	DUNDEE	1930	ISABELLA	3,755	3 DL	38.6	BOIS BLANC	5,118	78	0	0	3	890		5,043,339				5,667
VERNON TWP., 16N-4W, SECTIONS 15, 16, 21, 22, 23, 26, 27																			
VERNON	MICHIGAN STRAY	1939	ISABELLA	1,300	2 S		DETROIT RIVER	3,907	25	ABANDONED 1956			920						1,464,249
VERNON TWP., 16N-4W, SECTIONS 25, 26, 35, 36 ISABELLA TWP., 15N-4W, SECTION 1																			
VEVAY 16-2N-1W (MASON)	NIAGARAN REEF	1970	INGHAM	4,165	39 D	49.4	CLINTON	4,555	2	0	0	2	120	34,340	83,925	105,351	105,351		699
VEVAY TWP., 2N-1W, SECTION 16																			
VEVAY 17-2N-1W	NIAGARAN REEF	1972	INGHAM	4,162	12 D		NIAGARAN	4,300	1	1	0	1	80	5,225	5,225				65
VEVAY TWP., 2N-1W, SECTION 17																			
VEVAY 19-2N-1W	TRAVERSE	1971	INGHAM	2,141	65 L	37	CINCINNATIAN	4,600	2	ABANDONED 1972			80		12,930				162
NIAGARAN POOL A	NIAGARAN REEF	1971		3,942	24 D				2	0	0	2	320	18,550	18,550	1,479,147	1,479,147		58
NIAGARAN POOL B	NIAGARAN REEF								4	4	0	4	640	32,168	32,168	651,660	651,660		50
NIAGARAN POOL C	NIAGARAN REEF								1	1	0	1	160	3,382	3,382	18,912	18,912		21
FIELD DECLARED TO HAVE 3 SEPARATE RESERVOIRS OR POOLS (ORDER NO. 2-1-73)																			
POOL (A) INCLUDES THE F. HILLER AND A. HILLY WELLS LOCATED IN THE SW 1/4 OF SECTION 24, T.2N., R.2W., AND THE SW 1/4 OF SECTION 19, T.2N., R.1W.																			
POOL (B) INCLUDES THE CARTER, LYON, DART, AND KRANZ WELLS LOCATED IN THE SW 1/4 OF SECTION 19 AND THE SW 1/4 OF SECTION 18, T.2N., R.1W.																			
POOL (C) INCLUDES THE LOVETTE WELLS LOCATED IN THE SW 1/4 OF SECTION 18, T.2N., R.1W.																			
VEVAY 20-2N-1W	NIAGARAN REEF	1972	INGHAM	3,939	2 D		PRAIRIE DU CHIEN	5,985	1	1	0	1	80	3,070	3,070				

POOL CLASSIFICATION		● ACTIVE OIL FIELD OR POOL	● ABANDONED OIL FIELD OR POOL	☀ ACTIVE GAS FIELD OR POOL	☀ ABANDONED GAS FIELD OR POOL	☀ GAS-CONDENSATE FIELD OR POOL	☀ ABANDONED GAS-CONDENSATE FIELD OR POOL	⊕ GAS STORAGE RESERVOIR	⊖ UNDEVELOPED GAS STORAGE RESERVOIR					
FIELD NAME	PRODUCING FORMATION OR POOL	YEAR OF DISC.	COUNTY TOWNSHIP	PAY ZONE	DEEPEST FORMATION OR POOL TESTED	DEPTH IN FEET	NUMBER OF WELLS	DRILLED ACRES	OIL PRODUCTION - BBLs	GAS PRODUCTION - MCF	RECOVERY PER ACRE DRILLED (BBLs)	TOTAL BARRELS BRINE PER DAY		
							TO END		PRODUCED IN 1972	CUMULATIVE THROUGH 1972	PRODUCED IN 1972	CUMULATIVE THROUGH 1972		
● WHITE CLOUD	TRAVERSE	1963	NEWAYGO	2,537	1 L	TRAVERSE	2,540	1	ABANDONED 1964	40		1,295	32	
WILCOX TWP., 14N-12W, SECTION 19														
● WHITE RIVER	DUNDEE	1950	MUSKEGON	2,052	2 L	DUNDEE	2,055	1	ABANDONED 1951	20		7,061	353	
WHITE RIVER TWP., 12N-18W, SECTION 15														
● WHITEWATER 32-27N-9W	NIAGARAN REEF	1972	GRAND TRAVERSE	6,100	10 D	NIAGARAN	6,260	1	1	0	1	80	6,383	
WHITEWATER TWP., 27N-9W, SECTION 32														
● WHITEWATER 34-27N-9W	NIAGARAN REEF	1972	GRAND TRAVERSE	6,292	16 D	NIAGARAN	6,580	1	1	0	1	80	6,748	
WHITEWATER TWP., 27N-9W, SECTION 34														
● WHITEWATER 35-27N-9W	NIAGARAN REEF	1972	GRAND TRAVERSE	6,270	60 D	NIAGARAN	6,770	1	1	0	1	80	6,158	
WHITEWATER TWP., 27N-9W, SECTION 35														
☀ WHITEWATER 36-27N-9W	NIAGARAN REEF	1971	GRAND TRAVERSE	6,560	40 D	NIAGARAN	6,750	1	0	0	1	160	30,806 BBLs 30,872 BBLs CONDENSATE	
WHITEWATER TWP., 27N-9W, SECTION 36														
● WILEY	TRAVERSE	1962	MASON	1,663	5 L	ST. PETER SS.	5,890	18	1	1	9	380	4,055	
EDEN TWP., 17N-16W, SECTION 18 RIVERTON TWP., 17N-17W, SECTION 12														
● WINFIELD	DUNDEE-REED CITY	1936	MONTCALM	3,340	1 L	REED CITY	3,500	8	0	0	2	120	1,135	
WINFIELD TWP., 12N-9W, SECTIONS 20, 28, 29														
⊕ WINFIELD	REFER TO TABLE 3 DEVELOPED GAS STORAGE RESERVOIRS													
● WINTERFIELD	TRAVERSE	1940	CLARE	3,105	1 L	SYLVANIA	5,273					260	9,606	
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														
● WINTERFIELD	DUNDEE	1940		3,794	3 L	44.2						740	14,142	
GREENWOOD TWP., 19N-5W, SECTION 6 THE 13 WELLS INCLUDE 8 TRAVERSE, 4 DUNDEE & 1 TRAVERSE & RICHFIELD														
● WINTERFIELD	RICHFIELD	1942		5,015	15 D							50	2,935	
WINTERFIELD TWP., 20N-6W, SECTIONS 28 THROUGH 32, 35, 36 REDDING TWP., 19N-6W, SECTIONS 1, 5														
☀ WISE	MICHIGAN STRAY	1940	ISABELLA	1,250	5 S	SYLVANIA	5,205	2	0	0	5	1,280	272	
TRAVERSE, 4 DUNDEE & 1 TRAVERSE & RICHFIELD														
● WISE	TRAVERSE	1953		3,090	31 L	43.0							597	
● WISE	DUNDEE	1938		3,700	11 L	45.2						79	0	
● WISE	DETROIT RIVER S2	1955		4,415	48 DL	42.6						2	0	
WISE TWP., 16N-3W, SECTIONS 8, 9, 16, 17, 20, 21, 28, 29, 32, 33														
☀ WOLF LAKE	"BEREA"	1949	MUSKEGON	1,050	7 D	DETROIT RIVER	2,250	2	ABANDONED 1956	320			99,756	
● WOLF LAKE	TRAVERSE	1968		1,741	23 L							3	0	
EGELSTON TWP., 10N-15W, SECTIONS 7, 8, 18 MUSKEGON TWP., 10N-16W, SECTION 13														
☀ WOODSTOCK	TRAVERSE	1969	LENAWEE	1,465	2 L	TRAVERSE	1,467	2	0	0	1	80		
WOODSTOCK TWP., 5S-1E, SECTION 18														
● WOODVILLE	TRAVERSE	1943	NEWAYGO	2,820	5 L	43.5	DETROIT RIVER	3,534	10	0	10	350	4,975	
NORWICH TWP., 15N-11W, SECTIONS 20, 28, 29														
⊕ WOODVILLE (NORWICH)	REFER TO TABLE 3 DEVELOPED GAS STORAGE RESERVOIRS													
● WRIGHT	"BEREA"	1954	OTTAWA	1,170	3 L	DETROIT RIVER	2,337	7	0	0	4	60	0	
SHUT-IN -- LACK OF STORAGE														
● WRIGHT	TRAVERSE	1953	OTTAWA	1,920	1 L							70	73	
WRIGHT TWP., 8N-13W, SECTIONS 28, 32, 33 TALLMADGE TWP., 7N-13W, SECTION 4														
● WYOMING PARK	TRAVERSE	1939	KENT	1,870	6 L	39.0	DETROIT RIVER	2,255	21	ABANDONED 1970	300		157,873	
WYOMING TWP., 6N-12W, SECTIONS 13, 14, 25														
☀ YANKEE	NIAGARAN REEF	1963	ST. CLAIR	2,620	20 D	CLINTON	2,829	2	0	0	2	80	60,199	
ST. CLAIR TWP., 5N-16E, SECTION 25														
☀ ZEELAND	"BEREA"	1946	OTTAWA	945	9 D	NIAGARAN	3,388	7	0	0	1	280	0	
ZEELAND TWP., 5N-14W, SECTIONS 2, 11, 12, 13, 14														
● ZEELAND	TRAVERSE	1942	OTTAWA	1,514	3 L	41.9	NIAGARAN	3,052	21	ABANDONED 1967	400		310,085	
● ZEELAND	SALINA	1958		2,792	5 D	20.5						1	ABANDONED 1962	
ZEELAND TWP., 5N-14W, SECTIONS 25, 30, 31, 32, 36 HOLLAND TWP., 5N-15W, SECTIONS EM 35, 36 (TRAVERSE) ZEELAND TWP., 5N-14W, SECTION 29 (SALINA)														
● ZEELAND, SEC. 28	TRAVERSE	1954	OTTAWA	1,491	1 L	DETROIT RIVER	2,215	3	ABANDONED 1956	30			4,437	
ZEELAND TWP., 5N-14W, SECTIONS 21, 28														
TOTALS									311,300	12,989,977	613,703,439	33,507,606	757,179,982	119,568

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.

INCLUDES OIL FROM ABANDONED FIELD OR POOLS. INCLUDES 476 BBLs. OIL FROM UNION 2-26N-9W. THIS WELL WAS TEMPORARILY ABANDONED IN 1972 AND NOT CLASSIFIED AS A DISCOVERY.

INCLUDES GAS FROM ABANDONED FIELDS OR POOLS. INCLUDES 3,050,143 MCF OF UNASSIGNED GAS FROM EARLY RECORDS.

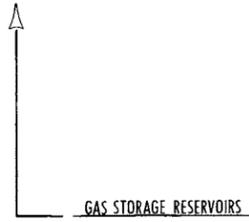
CHANGES IN FIELD NAMES
Historically, with few exceptions, Michigan oil and gas fields have been named after nearby geographic entities such as towns, villages, lakes and township names. Due to numerous Niagaran reef discoveries within relatively small areas and a lack of suitable identifying names for those in northern Michigan and possibly those in southern Michigan in future years, the naming system has been modified. Beginning 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.

TOTAL BARRELS OF BRINE PRODUCED PER DAY

TABLE 3 DEVELOPED GAS STORAGE RESERVOIRS

POOL CLASSIFICATION		● ACTIVE OIL FIELD OR POOL	● ABANDONED OIL FIELD OR POOL	☀ ACTIVE GAS FIELD OR POOL	☀ ABANDONED GAS FIELD OR POOL	☀ GAS-CONDENSATE FIELD OR POOL	☀ ABANDONED GAS-CONDENSATE FIELD OR POOL	⊕ GAS STORAGE RESERVOIR	⊖ UNDEVELOPED GAS STORAGE RESERVOIR				
FIELD NAME	PRODUCING FORMATION OR POOL	YEAR OF DISC.	COUNTY TOWNSHIP	PAY ZONE	DEEPEST FORMATION OR POOL TESTED	DEPTH IN FEET	NUMBER OF WELLS	DRILLED ACRES	OIL PRODUCTION - BBLs	GAS PRODUCTION - MCF	RECOVERY PER ACRE DRILLED (BBLs)	TOTAL BARRELS BRINE PER DAY	
							TO END		PRODUCED IN 1972	CUMULATIVE THROUGH 1972	PRODUCED IN 1972	CUMULATIVE THROUGH 1972	
⊕ ALSTIN	MICHIGAN STRAY	1933	MCCOSTA	1,380	14 S	DETROIT RIVER	4,043	0	0	90	3,970		
AUSTIN TWP., 14N-9W, SECTIONS 2, 3, 4, 9, 10, 11, 12, 13, 14 COLfax TWP., 15N-5W, SECTIONS 32, 33 MORTON TWP., 14N-8W, SECTIONS 6, 7													
⊕ BELLE RIVER MILLS	SALINA-NIAGARAN	1961	ST. CLAIR	2,215	305 D	CLINTON	2,694	0	0	43	840		1,212
CHINA TWP., 4N-16E, SECTIONS 11, 14, 15													
⊕ COLUMBUS	SALINA-NIAGARAN	1964	ST. CLAIR	2,738	190 D	CLINTON	3,232	12	0	20	320		78,064
COLUMBUS TWP., 5N-15E, SECTIONS 15, 16, 21, 22													
⊕ COLDWATER	MICHIGAN STRAY	1945	ISABELLA	1,390	10 S	SYLVANIA	5,090	11	0	66	2,400		7,382,794
COLDWATER TWP., 16N-6W, SECTIONS 28 THROUGH 33 SHERMAN TWP., 15N-6W, SECTION 6													
⊕ CRANBERRY LAKE	MICHIGAN STRAY	1943	CLARE-MISSAUKEE	1,321	10 S	RICHFIELD	5,201	0	0	171	7,000		7,537,451
SUMMERFIELD TWP., 20N-5W, SECTIONS 4, 5, 6, 7, 8, 9, 15, 16, 17, 18, 22, 23 WINTERFIELD TWP., 20N-6W, SECTIONS 1, 2, 3, 10, 11, 12 CLAM UNION TWP., 21N-6W, SECTIONS 23, 34, 35													
⊕ CROTON	MARSHALL	1951	NEWAYGO	917	4 S	SALINA	3,993	20	0	43	860		1,320,855
CROTON TWP., 12N-11W, SECTIONS 29, 32													
⊕ FREEMAN-LINCOLN	MICHIGAN STRAY	1938	CLARE	1,500	10 S	DETROIT RIVER	3,957	18	0	147	6,600		18,099,490
LINCOLN TWP., 18N-5W, SECTIONS 7, 16, 17, 18, 19, 20, 21, 27, 28, 29 FREEMAN TWP., 18N-6W, SECTIONS 2, 3, 4, 9, 10, 11, 13, 14, 15, 23, 24													
⊕ FOUR CORNERS	SALINA-NIAGARAN	1966	ST. CLAIR	2,205	212 D	CLINTON	2,638	3	0	5	80		68,516
CASCO TWP., 4N-15E, SECTION 36 IRA TWP., 3N-15E, SECTION 1													
⊕ GOODWELL	MICHIGAN STRAY	1943	NEWAYGO	1,142	20 S	DETROIT RIVER	3,562	0	0	64	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 NORWICH TWP., 15N-12W, SECTION 36													
⊕ HAMILTON, NORTH	MICHIGAN STRAY-MARSHALL	1952	CLARE	1,487	8 S	RICHFIELD	5,395	0	0	62	3,040		5,450,065
HAMILTON TWP., 19N-3W, SECTIONS 5, 6, 7, 8 HAYES TWP., 19N-4W, SECTION 1 FROST TWP., 20N-4W, SECTIONS 35, 36													
⊕ HOWELL	SALINA-NIAGARAN	1935	LIVINGSTON	3,920	9 D	ST. PETER SS.	5,958	0	0	69	2,400		23,678,120
GENOA TWP., 2N-5E, SECTIONS 5, 6, 7, 8, 17 MARION TWP., 2N-4E, SECTIONS 1, 2, 12 HOWELL TWP., 3N-4E, SECTION 35													
⊕ IRA	SALINA-NIAGARAN	1953	ST. CLAIR	2,276	33 D	CLINTON	2,632	0	0	15	680		3,498,666
IRA TWP., 3N-15E, SECTIONS 1, 2, 11													
⊕ LENOX	SALINA-NIAGARAN	1960	MACOMB	2,734	46 D	CLINTON	3,018	0	0	11	300		2,565
LENOX TWP., 4N-14E, SECTION 32 CHESTERFIELD TWP., 3N-14E, SECTION 5													
⊕ MARION (WINTERFIELD)	MICHIGAN STRAY	1940	CLARE-OSCEOLA	1,344	15 S	SYLVANIA	5,100	0	0	282	10,720		20,084,934
WINTERFIELD TWP., 20N-6W, SECTIONS 17 THROUGH 21, 27 THROUGH 35 REDDING TWP., 19N-6W, SECTIONS 1, 2, 3, 4, 6 MARION TWP., 20N-7W, SECTIONS 24, 25, 36 MIDDLE BRANCH TWP., 19N-7W, SECTION 1													
⊕ MARYSVILLE	SEE FOOTNOTE FOR GAS STORAGE FIELDS ON NEXT PAGE.												
⊕ NORTHVILLE	TRENT-BLK. RIVER	1954	WAYNE-WASHTENAW	4,395	70 D	CAMBRO-ORDOVICIAN	5,850	0	1	69	2,825+		18,126,876
FOR LOCATION SEE NORTHVILLE, TABLE 2													
⊕ ORIENT	MICHIGAN STRAY	1945	OSCEOLA-CLARE	1,508	11 S	SYLVANIA	5,307	0	0	75	2,600		5,350,856
ORIENT TWP., 17N-7W, SECTIONS 2, 3, 10, 11, 12, 13, 14 GARFIELD TWP., 17N-6W, SECTIONS 18, 19													
⊕ OVERISEL	SALINA	1956	ALLEGAN	2,650	12 D	TRENTON	4,060	0	0	186	6,660		14,645,048
OVERISEL TWP., 4N-14W, SECTIONS 4, 5, 8, 9, 10, 14, 15, 16, 21, 22, 23, 27, 28													
⊕ PARTELLO	SALINA A-1 CARB.	1959	CALHOUN	3,192	30 D	TRENT-BLK. RIVER	4,905	0	0	5	200		1,695,320
LEE TWP., 15-5W, SECTIONS 12, 13													
⊕ PUTTYGUT	SALINA-NIAGARAN	1960	ST. CLAIR	2,423	60 D	NIAGARAN	2,774	1	0	24	440		11,260,480
CASCO TWP., 4N-15E, SECTIONS 11, 14, 15													
⊕ RAY	SALINA-NIAGARAN	1961	MACOMB	2,945	101 D	NIAGARAN	3,273	0	0	35	660		1,689
RAY TWP., 4N-13E, SECTIONS 1, 2, 11 ARMADA TWP., 5N-13E, SECTION 36													
⊕ REED CITY	MICHIGAN STRAY	1940	OSCEOLA-LAKE	1,217	12 S	ST. PETER SS.	8,960	1	0	103	4,880		7,642,246
● REED CITY	REED CITY	1941		3,585	7 D							4	0
COMBINATION GAS STORAGE AND SECONDARY RECOVERY PROJECT - REFER TO TABLE 6 FOR ADDITIONAL DETAILS													
⊕ RIVERSIDE	MICHIGAN STRAY	1940	MISSAUKEE	1,435	7 S	DUNDEE	3,953	0	0	99	3,680		5,188,481
LINCOLN TWP., 18N-10W, SECTIONS 8, 9, 16, 17, 18, 19, 20, 21, 29, 30, 31, 32 PINORA TWP., 18N-11W, SECTIONS 24, 25													
⊕ SALEM	SALINA	1937	ALLEGAN	2,725	2 D	TRENTON	3,792	0	0	88	4,960		2,973
RIVERSIDE TWP., 21N-7W, SECTIONS 15, 16, 17, 19, 20, 21, 22, 23													
SALEM TWP., 4N-13W, SECTIONS 2, 3, 9, 10, 11, 12, 14, 15, 16, 17, 21, 22, 23 JAMESTOWN TWP., 5N-13W, SECTIONS 34, 35													
⊕ SHAVER (SUMMER-NEW HAVEN)	MICHIGAN STRAY	1935	GRATIOT-MONTCALM	1,020	11 S	DUNDEE	3,536	0	0	49	3,920		11,114,906
NEW HAVEN TWP., 10N-4W, SECTIONS 2, 3, 4, 5, 8, 9, 10, 11 SUMMER TWP., 11N-4W, SECTIONS 31, 32, 33, 34 CRYSTAL TWP., 10N-5W, SECTIONS 1, 2, 3, 5, 6 FERRIS TWP., 11N-5W, SECTIONS 22, 36													
⊕ SIX LAKES	MICHIGAN STRAY	1934	ISABELLA-MEDOSTA-MONTCALM	1,270	25 S	DETROIT RIVER	3,790	0	0	268	11,480		51,604,719
MILLBROOK TWP., 13N-7W, SECTIONS 27 THROUGH 36 BELVISER TWP., 12N-7W, SECTIONS 1, 2, 3, 4, 5, 6, 8, 9, 10, 11, 12, 14, 15, 16, 17, 18, 20, 21													

POOL CLASSIFICATION				● ACTIVE OIL FIELD OR POOL		☀ ACTIVE GAS FIELD OR POOL		☀ GAS-CONDENSATE FIELD OR POOL		⊕ GAS STORAGE RESERVOIR							
● ABANDONED OIL FIELD OR POOL				☀ ABANDONED GAS FIELD OR POOL		☀ ABANDONED GAS-CONDENSATE FIELD OR POOL		⊖ UNDEVELOPED GAS STORAGE RESERVOIR									
FIELD NAME	PRODUCING FORMATION OR POOL	YEAR OF DISC.	COUNTY TOWNSHIP	DEPTH IN FEET	THICKNESS AND LITHOLOGY	OIL GRAVITY A.P.I.	DEEPEST FORMATION OR POOL TESTED	DEPTH IN FEET	NUMBER OF WELLS	DRILLED ACRES	TOTAL BARRELS BRINE PER DAY						
PRODUCING SECTIONS				PAY ZONE		DEEPEST FORMATION OR POOL TESTED		OIL PRODUCTION - BBL.S.		GAS PRODUCTION - Mcf.							
TO COMP. ABAND. IN IN IN AT END								PRODUCED IN 1972 CUMULATIVE THROUGH 1972		PRODUCED IN 1972 CUMULATIVE THROUGH 1972							
⊕ SWAN CREEK	SALINA-NIAGARAN	1967	ST. CLAIR	2,256	245 D		DETROIT RIVER	2,638	1	0	1	40			1,171	410,523	
CASC TWP., 4N-15E, SECTION 36																	
⊕ WINFIELD	MICHIGAN STRAY	1935	MONTCALM	1,125	8 S		DETROIT RIVER	3,405	18	0	99	2,240				4,856,132	
WINFIELD TWP., 12N-9W, SECTIONS 6, 7, 8, 16, 17, 18 REYNOLDS TWP., 12N-10W, SECTIONS 1, 12																	
⊕ WOODVILLE (NORWICH)	MICHIGAN STRAY	1943	NEWAYGO	1,185	13 S		DETROIT RIVER	3,405	0	0	46	2,240				2,683,259	
NORWICH TWP., 15N-17W, SECTIONS 16, 17, 20, 21, 28, 29																	
TOTAL ACREAGE 87,535																	



GAS STORAGE RESERVOIRS

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

UNDEVELOPED GAS STORAGE RESERVOIRS ARE GAS OR OIL POOLS THAT HAVE BEEN DESIGNATED TO BECOME STORAGE RESERVOIRS AT SOME FUTURE TIME. THOSE THAT SHOW GAS PRODUCTION FOR 1972 ARE CONSIDERED ACTIVE POOLS.

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

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

LACEY STATION: THIS IS A DRY-GAS STORAGE PROJECT UNDER CONSTRUCTION FOR THE BATTLE CREEK GAS COMPANY. GAS WILL BE STORED IN A CAVITY WASHED FROM SALINA A-2 SALT BEDS AT A DEPTH OF ABOUT 3100 FEET BELOW THE SURFACE. GAS STORAGE MAY BEGIN IN LATE 1973.

TABLE 4 UNDEVELOPED GAS STORAGE RESERVOIRS

POOL CLASSIFICATION				● ACTIVE OIL FIELD OR POOL		☀ ACTIVE GAS FIELD OR POOL		☀ GAS-CONDENSATE FIELD OR POOL		⊕ GAS STORAGE RESERVOIR							
● ABANDONED OIL FIELD OR POOL				☀ ABANDONED GAS FIELD OR POOL		☀ ABANDONED GAS-CONDENSATE FIELD OR POOL		⊖ UNDEVELOPED GAS STORAGE RESERVOIR									
FIELD NAME	PRODUCING FORMATION OR POOL	YEAR OF DISC.	COUNTY TOWNSHIP	DEPTH IN FEET	THICKNESS AND LITHOLOGY	OIL GRAVITY A.P.I.	DEEPEST FORMATION OR POOL TESTED	DEPTH IN FEET	NUMBER OF WELLS	DRILLED ACRES	TOTAL BARRELS BRINE PER DAY						
PRODUCING SECTIONS				PAY ZONE		DEEPEST FORMATION OR POOL TESTED		OIL PRODUCTION - BBL.S.		GAS PRODUCTION - Mcf.							
TO COMP. ABAND. IN IN IN AT END								PRODUCED IN 1972 CUMULATIVE THROUGH 1972		PRODUCED IN 1972 CUMULATIVE THROUGH 1972							
⊖ LACEY STATION	A2 SALT SOLUTION CAVERN	1971	BARRY				CAMBRIAN		1	SEE ABOVE FOOTNOTE FOR GAS STORAGE FIELDS							
JOHNSTOWN TWP., 1N-8W, SECTION 14																	
⊖ BROOMFIELD-DEERFIELD	MICHIGAN STRAY	1930	ISABELLA	1,355	5 S		SYLVANIA	4,994	91	0	12	8,080				13,069,069	
BROOMFIELD TWP., 14N-6W, SECTIONS 1, 2, 3, 4, 5, 9, 10, 11, 13, 14, 15, 23, 24, 25 DEERFIELD TWP., 14N-5W, SECTIONS 7, 17, 18, 19, 20, 29, 30 SHERMAN TWP., 15N-6W, SECTIONS 29, 30, 31, 32, 33, 36																	
⊖ EDMORE-RICHLAND	MICHIGAN STRAY	1936	MONTCALM	1,300	8 S		DUNDEE	3,700	47	0	10	6,800				8,956,687	
HOME TWP., 12N-6W, SECTIONS 11, 12, 13, 14, 15, 19, 21 THROUGH 30, 33 RICHLAND TWP., 12N-5W, SECTIONS 7, 8, 17, 18																	
⊖ EVART	MICHIGAN STRAY	1941	OSCEOLA	1,410	7 S		DETROIT RIVER	4,457	33	0	7	5,120				4,895,722	
OSCEOLA TWP., 18N-8W, SECTIONS 19, 21, 22, 23, 26 THROUGH 35																	
TOTAL ACREAGE 22,400																	
TOTAL 34,304,272																	

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

TABLE 5 MISCELLANEOUS OIL WELLS

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

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

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

PERMIT	Company	Location	PRECAMBRIAN	TOTAL DEPTH	YEAR COMPLETED
26112	Berrien Co. Berrien Twp.	10-6S-17W Security Oil & Gas Thalman #1	4604 (-3800)	5647 (-4843)	1965
23478	Charlevoix Co. Peaine Twp.	6-37N-10W McClure Oil Co. State-Beaver Island #2	4718 (-3977)	4803 (-4062)	1961 - Age Rb-Sr K-Ar Biotite 1100 Feldspar 1090
23435	Charlevoix Co. Peaine Twp.	27-38N10W McClure Oil Co. State-Beaver Island #1	4566 (-3888)	5383 (-4705)	1961
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. #2	6142 (-5523)	6221 (-5602)	1972
27199	Presque Isle Co. North Allis Twp.	29-35N-2E Pan American Petro. Corp. D. E. Draysey #1	5877 (-5069)	5940 (-5132)	1968
BD139	St. Clair Co. Casco Twp.	31-4N-15E Consumers Power Co. Consumers Power Co. BD#1	4605 (-3989)	4627 (-4011)	1964
25780	St. Clair Co. Clay Twp.	Projected 17-2N-16E L. Bernhardt Puzzuoli #1	4152 (-3572)	4188 (-3608)	1965
196	St. Clair Co. St. Clair Twp.	26-5N-16E St. Clair Oil & Gas Corp. Hurst #1	4730 (-4080)	4770 (-4110)	1929 - Age Rb-Sr Biotite 1020
BD151	St. Clair Co. St. Clair Twp.	7-5N-17E Consumers Power Co. C.P.C. #1-7 BDW	4707 (-4069)	4733 (-4095)	1971
BD152	St. Clair Co. St. Clair Twp.	7-5N-17E Consumers Power Co. C.P.C. #2-7 BDW	4684 (-4052)	4702 (-4070)	1971
10792	Washtenaw Co. Salem Twp.	27-1S-7E I. C. Chamness Troy-Roddenberry Comm. #1	6075 (-5189)	6094 (-5208)	1944
10141	Washtenaw Co. Salem Twp.	16-1S-7E Colvin & Assoc. & Elec. Wm. F. Voss Comm. #1	6374 (-5459)	6410 (-5495)	1944 - Age Rb-Sr Biotite 950
11341	Washtenaw Co. Superior Twp.	12-2S-7E Colvin & Assoc. & Rot. St. Viola Meininger #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

25099	Ogemaw Co. Foster Twp.	28-24N-2E Brazos Oil & Gas etal State-Foster #1	Trenton	9766 (-8290)	12,966 (-11,520)	Cambrian
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TABLE 6 SECONDARY RECOVERY OPERATIONS

FIELD AND COUNTY	OPERATOR COMPANY	TYPE OF PROJECT	DISC. YEAR PROJECT BEGAN	PAY ZONE		TOTAL ACRES	INJECTION FLUIDS		VOLUME OF INJECTED FLUID 1972		UNIT PRODUCTION IN 1972		UNIT CUMULATIVE 1-1-73	
				FORM	THICK.		DEPTH	WATER	MCF GAS	BARRELS WATER	BARRELS OIL	SALES MCF GAS	BARRELS WATER	NO. WELLS
BEAVER CREEK	UNION OIL CO.	UNIT WTR. FLOOD	1947	RICH.	17	4,400	FRESH WATER	2,200	6,489,694	387,207	35,000	276,305	18,190,171	2,280,821
BEAVERTON, SOUTH	SUN OIL CO.	UNIT WTR. FLOOD	1936	DD.	9	3,845	FRESH WATER	100	20,507	9,138	NONE	25,002	86,429	866,706
BEAVERTON, WEST	PEAKE PET. CO.	UNIT WTR. FLOOD	1943	DD.	2	3,876	FRESH WATER	2,180	120,332	902	9,000	5,840	180,188	38,145
BERLIN	SUN OIL CO.	UNIT WTR. FLOOD	1960	N14G.	30	3,800	FRESH WATER	VAC.	273,750	1,296	10,000	NONE	NONE	NONE
CRANBERRY LAKE	FARM. PETRO. COOP.	UNIT WTR. FLOOD	1951	RICH.	15	5,048	FRESH WATER	2,528	403,976	7	6,590	11,680	1,073,323	356,970
EAST NORWICH	SUN OIL CO.	UNIT-RECY. GAS & WTR. FLOOD	1942	RICH.	14	4,640	RECYCLE GAS & FRESH WTR.	1962	1,537,128	52	NONE	100,010	7,243,665	1,336,919
ENTERPRISE	MISSAUKEE	UNIT-RECY. GAS & WTR. FLOOD	1943	RICH.	16	4,405	RECYCLE GAS & FRESH WTR.	1961	507,807	15	NONE	21,535	902,661	694,829
GROIT	SUN OIL CO.	UNIT WTR. FLOOD	1956	RICH.	10	5,039	FRESH WATER	2,150	224,724	3	NONE	64,240	900,000	480,953
HAMILTON	SUN OIL CO.	UNIT WTR. FLOOD	1952	RICH.	12	5,145	FRESH WATER	2,900	1,246,305	17	NONE	356,605	2,800,000	2,588,988
HASKELL UNIT (ALBION-SCIPPIO TRENDS)	MARATHON OIL CO.	UNIT WTR. FLOOD	1958	BLK. RIVER	117*	3,984	BRINE	VAC.	242,409	2	NONE	36,500	644,761	70,110
HEADQUARTERS	FARM. PETRO. COOP.	UNIT WTR. FLOOD	1952	RICH.	13	4,946	FRESH WATER	2,900	431,114	11	NONE	28,105	702,951	118,260
LAKE OSCEOLA	MICH. CON. GAS CO.	UNIT-BLS STORAGE IN OIL RESERVOIR	1940	DD-R.C.	21	3,585	PRODUCED BRINE & FRESH WATER	2,945,933	1,322,395	9	NONE	1,135,150	16,257,876	166,657,152
OSCEOLA	OSCEOLA	UNIT WTR. FLOOD	1955	DR(SZ)	11	4,184	FRESH WATER	800	208,933	9	NONE	12,410	1,064,036	101,660
ROSE CITY	MUSKOGON DEV. CO.	UNIT WTR. FLOOD	1943	RICH.	9	4,125	FRESH WATER	2,900	397,244	38	NONE	17,885	5,753,190	254,222
ROSE CITY, CENTRAL	MUSKOGON DEV. CO.	UNIT WTR. FLOOD	1951	RICH.	8	4,125	FRESH WATER	2,900	329,366	9	NONE	2,920	1,041,652	955,960
ROSE CITY, WEST	SUN OIL CO.	UNIT WTR. FLOOD	1952	RICH.	10	4,150	FRESH WATER	2,400	234,805	5	NONE	1,095	310,888	31,480
ST. HELEN	SUN OIL CO.	UNIT-RECY. GAS & WTR. FLOOD	1941	RICH.	9	4,480	RECYCLE GAS & FRESH WTR.	2,500	985,259	3	NONE	32,485	3,760,000	799,238
WEST BRANCH	MARATHON OIL CO.	UNIT WTR. FLOOD	1953	DD.	28	2,650	BRINE	1,600	1,223,656	19	NONE	191,260	9,765,073	494,466

NOTE: THE LOREED UNIT IN THE REED CITY FIELD, WHICH IS THE SECONDARY RECOVERY UNIT, IS A SECONDARY RECOVERY UNIT. THE RESERVOIR FORMATIONS INCLUDED IN THE LOREED UNIT ARE SHOWN IN THE STRATIGRAPHIC SECTION.

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

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

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

ALL DATA ON THE ABOVE SECONDARY RECOVERY PROJECTS WERE COMPILED BY JAMES S. LORENZ, PRODUCTION AND PRORATION UNIT.

COMPILED BY:

THE GAS WITHDRAWN EXCEEDS THE GAS INJECTED IN 1972 THUS RESULTING IN A NEGATIVE FIGURE FOR THE YEAR

* LOREED UNIT IN REED CITY FIELD

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

NUMBER OF ACTIVE SECONDARY RECOVERY OPERATIONS 18
 AMOUNT OF GAS INJECTED DURING 1972 2,945,933 MCF (NEGATIVE)
 AMOUNT OF WATER INJECTED DURING 1972 15,748,682 BBL.
 NUMBER OF WATER INJECTION WELLS 301
 NUMBER OF GAS INJECTION WELLS 158
 TOTAL PRIMARY OIL PRODUCTION IN 1972 112,942 BBL.
 TOTAL SECONDARY OIL PRODUCTION IN 1972 2,189,427 BBL.
 NUMBER OF PRODUCING WELLS 572
 OIL PRODUCED BY SECONDARY RECOVERY METHODS AMOUNTS TO ABOUT 17 PERCENT OF THE STATES TOTAL PRODUCTION.

FIGURES DEFINED AS SECONDARY OIL (S) REPRESENT THE DIFFERENCE BETWEEN UNIT RECOVERY AT THE END OF 1972 AND EXTRAPOLATED ULTIMATE PRIMARY RECOVERY (P) AT THE BEGINNING OF SECONDARY OPERATIONS.

28,653 BBL. OF SECONDARY OIL CREDITED TO THE WEST BRANCH PROJECT IS FROM A TRAVERSE FORMATION WATER SOURCE WELL.

TABLE 7 GAS PLANT OPERATIONS BY PLANT OR FIELD, 1972 (All figures in MCF)

Plant or Field	Input Totals	Plant Fuel	Lease Fuel	Storage and/or Repressuring Recycling	Line Loss	Vented	Extraction Loss	Sales To Pipe Line	L.P.G. Recovery Gallons
*Albion-Scipio	10,822,386	1,028,080	0	0	0	0	886,491	8,907,815	26,628,490
Aurelius (1)	3,233,471	143,310	0	0	0	120,089	170,038	2,800,034	6,294,924
*Beaver Creek	458,562	16,672	127,614	0	0	0	15,679	298,597	83,300
Boyd	9,726,710	172,550	156,499	2,187,862	77,375	5,660	512,955	6,613,809	12,215,438
The Boyd Plant, serving several fields, receives both dry and oil well gas.									
Chester	1,584,565	0	0	0	360,163	0	2,605	1,221,797	1,011,206
*Hamilton	173,004	10,955	46,139	0	0	0	4,389	111,521	109,740
Kalkaska Interim (2)	417,435	0	0	0	4,509	0	0	412,926	147,723
*Norwich East	740,187	83,886	83,600	0	0	0	0	572,701	0
Reed City	16,635,652	240,602	0	0	0	0	232,965	16,162,085	7,474,177
Reed City plant serves a combination storage and secondary recovery operation in an oil reservoir (Loreed Unit).									
*Rose City	259,924	8,194	0	0	0	0	0	251,730	0
*St. Helen	510,127	28,399	60,334	0	0	0	0	421,394	0
Willow Run	14,410,084	31,262	0	0	0	0	37,575	14,341,247	1,167,435
Totals	58,972,107	1,763,910	474,186	2,187,862	442,047	125,749	1,862,697	52,115,656	55,132,433

*Receives and processes oil well gas only.

NOTE: The above table is the record of plants which are serving oil field operations, or which are extracting natural gas liquids from designated dry gas sources such as Willow Run gas plant which ceased operations in 1972.

(1) New gas plant facility added in 1972.
 (2) Temporary gas plant facility added in 1972.

All data from Production and Proration Unit records.

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

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

TOTAL PRIMARY STORAGE BY COUNTY, GALLONS LPG

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

TOTAL PRIMARY STORAGE, GALLONS LPG

Refinery Storage	275,200
Gas Plant Storage	1,344,000
Underground Storage	156,072,748
Combined Primary Storage	157,691,948

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

(1) Skelly Oil Co. discontinued use of this facility in 1966.

NEW DATA FOR THESE FACILITIES WERE NOT AVAILABLE FOR 1972-73
 Data last updated May, 1971

COMPANY	REFINERY LOCATION	NOMINAL CAPACITY* BBLs. DAY
Bay Refining, Division Dow Chemical Company	Bay City	17,000
Crystal Refining Company	Carson City	6,200
Lakeside Refining Company	Kalamazoo	4,000
Total Leonard, Inc. (Leonard Refineries, Inc.)		
Leonard Division	Alma	29,000
Roosevelt Division (shut down, 1970)	Mt. Pleasant	(1) (7,500)
Marathon Oil Company	Detroit	58,000
Naph-Sol Refining Company (shut down, 1968)	Muskegon	(1) (10,000)
Osceola Refining Company	West Branch	8,000
Petroleum Specialties, Inc. (shut down)	Flat Rock	(1) (6,500)
Socony Mobil Oil Company	Trenton	40,700
	Total Refinery Capacity	162,900

(1) Not included in total refinery capacity.
* Individual refinery operating rates may be less or slightly more than nominal rates shown.

PART 3, CUMULATIVE RECORDS
EXPLANATION

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

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

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

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

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

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

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

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

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

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

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

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

TABLE 9. OIL PRODUCTION BY GEOLOGIC SYSTEM AND FORMATION - 1972 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	Salina-Niagaran	Trenton-Black River	
	First Year of Recorded Oil Production by Formation						
1925 Through 1929	(Cumulative)	876,559	873,777	4,017,451			5,767,787
1930 Through 1934	(Cumulative)	318,171	995,439	31,870,671			33,184,281
1935 Through 1939	7,411 (Cumulative)	310,313	13,814,816	72,339,293	14,000	43,565	86,529,398
1940 Through 1944	22,040 (Cumulative)	229,262	27,856,377	67,939,211	727,418	348,477	97,122,785
1945 Through 1949	17,283 (Cumulative)	166,687	16,914,771	62,438,443	4,302,309	106,510	83,946,003
1950 Through 1954	9,068 (Cumulative)	125,089	16,974,863	38,058,703	11,878,669	43,091	67,314,663
1955 Through 1959	8,183 (Cumulative)	110,639	8,788,785	25,618,934	13,716,790	568,085	51,920,757
1960 Through 1964	6,090 (Cumulative)	84,222	6,777,853	15,725,957	8,260,636	4,611,123	83,488,097
1965 Through 1969	5,293 (Cumulative)	113,898	3,851,321	12,186,197	8,387,775	4,195,694	67,852,793
1970	1,161	26,689	670,068	2,079,935	2,014,461	1,412,079	11,693,488
1971	899	26,600	621,964	2,038,997	2,142,522	2,313,202	11,893,410
1972	883	14,620	516,567	1,806,529	2,231,157	4,428,305	12,989,977

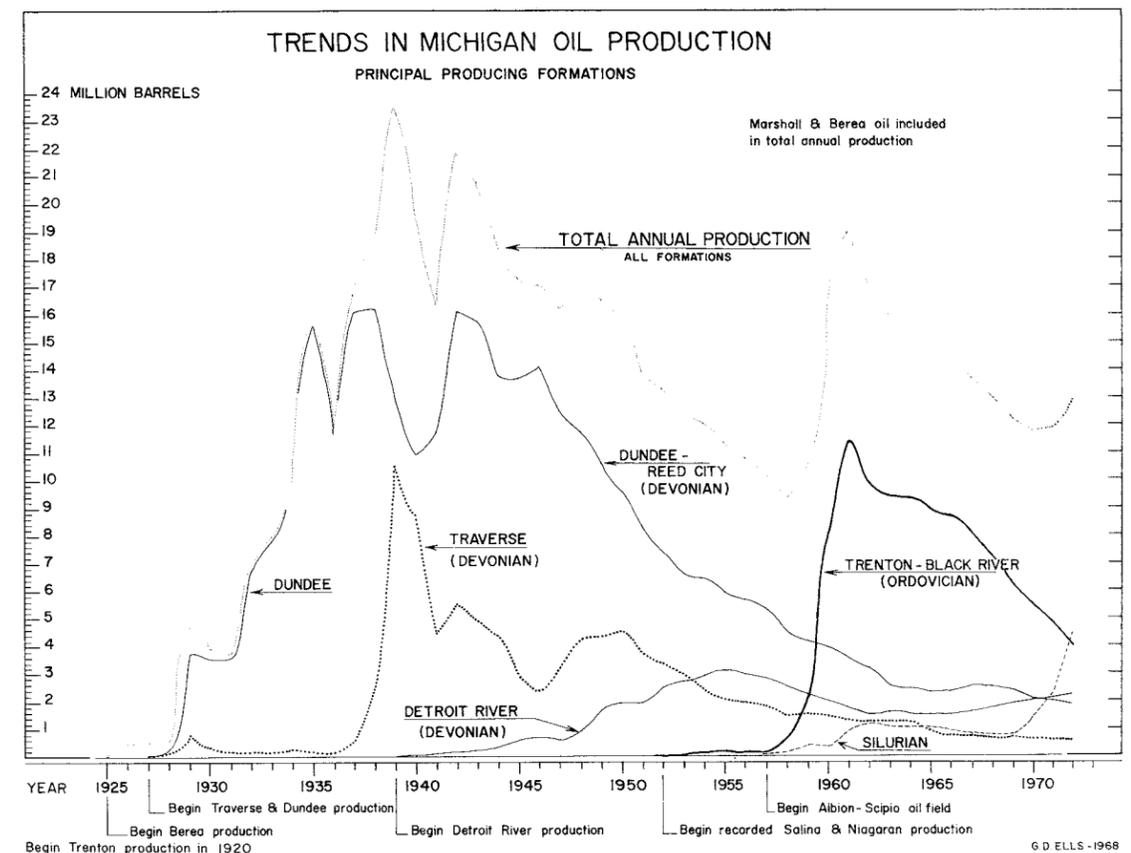


TABLE 10. GAS PRODUCTION BY GEOLOGIC SYSTEM AND FORMATION - 1972 AND PRIOR YEARS

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

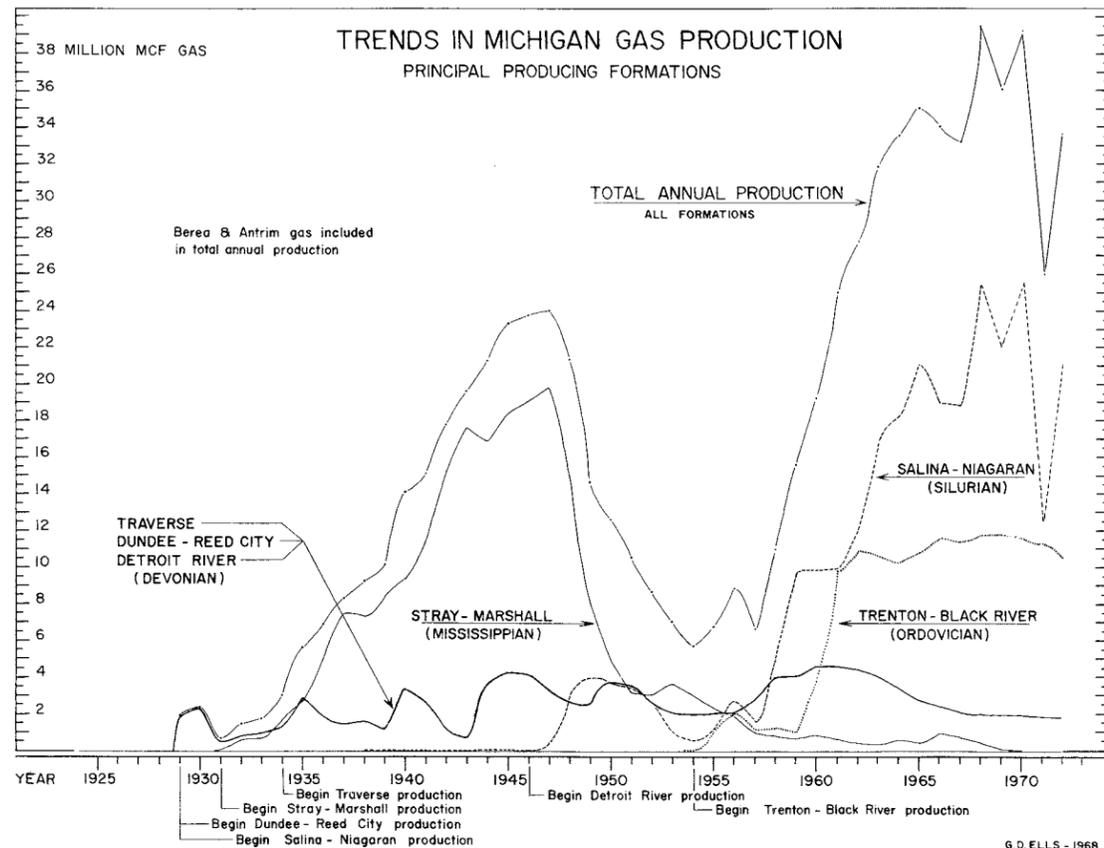


TABLE 11. CUMULATIVE OIL PRODUCTION BY GEOLOGIC SYSTEM AND FORMATION - 1972 AND PRIOR YEARS

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

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

TABLE 12. CUMULATIVE GAS PRODUCTION BY GEOLOGIC SYSTEM AND FORMATION - 1972 AND PRIOR YEARS

YEAR	MISSISSIPPIAN		DEVONIAN			SILURIAN		ORDOVICIAN		Cumulative MCF All Formations									
	Stray-Marshall	Berea	Antrim Shale	Traverse	Dundee-Reed City	Detroit River	Salina-Niagaran	Trenton-Black River											
	First Year of Recorded Gas Production by Formation																		
	1949	1931	1936	1947	1934	1929	1946	1929	1954										
1925 Through 1929	(Cumulative-5 year interval)									1,887,732	74,867	1,962,599							
1930 Through 1934	(Cumulative-5 year interval)									3,001,963	3,744	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	(Cumulative-5 year interval)									8,020	184,488,103	8,719,367	52,495	5,203,774	40,142,249	793,763	7,616,503	247,024,274	
1950 Through 1954	(Cumulative-5 year interval)									8,020	202,521,522	9,635,569	108,121	7,117,271	45,503,827	7,791,020	18,932,585	10,725	291,628,690
1955 Through 1959	(Cumulative-5 year interval)									8,020	209,355,971	9,783,654	164,807	7,383,894	47,790,893	20,330,272	39,050,109	6,620,118	340,487,738
1960 Through 1964	(Cumulative-5 year interval)									8,020	212,230,795	9,825,674	321,292	8,260,250	48,907,957	39,582,606	105,849,501	52,064,112	477,050,207
1965 Through 1969	(Cumulative-5 year interval)									8,020	214,867,652	10,639,897	541,597	8,714,448	49,058,616	50,232,209	211,999,102	109,318,026	655,379,567
1970	8,020	214,940,871	10,748,423	701,487	8,796,642	49,132,533	52,064,422	237,419,075	120,820,107	694,631,580									
1971	8,020	214,966,857	10,847,125	854,187	8,864,524	49,197,755	53,800,103	249,966,009	132,057,621	720,562,201									
1972	8,020	214,993,729	10,907,572	1,021,689	8,918,027	49,241,673	55,460,648	271,078,549	142,527,923	754,129,839*									

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

TABLE 13. CUMULATIVE OIL AND GAS PRODUCTION BY COUNTY THROUGH 1972

COUNTY	CUMULATIVE PRODUCTION	
	Barrels Oil	MCF Gas
Allegan	19,634,951	31,270,479
Antrim	402	0
Arenac	46,160,716	6,722,136
Barry	686,180	0
Bay	19,962,989	7,857
Berrien	29,757	0
Calhoun	31,131,817	49,788,565
Cass	103,121	0
Clare	35,845,496	57,115,776
Clinton	4,121	0
Crawford	7,608,568	16,274,471
Eaton	3,665	0
Genesee	258,259	0
Gladwin	33,847,429	9,834
Grand Traverse	72,525	922,439
Gratiot	1,137,572	12,946,876
Hillsdale	50,255,911	53,838,378
Huron	60,841	0
Ingham	1,503,314	3,356,404
Ionia	381,328	0
Isabella	53,177,168	33,022,993
Jackson	21,971,762	27,905,701
Kalamazoo	28,868	0
Kalkaska	2,651,467	5,492,966
Kent	9,801,386	3,775,059
Lake	2,971,113	182,438
Lapeer	564,427	274,566
Lenawee	12,700	159,392
Livingston	2,946	23,741,734
Macomb	52,870	48,798,004
Mason	4,779,177	297,116
Mecosta	10,408,724	31,227,216
Midland	66,905,646	12,444,916
Missaukee	15,986,598	16,292,464
Monroe	717,191	0
Montcalm	18,171,310	52,576,247
Montmorency	7,688	0
Muskegon	7,976,927	9,759,149
Newaygo	8,774,105	13,132,946
Oakland	32,614	13,737
Oceana	15,150,236	1,172,788
Ogemaw	17,815,308	9,039,900
Osceola	54,768,828	45,138,540
Oscoda	39,240	0
Otsego	2,518,735	4,842,576
Ottawa	8,824,073	3,742,030
Presque Isle	3,339	0
Roscommon	11,922,265	13,665,333
Saginaw	2,503,761	0
Shiawassee	44,594	0
St. Clair	10,734,183	145,786,844
Tuscola	2,624,044	0
Van Buren	12,048,464	0
Washtenaw	778,111	7,518,343
Wayne	239,641	10,948,906
Wexford	4,945	924,719
56 Counties	613,703,439	*754,129,842

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

TABLE 14. CUMULATIVE WELL COMPLETIONS BY COUNTY THROUGH 1972

County	Area of County (including in-land water)		Classification of Completed Wells (New Hole) (does not include reworked wells)						Approximate Well Density (All Classes) Wells: Sq. Miles	
	Square Miles	Acres	Oil Wells	Gas Wells	Service Wells			Total Completions		
					GS - OBS	BDW	LPG			
Alcona	694	444,160						21	21	1:33
Allegan	837	535,680	1,307	89	174			1,695	3,265	4:1
Alpena	590	377,600						11	11	1:54
Antrim	520	332,800	1	1				38	40	1:13
Arenac	369	236,160	406	44				404	854	2:1
Barry	571	365,440	74		3			136	213	1:3
Bay	451	288,640	458	1				220	679	2:1
Benzie	342	218,880						9	9	1:38
Berrien	584	373,760	9					72	81	1:7
Branch	517	330,880						56	56	1:9
Calhoun	716	458,240	237	22	1			320	580	1:1
Cass	505	323,200	30					125	155	1:3
Charlevoix	451	288,640						13	13	1:35
Cheboygan	798	510,720						18	18	1:44
Chippewa	1,651	1,056,640	Northern Peninsula County					4	4	1:413
Clare	577	369,280	385	172	475			362	1,394	2:1
Clinton	573	366,720	4					81	85	1:7
Crawford	566	362,240	86	3	8			27	124	1:5
Delta	1,202	769,280	Northern Peninsula County					1	1	1:1200
Eaton	572	366,080	4					45	49	1:12
Emmet	477	305,280						5	5	1:95
Genesee	649	415,360	31	1				45	77	1:8
Gladwin	512	327,680	739					279	1,018	2:1
Grand Traverse	490	313,600	6	11				26	43	1:11
Gratiot	566	362,240	46	74	20			269	409	1:1
Hillsdale	604	386,560	256	2				478	736	1:1
Huron	824	527,360	5					77	82	1:10
Ingham	560	358,400	40	11				57	107	1:5
Ionia	578	369,920	9					82	91	1:6
Iosco	563	360,320						26	26	1:22
Isabella	573	366,720	656	161	55			476	1,348	2:1
Jackson	717	458,880	136	3				272	411	1:2
Kalamazoo	580	371,200	18					109	127	1:5
Kalkaska	573	366,720	59	23				68	151	1:4
Kent	868	555,520	461	6	1	8		348	824	1:1
Lake	577	369,280	51	1				159	211	1:3
Lapeer	662	423,680	36	1				64	101	1:7
Leelanau	374	239,360						9	9	1:42
Lenawee	760	486,400	3	72				111	186	1:4
Livingston	583	373,120	1	33	55			84	173	1:3
Luce	929	594,560	Northern Peninsula County					2	2	1:465
Mackinac	1,081	691,840	Northern Peninsula County					2	2	1:541
Macomb	481	307,840	5	44	12			311	372	1:1
Manistee	568	363,520		2				34	36	1:16
Mason	505	323,200	130	7				296	433	1:1
Mecosta	570	364,800	128	196	183			410	917	2:1
Midland	523	334,720	899	2		2		274	1,177	2:1
Missaukee	572	366,080	179	63	102			212	556	1:1
Monroe	564	360,960	45					113	158	1:4
Montcalm	720	460,800	383	221	216			591	1,411	2:1
Montmorency	567	362,880	3	1				19	23	1:25
Muskegon	519	332,160	443	120				389	952	2:1
Newaygo	867	554,880	200	46	99			389	734	1:1
Oakland	899	575,360	6	10				67	83	1:11
Oceana	541	346,240	335	8				532	875	2:1
Ogemaw	580	371,200	504	21	4			169	698	1:1
Osceola	585	374,400	345	119	184			370	1,018	2:1
Oscoda	568	363,520	2					12	14	1:41
Otsego	538	344,320	41	28				71	140	1:4
Ottawa	572	366,080	473	19	2			496	990	2:1
Presque Isle	678	433,920	1					21	22	1:31
Roscommon	573	366,720	180	14				103	297	1:2
Saginaw	814	520,960	378	2				174	554	1:1
Sanilac	961	615,040						51	51	1:19
Schoolcraft	1,229	786,560	Northern Peninsula County					2	2	1:615
Shiawassee	540	345,600	9					56	65	1:8
St. Clair	751	480,640	264	183	43	16		871	1,377	2:1
St. Joseph	518	331,520						16	16	1:32
Tuscola	820	524,800	152	2				107	261	1:3
Van Buren	615	393,600	722					999	1,721	3:1
Washtenaw	723	462,720	10	18	5	1		108	142	1:5
Wayne	625	400,000	12	24	17	29		54	136	1:5
Wexford	570	364,800	1	5				62	68	1:8
73 Counties	47,342	Totals:	11,404	1,886	1,659	56	14,085	29,090		

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

TABLE 15 PERMITS, DISCOVERIES, WELL COMPLETIONS, WELLS AT END OF YEAR, 1972 AND PRIOR YEARS

Year	Permits Issued	Classification of Well Completions					Fields or Pools Discovered		Wells at End of Year					
		Oil Wells	Gas Wells	Service Wells		Dry Holes	Total Completions	Oil	Gas	Oil Wells	Gas Wells	GS OBS	Inj. P.M.	LPG
				GS-OBS-SWD	LPG									
1925	0	3				3	1			Incomplete records from 1925 through 1930				
1926	0	89				16	1							
1927	16	218	3			46	1	1						
1928	283	79	30			49	1							
1929	576	324	22			137								*LPG injection and extraction wells in LPG storage facilities.
1930	257	154	19			158	2	3						
1931	111	59	17			52	1		634	64				
1932	184	109	10			64	1		645	72				
1933	429	223	10			85	3	1	831	70				
1934	444	272	47			150	3	2	977	117				
1935	700	319	101			221	1	5	1,167	212				
1936	777	333	206			268	6	5	1,360	402				
1937	973	622	66			267	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	478	2,299	---	52
1972	423	84	38	64	2	186	374	34	23	4,313	450	2,377	---	52

Mainly facility wells in gas storage fields. See Service Well Completions, page 4.

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

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.	Cincinnati
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

ABBREVIATIONS	Page 47	--by years	Page 42-43
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AREA OF COUNTIES		Valuation in 1972	6
Acres	45	INJECTION WELLS.	38
Square miles	45	LIQUID PETROLEUM GAS	
BRINE		Number of LPG storage wells	46
Production by field.	14-34	Primary storage facilities	39
--by formation	14-34	Production in 1972	5
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COMPLETIONS, NUMBER OF		Valuation per gallon	6
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--by year, 1972 and prior years	46	Oil gravity (See Table 2)	
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--by county	12	OIL AND GAS DISTRICTS.	5
FIELDS		OIL AND GAS FIELDS EXPLANATION.	13
Gas & oil, active, abandoned, locations	14-34	PERMITS	
General distribution (center spread map).	24-25	Issued in 1972	3
Storage, gas	35-36	--by county in 1972	12
Storage, gas, location.	35-36	--by districts in 1972	3
Storage, gas, undeveloped.	36	--by years	46
GAS, NATURAL		POOLS, OIL AND GAS. (See Table 2)	
Imports in 1972	6	PRECAMBRIAN TESTS, SOUTHERN PENINSULA	37
Production in 1972	4-5	REEF RESERVOIRS, NORTHERN MICHIGAN	11
--by counties in 1972.	7	REFINERIES	40
--by counties, cumulative	44	SPECIAL ORDERS	7-8
--by districts in 1972	5	STRATIGRAPHIC CHART	Inside Back Cover
--by fields, cumulative	14-36	WELL DENSITY BY COUNTY	45
--by geologic formation	42		
--by months in 1972	5		

STRATIGRAPHIC SUCCESSION IN MICHIGAN

PALEOZOIC THROUGH RECENT

MICHIGAN DEPARTMENT OF NATURAL RESOURCES
A. Gene Gazlay, Director

Geological Survey Division
Arthur E. Slaughter, State Geologist

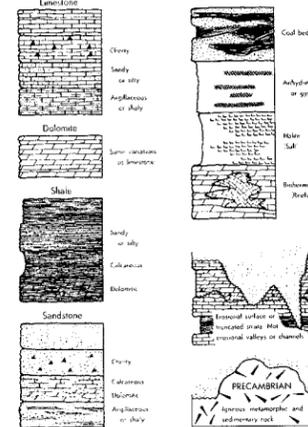
Geologic Names Committee
Chairman: Robert M. Kelley, Secretary: Harry D. Swann, Members: G. David Arrington, Harry D. Swann

INFORMAL TERMS

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

STRATIGRAPHIC POSITION	INFORMAL TERMS	PAYS
Basal sandstones of Saginaw Fm	Farms sandstone	
In lower part of Michigan	Beaumont zone, Beaumont zone, Beaumont zone, Beaumont zone	Gas
Marshall Sh	Beaumont zone	Gas & Oil
Coldwater Sh	Beaumont zone	Gas
In upper part of Ellettsworth Sh	Beaumont zone	Oil & Gas
Berea Sh	Berea sand, Eastern Michigan	Oil & Gas
Saginaw Bay ls	Saginaw Bay	Oil & Gas
Upper part of Traverse Group in Western Michigan	Traverse formation	Oil & Gas
Rogers City ls	Traverse line	Oil & Gas
Dundee ls	Traverse line	Oil & Gas
Dundee ls (Upper part of Lucas Fm ?)	Traverse line	Oil & Gas
In Lucas Fm	Traverse line	Oil & Gas
Amherstburg Fm	Black line	Oil & Gas
Part of Salina Group E Unit	Black line	Oil
Divisions of A-2 Carbonate in Western Michigan	A-2 division	Gas
A-1 Carbonate	A-1 division	Oil & Gas
Upper part of Niagara Series	Upper Niagara	Oil & Gas
Part of Niagara Series	Lower Niagara	Oil & Gas
Trenton Group	Black River formation	Oil & Gas
Black River Group	Black River shale	Oil & Gas
Onondaga Dol	Four Mile zone	Oil

EXPLANATION



Geologic Names Committee: Robert M. Kelley, Chairman; Harry D. Swann, Secretary; G. David Arrington, Harry D. Swann, Members.

CHART 1
1964

