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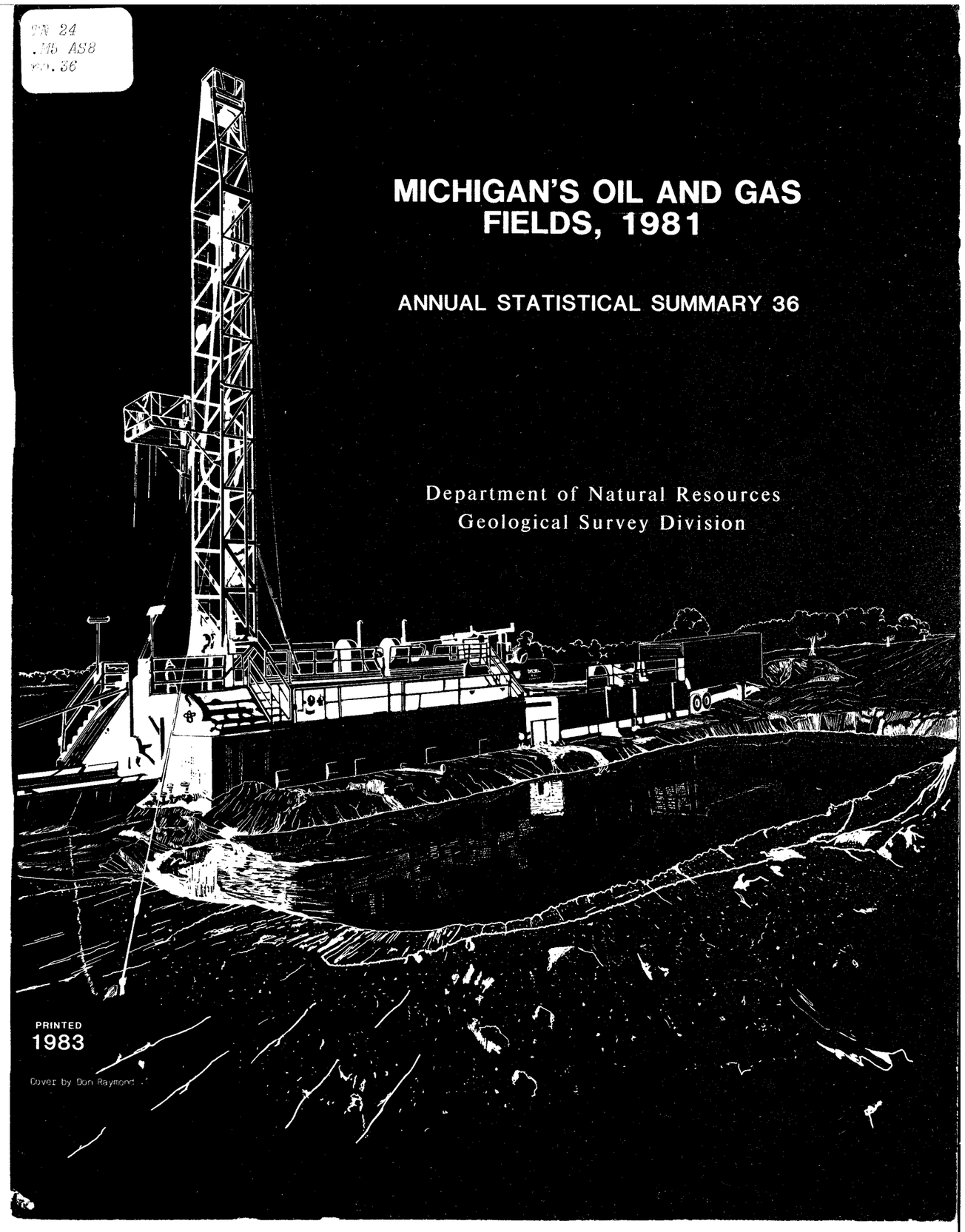
MICHIGAN'S OIL AND GAS FIELDS, 1981

ANNUAL STATISTICAL SUMMARY 36

Department of Natural Resources
Geological Survey Division



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STATE OF MICHIGAN

DEPARTMENT OF NATURAL RESOURCES

Geological Survey Division

ANNUAL STATISTICAL SUMMARY

36

MICHIGAN'S OIL AND GAS FIELDS, 1981

Drilling Statistics
Production
Exports and Imports

Published by Authority of State of Michigan CL '70 s.321.6

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DEPARTMENT OF NATURAL RESOURCES
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Director and Supervisor of Wells

Geological Survey Division
R. Thomas Segall
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Beverly L. Champion, Acting Supervisor, Regulatory Control Unit
Contribution: All data in columns under the headings "Number of Oil and Gas Wells" and "Brine Production" on Table 23.

Raymond H. Ellison, Supervisor, Production-Proration Unit. Contribution: All Michigan oil and gas production data, oil and gas valuation figures (Table 15), import and export figures (Tables 16-18), LPG and condensate figures (Table 14), secondary recovery projects (Table 25).

D. Michael Bricker, Supervisor, Subsurface and Petroleum Geology Unit. Contribution: All general drilling statistics and well completion data, discovery well and deep test data, cumulative records, and all other summary information not specifically provided by other Unit supervisors or by other agencies. Annual Statistical Summary compilation and manuscript preparation by staff members of the Subsurface and Petroleum Geology Unit.

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

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

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

Compilers: D. Michael Bricker
Ronald C. Elowski
C. Robert Reszka
Randall L. Milstein

Special acknowledgement is given to Margaret T. Schineman for manuscript word processing and to Steven E. Wilson, Information and Technical Services Unit, for word processing technical input on the Geological Survey Division's statistical summary.

Lansing, Michigan
September, 1983

MICHIGAN'S OIL AND GAS FIELDS, 1981

INTRODUCTION

To help foster the development of Michigan's hydrocarbon resources, statistical data have been maintained and published for many years. This issue of the oil and gas field statistical summary brings together information on various facets of Michigan's oil and gas industry activities.

The information contained in this oil and gas summary has been treated as uniformly as possible from year to year so that the data reflect accurately the actual figures and other information that should be credited to this year. The data found herein are mainly derived from records maintained by the Oil and Gas Section, Geological Survey Division, Department of Natural Resources.

This publication is divided into three parts. Part 1 summarizes significant statistics on oil and gas field activities and includes numerous other related records kept by the Oil and Gas Section. Part 2 contains specific information on Michigan's oil and gas fields, gas storage fields, and other related subjects. Part 3 contains cumulative records important to the oil and gas industry.

Certain well completion data are furnished to the American Petroleum Institute (API) and the American Association of Petroleum Geologists (AAPG) on a regular basis. Reports citing preliminary oil and gas statistics and production figures are also prepared for the Interstate Oil Compact Commission (IOCC). API publishes the data in monthly and quarterly reports. Year-end printouts of the data are made available to authors of the AAPG yearly Development Papers and to others. Year-end figures published by API are in general agreement with figures for similar categories published in this summary. Oil and gas production data are supplied by request to the United States Bureau of Mines for publication in their minerals yearbook.

Statistical data on Michigan oil and gas activities, derived from outside sources, are also published by the Oil and Gas News, Mt. Pleasant, Michigan; Petroleum Information, Incorporated, Denver, Colorado; American Petroleum Institute, Washington, D.C.; American Association of Petroleum Geologists, Tulsa, Oklahoma; Interstate Oil Compact Commission, Oklahoma City, Oklahoma; World Oil, Houston, Texas; and Oil and Gas Journal, Tulsa, Oklahoma.

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

Other factors which may result in statistical differences are internal decisions of the Oil and Gas Section regarding final year-end status of completed wells and decisions resulting from public hearings on oil and gas matters. For example, a well originally classified as a development well, and reported as such to one of the above organizations, may later be reclassified as the discovery well for a new pool or field, or a gas well might later be declared an oil well completion on the basis of new evidence. Frequently the changes in well status cannot be readily passed on to these outside organizations so that their records can be updated prior to publications of their final statistics.

PART 1

GENERAL STATISTICAL INFORMATION

OIL AND GAS PERMITS

Michigan's oil and gas permit system began in 1927 with the issuance of permit number 1. Since then, permit numbers have been issued in numerically consecutive order. Permits issued under Act 61, P.A. of 1939, as amended are terminated one year after date of issue if actual drilling operations have not begun.

The distribution of oil and gas drilling permits (including terminated permits) according to districts (oil and gas district map, Illustration 1) through a five year period is seen in Table 2.

Deepening permits were issued for 54 wells during 1981 as compared with 37 the previous year. Deepening permits issued in 1981 began with number 2008 and ended with number 2061.

Directionally Drilled Holes

Environmental and economic considerations have necessitated the drilling of a large number of directional holes since 1972, particularly to help locate Niagaran reefs. During 1981 there were 174 permits issued to drill directional holes. Many of these holes involve using the upper part of a previously drilled hole which, after being initially completed as a dry hole, was plugged back and directionally drilled to a more favorable subsurface location. Only one producing well is allowed per well bore, regardless of the number of holes directionally drilled from the same well bore.

Each new directional hole, even if drilled from the same surface location and using the upper part of a previously drilled well, is treated as a separate test and is assigned its own unique permit number.

TABLE 1 INITIAL WELL CLASSIFICATION

INITIAL CLASSIFICATION	1979	1980	1981
Exploratory wells	282	356	561
Development wells	283	456	470
Gas storage facility wells . .	62	25	10
LPG storage facility wells . .	5	0	0
Brine disposal wells	5	5	2
Water injection wells . . .	12	5	5
Total	649	856	1,048

TABLE 2 DRILLING PERMITS BY DISTRICT

	Permits Issued				
DISTRICT	1977	1978	1979	1980	1981
Basin	135	146	161	251	359
Northern	261	284	271	284	296
Southeastern	111	98	63	109	91
Southwestern	67	47	60	104	180
Western	118	115	94	108	122
Totals	692	690	649	856	1,048

TABLE 3 NEW WELL COMPLETIONS BY DISTRICT

Classifications of New Well Completions	Basin 1980	Basin 1981	Northern 1980	Northern 1981	Western 1980	Western 1981	Southwestern 1980	Southwestern 1981	Southeastern 1980	Southeastern 1981	Totals 1980	Totals 1981
Exploratory Wells												
Oil	17	14	8	18	8	3	5	15	3	1	41	51
Gas	1	3	13	6	3	2	2	5	2	2	21	18
D&A	45	57	125	127	32	55	26	58	29	33	257	330
Total	63	74	146	151	43	60	33	78	34	36	319	399
Development Wells												
Oil	96	99	23	27	17	21	12	25	19	29	167	201
Gas	0	2	17	13	4	3	5	3	4	4	30	25
D&A	28	18	72	51	26	18	17	24	16	9	159	120
Total	124	119	112	91	47	42	34	52	39	42	356	346
Service												
WI	6	9	3	5	0	0	0	0	0	2	9	16
BDW	2	1	1	3	1	2	1	0	0	0	5	6
GS	20	3	21	9	0	0	0	0	0	0	41	12
LPG	0	0	0	0	0	0	0	0	2	0	2	0
Total	28	13	25	17	1	2	1	0	2	2	57	34
Total Completions	215	206	283	259	91	104	68	130	75	80	732	779

TABLE 4 OIL AND GAS PRODUCTION BY DISTRICT IN 1981

District	Barrels Oil	MCF Gas
Basin	5,259,914	9,519,862
Northern	15,687,543	78,328,018
Southeastern	2,035,188	13,539,285
Southwestern	1,266,836	1,888,420
Western	8,359,683	46,527,464
Totals	32,609,164	149,803,049

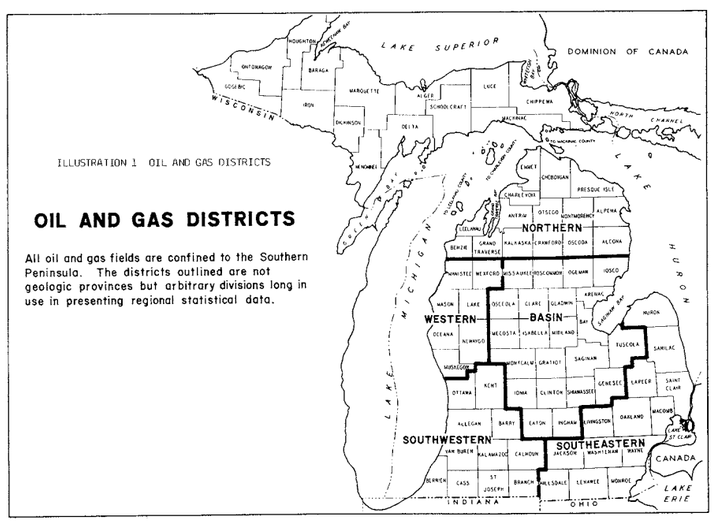


ILLUSTRATION 1 OIL AND GAS DISTRICTS

OIL AND GAS DISTRICTS

All oil and gas fields are confined to the Southern Peninsula. The districts outlined are not geologic provinces but arbitrary divisions long in use in presenting regional statistical data.

TABLE 5 TERMINATED PERMIT NUMBERS

D.P.1981	33652	33861	34059
33420	33653	33866	34091
33426	33662	33872	34169
33455	33665	33878	34170
33469	33667	33881	34171
33487	33689	33887	34202
33515	33695	33899	34239
33548	33704	33903	34249
33549	33741	33908	34278
33564	33752	33965	34279
33579	33816	33969	34512
33585	33817	33992	35067
33638	33821	34004	35076
33650	33852	34024	
33651	33857	34037	

TABLE 6 PERMITS ISSUED FOR DIRECTIONAL HOLES

Calhoun 20 permits
34351, 34354, 34377, 34421, 34451, 34498, 34624, 34655, 34736, 34783, 34839, 34971, 34978, 35047, 35078, 35107, 35156, 35164, 35177, 35314

Cheboygan 4 permits
34589, 35016, 35057, 35130

Crawford 7 permits
34312, 34520, 34755, 34782, 35055, 35238, 35266

Eaton 5 permits
34349, 34361, 34899, 35152, 35330

Grand Traverse 29 permits
34319, 34396, 34408, 34422, 34463, 34489, 34513, 34515, 34580, 34626, 34654, 34934, 34948, 34968, 35013, 35017, 35026, 35039, 35050, 35066, 35102, 35174, 35181, 35196, 35215, 35219, 35221, 35240, 35333

Hillsdale 1 permit
34950

Ingham 2 permits
34985, 35031

Isabella 1 permit
35061

Kalkaska 13 permits
34320, 34329, 34397, 34651, 34739, 34752, 34887, 34933, 34997, 35005, 35247, 35277, 35323

Livingston 5 permits
34403, 34418, 34656, 35104, 35325

Macomb 3 permits
34333, 34529, 35028

Manistee 32 permits
34317, 34391, 34393, 34424, 34486, 34487, 34535, 34708, 34737, 34743, 34756, 34757, 34789, 34832, 34861, 34863, 34953, 34969, 34982, 35007, 35008, 35011, 35049, 35058, 35105, 35129, 35157, 35170, 35183, 35211, 35239, 35349

Mason 2 permits
34457, 34499

Montmorency 3 permits
34433, 35065, 35315

Newaygo 2 permits
34441, 34608

Oakland 1 permit
35136

Osceola 1 permit
34852

Otsego 26 permits
34406, 34414, 34434, 34455, 34471, 34473, 34476, 34683, 34687, 34702, 34727, 34730, 34780, 34794, 34803, 34822, 34893, 34915, 34940, 34980, 35027, 35045, 35158, 35165, 35179, 35236

Presque Isle 13 permits
34311, 34478, 34573, 34584, 34729, 34999, 35032, 35040, 35063, 35121, 35151, 35167, 35327

St. Clair 1 permit
35348

Wexford 3 permits
34321, 34591, 34620

Rework Applications, Transfers of Ownership

In addition to issuance of permits for various types of wells covered under Act No. 61, P.A. of 1939, as amended, 381 applications were received and approved for rework operations on existing wells. Letters of termination were sent out for 58 previously issued permits. Transfers of ownership were processed for 163 wells. Corrections of location, well name, or other detail involving specific permits were made for 60 wells, and cancel and transfer of permit were made for 28 others. The surface location as well as the projected bottom-hole location is published for each permitted directionally drilled hole. After the well is drilled and the directional survey is filed, the correct bottom-hole location is determined from the survey record and then published as a correction for the initial projected bottom-hole location. Corrections of this type were published for 169 wells.

Oil and Gas Hearings

Oil and Gas Section activities included scheduling and preparation for hearings on oil and gas matters and the issuance of orders resulting from these hearings. These activities are summarized in Table 7.

TABLE 7 SUMMARY OF OIL AND GAS HEARINGS

Advisory Board Hearings held		8
Administrative Hearings held		21
Meetings as provided for in Special Order 1-78		1
Total Orders issued		49
Total Causes heard		49
Includes:	5	amendments to Spacing Orders
	13	Spacing and Proration Orders
	5	exceptions to Spacing Orders
	6	compulsory Pooling Orders
	1	exception to spacing for development wells
	3	amendments to Special Order 3-71
	4	exceptions to Special Order 1-73
	4	supplemental recovery and plan of unitization
	1	amendment to Special Order 1-81
	3	abrogation of spacing orders and Proration Orders
	2	amendment to spacing order denied
	1	commingle oil and gas production thru same string of casing

WELL COMPLETIONS

TABLE 8 EXPLORATORY AND DEVELOPMENT WELL COMPLETIONS

Year	Exploratory Wells Oil	Exploratory Wells Gas	Exploratory Wells Dry	Development Wells Oil	Development Wells Gas	Development Wells Dry	Totals
1977	35	36	230	101	34	111	547
1978	29	25	214	117	32	111	528
1979	42	28	187	131	30	103	521
1980	41	21	257	167	30	159	675
1981	51	18	330	201	25	120	745

TABLE 9 SERVICE WELL COMPLETIONS

Year	GS	INJ	LPG	BDW	Totals
1977	43	2	1	4	50
1978	60	11	0	3	74
1979	51	13	0	4	68
1980	41	9	2	5	57
1981	12	16	0	6	34

GS = Gsa Storage; INJ = Injection well; LPG = Liquidified Petroleum Gas well; BDW = Brine Disposal Well

Major and Independent Company Well Completions

Requests are frequently made for statistics on major oil company drilling activities in Michigan. The figures cited for the major companies do not include wells drilled by independents under farmout agreements with a major company or wells drilled by independents but partially supported by dry hole money or some other significant assistance from a major oil company. Independent oil companies, who have drilled most of Michigan's wells, are too numerous to cite individually. All figures cited for majors and independents were derived from inspection of operator names appearing on completion records. In Table 10, in cases where two or more companies were joint operators in a drilling venture, the well completion was attributed to the company whose name appears first (generally the major interest holder) on the official records.

Well Casing Used in Well Completion

Periodically, inquiries are made concerning the amount of casing (pipe) used in Michigan wells during a given year. Almost all oil and gas tests drilled in this state utilize rotary drilling techniques and require the setting of surface pipe and an intermediate casing string. A conductor pipe is set on many holes, and all wells completed as producers require a string of production casing. For convenience, casing tallies have been related to a range of casing sizes and are shown in Table 12.

TABLE 10 WELL COMPLETIONS BY MAJORS AND INDEPENDENTS

MAJOR	EXPLORATORY			DEVELOPMENT			SERVICE	
COMPANY	OIL	GAS	DRY	OIL	GAS	DRY	WELLS	TOTALS
AMOCO	2	2	16	3	2	1	0	26
MARATHON	0	0	0	6	0	0	7	13
SHELL	5	4	57	12	4	31	7	120
OTHER	1	0	7	35	1	3	4	51
SUBTOTAL	8	6	80	56	7	35	18	210
INDEPEND.	43	12	250	145	18	85	16	569
TOTALS	51	18	330	201	25	120	34	779

TOTAL WELLS DRILLED BY MAJORS AND INDEPENDENTS	
EXPLORATORY WELLS	399
DEVELOPMENT WELLS	346
SERVICE WELLS	34
EXPLORATORY WELLS DRILLED	
PERCENTAGE FOR MAJORS	24%
PERCENTAGE FOR INDEPENDENTS	76%
EXPLORATORY DISCOVERIES	
PERCENTAGE FOR MAJORS	20%
PERCENTAGE FOR INDEPENDENTS	80%
DEVELOPMENT WELLS DRILLED	
PERCENTAGE FOR MAJORS	28%
PERCENTAGE FOR INDEPENDENTS	72%
PRODUCING DEVELOPMENT WELLS DRILLED	
PERCENTAGE FOR MAJORS	28%
PERCENTAGE FOR INDEPENDENTS	72%
DISCOVERY SUCCESS RATIO (DISCOVERY:EXPLORATORY)	
AVERAGE FOR MAJORS	1:7
AVERAGE FOR INDEPENDENTS	1:6

TABLE 11 DRILLED FOOTAGE BY COUNTY

County	Exploratory Wells	Development Wells	Service Wells
Alcona	10,402	- - -	- - -
Allegan	12,120	13,804	- - -
Alpena	- - -	- - -	- - -
Antrim	10,218	- - -	- - -
Arenac	- - -	30,505	- - -
Barry	10,358	- - -	- - -
Bay	15,864	60,178	3,950
Benzie	5,851	5,790	- - -
Berrien	- - -	- - -	- - -
Branch	4,500	- - -	- - -
Calhoun	151,880	63,964	- - -
Cass	23,751	7,822	- - -
Charlevoix	8,902	- - -	- - -
Cheboygan	26,936	- - -	- - -
Chippewa	4,727	- - -	- - -
Clare	30,486	24,317	- - -
Clinton	- - -	- - -	- - -
Crawford	20,458	66,388	7,150
Eaton	95,199	12,056	- - -
Gd. Traverse	307,708	132,949	4,260
Genesee	- - -	6,279	- - -
Gladwin	- - -	35,198	- - -
Gratiot	7,665	- - -	- - -
Hillsdale	7,791	20,306	- - -
Huron	3,850	7,115	- - -
Ingham	50,757	19,570	4,000
Ionia	- - -	- - -	- - -
Iosco	4,432	- - -	- - -
Isabella	3,899	55,490	- - -
Jackson	24,389	- - -	- - -
Kalamazoo	5,859	2,695	- - -
Kalkaska	130,086	75,250	56,906
Kent	- - -	- - -	- - -
Lake	- - -	- - -	- - -
Lapeer	- - -	82,225	6,374
Lenawee	- - -	- - -	- - -
Livingston	27,534	13,579	- - -
Macomb	21,523	10,253	- - -
Manistee	174,184	110,129	3,726
Mason	29,248	6,239	- - -
Mecosta	4,472	3,350	5,103
Midland	11,031	3,493	- - -
Missaukee	75,882	67,964	- - -
Monroe	- - -	- - -	- - -
Montcalm	3,278	3,301	- - -
Montmorency	30,740	6,135	- - -
Muskegon	- - -	3,476	- - -
Newaygo	15,457	7,205	- - -
Oakland	21,960	3,594	- - -
Oceana	14,699	10,615	- - -
Ogemaw	- - -	38,243	19,411
Osceola	31,662	- - -	- - -
Oscoda	15,520	- - -	- - -
Otsego	97,825	115,339	20,376
Ottawa	12,316	2,831	- - -
Presque Isle	106,502	12,897	- - -
Roscommon	12,288	40,994	4,430
Saginaw	3,096	- - -	- - -
Sanilac	- - -	- - -	- - -
Shiawassee	- - -	- - -	- - -
St. Clair	14,537	8,257	- - -
St. Joseph	- - -	- - -	- - -
Tuscola	17,604	36,820	- - -
Van Buren	1,069	14,635	- - -
Washtenaw	11,455	- - -	- - -
Wayne	- - -	- - -	- - -
Wexford	34,623	14,509	- - -
State Total	1,766,593	1,255,759	135,686

TABLE 12 SUMMARY OF CASING INFORMATION

	Conductor Pipe	Surface Pipe	Intermediate Pipe	Production Pipe
Casing Size	--------- DAIMETER IN INCHES --------			
Range Used	13 - 20	10 - 13	6 - 10	4 - 6
Normal Size Used	16"	11-3/4"	8-5/8"	5-1/2"
Average Weight	75#/ft.	53#/ft.	37#/ft.	19#/ft.
No. feet used	40,353	277,360	1,200,296	1,438,031

Total footage for all casing sizes = 2,956,040

OIL AND GAS PRODUCTION

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

Delays in reporting and changes in methods of reporting used by producing companies and purchasers result in a continuous correction and refinement of production figures. Consequently all monthly, yearly, or other production figures are subject to correction as warranted.

In an attempt to obtain national uniformity of data as recommended by the Interstate Oil Compact Commission, all annual and cumulative gas production figures for Michigan were converted to a standard base pressure for volumetric measurement of 14.73 pounds per square inch in 1978. This conversion and subsequent adjustment of gas production figures resulted in slight changes in cumulative production volumes in those fields which had been measured at varying pressure bases in prior years.

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

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

TABLE 13 1981 OIL AND GAS PRODUCTION BY COUNTY

County	Barrels Oil	MCF Gas
Allegan	109,728	16,284
Antrim	134,650	436,465
Arenac	171,774	0
Barry	12,378	0
Bay	208,381	0
Benzie	190,450	177,608
Calhoun	983,565	1,785,700
Cass	25,343	0
Cheboygan	287	0
Clare	413,697	688,113
Crawford	1,443,049	2,878,838
Eaton	612,847	4,619,743
Gd. Traverse	3,867,586	32,044,200
Genesee	20,454	0
Gladwin	312,177	0
Gratiot	7,188	0
Hillsdale	1,108,033	5,678,680
Huron	1,497	0
Ingham	895,569	2,421,400
Isabella	181,419	0
Jackson	4,918	0
Kalamazoo	1,136	0
Kalkaska	3,590,124	30,995,309
Kent	93,622	0
Lake	78,413	0
Lapeer	353,632	203,634
Lenawee	379	0
Livingston	804	525,776
Macomb	25,981	4,280,938
Manistee	7,427,645	41,981,643
Mason	210,936	1,583,362
Mecosta	21,609	4,963
Midland	180,901	0
Missaukee	906,299	1,118,173
Monroe	3,193	0
Montcalm	70,808	0
Muskegon	9,224	0
Newaygo	17,094	1,675
Oakland	94,221	1,649,072
Oceana	19,046	0
Ogemaw	579,850	106,405
Osceola	132,028	3,265
Oscoda	742	0
Otsego	6,450,883	11,795,598
Ottawa	8,167	86,436
Presque Isle	9,772	0
Roscommon	411,693	557,800
Saginaw	46,938	0
Shiawassee	12,281	0
St. Clair	430,953	1,201,151
Tuscola	74,001	0
Van Buren	32,897	0
Washtenaw	334	34
Wayne	11,243	0
Wexford	597,325	2,960,784
Totals	32,609,164	149,803,049

NATURAL GAS LIQUIDS

The amount of liquids produced from gas-condensate reservoirs are included in the yearly oil production totals shown in tabulations in this publication. Wells officially determined to be gas wells are assigned to the Public Service Commission for well connection permits and determination and jurisdiction of gas production rates. There is no restriction on the amount of liquids produced along with the gas. Gas plants operated by Shell Oil Company and Amoco Production Company in Kalkaska County strip natural gas liquids from the gas. The liquids are then sold to another company through the Shell pipeline that terminates at Marysville, Michigan.

An attempt has been made to maintain records of condensate production from the northern reef reservoirs discovered since 1969. Production-Proration Unit records are show in Table 14 for condensate liquids.

TABLE 14 CONDENSATE PRODUCTION

Year	Barrels	Cumulative
1969	0	0
1970	18,946	18,946
1971	98,668	117,614
1972	125,768	243,382
1973	335,041	578,423
1974	1,187,498	1,765,921
1975	1,863,338	3,629,259
1976	1,896,870	5,526,129
1977	1,991,330	7,517,459
1978	2,295,263	9,812,722
1979	1,801,928	11,614,650
1980	1,582,638	13,197,288
1981	1,433,198	14,630,486

Gas plant operations are summarized in Table 26. It should be noted that the LPG recovery figures for the Amoco and Shell plants in Kalkaska County include stabilized condensate as well as LPGs.

TABLE 15 OIL AND GAS VALUATION

	Average Wellhead Price*		Gross Value*	
Year	Oil per Bbls.	Gas per MCF	Oil	Gas
1969	$ 3.07	$ .26	$ 37,494,318	$ 9,296,332
1970	3.10	.27	36,246,376	10,476,482
1971	3.27	.26	38,858,706	6,775,629
1972	3.20	.31	41,556,432	10,314,222
1973	4.07	.40	59,412,710	17,494,727
1974	8.55	.51	154,746,373	35,181,955
1975	10.74	.63	262,351,653	65,103,875
1976	10.84	.88	329,636,770	120,252,528
1977	10.95	1.10	360,994,743	145,969,976
1978	12.34	1.11	427,881,248	166,920,524
1979	14.94	1.75	524,257,112	279,121,269
1980	21.55	2.36	728,607,821	372,855,197
1981	30.38	2.86	992,435,836	436,936,911

*Source: Production-Proration Unit records

OIL AND GAS IMPORTS AND EXPORTS

Michigan refineries import some U.S. domestic and foreign crude oil each year. Overseas foreign sources include Libya and Nigeria. Canadian crude oil brought via pipeline from western Canada oil fields constitutes another important source of imports. Imports by month were reported by refineries and are shown in Table 16.

TABLE 16 1981 MONTHLY CRUDE OIL IMPORTS (Bbls.)

	Domestic & Foreign	Canadian	Total
January	1,694,609	0	1,694,609
February	1,112,753	129,647	1,242,400
March	1,273,934	123,899	1,397,833
April	1,085,755	122,937	1,208,692
May	1,453,093	193,776	1,646,870
June	1,288,671	0	1,288,671
July	1,050,863	62,728	1,113,591
August	730,112	183,052	913,162
September	937,297	127,113	1,064,410
October	840,673	126,456	967,129
November	1,032,289	62,623	1,094,912
December	1,041,671	94,353	1,136,024
Totals	13,541,720	1,226,583	14,768,303

Most Michigan produced crude oil goes to Michigan refineries but some is exported. Records provided to the Production-Proration Unit by companies reporting exports of Michigan crude are summarized in Table 17.

TABLE 17 1981 MONTHLY CRUDE OIL EXPORTS (Bbls.)

January	696,453
February	716,480
March	677,655
April	963,089
May	888,464
June	555,335
July	844,230
August	1,277,866
September	1,122,632
October	1,106,890
November	1,070,416
December	901,774
Total	10,821,284

TABLE 18 1981 MONTHLY PIPELINE GAS IMPORTS (Mcf)*

January	74,759,340
February	67,936,319
March	82,820,836
April	87,684,606
May	56,494,419
June	52,565,540
July	54,309,800
August	57,780,315
September	54,901,117
October	51,389,386
November	50,030,203
December	55,412,314
Total	746,084,195

* Compiled by the Federal Pipeline Tariff Analysis Section, Michigan Public Service Commission

NEW FIELD AND POOL DISCOVERIES

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

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

Michigan wells are initially classified as near as possible according to guidelines established by AAPG and API (AAPG Bulletin, Volume 58/8, August 1974, pages 1501-1503). Classifications such as exploratory, development, and the various types of service wells, are made after inspection of appropriate oil and gas maps and noting the location of the test in reference to established fields, dry holes, etc. Gas storage facility wells, water injection wells and other types of service wells are generally designated as such by the operator. The Lahee classification system for designating exploratory or development wells is particularly adaptable to structural traps but does not adapt to all situations involving small reefs such as are found in Michigan. Because of the apparent small areal extent of most reefs as shown by seismic anomalies and the close proximity of one reef to another, especially in the northern and southern reef belts, it has become increasingly difficult to classify with certainty all new well locations as exploratory or development.

Reservoir performance may show that a well previously classified as a development well should actually be considered as being in a separate reservoir or pool. Likewise, a so-called discovery well may actually turn out to be a development well to a nearby reef reservoir. Changes in classification may be the result of action by the regulating agency after enough data has been accumulated on the well or wells, or may result from new data presented at public hearings and the decision of the Supervisor of Wells after thorough consideration of the new data.

TABLE 19 DISCOVERY WELLS BY GEOLOGIC SYSTEM

		NO. OF DISCOVERIES		
SYSTEM	FORMATION OR PAY	1979	1980	1981
PENNSYLVANIAN		-	-	-
MISSISSIPPIAN	"MICHIGAN STRAY SS."	-	1	-
	"BEREA SS."	2	2	3
DEVONIAN	ANTRIM SHALE	1	2	-
	"TRAVERSE LIME"	2	5	3
	DUNDEE	4	1	-
	DETROIT RIVER "SOUR ZONE"	2	2	3
	RICHFIELD	1	3	1
SILURIAN	SALINA-NIAGARAN	56	46	58
ORDOVICIAN	TRENTON-BLACK RIVER	2	-	-
	PRAIRIE DU CHIEN	-	-	1

TABLE 20 DRILLING OBJECTIVES BY GEOLOGIC SYSTEM

		PERCENTAGE		
SYSTEM	FORMATION OR PAY	1979	1980	1981
PENNSYLVANIAN		-	-	-
MISSISSIPPIAN	"MICHIGAN STRAY SS."	4.8	2.9	1.1
	"BEREA SS."	0.8	2.6	3.8
DEVONIAN	ANTRIM SHALE	1.0	1.4	1.2
	"TRAVERSE LIME"	3.4	4.5	6.9
	DUNDEE	7.1	7.7	6.4
	DETROIT RIVER "SOUR ZONE" & RICHFIELD	11.0	12.7	15.2
SILURIAN	SALINA-NIAGARAN	69.1	64.1	58.5
ORDOVICIAN	TRENTON-BLACK RIVER	2.6	3.6	1.5
	PRAIRIE DU CHIEN	0.2	0.1	3.9
CAMBRIAN				1.2
PRECAMBRIAN		-	-	.3

WELL RECORDS & OIL AND GAS MAPS

Descriptive geological logs and driller's logs are available for over 35,000 tests, including exploratory, development, facility and other types of wells. Individual well records may be purchased at a nominal cost from the Geological Survey Division. Drillers logs are available on 16 mm reel microfilm. For details please contact the Information and Technical Services Unit, Box 30028, Lansing, Michigan 48909, telephone (1-517) 373 1256. Electric or radiation logs of any type are not available for distribution or sale.

Blueprint copies of oil and gas field maps are available for every county in the Southern Peninsula. The maps show locations of oil and gas tests but do not show geological data or structural contour lines. County map scales are 1 inch equals 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 inches equals 1 mile. All manuscript maps or tracings from which blueprint copies are made are posted on a regular basis. An oil and gas field maps list may be obtained from the Geological Survey Division upon request.

PART 2

EXPLANATION

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

Table 23 list Michigan's oil and gas fields and gas storage reservoirs. The symbol on the left margin of the table indicates the official classification of fields and pools at the end of the year. Classifications may be changed as warranted. Official field names are listed alphabetically in the first column and the producing pool, or pools, are shown under the heading Producing Formation or Pool. Most fields consist of one pool with oil or gas production coming from a single reservoir within a formation. Some fields have two or more separate pools, each producing from a different formation or stratigraphic interval and at a different depth. Most multi-pool fields are associated with a common structural feature. Salina-Niagaran reef oil or gas accumulations are mostly single-pool fields. Some, however, have several separate reef reservoirs designated as Pool A, Pool B and so on. Most have been so designated by administrative action following public hearings. Also, a few of the listed fields actually consist of two or more hydrocarbon accumulations which for administrative purposes have been consolidated under one field name.

Location of fields. The geographic location of fields and pools can be found by township and range on the oil and gas field map, Illustration 5. Due to space and scale 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.

TABLE 21 1981 DISCOVERY WELLS

COUNTY TOWNSHIP-T,R,SEC	FIELD NAME	OPERATOR & LEASE	PERMIT NUMBER	TOTAL DEPTH	DEPTH TO PAY	INITIAL PRODUCTION OIL WELLS	INITIAL PRODUCTION GAS WELLS	PRODUCING FORMATION	AAPG POOL CLASS
ALLEGAN CASCO-01N,16W,07	CASCO SEC. 07	OMNI PET. CORP. BRYANT 1-7	34556	1168	1163	20 BOPD		TRAVERSE	E
BAY HAMPTON-14N,06E,21	ESSEXVILLE	WOLVERINE GAS & OIL CO. HUGO 1-21	33753	3915	3451	48 BOPD		DETROIT RIVER	E
BENZIE COLFAX-25N,13W,25	COLFAX 25-25N-13W	SHELL OIL CO. ST-COLFAX 2-25	34084	5851	5688	335 BOPD +236 MCF		NIAGARAN	E
CALHOUN CLARENCE-01S,04W,27	CLARENCE 27-01S-04W P/A	REEF PET. CORP. GUISBERT 3-27	34704	3302	3169	264 BOPD +243 MCF		NIAGARAN	E
CALHOUN CLARENCE-01S,04W,33	CLARENCE 33-01S-04W	REEF PET. CORP. LAKE 2-33	34753	3312	3152		3170 MCF +10 BWPD	NIAGARAN	E
CALHOUN CLARENCE-01S,04W,34	CLARENCE 34-01S-04W	REEF PET. CORP. KECK-BUNDE 1-34	34658	3328	3183	261 BOPD +118 MCF		NIAGARAN	E
CALHOUN CLARENCE-01S,04W,35	CLARENCE 35-01S-04W	REEF PET. CORP. SCHMIDT 1-35	34652	3335	3089	265 BOPD +160 MCF		NIAGARAN	E
CALHOUN CONVIS-01S,06W,09	CONVIS 09-01S-06W	SMITH PET. CO. BARNES 1-9	34182	3150	3026	80 BOPD +80 BWPD		NIAGARAN	E
CALHOUN CONVIS-01S,06W,16	CONVIS 16-01S-06W	MICH. PET. EXPL. INC. RUDD-AUDUBON 1-16A	34421	3111	3025	145 BOPD +30 MCF		NIAGARAN	E
CALHOUN CONVIS-01S,06W,16	CONVIS 16-01S-06W P/A	MICH. PET. EXPL. INC. BUEHMER 1-16	34759	3226	3108	132 BOPD +35 MCF		NIAGARAN	E
CALHOUN CONVIS-01S,06W,20	CONVIS 20-01S-06W	R. KLABZUBA HOUK UNIT 1-20A	34351	3038	2853	35 BOPD +17.3 MCF		NIAGARAN	E
CALHOUN CONVIS-01S,06W,20	CONVIS 20-01S-06W P/A	R. KLABZUBA COATS UNIT 1-20A	34377	3000	2874	50 BOPD +11.2 MCF		NIAGARAN	E
CALHOUN CONVIS-01S,06W,21	CONVIS 21-01S-06W P/A	R. KLABZUBA HUGGETT 1-21A	35107	3010	2924	50 BOPD		NIAGARAN	E
CALHOUN CONVIS-01S,06W,22	CONVIS 22-01S-06W	R. KLABZUBA FAIRCHILD UNIT 1-22	34429	3024	2926	240 BOPD		SALINA-NIAGARAN	E
CALHOUN CONVIS-01S,06W,30	CONVIS 30-01S-06W P/A	PATRICK PET. CORP. L. W. SMITH FARM 1-30	34243	3115	2839	65 BOPD		NIAGARAN	E
CALHOUN LEE-01S-05W,01	LEE 01-01S-05W	HOBSON PET. CO. MARTIN-ROSS 1A-1	34360	3476	3198		SMALL GAS WELL	SALINA-NIAGARAN	E
CALHOUN LEE-01S,05W,10	LEE 10-01S-05W P/D	HARRIS-CANONIE PERSONS 1-10	34541	3473	3324		2000 MCF	SALINA-NIAGARAN	E
CALHOUN LEE-01S,05W,13	LEE 13-01S-05W P/B	TROLZ & ASSOC. MIDLAM 3-A	33838	3361	3220		SIGW	NIAGARAN	E
CALHOUN LEE-01S,05W,20	LEE 20-01S-05W	COLLINS BROS. OBERLAIN-WILLIAMS 1-20	34416	3220	3019	2 BOPD +282 MCF		NIAGARAN	E
CALHOUN LEE-01S,05W,24	LEE 24-01S-05W P/A	MGU DEV. CO. MICH. GAS UTILITIES 1-24	34685	3307	3100		50 MCF	NIAGARAN	E
CALHOUN LEE-01S,05W,24	LEE 24-01S-05W P/B	R. VAN BELOIS USA/LYNN/DEBRUYN 1-24	35009	3272	3148	100 BOPD +50 MCF		NIAGARAN	E
CASS CALVIN-07S,14W,29	CALVIN SEC. 29	FAYETTE DRILLING SMITH 1	34630	734	734	40 BOPD		TRAVERSE	E
CRAWFORD FREDERIC-28N,04W,13	FREDERIC 13-28N-04W P/A	SHELL OIL CO. SALLING-HANSON 2-13B	34782	7395	7240	430 BOPD +476 MCF		NIAGARAN	E
CRAWFORD FREDERIC-28N,04W,20	FREDERIC 20-28N-04W	SHELL OIL CO. ST-FREDERIC 4-20A	34312	7431	7346	96 BOPD +36 MCF		NIAGARAN	E
CRAWFORD S. BRANCH-25N,02W,25	HICKEYS CREEK	DART OIL & GAS CORP. MEAD 1-25	34305	4530	4298	183 BOPD +63 MCF	+63BWPD	RICHFIELD	E
EATON EATON-02N,04W,25	EATON 25-02N-04W	REEF PET. CORP. HARRIS 1-25	34402	4070	3881	238 BOPD +133 MCF		NIAGARAN	E
EATON EATON RAPIDS-02N,03W,28	EATON RAPIDS 28-02N-03W P/B	TOTAL PET. INC. WOODS 1-28	34837	4065	3871		1210 MCF	SALINA-NIAGARAN	E
EATON EATON RAPIDS-02N,03W,33	EATON RAPIDS 33-02N-03W P/A	CONS. POWER CO. ACKLEY 2-33	34361	3897	3764	352 BOPD +85 MCF		NIAGARAN	E
EATON HAMLIN-01N,03W,11	HAMLIN 11-01N-03W	DART OIL & GAS CORP. ROGERS 1-11	34404	3930	3646	70 BOPD +51 MCF		NIAGARAN	E
EATON HAMLIN-01N,03W,11	HAMLIN 11-01N-03W P/A	DART OIL & GAS CORP. ROGERS 2-11	34398	3928	3650	64 BOPD +56 MCF		NIAGARAN	E
EATON HAMLIN-01N,03W,14	HAMLIN 14-01N-03W	G. K. MOORE HOLMES-PHILLIPS 1	30110	3790	3636	SMALL OIL WELL		NIAGARAN	E
EATON HAMLIN-01N,03W,16	HAMLIN 09-01N-03W P/A	PATRICK PET. CORP. SMITH-ABBEY 1-16	34899	3807	3690		990 MCF	NIAGARAN	E
GD. TRAVERSE BLAIR-26N,11W,21	BLAIR 21-26N-11W P/A	R. RAFFAELE, INC. STATE-BLAIR 5-21	34713	5636	5441	23 BOPD +192 BWPD		NIAGARAN	E
GD. TRAVERSE BLAIR-26N,11W,29	BLAIR 29-26N-11W	MID-AMERICAN OIL & GAS RASHO-LEMCOOL 1-29	34145	5830	5587	35 BOPD +10 BWPD		NIAGARAN	E
GD. TRAVERSE BLAIR-26N,11W,34	BLAIR 34-26N-11W P/B	DELTA & GT. LKS. NIAG. FRANCO UNIT 1-34	33218	6124	5907	50 BOPD +200 MCF		NIAGARAN	E

TABLE 21 1981 DISCOVERY WELLS - Continued

COUNTY TOWNSHIP-T,R,SEC	FIELD NAME	OPERATOR & LEASE	PERMIT NUMBER	TOTAL DEPTH	DEPTH TO PAY	INITIAL PRODUCTION OIL WELLS	INITIAL PRODUCTION GAS WELLS	PRODUCING FORMATION	AAPG POOL CLASS
GD. TRAVERSE MAYFIELD-25N,11W,33	MAYFIELD 33-25N-11W P/B	REEF PET. CORP. ST-MAYFIELD 1-33	35050	6768	6654	125 BOPD +1229 MCF		NIAGARAN	E
GD. TRAVERSE PARADISE-25N,10W,03	PARADISE 03-25N-10W P/A	EASON OIL CO. HART 1-3	34864	6904	6745		1800 MCF +90 BCPD	NIAGARAN	E
GD. TRAVERSE UNION-26N,09W,03	UNION 03-26N-09W P/A	TRAVERSE OIL CO. ELHART 2-3	34849	6681	6557	475 BOPD +665 MCF		NIAGARAN	E
GD. TRAVERSE UNION-26N,09W,04	UNION 04-26N-09W	ROBINSON ENERGY CORP. FIEBING 1-4	34580	6601	6170	4 BOPD +140 BWPD		NIAGARAN	E
GD. TRAVERSE UNION-26N,09W,29	UNION 29-26N-09W P/A	AMOCO PROD. CO. ST-UNION "U" 3A-29	34654	7095	6840		2000 MCF +200 BCPD	SALINA-NIAGARAN	E
INGHAM ONONDAGA-01N,02W,19	ONONDAGA 19-01N-02W	KULKA & SCHMIDT, INC. GALLAGHER-CLONE 1-19	34332	3678	3600	40 BOPD		NIAGARAN	E
INGHAM WHITE OAK-02N,02E,04	WHITE OAK 04-02N-02E	CONS. POWER CO. TUTHILL 1-4	34129	4617	4479	223 BOPD		NIAGARAN	E
INGHAM WHITE OAK-02N,02E,11	WHITE OAK 11-02N-02E	AMOCO PROD. CO. OESTERLE UNIT 1-11	33977	4728	4252	15 BOPD		SALINA-NIAGARAN	E
INGHAM WHITE OAK-02N,02E,15	WHITE OAK 15-02N-02E P/A	NORTHERN MICH. EXPL. CO. COLLAR 1-15B	35031	4469	4197	400 BOPD		NIAGARAN	E
KALKASKA BLUE LAKE-28N,05W,05	BLUE LAKE 05-28N-05W P/A	AMOCO PROD. CO. ST-BLUE LAKE UNIT "N" 1-5	34785	6877	6538	355 BOPD +500 MCF		NIAGARAN	E
KALKASKA BOARDMAN-26N,08W,04	BOARDMAN 04-26N-08W P/B	SHELL OIL CO. ST-BOARDMAN 3-4	34989	6990	6770		1998 MCF +214 BCPD	NIAGARAN	E
KALKASKA COLD SPRINGS-28N,06W,20	COLD SPRINGS 20-28N-06W P/A	AMOCO PROD. CO. WILBUR 3-20	34062	7074	6836		2030 MCF +72 BCPD	NIAGARAN	E
KALKASKA KALKASKA-27N,07W,33	KALKASKA 33-27N-07W	FINDERS OIL & GAS CO. RUBY 3-33	34521	7328	7181	27 BOPD		NIAGARAN	E
KALKASKA KALKASKA-27N,08W,20	KALKASKA 20-27N-08W P/A	NORTHERN MICH. EXPL. CO. USA-ST-KALKASKA 3-20	34823	6635	6443	275 BOPD +107 MCF		NIAGARAN	E
LIVINGSTON HAMBURG-01N,05E,16	HAMBURG 16-01N-05E	DART OIL & MICH OIL CO. BACALIS 1-16A	34418	3926	3701	96 BOPD +264 BWPD		NIAGARAN	E
MACOMB ARMADA-05N,13E,07	ARMADA 07-05N-13E	ENERGY ACQ. CORP. HILLMAN 1-7	34175	3894	3700		1400 MCF	NIAGARAN	E
MANISTEE MANISTEE-22N,16N,12	MANISTEE 12-22N-16W P/A	DON YOHE ENTERPRISE THIEMAN-PEARSON 1-12	34230	4766	4670	16 BOPD		NIAGARAN	E
MASON VICTORY-19N,17W,05	VICTORY 05-19N-17W P/A	MILLER BROS. DIESING 5-5	34328	4601	4470		400 MCF	NIAGARAN	E
MIDLAND EDENVILLE-16N,01W,05	EDENVILLE SEC. 05	LAKELAND OIL CORP. BOWER-ELWOOD 1	34575	4280	4268	150 BOPD +75 MCF		DETROIT RIVER	E
MIDLAND EDENVILLE-16N,01W,15	EDENVILLE SEC. 15	BURGESS, HALL & STINSON TRAVERSO 1	34787	3901	2473	10 BOPD +3 BWPD		BEREA	E
MIDLAND PORTER-13N,01W,10	PORTER	UNION OIL OF CALIF. NARMORE 46	32513	3477	2301	31 BOPD +34 BWPD		BEREA	E
MISSAUKEE REEDER-22N,07W,36	FALMOUTH	JEM PET. CORP. EDWARDS 7-36	33963	10,810	10,450		12.3MMCF	PRAIRIE DU CHIEN	E
NEWAYGO BARTON-16N,11W,27	BARTON SEC. 33	R. RAFFAELE INC. DEVRIES 1-27	34441	3000	2954	35 BOPD		TRAVERSE	E
NEWAYGO DENVER-14N,14W,05	HUBER	JENNINGS PET. CORP. VANDERLEY 1-5	34234	2064	1630	2 BOPD		BEREA	E
OTSEGO BAGLEY-30N,03W,21	BAGLEY 21-30N-03W P/A	MICH. PET. EXPL. INC. JOHNSON & JOHNSON 1-21	34482	6136	5929	100 BOPD +35 MCF		NIAGARAN	E
OTSEGO CHARLTON-31N,01W,10	CHARLTON 10-31N-01W	SHELL OIL CO. ST-N. CHARLTON 1-10	31793	5366	5176	240 BOPD +300 MCF		NIAGARAN	E
OTSEGO CHARLTON-31N,01W,11	CHARLTON 11-31N-01W	SHELL OIL CO. ST-N. CHARLTON 1-11	31794	5419	5082		3000 MCF +192 BCPD	NIAGARAN	E
OTSEGO DOVER-31N,02W,33	DOVER 33-31N-02W P/A	FINDERS OIL & GAS CO. HOUSE 1-33	34215	5605	5400	5 BOPD +5 MCF		NIAGARAN	E
PRESQUE ISLE BISMARCK-34N,04E,14	BISMARCK 14-34N-04E	SHELL OIL CO. ST-BISMARCK 1-14A	34729	3284	3109	456 BOPD +240 MCF		NIAGARAN	E
PRESQUE ISLE BISMARCK-34N,04E,34	BISMARCK 34-34N-04E	SHELL OIL CO. URLAND 1-34	34507	3675	3303		361 MCF +24 BWPD	NIAGARAN	E
PRESQUE ISLE CASE-33N,03E,03	CASE 03-33N-03E	TRENDWELL OIL CORP. SHIRELY 1-3	33960	3790	3659	200 BOPD +156 MCF		NIAGARAN	E
ST. CLAIR COTTRELLVILLE-03N,16E,05	COTTRELLVILLE 05-03N-16E	MICH. OIL & KEP RES. KAATZ 1-5	34126	2455	2266		SIGW	NIAGARAN	E
TUSCOLA WATERTOWN-10N,09E,14	FOSTORIA	DON YOHE ENTERPRISE BROWN 1-14	33947	3355	3103	15 BOPD		DETROIT RIVER	E
WEXFORD WEXFORD-24N,12W,17	WEXFORD 17-24N-12W	SHELL OIL CO. BYARD 2-17B	34620	6270	6128		1480 MCF +5 BCPD	NIAGARAN	E

TABLE 22 DRILLING PERMITS, WELL COMPLETIONS, DRILLED FOOTAGE BY COUNTY, 1981

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

COUNTY	OIL/GAS PERMITS ISSUED	OIL & GAS TESTS Completed Explor.	OIL & GAS TESTS Completed Devel.	RESULTS Oil Wells	RESULTS Gas Wells	RESULTS Dry Holes	SERVICE WELLS Completed G.S.	SERVICE WELLS Completed B.D.W.	TOTAL WELLS DRILLED	TOTAL FOOTAGE DRILLED Explor.	TOTAL FOOTAGE DRILLED Devel.	TOTAL FOOTAGE DRILLED Fac.	Average Well Depth
Alcona	1	1	0	0	0	1	0	0	1	10,402	0	0	10,402
Allegan	21	7	7	6	0	8	0	0	14	12,120	13,804	0	1,852
Antrim	1	2	0	0	0	2	0	0	2	10,218	0	0	5,109
Arenac	8	0	7	5	0	2	0	0	7	0	30,505	0	4,358
Barry	3	3	0	0	0	3	0	0	3	10,358	0	0	3,453
Bay	50	5	21	22	0	4	0	1	27	19,865	56,177	3,950	2,963
Benzie	1	1	1	1	0	1	0	0	2	5,851	5,790	0	5,821
Berrien	2	0	0	0	0	0	0	0	0	0	0	0	0
Branch	1	1	0	0	0	1	0	0	1	4,500	0	0	4,500
Calhoun	89	51	20	15	8	48	0	0	71	151,880	63,964	0	3,040
Cass	29	11	10	8	0	13	0	0	21	23,751	7,822	0	1,503
Charlevoix	1	1	0	0	0	1	0	0	1	8,902	0	0	8,902
Cheboygan	11	7	0	0	0	7	0	0	7	26,936	0	0	3,848
Chippewa	5	4	0	0	0	4	0	0	4	4,727	0	0	1,182
Clare	19	3	5	3	1	4	0	0	8	30,486	24,317	0	6,850
Clinton	1	0	0	0	0	0	0	0	0	0	0	0	0
Crawford	29	5	14	12	0	7	0	2	21	20,458	66,388	7,150	4,476
Eaton	30	23	3	7	2	17	0	0	26	95,199	12,056	0	4,125
Gd. Traverse	93	52	27	12	5	62	0	1	80	307,708	132,949	4,260	5,561
Genesee	2	0	2	1	1	0	0	0	2	0	6,279	0	3,140
Gladwin	26	0	9	8	0	1	0	0	9	0	35,198	0	3,911
Gratiot	1	3	0	0	0	3	0	0	3	7,665	0	0	2,555
Hillsdale	10	2	5	2	0	5	0	0	7	7,791	20,306	0	4,014
Huron	3	1	2	1	0	2	0	0	3	3,850	7,115	0	3,655
Ingham	20	14	5	6	0	13	0	1	20	50,757	19,570	4,000	3,716
Iosco	2	1	0	0	0	1	0	0	1	4,432	0	0	4,432
Isabella	41	1	15	11	0	5	0	0	16	3,899	55,490	0	3,712
Jackson	6	6	0	0	0	6	0	0	6	24,389	0	0	4,065
Kalamazoo	4	2	1	0	0	3	0	0	3	5,859	2,695	0	2,851
Kalkaska	42	18	15	8	6	19	9	0	42	130,086	75,250	56,906	6,244
Lapeer	28	0	25	24	0	1	0	2	27	0	82,225	6,374	3,281
Lenawee	2	0	0	0	0	0	0	0	0	0	0	0	0
Livingston	12	7	3	2	0	8	0	0	10	27,534	13,579	0	4,111
Macomb	12	6	3	0	3	6	0	0	9	21,523	10,253	0	3,531
Manistee	72	37	28	15	2	48	0	2	67	174,184	110,129	3,726	4,299
Mason	12	8	2	1	1	8	0	0	10	29,248	6,239	0	3,549
Mecosta	10	1	1	1	0	1	3	0	5	4,472	3,350	5,103	2,585
Midland	11	3	1	4	0	0	0	0	4	11,031	3,493	0	3,631
Missaukee	39	7	15	15	1	6	0	0	22	75,882	67,964	0	6,538
Montcalm	5	1	1	1	0	1	0	0	2	3,278	3,301	0	3,290
Montmorency	8	7	1	0	0	8	0	0	8	30,740	6,135	0	4,609
Muskegon	5	0	2	2	0	0	0	0	2	0	3,476	0	1,738
Newaygo	12	5	4	6	0	3	0	0	9	15,457	7,205	0	2,518
Oakland	8	6	1	0	0	7	0	0	7	21,960	3,594	0	3,651
Oceana	9	4	3	0	0	7	0	0	7	14,699	10,615	0	3,616
Ogemaw	30	0	11	10	0	1	0	7	18	0	38,243	19,411	3,203
Osceola	8	4	0	0	0	4	0	0	4	31,662	0	0	7,916
Oscoda	7	2	0	0	0	2	0	0	2	15,520	0	0	7,760
Otsego	61	19	29	9	7	32	0	5	53	97,825	115,339	20,376	4,406
Ottawa	4	2	1	0	0	3	0	0	3	12,316	2,831	0	5,049
Presque Isle	36	33	4	3	1	33	0	0	37	106,502	12,897	0	3,227
Roscommon	27	1	10	9	0	2	0	1	12	12,288	40,994	4,430	4,809
Saginaw	10	1	4	4	0	1	0	0	5	3,096	10,795	0	2,778
St. Clair	9	6	3	1	3	5	0	0	9	14,537	8,257	0	2,533
Tuscola	19	5	9	6	0	8	0	0	14	17,604	36,820	0	3,887
Van Buren	25	1	13	11	0	3	0	0	14	1,069	14,635	0	1,122
Washtenaw	1	2	0	0	0	2	0	0	2	11,455	0	0	5,728
Wexford	12	6	3	0	2	7	0	0	9	34,623	14,509	0	5,459
Total	1,048	399	346	252	43	450	12	22	779	1,766,593	1,255,759	135,686	

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

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

Gas Fields, Gas-Condensate Fields. Some fields are listed as "shut-in" and show no production figures. In the case of Niagaran reef fields classified as gas-condensate reservoirs, virtually all those listed as shut-in at the end of the year were waiting pipeline construction or gas-handling facilities. Others, mainly small dry-gas reservoirs in shallower formations, are listed as shut-in because of slow field development, small reserves or lack of marketing facilities. Other fields, not considered to have 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.

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

[1] Subsurface Laboratory, Department of Geology, The University of Michigan, Ann Arbor, Michigan.
[2] Department of Geology, Wayne State University, Detroit, Michigan.
[3] Department of Geology, Western Michigan University, Kalamazoo, Michigan.
[4] Department of Geology, Michigan State University, East Lansing, Michigan.
[5] Department of Geology, Central Michigan University, Mt. Pleasant, Michigan.

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 of 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.

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 manmade 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.

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

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

CROSS-REFERENCE LIST by COUNTY

ALLEGAN
Allegan; Casco; Cheshire; Crooked Lake; Diamond Springs; Dorr; Dunningville; Hawkhead; Heath; Hilliards; Hopkins; Hopkins, South; Hopkins, West; Lee; Lee, South; Martin; Monterey; New Richmond; Otsego; Overisel; Pullman; Pullman, East; Pullman, East; Rabbit River; Salem; Trowbridge; Wayland; Wayland, North

ALPENA
Alpena

ANTRIM
Mancelona

ARENAC
Adams; Adams, North; Au Gres; Clayton; Deep River; Lincoln; Moffatt; Standish; Sterling

BARRY
Freeport; Hope; Johnstown; Thornapple

BAY
Beaver; Crump; Essexville; Gibson; Kawkawlin; Lucht; Mt. Forest; Pinconning; Williams

BENZIE
Colfax

BERRIEN
Niles; Pipestone

CALHOUN
Albion; Cal-lee; Clarence; Convis; Lee; Pennfield; Tekonsha

CASS
Adamsville; Calvin; Jefferson; Juno Lake; North Porter

CHEBOYGAN
Forest

CLARE
Clare City; Cranberry Lake; Cranberry Lake, East; Freeman; Freeman-Lincoln; Freeman-Redding; Garfield; Greenwood; Hamilton; Harrison; Hatton; Lake George; McKay; Redding; Skeels; Surrey; Winterfield

CLINTON
Dallas; Lebanon

CRAWFORD
Beaver Creek Unit; Frederic; Hickeys Creek; Maple Forest; South Branch

EATON
Eaton; Eaton Rapids; Hamlin; Olivet

GENESEE
Otisville; Otter Lake

GLADWIN
Bard; Beaverton; Beaverton, South; Beaverton, West; Bentley; Billings; Billings, South; Buckeye, North; Buckeye, South; Butman; Grout; Hay; Sage; Secord; Skeels

GRAND TRAVERSE
Blair; East Bay; Grant; Mayfield; Paradise; Paradise; Union; Whitewater

GRATIOT
Elba; Ithaca; Newark; North Star; Pine River; Sumner

HILLSDALE
Adams; Albion-Pulawski-Scipio Trend; Lime Lake; Reading

HURON
Dwight; Grant

INGHAM
Aurelius; Ingham; Leslie; Onondaga; Stockbridge; Vevay; White Oak

IONIA
Hubbardston

ISABELLA
Brinton; Broomfield; Chippewa; Clare City; Coldwater; Coldwater, South; Currie; Fremont; Gilmore; Isabella; Leaton; Lincoln; Rolland; Rosebush; Sherman; Union; Vernon; Wise

JACKSON
Concord; Hanover; Henrietta; Springport

KALAMZOO
Alamo; Comstock; Cooper

KALKASKA
Blue Lake; Boardman; Cold Springs; Excelsior; Kalkaska; Rapid River

KENT
Rockford; Tyrone; Walker; Wyoming Park

LAKE
Chase; Luther; Luther, North; Peacock; Sauble

LAPEER
Marathon; Rich

LENAWEE
Blissfield; Demings Lake; Franklin; Macon Creek; Medina; Newburg; North Morenci; Ridgeway; Woodstock

LIVINGSTON
Fowlerville; Green Oak; Hamburg; Iosco

MACOMB
Armada; Bruce; Chesterfield; Coon Creek; Lenox; Mt. Clemens; Richmond; Washington

MANISTEE
Bear Lake; Brown; Cleon; Filer; Manistee; Maple Grove; Marilla; Onekama; Pleasanton; Springdale

MASON
Eden; Fountain; Grant; Hamlin; Logan; Oxbow; Riverton; Riverton; Scottville; St. Mary's Lake; Victory; Wiley

MECOSTA
Bevens Lake; Big Rapids; Colfax; Fork, East; Fork; Fork, West; Green; Hardy Dam; Martiny; Mecosta; Mecosta Lake; Morton; Paris; Sheridan; Wheatland

MIDLAND
Edenville; Geneva; Jerome; Larkin; Mills; Mt. Haley; Mt. Pleasant; Porter; Sanford

MISSAUKEE
Cannon Creek; East Norwich; Enterprise; Falmouth; Forward; McBain; Pioneer; Prosper; Prosper, South; Reeder; Riverside; Vogel Center

MONROE
Deerfield; Summerfield

MONTCALM
Belly Achers; Bloomer; Bushnell; Cato; Crystal; Day; Douglass; Edmore; Edmore-Richland; Entrican; Home; Maple Valley; Pine; Reynolds; Richland; Stanton; Turk Lake; Winfield

MONTMORENCY
Atlanta; Montmorency

MUSKEGON
Blue Lake; Cedar Creek; Dalton; Egelston; Holton; Laketon; Montague; Muskegon; Ravenna; Trent; White River; Wolf Lake

NEWAGO
Ashland; Barton; Big Prairie; Bishop; Cole Lake; Croton; Ensley; Goodwell; Goodwell, East; Huber; Kimball Lake; Reeman; Sheridan; Thompson Corners; White Cloud; Woodville

OAKLAND
Addison; Avon; Leonard; Lyon; Northville; Pontiac

OCEANA
Benona; Claybanks; Crystal Valley; Crystal Valley, South; Elbridge; Ferry; Forest River; Gilbert Lake; Hart; Mears; Otto; Otto; Pentwater; Pentwater Lake; Rothbury; Shelby; Stony Lake; Weare

OGEMAW
Edwards; Logan; Rose City; West Branch

OSCEOLA
Ashton; Ashton, East; Burdell; Cat Creek; Cedar; Evart; Fork, North; Hartwich; Hersey; Leroy; Middle Branch; Mineral Springs; Pecks Lake; Reed City; Reed City, East; Rose Lake; Sears; Sylvan

OSCODA
Mio

OSTEGO
Bagley; Charlton; Chester; Dover; Hayes; Otsego; Otsego Lake

OTTAWA
Coopersville; Dennison; Fillmore; Marne; Polkton; Robinson; Wright; Zeeland

PRESQUE ISLE
Allis; Belknap; Bismarck; Case; North Allis; Pulawski

ROSCOMMON
Headquarters; Nellsville; St. Helen

SAGINAW
Birch Run; Birch-Bela; Chesaning; Fremont; Lakefield; New Lothrop; Richland; Saginaw; St. Charles; Taymouth

ST. CLAIR
Adair; Algonac; Alpine; Berlin; Big Hand; Boyd; China; China Belle; China, South; Columbus; Columbus, North; Cottrellville; Diamond Crystal Salt; East China; Kimball; Marine City; Marine City, South; Peters; Peters, East; Port Huron; St. Clair; Starrville; Wales; Yankee

TUSCOLA
Akron; Akron, East; Arbela; Elkland; Elmwood; Fostoria; Vassar

VAN BUREN
Bangor; Bloomingdale; Breedsville; Clear Lake; Coffee Lake; Geneva; Lacota; Lawton; Paw Paw

WASTENAW
Clinton; Freedom; Lyndon; Northville

WAYNE
New Boston; Northville; Romulus

WEXFORD
Cherry Grove; Henderson; Wexford

CROSS-REFERENCE FIELDS by PRODUCING FORMATION

A 2 CARBONATE - Silurian
Akron; Fillmore; Pentwater; Pullman, East

A 2 CARBONATE-NIAGARIAN - Silurian
Charlton

A 1 CARBONATE - Silurian
Akron; Alpena; Charlton; Chester; Dover; Fillmore; Lee; Olivet; Romulus; Stockbridge; Washington; Lee

A 1 CARBONATE-NIAGARIAN - Silurian
Bagley; Lee

ANTRIM - Devonian
Algonac; Charlton; Chester; Dover; Mayfield; Otsego; Otsego Lake

BEREA - Mississippian
Adams, North; Beaver; Birch Run; Blue Lake; Buckeye, South; Cedar Creek; Chase; Clayton; Coopersville; Deep River; Dorr; Edenville; Egelston; Ferry; Fostoria; Fremont; Hay; Huber; Kawkawlin; Larkin; Logan; Marathon; Marne; New Lothrop; Otisville; Otter Lake; Otto; Porter; Ravenna; Ravenna; Rich; Rothbury; Saginaw; Stony Lake; Walker; Williams; Wolf Lake; Wright; Zeeland

BEREA-TRAVERSE-DETROIT RIVER - Mississippian/Devonian
Walker

DETROIT RIVER - Devonian
Atlanta; Billings; Dorr; Dwight; Edenville; Essexville; Excelsior; Fostoria; Garfield; Grant; Kawkawlin; Lyndon; Otter Lake; Salem; Walker; Wise

DETROIT RIVER SOUR ZONE - Devonian
Adams; Akron; Au Gres; Buckeye, South; Cannon Creek; Clayton; Cranberry Lake; Grout; Headquarters; Marathon; Reed City; Rich; Skeels; Sterling; Vassar; Vernon; West Branch

DUNDEE - Devonian
Adams; Adams, North; Akron; Arbela; Ashton; Bard; Beaverton; Beaverton, South; Beaverton, West; Belly Achers; Bentley; Bevens Lake; Big Prairie; Big Rapids; Billings; Billings, South; Birch Run; Birch-Bela; Brinton; Broomfield; Buckeye, North; Buckeye, South; Burdell; Bushnell; Butman; Cat Creek; Cedar; Clayton; Coldwater; Coldwater, South; Colfax; Cranberry Lake; Cranberry Lake, East; Crump; Crystal; Crystal Valley; Currie; Day; Deep River; Douglass; East Norwich; Eden; Edenville; Edwards; Elkland; Elmwood; Entrican; Essexville; Evart; Falmouth; Fork; Fork, North; Freedom; Freeman; Freeman-Lincoln; Freeman-Redding; Fremont; Geneva; Gibson; Gibson; Gilmore; Goodwell, East; Greenwood; Grout; Hamilton; Harrison; Hatton; Headquarters; Home; Hubbardston; Isabella; Jerome; Kawkawlin; Lake George; Lakefield; Laketon; Leaton; Lincoln; Marathon; McBain; Mears; Mills; Mineral Springs; Moffatt; Mt. Forest; Mt. Haley; Mt. Pleasant; Nellsville; Northville; Otisville; Paris; Pecks Lake; Pentwater; Pinconning; Pine River; Port Huron; Porter; Prosper; Prosper, South; Reed City; Riverside; Robinson; Rolland; Rosebush; Sage; Sanford; Secord; Sherman; Skeels; Sterling; Sylvan; Vernon; Vogel Center; West Branch; Wheatland; White River; Winterfield; Wise

DUNDEE-REED CITY - Devonian
Colfax; Winfield

E UNIT - Silurian
Lee

GLACIAL DRIFT - "Pleistocene"
Grant

LOWER NIAGARAN - Silurian
Blue Lake; Chester

MARSHALL - Mississippian
Barton; Ensley

MICHIGAN STRAY - Mississippian
Ashton; Ashton, East; Bevens Lake; Big Prairie; Big Rapids; Broomfield; Cedar; Cherry Grove; Clare City; Colfax; Day; Douglass; Edmore-Richland; Elba; Enterprise; Evart; Falmouth; Fork, East; Fork, North; Fork, West; Forward; Fremont; Gilmore; Goodwell, East; Green; Hamilton; Harrison; Hartwich; Headquarters; Hersey; Isabella; Ithaca; Leaton; Maple Valley; Martiny; McKay; Mecosta; Mecosta Lake; Middle Branch; Mineral Springs; Morton; Newark; North Star; Paris; Pine; Prosper; Redding; Reeder; Richland; Rolland; Sears; Sheridan; Surrey; Sylvan; Turk Lake; Union; Vernon; Wheatland; Wise

NIAGARAN - Silurian
Addison; Allis; Alpine; Armada; Aurelius; Avon; Bagley; Bear Lake; Belknap; Benona; Berlin; Big Hand; Bismarck; Blair; Blue Lake; Boardman; Brown; Bruce; Cal-lee; Case; Charlton; Chester; Chesterfield; China; China Belle; Clarence; Claybanks; Cleon; Cold Springs; Colfax; Columbus; Columbus, North; Convis; Coon Creek; Cottrellville; Diamond Crystal Salt; Dover; East Bay; East China; Eaton; Eaton Rapids; Excelsior; Filer; Forest; Frederic; Grant; Green Oak; Hamburg; Hamlin; Hayes; Ingham; Iosco; Kalkaska; Kimball; Lee; Lee Twp.; Lenox; Leonard; Lyon; Mancelona; Manistee; Maple Forest; Maple Grove; Marilla; Mayfield; Montmorency; North Allis; Northville; Onekama; Onondaga; Otsego Lake; Paradise; Pennfield; Pleasanton; Pontiac; Port Huron; Rapid River; Richmond; Springdale; Starrville; Union; Vevay; Victory; Washington; Wexford; White Oak; Whitewater; Yankee

PRAIRIE DU CHIEN - Ordovician
Falmouth; Franklin; Lime Lake

REED CITY - Devonian
Burdell; Cato; Eden; Fountain; Goodwell, East; Hardy Dam; Kimball Lake; Leroy; Luther, North; Peacock; Reed City; Reynolds; Scottville

RICHFIELD - Devonian
Adams; Akron; Akron, East; Au Gres; Beaver Creek Unit; Bentley; Butman; Cedar; Clayton; Cranberry Lake; Cranberry Lake, East; East Norwich; Enterprise; Evart; Falmouth; Fork; Freeman-Lincoln; Grout; Hamilton; Headquarters; Henderson; Hickeys Creek; Logan; Marathon; Mio; Nellsville; Prosper; Prosper, South; Reed City; Rose City; Rosebush; Skeels; South Branch; St. Helen; Standish; Sterling; West Branch; Winterfield

SALINA - Silurian
China; Crystal Valley; Dorr; Hopkins, West; Kawkawlin; Manistee; Mt. Clemens; Salem; Wayland; Zeeland

SALINA A 1 CARBONATE - Silurian
Clarence; Hilliards

SALINA B UNIT - Silurian
Cooper

SALINA E UNIT - Silurian
Diamond Springs; Lee

SALINA-NIAGARANN - Silurian
Adair; Bear Lake; Blue Lake; Boyd; Brown; Charlton; China, South; Clarence; Cold Springs; Convis; Cottrellville; Dover; East Bay; Eaton Rapids; Fowlerville; Grant; Hamlin; Hayes; Ingham; Kalkaska; Lee; Leslie; Manistee; Maple Grove; Marine City; Marine City, South; Mayfield; Montague; Northville; Onondaga; Otsego Lake; Paradise; Pennfield; Peters; Peters, East; Pulawski; Springdale; St. Clair; Union; Wales; Washington; White Oak

SAGINAW - Pennsylvanian
Edenville

SLYVANIA - Silurian
Jefferson

TRAVERSE-DUNDEE - Devonian
Muskegon

TRAVERSE-DUNDEE-DETRIOT RIVER - Devonian
Muskegon

TRAVERSE - Devonian
Adams; Adamsville; Alamo; Albion; Allegan; Ashland; Ashton; Bangor; Barton; Beaverton, South; Benona; Bentley; Bevens Lake; Bishop; Bloomer; Bloomingdale; Breedsville; Broomfield; Buckeye, South; Butman; Calvin; Cannon Creek; Casco; Cedar Creek; Cherry Grove; Chesaning; Cheshire; Chester; Chippewa; Clear Lake; Clinton; Coffee Lake; Coldwater; Cole Lake; Comstock; Concord; Cranberry Lake; Cranberry Lake, East; Crooked Lake; Croton; Crystal; Crystal Valley; Crystal Valley, South; Dallas; Dalton; Day; Demings Lake; Dennison; Diamond Springs; Dorr; Douglass; Dunningville; East Norwich; Eden; Edmore; Elba; Elbridge; Ensley; Entrican; Excelsior; Falmouth; Ferry; Fillmore; Forest River; Freedom; Freeport; Fremont; Geneva; Gibson; Gilbert Lake; Goodwell; Greenwood; Hart; Hawkhead; Headquarters; Heath; Hilliards; Holton; Home; Hope; Hopkins; Hopkins, South; Hopkins, West; Huber; Jefferson; Johnstown; Juno Lake; Kimball Lake; Lacota; Laketon; Lawton; Lebanon; Lee; Lee, South; Lincoln; Lucht; Luther; Lyndon; Martin; Mears; Moffatt; Monterey; Mt. Forest; Nellsville; New Richmond; Niles; North Morenci; North Porter; Otisville; Otsego; Otto; Overisel; Oxbow; Paradise; Paris; Paw Paw; Peacock; Pentwater; Pentwater Lake; Pinconning; Pine; Pine River; Pioneer; Pipestone; Polkton; Prosper; Pullman; Pullman, East; Rabbit River; Rapid River; Ravenna; Reed City; Reed City, East; Reeman; Reynolds; Richland; Riverside; Riverton; Rockford; Rose Lake; Salem; Sanford; Sauble; Scottville; Shelby; Sheridan; Sherman; Skeels; St. Charles; St. Mary's Lake; Stanton; Sterling; Stony Lake; Sumner; Taymouth; Thompson Corners; Thornapple; Trent; Trowbridge; Tyrone; Vevay; Victory; Walker; Wayland; Wayland, North; Weare; West Branch; White Cloud; Wiley; Winterfield; Wise; Wolf Lake; Woodstock; Woodville; Wright; Wyoming Park; Zeeland

TRENTON - Ordovician
Deerfield; Freedom; Henrietta; New Boston; Newburg; Reading; Ridgeway; Tekonsha

TRENTON-BLACK RIVER - Ordovician
Albion-Pulawski-Scipio Trend; Blissfield; Green Oak; Hanover; Macon Creek; Medina; Northville; Olivet; Springport; Summerfield

WEIR - Mississippian
Logan

TABLE 23
MICHIGAN
OIL AND GAS FIELDS

TABLE 23 MICHIGAN OIL AND GAS FIELDS

POOL CLASS	FIELD OR POOL NAME	PRODUCING FORMATION	YEAR OF DISC.	COUNTY, TOWNSHIP – T, R, SEC. for DISCOVERY WELL only	MAP REF. NO.	DEPTH IN FEET	PAY ZONE THICK-NESS & LITHO	PAY ZONE API OIL GRAV	DEEPEST FORMATION TESTED FORMATION OR POOL NAME	DEEPEST FORMATION TESTED DEPTH IN FEET	NUMBER OF WELLS TO END 1981	NUMBER OF WELLS COMP. IN 1981	NUMBER OF WELLS ABND. IN 1981	NUMBER OF WELLS ACTIVE END OF 1981	ACRES DRILLED	OIL IN BBLS. PRODUCED IN 1981	OIL IN BBLS. CUMM. THROUGH 1981	GAS IN MCF PRODUCED IN 1981	GAS IN MCF CUMM. THROUGH 1981	RECOVERY PER ACRE DRILLED IN BBLS	TOTAL BARRELS OF BRINE PER DAY
OF	ADAIR	SALINA-NIAGARAN	1961	ST. CLAIR, CASCO-4N,15E,12 & 13	3737	2,719	10 D	41.4	NIAGARAN	2,755	13	0	0	9	560	3,294	346,772	0	466,227	625	76
OF	ADAMS	TRAVERSE	1937	ARENAC-BAY, ADAMS-19N,3E,26	3558	2,032	15 L	37.0	BOIS BLANC	5,079	24	0	0	7	240	3,282	SEE	ADAMS	RICHFIELD		68
OF	ADAMS	DUNDEE	1937	ARENAC-BAY, ADAMS-19N,3E,26	3558	2,958	15 L	34.7	BOIS BLANC		31	0	0	17	310	7,344	0	0			51
OF	ADAMS	DETROIT RIVER SZ	1956	ARENAC-BAY, ADAMS-19N,3E,21	3693	3,943	5 L	39.6	BOIS BLANC		0	0	0	0		SEE	ADAMS	RICHFIELD			
OF	ADAMS	RICHFIELD	1941	ARENAC-BAY, ADAMS-19N,3E,21	3558	4,278	5 L	35.5	BOIS BLANC		31	0	0	6	1,080	4,700	1,626,233	0	0	1,495	5
AGF	ADAMS, NORTH	BEREA	1942	ARENAC, ADAMS-19N,3E,4	3558	1,605	1 S	--	DUNDEE	3,101	1		1948		40	0	0	0	1,306	0	0
OF	ADAMS, NORTH	DUNDEE	1940	ARENAC, ADAMS-19N,3E,22	3558	2,905	15 D	32.0	DETROIT RIVER	4,489	49	0	0	18	470	17,816	9,483,802	0	0	20,178	3,557
AGF	ADAMS, SEC 08	TRAVERSE	1962	HILLSDALE, ADAMS-6S,2W,8	3884	1,420	4 L	--	PRAIRIE DU CHIEN	4,169	1		1965		20	0	0	0	19,297	0	0
OF	ADAMSVILLE	TRAVERSE	1976	CASS, ONTWA-8S,15W,13	3871	675	5 L	28	TRAVERSE	680	4	0	0	4	160	925	16,751	0	0	104	150
OF	ADDISON 12-05N-11E	NIAGARAN	1979	OAKLAND, ADDISON-5N,11E,12	3849	4,268	10 D	41.3	NIAGARAN	4,339	5	0	0	5	160	61	626	0	0	3	0
GF	ADDISON 14-05N-11E	NIAGARAN	1976	OAKLAND, ADDISON-5N,11E,14	3849	4,261	21 D	--	NIAGARAN	4,470	2	0	0	2	80	0	0	91,149	1,533,244	0	0
OF	AKRON	DUNDEE	1936	TUSCOLA, WISNER-14N,7E,26	3699	2,678	17 L	37.3	NIAGARAN	7,941	50	0	0	26	1,100	10,125	SEE	AKRON	SOUR ZONE		42
OF	AKRON	DETROIT RIVER SZ	1938	TUSCOLA, AKRON-14N,8E,30	3699	3,422	11 D	35.9	NIAGARAN		44	5	0	33	1,320	50,013	2,244,573	0	0	1,692	18
OF	AKRON	RICHFIELD	1954	TUSCOLA, WISNER-14N,7E,23	3699	3,774	6 D	39.2	NIAGARAN						SEE	AKRON	SOUR ZONE				
OF	AKRON	A-2 CARBONATE	1973	TUSCOLA, AKRON-14N,8E,33	3699	6,868	107 D	46.9	NIAGARAN		2	0	0	2	320	121	10,398	0	103,517	32	0
GF	AKRON	A-1 CARBONATE	1973	TUSCOLA, AKRON-14N,8E,32	3699	7,452	60 D	--	NIAGARAN		3	0	0	3	480	0	SEE	AKRON	A-2 CARBONATE		
OF	AKRON, EAST	RICHFIELD	1979	TUSCOLA, AKRON-14N,8E,25	3699	3,840	6 L	--	NIAGARAN	4,025	1	0	0	1	40	7,739	22,595	0	0	564	1
AOF	ALAMO	TRAVERSE	1949	KALAMAZOO, ALAMO-1S,12W,30	3691	1,310	2 L	--	TRAVERSE	1,420	16		1962		160	0	27,545	0	0	172	0
AGF	ALBION	TRAVERSE	1941	CALHOUN, ALBION-3S,4W,15	3899	1,610	7 L	--	PRAIRIE DU CHIEN	4,623	4		1948		120	0	0	0	6,238	0	0
OF	ALBION-PULASKI-SCIPIO TREND	TRENTON-BLK. RIVER	1957	HILLSDALE, SCIPIO-5S,3W,10	3886	3,576	50 D	41.4	PRAIRIE DU CHIEN	4,926	696	3	0	587	13,220	1,108,033	120,066,223	5,678,680	199,335,621	9,082	13,108
AGF	ALGONAC	ANTRIM	1947	ST. CLAIR, CLAY-3N,16E,29	3738	302	6 SH	--	CABOT HEAD	2,504	2		1951		80	0	0	0	7,987	0	0
OF	ALLEGAN	TRAVERSE	1937	ALLEGAN, ALLEGAN-2N,13W,35	3502	1,563	2 L	38.0	CINCINNATIAN	2,987	19	0	0	1	190	0	19,088	0	0	100	8
OF	ALLIS 17-33N-02E	NIAGARAN	1979	PRESQUE ISLE, ALLIS-33N,2E,17	3823	3,640	--	--	NIAGARAN	3,885	1	0	0	1	80	0	0	0	0	0	0
OF	ALLIS 19-33N-02E	NIAGARAN	1978	PRESQUE ISLE, ALLIS-33N,2E,19	3823	3,765	9 D	44.2	NIAGARAN	4,002	2	0	0	2	80	0	1,082	0	0	13	0
OF	ALLIS 29-33N-02E	NIAGARAN	1979	PRESQUE ISLE, ALLIS-33N,2E,29	3823	3,771	--	--	NIAGARAN	3,968	1	0	0	1	80	0	0	0	0	0	0
GF	ALPENA 12-31N-08E	A-1CARBONATE	1973	ALPENA, ALPENA-31N,8E,12	3745	3,685	22 L	--	NIAGARAN	3,875	1		1978		160	0	0	0	0	0	0
GF	ALPINE	NIAGARAN	1963	ST. CLAIR, WALES-6N,15E,32	3774	3,151	25 D	--	CLINTON	3,470	3	0	0	2	120	0	0	32,656	2,128,454	0	0
OF	ARBELA	DUNDEE	1946	TUSCOLA, ARBELA-10N,7E,33	3608	2,557	7 L	35.3	DETROIT RIVER	3,375	39	0	0	6	450	3,810	365,056	0	0	811	11
GF	ARMADA 07-05N-13E	NIAGARAN	1981	MACOMB, ARMADA-05N,13E,07	3839	3,700	20 D	57.5	NIAGARAN	3,899	1	1	0	1	40	0	0	0	0	0	0
AOF	ASHLAND, SEC 08	TRAVERSE	1959	NEWAYGO, ASHLAND-11N,13W,8	3581	2,238	1 L	--	TRAVERSE	2,239	1		1962		10	0	267	0	0	27	0
GF	ASHTON	MICHIGAN STRAY	1946	OSCEOLA, LINCOLN-18N,10W,5	3568	1,215	2 S	--	DETROIT RIVER	3,779	3	0	0	1	400	0	0	0	209,794	0	0
OF	ASHTON	TRAVERSE	1945	OSCEOLA, LINCOLN-18N,10W,5	3568	2,950	4 L	42.0	DETROIT RIVER		4	0	0	3	80	1,665	SEE	ASHTON	DUNDEE		375
OF	ASHTON	DUNDEE	1945	OSCEOLA, LINCOLN-18N,10W,5	3568	3,645	5 L	40.0	DETROIT RIVER		4	0	0	4	200	3,807	511,047	0	0	2,546	1
AGF	ASHTON, EAST	MICHIGAN STRAY	1962	OSCEOLA, LINCOLN-18N,10W,3	3568	1,297	5 S	--	REED CITY	3,750	1		1970		160	0	0	0	0	0	0
OF	ATLANTA	DETROIT RIVER	1945	MONTMORENCY, AVERY-30N,3E,10	3747	2,183	5 D	36.2	DETROIT RIVER	2,550	3	0	0	1	30	0	7,688	0	0	256	0
OF	AU GRES	DETROIT RIVER SZ	1956	ARENAC, AU GRES-19N,6E,2	3495	3,822	14 L	31.4	RICHFIELD	4,315	0					SEE	AU	GRES	RICHFIELD		
OF	AU GRES	RICHFIELD	1953	ARENAC, AU GRES-19N,6E,11	3495	4,152	11 L	36.5	RICHFIELD		4	0	0	3	160	2,060	69,763	0	0	436	0
OF	AURELIUS 24-02N-02W	NIAGARAN	1979	INGHAM, AURELIUS-2N,2W,24	3780	3,966	10 D	40	NIAGARAN	4,080	1	0	0	1	80	1,400	8,278	25,522	100,277	103	3
GF	AURELIUS 24-02N-02W P/A	NIAGARAN	1979	INGHAM, AURELIUS-2N,2W,24	3780	3,978	64 D	--	NIAGARAN	4,166	1	0	0	1	80	0	0	3,014	3,014	0	0
GF	AURELIUS 26-02N-02W	NIAGARAN	1974	INGHAM, AURELIUS-2N,2W,26	3780	3,954	100 D	--	NIAGARAN	4,445	2	0	0	2	160	2,706	14,898	390,192	3,017,210	93	0
OF	AURELIUS 35-02N-02W	NIAGARAN	1971	INGHAM, AURELIUS-2N,2W,35	3780	3,942	60 D	37.3	NIAGARAN	4,445	5	0	0	5	320	76,094	1,837,156	43,781	992,308	5,741	1,093
GF	AVON 01-03N-11E	NIAGARAN	1977	OAKLAND, AVON-3N,11E,1	3874	3,195	101 D	--	NIAGARAN	3,460	4	0	0	3	200	945	945	967,130	967,130	4	3
AOF	BAGLEY 21-30N-03W	NIAGARAN	1975	OTSEGO, BAGLEY-30N,3W,21	3792	5,962	28 D	38.6	NIAGARAN	6,219	1		1979		80	0	18,320	0	3,415	229	0
OF	BAGLEY 21-30N-03W P/A	NIAGARAN	1981	OTSEGO, BAGLEY-30N,03W,21	3792	5,929	8 D	41.5	NIAGARAN	6,136	1	1	0	1	80	8,923	8,923	0	0	111	15
OF	BAGLEY 23-30N-03W	NIAGARAN	1973	OTSEGO, BAGLEY-30N,3W,23	3792	5,868	13 D	43.3	NIAGARAN	6,194	2	0	0	2	120	10,027	232,876	0	291,083	1,940	287
OF	BAGLEY 25-30N-03W	NIAGARAN	1972	OTSEGO, BAGLEY-30N,3W,25	3792	6,090	55 D	44.9	NIAGARAN	6,372	1	0	0	1	62	22,309	501,058	158,078	1,248,249	8,081	22
OF	BAGLEY 25-30N-03W P/A	A-1 C/NIAGARAN	1972	OTSEGO, BAGLEY-30N,3W,25	3792	6,070	30 D	41.8	NIAGARAN	6,451	3	0	0	3	240	73,029	1,077,608	303,026	2,421,149	4,490	14
OF	BAGLEY 31-30N-03W	NIAGARAN	1977	OTSEGO, BAGLEY-30N,3W,31	3792	6,121	7 D	46.3	NIAGARAN	6,385	2	0	0	2	320	131,003	537,350	139,264	450,166	1,679	45
OF	BAGLEY 35-30N-03W	NIAGARAN	1974	OTSEGO, BAGLEY-30N,3W,35	3792	6,110	50 D	43.0	NIAGARAN	6,365	4	0	0	4	320	306,272	1,699,673	398,290	1,731,857	5,311	131
OF	BANGOR	TRAVERSE	1939	VAN BUREN, BANGOR-2S,16W,29	3582	1,002	2 L	29.5	TRENTON	2,552	65	0	0	1	610	161	934,126	0	0	1,531	300
OF	BARD	DUNDEE	1949	GLADWIN, BEAVERTON-17N,2W,6	3444A	3,933	6 L	42.8	DUNDEE	4,017	17	0	0	2	170	1,901	594,052	0	0	3,494	100
AOF	BARTON	TRAVERSE	1947	NEWAYGO, BARTON-16N,11W,16	3581	3,097	1 L	30.0	DETROIT RIVER	3,745	3		1963		50	0	20,227	0	0	405	0
GF	BARTON, SEC 33	MARSHALL	1980	NEWAYGO, BARTON-16N,11W,33	3581	1,206	169 S	--	TRAVERSE	3,000	1	1	0	1	40	0	0	0	0	0	0
OF	BARTON, SEC. 33	TRAVERSE	1981	NEWAYGO, BARTON-16N,11W,27	3581	2,954	1 L	--	TRAVERSE	3,100	1	0	0	1	40	0	0	0	0	0	0
G-C	BEAR LAKE 02-23N-15W	NIAGARAN	1974	MANISTEE, BEAR LAKE-23N,15W,2	3805	4,646	23 D	74.0	NIAGARAN	4,874	1	0	0	1	80	5,803	43,074	352,019	1,363,703	538	4
OF	BEAR LAKE 02-23N-15W P/A	NIAGARAN	1979	MANISTEE, BEAR LAKE-23N,15W,2	3805	4,420	16 D	44	NIAGARAN	4,715	3	1	0	2	240	58,950	98,419	22,401	38,150	410	42
G-C	BEAR LAKE 08-23N-15W	NIAGARAN	1979	MANISTEE, BEAR LAKE-23N,15W,8	3805	4,354	6 D	56.4	NIAGARAN	4,575	1	0	0	1	80	170	946	57,013	147,136	11	5
G-C	BEAR LAKE 10-23N-15W	SALINA-NIAGARAN	1974	MANISTEE, BEAR LAKE-23N,15W,10	3805	4,457	120 D	64.0	NIAGARAN	4,758	2	0	0	2	160	1,594	65,346	113,507	2,291,834	408	0
OF	BEAR LAKE 11-23N-15W	NIAGARAN	1974	MANISTEE, BEAR LAKE-23N,15W,11	3805	4,688	36 D	43.3	NIAGARAN	4,922	4	0	0	4	320	203,875	1,919,883	406,361	2,399,393	5,999	11
OF	BEAR LAKE 11-23N-15W P/A	NIAGARAN	1975	MANISTEE, BEAR LAKE-23N,15W,11	3805	4,668	11 D	40.8	NIAGARAN	4,740	2	0	0	2	160	55,757	584,714	168,374	777,063	3,654	85
OF	BEAR LAKE 13-23N-15W	NIAGARAN	1974	MANISTEE, BEAR LAKE-23N,15W,13	3805	4,591	16 D	--	NIAGARAN	5,030	6	0	0	6	480	483,692	2,717,643	376,072	2,129,867	5,661	0
G-C	BEAR LAKE 15-23N-15W	NIAGARAN	1976	MANISTEE, BEAR LAKE-23N,15W,15	3805	4,410	137 D	67.5	NIAGARAN	4,740	1	0	0	1	80	766	49,982	292,614	2,222,932	624	0
AOF	BEAR LAKE 16-23N-15W	NIAGARAN	1980	MANISTEE, BEAR LAKE-23N,15W,16	3805	4,316	408 D	--	NIAGARAN	4,790	1		1980		80	0	753	0	0	9	0
OF	BEAR LAKE 17-23N-15W	NIAGARAN	1977	MANISTEE, BEAR LAKE-23N,15W,17	3805	4,429	13 D	41.9	NIAGARAN	4,528	1	0	0	1	120	108,480	399,629	120,246	324,436	3,330	0
G-C	BEAR LAKE 18-23N-15W	NIAGARAN	1977	MANISTEE, BEAR LAKE-23N,15W,18	3805	4,361	44 D	52.6	NIAGARAN	4,547	3	0	0	2	240	493	11,950	7,074	361,635	49	0
OF	BEAR LAKE 19-23N-15W	NIAGARAN	1975	MANISTEE, BEAR LAKE-23N,15W,19	3805	4,262	11 D	36.7	NIAGARAN	4,556	2	0	0	2	240	22,356	144,425	23,472	157,080	601	508
G-C	BEAR LAKE 19-23N-15W P/A	NIAGARAN	1979	MANISTEE, BEAR LAKE-23N,15W,19	3805	4,274	84 D	57.8	NIAGARAN	4,430	1	0	0	1	80	1,668	4,418	155,208	368,445	55	0
OF	BEAR LAKE 20-23N-15W	SALINA-NIAGARAN	1975	MANISTEE, BEAR LAKE-23N,15W,20	3805	4,338	32 D	38.4	NIAGARAN	4,722	2	0	0	2	160	30,548	282,888	2,734	30,551	1,768	117
OF	BEAR LAKE 22-23N-15W	NIAGARAN	1974	MANISTEE, BEAR LAKE-23N,15W,22	3805	4,541	10 D	44.5	NIAGARAN	4,885	9	0	0	9	720	375,059	2,606,361	775,217	5,001,253	3,619	128
OF	BEAR LAKE 23-23N-15W	NIAGARAN	1973	MANISTEE, BEAR LAKE-23N,15W,23	3805	4,786	7 D	49.6	NIAGARAN	5,035	4	0	0	4	320	56,984	489,399	638,698	3,867,350	1,529	6
G-C	BEAR LAKE 24-23N-15W	NIAGARAN	1974	MANISTEE, BEAR LAKE-23N,15W,24	3805	4,808	58 D	69.0	NIAGARAN	5,070	2	0	0	2	160	29,430	289,387	2,231,001	10,525,134	1,808	0
G-C	BEAR LAKE 25-23N-15W	NIAGARAN	1976	MANISTEE, BEAR LAKE-23N,15W,25	3805	4,714	118 D	63.3	NIAGARAN	5,061	1	0	0	1	80	10	1,631	49,605	196,335	20	0
OF	BEAR LAKE 25-23N-15W P/A	NIAGARAN	1975	MANISTEE, BEAR LAKE-23N,15W,25	3805	4,934	7 D	49.3	NIAGARAN	4,970	3	2	0	3	240	49,411	322,849	98,991	767,550	1,345	30
OF	BEAR LAKE 26-23N-15W	NIAGARAN	1974	MANISTEE, BEAR LAKE-23N,15W,26	3805	4,828	34 D	45.0	NIAGARAN	4,933	4	0	0	4	320	38,211	293,654	570,306	3,255,038	917	0
OF	BEAR LAKE 26-23N-15W P/A	NIAGARAN	1975	MANISTEE, BEAR LAKE-23N,15W,26	3805	4,861	10 D	43.5	NIAGARAN	5,036	4	0	0	4	160	450,686	1,592,902	384,192	1,422,964	9,955	0

TABLE 23 MICHIGAN OIL AND GAS FIELDS

POOL CLASS	FIELD OR POOL NAME	PRODUCING FORMATION	YEAR OF DISC.	COUNTY, TOWNSHIP – T, R, SEC. for DISCOVERY WELL only	MAP REF. NO.	DEPTH IN FEET	PAY ZONE THICK-NESS & LITHO	PAY ZONE API OIL GRAV	DEEPEST FORMATION TESTED FORMATION OR POOL NAME	DEEPEST FORMATION TESTED DEPTH IN FEET	NUMBER OF WELLS TO END 1981	NUMBER OF WELLS COMP. IN 1981	NUMBER OF WELLS ABND. IN 1981	NUMBER OF WELLS ACTIVE END OF 1981	ACRES DRILLED	OIL IN BBLS. PRODUCED IN 1981	OIL IN BBLS. CUMM. THROUGH 1981	GAS IN MCF PRODUCED IN 1981	GAS IN MCF CUMM. THROUGH 1981	RECOVERY PER ACRE DRILLED IN BBLS	TOTAL BARRELS OF BRINE PER DAY
OF	BEAR LAKE 27-23N-15W	NIAGARAN	1975	MANISTEE, BEAR LAKE-23N,15W,27	3805	4,673	64 D	44.2	NIAGARAN	4,870	3	0	0	3	240	102,369	478,277	345,969	1,833,874	1,992	0
OF	BEAR LAKE 27-23N-15W P/A	NIAGARAN	1976	MANISTEE, BEAR LAKE-23N,15W,27	3805	4,592	9 D	44	NIAGARAN	4,801	1	0	0	1	80	27,482	419,190	42,370	476,669	5,239	0
OF	BEAR LAKE 28-23N-15W	NIAGARAN	1976	MANISTEE, BEAR LAKE-23N,15W,28	3805	4,557	37 D	44.4	NIAGARAN	4,801	1	0	0	1	80	78,922	433,195	162,263	592,177	5,415	0
OF	BEAR LAKE 31-23N-15W	NIAGARAN	1974	MANISTEE, BEAR LAKE-23N,15W,31	3805	4,168	59 D	40.0	NIAGARAN	4,580	1	0	0	1	80	8,451	251,554	4,341	161,688	3,144	18
OF	BEAR LAKE 32-23N,15W	NIAGARAN	1974	MANISTEE, BEAR LAKE-23N,15W,32	3805	4,592	62 D	45.3	NIAGARAN	4,860	3	0	0	3	240	255,404	1,573,516	261,014	1,505,808	6,556	24
OF	BEAR LAKE 33-23N,15W	NIAGARAN	1974	MANISTEE, BEAR LAKE-23N,15W,33	3805	4,621	21 D	42.6	NIAGARAN	4,806	6	0	0	4	520	277,488	2,381,738	537,347	2,923,662	4,580	10
OF	BEAR LAKE 34-23N-15W	NIAGARAN	1975	MANISTEE, BEAR LAKE-23N,15W,34	3805	4,783	18 D	44.6	NIAGARAN	4,957	3	0	0	3	240	170,073	1,276,232	411,404	2,355,546	5,317	0
G-C	BEAR LAKE 35-23N-15W	NIAGARAN	1977	MANISTEE, BEAR LAKE-23N,15W,35	3805	4,839	10 D	--	NIAGARAN	4,985	1	0	0	1	160	5,340	19,100	1,101,319	2,271,829	119	0
OF	BEAVER CREEK UNIT	RICHFIELD	1947	CRAWFORD, BEAVER CREEK-25N,4W,17	3624	4,160	20 D	44.7	ST. PETER	10,142	121	5	1	67	4,800	532,431	14,061,532	260,837	20,383,795	2,929	1,903
OF	BEAVER, SEC 31	BEREA	1954	BAY, BEAVER-15N,3E,31	3560	2,413	16 SL	--	SYLVANIA	4,754	4	3	0	3	170	10,721	11,774	0	0	69	92
OF	BEAVERTON	DUNDEE	1934	GLADWIN, BEAVERTON-17N,2W,11	3444A	3,929	12 L	41.3	RICHFIELD	5,225	26	0	0	1	330	1,807	898,624	0	0	2,723	80
OF	BEAVERTON, SOUTH	TRAVERSE	1956	GLADWIN, BEAVERTON-17N,2W,36	3444A	3,231	6 L	41.0	DETROIT RIVER	4,977	0					SEE	BEAVERTON	DUNDEE			
OF	BEAVERTON, SOUTH	DUNDEE	1936	GLADWIN, BEAVERTON-17N,2W,36	3444A	3,845	12 L	34.5	DETROIT RIVER		33	0	0	19	700	12,748	1,820,845	0	0	2,601	34
OF	BEAVERTON, WEST	DUNDEE	1943	GLADWIN, BEAVERTON-17N,2W,19	3444A	3,876	2 L	41.2	DETROIT RIVER	5,094	7	0	0	5	260	5,514	240,552	0	0	925	80
GF	BELKNAP 07-34N-05E	NIAGARAN	1979	PRESQUE ISLE, BELKNAP-34N,5E,7	3866	2,784	234 L	--	NIAGARAN	3,400	1	0	0	1	160	0	0	SHUT-IN	0	0	0
GF	BELKNAP 10-34N-05E	NIAGARAN	1977	PRESQUE ISLE, BELKNAP-34N,5E,10	3866	2,960	20 D	--	NIAGARAN	3,087	1	0	0	1	80	0	0	SHUT-IN	0	0	0
OF	BELKNAP 17-34N-05E	NIAGARAN	1980	PRESQUE ISLE, BELKNAP-34N,5E,17	3886	3,003	85 D	41.9	NIAGARAN	3,387	1	0	0	1	160	100	2,716	0	0	16	0
OF	BELKNAP 21-34N-05E	NIAGARAN	1977	PRESQUE ISLE, BELKNAP-34N,5E,21	3866	2,978	24 D	39.8	NIAGARAN	3,340	1	0	0	1	160	0	3,544	SHUT-IN	0	22	0
OF	BELKNAP 34-34N-05E	NIAGARAN	1977	PRESQUE ISLE, BELKNAP-34N,5E,34	3866	3,153	10 D	51.9	NIAGARAN	3,410	1	0	0	1	80	0	418	SHUT-IN	0	5	0
OF	BELLY ACHERS	DUNDEE	1944	MONTCALM, HOME-12N,6W,14	3700	3,470	1 D	48.2	DUNDEE	3,615	7	0	0	3	220	482	355,702	0	0	1,616	375
OF	BENONA 22-14N-18W	NIAGARAN	1980	OCEANA, BENONA-14N,18W,15	3931	3,936	8 D	50.7	PRAIRIE DU CHIEN	5,065	1	0	0	1	80	0	0	0	0	0	0
AOF	BENONA, SEC 13	TRAVERSE	1949	OCEANA, BENONA-14N,18W,13	3931	1,640	3 L	--	DETROIT RIVER	2,276	2		1956		20	0	4,951	0	0	248	0
OF	BENTLEY	TRAVERSE	1952	GLADWIN, BENTLEY-17N,2E,29	3518	2,855	6 L	34.1	SYLVANIA	5,114						SEE	BENTLEY	DUNDEE	& RICHFIELD		0
OF	BENTLEY	DUNDEE	1937	GLADWIN, BENTLEY-17N,2E,29	3518	3,510	13 L	42.1	SYLVANIA		87	0	0	36		27,612	SEE	BENTLEY	RICHFIELD		137
OF	BENTLEY	RICHFIELD	1952	GLADWIN, BENTLEY-17N,2E,29	3518	4,440	14 L	40.0	SYLVANIA		1	0	0	1	1,920	1,196	3,174,558	0	0	1,653	1
OF	BERLIN	NIAGARAN	1960	ST. CLAIR, BERLIN-6N,13E,33	3739	3,800	25 D	42.8	CINCINNATIAN	4,310	4	0	0	2	140	332	378,130	0	0	2,700	8
AGF	BEVENS LAKE	MICHIGAN STRAY	1952	MECOSTA, GREEN-16N,10W,13	3653	1,244	6 S	--	REED CITY	3,731	3		1969		-	0	0	0	525,713	0	0
OF	BEVENS LAKE	TRAVERSE	1951	MECOSTA, GREEN-16N,10W,13	3653	2,997	1 L	44.2	REED CITY		4	0	0	1	40	1,032	102,205	0	0	2,555	80
GF	BEVENS LAKE	DUNDEE	1951	MECOSTA, GREEN-16N,10W,13	3653	3,536	11 L	--	REED CITY		3	0	0	1	320	0	0	0	1,076,763	0	0
OF	BIG HAND	NIAGARAN	1961	ST. CLAIR, COLUMBUS-5N,15E,24	3755	2,898	5 D	39.5	NIAGARAN	3,097	10	0	0	10	200	17,129	996,953	48,448	1,233,033	4,984	30
AGF	BIG PRAIRIE	MICHIGAN STRAY	1944	NEWAYGO, BIG PRAIRIE-13N,11W,16	3581	1,030	5 S	--	REED CITY	3,322	1		1961		160	0	0	0	155,922	0	0
AGF	BIG PRAIRIE, SEC 33	DUNDEE	1947	NEWAYGO, BIG PRAIRIE-13N,11W,33	3581	2,896	2 L	--	DUNDEE	2,900	1		1952		40	0	0	0	61,986	0	0
AGF	BIG RAPIDS	MICHIGAN STRAY	1943	MECOSTA, BIG RAPIDS-15N,10W,13	3453	1,145	7 S	--	REED CITY	3,595	9		1969		1,440	0	0	0	2,393,033	0	0
AGF	BIG RAPIDS	DUNDEE	1965	MECOSTA, BIG RAPIDS-15N,10W,10	3453	3,420	6 L	--	REED CITY		1		1964		160	0	0	0	44,498	0	0
OF	BILLINGS	DUNDEE	1949	GLADWIN, BILLINGS-17N,1E,2	3631	3,549	6 L	39.7	RICHFIELD	4,995	20	0	0	16	400	4,406	SEE	BILLINGS	DETROIT	RIVER	2
OF	BILLINGS	DETROIT RIVER	1950	GLADWIN, BILLINGS-17N,1E,2	3631	4,070	7 D	43.5	RICHFIELD		10	0	0	8	200	4,710	886,398	0	0	1,477	1
OF	BILLINGS, SOUTH	DUNDEE	1957	GLADWIN, BILLINGS-17N,1E,12	3631	3,540	5 ?	39.5	DETROIT RIVER	4,152	8	0	0	8	70	5,953	231,241	0	0	3,303	34
AOF	BIRCH RUN	BEREA	1934	SAGINAW, BIRCH RUN-10N,6E,20	3468	1,530	5 S	43.3	DUNDEE	2,646	26		1951		250	0	215,876	0	0	864	0
OF	BIRCH RUN	DUNDEE	1954	SAGINAW, TAYMOUTH-10N,5E,20	3722	2,536	10 L	36.2	DUNDEE	2,716	34	0	0	32	480	8,128	621,310	0	0	1,294	1
OF	BIRCH RUN, SEC 26	DUNDEE	1979	SAGINAW, BIRCH RUN-10N,6E,26	3468	2,486	33 L	36	DUNDEE	2,543	6	3	0	6	240	8,581	15,227	0	0	63	1
OF	BIRCH-BELA	DUNDEE	1951	SAGINAW, ARBELA-10N,6E,25	3468	2,504	7 L	36.0	DETROIT RIVER	3,263	31	0	0	31	350	9,134	422,096	0	0	1,205	1
AOF	BISHOP	TRAVERSE	1950	NEWAYGO, GARFIELD-12N,13W,19	3581	2,226	3 L	--	TRAVERSE	2,238	7		1952		110	0	33,327	0	0	303	0
OF	BISMARCK 12-34N-04E	NIAGARAN	1977	PRESQUE ISLE, BISMARCK-34N,4E,12	3859	3,017	23 D	38.9	NIAGARAN	3,237	1	0	0	1	80	0	121	SHUT-IN	0	1	0
OF	BISMARCK 14-34N-04E	NIAGARAN	1981	PRESQUE ISLE, BISMARCK-34N,04E,14	3859	3,109	4 D	36	NIAGARAN	3,284	1	1	0	1	80	0	0	0	0	0	0
G-C	BISMARCK 26-34N-04E	NIAGARAN	1976	PRESQUE ISLE, BISMARCK-34N,4E,26	3859	3,302	65 D	--	NIAGARAN	3,589	2	0	0	2	160	0	0	SHUT-IN	0	0	0
GF	BISMARCK 34-34N-04E	NIAGARAN	1981	PRESQUE ISLE, BISMARCK-34N,04E,34	3859	3,303	43 D	--	NIAGARAN	3,675	1	1	0	1	80	0	0	0	0	0	0
OF	BLAIR 14-26N-11W	NIAGARAN	1978	GD. TRAVERSE, BLAIR-26N,11W,14	3796	5,767	39 D	47.0	NIAGARAN	5,930	4	0	0	4	320	23,245	70,569	564,010	1,552,420	220	62
OF	BLAIR 16-26N-11W	NIAGARAN	1980	GD. TRAVERSE, BLAIR-26N,11W,16	3796	5,443	33 D	44.5	NIAGARAN	5,810	1		1981		80	1,231	1,533	0	0	19	0
AG-C	BLAIR 21-26N-11W	NIAGARAN	1976	GD. TRAVERSE, BLAIR-26N,11W,21	3796	5,567	42 D	67.3	NIAGARAN	5,795	2		1981		160	0	18,391	0	607,143	114	0
OF	BLAIR 21-26N-11W P/A	NIAGARAN	1981	GD. TRAVERSE, BLAIR-26N,11W,21	3796	5,441	5 D	--	NIAGARAN	5,636	1	1	0	1	80	0	0	0	0	0	0
G-C	BLAIR 22-26N-11W	NIAGARAN	1977	GD. TRAVERSE, BLAIR-26N,11W,22	3796	5,592	100 D	68.3	NIAGARAN	5,862	1	0	0	1	80	613	29,736	17,387	982,008	371	0
OF	BLAIR 25-26N-11W	NIAGARAN	1974	GD. TRAVERSE, BLAIR-26N,11W,25	3796	5,863	41 D	47.2	NIAGARAN	6,120	2	0	0	2	160	40,754	310,213	238,659	1,541,019	1,938	2
G-C	BLAIR 25-26N-11W P/A	NIAGARAN	1974	GD. TRAVERSE, BLAIR-26N,11W,25	3796	6,225	6 D	46.2	NIAGARAN	6,423	2	0	0	2	160	3,872	108,887	372,839	3,110,018	680	2
G-C	BLAIR 26-26N-11W	NIAGARAN	1975	GD. TRAVERSE, BLAIR-26N,11W,26	3796	5,804	76 D	53.0	NIAGARAN	6,035	1	0	0	1	80	2,023	10,914	165,407	821,703	136	13
G-C	BLAIR 26-26N-11W P/A	NIAGARAN	1977	GD. TRAVERSE, BLAIR-26N,11W,26	3796	5,930	10 D	55.0	NIAGARAN	6,110	1	0	0	1	80	201	17,694	191,050	1,540,573	221	0
G-C	BLAIR 27-26N-11W	NIAGARAN	1975	GD. TRAVERSE, BLAIR-26N,11W,27	3796	5,563	125 D	61.5	NIAGARAN	5,820	1	0	0	1	80	2,904	33,260	278,185	1,124,098	415	0
OF	BLAIR 28-26N-11W	NIAGARAN	1979	GD. TRAVERSE, BLAIR-26N,11W,28	3796	5,550	56 D	43.4	NIAGARAN	5,845	1	0	0	1	80	31,734	68,631	15,289	32,783	857	224
OF	BLAIR 29-26N-11W	NIAGARAN	1981	GD. TRAVERSE, BLAIR-26N,11W,29	3796	5,587	7 D	41.4	NIAGARAN	5,830	1	1	0	1	80	0	0	0	0	0	0
OF	BLAIR 33-26N-11W	NIAGARAN	1973	GD. TRAVERSE, BLAIR-26N,11W,33	3796	5,844	11 D	45.8	NIAGARAN	6,123	3	0	0	3	240	68,093	942,990	355,314	2,506,307	3,929	108
G-C	BLAIR 34-26N-11W	NIAGARAN	1970	GD. TRAVERSE, BLAIR-26N,11W,34	3796	5,826	124 D	60.0	NIAGARAN	6,316	1	0	0	1	160	3,468	64,561	161,926	2,640,175	403	0
GF	BLAIR 34-26N-11W P/A	NIAGARAN	1972	GD. TRAVERSE, BLAIR-26N,11W,34	3796	5,960	13 D	49.6	NIAGARAN	6,140	1	0	0	1	160	3,009	27,650	146,824	942,379	172	0
OF	BLAIR 34-26N-11W P/B	NIAGARAN	1981	GD. TRAVERSE, BLAIR-26N,11W,34	3796	5,907	95 D	46.9	NIAGARAN	6,124	1	1	0	1	80	4,758	7,573	351,631	414,065	94	15
OF	BLAIR 35-26N-11W	NIAGARAN	1975	GD. TRAVERSE, BLAIR-26N,11W,35	3796	6,126	58 D	45.0	NIAGARAN	6,320	3	0	0	2	280	10,557	96,634	304,467	1,439,732	345	4
G-C	BLAIR 36-26N-11W	NIAGARAN	1972	GD. TRAVERSE, BLAIR-26N,11W,36	3796	6,205	14 D	52.0	NIAGARAN	6,405	3	0	0	2	480	3,516	298,674	596,571	14,450,026	622	0
GF	BLISSFIELD	TRENTON-BLK. RIVER	1963	LENAWEE, BLISSFIELD-7S,5E,5	3698	2,686	9 D	--	GLENWOOD	3,251	1	0	0	1	40	0	718	0	53,963	17	0
OF	BLOOMER	TRAVERSE	1944	MONTCALM, BLOOMER-9N,5W,32	3598	2,640	3 L	42.3	DETROIT RIVER	3,271	29	0	0	3	530	1,940	1,973,947	0	0	3,724	450
AOF	BLOOMER, SEC 18	TRAVERSE	1936	MONTCALM, BLOOMER-9N,5W,18	3459	2,717	6 L	--	DUNDEE	3,138	1		1936		10	0	814	0	0	81	0
OF	BLOOMINGDALE	TRAVERSE	1938	VAN BUREN, BLOOMINGDALE-1S,14W,9	3534	1,244	4 L	42.0	ST. PETER SS.	3,422	436	3	1	17	4,120	6,312	10,047,228	0	0	2,438	509
OF	BLUE LAKE 01-28N-05W	NIAGARAN	1971	KALKASKA, BLUE LAKE-28N,5W,1	3783	6,481	43 D	43.0	NIAGARAN	6,980	3	0	0	2	160	47,139	1,051,473	8,478	402,685	6,571	1,500
OF	BLUE LAKE 05-28N-05W	NIAGARAN	1979	KALKASKA, BLUE LAKE-28N,5W,5	3783	6,630	8 D	--	NIAGARAN	6,793	1	0	0	1	80	28,920	96,969	50,654	156,447	1,212	33
OF	BLUE LAKE 05-28N-05W P/A	NIAGARAN	1981	KALKASKA, BLUE LAKE-28N,05W,05	3783	6,538	18 D	--	NIAGARAN	6,877	1	1	0	1	80	0	0	0	0	0	0
AG-C	BLUE LAKE 07-28N-05W	NIAGARAN	1976	KALKASKA, BLUE LAKE-28N,5W,7	3783	6,615	16 D	51.6	NIAGARAN	6,704	1		1978		80	0	0	0	27,739	0	0
OF	BLUE LAKE 12-28N-05W	NIAGARAN	1971	KALKASKA, BLUE LAKE-28N,5W,12	3783	6,852	20 D	45.0	NIAGARAN	7,079	1	0	0	1	80	6,898	47,446	32,493	306,898	593	0
OF	BLUE LAKE 12-28N-05W P/A	NIAGARAN	1979	KALKASKA, BLUE LAKE-28N,05W,12	3783	6,912	80 D	44.4	NIAGARAN	7,175	1	0	0	1	80	1,141	9,122	13,053	33,578	114	0
G-C	BLUE LAKE 13-28N-05W	SALINA-NIAGARAN	1973	KALKASKA, BLUE LAKE-28N,5W,13	3783	6,600	206 D	43	NIAGARAN	7,325	1	0	0	1	80	2,300	68,620	47,199	2,189,847	857	0

TABLE 23 MICHIGAN OIL AND GAS FIELDS

POOL CLASS	FIELD OR POOL NAME	PRODUCING FORMATION	YEAR OF DISC.	COUNTY, TOWNSHIP – T, R, SEC. for DISCOVERY WELL only	MAP REF. NO.	DEPTH IN FEET	PAY ZONE THICK-NESS & LITHO	PAY ZONE API OIL GRAV	DEEPEST FORMATION OR POOL NAME	DEEPEST FORMATION TESTED DEPTH IN FEET	NUMBER OF WELLS TO END 1981	COMP. IN 1981	ABND. IN 1981	ACTIVE END OF 1981	ACRES DRILLED	OIL IN BBLS. PRODUCED IN 1981	OIL IN BBLS. CUMM. THROUGH 1981	GAS IN MCF PRODUCED IN 1981	GAS IN MCF CUMM. THROUGH 1981	RECOVERY PER ACRE DRILLED IN BBLS	TOTAL BARRELS OF BRINE PER DAY
OF	BLUE LAKE 13-28N-05W P/A	NIAGARAN	1979	KALKASKA, BLUE LAKE-28N,5W,13	3783	7,014	6 L	46	NIAGARAN	7,193	1	0	0	1	80	6,358	25,062	6,437	44,592	313	0
OF	BLUE LAKE 16-28N-05W	NIAGARAN	1977	KALKASKA, BLUE LAKE-28N,5W,16	3783	7,097	23 D	47.0	NIAGARAN	7,254	3	1	0	3	240	171,284	449,490	159,475	472,618	1,872	0
OF	BLUE LAKE 16-28N-05W P/A	NIAGARAN	1978	KALKASKA, BLUE LAKE-28N,5W,16	3783	7,062	8 D	50.5	NIAGARAN	7,213	2	0	0	2	160	34,671	113,803	303,443	702,120	711	1
OF	BLUE LAKE 17-28N-05W	NIAGARAN	1976	KALKASKA, BLUE LAKE-28N,5W,17	3783	7,015	62 D	46.7	NIAGARAN	7,255	3	0	0	3	200	244,717	1,262,162	330,894	1,493,359	6,310	15
G-C	BLUE LAKE 17-28N-05W P/A	NIAGARAN	1977	KALKASKA, BLUE LAKE-28N,05W,17	3783	6,850	30 D	64	NIAGARAN	7,070	1	0	0	1	160	15,269	123,068	1,696,222	5,293,000	769	0
OF	BLUE LAKE 18-28N-05W	NIAGARAN	1975	KALKASKA, BLUE LAKE-28N,5W,18	3783	6,960	24 D	44.8	NIAGARAN	7,186	3	0	0	3	240	330,336	1,441,377	329,834	1,451,097	6,005	0
G-C	BLUE LAKE 18-28N-05W P/A	NIAGARAN	1977	KALKASKA, BLUE LAKE-28N,5W,18	3783	6,885	20 D	60	NIAGARAN	7,089	4	0	0	4	320	96,862	524,660	8,344,428	19,948,594	1,639	0
OF	BLUE LAKE 19-28N-05W	NIAGARAN	1974	KALKASKA, BLUE LAKE-28N,5W,19	3783	6,920	20 D	45.3	NIAGARAN	7,115	2	0	0	2	160	217,337	1,198,558	319,079	1,245,022	7,490	0
OF	BLUE LAKE 19-28N-05W P/A	NIAGARAN	1976	KALKASKA, BLUE LAKE-28N,5W,19	3783	6,960	14 D	45.4	NIAGARAN	7,265	2	0	0	2	80	8,126	93,551	41,517	350,487	1,169	100
OF	BLUE LAKE 19-28N-05W P/B	NIAGARAN	1979	KALKASKA, BLUE LAKE-28N,5W,19	3783	6,970	120 L	43.4	NIAGARAN	7,280	1	0	0	1	80	12,985	32,976	4,357	42,536	412	15
OF	BLUE LAKE 20-28N-05W	NIAGARAN	1978	KALKASKA, BLUE LAKE-28N,5W,20	3783	6,956	14 D	45.4	NIAGARAN	7,207	1	0	0	1	80	54,607	293,134	123,745	449,495	3,664	54
G-C	BLUE LAKE 21-28N-05W	NIAGARAN	1979	KALKASKA, BLUE LAKE-28N,5W,21	3783	7,200	12 L	--	NIAGARAN	7,295	2	0	0	2	160	21,696	60,725	828,092	1,685,675	379	4
G-C	BLUE LAKE 23-28N-05W	SALINA-NIAGARAN	1977	KALKASKA, BLUE LAKE-28N,5W,23	3783	6,785	397 D	--	NIAGARAN	7,440	2	1	0	2	160	4,673	126,905	603,054	4,042,214	793	0
G-C	BLUE LAKE 27-28N-05W	NIAGARAN	1972	KALKASKA, BLUE LAKE-28N,5W,27	3783	7,131	37 D	64.4	NIAGARAN	7,350	1	0	0	1	160	79	76,674	185,948	5,142,930	479	0
G-C	BLUE LAKE 28-28N-05W	NIAGARAN	1970	KALKASKA, BLUE LAKE-28N,5W,28	3783	7,105	30 D	60	NIAGARAN	7,450	1	0	0	1	160	187	59,976	47,236	3,633,803	374	0
G-C	BLUE LAKE 28-28N-05W P/A	NIAGARAN	1978	KALKASKA, BLUE LAKE-28N,05W,28	3783	7,303	18 D	66.1	NIAGARAN	7,505	1	0	0	1	160	593	28,459	446,838	2,331,647	177	0
G-C	BLUE LAKE 29-28N-05W	NIAGARAN	1974	KALKASKA, BLUE LAKE-28N,5W,29	3783	6,950	56 D	59.1	NIAGARAN	7,320	2	0	0	2	320	804	16,031	112,573	1,845,022	50	0
G-C	BLUE LAKE 32-28N-05W	NIAGARAN	1977	KALKASKA, BLUE LAKE-28N,5W,32	3783	7,120	40 D	--	NIAGARAN	7,573	1	0	0	1	80	0	0	SHUT-IN	0	0	0
G-C	BLUE LAKE 33-28N-05W	LOWER NIAGARAN	1971	KALKASKA, BLUE LAKE-28N,5W,33	3783	7,350	25 D	--	NIAGARAN	7,610	2	0	0	2	80	907	40,403	62,237	1,125,216	505	0
G-C	BLUE LAKE 34-28N-05W	NIAGARAN	1979	KALKASKA, BLUE LAKE-28N,5W,34	3783	7,036	348 L	66	NIAGARAN	7,558	1	0	0	1	80	0	238	0	0	2	0
OF	BLUE LAKE SEC. 05	"BEREA"	1981	MUSKEGON, BLUE LAKE-12N,16W,06	3557	1,430	5 SH	--	TRAVERSE	1,828	1	1	0	1	40	0	0	0	0	0	0
AG-C	BOARDMAN 03-26N-08W	NIAGARAN	1973	KALKASKA, BOARDMAN-26N,8W,3	3788	6,570	60 D	53.4	NIAGARAN	6,990	1	1	0	1	80	75	75	0	0	0	0
GF	BOARDMAN 04-26N-08W	NIAGARAN	1971	KALKASKA, BOARDMAN-26N,08W,04	3788	6,778	38 D	--	NIAGARAN	6,925	1	0	0	1	160	1,334	19,256	183,497	799,441	120	0
G-C	BOARDMAN 04-26N-08W	NAGARAN	1971	KALKASKA, BOARDMAN-26N,8W,4	3788	6,778	38 D	65.7	NIAGARAN		1	0	0	1	160	1,334	19,256	183,497	799,441	120	0
GF	BOARDMAN 04-26N-08W P/A	NIAGARAN	1972	KALKASKA, BOARDMAN-26N,08W,04	3788	6,450	290 D	--	NIAGARAN	6,893	1	0	0	1	160	79	90,010	69,340	2,019,926	562	0
G-C	BOARDMAN 04-26N-08W P/A	NIAGARAN	1972	KALKASKA, BOARDMAN-26N,8W,4	3788	6,450	290 D	--	NIAGARAN	-	1	0	0	1	160	79	90,010	69,340	2,019,926	562	0
G-C	BOARDMAN 04-26N-08W P/B	NIAGARAN	1981	KALKASKA, BOARDMAN-26N,08W,04	3788	6,779	62 D	65.5	NIAGARAN	6,990	1	0	0	1	80	0	43,010	127,783	2,732,185	537	0
GF	BOARDMAN 05-26N-08W	NIAGARAN	1971	KALKASKA, BOARDMAN-26N,08W,05	3788	6,616	120 D	--	NIAGARAN	6,990	1	0	0	1	160	0	43,010	127,783	2,732,185	268	0
G-C	BOARDMAN 05-26N-08W	NIAGARAN	1971	KALKASKA, BOARDMAN-26N,8W,5	3788	6,616	110 D	--	NIAGARAN	6,980	3		1976		80	0	178	0	0	2	0
G-C	BOARDMAN 05-26N-08W P/A	NIAGARAN	1980	KALKASKA, BOARDMAN-26N,8W,5(BHL)	3788	6,755	134 D	65.3	NIAGARAN	6,841	1	0	0	1	80	17,168	24,198	751,651	836,365	302	0
OF	BOARDMAN 06-26N-08W	NIAGARAN	1973	KALKASKA, BOARDMAN-26N,8W,6	3788	6,477	180 D	46.1	NIAGARAN	6,975	1	0	0	1	80	7,992	80,885	0	14,067	1,011	0
G-C	BOARDMAN 06-26N-08W P/A	NIAGARAN	1978	KALKASKA, BOARDMAN-26N,8W,5	3788	6,710	7 D	63.5	NIAGARAN	6,842	1	0	0	1	80	0	2,627	464	76,663	32	0
OF	BOYD	SALINA-NIAGARAN	1958	ST. CLAIR, CASCO-4N,15E,31	3737	2,457	292 D	37.7	PRECAMBRIAN	4,634	49	0	0	36	1,840	24,820	2,149,496	220,121	19,336,127	1,168	88
AOF	BREEDSVILLE	TRAVERSE	1943	VAN BUREN, GENEVA-1S,16W,24	3586	1,061	2 L	33.0	DETROIT RIVER	1,445	32		1961		300	0	285,584	0	0	952	0
OF	BRINTON	DUNDEE	1967	ISABELLA, COLDWATER-16N,6W,5	3599	4,082	3 D	--	DUNDEE	4,085	1	0	0	1	40	1,771	24,323	SHUT-IN	0	525	120
OF	BROOKFIELD 02-01N-04W	NIAGARAN	1979	EATON, BROOKFIELD-1N,4W,2	3915	3,740	26 D	37.4	NIAGARAN	4,123	2	0	0	2	160	91,435	120,061	0	0	750	0
GF	BROOMFIELD	MICHIGAN STRAY	1930	ISABELLA, BROOMFIELD-14N,6W,10	3314	1,355	5 S	--	SYLVANIA	4,994	91	0	0	8	8,240	0	0	0	13,330,450	0	0
OF	BROOMFIELD	TRAVERSE	1979	ISABELLA, BROOMFIELD-14N,6W,14	3314	3,173	12 L	--	TRAVERSE	3,190	1	0	0	1	40	102	383	0	0	9	0
OF	BROOMFIELD	DUNDEE	1979	ISABELLA, BROOMFIELD-14N,6W,9	3314	3,752	3 D	--	DUNDEE	3,756	10	7	0	10	200	57,082	61,366	0	0	306	238
G-C	BROWN 04-22N-15W	NIAGARAN	1974	MANISTEE, BROWN-22N,15W,4	3806	4,397	331 D	69.5	NIAGARAN	4,907	2	0	0	2	320	24,027	305,482	2,648,866	15,811,874	954	0
G-C	BROWN 04-22N-15W P/A	NIAGARAN	1975	MANISTEE, BROWN-22N,15W,4	3806	4,419	306 D	64.2	NIAGARAN	4,926	1	0	0	1	120	1,079	58,422	265,812	2,425,721	486	1
OF	BROWN 05-22N-15W	NIAGARAN	1976	MANISTEE, BROWN-22N,15W,5	3806	4,649	12 D	45.3	NIAGARAN	4,762	2	0	0	2	160	74,606	357,853	212,713	995,306	2,236	46
G-C	BROWN 06-22N-15W	SALINA-NIAGARAN	1974	MANISTEE, BROWN-22N,15W,6	3806	4,207	415 D	57.3	NIAGARAN	4,809	1	0	0	1	120	3,256	52,832	365,501	4,125,477	440	1
G-C	BROWN 07-22N-15W	NIAGARAN	1974	MANISTEE, BROWN-22N,15W,7	3806	4,378	292 D	65.0	NIAGARAN	4,780	1	0	0	1	160	0	17,866	490,471	3,176,323	111	1
G-C	BROWN 08-22N-15W	NIAGARAN	1974	MANISTEE, BROWN-22N,15W,8	3806	4,692	27 D	66.0	NIAGARAN	4,888	1	0	0	1	80	725	21,940	223,977	2,109,240	274	0
GF	BROWN 19-22N-15W	SALINA-NIAGARAN	1977	MANISTEE, BROWN-22N,15W,19	3806	4,456	8 D	--	NIAGARAN	4,575	1	0	0	1	80	414	844	101,369	199,562	10	0
GF	BRUCE	NIAGARAN	1974	MACOMB, BRUCE-5N,12E,30	3833	3,696	36 D	--	NIAGARAN	4,029	2	0	0	2	320	7,502	25,198	649,089	4,883,937	78	0
OF	BUCKEYE, NORTH	DUNDEE	1936	GLADWIN, BUCKEYE-18N,1W,11	3498	3,615	14 L	39.0	SYLVANIA	5,351	295	0	0	56	3,070	144,740	20,341,095	0	9,781	6,625	14,460
OF	BUCKEYE, SOUTH	BEREA	1979	GLADWIN, BUCKEYE-18N,1W,36	3498	2,196	12 SS	--	DETROIT RIVER	2,305	25	4	0	25	910	42,835	90,285	0	0	99	280
AOF	BUCKEYE, SOUTH	TRAVERSE	1956	GLADWIN, BUCKEYE-18N,1W,25	3498	2,891	3 D	42.0	DETROIT RIVER	4,802	7		1960			SEE	BUCKEYE, SOUTH		DUNDEE		
OF	BUCKEYE, SOUTH	DUNDEE	1936	GLADWIN, BUCKEYE-18N,1W,25	3498	3,570	11 L	39.0	DETROIT RIVER		205	3	0	33	2,510	22,324	5,228,547	0	0	2,083	222
OF	BUCKEYE, SOUTH	DETROIT RIVER SZ	1964	GLADWIN, BUCKEYE-18N,1W,36	3498	4,481	14 D	46.0	DETROIT RIVER		1	0	0	1	40	5,127	124,127	0	0	3,103	0
OF	BURDELL	DUNDEE	1959	OSCEOLA, BURDELL-20N,10W,19	3561	3,678	4 L	--	REED CITY	3,804	6	0	0	1	120	933	159,081	0	0	1,325	40
AOF	BURDELL	REED CITY	1960	OSCEOLA, BURDELL-20N,10W,19	3561	3,802	2 D	--	REED CITY		1		1969		40	0	0	0	0	0	0
AOF	BUSHNELL	DUNDEE	1935	MONTCALM, BUSHNELL-9N,6W,1	3454	3,105	2 L	33.9	DUNDEE	3,125	1		1939		10	0	4,035	0	0	404	0
AOF	BUTMAN	TRAVERSE	1950	GLADWIN, BUTMAN-20N,1W,12	3672	2,789	2 L	--	SYLVANIA	5,027	1		1953			SEE	BUTMAN	RICHFIELD			
AOF	BUTMAN	DUNDEE	1949	GLADWIN, BUTMAN-20N,1W,13	3672	3,596	6 L	41.4	SYLVANIA		1		1963			SEE	BUTMAN	RICHFIELD			
OF	BUTMAN	RICHFIELD	1949	GLADWIN, BUTMAN-20N,1W,12	3672	4,921	10 D	41.6	SYLVANIA		5	0	0	5	280	3,308	350,489	0	0	1,251	23
GF	CAL-LEE	NIAGARAN	1962	CALHOUN, LEE-1S,5W,22	3842	3,036	8 D	--	PRAIRIE DU CHIEN	4,975			1981		620	0	980	0	0	2	0
OF	CALVIN, SEC 28	TRAVERSE	1980	CASS, CALVIN-7S,14W,28	3924	763	7 L	21.3	TRAVERSE	734	2	2	0	2	80	0	0	0	0	0	1
OF	CALVIN, SEC. 29	TRAVERSE	1981	CASS, CALVIN-07S,14W,29	3924	734	3 L	--	TRAVERSE	770	8	7	0	8	320	12,530	16,714	0	0	52	38
AGF	CANNON CREEK	TRAVERSE	1950	MISSAUKEE, PIONEER-24N,7W,1	3649	2,695	11 L	--	AMHERSTBURG	4,848	3	0	0	3	120	4,484	15,830	0	0	131	17
OF	CANNON CREEK	DETROIT RIVER SZ	1979	MISSAUKEE, NORWICH-24N,6W,6	3649	4,283	95 L	46.6	RICHFIELD	4,810	21		1956		3,360	0	0	0	868,396	0	0
AOF	CASCO	TRAVERSE	1940	ALLEGAN, CASCO-1N,16W,34	3604	1,095	2 L	38.6	TRAVERSE	1,115	9		1959		50	0	17,382	0	0	348	0
OF	CASCO, SEC. 07	TRAVERSE	1981	ALLEGAN, CASCO-01N,16W,07	3604	1,163	3 L	36	TRAVERSE	1,168	1	1	0	1	40	1,480	1,480	0	0	37	5
G-C	CASE 01-33N-03E	NIAGARAN	1978	PRESQUE ISLE, CASE-33N,3E,1	3878	3,608	23 D	50.9	NIAGARAN	3,846	1	0	0	1	80	0	35	SHUT-IN	0	0	0
OF	CASE 03-33N-03E	NIAGARAN	1981	PRESQUE ISLE, CASE-33N,03E,03	3878	3,659	7 D	45.4	NIAGARAN	3,790	2	2	0	2	160	9,672	9,672	0	0	60	0
OF	CAT CREEK	DUNDEE	1968	OSCEOLA, HERSEY-17N,9W,4	3561	3,696	4 L	--	DUNDEE	3,890	8	0	1	6	300	8,682	490,752	0	0	1,635	1,550
OF	CATO	REED CITY	1944	MONTCALM, CATO-12N,8W,6	3605	3,542	3 D	44.7	DETROIT RIVER	3,731	22	0	0	9	670	12,693	1,189,198	0	0	1,774	1,555
GF	CEDAR	MICHIGAN STRAY	1945	OSCEOLA, CEDAR-18N,9W,28	3589	1,490	7 S	--	SYLVANIA	5,165	5	0	0	4	800	0	0	0	1,430,876	0	0
OF	CEDAR	DUNDEE	1943	OSCEOLA, CEDAR-18N,9W,28	3589	3,810	2 L	46.0	SYLVANIA	-	4	0	0	4	140	2,602	1,205,378	0	0	8,581	1
OF	CEDAR	RICHFIELD	1945	OSCEOLA, CEDAR-18N,9W,28	3589	5,060	6 L	44.7	SYLVANIA		10	0	0	5	420	3,902	SEE	CEDAR	RICHFIELD	-	1,150
AGF	CEDAR CREEK	"BEREA"	1940	MUSKEGON, CEDAR CREEK-11N,15W,32	3557	1,125	7 L	--	DUNDEE	2,252	7		1960		1,120	0	0	0	637,019	0	0
AOF	CEDAR CREEK SEC, 23	TRAVERSE	1949	MUSKEGON, CEDAR CREEK-11N,15W,23	3577	1,951	2 L	--	DUNDEE	2,453	2		1968		50	0	2,652	0	0	53	0
G-C	CHARLTON 01-30N-01W	NIAGARAN	1975	OTSEGO, CHARLTON-30N,1W,1	3790	5,885	6 D	68.1	NIAGARAN	6,165	2	0	0	2	200	15,728	279,162	1,551,771	11,044,031	1,395	0

TABLE 23 MICHIGAN OIL AND GAS FIELDS

POOL CLASS	FIELD OR POOL NAME	PRODUCING FORMATION	YEAR OF DISC.	COUNTY, TOWNSHIP – T, R, SEC. for DISCOVERY WELL only	MAP REF. NO.	DEPTH IN FEET	PAY ZONE THICK-NESS & LITHO	PAY ZONE API OIL GRAV	DEEPEST FORMATION OR POOL NAME	DEEPEST FORMATION TESTED DEPTH IN FEET	NUMBER OF WELLS TO END 1981	COMP. IN 1981	ABND. IN 1981	ACTIVE END OF 1981	ACRES DRILLED	OIL IN BBLS. PRODUCED IN 1981	OIL IN BBLS. CUMM. THROUGH 1981	GAS IN MCF PRODUCED IN 1981	GAS IN MCF CUMM. THROUGH 1981	RECOVERY PER ACRE DRILLED IN BBLS	TOTAL BARRELS OF BRINE PER DAY
OF	CHARLTON 09-30N-01W	NIAGARAN	1972	OTSEGO, CHARLTON-30N,1W,9	3790	5,832	226 D	46.4	NIAGARAN	6,216	1	0	0	1	160	5,096	493,625	4,583	736,339	3,085	485
OF	CHARLTON 10-30N-01W	NIAGARAN	1974	OTSEGO, CHARLTON-30N,1W,10	3790	6,093	96 D	45.8	NIAGARAN	6,265	1	0	0	1	160	37,407	561,406	60,583	544,016	3,508	700
OF	CHARLTON 12-30N-01W	NIAGARAN	1973	OTSEGO, CHARLTON-30N,1W,12	3790	5,936	129 D	50.3	NIAGARAN	6,330	2	0	0	2	160	26,624	188,465	31,625	5,627,033	1,177	0
OF	CHARLTON 13-30N-01W	NIAGARAN	1974	OTSEGO, CHARLTON-13-30N-01W	3790	5,958	95 D	48.6	NIAGARAN	6,185	2	0	0	2	80	56,903	258,495	484,903	918,916	3,231	0
GF	CHARLTON 16-30N-01W	NIAGARAN	1980	OTSEGO, CHARLTON-30N,1W,16	3790	5,984	122 D	--	NIAGARAN	6,184	1	0	0	1	80	0	0	0	0	0	0
OF	CHARLTON 24-30N-01W	NIAGARAN	1973	OTSEGO, CHARLTON-30N,1W,24	3790	6,234	26 D	--	NIAGARAN	6,390	1	0	0	1	80	7,942	163,776	125,031	1,117,715	2,047	0
G-C	CHARLTON 31-30N-01W	A-2 C/NIAGARAN	1972	OTSEGO, CHARLTON-30N,1W,31	3790	5,676	13 D	51.8	NIAGARAN	6,400	3	1	0	3	430	33,162	383,872	848,906	7,101,014	892	0
OF	CHARLTON 04-31N-01W	NIAGARAN	1970	OTSEGO, CHARLTON-31N,1W,4	3791	4,766	116 D	55	NIAGARAN	5,270	5	3	0	4	520	117,150	1,674,290	97,449	2,013,395	3,219	0
OF	CHARLTON 05-31N-01W	NIAGARAN	1972	OTSEGO, CHARLTON-31N,1W,5	3791	6,770	15 D	44.3	NIAGARAN	6,910	1	0	0	1	320	75,868	825,548	79,721	1,183,831	2,579	0
OF	CHARLTON 07-31N-01W	NIAGARAN	1974	OTSEGO, CHARLTON-31N,1W,7	3791	4,897	16 D	46.1	NIAGARAN	5,184	4	0	0	4	320	201,570	980,229	588,920	2,595,320	3,063	0
OF	CHARLTON 09-31N-01W	SALINA-NIAGARAN	1972	OTSEGO, CHARLTON-31N,1W,9	3791	4,843	3 D	44.2	NIAGARAN	5,045	2	0	0	2	160	218,938	1,834,014	145,967	1,565,265	11,462	0
OF	CHARLTON 10-31N-01W	NIAGARAN	1981	OTSEGO, CHARLTON-31N,01W,10	3791	5,176	21 D	--	NIAGARAN	5,366	1	1	0	1	Unitized	3,477	0	42,498	0	0	85
G-C	CHARLTON 11-31N-01W	NIAGARAN	1981	OTSEGO, CHARLTON-31N,01W,11	3791	5,082	26 D	71	NIAGARAN	5,470	1	1	0	1	Unitized	0	0	0	0	0	0
G-C	CHARLTON 11-31N-01W P/A	SALINA-NIAGARAN	1981	OTSEGO, CHARLTON-31N,01W,11	3791	5,041	276 D	72	NIAGARAN	5,419	1	1	0	1	Unitized	1,143	0	47,067	0	0	0
OF	CHARLTON 27-31N-01W	NIAGARAN	1972	OTSEGO, CHARLTON-31N,1W,27	3791	5,202	26 D	45.4	NIAGARAN	5,228	4	0	0	4	360	86,565	1,568,908	343,285	3,117,796	4,358	2
G-C	CHARLTON 28-31N-01W	SALINA-NIAGARAN	1974	OTSEGO, CHARLTON-31N,1W,28	3791	4,926	45 D	64.8	NIAGARAN	5,421	1	0	0	1	80	869	109,835	89,238	1,851,543	1,372	0
OF	CHARLTON 28-31N-01W P/A	NIAGARAN	1974	OTSEGO, CHARLTON-31N,1W,28	3791	5,628	28 D	44.4	NIAGARAN	5,796	3	0	0	3	320	249,620	1,020,570	313,270	1,012,180	3,189	2
OF	CHARLTON 30-31N-01W	NIAGARAN	1975	OTSEGO, CHARLTON-31N,1W,30	3791	5,435	11 D	43.4	NIAGARAN	5,650	2	0	0	2	160	112,052	1,026,791	279,381	1,094,270	6,417	4
OF	CHARLTON 31-31N-01W	NIAGARAN	1973	OTSEGO, CHARLTON-31N,1W,31	3791	5,391	54 D	41.9	NIAGARAN	5,770	4	0	0	3	240	79,291	1,062,922	211,360	1,166,526	4,428	107
OF	CHARLTON 33-31N-01W	NIAGARAN	1976	OTSEGO, CHARLTON-33-31N-01W	3791	5,318	20 D	42	NIAGARAN	5,649	1	0	0	1	120	107,728	419,841	137,625	524,088	3,498	0
OF	CHARLTON 34-31N-01W	NIAGARAN	1974	OTSEGO, CHARLTON-31N,1W,34	3791	5,492	10 D	44.5	NIAGARAN	5,830	3	0	0	3	320	127,848	901,104	170,590	790,315	2,815	4
GF	CHARLTON, SEC 08	ANTRIM	1980	OTSEGO, CHARLTON-30N,1W,8	3790	1,315	173 SH	--	ANTRIM	1,488	5	0	0	5	200	0	0	0	0	0	0
GF	CHARLTON, SEC 16	ANTRIM	1980	OTSEGO, CHARLTON-30N,1W,16	3790	1,389	134 SH	--	ANTRIM	1,523	3	2	0	3	120	0	0	0	0	0	0
OF	CHASE	"BEREA"	1943	LAKE, CHASE-17N,11W,29	3570	2,460	4 SL	--	DETROIT RIVER	3,734	2	0	0	1	20	174	10,113	0	0	505	0
AOF	CHERRY GROVE	TRAVERSE	1952	WEXFORD, CHERRY GROVE-21N,10W,27	3714	3,145	4 D	--	DUNDEE	3,998	1		1953		10	0	4,814	0	0	481	0
AGF	CHERRY GROVE, SEC 13	MICHIGAN STRAY	1957	WEXFORD, CHERRY GROVE-21N,10W,13	3714	1,326	35 S	--	DUNDEE	4,080	5		1973		640	0	0	0	943,213	0	0
OF	CHESANING	TRAVERSE	1979	SAGINAW, CHESANING-9N,3E,20	3578	2,343	7 L	40-45	DUNDEE	2,914	2	0	0	2	80	13,888	36,493	0	0	456	0
OF	CHESANING, SEC 24	TRAVERSE	1980	SAGINAW, CHESANING-9N,3E,24	3578	2,223	18 L	50	DUNDEE	2,961	1	0	0	1	80	1,028	1,028	0	0	12	2
AOF	CHESHIRE	TRAVERSE	1947	ALLEGAN, CHESHIRE-1N,14W,27	3502	1,289	2 L	35	TRAVERSE	1,348	3		1958		30	0	9,290	0	0	310	0
GF	CHESTER	TRAVERSE	1980	OTSEGO, CHESTER-29N,2W,13	3777	1,767	1 L	--	TRAVERSE	1,768	1	0	0	1	40	0	0	0	0	0	0
GF	CHESTER	ANTRIM	1965	OTSEGO, CHESTER-29N,2W,14	3777	1,360	?.SH	--	NIAGARAN	6,870	17	0	0	17	680	0	0	26,855	1,363,822	0	330
OF	CHESTER 05-29N-02W	NIAGARAN	1978	OTSEGO, CHESTER-29N,2W,5	3777	6,340	20 D	46.2	NIAGARAN	6,580	1	0	0	1	80	85,941	293,416	161,792	388,065	3,667	0
OF	CHESTER 10-29N-02W	NIAGARAN	1975	OTSEGO, CHESTER-29N,2W,10	3777	6,145	47 D	68.5	NIAGARAN	6,644	3	0	0	3	320	60,735	475,968	274,703	3,558,715	1,487	0
OF	CHESTER 13-29N-02W	NIAGARAN	1979	OTSEGO, CHESTER-29N,2W,13	3777	6,180	---	--	NIAGARAN	6,195	2	0	0	1	80	7,279	18,640	0	0	233	0
G-C	CHESTER 21-29N-02W	NIAGARAN	1973	OTSEGO, CHESTER-29N,2W,21	3777	6,273	29 D	--	NIAGARAN	6,770	1	0	0	1	160	1,770	139,986	477,153	7,081,263	874	0
OF	CHESTER 02-30N-02W	NIAGARAN	1971	OTSEGO, CHESTER-30N,2W,2	3782	5,653	247 D	43.2	NIAGARAN	6,685	1	0	0	1	40	0	38,310	0	529,169	957	0
AOF	CHESTER 05-30N-02W	NIAGARAN	1972	OTSEGO, CHESTER-30N,2W,5	3782	5,538	10 D	--	NIAGARAN	6,051	5	0	0	4	320	60,045	757,699	39,134	329,769	2,367	60
OF	CHESTER 05-30N-02W P/A	A-1 CARBONATE	1975	OTSEGO, CHESTER-30N,2W,5	3782	5,634	10 D	44.8	NIAGARAN	5,750	1		1978		40	0	3,985	0	0	100	0
OF	CHESTER 06-30N-02W	A-1 CARBONATE	1973	OTSEGO, CHESTER-30N,2W,6	3782	5,659	21 D	43.0	NIAGARAN	5,938	1	0	0	1	80	8,886	65,255	0	7,725	815	277
OF	CHESTER 10-30N-02W	NIAGARAN	1972	OTSEGO, CHESTER-30N,2W,10	3782	5,986	28 D	--	NIAGARAN	6,022	3	0	0	3	240	93,301	1,041,551	95,019	1,094,312	4,339	134
OF	CHESTER 10-30N-02W P/A	NIAGARAN	1973	OTSEGO, CHESTER-30N,2W,10	3782	5,898	66 D	42.6	NIAGARAN	6,200	1	0	0	1	80	3,605	474,951	0	331,932	5,936	1
OF	CHESTER 16-30N-02W	NIAGARAN	1971	OTSEGO, CHESTER-30N,2W,16	3782	5,760	300 D	--	NIAGARAN	6,240	3	0	0	2	160	90,828	1,003,808	76,564	581,145	6,273	226
OF	CHESTER 18-30N-02W	NIAGARAN	1971	OTSEGO, CHESTER-30N,2W,18	3782	5,930	20 D	45	NIAGARAN	6,350	5	0	0	5	360	120,858	2,032,899	198,761	1,878,985	5,646	86
OF	CHESTER 19-30N-02W	NIAGARAN	1971	OTSEGO, CHESTER-30N,2W,19	3782	6,054	30 D	44.4	NIAGARAN	6,330	12	0	0	11	840	1,435,336	9,010,505	899,800	6,325,289	10,726	10,654
OF	CHESTER 21-30N-02W	NIAGARAN	1970	OTSEGO, CHESTER-30N,2W,21	3782	5,772	283 D	43.0	NIAGARAN	6,512	2	0	0	2	120	159,108	1,432,995	86,274	850,723	11,941	0
OF	CHESTER 22-29N-02W	NIAGARAN	1971	OTSEGO, CHESTER-22-29N-02W	3777	6,570	18 D	45	NIAGARAN	6,483	4	0	0	4	280	160,350	2,397,287	278,810	2,447,838	8,561	0
OF	CHESTER 30-30N-02W	NIAGARAN	1973	OTSEGO, CHESTER-30N,2W,30	3782	6,232	39 D	37.7	NIAGARAN	6,350	1	0	0	1	80	13,476	447,834	38,760	447,681	5,597	0
OF	CHESTER 34-30N-02W	NIAGARAN	1978	OTSEGO, CHESTER-30N,2W,34	3782	6,364	26 D	46.8	NIAGARAN	6,523	2	0	0	2	160	77,777	303,282	214,212	652,638	1,895	0
AOF	CHESTER, SEC 15	A-2 C/LOWER NIAGARAN	1951	OTSEGO, CHESTER-29N,2W,15	3777	6,610	5 D	41.0	NIAGARAN	6,870	1		1956		40	0	2,752	0	0	69	0
GF	CHESTER, SEC 25	ANTRIM	1979	OTSEGO, CHESTER-30N,2W,25	3782	1,434	63 S	--	NIAGARAN	6,358	1	0	0	1	80	0	0	16,930	39,338	0	160
OF	CHESTERFIELD	NIAGARAN	1962	MACOMB, CHESTERFIELD-3N,14E,28	3732	2,508	7 D	40.3	NIAGARAN	2,707	7	0	0	1	280	1,775	62,384	0	124,021	222	1
AGF	CHINA BELLA	NIAGARAN	1963	ST. CLAIR, CHINA-4N,16E,35	3741	2,365	15 D	--	NIAGARAN	2,451	3		1971		120	0	2,227	0	459,002	19	0
AOF	CHINA, SEC 12	NIAGARAN	1962	ST. CLAIR, CHINA-4N,16E,12	3741	2,509	11 D	39.1	NIAGARAN	2,631	2		1970		80	0	11,895	0	27,570	149	0
AOF	CHINA, SEC 31	SALINA	1959	ST. CLAIR, CHINA-4N,16E,31	3741	2,378	13 D	--	NIAGARAN	2,641	1		1964		SEE		COTTRELLVILLE				
GF	CHINA, SOUTH	SALINA-NIAGARAN	1961	ST. CLAIR, CHINA-4N,16E,33	3741	2,324	14 D	--	NIAGARAN	2,743	11	0	0	5	440	0	DOMESTIC	0	533,912	0	0
AOF	CHIPPEWA, SEC 10	TRAVERSE	1961	ISABELLA, CHIPPEWA-14N,3W,10	3095A	3,193	1 L	--	TRAVERSE	3,220	1		1964		10	0	1,250	SEE	MT PLEASANT	125	0
GF	CLARE CITY	MICHIGAN STRAY	1937	ISABELLA, WISE-16N,3W,6	3542	1,290	5 S	--	DUNDEE	3,865	9	1	0	2	760	0	0	0	2,340,890	0	0
OF	CLARE CITY	MICHIGAN STRAY	1938	CLARE, GRANT-17N,4W,35	3496	1,303	2 S	30.2	DUNDEE	3,853	7	0	0	3	120	1,068	86,197	0	0	718	0
GF	CLARENCE 19-01S-04W, P/A	SALINA-NIAGARAN	1977	CALHOUN CLARENCE-1S,4W,19	3865	3,090	20 D	--	NIAGARAN	3,355	5	0	1	4	240	0	281	111,059	856,429	1	0
GF	CLARENCE 19-01S-04W, P/B	SALINA-A-1 CARBONATE	1978	CALHOUN, CLARENCE-1S,4W,19	3865	3,196	10 D	--	NIAGARAN	3,307	2	0	0	1	120	0	0	89,526	375,331	0	0
OF	CLARENCE 27-01S-04W	NIAGARAN	1979	CALHOUN, CLARENCE-1S,4W,27	3865	3,193	115 D	34.4	NIAGARAN	3,297	1	0	0	1	40	18,271	28,949	0	0	723	32
OF	CLARENCE 27-01S-04W P/A	NIAGARAN	1981	CALHOUN, CLARENCE-01S,04W,27	3865	3,169	20 D	39.8	NIAGARAN	3,302	1	1	0	1	40	0	0	0	0	0	0
GF	CLARENCE 33-01S-04W	NIAGARAN	1981	CALHOUN, CLARENCE-01S,04W,33	3865	3,152	6 D	--	NIAGARAN	3,312	1	1	0	1	40	0	0	0	0	0	0
OF	CLARENCE 34-01S-04W	NIAGARAN	1981	CALHOUN, CLARENCE-01S,04W,34	3865	3,183	7 D	39.8	NIAGARAN	3,328	1	1	0	1	40	0	0	0	0	0	0
OF	CLARENCE 35-01S-04W	NIAGARAN	1981	CALHOUN, CLARENCE-01S,04W,35	3865	3,089	108 D	20.5	NIAGARAN	3,335	1	1	0	1	40	0	0	0	0	0	0
G-C	CLAYBANKS 11-13N-18W	NIAGARAN	1980	OCEANA, CLAYBANKS-13N,18W,11	3932	3,658	15 D	57	NIAGARAN	3,737	1	0	0	1	80	0	0	0	0	0	0
GF	CLAYTON	BEREA	1936	ARENAC, CLAYTON-20N,4E,10	3500	1,180	10 S	--	SYLVANIA	4,163	31	0	0	17	1,560	0	0	0	5,213,269	0	0
OF	CLAYTON	DUNDEE	1935	OGEMAW, RICHLAND-21N,4E,31	3452	2,465	12 DL	34.2	SYLVANIA	-	5	0	0	5	200	2,938	6,775,371	0	0	4,547	1
OF	CLAYTON	DETROIT RIVER-SZ	1953	ARENAC, CLAYTON-20N,4E,9	3500	3,507	9 D	45.9	SYLVANIA	4,163	80	0	0	47	1,290	33,784	SEE	CLAYTON	RICHFIELD		1,442
OF	CLAYTON	RICHFIELD	1947	ARENAC, CLAYTON-20N,4E,9	3500	3,790	9 D	36.2	SYLVANIA								SEE	CLAYTON	RICHFIELD		
AOF	CLEAR LAKE	TRAVERSE	1950	VAN BUREN, PINE GROVE-1S,13W,10	3538	1,380	1 L	--	TRAVERSE	1,399	14		1953		140	0	17,490	0	0	125	0
OF	CLEON 11-24N-13W	NIAGARAN	1973	MANISTEE, CLEON-24N,13W,11	3803	5,624	121 D	43.5	NIAGARAN	6,167	4	0	0	4	320	109,741	652,849	119,091	613,093	2,040	2
OF	CLEON 12-24N-13W	NIAGARAN	1974	MANISTEE, CLEON-24N,13W,12	3803	5,851	35 D	39.3	NIAGARAN	6,119	1	0	0	1	80	22,686	300,787	30,041	250,253	3,759	24
OF	CLEON 12-24N-13W P/A	NIAGARAN	1975	MANISTEE, CLEON-24N,13W,12	3803	5,702	238 D	41.1	NIAGARAN	6,043	1	0	0	1	80	110,204	618,494	121,505	375,716	7,731	0
OF	CLEON 13-24N-13W	NIAGARAN	1977	MANISTEE, CLEON-24N,13W,13	3803	5,858	121 D	42.9	NIAGARAN	5,980	1	0	0	1	160	39,944	299,009	139,852	551,260	1,868	0

TABLE 23 MICHIGAN OIL AND GAS FIELDS

POOL CLASS	FIELD OR POOL NAME	PRODUCING FORMATION	YEAR OF DISC.	COUNTY, TOWNSHIP – T, R, SEC. for DISCOVERY WELL only	MAP REF. NO.	DEPTH IN FEET	PAY ZONE THICKNESS & LITHO	PAY ZONE API OIL GRAV	DEEPEST FORMATION TESTED FORMATION OR POOL NAME	DEEPEST FORMATION TESTED DEPTH IN FEET	NUMBER OF WELLS TO END 1981	NUMBER OF WELLS COMP. IN 1981	NUMBER OF WELLS ABND. IN 1981	NUMBER OF WELLS ACTIVE END OF 1981	ACRES DRILLED	OIL IN BBLS. PRODUCED IN 1981	OIL IN BBLS. CUMM. THROUGH 1981	GAS IN MCF PRODUCED IN 1981	GAS IN MCF CUMM. THROUGH 1981	RECOVERY PER ACRE DRILLED IN BBLS	TOTAL BARRELS OF BRINE PER DAY
OF	CLEON 14-24N-13W	NIAGARAN	1973	MANISTEE, CLEON-24N,13W,14	3803	5,655	69 D	44.3	NIAGARAN	5,928	4	2	1	3	240	53,327	408,535	260,650	966,011	1,702	5
OF	CLEON 14-24N-13W P/A	NIAGARAN	1976	MANISTEE, CLEON-24N,13W,14	3803	5,728	59 D	--	NIAGARAN	5,897	4	2	0	4	160	64,677	370,349	168,094	556,339	2,314	0
G-C	CLEON 15-24N-13W	NIAGARAN	1974	MANISTEE, CLEON-24N,13W,15	3803	5,464	20 D	--	NIAGARAN	5,770	1	0	0	1	80	7,948	44,478	840,862	4,810,891	555	0
G-C	CLEON 16-24N-13W	NIAGARAN	1980	MANISTEE, CLEON-24N,13W,16	3803	5,369	87 D	66.5	NIAGARAN	5,575	2	0	0	2	160	6,959	23,220	1,831,047	2,570,722	145	0
G-C	CLEON 17-24N-13W	NIAGARAN	1978	MANISTEE, CLEON-24N,13W,17	3803	5,408	54 D	59	NIAGARAN	5,523	2	0	0	2	160	2,917	53,742	1,180,545	4,092,036	335	0
G-C	CLEON 19-24N-13W	NIAGARAN	1976	MANISTEE, CLEON-24N,13W,19	3803	5,073	129 D	72.25	NIAGARAN	5,453	1	0	0	1	80	6,931	79,143	19,275	650,178	989	0
OF	CLEON 19-24N-13W P/A	NIAGARAN	1977	MANISTEE, CLEON-24N,13W,19	3803	5,007	133 D	38.9	NIAGARAN	5,450	2	0	0	1	80	23,690	41,129	52,717	66,559	514	0
OF	CLEON 19-24N-13W P/B	NIAGARAN	1980	MANISTEE, CLEON-24N,13W,19	3803	5,268	12 D	42.3	NIAGARAN	5,460	1	0	0	1	80	7,334	13,987	9,328	10,485	174	0
G-C	CLEON 20-24N-13W	NIAGARAN	1974	MANISTEE, CLEON-24N,13W,20	3803	5,145	202 D	--	NIAGARAN	5,534	2	1	0	2	80	6,241	8,046	692,894	793,134	100	0
G-C	CLEON 22-24N-13W	NIAGARAN	1975	MANISTEE, CLEON-24N,13W,22	3803	5,436	73.5 D	65.5	NIAGARAN	5,701	3	0	0	3	200	0	117,536	29,926	7,808,619	587	0
OF	CLEON 23-24N-13W	NIAGARAN	1980	MANISTEE, CLEON-24N,13W,23	3803	5,755	23 D	44	NIAGARAN	5,899	1	0	0	1	80	27,154	39,402	166,687	208,324	492	0
G-C	CLEON 24-24N-13W	NIAGARAN	1977	MANISTEE, CLEON-24N,13W,24	3803	5,857	76 D	--	NIAGARAN	6,052	1	0	0	1	80	2,496	9,312	85,628	265,790	116	0
G-C	CLEON 26-24N-13W	NIAGARAN	1976	MANISTEE, CLEON-24N,13W,26	3803	5,616	154 D	74.8	NIAGARAN	5,901	2	0	0	1	160	648	16,712	187,695	1,276,740	104	0
GF	CLEON 26-24N-13W P/A	NIAGARAN	1979	MANISTEE, CLEON-24N,13W,26	3803	5,762	20 L	--	NIAGARAN	5,904	2	0	0	2	160	0	0	23,191	23,191	0	0
G-C	CLEON 27-24N-13W	NIAGARAN	1976	MANISTEE, CLEON-24N,13W,27	3803	5,659	36 D	--	NIAGARAN	5,937	3	0	0	2	160	9,269	18,656	381,387	688,149	116	0
G-C	CLEON 27-24N-13W P/A	NIAGARAN	1977	MANISTEE, CLEON-24N,13W,27	3803	5,724	10 D	--	NIAGARAN	5,860	2	0	0	1	320	336	16,362	318,783	1,759,712	51	0
G-C	CLEON 29-24N-13W	NIAGARAN	1978	MANISTEE, CLEON-24N,13W,29	3803	5,664	10 D	--	NIAGARAN	5,770	2	0	0	2	160	6,591	36,700	1,330,126	3,710,267	229	0
G-C	CLEON 29-24N-13W P/A	NIAGARAN	1979	MANISTEE, CLEON-24N,13W,29	3803	5,568	13 D	65.4	NIAGARAN	5,698	3	0	0	3	240	16,028	22,186	552,432	746,761	92	0
OF	CLEON 31-24N-13W	NIAGARAN	1977	MANISTEE, CLEON-24N,13W,31	3803	5,220	119 D	--	NIAGARAN	5,543	2	0	0	2	160	17,911	67,635	583,829	1,718,174	422	0
G-C	CLEON 32-24N-13W	NIAGARAN	1977	MANISTEE, CLEON-24N,13W,32	3803	5,418	44 D	51.5	NIAGARAN	5,683	1	0	0	1	160	57,394	94,105	178,048	427,083	588	0
OF	CLEON 32-24N-13W P/A	NIAGARAN	1978	MANISTEE, CLEON-24N,13W,32	3803	5,363	90 D	46.6	NIAGARAN	5,773	2	0	0	2	160	131,015	267,190	264,683	585,797	1,669	0
OF	CLEON 32-24N-13W P/B	NIAGARAN	1980	MANISTEE, CLEON-24N,13W,32	3803	5,422	240 D	43	NIAGARAN	5,740	2	0	0	2	160	133,787	138,459	162,922	163,636	865	0
AOF	CLINTON	TRAVERSE	1953	WASHTENAW, BRIDGEWATER-4S,4E,28	3662	986	2 D	--	TRENTON	3,606	2		1962		20	0	2,093	0	0	105	0
OF	COFFEE LAKE	TRAVERSE	1946	VAN BUREN, COLUMBIA-1S,15W,17	3541	1,128	1 L	--	TRAVERSE	1,130	26	6	2	11	230	26,334	93,138	0	0	404	344
G-C	COLD SPRINGS 01-28N-06W	SALINA-NIAGARAN	1973	KALKASKA, COLD SPRINGS-28N,6W,1	3784	6,578	194 D	61.0	NIAGARAN	6,950	2	0	0	2	160	5,535	320,586	698,674	12,119,631	2,003	27
G-C	COLD SPRINGS 01-28N-06W P/A	NIAGARAN	1976	KALKASKA, COLD SPRINGS-28N,06W,01	3784	6,595	15 D	56.4	NIAGARAN	6,887	2	0	0	1	80	397	746	16,630	16,630	9	0
OF	COLD SPRINGS 14-28N-06W	NIAGARAN	1976	KALKASKA, COLD SPRINGS-28N,6W,14	3784	6,780	10.5 D	--	NIAGARAN	7,095	1	0	0	1	80	31,745	190,257	0	17,673	2,378	32
OF	COLD SPRINGS 18-28N-06W	SALINA-NIAGARAN	1974	KALKASKA, COLD SPRINGS-28N,6W,18	3784	6,364	38 D	--	NIAGARAN	6,675	3	0	0	2	240	5,079	100,442	0	60,419	418	60
OF	COLD SPRINGS 19-28N-06W	NIAGARAN	1971	KALKASKA, COLD SPRINGS-28N,6W,19	3784	6,596	8 D	44.9	NIAGARAN	7,036	4	0	0	4	320	52,225	681,210	417,708	3,843,807	2,128	58
OF	COLD SPRINGS 20-28N-06W	NIAGARAN	1971	KALKASKA, COLD SPRINGS-28N,6W,20	3784	6,737	35 D	41.0	NIAGARAN	6,970	2	0	0	2	160	86,566	1,165,625	258,631	2,436,209	7,285	112
G-C	COLD SPRINGS 20-28N-06W P/A	NIAGARAN	1981	KALKASKA, COLD SPRINGS-28N,06W,20	3784	6,836	8 D	--	NIAGARAN	7,074	1	1	0	1	80	1,377	1,377	15,889	15,889	17	0
OF	COLD SPRINGS 21-28N-06W	NIAGARAN	1970	KALKASKA, COLD SPRINGS-28N,6W,21	3784	6,764	45 D	45.6	NIAGARAN	7,315	3	0	0	1	160	10,964	100,848	25,059	119,024	630	2
OF	COLD SPRINGS 21-28N-06W P/A	NIAGARAN	1978	KALKASKA, COLD SPRINGS-28N,06W,21	3784	6,730	12 D	44.9	NIAGARAN	7,143	1	0	0	1	80	0	8,215	0	1,153	102	0
OF	COLD SPRINGS 22-28N-06W	NIAGARAN	1976	KALKASKA, COLD SPRINGS-28N,06W,22	3784	6,810	15 D	43.6	NIAGARAN	7,138	2	0	0	2	160	32	54,884	0	15,932	343	0
OF	COLD SPRINGS 22-28N-06W P/A	NIAGARAN	1978	KALKASKA, COLD SPRINGS-28N,06W,22	3784	6,714	102 D	42	NIAGARAN	7,102	1	0	0	1	80	16,306	38,564	44,469	83,246	482	100
OF	COLD SPRINGS 23-28N-06W	NIAGARAN	1974	KALKASKA, COLD SPRINGS-28N,6W,23	3784	6,970	20 D	44.4	NIAGARAN	7,218	1	0	0	1	80	25,458	179,601	41,420	166,018	2,245	120
G-C	COLD SPRINGS 24-28N-06W	SALINA-NIAGARAN	1974	KALKASKA, COLD SPRINGS-28N,6W,24	3784	6,760	70 D	55.4	NIAGARAN	7,212	2	0	0	1	80	10,505	207,089	11,722	407,377	2,588	450
OF	COLD SPRINGS 24-28N-06W P/A	NIAGARAN	1979	KALKASKA, COLD SPRINGS-28N,6W,24	3784	6,988	10 L	46.9	NIAGARAN	7,305	1	0	0	1	80	9,023	17,257	20,997	75,567	215	0
G-C	COLD SPRINGS 25-28N-06W	NIAGARAN	1971	KALKASKA, COLD SPRINGS-28N,6W,25	3784	6,734	544 D	62.3	NIAGARAN	7,383	2	0	0	1	200	5,733	22,998	204,190	848,153	114	4
OF	COLD SPRINGS 25-28N-06W P/A	NIAGARAN	1972	KALKASKA, COLD SPRINGS-28N,6W,25	3784	6,950	10 D	--	NIAGARAN	7,365	1	0	0	1	160	34	168,510	0	226,094	1,053	0
OF	COLD SPRINGS 28-28N-06W	NIAGARAN	1975	KALKASKA, COLD SPRINGS-28N,6W,28	3784	6,790	10 D	43.6	NIAGARAN	7,150	1	0	0	1	80	16,157	87,409	59,953	126,619	1,092	200
OF	COLD SPRINGS 29-28N-06W	NIAGARAN	1976	KALKASKA, COLD SPRINGS-28N,6W,29	3784	6,865	8 D	43.5	NIAGARAN	7,040	3	0	0	3	240	131,940	843,274	428,623	1,731,449	3,513	129
OF	COLD SPRINGS 30-28N-06W	NIAGARAN	1974	KALKASKA, COLD SPRINGS-28N,6W,30	3784	6,719	39 D	44.4	NIAGARAN	6,858	2	0	0	2	120	69,314	616,429	242,757	1,877,694	5,136	6
OF	COLD SPRINGS 32-28N-06W	NIAGARAN	1977	KALKASKA, COLD SPRINGS-28N,6W,32	3784	6,870	10 D	45.4	NIAGARAN	7,025	2	0	0	2	160	133,035	514,096	329,651	1,011,980	3,213	95
OF	COLD SPRINGS 33-28N-06W	NIAGARAN	1977	KALKASKA, COLD SPRINGS-28N,6W,28	3784	6,882	26 D	41	NIAGARAN	7,156	2	1	0	2	160	5,334	25,901	0	0	161	10
G-C	COLD SPRINGS 35-28N-06W	NIAGARAN	1979	KALKASKA, COLD SPRINGS-28N,6W,35	3784	7,160	6 L	64.4	NIAGARAN	7,350	1	0	0	1	80	1,522	7,097	362,833	591,800	88	0
G-C	COLD SPRINGS 36-28N-06W	NIAGARAN	1978	KALKASKA, COLD SPRINGS-28N,6W,36	3784	6,988	162 D	75.4	NIAGARAN	7,425	1	0	0	1	80	0	4,950	101,213	693,290	61	0
OF	COLDWATER	TRAVERSE	1944	ISABELLA, COLDWATER-16N,6W,33	3599	3,110	21 D	--	DETROIT RIVER	5,090	-	-	-	3	-	2,746	SEE	COLDWATER	DUNDEE		906
OF	COLDWATER	DUNDEE	1944	ISABELLA, COLDWATER-16N,6W,33	3599	3,692	25 L	48.0	DETROIT RIVER		81	0	0	17	3,200	26,723	22,194,012	0	6,277,030	6,934	12,942
AOF	COLDWATER, SOUTH	DUNDEE	1951	ISABELLA, SHERMAN-15N,6W,8	3477	3,739	4 D	--	DUNDEE	3,743	1		1959		20	0	10,941	0	0	547	0
AOF	COLE LAKE	TRAVERSE	1968	NEWAYGO, BARTON-16N,11W,30	3581	2,928	8 L	--	TRAVERSE	2,938	2		1977		40	0	30,729	0	0	768	0
AGF	COLFAX	MICHIGAN STRAY	1945	MECOSTA, COLFAX-15N,9W,4	3453	1,240	8 S	--	DETROIT RIVER	4,043	4		1979		640	0	0	0	495,561	0	DOMESTIC
AOF	COLFAX	DUNDEE	1964	MECOSTA, COLFAX-15N,9W,5	3453	3,503	25 L	43.0	DETROIT RIVER		2		1967		40	0	2,188	0	0	55	0
GF	COLFAX	DUNDEE-REED CITY	1957	MECOSTA, COLFAX-15N,9W,5	3453	3,474	9 D	--	DETROIT RIVER		1	0	0	1	160	0	0	0	5,223	0	DOMESTIC
OF	COLFAX 25-25N-13W	NIAGARAN	1981	BENZIE, COLFAX-25N,13W,25	3861	5,688	19 D	43.6	NIAGARAN	5,851	1	1	0	1	80	90,359	90,376	85,241	85,241	1,129	0
OF	COLFAX 36-25N-13W	NIAGARAN	1976	BENZIE, COLFAX-25N,13W,36	3861	5,842	10 D	39.5	NIAGARAN	6,015	2	0	0	2	80	100,091	365,954	92,367	363,180	4,574	0
OF	COLUMBIS, SEC 03	NIAGARAN	1968	ST. CLAIR, COLUMBUS-5N,15E,3	3755	3,105	15 D	--	NIAGARAN	3,374	11	0	0	11	260	30,478	1,242,554	77,408	486,153	4,779	59
OF	COLUMBUS, NORTH	NIAGARAN	1968	ST. CLAIR, COLUMBUS-5N,15E,5	3755	3,266	8 D	--	NIAGARAN	3,210	2	0	0	1	80	0	7,054	0	26,492	88	0
OF	COLUMBUS, SEC 02	NIAGARAN	1971	ST. CLAIR, COLUMBUS-5N,15E,2	3755	2,798	8 D	29	NIAGARAN	3,340	23	0	0	20	460	245,443	5,442,404	79,496	4,979,326	11,831	110
GF	COLUMBUS, SEC 04	NIAGARAN	1979	ST. CLAIR, COLUMBUS-5N,15E,4	3755	3,202	5 D	--	NIAGARAN	3,284	1	0	0	1	40	0	0	0	0	0	0
AGF	COLUMBUS, SEC 20	NIAGARAN	1972	ST. CLAIR, COLUMBUS-5N,15E,20	3755	3,128	5 D	--	NIAGARAN	3,155	1		1975		160	0	0	0	425	0	0
GF	COLUMBUS, SEC 23	NIAGARAN	1965	ST. CLAIR, COLUMBUS-5N,15E,23	3755	2,900	46 D	--	NIAGARAN	3,122	6	0	0	5	240	2,452	31,977	0	1,046,647	133	28
GF	COLUMBUS, SEC 32	NIAGARAN	1970	ST. CLAIR, COLUMBUS-5N,15E,32	3755	2,983	16 D	--	NIAGARAN	3,050	2		1978		80	0	0	0	25,230	0	0
AOF	COMSTOCK, SEC 05	TRAVERSE	1949	KALAMAZOO, COMSTOCK-2S,10W,5	3554	1,430	3 L	--	TRAVERSE	1,480	2		1952		20	0	974	0	0	49	0
AOF	CONCORD	TRAVERSE	1953	JACKSON, CONCORD-3S,3W,36	3685	1,627	1 L	--	SALINA	2,417	5		1958		50	0	6,437	0	0	129	0
OF	CONVIS 08-01S-06W	SALINA-NIAGARAN	1975	CALHOUN, CONVIS-1S,6W,8	3841	2,978	10 D	--	NIAGARAN	3,555	3	2	0	3	160	3,994	16,517	0	0	103	19
OF	CONVIS 08-01S-06W P/A	NIAGARAN	1975	CALHOUN, CONVIS-01S,06W,08	3841	3,060	10 D	--	NIAGARAN	3,202	2	0	0	2	160	118,098	669,950	36,443	190,766	4,187	0
OF	CONVIS 09-01S-06W	NIAGARAN	1981	CALHOUN, CONVIS-01S,06W,09	3841	3,026	4 D	29	NIAGARAN	3,150	1	1	0	1	80	13,913	13,913	0	0	173	110
OF	CONVIS 16-01S-06W	NIAGARAN	1981	CALHOUN, CONVIS-01S,06W,16	3841	3,025	5 D	33	NIAGARAN	3,111	1	1	0	1	80	17,987	17,987	0	0	224	0
OF	CONVIS 16-01S-06W P/A	NIAGARAN	1981	CALHOUN, CONVIS-01S,06W,16	3841	3,108	10 D	29.3	NIAGARAN	3,226	1	1	0	1	80	7,962	7,962	0	0	99	1
OF	CONVIS 18-01S-06W	SALINA-NIAGARAN	1975	CALHOUN, CONVIS-1S,6W,18	3841	2,909	62 D	33.5	NIAGARAN	3,427	7	0	0	7	520	248,282	1,506,129	115,732	510,846	2,896	1,156
OF	CONVIS 19-01S-06W	SALINA-NIAGARAN	1976	CALHOUN, CONVIS-01S,06W,19	3841	2,820	50 D	23	NIAGARAN	2,960	2	0	0	2	160	3,784	51,015	1,053	9,407	318	521
OF	CONVIS 20-01S-06W	NIAGARAN	1981	CALHOUN, CONVIS-01S,06W,20	3841	2,853	2 D	--	NIAGARAN	3,038	1	1	0	1	80	10,286	10,286	0	0	128	0
OF	CONVIS 20-01S-06W P/A	NIAGARAN	1981	CALHOUN, CONVIS-01S,06W,20	3841	2,874	8 D	--	NIAGARAN	3,000	1	1	0	1	160	61	61	0	0	0	4
OF	CONVIS 21-01S-06W	NIAGARAN	1980	CALHOUN, CONVIS-1S,6W,21	3841	2,882	14 D	23	NIAGARAN	3,450	1	0	0	1	80	15,528	20,606	0	0	257	1

TABLE 23 MICHIGAN OIL AND GAS FIELDS

POOL CLASS	FIELD OR POOL NAME	PRODUCING FORMATION	YEAR OF DISC.	COUNTY, TOWNSHIP – T, R, SEC. for DISCOVERY WELL only	MAP REF. NO.	DEPTH IN FEET	PAY ZONE THICKNESS & LITHO	PAY ZONE API OIL GRAV	DEEPEST FORMATION TESTED FORMATION OR POOL NAME	DEEPEST FORMATION TESTED DEPTH IN FEET	NUMBER OF WELLS TO END 1981	NUMBER OF WELLS COMP. IN 1981	NUMBER OF WELLS ABND. IN 1981	NUMBER OF WELLS ACTIVE END OF 1981	ACRES DRILLED	OIL IN BBLS. PRODUCED IN 1981	OIL IN BBLS. CUMM. THROUGH 1981	GAS IN MCF PRODUCED IN 1981	GAS IN MCF CUMM. THROUGH 1981	RECOVERY PER ACRE DRILLED IN BBLS	TOTAL BARRELS OF BRINE PER DAY
OF	CONVIS 21-01S-06W P/A	NIAGARAN	1981	CALHOUN, CONVIS-01S,06W,21	3841	2,924	11 D	25	NIAGARAN	3,010	1	1	0	1	40	1,575	1,575	0	0	39	30
OF	CONVIS 22-01S-06W	SALINA-NIAGARAN	1981	CALHOUN, CONVIS-01S,06W,22	3841	2,926	10 D	--	NIAGARAN	3,024	1	1	0	1	80	5,506	5,506	0	0	68	0
OF	CONVIS 25-01S-06W	SALINA-NIAGARAN	1975	CALHOUN, CONVIS-1S,6W,25	3841	2,876	20 D	--	NIAGARAN	3,430	1	0	0	1	80	914	11,681	0	0	146	500
AOF	CONVIS 26-01S-06W	SALINA-NIAGARAN	1978	CALHOUN, CONVIS-1S,6W,26	3841	2,926	2 D	--	NIAGARAN	3,007	1		1980		80	0	0	0	0	0	0
OF	CONVIS 29-01S-06W	NIAGARAN	1980	CALHOUN, CONVIS-1S,6W,29	3841	2,906	17 D	25	NIAGARAN	3,438	1	0	0	1	160	16,346	20,468	0	0	127	1
OF	CONVIS 30-01S-06W	SALINA-NIAGARAN	1975	CALHOUN, CONVIS-1S,6W,30	3841	2,819	35 D	27.5	NIAGARAN	3,346	5	1	0	4	400	26,486	355,738	10,455	72,679	889	2,995
OF	CONVIS 30-01S-06W P/A	NIAGARAN	1981	CALHOUN, CONVIS-01S,06W,30	3841	2,839	5 D	--	NIAGARN	3,115	1	1	0	1	80	3,984	3,984	0	0	49	0
AGF	COON CREEK	NIAGARAN	1963	MACOMB, LENOX-4N,14E,18	3740	3,034	20 D	--	NIAGARAN	3,093	2		1968		80	0	0	0	136,798	0	0
OF	COOPER	SALINA B UNIT	1979	KALAMAZOO, COOPER-1S,11W,23	3554	2,308	12 D	32	NIAGARAN	2,870	1	0	0	1	160	1,136	3,621	0	0	22	12
AGF	COOPERSVILLE	"BEREA"	1939	OTTAWA, WRIGHT-8N,13W,19	3548	1,240	5 D	--	TRAVERSE	1,900	3		1959		240	0	0	0	111,016	0	0
OF	COTTRELLVILLE	SALINA-NIAGARAN	1961	ST. CLAIR, COTTRELLVILLE-3N,16E,8	3738	2,262	6 D	38.7	NIAGARAN	2,511	14	0	0	7	520	3,277	171,200	30,352	3,161,416	329	2
GF	COTTRELLVILLE 05-03N-16E	NIAGARAN	1981	ST. CLAIR, COTTRELLVILLE-03N,16E,05	3738	2,266	77 D	--	NIAGARAN	2,455	1	1	0	1	40	0	0	0	0	0	0
AOF	CRANBERRY LAKE	TRAVERSE	1952	CLARE, WINTERFIELD-20N,6W,1	3655	3,120	7 L	39.0	RICHFIELD	5,223	7		1965			SEE	CRANBERRY	LAKE	DUNDEE &	RICHFIELD	0
OF	CRANBERRY LAKE	DUNDEE	1943	CLARE, WINTERFIELD-20N,6W,1	3655	3,835	2 L	42.8	RICHFIELD		8	0	0	1	70	4,048	SEE	CRANBERRY	LAKE	RICHFIELD	580
AOF	CRANBERRY LAKE	DETROIT RIVER SZ	1953	CLARE, WINTERFIELD-20N,6W,12	3655	4,801	16 D	48.8	RICHFIELD		1		1962			SEE	CRANBERRY	LAKE	DUNDEE &	RICHFIELD	0
OF	CRANBERRY LAKE	RICHFIELD	1951	CLARE, WINTERFIELD-20N,6W,2	3655	5,048	15 D	51.0	RICHFIELD		19	0	0	8	680	68,230	2,062,582	0	0	2,927	420
OF	CRANBERRY LAKE, EAST	TRAVERSE	1963	CLARE, SUMMERFIELD-20N,5W,17	3655	3,057	6 L	39.2	DETROIT RIVER	5,139	2	0	0	2	80	12,196	SEE	CRANBERRY	LAKE EAST	RICHFIELD	1,025
OF	CRANBERRY LAKE, EAST	DUNDEE	1963	CLARE, SUMMERFIELD-20N,5W,8	3655	3,760	6 L	43.5	DETROIT RIVER		3	0	0	3	120	2,888	SEE	CRANBERRY	LAKE EAST	RICHFIELD	560
OF	CRANBERRY LAKE, EAST	RICHFIELD	1964	CLARE, SUMMERFIELD-20N,5W,8	3655	5,087	12 D	44.0	DETROIT RIVER		2	0	0	2	80	2,568	780,903	0	0	9,572	30
AOF	CROOKED LAKE	TRAVERSE	1949	ALLEGAN, CLYDE-2N,15W,25	3502	1,278	1 L	--	TRAVERSE	1,312	2		1956		40	0	115,452	0	0	2,886	0
AOF	CROTON	TRAVERSE	1951	NEWAYGO, CROTON-12N,11W,29	3668	2,543	2 L	--	SALINA	3,993	10		1958		200	0	91,678	0	0	458	0
AOF	CRUMP	DUNDEE	1950	BAY, GARFIELD-16N,3E,23	3560	3,294	7 L	--	DUNDEE	3,354	1		1951		10	0	1,043	0	0	104	0
OF	CRYSTAL	TRAVERSE	1954	MONTCALM, CRYSTAL-10N,5W,3	3438A	2,769	4 L	41.8	DETROIT RIVER	3,391	2	0	0	1	20	632	SEE	CRYSTAL	DUNDEE		200
OF	CRYSTAL	DUNDEE	1935	MONTCALM, CRYSTAL-10N,5W,2	3438A	3,187	4 D	43.5	DETROIT RIVER		193	0	0	7	2,000	8,588	7,892,940	0	0	3,944	1,250
OF	CRYSTAL VALLEY	TRAVERSE	1945	OCEANA, CRYSTAL-16N,16W,16	3712	1,809	3 L	37.0	ST. PETER SS.	6,062	5	0	0	1	50	SEE	CRYSTAL	VALLEY	DUNDEE		0
AOF	CRYSTAL VALLEY	DUNDEE	1946	OCEANA, CRYSTAL-16N,16W,15	3712	2,575	12 D	42.5	ST. PETER SS.		23		1974		580	0	203,747	0	165,321	434	0
AGF	CRYSTAL VALLEY	SALINA	1961	OCEANA, CRYSTAL-16N,16W,15	3712	4,102	10 D	--	ST. PETER SS.		1		1966		40	SEE	CRYSTAL	VALLEY	DUNDEE		0
OF	CRYSTAL VALLEY, SEC 19	TRAVERSE	1971	OCEANA, CRYSTAL-16N,16W,19	3712	1,689	2 L	--	DUNDEE	2,233	2	0	0	2	40	88	25,100	0	0	627	0
OF	CRYSTAL VALLEY, SEC 19	DUNDEE	1971	OCEANA, CRYSTAL-16N,16W,19	3712	2,222	11 L	--	DUNDEE		2	0	0	2	180	0	4,002	0	0	22	0
AOF	CRYSTAL VALLEY, SOUTH	TRAVERSE	1969	OCEANA, CRYSTAL-16N,16W,20	3712	1,739	1 L	--	TRAVERSE	1,740	1		1977		40	0	9,613	0	0	240	0
OF	CURRIE	DUNDEE	1936	ISABELLA, VERNON-16N,4W,5	3272	3,918	2 D	45.9	DUNDEE	4,042	2	0	0	2	40	579	210,884	0	0	5,272	0
AOF	DALLAS	TRAVERSE	1942	CLINTON, DALLAS-7N,4W,21	3713	2,482	2 L	--	DETROIT RIVER	2,934	3		1948		40	0	3,085	0	0	77	0
OF	DALTON	TRAVERSE	1940	MUSKEGON, DALTON-11N,16W,15	3557	1,851	5 L	40.0	DUNDEE	2,515	16	0	0	2	300	86	109,451	0	0	364	7
AGF	DAY	MICHIGAN STRAY	1934	MONTCALM, DAY-11N,6W,1	3446A	1,352	4 S	--	MARSHALL	1,395	2		1944		80	0	0	0	8,664	0	0
AOF	DAY	TRAVERSE	1946	MONTCALM, DAY-11N,6W,25	3446A	2,900	2 L	43.0	DUNDEE	3,387	1		1967		10	0	3,095	0	0	310	0
AOF	DAY	DUNDEE	1946	MONTCALM, DAY-11N,6W,36	3446A	3,337	2 L	--	DUNDEE		2		1954		20	0	16,239	0	0	812	0
OF	DAY, SEC 13	DUNDEE	1971	MONTCALM, DAY-11N,6W,13	3446A	3,414	15 L	--	DUNDEE	3,475	1	0	0	1	20	941	27,017	0	0	1,350	13
GF	DEEP RIVER	BEREA	1936	ARENAC, DEEP RIVER-19N,4E,17	3580	1,490	10 S	--	SYLVANIA	4,311	12	0	0	3	1,520	0	0	0	1,642,008	0	DOMESTIC
OF	DEEP RIVER	DUNDEE	1944	ARENAC, DEEP RIVER-19N,4E,8	3580	2,795	145 D	35.8	RICHFIELD	4,258	106	0	0	31	1,060	48,171	27,049,160	0	0	25,518	7,323
OF	DEERFIELD	TRENTON	1920	MONROE, DUNDEE-6S,6E,19	3729	2,115	10 L	42.7	CAMBRIAN	3,250	47	0	0	20	450	3,193	751,110	0	0	1,669	7
AGF	DEMINGS LAKE	TRAVERSE	1968	LENAWEE, DOVER-7S,2E,27	3698	734	2 L	--	TRAVERSE	741	1	0	1979	1	40	0	0	0	0	0	0
AOF	DENNISON	TRAVERSE	1963	OTTAWA, POLKTON-8N,14W,21	3756	1,874	4 L	38.0	SALINA	3,202	15		1971		300	0	312,956	0	0	1,043	0
AGF	DIAMOND CRYSTAL SALT	NIAGARAN	1927	ST. CLAIR, ST. CLAIR-5N,17E,31	3750	2,483	17 D	--	NIAGARAN	2,500	1		1931		40	0	0	0	139,174	0	0
OF	DIAMOND SPRINGS	TRAVERSE	1938	ALLEGAN, OVERISEL-4N,14W,36	3531	1,461	3 L	41.0	SALINA	2,651	56	0	0	6	420	319	1,016,194	0	0	2,419	100
OF	DIAMOND SPRINGS	SALINA-E ZONE	1958	ALLEGAN, HEATH-3N,14W,1	3556	2,389	21 D	25.5	SALINA		3	0	0	3	30	2,125	97,157	0	0	3,238	120
OF	DORR	TRAVERSE	1938	ALLEGAN, DORR-4N,12W,29	3525	1,617	4 L	41.0	NIAGARAN	3,319	41	0	1	3	400	120	423,922	0	0	1,059	0
OF	DORR	DETROIT RIVER	1955	ALLEGAN, SALEM-4N,13W,25	3501	2,082	6 D	38.0	NIAGARAN		14	0	0	3	240	232	75,708	0	0	315	16
OF	DORR	SALINA	1956	ALLEGAN, SALEM-4N,12W,29	3707	2,922	7 D	17.0	NIAGARAN		18	0	0	8	540	2,069	338,085	12,073	1,505,833	626	32
GF	DORR	DETROIT RIVER	1957	ALLEGAN, DORR-4N,12W,33	3525	1,918	1 D	--	NIAGARAN	3,319	1	0	0	1	160	0	0	0	4,804	0	NO MARKET
AGF	DORR, SEC 17	"BEREA"	1951	ALLEGAN, DORR-4N,12W,17	3525	953	8 D	--	TRAVERSE	1,642	1		1967		40	0	0	0	0	0	0
GF	DORR, SEC 21	"BEREA"	1940	ALLEGAN, DORR-4N,12W,21	3525	957	1 D	--	TRAVERSE	1,687	1	0	0	1	40	0	0	0	0	0	DOMESTIC
OF	DOUGLASS	DUNDEE	1945	MONTCALM, DOUGLASS-11N,7W,1	3667	3,400	2 L	47.1	DUNDEE	3,423	4		1951		640	0	0	0	188,502	0	0
AGF	DOUGLASS	MICHIGAN STRAY	1943	MONTCALM, DOUGLASS-11N,7W,28	3667	1,190	5 S	--	DUNDEE	3,458	6	0	0	2	120	705	258,392	0	0	2,153	92
AOF	DOUGLASS, SEC 03	TRAVERSE	1954	MONTCALM, DOUGLASS-11N,7W,3	3667	3,025	8 L	--	DUNDEE	3,666	1		1956		20	0	3,155	0	0	158	0
OF	DOVER 12-31N-02W	SALINA-NIAGARAN	1974	OTSEGO, DOVER-31N,2W,12	3810	4,932	5 D	43.4	NIAGARAN	5,044	1	0	0	1	80	45,869	324,378	132,656	686,871	4,054	0
AOF	DOVER 21-31N-02W	SALINA-NIAGARAN	1975	OTSEGO, DOVER-31N,2W,21	3810	5,210	10 D	41.2	NIAGARAN	5,527	1		1980		80	0	39,347	0	2,062	491	0
AOF	DOVER 22-31N-02W	SALINA-NIAGARAN	1975	OTSEGO, DOVER-31N,2W,22	3810	5,223	10 D	41.1	NIAGARAN	5,531	1		1980		80	0	53,271	0	2,469	665	0
OF	DOVER 22-31N-02W P/A	NIAGARAN	1977	OTSEGO, DOVER-31N,2W,23	3810	5,119	9 D	--	NIAGARAN	5,334	2	0	0	2	160	6,769	40,332	0	9,806	252	7
AOF	DOVER 27-31N-02W	A-1 CARBONATE	1975	OTSEGO, DOVER-31N,2W,27	3810	5,179	49 D	--	NIAGARAN	5,564	1		1979		80	0	16,378	0	0	205	0
OF	DOVER 33-31N-02W	NIAGARAN	1974	OTSEGO, DOVER-31N,2W,33	3810	5,413	9 D	43.6	NIAGARAN	5,678	3	0	0	3	240	58,043	887,548	181,050	1,080,118	3,698	284
OF	DOVER 33-31N-02W P/A	NIAGARAN	1981	OTSEGO, DOVER-31N,02W,33	3810	5,400	8 D	41	NIAGARAN	5,605	1	1	0	1	80	3,076	3,076	0	0	38	0
OF	DOVER 35-31N-02W	NIAGARAN	1973	OTSEGO, DOVER-31N,2W,35	3810	5,475	41 D	42.3	NIAGARAN	5,810	3	0	0	3	240	44,103	560,875	45,793	540,363	2,336	17
OF	DOVER 36-31N-02W	NIAGARAN	1973	OTSEGO, DOVER-31N,2W,36	3810	5,485	135 D	42.7	NIAGARAN	5,835	3	0	0	3	240	62,576	947,526	94,953	932,214	3,948	18
GF	DOVER, SEC 13	ANTRIM	1977	OTSEGO, DOVER-31N,2W,13	3810	1,134	104 SH	--	NIAGARAN	5,451	1	0	0	1	80	0	0	0	0	0	0
OF	DUNNINGVILLE	TRAVERSE	1950	ALLEGAN, HEATH-3N,14W,22	3556	1,435	3 L	38.0	TRAVERSE	1,438	5	0	0	1	50	0	121,749	0	0	2,434	3
AOF	DWIGHT	DETROIT RIVER	1945	HURON, DWIGHT-18N,13E,21	3694	2,862	4 L	36.2	SYLVANIA	3,290	1		1972		40	0	41,165	0	0	1,029	0
OF	EAST BAY 10-26N-10W	NIAGARAN	1980	GD. TRAVERSE, EAST BAY-26N,10W,10	3829	6,174	13 D	44.3	NIAGARAN	6,328	2	0	0	2	160	129,919	149,664	218,962	235,808	935	12
OF	EAST BAY 11-26N-10W	NIAGARAN	1976	GD. TRAVERSE, EAST BAY-26N,10W,11	3829	6,187	11 D	46.2	NIAGARAN	6,400	3	1	0	3	240	113,456	376,681	304,592	918,041	1,569	10
OF	EAST BAY 12-26N-10W	NIAGARAN	1980	GD. TRAVERSE, EAST BAY-26N,10W,12	3829	6,288	16 D	--	NIAGARAN	6,447	1	0	0	1	80	61,042	61,489	76,769	76,769	768	110
OF	EAST BAY 14-26N-10W	SALINA-NIAGARAN	1979	GD. TRAVERSE, EAST BAY-26N,10W,14	3829	6,069	33 D	44.6	NIAGARAN	6,400	2	0	0	2	160	14,005	20,090	316,908	398,451	125	0
OF	EAST BAY 17-26N-10W	NIAGARAN	1977	GD. TRAVERSE, EAST BAY-26N,10W,17	3829	5,716	18 D	42.7	NIAGARAN	6,020	5	0	0	5	360	167,916	669,675	234,630	677,760	1,860	508
OF	EAST BAY 25-27N-10W	SALINA-NIAGARAN	1978	GD. TRAVERSE, EAST BAY-27N,10W,25	3829	5,930	84 D	33.7	NIAGARAN	6,062	1	0	0	1	80	24,598	86,903	9,281	35,597	1,086	477
GF	EAST CHINA	NIAGARAN	1969	ST. CLAIR, EAST CHINA-4N,16E,25	3741	2,344	19 D	--	NIAGARAN	2,363	2	0	0	2	80	2,405	16,354	0	18,836	204	24
GF	EAST CHINA, SEC 13	NIAGARAN	1979	ST. CLAIR, EAST CHINA-4N,16E,13	3741	2,428	4 D	--	NIAGARAN	2,490	1	0	0	1	40	0	0	0	0	0	0
AOF	EAST NORWICH	TRAVERSE	1944	MISSAUKEE, NORWICH-24N,5W,16	3584	2,410	1 L	--	BASS ISLANDS	5,520	1		1944			SEE	EAST	NORWICH	RICHFIELD		0

TABLE 23 MICHIGAN OIL AND GAS FIELDS

POOL CLASS	FIELD OR POOL NAME	PRODUCING FORMATION	YEAR OF DISC.	COUNTY, TOWNSHIP – T, R, SEC. for DISCOVERY WELL only	MAP REF. NO.	DEPTH IN FEET	PAY ZONE THICK-NESS & LITHO	PAY ZONE API OIL GRAV	DEEPEST FORMATION TESTED FORMATION OR POOL NAME	DEEPEST FORMATION TESTED DEPTH IN FEET	NUMBER OF WELLS TO END 1981	COMP. IN 1981	ABND. IN 1981	ACTIVE END OF 1981	ACRES DRILLED	OIL IN BBLS. PRODUCED IN 1981	OIL IN BBLS. CUMM. THROUGH 1981	GAS IN MCF PRODUCED IN 1981	GAS IN MCF CUMM. THROUGH 1981	RECOVERY PER ACRE DRILLED IN BBLS	TOTAL BARRELS OF BRINE PER DAY
AOF	EAST NORWICH	DUNDEE	1942	MISSAUKEE, NORWICH-24N,5W,14	3584	3,082	4 L	44.2	BASS ISLANDS		1		1947			SEE	EAST	NORWICH	RICHFIELD		0
OF	EAST NORWICH	RICHFIELD	1942	MISSAUKEE, NORWICH-24N,5W,11	3584	4,390	14 D	40.9	BASS ISLANDS		153	7	4	105	5,560	478,582	12,608,100	552,302	11,867,666	2,267	2,110
GF	EATON 25-02N-04W	NIAGARAN	1981	EATON, EATON-02N,04W,25	3818	3,881	4 D	34.7	NIAGARAN	4,070	1	1	0	1	80	139	139	0	0	1	0
GF	EATON RAPIDS 07-02N-03W	NIAGARAN	1977	EATON, EATON RAPIDS-2N,3W,7	3817	4,012	48 D	--	NIAGARAN	4,362	1	0	0	1	80	0	0	80,713	1,036,219	0	0
OF	EATON RAPIDS 16-02N-03W	NIAGARAN	1980	EATON, EATON RAPIDS-2N,3W,16	3817	4,006	8 D	44.1	NIAGARAN	4,332	2	1	0	2	160	7,108	7,108	33,923	33,923	44	0
GF	EATON RAPIDS 17-02N-03W	SALINA-NIAGARAN	1973	EATON, EATON RAPIDS-2N,3W,17	3817	3,985	79 D	42.0	NIAGARAN	4,316	4	0	0	4	400	784	10,109	711,801	3,987,312	25	0
G-C	EATON RAPIDS 17-02N-03W P/A	NIAGARAN	1979	EATON, EATON RAPIDS-2N,3W,17	3817	4,062	4 D	48.5	NIAGARAN	4,371	1	0	0	1	80	4,853	8,423	508,832	686,562	105	1
OF	EATON RAPIDS 17-02N-03W P/B	NIAGARAN	1980	EATON, EATON RAPIDS-2N,3W,17	3817	4,072	10 D	36.9	NIAGARAN	4,385	1	0	0	1	80	9,106	22,355	54,238	110,939	279	2
OF	EATON RAPIDS 20-02N-03W	SALINA-NIAGARAN	1974	EATON, EATON RAPIDS-2N,3W,20	3817	3,940	14 D	--	NIAGARAN	4,323	5	0	0	5	400	51,367	359,655	236,338	1,191,427	899	52
OF	EATON RAPIDS 25-02N-03W	NIAGARAN	1976	EATON, EATON RAPIDS-2N,3W,25	3817	4,010	6 D	--	NIAGARAN	4,270	1	0	0	1	160	1,991	13,944	460,532	1,817,296	87	0
OF	EATON RAPIDS 28-02N-03W	SALINA-NIAGARAN	1974	EATON, EATON RAPIDS-2N,3W,28	3817	3,858	9 D	--	NIAGARAN	4,056	2	0	0	2	160	30,186	71,561	66,409	117,962	447	3
GF	EATON RAPIDS 28-02N-03W P/B	SALINA-NIAGARAN	1981	EATON, EATON RAPIDS-02N,03W,28	3817	3,871	56 D	--	NIAGARAN	4,006	1	0	0	1	160	6,423	6,876	67,320	67,320	42	0
OF	EATON RAPIDS 28-02N-03W P/A	NIAGARAN	1980	EATON, EATON RAPIDS-2N,3W,28	3817	3,914	6 D	44	NIAGARAN	4,065	1	1	0	1	80	0	0	0	0	0	0
OF	EATON RAPIDS 32-02N-03W	NIAGARAN	1975	EATON, EATON RAPIDS-2N,3W,32	3817	3,799	10 D	36.7	NIAGARAN	3,917	1	0	0	1	160	19,548	198,485	66,604	278,863	1,240	0
OF	EATON RAPIDS 32-02N-03W P/A	NIAGARAN	1977	EATON, EATON RAPIDS-02N,03W,32	3817	3,787	10 D	46.9	NIAGARAN	3,997	1	0	0	1	80	0	0	293,392	452,974	0	0
GF	EATON RAPIDS 32-02N-03W P/B	SALINA-NIAGARAN	1979	EATON, EATON RAPIDS-2N,3W,32	3817	3,751	116 D	--	NIAGARAN	3,925	1	0	0	1	80	23	4,518	121,769	935,085	56	0
G-C	EATON RAPIDS 33-02N-03W	NIAGARAN	1976	EATON, EATON RAPIDS-2N,3W,33	3817	3,715	111 D	62.8	NIAGARAN	3,935	1	0	0	1	80	0	1,029	296,900	896,505	12	0
OF	EATON RAPIDS 33-02N-03W P/A	NIAGARAN	1981	EATON, EATON RAPIDS-02N,03W,33	3817	3,764	22 D	23.5	NIAGARAN	3,897	1	1	0	1	80	514	514	0	0	6	0
GF	EATON RAPIDS 35-02N-03W	SALINA-NIAGARAN	1972	EATON, EATON RAPIDS-2N,3W,35	3817	3,750	30 D	--	NIAGARAN	4,210	2	0	0	2	120	41,971	262,083	91,990	355,499	2,184	2
G-C	EATON RAPIDS 36-02N-03W	NIAGARAN	1971	EATON, EATON RAPIDS-2N,3W,36	3817	3,740	55 D	47	NIAGARAN	4,305	7	0	0	6	1,120	0	17,616	433,353	13,550,539	15	0
OF	EDEN	TRAVERSE	1948	MASON, EDEN-17N,16W,26	3671	1,679	3 L	34.5	CAMBRIAN	7,249	10	0	0	5	90	804	SEE	EDEN	REED CITY-	FOR CUM 0	300
GF	EDEN	TRAVERSE	1958	MASON, EDEN-17N,16W,26	3671	1,960	7 L	--	CAMBRIAN		1	0	0	1	160	0	0	0	SHUT-IN	0	0
OF	EDEN	DUNDEE	1948	MASON, EDEN-17N,16W,26	3671	2,240	2 L	45.3	CAMBRIAN		38	0	0	27	380	13,662	SEE	EDEN	REED CITY-	FOR CUM 0	844
OF	EDEN	REED CITY	1948	MASON, EDEN-17N,16W,25	3671	2,345	8 D	42.8	CAMBRIAN		5	0	0	2	40	0	3,099,191	0	330,378	77,118	0
OF	EDENVILLE	DUNDEE	1938	MIDLAND, EDENVILLE-16N,1W,27	3519	3,790	8 L	41.0	DUNDEE	3,962	36	0	0	1	370	3,857	1,375,869	0	0	3,718	10
OF	EDENVILLE SEC. 05	DETROIT RIVER	1981	MIDLAND, EDENVILLE-16N,01W,05	3519	4,268	12 D	38	DETROIT RIVER	4,280	1	1	0	1	40	8,167	8,167	0	0	204	100
OF	EDENVILLE SEC. 15	BEREA	1981	MIDLAND, EDENVILLE-16N,01W,15	3519	2,473	24 S	--	DUNDEE	3,901	1	1	0	1	40	0	0	0	0	0	8
GF	EDENVILLE, SEC 05	SAGINAW FM.	1956	MIDLAND, EDENVILLE-16N,1W,5	3519	382	12 S	--	DUNDEE	4,028	3	0	0	1	160	0	0	0	0	0	0
OF	EDMORE	TRAVERSE	1933	MONTCALM, HOME-12N,6W,10	3467	3,102	4 L	43.2	DUNDEE	3,613	35	0	0	7	500	8,076	1,459,899	0	1,089,013	2,919	745
GF	EDMORE-RICHLAND	MICHIGAN STRAY	1936	MONTCALM, RICHLAND-12N,5W,17	3454	1,300	8 S	--	DUNDEE	3,700	47	0	0	8	6,800	0	0	0	9,135,821	0	0
OF	EDWARDS	DUNDEE	1951	OGEMAW, EDWARDS-21N,1E,15	3652	3,362	10 L	--	DUNDEE	3,406	4	0	0	3	90	0	41,935	0	0	465	500
AGF	EGELSTON	"BEREA"	1951	MUSKEGON, EDGELSTON-10N,15W,15	3557	1,120	5 D	--	DUNDEE	2,282	7		1966		1,120	0	0	0	296,919	0	0
AGF	ELBA	MICHIGAN STRAY	1928	GRATIOT, ELBA-9N,1W,9	3447	670	10 S	--	DUNDEE	3,044	10		1957		520	0	0	0	250,979	0	0
AOF	ELBA	TRAVERSE	1927	GRATIOT, ELBA-9N,1W,22	3447	2,440	2 L	47.0	DUNDEE		8		1962		90	0	42,925	0	0	477	0
OF	ELBRIDGE	TRAVERSE	1961	OCEANA, ELBRIDGE-15N,16W,26	3743	2,112	2 L	39.4	REED CITY	2,725	19	0	0	3	380	0	415,067	0	SHUT-IN	1,092	30
AOF	ELKLAND	DUNDEE	1946	TUSCOLA, ELKLAND-14N,11E,31	3576	2,653	14 L	--	SYLVANIA	3,735	2		1947		20	0	1,546	0	0	77	0
OF	ELMWOOD	DUNDEE	1945	TUSCOLA, ELMWOOD-14N,10E,21	3686	2,740	8 L	31.3	BOIS BLANC	3,945	10	0	0	7	90	1,800	108,918	0	0	1,210	18
GF	ENSLEY	MARSHALL	1958	NEWAYGO, ENSLEY-11N,11W,6	3679	826	5 S	--	DETROIT RIVER	3,018	8	0	0	1	1,280	0	0	0	924,759	0	0
AOF	ENSLEY	TRAVERSE	1954	NEWAYGO, ENSLEY-11N,11W,7	3679	2,439	2 L	--	DETROIT RIVER		6		1959		120	0	70,415	0	0	587	0
OF	ENTERPRISE	RICHFIELD	1943	MISSAUKEE, ENTERPRISE-23N,5W,11	3590	4,405	15 D	41.8	RICHFIELD	4,625	46	6	0	29	1,720	180,463	3,819,837	119,753	1,838,828	2,220	1,480
GF	ENTERPRISE, SEC 32	MICHIGAN STRAY	1953	MISSAUKEE, ENTERPRISE-23N,5W,32	3590	1,986	5 S	--	DETROIT RIVER	4,200	2	0	0	2	320	0	0	0	0	0	DOMESTIC
AOF	ENTRICAN	TRAVERSE	1966	MONTCALM, DOUGLASS-11N,7W,21	3454	2,870	4 L	--	DUNDEE	3,426	1		1968		40	SEE	ENTRICAN	DUNDEE	0	0	0
OF	ENTRICAN	DUNDEE	1967	MONTCALM, DOUGLASS-11N,7W,21	3454	3,312	2 D	--	DUNDEE		3	1	0	1	40	1,066	9,080	0	0	227	0
OF	ESSEXVILLE	DETROIT RIVER	1981	BAY, HAMPTON-14N,06E,21	3597	3,451	369 D	--	DETROIT RIVER	3,915	4	4	0	4	520	352	352	0	0	0	0
OF	ESSEXVILLE	DUNDEE	1944	BAY, HAMPTON-14N,6E,7	3597	2,835	17 L	35.3	SYLVANIA	4,130	50	0	0	41	1,730	31,083	3,721,939	0	3,249	2,151	51
GF	EVART	RICHFIELD	1980	OSCEOLA, OSCEOLA-18N,8W,27	3579	4,881	11 D	--	SYLVANIA	5,292	29		1970		1,100	0	3,812,127	0	0	3,466	0
AOF	EVART	DUNDEE	1942	OSCEOLA, OSCEOLA-18N,8W,23	3579	3,755	6 L	46.3	DETROIT RIVER	4,457	33		1974		5,120	0	0	0	4,993,636	0	0
AGF	EVART	MICHIGAN STRAY	1941	OSCEOLA, OSCEOLA-18N,8W,27	3579	1,410	7 S	--	AMHERSTBURG	4,975	1	0	0	1	40	0	0	0	0	0	0
AOF	EXCELSIOR	TRAVERSE	1950	KALKASKA, EXCELSIOR-27N,6W,11	3794	2,003	2 L	33.4	TRAVERSE	2,136	1		1970		10	0	10,455	0	0	1,046	0
AOF	EXCELSIOR 02-27N-06W	NIAGARAN	1980	KALKASKA, EXCELSIOR-27N,6W,2	3794	7,247	47 D	--	NIAGARAN	7,373	1		1980		80	0	171	0	0	2	0
G-C	EXCELSIOR 03-27N-06W	NIAGARAN	1973	KALKASKA, EXCELSIOR-27N,6W,3	3794	7,211	10 D	64.0	NIAGARAN	7,402	2	0	0	2	320	2,779	79,004	641,461	4,964,258	246	0
G-C	EXCELSIOR 03-27N-06W P/A	NIAGARAN	1973	KALKASKA, EXCELSIOR-27N,6W,3	3794	6,952	139 D	71.5	NIAGARAN	7,346	1	0	0	1	160	0	1	0	348	0	0
G-C	EXCELSIOR 07-27N-06W	NIAGARAN	1973	KALKASKA, EXCELSIOR-27N,6W,7	3794	6,987	27 D	63.8	NIAGARAN	7,232	1	0	0	1	80	2	8,951	16,328	547,745	111	0
G-C	EXCELSIOR 09-27N-06W	NIAGARAN	1972	KALKASKA, EXCELSIOR-27N,6W,7	3794	7,034	47 D	--	NIAGARAN	7,526	5	0	0	4	480	7,582	48,777	1,138,774	3,490,848	101	0
AOF	EXCELSIOR 10-27N-06W	DETROIT RIVER	1972	KALKASKA, EXCELSIOR-27N,6W,10	3794	3,607	20 D	--	NIAGARAN	7,399	1		1974		80	0	2,053	0	0	26	0
G-C	EXCELSIOR 17-27N-06W	NIAGARAN	1973	KALKASKA, EXCELSIOR-27N,6W,17	3794	7,165	53 D	61.5	NIAGARAN	7,365	1	0	0	1	160	962	20,102	153,431	534,134	125	0
G-C	EXCELSIOR 19-27N-06W	NIAGARAN	1975	KALKASKA, EXCELSIOR-27N,6W,19	3794	7,091	37 D	64.6	NIAGARAN	7,288	1	0	0	1	80	396	2,811	41,168	181,140	35	0
GC	EXCELSIOR 19-27N-06W P/A	NIAGARAN	1976	KALKASKA, EXCELSIOR-27N,06W,19	3794	7,165	68 D	60.4	NIAGARAN	7,285	1	0	0	1	80	887	15,762	239,707	1,360,152	197	0
GF	FALMOUTH	PRAIRIE DU CHIEN	1981	MISSAUKEE, REEDER-22N,07W,36	3876	10,450	246 S	--	PRAIRIE DU CHIEN	10,810	1	1	0	1	80	0	0	0	0	0	0
GF	FALMOUTH	MICHIGAN STRAY	1962	MISSAUKEE, AETNA-22N,6W,31	3588	1,279	3 S	--	REED CITY	4,035	8	0	0	1	1,280	0	0	0	1,124,871	0	DOMESTIC
GF	FALMOUTH	TRAVERSE	1977	MISSAUKEE, AETNA-22N,6W,31	3588	3,166	21 L	--	TRAVERSE	3,187	1	0	0	1	160	0	0	0	0	0	0
OF	FALMOUTH	DUNDEE	1978	MISSAUKEE, AETNA-22N,6W,30	3588	3,851	2 D	45	AMHERSTBURG	5,250	5	0	0	5	200	36,250	SEE	FALMOUTH	RICHFIELD	0	1,365
OF	FALMOUTH	RICHFIELD	1977	MISSAUKEE, AETNA-22N,6W,31	3588	5,111	32 D	--	RICHFIELD	5,261	25	2	0	25	1,000	116,427	688,628	446,118	1,385,433	652	120
AOF	FERRY	TRAVERSE	1960	OCEANA, FERRY-14N,16W,21	3735	1,949	2 L	41.0	REED CITY	2,561	14		1970		280	0	164,263	0	0	587	0
GF	FERRY, SEC 25	"BEREA"	1961	OCEANA, FERRY-14N,16W,25	3455	1,310	5 D	--	REED CITY	2,650	1	0	0	1	40	0	0	0	DOMESTIC	0	0
G-C	FILER 02-21N-17W	NIAGARAN	1979	MANISTEE, FILER-21N,17W,2	3832	3,731	44 ?	--	NIAGARAN	4,225	3	0	0	3	320	4,117	4,117	73,723	713,723	12	0
OF	FILLMORE	TRAVERSE	1940	OTTAWA, HOLLAND-5N,15W,34	3591	1,516	3 L	41.1	NIAGARAN	3,045	63	0	0	4	770	1,420	988,968	0	0	1,284	7
GF	FILLMORE	SALINA A-2 CARBONATE	1959	OTTAWA, HOLLAND-5N,15W,34	3591	2,632	16 D	--	NIAGARAN		11	0	0	6	1,760	0	0	86,436	5,315,276	0	160
GF	FILLMORE	SALINA A-1 CARBONATE	1959	OTTAWA, HOLLAND-5N,15W,34	3591	2,792	16 D	--	NIAGARAN							SEE	FILLMORE		A-2C	0	0
OF	FOREST 14-33N-01E	NIAGARAN	1976	CHEBOYGAN, FOREST-33N,1E,14	3862	3,671	13 D	42.9	NIAGARAN	4,069	6	0	0	6	480	287	4,256	0	0	8	0
OF	FOREST 34-33N-01E	NIAGARAN	1979	CHEBOYGAN, FOREST-33N,1E,34	3862	4,158	88 D	--	NIAGARAN	4,480	1	0	0	1	80	0	4,597	0	0	57	0
AOF	FOREST RIVER	TRAVERSE	1965	OCEANA, COLFAX-16N,15W,12	3455	1,954	1 L	--	DUNDEE	2,598	1		1965		40	0	781	0	0	20	0
AOF	FORK	DUNDEE	1942	MECOSTA, FORK-16N,7W,5	3587	3,845	8 L	49.0	BOIS BLANC	5,294	64		1969		2,700	0	7,777,026	0	0	2,880	0
AOF	FORK	RICHFIELD	1945	MECOSTA, FORK-16N,7W,2	3587	5,001	11 D	54.8	BOIS BLANC		1		1966			SEE	FORK	DUNDEE	849,775	0	0
AGF	FORK, EAST	MICHIGAN STRAY	1942	MECOSTA, FORK-16N,7W,11	3587	1,480	5 S	--	DUNDEE	3,865	4		1946		640	0	0	0	104,762	0	0

TABLE 23 MICHIGAN OIL AND GAS FIELDS

POOL CLASS	FIELD OR POOL NAME	PRODUCING FORMATION	YEAR OF DISC.	COUNTY, TOWNSHIP – T, R, SEC. for DISCOVERY WELL only	MAP REF. NO.	DEPTH IN FEET	PAY ZONE THICK-NESS & LITHO	PAY ZONE API OIL GRAV	DEEPEST FORMATION TESTED FORMATION OR POOL NAME	DEEPEST FORMATION TESTED DEPTH IN FEET	NUMBER OF WELLS TO END 1981	COMP. IN 1981	ABND. IN 1981	ACTIVE END OF 1981	ACRES DRILLED	OIL IN BBLS. PRODUCED IN 1981	OIL IN BBLS. CUMM. THROUGH 1981	GAS IN MCF PRODUCED IN 1981	GAS IN MCF CUMM. THROUGH 1981	RECOVERY PER ACRE DRILLED IN BBLS	TOTAL BARRELS OF BRINE PER DAY
GF	FORK, NORTH	MICHIGAN STRAY	1956	OSCEOLA, ORIENT-17N,7W,33	3561	1,433	19 S	--	DUNDEE	3,982	1	0	0	1	160	0	0	3,265	111,047	0	0
OF	FORK, NORTH	DUNDEE	1951	OSCEOLA, ORIENT-17N,7W,33	3561	3,788	3 D	45.8	DUNDEE		6	0	0	1	120	0	153,661	0	SHUT-DOWN	1,281	0
GF	FORK, WEST	MICHIGAN STRAY	1943	MECOSTA, FORK-16N,7W,6	3587	1,490	5 S	--	SYLVANIA	5,198	17	0	0	2	2,880	0	0	0	2,453,670	0	DOMESTIC
AGF	FORWARD	MICHIGAN STRAY	1961	MISSAUKEE, RIVERSIDE-21N,7W,25	3571	1,393	7 S	--	DETROIT RIVER	5,225	6		1969		960	0	0	0	476,757	0	0
OF	FOSTORIA	DETROIT RIVER	1981	TUSCOLA, WATERTOWN-10N,09E,14	3576	3,103	3 D	--	DETROIT RIVER	3,355	1	1	0	1	40	393	393	0	0	9	39
GF	FOSTORIA	BEREA	1970	TUSCOLA, WATERTOWN-10N,9E,14	3576	1,514	16 S	--	RICHFIELD	3,267	1	0	0	1	160	0	0	0	0	0	0
OF	FOUNTAIN	REED CITY	1970	MASON, SHERMAN-19N,16W,12	3627	2,442	6 D	--	REED CITY	2,448	1	0	0	1	40	0	170	0	SHUT-IN	4	0
GF	FOWLERVILLE	SALINA-NIAGARAN	1961	LIVINGSTON, HANDY-3N,3E,2	3873	3,880	45 D	--	PRAIRIE DU CHIEN	5,695	18	0	0	15	2,560	0	6,974	356,795	7,298,164	2	0
OF	FRANKLIN	PRAIRIE DU CHIEN	1982	LENAWEE, FRANKLIN-05S,03E,36	3698	3,976	8 D	74	TREMPEALEAU	4,220	1	0	0	1	40	165	165	0	0	4	0
OF	FREDERIC 01-28N-04W	NIAGARAN	1975	CRAWFORD, FREDERIC-28N,4W,1	3811	6,604	30 D	49.8	NIAGARAN	6,880	2	0	0	2	160	0	588	0	172	3	0
OF	FREDERIC 02-28N-04W	NIAGARAN	1973	CRAWFORD, FREDERIC-28N,4W,2	3811	6,390	92 D	47.0	NIAGARAN	7,019	3	0	0	3	240	73,265	664,569	195,851	1,104,657	2,769	0
OF	FREDERIC 04-28N-04W	NIAGARAN	1974	CRAWFORD, FREDERIC-28N,4W,4	3811	6,923	20 D	45.0	NIAGARAN	7,265	2	0	0	2	160	17,829	378,710	93,900	867,192	2,366	8
OF	FREDERIC 07-28N-04W	NIAGARAN	1973	CRAWFORD, FREDERIC-28N,4W,7	3811	7,000	10 D	45.6	NIAGARAN	7,161	1	0	0	1	80	22,221	146,727	39,416	389,465	1,834	0
OF	FREDERIC 08-28N-04W	NIAGARAN	1974	CRAWFORD, FREDERIC-28N,4W,8	3811	6,740	30 D	43.4	NIAGARAN	7,164	3	1	0	3	240	139,202	947,802	313,596	1,850,326	3,949	210
OF	FREDERIC 10-28N-04W	NIAGARAN	1971	CRAWFORD, FREDERIC-28N,4W,10	3811	6,964	99 D	45.0	NIAGARAN	7,350	5	0	0	5	240	145,373	1,786,392	147,821	3,358,922	7,443	608
OF	FREDERIC 11-28N-04W	NIAGARAN	1976	CRAWFORD, FREDERIC-28N,4W,11	3811	6,963	75 D	47.4	NIAGARAN	7,127	3	0	0	3	240	231,052	1,341,013	457,322	1,861,769	5,587	0
G-C	FREDERIC 13-28N-04W	NIAGARAN	1972	CRAWFORD, FREDERIC-28N,4W,13	3811	6,789	427 D	68.4	NIAGARAN	7,470	1	0	0	1	160	5,052	16,105	70,912	205,955	100	0
OF	FREDERIC 13-28N-04W P/A	NIAGARAN	1981	CRAWFORD, FREDERIC-28N,04W,13	3811	7,240	13 D	45.3	NIAGARAN	7,395	1	1	0	1	160	0	0	0	0	0	0
OF	FREDERIC 16-28N-04W	NIAGARAN	1976	CRAWFORD, FREDERIC-28N,4W,16	3811	7,254	19 D	46.1	NIAGARAN	7,483	1	0	0	1	80	0	36,091	0	136,034	451	0
OF	FREDERIC 16-28N-04W P/A	NIAGARAN	1980	CRAWFORD, FREDERIC-28N,04W,16	3811	7,300	75 D	46.3	NIAGARAN	7,466	1	0	0	1	80	59,605	149,724	134,931	247,076	1,871	0
OF	FREDERIC 20-28N-04W	NIAGARAN	1981	CRAWFORD, FREDERIC-28N,04W,20	3811	7,346	60 D	46	NIAGARAN	7,431	1	1	0	1	80	1,596	1,596	28,844	28,844	19	0
G-C	FREDERIC 22-28N-04W	NIAGARAN	1973	CRAWFORD, FREDERIC-28N,4W,22	3811	6,950	289 D	65.5	NIAGARAN	7,615	2	0	0	2	360	81,285	111,493	109,921	293,669	309	0
G-C	FREDERIC 24-28N-04W	NIAGARAN	1977	CRAWFORD, FREDERIC-28N,4W,24	3811	6,991	293 D	--	NIAGARAN	7,577	1	0	0	1	80	0	522	0	0	6	0
G-C	FREDERIC 27-28N-04W	NIAGARAN	1977	CRAWFORD, FREDERIC-28N,4W,27	3811	6,912	108 D	--	NIAGARAN	7,441	1	0	0	1	160	0	949	0	SHUT-IN	6	0
G-C	FREDERIC 29-28N-04W	NIAGARAN	1972	CRAWFORD, FREDERIC-28N,4W,29	3811	7,420	71 D	50.0	NIAGARAN	7,578	5	0	0	4	640	22,757	161,280	795,669	3,435,087	252	0
AGF	FREEDOM	TRAVERSE	1971	WASHTENAW, FREEDOM-3S,4E,8	3662	1,038	24 L	--	CAMBRO-ORDOVICIAN	4,691	3		1973		120	0	0	0	0	0	0
AGF	FREEDOM	DUNDEE	1971	WASHTENAW, FREEDOM-3S,4E,8	3662	1,198	28 L	--	CAMBRO-ORDOVICIAN				1973		120	0	0	0	0	0	0
AOF	FREEDOM	TRENTON	1954	WASHTENAW, FREEDOM-3S,4E,8	3662	3,963	20 D	43.5	CAMBRO-ORDOVICIAN		1	1	0	1	40	334	7,551	0	0	188	0
AOF	FREEMAN, SEC 15	DUNDEE	1963	CLARE, FREEMAN-18N,6W,15	3532	3,894	8 L	41.0	DUNDEE	3,902	1		1965		40	0	736	0	0	18	0
OF	FREEMAN-LINCOLN	DUNDEE	1980	CLARE, LINCOLN-18N,5W,18	3898	3,975	2 D	--	AMHERSTBURG	5,320	3	0	0	3	120	8,393	20,402	0	0	170	460
OF	FREEMAN-LINCOLN	RICHFIELD	1980	CLARE, LINCOLN-18N,5W,20	3898	5,173	71 D	45	AMHERSTBURG	5,340	1	0	0	1	40	4,332	8,956	0	0	223	3
OF	FREEMAN-REDDING	DUNDEE	1938	CLARE, FREEMAN-18N,6W,4	3532	3,885	19 L	44.4	SYLVANIA	5,462	170	0	0	17	2,800	26,854	16,885,606	0	1,945,432	6,030	2,495
AOF	FREEPORT	TRAVERSE	1949	BARRY, CARLTON-4N,8W,6	3551	2,031	3 L	--	DETROIT RIVER	2,430	1		1951		10	0	19,229	0	0	1,923	0
AGF	FREMONT	MICHIGAN STRAY	1941	ISABELLA, FREMONT-13N,5W,21	3477	1,235	4 D	--	DUNDEE	3,700	5		1956		800	0	0	0	388,957	0	0
AOF	FREMONT	DUNDEE	1938	ISABELLA, FREMONT-13N,5W,5	3477	3,696	4 D	--	DUNDEE		2		1956		30	0	3,045	0	0	102	0
AOF	FREMONT	BEREA	1937	SAGINAW, FREMONT-11N,2E,5	3578	2,122	3 S	--	DUNDEE	3,150	1		1941		10	SEE	FREEMONT	DUNDEE			0
AOF	FREMONT	DUNDEE	1946	SAGINAW, FREMONT-11N,2E,3	3578	3,125	1 L	--	DUNDEE		1		1947		10	0	2,000	0	0	100	0
GF	FREMONT, SEC 32	MICHIGAN STRAY	1958	ISABELLA, FREMONT-13N,5W,32	3477	1,264	6 S	--	DUNDEE	3,619	1	0	0	1	160	0	0	0	27,677	0	0
AOF	FREMONT, SEC 32	TRAVERSE	1957	ISABELLA, FREMONT-13N,5W,32	3477	3,058	2 L	--	DUNDEE		1		1958		10	0	892	0	0	89	0
AOF	GARFIELD	DETROIT RIVER	1946	CLARE, GARFIELD-17N,6W,18	3496	5,038	10 S	--	SYLVANIA	5,307	1		1948		40	0	13,769	0	546,527	344	0
AOF	GENEVA	DUNDEE	1935	MIDLAND, GENEVA-15N,2W,19	3098	3,671	2 L	--	DETROIT RIVER	3,898	8		1969		70	0	63,143	0	0	902	0
AOF	GENEVA	TRAVERSE	1940	VAN BUREN, GENEVA-1S,16W,29	3586	1,042	2 L	31.5	TRENTON	2,950	77	1	0	1	780	0	495,063	0	0	634	0
OF	GENEVA, SEC 04	DUNDEE	1975	MIDLAND, GENEVA-15N,2W,4	3098	3,718	32 L	--	DUNDEE	3,795	1	0	0	1	40	790	8,301	0	0	207	3
OF	GENEVA, SEC 15	TRAVERSE	1975	MIDLAND, GENEVA-15N,2W,15	3098	3,186	2 L	--	DETROIT RIVER	3,990	1	0	0	1	40	174	1,996	0	0	49	2
AOF	GIBSON	TRAVERSE	1935	BAY, GIBSON-18N,3E,11	3637	2,036	4 L	--	DETROIT RIVER	4,343	12		1957		130	0	51,892	0	0	399	0
AOF	GIBSON	DUNDEE	1950	BAY, GIBSON-18N,3E,2	3637	2,942	4 L	--	DETROIT RIVER		1		1952			SEE	GIBSON	TRAVERSE			0
OF	GIBSON, SEC 20	DUNDEE	1951	BAY, GIBSON-18N,3E,20	3637	3,097	11 L	--	DUNDEE	3,195	3	0	0	2	30	634	38,302	0	0	1,276	1
OF	GILBERT LAKE	TRAVERSE	1956	OCEANA, COLFAX-16N,15W,34	3455	2,032	8 L	42.5	REED CITY	2,711	5	0	0	1	50	0	60,031	0	0	1,200	0
AGF	GILMORE	MICHIGAN STRAY	1945	ISABELLA, GILMORE-16N,5W,25	3272A	1,560	3 S	--	DUNDEE	4,091	6		1952		320	0	0	0	207,378	0	0
OF	GILMORE	DUNDEE	1955	ISABELLA, GILMORE-16N,5W,30	3721	3,803	3 L	48.6	DUNDEE	3,812	12	0	0	2	120	2,128	411,440	0	0	3,428	440
OF	GOODWELL	TRAVERSE	1943	NEWAYGO, GOODWELL-14N,11W,8	3674	2,760	12 L	43.0	BASS ISLANDS	4,342	31	0	0	2	1,240	2,502	1,136,414	0	0	916	9
GF	GOODWELL, EAST	MICHIGAN STRAY	1945	NEWAYGO, GOODWELL-14N,11W,24	3675	1,190	4 S	--	DETROIT RIVER	3,498	3	0	0	1	320	0	0	0	7,654	0	1
OF	GOODWELL, EAST	DUNDEE	1978	NEWAYGO, GOODWELL-14N,11W,26	3593	3,294	20 D?	--	DUNDEE	3,314	8	0	0	7	440	SEE	REED	CITY		0	33
OF	GOODWELL, EAST	REED CITY	1966	NEWAYGO, GOODWELL-14N,11W,26	3593	3,411	13 D	--	DUNDEE	3,413	3	0	0	2	120	6,163	68,492	1,675	16,793	570	8
AGF	GRANT	GLACIAL DRIFT	1929	MASON, GRANT-20N,17W,15	3837	632	1 S	--	DUNDEE	2,385	3		1955		120	0	0	0	8,180	0	0
OF	GRANT 03-25N-12W	NIAGARAN	1974	GD. TRAVERSE, GRANT-25N,12W,3	3797	5,353	33 D	--	NIAGARAN	5,744	1	0	0	1	80	23,207	294,885	4,059	38,907	3,686	20
OF	GRANT 03-25N-12W P/A	NIAGARAN	1977	GD. TRAVERSE, GRANT-25N,12W,3	3797	5,381	12 D	37	NIAGARAN	5,724	1	0	0	1	160	21	25,328	0	0	158	186
AOF	GRANT 04-25N-12W	NIAGARAN	1975	GD. TRAVERSE, GRANT-25N,12W,4	3797	5,469	18 D	37.7	NIAGARAN	5,724	2	1	0	2	160	24,024	46,895	0	1,122	293	0
OF	GRANT 09-25N-12W	NIAGARAN	1976	GD. TRAVERSE, GRANT-25N,12W,9	3797	5,620	22 D	40.4	NIAGARAN	5,915	3	0	0	3	240	56,354	278,949	12,535	613,135	1,162	129
OF	GRANT 10-25N-12W	NIAGARAN	1975	GD. TRAVERSE, GRANT-25N,12W,10	3797	5,634	119 D	38.1	NIAGARAN	5,875	2	0	0	2	160	32,606	214,594	51,743	293,580	1,341	160
G-C	GRANT 12-25N-12W	NIAGARAN	1975	GD. TRAVERSE, GRANT-25N,12W,12	3797	5,767	50 D	67.1	NIAGARAN	6,030	5	0	0	4	320	1,096	111,650	368,041	3,691,991	348	11
G-C	GRANT 13-25N-12W	NIAGARAN	1974	GD. TRAVERSE, GRANT-25N,12W,13	3797	5,943	54 D	65.0	NIAGARAN	6,192	3	0	0	3	640	6,114	530,337	2,358,438	32,958,100	828	4
OF	GRANT 22-25N-12W	NIAGARAN	1975	GD. TRAVERSE, GRANT-25N,12W,22	3797	5,741	156 D	--	NIAGARAN	6,188	2	0	0	2	240	103,848	722,958	168,354	521,950	3,012	0
OF	GRANT 22-25N-12W P/A	NIAGARAN	1979	GD. TRAVERSE, GRANT-25N,12W,22	3797	5,946	55 L	44	NIAGARAN	6,200	1	0	0	1	80	22,175	115,449	52,903	234,997	1,443	0
G-C	GRANT 24-25N-12W	SALINA-NIAGARAN	1973	GD. TRAVERSE, GRANT-25N,12W,24	3797	5,815	103 D	71.0	NIAGARAN	6,413	2	0	0	2	160	7,063	80,692	293,195	2,536,679	504	0
OF	GRANT 24-25N-12W P/A	NIAGARAN	1974	GD. TRAVERSE, GRANT-25N,12W,24	3797	6,073	89 D	48.7	NIAGARAN	6,366	1	0	0	1	80	5,174	44,583	46,708	487,358	557	3
OF	GRANT 26-25N-12W	NIAGARAN	1971	GD. TRAVERSE, GRANT-25N,12W,26	3797	5,961	80 D	46.9	NIAGARAN	6,383	4	0	0	4	240	56,257	439,027	383,288	1,608,508	1,829	15
OF	GRANT 29-25N-12W	NIAGARAN	1973	GD. TRAVERSE, GRANT-25N,12W,29	3797	5,720	82 D	44.3	NIAGARAN	6,135	5	0	0	5	400	122,425	1,328,475	634,459	3,840,413	3,321	14
AOF	GRANT 31-25N-12W	NIAGARAN	1975	GD. TRAVERSE, GRANT-25N,12W,31	3797	5,772	106 D	--	NIAGARAN	6,120	1		1976		80	0	1,816	0	0	23	0
G-C	GRANT 32-25N-12W	NIAGARAN	1976	GD. TRAVERSE, GRANT-25N,12W,32	3797	5,868	194 D	61	NIAGARAN	6,145	2	1	0	2	160	130	4,823	5,308	369,835	30	0
OF	GRANT 33-25N-12W	NIAGARAN	1980	GD. TRAVERSE, GRANT-25N,12W,33	3797	5,864	104 D	51	NIAGARAN	6,220	3	2	0	3	160	36,129	39,959	367,270	511,311	249	4
G-C	GRANT 34-25N-12W	NIAGARAN	1976	GD. TRAVERSE, GRANT-25N,12W,34	3797	6,252	10 D	69	NIAGARAN	6,331	2	0	0	2	160	481	73,305	236,437	2,792,104	458	0
OF	GRANT 34-25N-12W P/A	NIAGARAN	1976	GD. TRAVERSE, GRANT-25N,12W,34	3797	5,967	218 D	40.8	NIAGARAN	6,267	2	0	0	2	160	69,052	329,497	170,170	630,282	2,059	0
G-C	GRANT 35-25N-12W	NIAGARAN	1976	GD. TRAVERSE, GRANT-25N,12W,35	3797	6,052	92 D	--	NIAGARAN	6,337	3	0	0	3	240	7,788	44,541	438,390	1,905,925	185	0
G-C	GRANT 36-25N-12W	NIAGARAN	1976	GD. TRAVERSE, GRANT-25N,12W,36	3797	6,129	131 D	64.8	NIAGARAN	6,580	2	0	0	2	160	1,204	38,110	321,211	1,748,365	238	0

TABLE 23 MICHIGAN OIL AND GAS FIELDS

POOL CLASS	FIELD OR POOL NAME	PRODUCING FORMATION	YEAR OF DISC.	COUNTY, TOWNSHIP – T, R, SEC. for DISCOVERY WELL only	MAP REF. NO.	DEPTH IN FEET	PAY ZONE THICK-NESS & LITHO	PAY ZONE API OIL GRAV	DEEPEST FORMATION OR POOL NAME	DEEPEST FORMATION TESTED DEPTH IN FEET	NUMBER OF WELLS TO END 1981	COMP. IN 1981	ABND. IN 1981	ACTIVE END OF 1981	ACRES DRILLED	OIL IN BBLS. PRODUCED IN 1981	OIL CUMM. THROUGH 1981	GAS IN MCF PRODUCED IN 1981	GAS CUMM. THROUGH 1981	RECOVERY PER ACRE DRILLED IN BBLS	TOTAL BARRELS OF BRINE PER DAY
OF	GRANT, SEC 29	DETROIT RIVER	1953	HURON, GRANT-15N,11E,29	3837	3,358	8 D	38.8	BOIS BLANC	3,918	4	1	0	4	160	1,497	22,446	0	0	140	1
AGF	GREEN	MICHIGAN STRAY	1946	MECOSTA, GREEN-16N,10W,18	3653	1,250	3 S	--	REED CITY	3,710	2		1951		320	0	0	0	74,835	0	0
AOF	GREEN OAK	TRENTON-BLK. RIVER	1967	LIVINGSTON, GREEN OAK-1N,6E,14	3910	4,682	10 D	--	BLACK RIVER	5,560	1		1970		40	0	2,836	0	0	71	0
GF	GREEN OAK 11-01N-06E	NIAGARAN	1978	LIVINGSTON, GREEN OAK-1N,6E,11	3910	3,612	33 D	--	NIAGARAN	3,998	1	0	0	1	80	461	673	168,981	304,751	8	0
OF	GREENWOOD, SEC 03	TRAVERSE	1968	CLARE, GREENWOOD-19N,5W,3	3496	3,438	14 L	--	DUNDEE	4,048	2	0	0	2	40	7,189	95,494	0	0	2,387	205
AOF	GREENWOOD, SEC 11	DUNDEE	1952	CLARE, GREENWOOD-19N,5W,11	3496	4,054	10 L	--	RICHFIELD	5,432	1		1953		10	0	1,324	0	0	132	0
AOF	GROUT	DUNDEE	1940	GLADWIN, GROUT-18N,2W,10	3702	3,825	4 L	--	DETROIT RIVER	5,240	5		1957			SEE	GROUT	RICHFIELD			0
AOF	GROUT	DETROIT RIVER SZ	1958	GLADWIN, GROUT-18N,2W,10	3702	4,801	12 D	--	DETROIT RIVER		1		1963			SEE	GROUT	RICHFIELD			0
OF	GROUT	RICHFIELD	1956	GLADWIN, GROUT-18N,2W,10	3702	5,039	10 D	41.7	DETROIT RIVER		17	0	0	9	680	24,474	1,888,234	0	0	2,776	337
OF	HAMBURG 16-01N-05E	NIAGARAN	1981	LIVINGSTON, HAMBURG-01N,05E,16	3282	3,701	16 D	32	NIAGARAN	3,926	2	2	0	2	80	72	72	0	0	0	0
AGF	HAMILTON	MICHIGAN STRAY	1940	CLARE, HAMILTON-19N,3W,15	3559A	1,270	3 S	--	RICHFIELD	5,395	4		1954		440	0	0	0	281,118	0	0
AOF	HAMILTON	DUNDEE	1940	CLARE, HAMILTON-19N,3W,15	3559	4,041	10 L	41.8	RICHFIELD		3		1959		30	SEE	HAMILTON	RICHFIELD			0
OF	HAMILTON	RICHFIELD	1952	CLARE, HAMILTON-19N,3W,5	3559	5,145	12 D	42.2	RICHFIELD		47	2	0	28	1,870	104,923	6,789,749	43,536	4,300,218	3,630	2,364
OF	HAMLIN 01-01N-03W	NIAGARAN	1978	EATON, HAMLIN-1N,3W,1	3815	3,813	10 D	32	CAMBRIAN	6,622	2	1	0	1	160	246	60,778	0	0	379	0
OF	HAMLIN 02-01N-03W	NIAGARAN	1975	EATON, HAMLIN-01N,03W,02	3815	3,791	22 D	--	NIAGARAN	4,190	1	0	0	1	80	11,082	29,097	37,357	104,912	363	10
OF	HAMLIN 05-01N-03W	NIAGARAN	1975	EATON, HAMLIN-1N,3W,5	3815	3,650	60 D	--	NIAGARAN	3,777	1	0	0	1	160	9,342	72,018	28,025	298,633	450	28
G-C	HAMLIN 05-01N-03W P/A	NIAGARAN	1975	EATON, HAMLIN-1N,3W,5	3815	3,801	12 D	--	NIAGARAN	3,900	3	0	0	3	240	120,865	695,458	130,207	541,911	2,897	0
OF	HAMLIN 06-01N-03W	NIAGARAN	1980	EATON, HAMLIN-1N,3W,6	3815	3,696	5 D	40.7	NIAGARAN	3,867	1	0	0	1	160	65	4,944	313,055	1,157,335	30	0
OF	HAMLIN 06-01N-03W P/A	NIAGARAN	1980	EATON, HAMLIN-1N,3W,6	3815	3,759	4 D	40	NIAGARAN	3,850	1	0	0	1	80	57,748	58,285	25,439	25,439	728	0
OF	HAMLIN 08-01N-03W	NIAGARAN	1972	EATON, HAMLIN-1N,3W,8	3815	3,640	65 D	--	NIAGARAN	3,870	1	0	0	1	80	45,265	45,808	30,041	30,041	572	0
OF	HAMLIN 08-01N-03W P/A	NIAGARAN	1975	EATON, HAMLIN-1N,3W,8	3815	3,697	11 D	--	NIAGARAN	4,058	2	0	0	2	160	7,536	379,232	33,294	716,826	2,370	0
OF	HAMLIN 08-01N-03W P/B	NIAGARAN	1980	EATON, HAMLIN-1N,3W,8	3815	3,672	22 D	40	NIAGARAN	4,056	1	0	0	1	80	3,159	25,819	12,054	203,339	322	0
GF	HAMLIN 09-01N-03W	NIAGARAN	1979	EATON, HAMLIN-1N,3W,9	3815	3,711	42 D	--	NIAGARAN	3,835	1	0	0	1	80	56,267	56,943	31,880	31,880	711	0
GF	HAMLIN 09-01N-03W P/A	NIAGARAN	1981	EATON, HAMLIN-01N,03W,16	3815	3,690	4 D	--	NIAGARAN	3,839	1	0	0	1	80	352	1,241	181,980	374,378	15	0
OF	HAMLIN 10-01N-03W	NIAGARAN	1974	EATON, HAMLIN-1N,3W,10	3815	3,657	5 D	--	NIAGARAN	3,807	1	1	0	1	160	0	0	0	0	0	0
OF	HAMLIN 11-01N-03W	NIAGARAN	1981	EATON, HAMLIN-01N,03W,11	3815	3,646	33 D	42	NIAGARAN	3,805	2	0	0	1	160	8,605	152,188	8,702	161,039	951	35
OF	HAMLIN 11-01N-03W P/A	NIAGARAN	1981	EATON, HAMLIN-01N,03W,11	3815	3,650	15 D	42	NIAGARAN	3,930	1	1	0	1	80	2,515	2,515	0	0	31	0
OF	HAMLIN 12-01N-03W	NIAGARAN	1977	EATON, HAMLIN-1N,3W,12	3815	3,720	20 D	--	NIAGARAN	3,928	1	1	0	1	80	1,838	1,838	0	0	22	0
OF	HAMLIN 13-01N-03W	NIAGARAN	1977	EATON, HAMLIN-1N,3W,13	3815	3,924	11 D	--	NIAGARAN	4,180	2	0	0	2	240	11,703	85,123	1,365	36,410	354	8
OF	HAMLIN 14-01N-03W	NIAGARAN	1981	EATON, HAMLIN-1N,3W,14	3815	3,636	5 D	--	NIAGARAN	4,008	1	0	0	1	160	4,564	23,542	97,481	394,270	147	8
GF	HAMLIN 15-01N-03W	NIAGARAN	1979	EATON, HAMLIN-1N,3W,15	3815	3,608	48 D	--	NIAGARAN	3,790	1	1	0	1	80	0	2,140	0	0	26	0
GF	HAMLIN 22-01N-03W	NIAGARAN	1977	EATON, HAMLIN-1N,3W,22	3815	3,520	22 D	--	NIAGARAN	3790	2	1	0	2	160	6,056	8,196	0	0	51	0
GF	HAMLIN 22-01N-03W P/A	NIAGARAN	1979	EATON, HAMLIN-01N,03W,22	3815	3,588	16 D	--	NIAGARAN	3,825	1	0	0	1	80	40	40	42,185	191,554	0	10
GF	HAMLIN 23-01N-03W	NIAGARAN	1974	EATON, HAMLIN-1N,3W,23	3815	3,640	38 D	--	NIAGARAN	4,020	1	0	0	1	80	0	0	19,878	435,065	0	0
G-C	HAMLIN 23-01N-03W P/A	NIAGARAN	1976	EATON, HAMLIN-01N,03W,23	3815	3,641	13 D	--	NIAGARAN	3,753	1	0	0	1	160	54	212	59,914	244,291	1	0
OF	HAMLIN 13-19N-18W	NIAGARAN	1972	MASON, HAMLIN-19N,18W,13	3799	4,284	12 D	46.2	NIAGARAN	3,808	1	0	0	1	80	266	3,312	30,665	1,117,821	41	0
G-C	HAMLIN 13-19N-18W P/A	NIAGARAN	1973	MASON, HAMLIN-19N,18W,13	3799	4,392	6 D	--	NIAGARAN	3,800	1	0	0	1	80	77	1,094	12,107	263,859	13	0
OF	HAMLIN 13-19N-18W P/B	NIAGARAN	1975	MASON, HAMLIN-19N,18W,13	3799	4,464	11 D	48.0	NIAGARAN	4,500	3	0	0	3	240	47,469	643,827	186,233	1,038,612	2,682	40
OF	HAMLIN 13-19N-18W P/C	NIAGARAN	1980	MASON, HAMLIN-19N,18W,13	3799	5,305	15 D	--	NIAGARAN	4,460	2	0	0	2	200	313	44,736	269,382	7,460,781	223	9
OF	HAMLIN 25-19N-18W	NIAGARAN	1972	MASON, HAMLIN-19N,18W,25	3799	4,251	14 D	46.2	NIAGARAN	4,671	1	0	0	1	80	11,921	153,939	73,083	385,701	1,924	40
AGF	HAMLIN, SEC 27	SALINA-NIAGARAN	1958	MASON, HAMLIN-19N,18W,27	3799	3,950	NA.D	--	NIAGARAN	4,526	1	0	0	1	80	4,949	8,471	13,165	23,901	105	50
AOF	HAMLIN, SEC 27	NIAGARAN	1952	MASON, HAMLIN-19N,18W,27	3799	4,224	20 D	46.2	NIAGARAN	4,556	3	0	0	3	320	72,688	273,763	264,802	1,661,235	855	120
OF	HANOVER	TRENTON-BLK. RIVER	1959	JACKSON, HANOVER-4S,2W,8	3746	4,012	120 D	43.0	PRAIRIE DU CHIEN	4,604	10	0	0	1	180	0	1,319,470	0	597,737	7,330	0
OF	HARDY DAM	REED CITY	1966	MECOSTA, AETNA-13N,10W,5	3763	3,351	5 D	44.8	DETROIT RIVER	3,482	23	1	0	16	920	12,214	1,193,892	0	0	1,297	3,340
AGF	HARRISON	MICHIGAN STRAY	1945	CLARE, HATTON-18N,4W,7	3496	1,675	3 S	--	SYLVANIA	5,633	7		1962		760	0	0	0	610,434	0	0
OF	HARRISON	DUNDEE	1945	CLARE, HATTON-18N,4W,7	3496	4,190	13 L	39.7	SYLVANIA		2	0	0	2	80	2,306	174,118	0	0	2,176	0
AOF	HART	TRAVERSE	1933	OCEANA, HART-15N,17W,36	3311A	1,911	54 D	34.0	ST. PETER SS.	5,531	17		1936		150	0	116,275	0	0	775	0
AGF	HARTWICK	MICHIGAN STRAY	1968	OSCEOLA, HARTWICK 19N,8W,11	3561	1,681	25 S	--	MICHIGANSTRAY	1,706	1		1977		160	0	0	0	18,100	0	0
AOF	HATTON	DUNDEE	1941	CLARE, HATTON-18N,4W,31	3898	3,945	2 L	--	DUNDEE	4,000	4		1948		160	0	139,272	0	0	870	0
AOF	HAWKHEAD	TRAVERSE	1946	ALLEGAN, CASCO-1N,16W,20	3604	1,103	1 L	36.0	DETROIT RIVER	1,385	16		1960		160	0	68,292	0	0	427	0
AOF	HAY, SEC 34	BEREA	1979	GLADWIN, HAY-18N,1E,34	3724	2,210	6 S	--	DETROIT RIVER	4,130	2		1981		80	235	608	0	0	5	0
OF	HAYES 11-29N-04W	NIAGARAN	1969	OTSEGO, HAYES-29N,4W,11	3776	6,180	57 D	47.0	NIAGARAN	6,515	5	0	0	4	800	119,423	1,218,278	107,304	681,265	1,522	34
OF	HAYES 15-29N-04W	NIAGARAN	1973	OTSEGO, HAYES-29N,4W,15	3776	6,350	39 D	42.6	NIAGARAN	6,615	2	0	0	2	160	570,808	2,509,386	263,965	1,317,406	15,683	160
OF	HAYES 21-29N-04W	NIAGARAN	1972	OTSEGO, HAYES-29N-04W,21	3776	6,581	6 D	44.9	NIAGARAN	6,972	1	0	0	1	80	86,588	863,820	93,027	464,986	10,797	5
OF	HAYES 21-29N-04W P/A	NIAGARAN	1972	OTSEGO, HAYES-29N,4W,21	3776	6,513	220 D	42.7	NIAGARAN	6,947	4	1	0	4	400	233,663	1,549,352	309,269	1,757,246	3,873	25
OF	HAYES 29-29N-04W	SALINA-NIAGARAN	1973	OTSEGO, HAYES-29N,4W,29	3776	6,474	53 D	42.7	NIAGARAN	6,982	3	0	0	3	240	161,546	1,310,735	179,568	1,200,205	5,461	348
OF	HAYES 32-29N-04W	NIAGARAN	1972	OTSEGO, HAYES-29N,4W,32	3776	6,462	5 D	42.7	NIAGARAN	6,873	3	0	0	3	320	23,593	911,969	9,114	454,538	2,849	48
OF	HAYES 34-29N-04W	NIAGARAN	1974	OTSEGO, HAYES-29N,4W,34	3776	6,836	25 D	42.4	NIAGARAN	7,050	3	0	0	3	160	101,176	847,948	67,036	473,748	5,299	0
OF	HAYES 36-29N-04W	NIAGARAN	1976	OTSEGO, HAYES-29N,4W,36	3776	6,464	65 D	47.5	NIAGARAN	6,875	1	0	0	1	80	84,374	474,353	150,180	674,897	5,929	0
AGF	HEADQUARTERS	MICHIGAN STRAY	1945	ROSCOMMON, ROSCOMMON-21N,3W,20	3572	1,340	6 S	--	BOIS BLANC	5,929	12		1975		1,760	0	0	0	0	0	0
OF	HEADQUARTERS	TRAVERSE	1941	ROSCOMMON, ROSCOMMON-21N,3W,34	3572	3,356	5 L	42.3	BOIS BLANC		47	0	0	2	1,400	1,603	SEE	HEADQUARTERS	RICHFIELD	FOR CUM 0	175
OF	HEADQUARTERS	DUNDEE	1958	ROSCOMMON, ROSCOMMON-21N,3W,30	3572	3,899	12 L	39.9	BOIS BLANC		1	0	0	1	10	1,871	SEE	HEADQUARTERS	RICHFIELD	FOR CUM 0	1
OF	HEADQUARTERS	DETROIT RIVER SZ	1942	ROSCOMMON, ROSCOMMON-21N,3W,33	3680	4,946	13 D	43.7	BOIS BLANC		33	0	0	18	??	7,555	10,507		0	????	5
OF	HEADQUARTERS	RICHFIELD	1952	ROSCOMMON, ROSCOMMON-21N,3W,33	3572	5,147	23 D	42.6	BOIS BLANC		60	0	0	19	2,320	53,577	10,950,350	0	4,248,560	2,936	235
OF	HEATH	TRAVERSE	1948	ALLEGAN, HEATH-3N,14W,14	3556	1,498	2 L	38.0	SALINA	2,716	25	0	0	3	270	2,207	218,746	0	0	810	3
AGF	HEATH, SEC 21	SALINA	1960	ALLEGAN, HEATH-3N,14W,21	3556	2,492	19 D	--	SALINA	2,789	1		1965		160	0	0	0	64,699	0	0
AOF	HEATH, SEC 35	TRAVERSE	1945	ALLEGAN, HEATH-3N,14W,35	3556	1,468	2 L	--	TRAVERSE	1,470	1		1946		10	0	559	0	0	56	0
OF	HENDERSON, SEC 23	RICHFIELD	1975	WEXFORD, HENDERSON-21N,11W,23	3847	4,894	8 D	--	AMHERSTBURG	4,970	1	0	0	1	40	0	141	0	0	3	0
OF	HENRIETTA	TRENTON	1979	JACKSON, HENRIETTA-1S,1E,7	3912	5,060	34 L	42.9	PRAIRIE DU CHIEN	5,653	5	0	0	4	240	4,918	22,804	0	0	95	0
GF	HERSEY	MICHIGAN STRAY	1971	OSCEOLA, HERSEY-17N,9W,36	3561	1,510	3 S	--	MICHIGANSTRAY	1,638	8	0	0	4	1,280	0	0	0	220,606	0	0
OF	HICKEYS CREEK	RICHFIELD	1981	CRAWFORD, S. BRANCH-25N,02W,25	3941	4,298	132 D	--	DETROIT RIVER	4,530	4	4	0	4	160	9,102	9,102	0	0	56	61
AOF	HILLIARDS	TRAVERSE	1944	ALLEGAN, HOPKINS-3N,12W,4	3573	1,576	1 L	--	NIAGARAN	3,157	17		1961		300	0	124,401	0	0	415	0
GF	HILLIARDS	A-1 CARB.	1958	ALLEGAN, HOPKINS-3N,12W,4	3573	2,938	30 D	--	NIAGARAN		6	0	0	3	960	0	16,519	4,211	2,339,602	17	0
AOF	HOLTON	TRAVERSE	1948	MUSKEGON, HOLTON-12N,15W,9	3557	1,993	1 L	37.3	DUNDEE	2,554	3		1963		60	0	95,911	0	0	1,599	0
OF	HOME, SEC 26	TRAVERSE	1964	MONTCALM, HOME-12N,6W,26	3467	3,096	10 L	45.3	REED CITY	3,618	2	0	0	1	20	1,913	SEE	HOME SEC 26	DUNDEE		0

TABLE 23 MICHIGAN OIL AND GAS FIELDS

POOL CLASS	FIELD OR POOL NAME	PRODUCING FORMATION	YEAR OF DISC.	COUNTY, TOWNSHIP – T, R, SEC. for DISCOVERY WELL only	MAP REF. NO.	DEPTH IN FEET	PAY ZONE THICK-NESS & LITHO	PAY ZONE API OIL GRAV	DEEPEST FORMATION OR POOL NAME	DEEPEST FORMATION TESTED DEPTH IN FEET	NUMBER OF WELLS TO END 1981	COMP. IN 1981	ABND. IN 1981	ACTIVE END OF 1981	ACRES DRILLED	OIL IN BBLS. PRODUCED IN 1981	OIL CUMM. THROUGH 1981	GAS IN MCF PRODUCED IN 1981	GAS CUMM. THROUGH 1981	RECOVERY PER ACRE DRILLED IN BBLS	TOTAL BARRELS OF BRINE PER DAY
OF	HOME, SEC 26	DUNDEE	1970	MONTCALM, HOME-12N,6W,27	3467	3,513	7 L	--	REED CITY		4	0	0	4	200	2,657	103,986	0	0	473	300
OF	HOPE	TRAVERSE	1939	BARRY, HOPE-2N,9W,27	3633	1,869	3 L	37.6	PRAIRIE DU CHIEN	4,944	66	0	0	37	650	11,569	708,448	0	0	1,089	43
AOF	HOPKINS	TRAVERSE	1939	ALLEGAN, HOPKINS-3N,12W,23	3573	1,633	4 L	41.5	DETROIT RIVER	1,965	10		1956		110	0	145,513	0	0	1,323	0
OF	HOPKINS, SOUTH	TRAVERSE	1948	ALLEGAN, HOPKINS-3N,12W,30	3573	1,538	3 L	38.0	TRAVERSE	1,611	35	0	0	1	330	169	271,151	0	0	821	8
AOF	HOPKINS, WEST	TRAVERSE	1941	ALLEGAN, HOPKINS-3N,12W,18	3573	1,371	2 L	41.5	NIAGARAN	3,140	31		1951		370	0	388,777	0	0	1,051	0
AOF	HOPKINS, WEST	SALINA	1956	ALLEGAN, HOPKINS-3N,12W,18	3573	2,755	7 D	17.9	NIAGARAN		2		1968		20	0	1,849	0	0	92	0
AOF	HUBBARDSTON	DUNDEE	1947	IONIA, NORTH PLAINS-8N,5W,4	3600	3,028	5 L	--	DUNDEE	3,072	5		1959		50	0	48,479	0	0	970	0
OF	HUBER	BEREA	1981	NEWAYGO, DENVER-14N,14W,05	3581	1,630	5 S	--	ELLSWORTH	2,064	5	5	0	5	200	2,873	2,873	0	0	14	0
AOF	HUBER	TRAVERSE	1955	NEWAYGO, DENVER-14N,14W,5	3684	2,109	2 L	41.3	DETROIT RIVER	3,400	13		1978		260	0	557,540	0	0	2,144	0
OF	INGHAM 12-02N-01E	SALINA-NIAGARAN	1973	INGHAM, INGHAM-2N,1E,12	3814	4,186	60 D	--	NIAGARAN	4,450	4	0	0	4	320	38,924	617,418	54,648	369,560	1,929	508
OF	INGHAM 13-02N-01E	NIAGARAN	1972	INGHAM, INGHAM-2N,1E,13	3814	4,190	30 D	41	TRENTON	6,224	5	0	1	3	400	109,442	957,669	78,522	835,233	2,394	696
OF	INGHAM 25-02N-01E	SALINA-NIAGARAN	1973	INGHAM, INGHAM-2N,1E,25	3814	4,048	66 D	--	NIAGARAN	4,600	3	0	0	3	240	35,278	595,311	46,402	397,401	2,480	417
OF	IOSCO 28-02N-03E	NIAGARAN	1979	LIVINGSTON, IOSCO-2N,3E,28	3282	3,819	7 D	30	NIAGARAN	4,260	1		1981		80	271	6,727	0	0	81	0
AGF	ISABELLA	MICHIGAN STRAY	1949	ISABELLA, ISABELLA-15N,4W,7	3630	1,454	7 S	--	DETROIT RIVER	3,993	6		1956		240	0	0	0	342,506	0	0
OF	ISABELLA	DUNDEE	1948	ISABELLA, ISABELLA-15N,4W,7	3630	3,783	9 D	46.9	DETROIT RIVER		20	0	0	1	370	513	829,911	0	137,806	2,243	0
AGF	ITHACA	MICHIGAN STRAY	1943	GRATIOT, ARCADIA-11N,3W,36	3447	900	16 S	--	DUNDEE	3,419	5		1965		800	0	0	0	1,551,415	0	0
OF	JEFFERSON	TRAVERSE	1961	CASS, JEFFERSON-7S,15W,26	3871	710	3 L	32.0	PRAIRIE DU CHIEN	2,603	38	0	1	17	760	9,687	SEE	JEFFERSON	SYLVANIA		372
OF	JEFFERSON	SYLVANIA	1975	CASS, JEFFERSON-7S,15W,27	3871	974	43 S	--	PRAIRIE DU CHIEN		1	0	0	1	40	715	174,045	0	0	218	0
OF	JEROME	DUNDEE	1947	MIDLAND, JEROME-15N,1W,7	3629	3,743	10 L	39.0	DETROIT RIVER	4,001	12	0	0	2	260	1,596	257,002	0	0	988	1
OF	JOHNSTOWN	TRAVERSE	1951	BARRY, JOHNSTOWN-1N,8W,17	3551	1,870	2 L	37.0	TRAVERSE	1,899	5	0	0	2	50	809	39,777	0	0	795	1
OF	JUNO LAKE	TRAVERSE	1978	CASS, CALVIN-7S,14W,31	3924	724	6 D	36	TRAVERSE	730	7	0	2	5	280	1,486	7,349	0	0	26	75
OF	KALKASKA 03-27N-07W	SALINA-NIAGARAN	1973	KALKASKA, KALKASKA-27N,7W,3	3785	6,396	180 D	42.7	NIAGARAN	6,850	1	0	0	1	160	2,855	102,849	36,590	898,297	642	30
OF	KALKASKA 03-27N-07W P/A	SALINA-NIAGARAN	1973	KALKASKA, KALKASKA-27N,7W,3	3785	6,538	206 D	45.2	NIAGARAN	6,888	1	0	0	1	80	10,100	175,666	27,577	430,407	2,195	70
OF	KALKASKA 03-27N-07W P/B	NIAGARAN	1977	KALKASKA, KALKASKA-27N,7W,3	3785	6,647	6 D	45.6	NIAGARAN	6,827	1	0	0	1	80	4,573	26,545	77,744	350,551	331	43
OF	KALKASKA 05-27N-07W	NIAGARAN	1970	KALKASKA, KALKASKA-27N,7W,5	3785	6,314	68 D	41.5	NIAGARAN	6,921	5	0	0	5	400	43,425	1,095,112	164,391	1,707,414	2,737	587
OF	KALKASKA 07-27N-07W	NIAGARAN	1972	KALKASKA, KALKASKA-27N,7W,7	3785	6,305	3 D	--	NIAGARAN	6,662	1	0	0	1	80	7,700	133,277	5,691	109,871	1,665	92
G-C	KALKASKA 09-27N-07W	NIAGARAN	1972	KALKASKA, KALKASKA-27N,7W,9	3785	6,482	89 D	55.0	NIAGARAN	6,830	1	0	0	1	160	41	39,868	71,393	1,495,565	249	15
G-C	KALKASKA 10-27N-07W	NIAGARAN	1972	KALKASKA, KALKASKA-27N,7W,10	3785	6,470	188 D	64.0	NIAGARAN	6,859	1	0	0	1	320	15,386	159,361	188,834	4,672,673	498	2
OF	KALKASKA 11-27N-07W	NIAGARAN	1978	KALKASKA, KALKASKA-27N,7W,11	3785	6,876	15 D	42.9	NIAGARAN	6,950	1	0	0	1	160	16,968	76,435	164,586	532,953	477	0
OF	KALKASKA 12-27N-07W	NIAGARAN	1972	KALKASKA, KALKASKA-27N,7W,12	3785	6,883	19 D	--	NIAGARAN	7,009	1	0	0	1	80	2,748	37,925	17,936	93,491	474	1
G-C	KALKASKA 13-27N-07W	NIAGARAN	1972	KALKASKA, KALKASKA-27N,7W,13	3785	6,889	60 D	63.0	NIAGARAN	7,225	1	1	0	1	320	3,076	101,242	326,556	5,526,697	316	0
G-C	KALKASKA 14-27N-07W	NIAGARAN	1980	KALKASKA, KALKASKA-27N,7W,14	3785	6,799	51 D	65.2	NIAGARAN	7,150	1	0	0	1	80	6,392	9,396	137,375	238,847	117	0
AOF	KALKASKA 16-27N-07W	NIAGARAN	1973	KALKASKA, KALKASKA-27N,7W,16	3785	6,572	158 D	47.4	NIAGARAN	7,077	1		1979		40	0	7,731	0	37,693	193	0
OF	KALKASKA 16-27N-07W P/A	NIAGARAN	1973	KALKASKA, KALKASKA-27N,7W,16	3785	7,014	98 D	45.2	NIAGARAN	7,405	2	0	0	2	160	12,755	127,064	343,270	1,542,861	794	142
OF	KALKASKA 16-27N-07W P/B	NIAGARAN	1979	KALKASKA, KALKASKA-27N,7W,16	3785	6,778	10 D	44.5	NIAGARAN	6,949	3	1	0	2	160	56,660	134,122	187,300	394,055	838	178
OF	KALKASKA 19-27N-07W	NIAGARAN	1974	KALKASKA, KALKASKA-27N,7W,19	3785	6,626	10 D	44.0	NIAGARAN	7,003	2	0	0	1	320	9,497	57,156	119,491	126,064	178	17,000
G-C	KALKASKA 23-27N-07W	NIAGARAN	1977	KALKASKA, KALKASKA-27N,7W,23	3785	7,027	34 D	64.3	NIAGARAN	7,166	1	0	0	1	160	0	5,661	0	126,304	35	0
OF	KALKASKA 24-27N-07W	SALINA-NIAGARAN	1974	KALKASKA, KALKASKA-27N,7W,24	3785	6,726	469 D	46.8	NIAGARAN	7,317	1	0	0	1	80	637	7,542	5,077	35,134	94	0
G-C	KALKASKA 24-27N-07W P/A	NIAGARAN	1978	KALKASKA, KALKASKA-27N,7W,24	3785	7,101	18 D	61.8	NIAGARAN	7,242	1	0	0	1	80	419	12,062	108,448	1,182,529	150	0
G-C	KALKASKA 28-27N-07W	NIAGARAN	1970	KALKASKA, KALKASKA-27N,7W,28	3785	7,129	28 D	65.3	NIAGARAN	7,408	1		1979		160	0	20,327	0	0	0	0
G-C	KALKASKA 28-27N-07W P/A	NIAGARAN	1972	KALKASKA, KALKASKA-27N,7W,28	3785	6,977	192 D	68.0	NIAGARAN	-	1	0	0	1	160	30	56,733	32,644	1,544,225	354	5
G-C	KALKASKA 28-27N-07W P/B	NIAGARAN	1975	KALKASKA, KALKASKA-27N,7W,28	3785	7,088	40 D	--	NIAGARAN	7,205	1	0	0	1	80	0	14,763	0	308,312	309	0
G-C	KALKASKA 32-27N-07W	NIAGARAN	1971	KALKASKA, KALKASKA-27N,7W,32	3785	6,828	309 D	60	NIAGARAN	7,369	1	0	0	1	160	16	57,680	41,243	1,908,875	360	0
G-C	KALKASKA 32-27N-07W P/A	NIAGARAN	1975	KALKASKA, KALKASKA-27N,7W,32	3785	7,076	22 D	--	NIAGARAN	7,255	1	0	0	1	80	0	25,423	13,083	1,255,234	317	0
G-C	KALKASKA 32-27N-07W P/B	NIAGARAN	1980	KALKASKA, KALKASKA-27N-07W,32	3785	7,200	35 D	64.7	NIAGARAN	7,247	1	0	0	1	80	7,717	17,749	232,262	291,352	221	1
OF	KALKASKA 33-27N-07W	NIAGARAN	1981	KALKASKA, KALKASKA-27N,07W,33	3785	7,181	70 D	43.2	NIAGARAN	7,328	1	1	0	1	80	544	544	0	0	6	0
OF	KALKASKA 10-27N-08W	NIAGARAN	1978	KALKASKA, KALKASKA-27N,8W,10	3786	6,485	33 D	42	NIAGARAN	6,666	4	1	0	4	320	138,363	503,306	328,297	936,237	1,572	175
OF	KALKASKA 11-27N-08W	NIAGARAN	1973	KALKASKA, KALKASKA-27N,8W,11	3786	6,449	17 D	44.2	NIAGARAN	6,776	2	0	0	1	80	45,029	264,308	72,010	287,910	3,303	172
OF	KALKASKA 12-27N-08W	NIAGARAN	1979	KALKASKA, KALKASKA-27N,8W,12	3786	6,354	210 D	40.8	NIAGARAN	6,773	1	0	0	1	80	11,982	18,717	2,273	3,523	233	484
OF	KALKASKA 13-27N-08W	NIAGARAN	1972	KALKASKA, KALKASKA-27N,8W,13	3786	6,950	10 D	47.8	NIAGARAN	7,365	2	0	0	1	240	24,921	428,618	200,640	1,967,290	1,785	0
G-C	KALKASKA 14-27N-08W	NIAGARAN	1974	KALKASKA, KALKASKA-27N,8W,14	3786	6,551	43 D	--	NIAGARAN	6,790	1	0	0	1	160	222	59,260	75,858	2,833,927	370	0
OF	KALKASKA 19-27N-08W	NIAGARAN	1976	KALKASKA, KALKASKA-27N,08W,19	3786	6,425	61 D	--	NIAGARAN	6,611	1	0	0	1	80	40,458	403,269	48,593	273,353	5,040	97
OF	KALKASKA 20-27N-08W	NIAGARAN	1975	KALKASKA, KALKASKA-27N,8W,20	3786	6,493	5 D	--	NIAGARAN	6,750	1	0	0	1	80	10,757	78,252	25,718	127,720	978	19
OF	KALKASKA 20-27N-08W P/A	NIAGARAN	1981	KALKASKA, KALKASKA-27N,08W,20	3786	6,443	22 D	42	NIAGARAN	6,635	1	1	0	1	80	547	547	0	0	6	0
OF	KALKASKA 21-27N-08W	NIAGARAN	1971	KALKASKA, KALKASKA-27N,8W,21	3786	6,562	77 D	45.1	NIAGARAN	6,856	8	0	0	5	1,040	345,615	4,747,087	1,024,038	7,851,625	4,564	7
OF	KALKASKA 24-27N-08W	SALINA-NIAGARAN	1973	KALKASKA, KALKASKA-27N,8W,24	3786	6,380	220 D	46.1	NIAGARAN	6,852	2	0	0	2	160	207,952	956,761	292,978	1,328,386	5,979	0
G-C	KALKASKA 25-27N-08W	NIAGARAN	1972	KALKASKA, KALKASKA-27N,8W,25	3786	6,491	114 D	--	NIAGARAN	7,000	2	1	0	2	160	38,601	150,838	32,800	957,581	942	0
G-C	KALKASKA 25-27N-08W P/A	NIAGARAN	1974	KALKASKA, KALKASKA-27N,8W,25	3786	6,798	40 D	59	NIAGARAN	6,980	1	0	0	1	160	9	84,851	41,651	1,554,761	530	0
OF	KALKASKA 26-27N-08W	SALINA-NIAGARAN	1973	KALKASKA, KALKASKA-27N,8W,26	3786	6,372	397 D	55.0	NIAGARAN	6,968	1	0	0	1	160	17,537	243,496	237,587	2,565,297	1,521	8
OF	KALKASKA 28-27N-08W	NIAGARAN	1971	KALKASKA, KALKASKA-27N,8W,28	3786	6,717	6 D	--	NIAGARAN	6,838	2	1	0	2	200	3,040	43,691	0	0	218	0
G-C	KALKASKA 30-27N-08W	NIAGARAN	1974	KALKASKA, KALKASKA-27N,8W,30	3786	6,496	22 D	64.7	NIAGARAN	6,692	1	0	0	1	480	17,922	253,848	1,489,387	10,067,465	528	0
AG-C	KALKASKA 31-27N-08W	NIAGARAN	1979	KALKASKA, KALKASKA-27N-08W,31	3786	--?--	-?	--	NIAGARAN	6,922	1		1979		80	0	309	0	0	0	0
OF	KALKASKA 32-27N-08W	NIAGARAN	1975	KALKASKA, KALKASKA-27N,8W,32	3786	6,585	7 D	45.0	NIAGARAN	6,890	2		1981		160	108	114,732	70	171,634	717	0
G-C	KALKASKA 33-27N-08W	NIAGARAN	1972	KALKASKA, KALKASKA-27N,8W,33	3786	6,620	15 D	--	NIAGARAN	6,754	1	0	0	1	160	0	27,582	0	1,375,532	172	0
GF	KALKASKA 35-27N-08W	NIAGARAN	1973	KALKASKA, KALKASKA-27N,08W,35	3786	6,481	249 D	--	NIAGARAN	6,950	1	0	0	1	160	142	78,675	9,512	4,301,263	491	0
OF	KAWKAWLIN	BEREA	1941	BAY, MONITOR-14N,4E,3	3695	1,505	4 S	38.0	ST. PETER SS.	10,477	4	0	0	4	40	1,347	SEE	KAWKAWLIN	DETROIT	RIVER	4
OF	KAWKAWLIN	DUNDEE	1938	BAY, MONITOR-14N,4E,1	3695	2,830	45 L	35.0	ST. PETER SS.		321	0	0	287	6,420	94,437	SEE	KAWKAWLIN	DETROIT	RIVER	233
OF	KAWKAWLIN	DETROIT RIVER	1939	BAY, MONITOR-14N,4E,2	3695	3,515	5 D	42.0	ST. PETER SS.		12	2	0	11	300	25,672	15,686,768	0	0	2,321	2
AGF	KAWKAWLIN	SALINA	1941	BAY, MONITOR-14N,4E,2	3695	7,760	16 D	--	ST. PETER SS.		1		1946		40	0	0	0	NO RECORDS	0	0
GF	KIMBALL	NIAGARAN	1980	ST. CLAIR, KIMBALL-6N,16E,27	3926	2,916	12 D	--	NIAGARAN	3,050	2	1	0	2	80	0	0	0	0	0	0
OF	KIMBALL LAKE	TRAVERSE	1947	NEWAYGO, GARFIELD-12N,13W,11	3617	2,332	6 L	43.0	ST. PETER SS.	6,689	106	0	0	3	2,120	183	6,233,102	0	2,111,585	2,940	170
OF	KIMBALL LAKE	REED CITY	1955	NEWAYGO, GARFILED-12N,13W,11	3617	2,852	37 D	39.2	ST. PETER SS.		2	0	0	1	20	SEE	KIMBALL LAKE	TRAVERSE			0
AOF	LACOTA	TRAVERSE	1946	VAN BUREN, GENEVA-1S,16W,10	3586	1,110	2 L	--	TRAVERSE	1,208	11		1955		120	0	51,904	0	0	433	0
OF	LAKE GEORGE	DUNDEE	1954	CLARE, LINCOLN-18N,5W,6	3898	3,968	2 L	43.8	DUNDEE	3,997	10	0	0	2	100	2,355	386,358	0	0	3,863	480
OF	LAKEFIELD	DUNDEE	1937	SAGINAW, LAKEFIELD-11N,1E,1	3578	3,185	12 L	39.0	DUNDEE	3,197	1	0	0	1	10	632	34,696	0	0	3,469	1

TABLE 23 MICHIGAN OIL AND GAS FIELDS

POOL CLASS	FIELD OR POOL NAME	PRODUCING FORMATION	YEAR OF DISC.	COUNTY, TOWNSHIP – T, R, SEC. for DISCOVERY WELL only	MAP REF. NO.	DEPTH IN FEET	PAY ZONE THICK-NESS & LITHO	PAY ZONE API OIL GRAV	DEEPEST FORMATION OR POOL NAME	DEEPEST FORMATION TESTED DEPTH IN FEET	NUMBER OF WELLS TO END 1981	COMP. IN 1981	ABND. IN 1981	ACTIVE END OF 1981	ACRES DRILLED	OIL IN BBLS. PRODUCED IN 1981	OIL IN BBLS. CUMM. THROUGH 1981	GAS IN MCF PRODUCED IN 1981	GAS IN MCF CUMM. THROUGH 1981	RECOVERY PER ACRE DRILLED IN BBLS	TOTAL BARRELS OF BRINE PER DAY
OF	LAKETON	TRAVERSE	1965	MUSKEGON, LAKETON-10N,17W,15	3229B	1,698	4 L	41.4	REED CITY	2,199	9	0	0	6	200	2,130	SEE	LAKETON	DUNDEE		160
OF	LAKETON	DUNDEE	1972	MUSKEGON, LAKETON-10N,17W,15	3229B	2,073	21 L	--	REED CITY		1	0	0	1	40	1,331	310,752	0	0	7,768	0
OF	LAKEVIEW	TRAVERSE	1961	MONTCALM, CATO-12N,8W,22	3605	2,941	4 L	42.5	REED CITY	3,495	2	0	0	1	20	391	11,957	0	0	597	0
AOF	LARKIN	BEREA	1935	MIDLAND, LARKIN-15N,2E,32	3494	2,473	4 S	39.0	DUNDEE	3,829	2		1945		20	0	7,070	0	0	354	0
OF	LAWTON	TRAVERSE	1939	VAN BUREN, PORTER-4S,13W,18	3661	1,140	1 L	37.5	TRENTON	2,775	65	0	1	1	650	90	215,618	0	0	331	2
AGF	LEATON	MICHIGAN STRAY	1935	ISABELLA, DENVER-15N,3W,19	3703	1,240	2 S	--	DUNDEE	3,710	5		1940		400	0	0	0	189,321	0	0
OF	LEATON	DUNDEE	1929	ISABELLA, ISABELLA-15N,4W,25	3703	3,657	8 L	43.0	DETROIT RIVER	4,390	42	1	0	4	500	8,520	1,822,065	0	0	3,644	380
AOF	LEBANON	TRAVERSE	1948	CLINTON, LEBANON-8N,4W,34	3713	2,548	1 L	--	TRAVERSE	2,570	1		1950		10	0	1,036	0	0	104	0
AOF	LEE	TRAVERSE	1941	ALLEGAN, LEE-1N,15W,19	3639	1,170	1 L	--	TRAVERSE	1,207	6		1952		60	0	3,030	0	0	51	0
GF	LEE 01-01S-05W	SALINA-NIAGARAN	1981	CALHOUN, LEE-01S-05W,01	3842	3,198	116 D	--	NIAGARAN	3,476	1	1	0	1	40	0	0	0	0	0	0
GF	LEE 02-01S-05W	NIAGARAN	1973	CALHOUN, LEE-1S,5W,2	3842	3,377	12 D	--	NIAGARAN	3,426	1	0	0	1	160	0	91	SEE LEE 2	POOL B FOR	GAS CUM	0
GF	LEE 02-01S-05W P/A	NIAGARAN	1974	CALHOUN, LEE-01S,05W,02	3842	3,220	46 D	--	NIAGARAN	3,426	1	0	0	1	160	0	91	SEE LEE 2	POOL B FOR	GAS CUM	0
GF	LEE 02-01S-05W P/B	NIAGARAN	1975	CALHOUN, LEE-01S,05W,02	3842	3,203	52 D	--	NIAGARAN	3,450	1	0	0	1	80	0	0	95,379	1,795,807	0	0
OF	LEE 02-01S-05W P/C	NIAGARAN	1975	CALHOUN, LEE-01S,05W,02	3842	3,319	9 D	--	NIAGARAN	3,440	1	0	0	1	80	6,361	65,431	9,634	156,930	817	0
GF	LEE 03-01S-05W	SALINA-NIAGARAN	1972	CALHOUN, LEE-1S,5W,3	3842	3,219	85 D	--	NIAGARAN	3,686	4	0	0	4	160	264	11,996	15,990	1,609,537	74	0
GF	LEE 03-01S-05W P/A	SALINA-NIAGARAN	1975	CALHOUN, LEE-1S,5W,3	3842	3,160	196 D	--	NIAGARAN	3,532	3	0	0	3	160	0	193	17,029	902,969	1	0
GF	LEE 03-01S-05W P/B	SALINA-NIAGARAN	1976	CALHOUN, LEE-1S,5W,3	3842	3,312	16 D	--	NIAGARAN	3,511	1		1981		40	0	81	0	253,391	2	0
GF	LEE 08-01S-05W	NIAGARAN	1974	CALHOUN, LEE-01S,05W,08	3842	3,121	54 D	--	NIAGARAN	3,615	1	0	0	1	80	0	0	0	0	0	0
GF	LEE 08-01S-05W	SALINA-NIAGARAN	1974	CALHOUN, LEE-1S,5W,8	3842	3,118	132 D	--	NIAGARAN	3,841	2	0	0	2	320	0	425	258,640	2,600,717	1	0
G-C	LEE 09-01S-05W	A-1 CARB.-NIAGARAN	1971	CALHOUN, LEE-01S,05W,09	3842	3,191	6 D	--	NIAGARAN	3,302	2	0	0	1	40	107	541	0	560,002	13	0
GF	LEE 10-01S-05W	NIAGARAN	1973	CALHOUN, LEE-1S,5W,10	3842	3,172	30 D	--	NIAGARAN	3,329	1	0	0	1	80	0	2,260	0	121,044	28	0
OF	LEE 10-01S-05W P/A	NIAGARAN	1974	CALHOUN, LEE-1S,5W,10	3842	3,327	6 D	--	NIAGARAN	3,399	1	0	0	1	160	21,483	272,393	14,296	200,914	1,702	0
GF	LEE 10-01S-05W P/B	NIAGARAN	1980	CALHOUN, LEE-1S,5W,10	3842	3,302	14 D	--	NIAGARAN	3,425	1	0	0	1	80	344	460	76,597	148,788	5	0
G-F	LEE 10-01S-05W P/C	NIAGARAN	1980	CALHOUN, LEE-01S,05W,10	3842	3,302	14 D	--	NIAGARAN	3,425	1	0	0	1	80	0	0	104,237	147,859	0	0
GF	LEE 10-01S-05W P/D	SALINA-NIAGARAN	1981	CALHOUN, LEE-01S,05W,10	3842	3,324	108 D	--	NIAGARAN	3,473	1	1	0	1	160	0	0	0	0	0	0
GF	LEE 11-01S-05W	NIAGARAN	1976	CALHOUN, LEE-1S,5W,11	3842	3,234	16 D	--	NIAGARAN	3,358	2	0	0	2	120	0	0	60,467	733,552	0	0
OF	LEE 11-01S-05W P/A	NIAGARAN	1977	CALHOUN, LEE-1S,5W,11	3842	3,260	12 D	--	NIAGARAN	3,395	1	0	0	1	80	0	32,359	0	44,076	404	0
GF	LEE 12-01S-05W	NIAGARAN	1972	CALHOUN, LEE-1S,5W,12	3842	3,180	34 D	--	NIAGARAN	3,370	2	0	0	2	240	0	723	206,319	2,190,296	3	0
G-F	LEE 12-01S-05W P/A	NIAGARAN	1973	CALHOUN, LEE-01S,05W,12	3842	3,230	18 D	--	TRENTON	5,006	1	0	0	1	80	0	85	130,193	206,843	1	0
OF	LEE 13-01S-05W	NIAGARAN	1973	CALHOUN, LEE-1S,5W,13	3842	3,184	10 D	26.3	FRANCONIA	6,000	6	0	0	6	240	15,420	304,114	68,072	336,830	1,267	325
GF	LEE 13-01S-05W P/A	NIAGARAN	1973	CALHOUN, LEE-1S,5W,13	3842	3,165	20 D	--	NIAGARAN	3,623	4	0	0	3	160	0	134	67,554	1,502,507	0	0
GF	LEE 13-01S-05W P/B	NIAGARAN	1981	CALHOUN, LEE-01S,05W,13	3842	3,220	20 D	--	NIAGARAN	3,361	1	1	0	1	160	0	0	80,954	80,954	0	0
OF	LEE 14-01S-05W	NIAGARAN	1974	CALHOUN, LEE-1S,5W,14	3842	3,198	6 D	--	NIAGARAN	3,631	2	0	0	2	80	10,727	247,189	7,016	125,349	3,089	134
OF	LEE 14-01S-05W P/A	NIAGARAN	1978	CALHOUN, LEE-1S,5W,14	3842	3,132	10 D	28.7	NIAGARAN	3,256	1	0	0	1	40	8,448	43,879	10,052	27,602	1,096	2
OF	LEE 14-01S-05W P/B	NIAGARAN	1981	CALHOUN, LEE-01S,05W,14	3842	3,148	6 D	--	NIAGARAN	3,303	1	1	0	1	40	6,918	6,918	1,352	1,352	172	100
GF	LEE 15-01S-05W	NIAGARAN	1974	CALHOUN, LEE-1S,5W,15	3842	3,108	22 D	--	NIAGARAN	3,605	1	0	0	1	40	29,888	40,709	0	532,191	1,017	0
OF	LEE 15-01S-05W P/A	NIAGARAN	1977	CALHOUN, LEE-1S,5W,15	3842	3,164	17 D	--	NIAGARAN	3,148	1	0	0	1	40	0	0	0	542,180	0	0
AOF	LEE 15-01S-05W P/B	NIAGARAN	1977	CALHOUN, LEE-1S,5W,15	3842	3,210	10 D	--	NIAGARAN	3,300	2	0	0	2	80	36,576	117,635	15,203	59,334	1,470	2
OF	LEE 15-01S-05W P/C	NIAGARAN	1977	CALHOUN, LEE-01S,05W,15	3842	3,110	10 D	--	NIAGARAN	3,225	2	0	0	1	80	0	2,325	0	0	29	0
GF	LEE 16-01S-05W	NIAGARAN	1964	CALHOUN, LEE-1S,5W,16	3842	3,174	22 D	--	PRAIRIE DU CHIEN	4,997	1	0	0	1	40	0	0	0	0	0	0
GF	LEE 16-01S-05W P/A	SALINA-NIAGARAN	1978	CALHOUN, LEE-01S,05W,16	3842	3,084	8 D	--	NIAGARAN	3,306	1	0	0	1	40	0	0	0	938	0	0
GF	LEE 16-01S-05W P/B	SALINA-NIAGARAN	1980	CALHOUN, LEE-01S,05W,16	3842	3,174	26 D	--	NIAGARAN	3,360	1	0	0	1	40	0	0	0	0	0	0
AGF	LEE 17-01S-05W	SALINA-NIAGARAN	1972	CALHOUN, LEE-1S,5W,17	3842	3,074	10 D	--	PRAIRIE DU CHIEN	4,896	1		1973		160	0	512	GAS IN	CAL-LEE	3	0
AGF	LEE 18-01S-05W	NIAGARAN	1976	CALHOUN, LEE-1S,5W,18	3842	3,104	28 D	--	NIAGARAN	3,576	1		1979		160	0	0	0	36,235	0	0
OF	LEE 20-01S-05W	NIAGARAN	1981	CALHOUN, LEE-01S,05W,20	3842	3,019	3 D	--	NIAGARAN	3,220	1	1	0	1	80	0	0	165	165	0	17
GF	LEE 21-01S-05W	NIAGARAN	1978	CALHOUN, LEE-01S,05W,21	3842	3,066	6 D	--	NIAGARAN	3,306	1	0	0	1	40	0	0	90	11,884	0	0
OF	LEE 21-01S-05W	NIAGARAN	1980	CALHOUN, LEE-1S,5W,21	3842	3,010	3 D	27	NIAGARAN	3,241	1	0	0	1	80	3,850	5,780	0	0	72	61
GF	LEE 22-01S-05W	NIAGARAN	1976	CALHOUN, LEE-01S,05W,22	3842	3,037	15 D	--	NIAGARAN	3,125	2	0	0	2	160	0	0	0	37,808	0	0
OF	LEE 23-01S-05W	SALINA-NIAGARAN	1979	CALHOUN, LEE-1S,5W,23	3842	3,096	40 D	32.5	NIAGARAN	3,323	2	0	0	2	80	31,181	106,561	38,286	100,396	1,332	0
OF	LEE 23-01S-05W P/A	NIAGARAN	1979	CALHOUN, LEE-01S,05W,23	3842	3,138	12 D	31.8	NIAGARAN	3,263	1	0	0	1	40	62,971	131,758	15,520	45,479	3,293	0
OF	LEE 23-01S-05W P/A	A-1 CARBONATE	1980	CALHOUN, LEE-1S,5W,23	3842	3,070	10 D	--	NIAGARAN	3,248	1	0	0	1	40	33,562	63,043	7,887	15,363	1,576	1
OF	LEE 23-01S-05W P/B	NIAGARAN	1980	CALHOUN, LEE-01S,05W,23	3842	3,162	21 D	--	NIAGARAN	3,253	1	0	0	1	40	16,346	30,174	4,758	7,809	754	12
GF	LEE 24-01S-05W	NIAGARAN	1978	CALHOUN, LEE-01S,05W,24	3842	3,148	10 D	--	NIAGARAN	3,338	1	0	0	1	80	0	0	18,733	145,244	0	0
GF	LEE 24-01S-05W P/A	NIAGARAN	1981	CALHOUN, LEE-01S,05W,24	3842	3,093	27 D	--	NIAGARAN	3,251	2	2	0	2	120	0	0	40,690	40,690	0	0
OF	LEE 24-01S-05W P/B	NIAGARAN	1981	CALHOUN, LEE-01S,05W,24	3842	3,148	10 D	32	NIAGARAN	3,272	1	1	0	1	40	636	636	0	0	15	0
AOF	LEE 30-01S-05W	NIAGARAN	1975	CALHOUN, LEE-1S,5W,30	3842	2,950	8 D	--	NIAGARAN	3,040	1		1977		80	0	1,413	0	0	18	0
AGF	LEE 30-01S-05W P/A	NIAGARAN	1977	CALHOUN, LEE-1S,5W,30	3842	2,939	5 D	--	NIAGARAN	3,100	1		1980		80	0	0	0	0	0	0
OF	LEE 30-01S-05W P/B	A-1 CARBONATE	1977	CALHOUN, LEE-1S,5W,30	3842	2,988	6 D	37.6	NIAGARAN	3,104	2	0	0	2	160	4,957	49,396	0	0	308	50
GF	LEE 32-01S-05W	E UNIT	1975	CALHOUN, LEE-1S,5W,32	3842	2,557	48 D	37	NIAGARAN	3,415	3	0	0	3	240	1,405	3,955	33,463	148,588	16	17
GF	LEE 34-01S-05W	A-1 CARBONATE	1978	CALHOUN, LEE-1S,5W,34	3842	2,985	5 D	--	NIAGARAN	3,165	1	0	0	1	80	194	388	0	0	4	0
AOF	LEE TWP.	NIAGARAN	1961	CALHOUN, LEE-1S,5W,22	3842	3,060	20 D	24.2	PRAIRIE DU CHIEN	4,926	1		1972		80	0	SEE	ALBION etal	TRENTON-BLACK	RIVER	
OF	LEE, SEC. 33	TRAVERSE	1971	ALLEGAN, LEE-1N,15W,33	3639	1,155	5 L	--	TRAVERSE	1,160	2	0	0	1	20	210	6,087	0	0	304	0
AOF	LEE, SOUTH	TRAVERSE	1949	ALLEGAN, LEE-1N,15W,31	3639	1,171	1 L	--	TRENTON	2,960	12		1953		120	0	91,117	0	0	759	0
GF	LENOX 24-04N-14E	NIAGARAN	1977	MACOMB, LENOX-4N,14E,24	3740	2,780	8 D	--	NIAGARAN	2,900	1	0	0	1	40	0	0	69,675	406,522	0	0
GF	LEONARD	NIAGARAN	1963	OAKLAND, ADDISON-5N,11E,15	3849	4,245	21 D	--	NIAGARAN	4,450	14'	0	0	14	640	42,721	212,411	590,793	4,788,434	331	0
OF	LEROY	REED CITY	1965	OSCEOLA, LEROY-19N,10W,27	3561	3,796	4 D	--	REED CITY	3,800	2	0	0	2	80	3,080	48,894	0	0	611	3
OF	LESLIE 04-01N-01W	SALINA-NIAGARAN	1973	INGHAM, LESLIE-1N,1W,4	3826	3,775	46 D	--	NIAGARAN	4,390	1	0	0	1	80	1,495	23,505	0	0	293	9
AOF	LIME LAKE	PRAIRIE DU CHIEN	1960	HILLSDALE, WRIGHT-8S,1W,11	3697	3,461	5 D	44.6	PRAIRIE DU CHIEN	3,533	1		1965		20	0	7,842	0	0	392	0
OF	LINCOLN, SEC. 18	TRAVERSE	1957	ARENAC, LINCOLN-18N,4E,18	3495	2,717	1 L	--	DUNDEE	3,062	2	0	0	2	20	297	4,644	0	0	232	0
OF	LINCOLN, SEC. 27	DUNDEE	1974	ISABELLA, LINCOLN-13N,4W,27	3477	3,577	10 D	--	DUNDEE	3,711	2	0	0	2	80	523	15,719	0	0	196	20
AOF	LINCOLN, SEC. 31	DUNDEE	1963	ARENAC, LINCOLN-18N,4E,31	3495	2,942	10 D	34.9	DUNDEE	2,986	1		1968		10	SEE	LINCOLN	SEC 18	0	C	0
AGF	LOGAN	RICHFIELD	1941	MASON, LOGAN-17N,15W,9	3627	3,260	5 S	--	RICHFIELD	3,330	2		1975		80	0	0	0	13,555	0	0
GF	LOGAN	WEIR	1949	OGEMAW, LOGAN-22N,4E,25	3925	1,230	11 S	--	RICHFIELD	4,537						SEE	LOGAN	BEREA			
GF	LOGAN	BEREA	1944	OGEMAW, LOGAN-22N,4E,17	3925	1,420	6 S	--	RICHFIELD		16	0	0	14	2,240	0	0	34,798	1,366,295	0	0
OF	LUCHT	TRAVERSE	1949	BAY, PINCONNING-17N,4E,29	3622	2,230	3 L	37.2	DUNDEE	3,240	5	0	0	1	50	252	197,999	0	0	3,959	0

TABLE 23 MICHIGAN OIL AND GAS FIELDS

POOL CLASS	FIELD OR POOL NAME	PRODUCING FORMATION	YEAR OF DISC.	COUNTY, TOWNSHIP – T, R, SEC. for DISCOVERY WELL only	MAP REF. NO.	DEPTH IN FEET	PAY ZONE THICK-NESS & LITHO	PAY ZONE API OIL GRAV	DEEPEST FORMATION OR POOL NAME	DEEPEST FORMATION TESTED DEPTH IN FEET	NUMBER OF WELLS TO END 1981	COMP. IN 1981	ABND. IN 1981	ACTIVE END OF 1981	ACRES DRILLED	OIL IN BBLS. PRODUCED IN 1981	OIL IN BBLS. CUMM. THROUGH 1981	GAS IN MCF PRODUCED IN 1981	GAS IN MCF CUMM. THROUGH 1981	RECOVERY PER ACRE DRILLED IN BBLS	TOTAL BARRELS OF BRINE PER DAY
AOF	LUTHER	TRAVERSE	1965	LAKE, NEWKIRK-19N,12W,14	3570	2,565	2 L	42.0	REED CITY	3,362	1		1973		20	0	28,117	0	0	1,406	0
OF	LUTHER, NORTH	REED CITY	1970	LAKE, ELLSWORTH-19N,11W,8	3570	3,518	17 D	--	REED CITY	3,556	4	0	0	4	160	1,634	16,175	0	0	101	0
GF	LYNDON	TRAVERSE	1958	WASHTENAW, LYNDON-1S,3E,7	3838	1,311	6 D	--	TRENTON	5,008	6	0	0	6	960	0	0	34	466,950	0	DOMESTIC
GF	LYNDON	DETROIT RIVER	1959	WASHTENAW, LYNDON-1S,3E,6	3838	1,733	11 D	--	TRENTON							SEE	LYNDON	TRAVERSE			0
OF	LYON 08-01N-07E	NIAGARAN	1980	OAKLAND, LYON-1N,7E,8	3911	3,686	22 D	35.9	NIAGARAN	3,851	1	0	0	1	40	9,219	30,543	0	0	763	0
OF	LYON 17-01N-07E	NIAGARAN	1980	OAKLAND, LYON-1N,7E,17	3911	3,684	21 D	35.7	NIAGARAN	3,774	1	0	0	1	40	13,009	21,049	0	0	526	0
OF	LYON, SEC. 18	NIAGARAN	1979	OAKLAND, LYON-1N,7E,18	3911	3,616	28 D	35	NIAGARAN	3,917	2	0	0	2	120	25,222	49,661	0	0	413	0
OF	MACON CREEK	TRENTON-BLK. RIVER	1961	LENAWEE, MACON-5S,5E,23	3698	2,548	36 D	--	TRENTON-BLK. RIVER	3,303	1	0	0	1	40	0	1,062	0	0	26	0
OF	MANCELONA 25-29N-05W	NIAGARAN	1973	ANTRIM, MANCELONA-29N,5W,25	3821	6,449	8 D	33.6	NIAGARAN	6,764	1	0	0	1	80	21,077	272,024	0	30,495	3,400	0
OF	MANCELONA 26-29N-05W	NIAGARAN	1972	ANTRIM, MANCELONA-29N,5W,26	3821	6,499	61 D	40.7	NIAGARAN	6,850	1	0	0	1	80	28,432	231,343	0	35,116	2,891	0
OF	MANCELONA 33-29N-05W	NIAGARAN	1974	ANTRIM, MANCELONA-29N,5W,33	3821	6,538	10 D	44.6	NIAGARAN	6,810	2	0	1	1	80	32,999	160,370	117,193	620,976	2,004	79
G-C	MANCELONA 34-29N-05W	NIAGARAN	1974	ANTRIM, MANCELONA-29N,5W,34	3821	6,580	20 D	54.0	NIAGARAN	6,780	2	0	0	2	80	52,142	855,471	319,272	6,486,585	10,693	206
AGF	MANISTEE	SALINA	1959	MANISTEE, FILER-21N,17W,24	3832	3,616	94 D	--	NIAGARAN	4,165	1		1961		160	0	0	0	0	0	0
G-C	MANISTEE 04-21N-16W	NIAGARAN	1979	MANISTEE, MANISTEE-21N,16W,4	3809	4,377	11 L	--	NIAGARAN	5,813	1	0	0	1	80	4,446	4,969	644,350	707,640	62	0
OF	MANISTEE 01-22N-16W	NIAGARAN	1973	MANISTEE, MANISTEE-22N,16W,1	3809	4,283	254 D	58.6	NIAGARAN	4,807	2	0	0	2	320	70,505	645,132	14,341	139,961	2,016	0
OF	MANISTEE 01-22N-16W P/A	NIAGARAN	1975	MANISTEE, MANISTEE-22N,16W,1	3809	4,408	81 D	47.5	NIAGARAN	4,630	3	0	0	3	240	24,064	190,576	398,899	2,066,124	794	0
OF	MANISTEE 02-22N-16W	NIAGARAN	1975	MANISTEE, MANISTEE-22N,16W,2	3809	4,245	15 D	--	NIAGARAN	4,558	1	0	0	1	80	8,643	221,505	18,268	142,543	2,768	54
OF	MANISTEE 02-22N-16W P/A	NIAGARAN	1978	MANISTEE, MANISTEE-22N,16W,2	3809	4,162	36 D	37.8	NIAGARAN	4,480	1	0	0	1	80	5,573	38,321	0	0	479	220
OF	MANISTEE 02-22N-16W P/B	NIAGARAN	1980	MANISTEE, MANISTEE-22N,16W,2	3809	4,344	7 D	41.9	NIAGARAN	4,500	1	1	0	1	80	22,473	26,404	15,093	15,093	330	196
OF	MANISTEE 03-22N-16W	NIAGARAN	1976	MANISTEE, MANISTEE-22N,16W,3	3809	4,135	46 D	--	NIAGARAN	4,365	2	0	0	1	160	0	4,794	0	959	29	0
OF	MANISTEE 12-22N-16W	NIAGARAN	1974	MANISTEE, MANISTEE-22N,16W,12	3809	4,701	17 D	45.0	NIAGARAN	4,844	3	0	0	3	240	171,311	805,003	321,757	1,074,602	3,354	20
OF	MANISTEE 12-22N-16W P/A	NIAGARAN	1981	MANISTEE, MANISTEE-22N,16N,12	3809	4,670	12 D	--	NIAGARAN	4,766	1	1	0	1	80	16,754	16,754	110,630	110,630	209	0
G-C	MANISTEE 13-22N-16W	SALINA-NIAGARAN	1976	MANISTEE, MANISTEE-22N,16W,13	3809	4,511	201 D	--	NIAGARAN	4,832	1	0	0	1	160	362	1,239	98,268	484,633	7	0
G-C	MANISTEE 13-22N-16W P/A	NIAGARAN	1976	MANISTEE, MANISTEE-22N,16W,13	3809	4,604	62 D	--	NIAGARAN	4,837	1	0	0	1	80	759	4,669	852,664	2,723,106	58	0
OF	MANISTEE 14-22N-16W	NIAGARAN	1977	MANISTEE, MANISTEE-22N,16W,14	3809	4,342	258 D	42.6	NIAGARAN	4,881	2	0	0	2	160	20,804	30,827	308,161	477,965	192	4
OF	MANISTEE 15-22N-16W	NIAGARAN	1974	MANISTEE, MANISTEE-22N,16W,15	3809	4,467	15 D	42.8	NIAGARAN	4,725	4	0	0	3	240	52,952	447,944	178,807	1,696,297	1,866	252
OF	MANISTEE 16-22N-16W	NIAGARAN	1975	MANISTEE, MANISTEE-22N,16W,16	3809	4,049	34 D	43.2	NIAGARAN	4,228	2	0	0	2	160	27,634	408,840	17,400	231,966	2,555	81
OF	MANISTEE 17-22N-16W	NIAGARAN	1976	MANISTEE, MANISTEE-22N,16W,17	3809	3,930	10 D	--	NIAGARAN	4,230	3	0	0	3	240	129,869	769,047	110,973	604,668	3,204	29
OF	MANISTEE 17-22N-16W P/A	NIAGARAN	1977	MANISTEE, MANISTEE-22N,16W,17	3809	4,116	69 D	47	NIAGARAN	4,285	1	0	0	1	80	18,531	149,268	11,444	74,519	1,865	1
OF	MANISTEE 18-22N-16W	NIAGARAN	1977	MANISTEE, MANISTEE-22N,16W,18	3809	3,902	10 D	--	NIAGARAN	4,130	5	0	0	5	400	191,383	762,154	173,635	657,593	1,905	10
OF	MANISTEE 20-22N-16W	NIAGARAN	1975	MANISTEE, MANISTEE-22N,16W,20	3809	3,996	34 D	43.2	NIAGARAN	4,225	2	0	0	2	160	40,515	402,032	68,706	928,895	2,512	39
G-C	MANISTEE 23-22N-16W	NIAGARAN	1974	MANISTEE, MANISTEE-22N,16W,23	3809	4,220	277 D	68.0	NIAGARAN	4,680	4	0	0	4	480	22,430	66,712	3,877,834	8,295,049	138	1
G-C	MANISTEE 23-22N-16W P/A	NIAGARAN	1979	MANISTEE, MANISTEE-22N,16W,23	3809	4,325	227 D	57.7	NIAGARAN	4,713	2	0	0	2	160	5,152	15,769	891,447	1,997,651	98	0
G-C	MANISTEE 24-22N-16W	NIAGARAN	1974	MANISTEE, MANISTEE-22N,16W,24	3809	4,171	483 D	67.5	NIAGARAN	4,722	1	0	0	1	80	13,748	29,518	1,852,864	3,703,931	368	0
OF	MANISTEE 24-22N-16W P/A	NIAGARAN	1977	MANISTEE, MANISTEE-22N,16W,24	3809	4,677	7 D	44.2	NIAGARAN	4,776	2	0	0	2	160	88,419	223,324	318,572	583,005	1,395	0
G-C	MANISTEE 27-22N-16W	NIAGARAN	1974	MANISTEE, MANISTEE-22N,16W,27	3809	4,288	224 D	63.4	NIAGARAN	4,600	2	0	0	2	320	6,911	22,693	1,433,660	3,720,250	70	1
GF	MANISTEE 30-22N-16W	NIAGARAN	1976	MANISTEE, MANISTEE-22N,16W,30	3809	3,958	225 D	--	NIAGARAN	4,348	1	0	0	1	80	755	18,886	182,227	1,508,006	236	0
GF	MANISTEE 30-22N-16W P/A	NIAGARAN	1978	MANISTEE, MANISTEE-22N,16W,30	3809	4,021	146 D	--	NIAGARAN	4,330	3	0	0	3	240	392	32,118	418,842	3,124,354	133	0
AOF	MANISTEE 24-22N-17W	NIAGARAN	1978	MANISTEE, MANISTEE-22N,17W,24	3809	3,862	45 D	--	NIAGARAN	3,993	1		1979		80	0	1,882	0	0	24	0
OF	MANISTEE 25-22N-17W	NIAGARAN	1977	MANISTEE, MANISTEE-22N,17W,25	3809	4,040	66 D	45.6	NIAGARAN	4,230	4	0	0	4	320	97,862	292,715	402,513	943,021	914	87
OF	MANISTEE 36-22N-17W	NIAGARAN	1979	MANISTEE, MANISTEE-22N,17W,36	3809	3,844	91 D	43.5	NIAGARAN	4,574	4	1	0	4	320	186,591	240,898	226,258	260,684	752	127
OF	MANISTEE 36-22N-17W P/A	NIAGARAN	1980	MANISTEE, MANISTEE-22N,17W,36	3809	4,078	8 D	44.8	NIAGARAN	4,274	1	0	0	1	80	0	0	0	0	0	2
G-C	MAPLE FOREST 03-28N-03W	NIAGARAN	1976	CRAWFORD, MAPLE FOREST-28N,3W,3	3855	6,710	12 D	--	NIAGARAN	7,015	1	0	0	1	160	102,279	248,937	229,818	603,017	1,555	0
OF	MAPLE GROVE 01-23N-14W	NIAGARAN	1974	MANISTEE, MAPLE GROVE-23N,14W,1	3808	5,473	23 D	42.2	NIAGARAN	5,610	1	0	0	1	80	30,439	255,913	64,725	512,204	3,198	0
OF	MAPLE GROVE 01-23N-14W P/A	NIAGARAN	1982	MANISTEE, MAPLE GROVE-23N,14W,01	3808	5,770	54 D	44.6	NIAGARAN	5,587	0	0	0	0	80	9,338	9,338	0	0	116	0
AG-C	MAPLE GROVE 02-23N-14W	NIAGARAN	1973	MANISTEE, MAPLE GROVE-23N,14W,2	3808	5,055	52 D	70.6	NIAGARAN	5,498	2		1980		240	0	11,972	0	410,813	50	0
OF	MAPLE GROVE 03-23N-14W	NIAGARAN	1977	MANISTEE, MAPLE GROVE-23N,14W,3	3808	4,820	63 L	42.7	NIAGARAN	5,230	1	0	0	1	160	22,375	242,453	38,526	293,350	1,515	21
OF	MAPLE GROVE 04-23N-14W	NIAGARAN	1975	MANISTEE, MAPLE GROVE-23N,14W,4	3808	4,895	26 D	--	NIAGARAN	5,153	2	1	0	2	80	25,416	376,409	163,501	934,473	4,705	0
OF	MAPLE GROVE 05-23N-14W	NIAGARAN	1975	MANISTEE, MAPLE GROVE-23N,14W,05	3808	4,570	44 D	--	NIAGARAN	4,786	1	0	0	1	160	24,001	122,498	31,897	71,747	765	0
OF	MAPLE GROVE 06-23N-14W	NIAGARAN	1973	MANISTEE, MAPLE GROVE-23N,14W,6	3808	4,514	27 D	42.0	ST. PETER	6,360	9	0	0	8	640	392,352	2,628,293	360,661	1,484,361	4,106	692
OF	MAPLE GROVE 06-23N-14W P/A	NIAGARAN	1974	MANISTEE, MAPLE GROVE-23N,14W,6	3808	4,518	27 D	40.2	NIAGARAN	4,975	1	0	0	1	80	7,471	93,659	4,535	28,911	1,170	60
OF	MAPLE GROVE 07-23N-14W	NIAGARAN	1974	MANISTEE, MAPLE GROVE-23N,14W,7	3808	4,510	35 D	35.0	NIAGARAN	4,829	3	0	0	2	240	40,617	432,357	16,007	232,406	1,801	7
OF	MAPLE GROVE 08-23N-14W	NIAGARAN	1974	MANISTEE, MAPLE GROVE-23N,14W,8	3808	4,905	26 D	44.8	NIAGARAN	5,082	6	1	0	6	400	367,672	2,061,209	516,881	2,269,631	5,153	251
OF	MAPLE GROVE 09-23N-14W	SALINA-NIAGARAN	1973	MANISTEE, MAPLE GROVE-23N,14W,9	3808	4,590	366 D	72.8	NIAGARAN	5,295	2	0	0	2	240	10,953	48,759	161,532	964,594	203	0
OF	MAPLE GROVE 10-23N-14W	NIAGARAN	1973	MANISTEE, MAPLE GROVE-23N,14W,10	3808	4832	263 D	43.8	NIAGARAN	5,457	5	1	0	5	320	120,230	478,234	306,634	1,029,786	1,494	25
OF	MAPLE GROVE 10-23N-14W P/B	NIAGARAN	1980	MANISTEE, MAPLE GROVE-23N,14W,10	3808	5,140	10 D	45.8	NIAGARAN	5,386	1	0	0	1	80	30,182	265,183	45,400	389,154	3,314	0
OF	MAPLE GROVE 10-23N-14W P/A	NIAGARAN	1974	MANISTEE, MAPLE GROVE-23N,14W,10	3808	5,058	32 D	44.9	NIAGARAN	5,350	2	1	0	2	160	39,604	50,413	164,355	184,384	315	0
OF	MAPLE GROVE 12-23N-14W	NIAGARAN	1977	MANISTEE, MAPLE GROVE-23N,14W,12	3808	5,928	81 D	43.1	NIAGARAN	6,077	1	0	0	1	80	69,899	300,827	165,516	660,446	3,760	0
OF	MAPLE GROVE 16-23N-14W	NIAGARAN	1973	MANISTEE, MAPLE GROVE-23N-14W,16	3808	4,950	211 D	48.2	NIAGARAN	5,409	2	0	0	2	120	36,470	318,534	222,228	1,510,899	2,654	0
OF	MAPLE GROVE 17-23N-14W	NIAGARAN	1974	MANISTEE, MAPLE GROVE-23N,14W,17	3808	4,637	102 D	73.0	NIAGARAN	5,225	3	0	0	3	240	67,967	518,624	292,692	1,661,970	2,160	0
OF	MAPLE GROVE 17-23N-14W P/A	NIAGARAN	1977	MANISTEE, MAPLE GROVE-23N,14W,17	3808	4,845	37 D	51.7	NIAGARAN	5,010	2	0	0	2	160	136,848	652,198	221,896	797,874	4,076	86
G-C	MAPLE GROVE 19-23N-14W	NIAGARAN	1975	MANISTEE, MAPLE GROVE-23N,14W,19	3808	4,597	259 D	67.8	NIAGARAN	5,110	3	0	0	2	240	3,441	26,353	189,955	1,197,313	109	0
OF	MAPLE GROVE 19-23N-14W P/A	NIAGARAN	1979	MANISTEE, MAPLE GROVE-2[illegible],14W,19	3808	4,840	46 L	--	NIAGARAN	5,145	2	0	0	2	160	675	12,341	72,058	728,848	77	0
G-C	MAPLE GROVE 20-23N-14W	NIAGARAN	1976	MANISTEE, MAPLE GROVE-23N,14W,20	3808	4,904	188 D	--	NIAGARAN	5,235	1	0	0	1	160	145	145	40,424	40,424	0	0
OF	MAPLE GROVE 20-23N-14W P/A	NIAGARAN	1978	MANISTEE, MAPLE GROVE-23N,14W,20	3808	5,068	8 D	46.8	NIAGARAN	5,260	1	0	0	1	120	0	7.075	0	34,983	58	0
GF	MAPLE GROVE 30-23N-14W	NIAGARAN	1977	MANISTEE, MAPLE GROVE-23N,14W,30	3808	4,598	281 D	--	NIAGARAN	5,190	1	0	0	1	80	1,690	17,192	215,447	1,309,858	214	0
GF	MAPLE VALLEY, SEC. 16	MICHIGAN STRAY	1958	MONTCALM, MAPLE VALLEY-11N,9W,16	3454	1,120	5 S	--	REED CITY	3,365	1	0	0	1	160	0	0	-	0	0	DOMESTIC
GF	MARATHON	BEREA	1955	LAPEER, MARATHON-9N,9E,16	3775	1,449	18 S	--	RICHFIELD	3,172	4		1981	4	40	0	0	0	35,469	0	0
OF	MARATHON	DUNDEE	1979	LAPEER, MARATHON-9N,9E,18	3775	2,629	5 D	36	RICHFIELD	3,220	2	0	0	2	80	9,138	19,584	0	0	244	17
OF	MARATHON	DETROIT RIVER SZ	1969	LAPEER, MARATHON-9N,9E,16	3775	3,013	47 D	--	RICHFIELD		-	-	-	-	800	SEE	MARATHON	RICHFIELD			
OF	MARATHON	RICHFIELD	1971	LAPEER, MARATHON-9N,9E,18	3775	3,102	8 D	--	RICHFIELD		31	16	1	30	400	79,460	181,302	0	0	453	407
OF	MARILLA 06-23N-13W	NIAGARAN	1977	MANISTEE, MARILLA-23N,13W,6	3936	5,015	299 D	--	NIAGARAN	5,505	3	0	0	3	240	76,214	347,295	321,168	3,715,550	1,447	0
OF	MARINE CITY	SALINA-NIAGARAN	1955	ST. CLAIR, COTTRELLVILLE-3N,16E,10	3738	2,176	21 D	38.0	NIAGARAN	2,428	18	0	0	13	660	11,051	500,424	187,515	6,578,954	758	87
OF	MARINE CITY, SOUTH	SALINA-NIAGARAN	1962	ST. CLAIR, COTTRELLVILLE-3N,16E,23	3738	2,100	4 D	38.7	NIAGARAN	2,261	17	0	0	13	600	3,528	167,874	24,476	4,226,899	279	5
AOF	MARNE	"BEREA"	1940	OTTAWA, TALLMADGE-7N,13W,5	3548	1,170	3 L	--	TRAVERSE	1,904	2		1946		20	0	6,253	0	0	313	0

TABLE 23 MICHIGAN OIL AND GAS FIELDS

POOL CLASS	FIELD OR POOL NAME	PRODUCING FORMATION	YEAR OF DISC.	COUNTY, TOWNSHIP – T, R, SEC. for DISCOVERY WELL only	MAP REF. NO.	DEPTH IN FEET	PAY ZONE THICK-NESS & LITHO	PAY ZONE API OIL GRAV	DEEPEST FORMATION TESTED FORMATION OR POOL NAME	DEEPEST FORMATION TESTED DEPTH IN FEET	NUMBER OF WELLS TO END 1981	NUMBER OF WELLS COMP. IN 1981	NUMBER OF WELLS ABND. IN 1981	NUMBER OF WELLS ACTIVE END OF 1981	ACRES DRILLED	OIL IN BBLS. PRODUCED IN 1981	OIL IN BBLS. CUMM. THROUGH 1981	GAS IN MCF PRODUCED IN 1981	GAS IN MCF CUMM. THROUGH 1981	RECOVERY PER ACRE DRILLED IN BBLS	TOTAL BARRELS OF BRINE PER DAY
AOF	MARTIN	TRAVERSE	1948	ALLEGAN, MARTIN-2N,11W,18	3502	1,617	1 L	36.0	ST. PETER SS.	4,290	2		1960		20	0	2,188	0	0	109	0
GF	MARTINY	MICHIGAN STRAY	1934	MECOSTA, MARTINY-15N,8W,23	3453	1,370	2 S	--	DETROIT RIVER	3,807	5	0	0	4	680	0	0	4,963	1,337,769	0	0
OF	MAYFIELD 01-25N-11W	NIAGARAN	1974	GD. TRAVERSE, MAYFIELD-25N,11W,1	3798	6,319	14 D	46.0	NIAGARAN	6,447	2	0	0	2	160	49,417	449,114	243,781	1,501,340	2,806	0
OF	MAYFIELD 01-25N-11W P/A	NIAGARAN	1974	GD. TRAVERSE, MAYFIELD-25N,11W,1	3798	6,474	16 D	45.2	NIAGARAN	6,634	1	0	0	1	160	109,638	537,436	98,751	708,296	3,358	0
G-C	MAYFIELD 01-25N-11W P/B	NIAGARAN	1980	GD. TRAVERSE, MAYFIELD-25N,11W,1	3798	6,314	13 D	66	NIAGARAN	6,500	1	0	0	1	80	5,609	46,921	386,752	1,080,438	586	0
G-C	MAYFIELD 03-25N-11W	NIAGARAN	1973	GD. TRAVERSE, MAYFIELD-25N,11W,3	3798	5,940	230 D	68.0	NIAGARAN	6,424	1	0	0	1	160	15,704	53,883	61,719	2,338,314	336	4
OF	MAYFIELD 03-25N-11W P/A	NIAGARAN	1975	GD. TRAVERSE, MAYFIELD-25N,11W,3	3798	6,019	18 D	49.0	NIAGARAN	6,325	1	0	0	1	80	51,363	273,988	66,956	261,891	3,424	0
OF	MAYFIELD 03-25N-11W P/B	NIAGARAN	1975	GD. TRAVERSE, MAYFIELD-25N,11W,3	3798	6,116	22 D	44.4	NIAGARAN	6,259	1	0	0	1	80	21,213	316,211	29,585	455,189	3,952	63
OF	MAYFIELD 04-25N-11W	NIAGARAN	1977	GD. TRAVERSE, MAYFIELD-25N,11W,4	3798	5,961	24 D	42.9	NIAGARAN	6,194	1	0	0	1	80	32,652	238,795	67,668	365,731	2,984	45
OF	MAYFIELD 04-25N-11W P/A	NIAGARAN	1977	GD. TRAVERSE, MAYFIELD-25N,11W,4	3798	5,847	24 D	42.9	NIAGARAN	6,196	2	0	0	2	160	68,678	319,166	74,289	203,387	1,994	233
OF	MAYFIELD 06-25N-11W	NIAGARAN	1975	GD. TRAVERSE, MAYFIELD-25N,11W,6	3798	5,664	143 D	44	NIAGARAN	5,932	1	0	0	1	80	19,740	383,417	37,171	507,996	4,792	2
OF	MAYFIELD 07-25N-11W	NIAGARAN	1980	GD. TRAVERSE, MAYFIELD-25N,11W,7	3798	5,676	226 D	--	NIAGARAN	6,166	1	0	0	1	80	3,265	6,086	0	0	76	4
OF	MAYFIELD 08-25N-11W	NIAGARAN	1982	GD. TRAVERSE, MAYFIELD-25N,11W,08	3798	6,066	14 D	--	NIAGARAN	6,149	0	0	0	0	160	10,001	10,001		0	62	0
OF	MAYFIELD 09-25N-11W	NIAGARAN	1977	GD. TRAVERSE, MAYFIELD-25N,11W,9	3798	6,088	75 D	46.2	NIAGARAN	6,287	3	0	0	3	320	21,457	190,313	5,066	164,759	594	17
OF	MAYFIELD 10-25N-11W	NIAGARAN	1974	GD. TRAVERSE, MAYFIELD-25N,11W,10	3798	6,283	64 D	47.8	NIAGARAN	6,442	3	0	0	3	240	161,475	1,347,912	400,716	2,265,447	5,616	196
OF	MAYFIELD 10-25N-11W P/A	NIAGARAN	1976	GD. TRAVERSE, MAYFIELD-25N,11W,10	3798	6,334	17 D	--	NIAGARAN	6,488	1	0	0	1	80	36,498	307,567	162,589	858,322	3,844	23
OF	MAYFIELD 10-25N-11W P/B	NIAGARAN	1976	GD. TRAVERSE, MAYFIELD-25N,11W,10	3798	6,183	31 D	44.8	NIAGARAN	6,381	3	1	0	3	80	21,046	175,348	7,901	135,174	2,191	26
G-C	MAYFIELD 11-25N-11W	NIAGARAN	1976	GD. TRAVERSE, MAYFIELD-25N,11W,11	3798	6,333	75 D	63.9	NIAGARAN	6,540	1	0	0	1	80	0	13,697	0	696,510	171	0
G-C	MAYFIELD 12-25N-11W	NIAGARAN	1974	GD. TRAVERSE, MAYFIELD-25N,11W,12	3798	6,171	325 D	60.4	NIAGARAN	6,677	1	0	0	1	160	1,646	57,093	440,442	4,601,085	356	0
G-C	MAYFIELD 12-25N-11W P/A	SALINA-NIAGARAN	1975	GD. TRAVERSE, MAYFIELD-25N,11W,12	3798	6,449	43 D	61.5	NIAGARAN	6,685	1	0	0	1	80	1,663	25,157	328,384	2,407,997	314	0
G-C	MAYFIELD 13-25N-11W	NIAGARAN	1977	GD. TRAVERSE, MAYFIELD-25N,11W,13	3798	6,461	127 D	67.2	NIAGARAN	6,714	2	0	0	2	160	15,795	50,096	560,432	1,646,364	313	0
G-C	MAYFIELD 15-25N-11W	NIAGARAN	1976	GD. TRAVERSE, MAYFIELD-25N,11W,15	3798	6,446	134 D	--	NIAGARAN	6,671	2	0	0	2	160	10,990	195,661	364,566	3,961,465	1,222	0
OF	MAYFIELD 16-25N-11W	NIAGARAN	1972	GD. TRAVERSE, MAYFIELD-25N,11W,16	3798	6,341	68 D	47.9	NIAGARAN	6,580	3	0	0	3	240	193,991	1,574,661	314,618	2,130,135	6,561	6
OF	MAYFIELD 16-25N-11W P/A	NIAGARAN	1974	GD. TRAVERSE, MAYFIELD-25N,11W,16	3798	6,228	29 D	43.5	NIAGARAN	6,525	2	0	0	2	160	163,772	1,133,599	85,375	660,410	7,084	0
OF	MAYFIELD 17-25N-11W	SALINA-NIAGARAN	1974	GD. TRAVERSE, MAYFIELD-25N,11W,17	3798	5,855	178 D	42.7	NIAGARAN	6,504	3	0	0	3	240	227,470	1,716,711	294,216	1,498,607	7,152	120
OF	MAYFIELD 18-25N-11W	NIAGARAN	1975	GD. TRAVERSE, MAYFIELD-25N,11W,18	3798	5,874	17 D	45.0	NIAGARAN	5,969	3	0	0	3	240	254,797	1,172,540	204,030	1,004,333	4,885	11
OF	MAYFIELD 18-25N-11W P/A	NIAGARAN	1975	GD. TRAVERSE, MAYFIELD-25N,11W,18	3798	6,198	5 D	43.2	NIAGARAN	6,330	3	1	0	3	240	11,205	93,041	42,319	308,893	387	0
G-C	MAYFIELD 19-25N-11W	SALINA-NIAGARAN	1973	GD. TRAVERSE, MAYFIELD-25N,11W,19	3798	5,829	183 D	53.6	NIAGARAN	6,535	1	0	0	1	160	6,285	123,804	111,345	1,297,908	773	0
OF	MAYFIELD 19-25N-11W P/A	NIAGARAN	1974	GD. TRAVERSE, MAYFIELD-25N,11W,19	3798	6,093	96 D	45.8	NIAGARAN	6,265	1	0	0	1	80	4,696	86,622	61,098	881,484	1,082	0
AG-C	MAYFIELD 19-25N-11W P/B	SALINA-NIAGARAN	1976	GD. TRAVERSE, MAYFIELD-25N,11W,19	3798	6,029	137 D	61.4	NIAGARAN	6,357	1		1980		80	0	833	0	20,462	10	0
OF	MAYFIELD 20-25N-11W	NIAGARAN	1974	GD. TRAVERSE, MAYFIELD-25N,11W,20	3798	6,241	51 D	45.0	NIAGARAN	6,365	3	0	0	3	240	59,886	865,808	247,796	2,315,599	3,607	1
OF	MAYFIELD 21-25N-11W	SALINA-NIAGARAN	1974	GD. TRAVERSE, MAYFIELD-25N,11W,21	3798	6,112	428 D	66.5	NIAGARAN	6,608	5	0	0	4	320	58,030	979,417	268,945	8,666,172	3,060	35
G-C	MAYFIELD 24-25N-11W	NIAGARAN	1973	GD. TRAVERSE, MAYFIELD-25N,11W,24	3798	6,508	153 D	65.7	NIAGARAN	6,783	2	0	0	2	360	37,451	523,537	2,576,468	16,424,639	1,454	0
G-C	MAYFIELD 26-25N-11W	NIAGARAN	1974	GD. TRAVERSE, MAYFIELD-25N,11W,26	3798	6,323	169 D	65.0	NIAGARAN	6,756	1	0	0	1	160	1,557	82,444	875,693	5,075,261	515	0
G-C	MAYFIELD 26-25N-11W P/A	NIAGARAN	1980	GD. TRAVERSE, MAYFIELD-25N,11W,26	3798	6,593	127 D	65	NIAGARAN	6,818	1	0	0	1	80	0	0	0	0	0	0
G-C	MAYFIELD 27-25N-11W	NIAGARAN	1978	GD. TRAVERSE, MAYFIELD-25N,11W,27	3798	6,547	62 D	64.4	NIAGARAN	6,767	1	0	0	1	80	10,467	14,028	183,559	269,967	175	0
G-C	MAYFIELD 27-25N-11W P/A	NIAGARAN	1979	GD. TRAVERSE, MAYFIELD-25N,11W,27	3798	6,527	105 L	62.2	NIAGARAN	6,821	1	0	0	1	80	357	1,223	20,048	44,785	15	0
OF	MAYFIELD 28-25N-11W	NIAGARAN	1976	GD. TRAVERSE, MAYFIELD-25N,11W,28	3798	6,430	19 D	49.4	NIAGARAN	6,580	1	0	0	1	160	36,723	242,844	166,829	728,495	1,517	0
G-C	MAYFIELD 28-25N-11W P/A	NIAGARAN	1980	GD. TRAVERSE, MAYFIELD-25N,11W,28	3798	6,546	32 D	71.5	NIAGARAN	6,731	1	0	0	1	80	0	0	0	0	0	0
G-C	MAYFIELD 29-25N-11W	NIAGARAN	1976	GD. TRAVERSE, MAYFIELD-25N,11W,29	3798	6,012	119 D	70.2	NIAGARAN	6,621	1	0	0	1	160	98	1,219	8,368	58,482	7	0
OF	MAYFIELD 29-25N-11W P/A	NIAGARAN	1980	GD. TRAVERSE, MAYFIELD-25N,11W,29	3798	6,309	150 D	46	NIAGARAN	6,610	2	0	0	2	160	82,925	430,390	210,100	935,464	2,689	0
OF	MAYFIELD 29-25N-11W P/A	NIAGARAN	1977	GD. TRAVERSE, MAYFIELD-25N,11W,29	3798	6,391	16 D	--	NIAGARAN	6,576	1	0	0	1	160	16,746	17,018	61,227	61,227	106	56
OF	MAYFIELD 30-25N-11W	NIAGARAN	1973	GD. TRAVERSE, MAYFIELD-25N,11W,30	3798	6,329	45 D	45.5	NIAGARAN	6,630	1	0	0	1	160	6,381	87,560	404,172	2,229,758	547	0
G-C	MAYFIELD 31-25N-11W	NIAGARAN	1976	GD. TRAVERSE, MAYFIELD-25N,11W,31	3798	6,051	101 D	--	NIAGARAN	6,696	2	0	0	1	80	6,778	8,294	214,601	345,427	103	0
G-C	MAYFIELD 33-25N-11W	NIAGARAN	1977	GD. TRAVERSE, MAYFIELD-25N,11W,33	3798	6,478	54 D	63.6	NIAGARAN	6,671	1	0	0	1	80	995	2,640	45,198	71,035	33	0
AGF	MAYFIELD 33-25N-11W P/A	ANTRIM	1977	GD. TRAVERSE, MAYFIELD-25N,11W,33	3798	1,804	50 SH	--	NIAGARAN	6,746	1		1978		80	0	0	0	0	0	0
OF	MAYFIELD 33-25N-11W P/B	NIAGARAN	1981	GD. TRAVERSE, MAYFIELD-25N,11W,33	3798	6,654	8 D	--	NIAGARAN	6,768	1	1	0	1	80	199	199	0	0	2	0
OF	MCBAIN	DUNDEE	1959	MISSAUKEE, RIVERSIDE-21N,7W,19	3733	3,969	15 L	45.0	DUNDEE	3,973	24	0	0	22	920	36,368	3,372,271	0	0	3,665	9,325
GF	MCKAY	MICHIGAN STRAY	1929	CLARE, GRANT-17N,4W,6	3496	1,400	3 S	--	DETROIT RIVER	4,055	9	0	0	2	360	0	0	0	726,879	0	SHUT-IN
AOF	MEARS	TRAVERSE	1951	OCEANA, GOLDEN-15N,18W,35	3933	1,745	3 DL	36.1	REED CITY	2,347	11		1959		110	0	105,807	0	0	622	0
AOF	MEARS	DUNDEE	1949	OCEANA, GOLDEN-15N,18W,35	3933	2,210	3 L	32.2	REED CITY		3		1959		60	SEE	MEARS	TRAVERSE			0
AGF	MECOSTA	MICHIGAN STRAY	1966	MECOSTA, MORTON-14N,8W,10	3449	1,345	10 S	--	DUNDEE	3,709	2		1980	2	320	0	0	0	117,928	0	0
AGF	MECOSTA LAKE	MICHIGAN STRAY	1953	MECOSTA, MORTON-14N,8W,17	3449	1,314	12 S	--	DUNDEE	3,690	2		1956		320	0	0	0	85,752	0	0
OF	MEDINA	TRENTON-BLK. RIVER	1961	LENAWEE, MEDINA-8S,1E,3	3698	2,921	18 D	40	PRAIRIE DU CHIEN	3,487	1	0	0	1	40	214	4,798	0	0	119	0
GF	MIDDLE BRANCH	MICHIGAN STRAY	1964	OSCEOLA, MIDDLE BRANCH-19N,7W,17	3760	1,630	10 S	--	DETROIT RIVER	4,283	4		1977		640	0	0	0	261,891	0	0
OF	MILLS, SEC. 01	DUNDEE	1957	MIDLAND, MILLS-16N,2E,1	3494	3,450	2 D	--	DUNDEE	3,463	1	0	0	1	10	0	8,363	0	0	836	0
AGF	MINERAL SPRINGS	MICHIGAN STRAY	1952	OSCEOLA, SHERMAN-20N,9W,20	3656	1,397	3 S	--	DETROIT RIVER	3,963	4		1960		480	0	0	0	233,337	0	0
OF	MINERAL SPRINGS	DUNDEE	1951	OSCEOLA, SHERMAN-20N,9W,20	3656	3,854	7 D	44.5	DETROIT RIVER		12	0	0	1	240	921	312,793	0	0	1,303	60
OF	MIO	RICHFIELD	1946	OSCODA, MENTOR-25N,3E,30	3744	4,219	6 D	32.9	NIAGARAN	8,544	4	0	0	2	160	742	64,450	0	0	402	0
OF	MOFFATT, SEC. 34	TRAVERSE	1964	ARENAC, MOFFATT-20N,3E,34	3495	2,100	4 D	--	DUNDEE	3,027	1	0	0	1	10	0	403	0	0	40	0
AOF	MOFFATT, SEC. 34	DUNDEE	1953	ARENAC, MOFFATT-20N,3E,34	3495	2,984	4 L	--	DUNDEE		1		1956		10	0	8,392	0	0	839	0
AGF	MONTAQUE	SALINA-NIAGARAN	1953	MUSKEGON, MONTAGUE-12N,17W,7	3557	3,731	80 D	--	TRENTON	4,517	3		1970		480	0	0	0	42,312	0	0
OF	MONTEREY	TRAVERSE	1938	ALLEGAN, MONTEREY-3N,13W,16	3526	1,618	3 L	37.6	CINCINNATIAN	3,266	99	0	0	6	1,030	1,633	1,028,956	0	0	998	14
OF	MONTMORENCY 14-32N-01E	NIAGARAN	1978	MONTMORENCY, MONTMORENCY-32N,1E,14	3819	4,633	23 D	43	NIAGARAN	4,785	1	0	0	1	80	0	2,584	0	0	32	0
G-C	MONTMORENCY 29-32N-01E	NIAGARAN	1975	MONTMORENCY, MONTMORENCY-32N,1E,29	3819	4,794	24 D	72.3	NIAGARAN	4,939	1	0	0	1	80	0	47	0	0	0	0
GF	MORTON	MICHIGAN STRAY	1946	MECOSTA, MORTON-14N,8W,15	3449	1,279	2 S	--	DUNDEE	3,691	3	0	0	1	360	0	0	0	120,745	0	0
GF	MT. CLEMENS	SALINA	1961	MACOMB, MACOMB-3N,13E,34	3690	2,590	18 D	--	CAMBRIAN?	4,695	1	0	0	1	40	0	65	-	0	1	DOMESTIC
OF	MT. FOREST	TRAVERSE	1952	BAY, PINCONNING-17N,4E,18	3620	2,124	2 L	36.2	RICHFIELD	4,305	4	0	0	2	80	465	SEE	MT.	FOREST DUNDEE	FOR CUM.	10
OF	MT. FOREST	DUNDEE	1947	BAY, MT. FOREST-17N,3E,13	3620	3,025	9 D	34.1	RICHFIELD		37	0	0	26	960	7,586	956,569	0	0	920	4
AOF	MT. FOREST, SEC. 01	DUNDEE	1946	BAY, MT. FOREST-17N,3E,1	3620	2,960	2 L	--	DUNDEE	3,057	1		1946		10	0	1,906	0	0	191	0
AOF	MT. HALEY	DUNDEE	1934	MIDLAND, MT. HALEY-13N,1E,28	3494	3,477	3 D	39.6	DUNDEE	3,500	1		1947		10	0	36,069	0	0	3,607	0
OF	MT. PLEASANT	DUNDEE	1928	MIDLAND, GREENDALE-14N,2W,18	3095	3,545	15 L	41.8	SYLVANIA	4,821	486	0	0	137	5,730	80,507	28,417,040	0	7,965,509	4,959	631
AGF	MUSKEGON	TRAV-DD-DET. RIVER	1927	MUSKEGON, MUSKEGON-10N,16W,9	3229A	1,640	6 L	--	ST. PETER SS.	4,754	?		1979		1,520	0	0	0	7,237,438	DOMESTIC	& LEASE
OF	MUSKEGON	TRAVERSE & DUNDEE	1928	MUSKEGON, MUSKEGON-10N,16W,8	3229A	1,700	4 L	37.4	ST. PETER SS.	4,754	?	1	0	13	3,170	5,227	7,034,386	0	0	2,219	114
OF	NELLSVILLE	TRAVERSE	1980	ROSCOMMON, ROSCOMMON-22N,4W,17	3888	3,000	10 L	--	DUNDEE	3,737	1	0	0	1	40	0	0	0	0	0	8

TABLE 23 MICHIGAN OIL AND GAS FIELDS

POOL CLASS	FIELD OR POOL NAME	PRODUCING FORMATION	YEAR OF DISC.	COUNTY, TOWNSHIP – T, R, SEC. for DISCOVERY WELL only	MAP REF. NO.	DEPTH IN FEET	PAY ZONE THICK-NESS & LITHO	PAY ZONE API OIL GRAV	DEEPEST FORMATION TESTED FORMATION OR POOL NAME	DEEPEST FORMATION TESTED DEPTH IN FEET	NUMBER OF WELLS TO END 1981	NUMBER OF WELLS COMP. IN 1981	NUMBER OF WELLS ABND. IN 1981	NUMBER OF WELLS ACTIVE END OF 1981	ACRES DRILLED	OIL IN BBLS. PRODUCED IN 1981	OIL IN BBLS. CUMM. THROUGH 1981	GAS IN MCF PRODUCED IN 1981	GAS IN MCF CUMM. THROUGH 1981	RECOVERY PER ACRE DRILLED IN BBLS	TOTAL BARRELS OF BRINE PER DAY
AOF	NELLSVILLE	DUNDEE	1957	ROSCOMMON, ROSCOMMON-22N,4W,17	3888	3,710	6 D	40.3	DETROIT RIVER	5,165	1		1967		10	0	16,528	0	0	1,653	0
OF	NELLSVILLE	RICHFIELD	1956	ROSCOMMON, ROSCOMMON-22N,4W,8	3888	4,932	17 D	42.2	DETROIT RIVER		2	0	0	2	80	14,405	43,580	0	0	544	31
AOF	NEW BOSTON	TRENTON	1943	WAYNE, HURON-4S,9E,18	3664	2,635	4 L	--	TRENTON	2,983	2		1949		20	0	2,349	0	0	117	0
OF	NEW LOTHROP	BEREA	1967	SHIAWASSEE, HAZELTON-8N,4E,12	3768	1,623	4 S	46	SYLVANIA	3,494	19	0	0	14	680	12,281	194,397	0	0	285	1
AOF	NEW RICHMOND	TRAVERSE	1965	ALLEGAN, MANLIUS-3N,15W,16	3502	1,364	1 L	--	TRAVERSE	1,365	1		1966		10	0	104	0	0	10	0
AGF	NEWARK	MICHIGAN STRAY	1948	GRATIOT, NEW HAVEN-10N,4W,25	3438	979	5 S	--	DUNDEE	3,255	6		1968		960	0	0	0	450,592	0	0
OF	NEWBURG	TRENTON	1979	LENAWEE, CLINTON-5S,4E,14	3698	3,150	20 D	39.5	PRAIRIE DU CHIEN	4,046	1	0	0	1	40	0	572	0	0	14	0
AOF	NILES	TRAVERSE	1940	BERRIEN, NILES-7S,17W,1	3621	602	7 L	21.5	TRENTON	2,089	7		1958		70	0	29,672	0	0	424	0
OF	NORTH ALLIS 29-35N-02E	NIAGARAN	1969	PRESQUE ISLE, NORTH ALLIS-35N,2E,29	3770	2,727	10 D	--	PRECAMBRIAN	5,940	1	0	0	1	40	0	5,782	0	0	144	0
AGF	NORTH MORENCI	TRAVERSE	1962	LENAWEE, SENECA-8S,2E,20	3754	638	2 D	--	PRAIRIE DU CHIEN	3,284	69		1980		2,840	0	0	0	105,140	0	0
AOF	NORTH PORTER	TRAVERSE	1930	CASS, PORTER-7S,13W,32	3710	660	2 L	37.0	TRENTON	2,382	2		1955		20	0	1,424	0	0	71	0
GF	NORTH STAR	MICHIGAN STRAY	1940	GRATIOT, NORTH STAR-10N,2W,4	3447	870	7 S	--	DUNDEE	3,100	1	0	0	1	40	0	0	0	594,417	0	0
AGF	NORTHVILLE	DUNDEE	1948	WASHTENAW, SALEM-1S,7E,1	3683	788	2 L	--	CAMBRO-ORDOVICIAN	5,850	4		1961		640	0	0	0	0	0	0
GF	NORTHVILLE	SALINA-NIAGARAN	1937	WAYNE, PLYMOUTH-1S,8E,12	3683	2,905	2 D	--	CAMBRO-ORDOVICIAN					6	1,200	FACILITY	WELLS	FOR GAS	STORAGE RESERVOIRS		
OF	NORTHVILLE	NIAGARAN	1960	OAKLAND, LYON-1N,7E,34	3683	3,515	25 D	42.5	CAMBRO-ORDOVICIAN							SEE	NORTHVILLE	TRENTON	3,870,408		
OF	NORTHVILLE	TRENTON-BLK. RIVER	1954	WAYNE, PLYMOUTH-1S,8E,1	3683	4,395	70 D	39.8	CAMBRO-ORDOVICIAN					3	2,835	11,243	1,129,092	0	14,332,358	398	0
GF	OLIVET	A-1 CARBONATE	1979	EATON, BELLEVUE-1N,6W,24	3725	3,444	5 D	38	GLENWOOD	5,004	1		1980	1	40	0	0	0	0	0	0
AOF	OLIVET	TRENTON-BLK. RIVER	1969	EATON, BELLEVUE-1N,6W,24	3725	4,450	5 D	--	PRAIRIE DU CHIEN	5,020	1		1971		20	0	340	0	0	17	0
OF	ONEKAMA 24-23N-16W	NIAGARAN	1979	MANISTEE, ONEKAMA-23N,16W,24	3936	4,291	7 D	--	NIAGARAN	4,485	1	0	0	1	80	30,193	52,495	104,814	140,876	656	37
OF	ONONDAGA 10-01N-02W	NIAGARAN	1971	INGHAM, ONONDAGA-1N,2W,10	3778	3,784	40 D	38.4	PRAIRIE DU CHIEN	5,744	17	1	0	15	1,040	300,537	7,132,564	624,307	7,973,291	6,858	7,992
OF	ONONDAGA 17-01N-02W	SALINA-NIAGARAN	1973	INGHAM, ONONDAGA-1N,2W,17	3778	3,620	50 D	--	NIAGARAN	3,850	1	0	0	1	80	5,172	259,175	8,948	200,716	3,239	30
OF	ONONDAGA 17-01N-02W P/A	SALINA-NIAGARAN	1975	INGHAM, ONONDAGA-1N,2W,17	3778	3,610	92 D	37	NIAGARAN	3,830	1	0	0	1	80	2,123	45,626	31,710	182,058	570	3
OF	ONONDAGA 17-01N-02W P/B	NIAGARAN	1978	INGAHM, ONONDAGA-1N,2W,17	3778	3,604	146 D	38	NIAGARAN	3,907	1	0	0	1	80	36,444	84,358	24,822	79,751	1,054	0
OF	ONONDAGA 18-01N-02W	NIAGARAN	1978	INGHAM, ONONDAGA-1N,2W,18	3778	3,686	46 D	--	NIAGARAN	3,820	2	0	0	2	160	31,304	183,979	46,654	151,268	1,149	0
GF	ONONDAGA 18-01N-02W P/A	SALINA-NIAGARAN	1978	INGHAM, ONONDAGA-1N,2W,18	3778	3,597	15 D	--	NIAGARAN	3,700	1	0	0	1	80	0	0	15,351	31,035	0	0
OF	ONONDAGA 19-01N-02W	NIAGARAN	1981	INGHAM, ONONDAGA-01N,02W,19	3778	3,600	5 D	33	NIAGARAN	3,678	1	1	0	1	80	2,000	2,000	0	0	25	0
OF	ONONDAGA 20-01N-02W	NIAGARAN	1976	INGHAM, ONONDAGA-1N,2W,20	3778	3,569	5 D	--	NIAGARAN	3,710	1	0	0	1	160	1,678	14,664	0	0	91	1
OF	ONONDAGA 20-01N-02W P/A	NIAGARAN	1979	INGHAM, ONONDAGA-01N,02W,20	3778	3,584	6 D	--	NIAGARAN	3,735	1	0	0	1	80	7,101	12,009	0	0	150	0
OF	ONONDAGA 21-01N-02W U/A	NIAGARAN	1971	INGHAM, ONONDAGA-1N,2W,21	3778	3,629	31 D	33.2	MANITOULIN	4,125	12	0	0	10	920	13,793	1,673,521	98,185	4,680,164	1,819	1,238
OF	ONONDAGA 21-01N-02W U/B	NIAGARAN	1972	INGHAM, ONONDAGA-1N,2W,22	3778	3,688	24 D	34	NIAGARAN	4,170	8	0	0	4	520	90,521	1,786,204	24,443	1,537,609	3,435	2,524
AOF	OTISVILLE	BEREA	1949	GENESEE, FOREST-9N,8E,5	3701	1,446	5 S	--	DUNDEE	2,694	1		1956		10	SEE	OTISVILLE	DUNDEE			
AOF	OTISVILLE	TRAVERSE	1941	GENESEE, FOREST-9N,8E,5	3701	1,895	2 L	--	DUNDEE		1		1946		10	SEE	OTISVILLE	DUNDEE			
OF	OTISVILLE	DUNDEE	1944	GENESEE, FOREST-9N,8E,6	3701	2,450	3 L	37.0	DUNDEE		5	0	0	2	50	378	36,078	0	0	515	9
AOF	OTSEGO	TRAVERSE	1938	ALLEGAN, OTSEGO-1N,12W,30	3502	1,532	1 L	--	TRAVERSE	1,600	7		1972		110	0	2,290	0	0	21	0
GF	OTSEGO	ANTRIM	1940	OTSEGO, BAGLEY-30N,3W,34	3792	1,385	4 SH	--	DUNDEE	3,944	10	0	0	4	840	0	0	115,910	1,028,159	0	32
OF	OTSEGO LAKE 02-29N-03W	NIAGARAN	1978	OTSEGO, OTSEGO LAKE-29N,3W,2	3793	6,448	126 D	47.3	NIAGARAN	6,665	1	0	0	1	80	108,002	389,040	93,116	338,875	4,863	0
OF	OTSEGO LAKE 03-29N-03W	SALINA-NIAGARAN	1971	OTSEGO, OTSEGO LAKE-29N,3W,3	3793	6,272	122 D	44.2	NIAGARAN	6,860	3	1	0	2	120	36,962	783,442	228,463	1,811,770	6,528	0
OF	OTSEGO LAKE 11-29N-03W	NIAGARAN	1977	OTSEGO, OTSEGO LAKE-29N,3W,11	3793	6,628	10 D	44.1	NIAGARAN	6,725	3	0	0	3	200	118,013	591,884	235,300	845,072	2,959	0
OF	OTSEGO LAKE 20-29N-03W	NIAGARAN	1978	OTSEGO, OTSEGO LAKE-29N,3W,20	3793	6,412	65 D	47.5	NIAGARAN	6,778	1	0	0	1	80	0	214	SHUT-IN	0	2	0
OF	OTSEGO LAKE 24-29N-03W	NIAGARAN	1977	OTSEGO, OTSEGO LAKE-29N,3W,24	3793	6,561	36 D	49.8	NIAGARAN	6,803	1	0	0	1	160	42,770	163,040	167,585	406,700	1,019	0
OF	OTSEGO LAKE 26-29N-03W	NIAGARAN	1975	OTSEGO, OTSEGO LAKE-29N,3W,26	3793	6,810	12 D	52.7	NIAGARAN	6,968	1	0	0	1	80	0	3,716	SHUT-IN	0	46	0
OF	OTSEGO LAKE 31-29N-03W	NIAGARAN	1977	OTSEGO, OTSEGO LAKE-29N,3W,31	3793	6,392	148 D	42.2	NIAGARAN	6,848	1	0	0	1	114	0	350	SHUT-IN	0	3	0
OF	OTSEGO LAKE 35-29N-03W	SALINA-NIAGARAN	1977	OTSEGO, OTSEGO LAKE-29N,3W,35	3793	6,412	368 D	64.2	NIAGARAN	7,115	3	0	0	3	240	37,931	131,704	436,903	1,105,887	548	0
GF	OTSEGO LAKE, SEC. 22	ANTRIM	1977	OTSEGO, OTSEGO LAKE-29N,3W,22	3793	1,500	774 SH	--	ANTRIM	1,600	11	3	0	14	440	0	0	196,114	294,574	0	790
AOF	OTSEGO, SEC. 09	TRAVERSE	1950	ALLEGAN, OTSEGO-1N,12W,9	3502	1,456	1 L	--	TRAVERSE	1,457	4		1951		40	0	681	0	0	17	0
OF	OTTER LAKE	BEREA	1945	GENESEE, FOREST-9N,8E,12	3775	1,502	4 S	35.5	DETROIT RIVER	3,142	10	0	0	6	110	1,135	98,742	0	0	897	7
OF	OTTER LAKE	DETROIT RIVER	1970	GENESEE, FOREST-9N,8E,11	3775	2,968	10 D	--	DETROIT RIVER		10	1	0	11	440	18,941	245,337	0	0	557	12
AOF	OTTO, SEC. 30	"BEREA"	1958	OCEANA, OTTO-13N,16W,19	3455	1,428	9 S	--	TRAVERSE	1,860	2		1960		10		SEE	OTTO	SECTION 32		0
AOF	OTTO, SEC. 30	TRAVERSE	1955	OCEANA, OTTO-13N,16W,30	3455	1,857	3 L	--	TRAVERSE		1		1960		20		SEE	OTTO	SECTION 32		0
AOF	OTTO, SEC. 32	"BEREA"	1950	OCEANA, OTTO-13N,16W,32	3455	1,445	1 L	--	TRAVERSE	1,895	2		1976		10	0	4,308	0	0	108	0
OF	OVERISEL	TRAVERSE	1938	ALLEGAN, OVERISEL-4N,14W,21	3531	1,478	3 L	42.1	TRENTON	4,060	164	0	1	21	1,770	8,229	3,031,525	0	0	1,713	197
AOF	OVERISEL, SEC. 11	TRAVERSE	1940	ALLEGAN, OVERISEL-4N,14W,11	3531	1,553	4 L	--	TRAVERSE	1,578	1		1944		10	0	6,370	0	0	637	0
OF	OXBOW	TRAVERSE	1958	MASON, RIVERTON-17N,17W,26	3716	1,652	1 L	35.4	REED CITY	2,354	4	0	0	2	40	0	92,426	0	0	2,310	0
AGF	PARADISE	TRAVERSE	1965	GD. TRAVERSE, PARADISE-25N,10W,16	3795	1,889	8 L	--	DUNDEE	1,897	3		1978		400	0	0	0	0	0	0
G-C	PARADISE 03-25N-10W	NIAGARAN	1975	GD. TRAVERSE, PARADISE-25N,10W,3	3795	6,519	183 D	67	NIAGARAN	6,890	1	0	0	1	160	21	17,573	160,273	765,008	109	0
G-C	PARADISE 07-25N-10W	NIAGARAN	1980	GD. TRAVERSE, PARADISE-25N,10W,7	3795	6,120	220 D	59.7	NIAGARAN	6,904	1	1	0	1	80	0	0	0	0	0	0
GF	PARADISE 08-25N-10W	NIAGARAN	1979	GD. TRAVERSE, PARASISE-25N,10W,8	3795	6,551	52 L	--	NIAGARAN	6,683	2	1	0	2	160	0	0	0	0	0	0
OF	PARADISE 17-25N-10W	NIAGARAN	1979	GD. TRAVERSE, PARADISE-25N,10W,17	3795	6,451	148 L	49.5	NIAGARAN	6,603	3	1	0	3	160	1,518	1,641	62,363	62,363	10	0
G-C	PARADISE 18-25N-10W	NIAGARAN	1973	GD. TRAVERSE, PARADISE-25N,10W,18	3795	6,455	102 D	65.8	NIAGARAN	6,769	1	0	0	1	160	0	337	0	0	2	0
G-C	PARADISE 03-25N-10W P/A	NIAGARAN	1981	GD. TRAVERSE, PARADISE-25N,10W,03	3795	6,745	15 D	--	NIAGARAN	6,841	4	0	0	4	260	6,763	29,093	482,824	1,331,110	111	0
OF	PARADISE 19-26N-10W	SALINA-NIAGARAN	1975	GD. TRAVERSE, PARADISE-26N,10W,19	3795	5,750	102 D	43.8	NIAGARAN	6,034	1	0	0	1	80	9,084	56,009	15,132	219,518	700	23
OF	PARADISE 19-26N-10W P/A	NIAGARAN	1977	GD. TRAVERSE, PARADISE-26N,10W,19	3795	5,839	34 D	42	NIAGARAN	6,070	1	0	0	1	80	84,948	425,314	166,004	470,888	5,316	0
OF	PARADISE 20-26N-10W	NIAGARAN	1975	GD. TRAVERSE, PARADISE-26N,10W,20	3795	6,027	25 D	57?	NIAGARAN	6,252	1	0	0	1	80	8	22,970	11,695	499,677	287	0
OF	PARADISE 20-26N-10W P/A	NIAGARAN	1979	GD. TRAVERSE, PARADISE-26N,10W,20	3795	5,786	274 D	44.2	NIAGARAN	6,087	2	0	0	2	160	20,148	49,110	26,211	77,502	306	5
OF	PARADISE 21-26N-10W	NIAGARAN	1975	GD. TRAVERSE, PARADISE-26N,10W,21	3795	5,848	6 D	40	NIAGARAN	6,198	3	0	0	3	240	167,853	1,312,662	350,092	1,619,247	5,469	47
G-C	PARADISE 23-26N-10W	NIAGARAN	1974	GD. TRAVERSE, PARADISE-26N,10W,23	3795	6,310	27 D	70.5	NIAGARAN	6,588	1	0	0	1	80	2,249	148,569	653,688	6,134,958	1,857	0
G-C	PARADISE 24-26N-10W	NIAGARAN	1975	GD. TRAVERSE, PARADISE-26N-10W,24	3795	6,214	161 D	64.9	NIAGARAN	6,476	1	0	0	1	80	1,484	55,709	200,485	1,434,848	696	0
G-C	PARADISE 25-26N-10W	NIAGARAN	1977	GD. TRAVERSE, PARADISE-26N,10W,25	3795	6,554	46 D	63.1	NIAGARAN	6,751	2	0	0	2	160	158	39,028	94,755	1,167,653	243	0
G-C	PARADISE 26-26N-10W	NIAGARAN	1976	GD. TRAVERSE, PARADISE-26N,10W,26	3795	6,422	55 D	61.4	NIAGARAN	6,585	1	0	0	1	160	513	28,038	136,395	1,964,774	175	0
G-C	PARADISE 26-26N-10W P/A	NIAGARAN	1980	GD. TRAVERSE, PARADISE-26N,10W,26	3795	6,594	114 D	--	NIAGARAN	6,851	1	0	0	1	80	1,982	2,039	156,309	156,309	25	0
OF	PARADISE 27-26N-10W	SALINA-NIAGARAN	1976	GD. TRAVERSE, PARADISE-26N,10W,27	3795	6,060	230 D	46.3	NIAGARAN	6,448	3	0	0	3	240	9,511	73,917	33,746	279,638	307	0
G-C	PARADISE 27-26N-10W P/A	NIAGARAN	1979	GD. TRAVERSE, PARADISE-26N,10W,27	3795	6,317	127 L	--	NIAGARAN	6,584	1	0	0	1	80	2,317	4,296	55,758	103,108	53	0
G-C	PARADISE 28-26N-10W	NIAGARAN	1979	GD. TRAVERSE, PARADISE-26N,10W,28	3795	6,000	230 L	--	NIAGARAN	6,470	1	0	0	1	80	1,021	1,831	22,781	44,468	22	0
G-C	PARADISE 31-26N-10W	SALINA-NIAGARAN	1974	GD. TRAVERSE, PARADISE-26N,10W,31	3795	6,257	97 D	68.4	NIAGARAN	6,534	1	0	0	1	80	4,042	134,336	209,834	3,142,124	1,679	0
G-C	PARADISE 32-26N-10W	NIAGARAN	1974	GD. TRAVERSE, PARADISE-26N,10W,32	3795	6,087	231 D	60.0	NIAGARAN	6,582	2	0	0	2	160	836	10,905	10,771	133,554	68	0

TABLE 23 MICHIGAN OIL AND GAS FIELDS

POOL CLASS	FIELD OR POOL NAME	PRODUCING FORMATION	YEAR OF DISC.	COUNTY, TOWNSHIP – T, R, SEC. for DISCOVERY WELL only	MAP REF. NO.	DEPTH IN FEET	PAY ZONE THICK-NESS & LITHO	PAY ZONE API OIL GRAV	DEEPEST FORMATION TESTED FORMATION OR POOL NAME	DEEPEST FORMATION TESTED DEPTH IN FEET	NUMBER OF WELLS TO END 1981	NUMBER OF WELLS COMP. IN 1981	NUMBER OF WELLS ABND. IN 1981	NUMBER OF WELLS ACTIVE END OF 1981	ACRES DRILLED	OIL IN BBLS. PRODUCED IN 1981	OIL IN BBLS. CUMM. THROUGH 1981	GAS IN MCF PRODUCED IN 1981	GAS IN MCF CUMM. THROUGH 1981	RECOVERY PER ACRE DRILLED IN BBLS	TOTAL BARRELS OF BRINE PER DAY
G-C	PARADISE 33-26N-10W	NIAGARAN	1975	GD. TRAVERSE, PARADISE-26N,10W,33	3795	6,903	202 D	66.5	NIAGARAN	6,627	2	0	1	1	80	6,928	13,454	23,114	229,660	168	0
OF	PARADISE 33-26N-10W P/A	SALINA-NIAGARAN	1976	GD. TRAVERSE, PARADISE-26N,10W,33	3795	6,000	158 D	50.3	NIAGARAN	6,595	1	0	0	1	80	47	49,330	18,590	407,404	616	0
G-C	PARADISE 34-26N-10W	NIAGARAN	1975	GD. TRAVERSE, PARADISE-26N,10W,34	3795	6,332	236 D	70	NIAGARAN	6,808	1	0	0	1	80	913	5,958	52,289	327,707	74	0
G-C	PARADISE 35-26N-10W	NIAGARAN	1977	GD. TRAVERSE, PARADISE-26N,10W,35	3795	6,655	30 D	63.3	NIAGARAN	6,750MD	2	0	0	2	160	819	38,088	324,577	1,751,301	238	0
GF	PARIS	MICHIGAN STRAY	1951	MECOSTA, GREEN-16N,10W,21	3653	1,217	5 S	--	REED CITY	3,545	2	0	0	1	560	0	0	0	383,075	0	DOMESTIC
OF	PARIS	TRAVERSE	1949	MECOSTA, GREEN-16N,10W,21	3653	2,890	10 D	43.6	REED CITY		22	0	0	10	440	8,363	1,322,095	0	0	3,004	636
AGF	PARIS	DUNDEE	1949	MECOSTA, GREEN-16N,10W,28	3653	3,404	5 L	--	REED CITY		2		1959		20	0	0	0	267,208	0	0
AOF	PAW PAW	TRAVERSE	1963	VAN BUREN, PAW PAW-3S,14W,2	3758	1,096	2 L	41.4	TRENTON	2,912	8		1973		160	0	20,209	0	0	126	0
AOF	PAW PAW, SEC. 33	TRAVERSE	1964	VAN BUREN, PAW PAW-3S,14W,33	3758	1,028	1 L	38.0	TRAVERSE	1,032	1		1972		10	0	0	0	0	0	0
OF	PEACOCK	TRAVERSE	1966	LAKE, PEACOCK-19N,13W,9	3769	2,292	2 L	34.0	REED CITY	3,047	27	0	0	16	1,060	76,240	1,500,843	0	0	1,415	2,298
AOF	PEACOCK	REED CITY	1966	LAKE, PEACOCK-19N,13W,7	3769	3,001	4 D	--	REED CITY		1		1974		40	0	4,442	0	0	111	0
AOF	PECKS LAKE	DUNDEE	1967	OSCEOLA, EVART-17N,8W,18	3766	3,866	2 L	--	REED CITY	3,854	1		1969		40	0	2,885	0	0	72	0
OF	PENNFIELD 21-01S-07W	SALINA-NIAGARAN	1975	CALHOUN, PENNFIELD-1S,7W,21	3843	2,743	48 D	27.2	NIAGARAN	2,850	2	0	0	2	160	12,510	84,471	0	0	527	470
OF	PENNFIELD 21-01S-07W P/A	NIAGARAN	1979	CALHOUN, PENNFIELD-01S,07W,21	3843	2,824	31 D	25.6	NIAGARAN	3,000	1	0	0	1	80	20,893	60,236	0	0	752	0
OF	PENNFIELD 29-01S-07W	SALINA-NIAGARAN	1973	CALHOUN, PENNFIELD-1S,7W,29	3843	2,676	70 D	--	NIAGARAN	3,001	2	0	0	2	160	21,176	290,715	0	0	1,816	20
OF	PENNFIELD 29-01S-07W P/A	SALINA-NIAGARAN	1976	CALHOUN, PENNFIELD-1S,7W,29	3843	2,681	113 D	18	NIAGARAN	2,815	1	0	0	1	80	5,349	55,590	0	0	694	100
OF	PENNFIELD 35-01S-07W	SALINA-NIAGARAN	1974	CALHOUN, PENNFIELD-1S,7W,35	3843	2,840	26 D	23.6	NIAGARAN	3,320	13	0	0	10	880	119,022	1,929,251	22,856	413,007	2,192	3,223
OF	PENTWATER	TRAVERSE	1948	OCEANA, WEARE-16N,17W,6	3625	1,585	8 L	40.4	PRAIRIE DU CHIEN	5,383	143	0	0	47	1,400	12,087	SEE	PENTWATER	DUNDEE		0
OF	PENTWATER	DUNDEE	1948	OCEANA, WEARE-16N,17W,6	3625	2,088	10 D	43.1	PRAIRIE DU CHIEN						2,000	2,998	6,811,304	0	1,005,224	2,003	327
GF	PENTWATER	A-2 CARBONATE	1973	OCEANA, WEARE-16N,17W,8	3934	3,470	40 L	--	PRAIRIE DU CHIEN		2	0	0	1	0	0	0	SHUT-IN	0	0	0
OF	PENTWATER LAKE	TRAVERSE	1969	OCEANA, PENTWATER-16N,18W,26	3934	1,612	2 L	--	NIAGARAN	4,078	3	0	0	3	120	2,189	111,130	0	0	926	45
OF	PETERS	SALINA-NIAGARAN	1955	ST. CLAIR, CASCO-4N,15E,22	3737	2,386	47 D	39.0	NIAGARAN	2,842	89	0	0	63	1,780	71,438	5,634,768	480,761	21,227,425	3,165	368
OF	PETERS, EAST	SALINA-NIAGARAN	1961	ST. CLAIR, CASCO-4N,15E,24	3737	2,590	17 D	41.6	NIAGARAN	2,777	9	0	0	8	360	SEE	PETERS				49
AOF	PINCONNING	TRAVERSE	1953	BAY, PINCONNING-17N,4E,25	3622	2,151	1 L	--	DETROIT RIVER	3,790	1		1960		10	SEE	PINCONNING	DUNDEE			0
OF	PINCONNING	DUNDEE	1944	BAY, FRASER-16W,4E,2	3622	2,898	7 D	36.2	DETROIT RIVER		12	0	0	2	100	3,355	895,512	0	0	8,955	75
AOF	PINE	TRAVERSE	1938	MONTCALM, PINE-11N,8W,29	3454	2,836	1 L	45.0	DUNDEE	3,308	2		1963		20	0	105,506	0	0	5,275	0
AOF	PINE RIVER	TRAVERSE	1956	GRATIOT, SEVILLE-12N,4W,36	3447	2,890	5 L	--	DUNDEE	3,285	1		1958		10	0	760	0	0	76	0
AOF	PINE RIVER	DUNDEE	1942	GRATIOT, PINE RIVER-12N,3W,31	3447	3,280	2 L	--	DUNDEE		2		1956		90	0	13,285	0	0	148	0
GF	PINE, SECS. 09 & 17	MICHIGAN STRAY	1951	MONTCALM, PINE-11N,8W,9	3454	1,251	1 S	--	DUNDEE	3,469	2	0	0	2	80	0	0	0	38,017	0	DOMESTIC
GF	PIONEER	TRAVERSE	1931	MISSAUKEE, PIONEER-24N,7W,24	3564	3,025	5 L	--	DUNDEE	3,583	1	0	0	1	40	0	0	SHUT-IN	0	0	0
AOF	PIPESTONE	TRAVERSE	1962	BERRIEN, PIPESTONE-5S,17W,24	3621	822	2 L	22.4	NIAGARAN	1,353	2		1966		20	0	85	0	0	4	0
OF	PLEASANTON 25-24N-15W	NIAGARAN	1977	MANISTEE, PLEASANTON-24N,15W,25	3807	4,490	7 D	39.3	NIAGARAN	4,775	1	0	0	1	80	10,236	88,786	0	16,879	1,109	140
OF	PLEASANTON 36-24N-15W	NIAGARAN	1974	MANISTEE, PLEASANTON-24N,15W,36	3807	4,474	16 D	40.6	NIAGARAN	4,620	4	0	0	4	240	121,568	1,054,402	85,046	613,308	4,393	183
OF	POLKTON	TRAVERSE	1942	OTTAWA, POLKTON-8N,14W,15	3756	1,878	2 L	37.8	DUNDEE	2,351	13	0	0	3	170	2,038	86,194	0	0	507	2
OF	PONTIAC 25-03N-10E	NIAGARAN	1980	OAKLAND, PONTIAC-3N,10E,25	3665	3,663	5 D	--	NIAGARAN	3,563	1	0	0	1	160	3,044	3,196	0	0	19	6
AOF	PORT HURON	DUNDEE	1886	ST. CLAIR, PORT HURON-6N,17E,32	3689	575	20 L	--	CAMBRIAN	4,948	21		1921		Est. 15	0	NO RECORD	0	0	0	0
GF	PORT HURON 31-07N-17E	NIAGARAN	1975	ST. CLAIR, PORT HURON-7N,17E,31	3689	3,242	55 D	--	NIAGARAN	3,297	1	0	0	1	40	0	0	1,064	9,679	0	0
GF	PORT HURON 33-07N-17E	NIAGARAN	1971	ST. CLAIR, PORT HURON-7N,17E,33	3689	3,160	10 D	--	NIAGARAN	3,185	1	0	0	1	160	0	0	1,490	18,998	0	0
OF	PORTER	BEREA	1981	MIDLAND, PORTER-13N,01W,10	3309A	2,301	35 S	--	DUNDEE	3,477	1	1	0	1	10	0	0	0	0	0	0
OF	PORTER	DUNDEE	1933	MIDLAND, PORTER-13N,1W,22	3309A	3,415	12 L	40.6	BLACK RIVER	9,519	553	1	1	127	6,740	83,063	50,193,019	0	4,965,878	7,447	6,635
OF	PROSPER	TRAVERSE	1980	MISSAUKEE, AETNA-22N,6W,35	3588	3,176	1 L	--	AMHERSTBURG	5,280	3	2	0	3	120	4,066	4,342	0	0	36	112
GF	PROSPER	MICHIGAN STRAY	1948	MISSAUKEE, CLAM UNION-21N,6W,2	3877	1,269	6 S	--	RICHFIELD	5,254	3	0	0	2	480	0	0	0	155,940	0	LEASE FUEL
OF	PROSPER	DUNDEE	1942	MISSAUKEE, AETNA-22N,6W,26	3588	3,837	4 L	43.2	RICHFIELD	5,254	13	0	0	6	520	12,534	1,855,960	0	0	3,569	3,120
AOF	PROSPER	RICHFIELD	1954	MISSAUKEE, AETNA-22N,6W,35	3588	5,128	21 D	--	RICHFIELD		1		1957		40	0	7,088	0	0	177	0
OF	PROSPER, SOUTH	DUNDEE	1967	MISSAUKEE, AETNA-22N,6W,36	3588	3,798	8 D	--	DUNDEE	3,808	7	0	0	6	280	21,614	981,272	0	0	3,504	900
OF	PROSPER, SOUTH	RICHFIELD	1979	MISSAUKEE, AETNA-22N,6W,36	3588	5,088	16 D	44	AMHERSTBURG	5,240	1	0	0	1	40	565	1,377	0	0	34	0
GF	PULAWSKI 12-34N-06E	SALINA-NIAGARAN	1976	PRESQUE ISLE, PULAWSKI-34N,6E,12	3858	2,369	76 D	--	NIAGARAN	2,840	2	0	0	2	160	0	0	SHUT-IN	0	0	0
AOF	PULLMAN	TRAVERSE	1949	ALLEGAN, CASCO-1N,16W,11	3604	1,185	1 L	--	BASS ISLANDS	1,942	9		1951		90	0	26,840	0	0	298	0
OF	PULLMAN, EAST	TRAVERSE	1949	ALLEGAN, LEE-1N,15W,6	3639	1,131	2 L	39.0	TRENTON	3,020	25	0	0	10	250	1,064	400,316	0	0	1,601	66
AGF	PULLMAN, EAST	A-2 CARBONATE	1961	ALLEGAN, LEE-1N,15W,5	3639	1,645	7 D	--	TRENTON		3		1968		480	0	0	0	27,770	0	0
AOF	RABBIT RIVER	TRAVERSE	1950	ALLEGAN, SALEM-4N,13W,32	3501	1,655	3 L	--	TRAVERSE	1,678	8		1959		80	0	12,745	0	0	159	0
G-C	RAPID RIVER 05-28N-07W	NIAGARAN	1976	KALKASKA, RAPID RIVER-28N,7W,5	3781	5,915	10 D	--	NIAGARAN	6,197	3	0	0	3	480	3,674	33,233	142,991	845,649	69	50
AOF	RAPID RIVER 17-28N-07W	TRAVERSE	1972	KALKASKA, RAPID RIVER-28N,7W,17	3781	1,521	10 L	--	NIAGARAN	6,351	1		1973		40	0	429	0	0	11	0
OF	RAPID RIVER 24-28N-07W	NIAGARAN	1970	KALKASKA, RAPID RIVER-28N,7W,24	3781	6,590	44 D	50	NIAGARAN	6,810	9	0	0	9	720	105,987	1,302,210	2,064,458	16,916,072	1,808	315
OF	RAPID RIVER 24-28N-07W P/A	NIAGARAN	1972	KALKASKA, RAPID RIVER-28N,7W,24	3781	6,407	20 D	42.3	NIAGARAN	6,805	1	0	0	1	80	6,870	77,936	0	46,182	974	128
OF	RAPID RIVER 27-28N-07W	NIAGARAN	1972	KALKASKA, RAPID RIVER-28N,7W,27	3781	6,487	29 D	47.2	NIAGARAN	6,850	5	0	0	3	160	20,511	270,514	384,116	2,865,381	1,690	185
OF	RAPID RIVER 27-28N-07W P/A	NIAGARAN	1972	KALKASKA, RAPID RIVER-28N,7W,27	3781	6,552	8 D	44	NIAGARAN	6,773	4	0	0	3	240	32,132	436,419	249,275	2,603,133	1,818	347
OF	RAPID RIVER 32-28N-07W	NIAGARAN	1973	KALKASKA, RAPID RIVER-28N,7W,32	3781	6,413	20 D	43.5	NIAGARAN	6,550	7	0	0	6	520	177,842	2,197,881	472,886	3,713,428	4,226	493
OF	RAPID RIVER 33-28N-07W	NIAGARAN	1971	KALKASKA, RAPID RIVER-28N,7W,33	3781	6,522	14 D	52.4	NIAGARAN	6,764	3	0	0	3	200	36,931	389,460	685,655	6,877,486	1,947	40
OF	RAPID RIVER 33-28N-07W P/A	NIAGARAN	1972	KALKASKA, RAPID RIVER-28N,7W,33	3781	6,510	9 D	43.5	NIAGARAN	6,695	2	0	0	2	160	1,169	61,603	71,716	1,086,252	385	11
GF	RAVENNA	"BEREA"	1936	MUSKEGON, RAVENNA-9N,14W,8	3659	1,205	10 D	--	DUNDEE	2,306	31	0	0	5	4,480	0	0	0	1,461,245	0	DOMESTIC
OF	RAVENNA	TRAVERSE	1952	MUSKEGON, RAVENNA-9N,14W,29	3659	1,842	15 L	--	DETROIT RIVER	2,601	37	0	0	1	730	450	460,692	0	0	631	1
GF	RAVENNA, SEC. 27	"BEREA"	1953	MUSKEGON, RAVENNA-9N,14W,27	3659	1,182	6 D	--	DUNDEE	2,500	3	0	0	2	480	0	0	0	32,888	0	DOMESTIC
AOF	READING	TRENTON	1971	HILLSDALE, READING-7S,4W,29	3697	3,100	10 D	42	BLACK RIVER	3,478	2*		1973		80	0	5,431	0	0	68	0
GF	REDDING	MICHIGAN STRAY	1940	CLARE, REDDING-19N,6W,27	3539	1,475	3 S	--	SYLVANIA	5,462	?	0	0	2	160	0	0	0	33,346	0	LEASE FUEL
OF	REED CITY	TRAVERSE	1941	OSCEOLA, LINCOLN-18N,10W,30	3857	2,925	5 L	43.7	ST. PETER SS.	8,917	?	0	0	4	1,600	3,924	3,712,343	0	386,527	2,320	255
OF	REED CITY	DUNDEE	1940	OSCEOLA, LINCOLN-18N,10W,31	3857	3,490	3 L	46.3	ST. PETER SS.						SEE	REED CITY		0	16,169,578	0	0
OF	REED CITY	REED CITY	1941	OSCEOLA, LINCOLN-18N,10W,30	3857	3,585	7 D	42.8	(LOREED UNIT-SEE TABLE 5)			0	0	171	5,320	48,870	42,407,989	0	0	7,971	1,405
OF	REED CITY	DETROIT RIVER SZ	1955	OSCEOLA, LINCOLN-18N,10W,30	3857	4,184	73 DL	48.2	ST. PETER SS.		45	0	0	21	1,800	39,596	2,674,208	0	3,457,308	1,485	98
OF	REED CITY	RICHFIELD	1954	OSCEOLA, LINCOLN-18N,10W,30	3857	4,633	12 SL	45.8	ST. PETER SS.							SEE	REED CITY	SOUR ZONE			
OF	REED CITY, EAST	TRAVERSE	1947	OSCEOLA, LINCOLN-18N,10W,26	3857	3,106	1 L	41.2	DETROIT RIVER	3,840	8	0	0	3	80	0	393,304	0	18,468	4,916	0
AGF	REEDER	MICHIGAN STRAY	1964	MISSAUKEE, REEDER-11N,7W,32	3876	1,385	4 S	--	DUNDEE	4,002	2		1966		320	0	0	0	0	0	0
AOF	REEMAN	TRAVERSE	1958	NEWAYGO, SHERIDAN-12N,14W,8	3581	2,099	1 L	--	TRAVERSE	2,100	3		1967		30	0	44,886	0	0	1,496	0
OF	REYNOLDS	TRAVERSE	1955	MONTCALM, REYNOLDS-12N,10W,1	3678	2,787	4 D	39.8	BASS ISLANDS	4,300	16	0	0	5	110	11,242	SEE	REED CITY			565
OF	REYNOLDS	REED CITY	1954	MONTCALM, REYNOLDS-12N,10W,1	3678	3,343	2 D	44.3	BASS ISLANDS		53	0	0	8	2,100	13,315	4,778,901	0	406,336	2,162	995

TABLE 23 MICHIGAN OIL AND GAS FIELDS

POOL CLASS	FIELD OR POOL NAME	PRODUCING FORMATION	YEAR OF DISC.	COUNTY, TOWNSHIP – T, R, SEC. for DISCOVERY WELL only	MAP REF. NO.	DEPTH IN FEET	PAY ZONE THICK-NESS & LITHO	PAY ZONE API OIL GRAV	DEEPEST FORMATION TESTED FORMATION OR POOL NAME	DEEPEST FORMATION TESTED DEPTH IN FEET	NUMBER OF WELLS TO END 1981	NUMBER OF WELLS COMP. IN 1981	NUMBER OF WELLS ABND. IN 1981	NUMBER OF WELLS ACTIVE END OF 1981	ACRES DRILLED	OIL IN BBLS. PRODUCED IN 1981	OIL IN BBLS. CUMM. THROUGH 1981	GAS IN MCF PRODUCED IN 1981	GAS IN MCF CUMM. THROUGH 1981	RECOVERY PER ACRE DRILLED IN BBLS	TOTAL BARRELS OF BRINE PER DAY
GF	RICH	BEREA	1970	LAPEER, RICH-10N,10E,21	3765	1,380	29 S	--	SYLVANIA	3,267	7	0	0	7	1,000	0	138	0	0	0	0
OF	RICH	DETROIT RIVER SZ	1962	LAPEER, RICH-10N,10E,28	3765	3,028	5 D	33.9	SYLVANIA		47	8	2	41	1,840	265,034	1,679,588	203,634	621,701	912	312
AOF	RICHLAND	TRAVERSE	1936	SAGINAW, RICHLAND-12N,2E,31	3578	2,739	10 L	46.0	DUNDEE	3,264	1		1936		10	0	1,871	0	0	187	0
AGF	RICHLAND, SEC. 27	MICHIGAN STRAY	1963	MONTCALM, RICHLAND-12N,5W,27	3454	1,247	1 S	--	DUNDEE	3,530	1		1964		160	0	0	0	0	0	0
AGF	RICHMOND	NIAGARAN	1968	MACOMB, RICHMOND-5N,14E,26	3840	3,195	12 D	--	NIAGARAN	3,254	1		1976		40	0	0	0	179,249	0	0
GF	RICHMOND, SEC. 32	NIAGARAN	1979	MACOMB, RICHMOND-5N,14E,32	3840	3,247	21 D	--	NIAGARAN	3,326	1	0	0	1	40	0	0	0	0	0	0
AOF	RIDGEWAY, SEC. 01	TRENTON	1954	LENAWEE, RIDGEWAY-6S,5E,1	3698	2,415	4 D	--	TRENTON	2,491	1		1962		10	0	47	0	0	5	0
OF	RIVERSIDE	TRAVERSE	1961	MISSAUKEE, RIVERSIDE-21N,7W,23	3571	3,220	2 L	42.6	DUNDEE	3,953	1	0	0	1	10	112	23,592	0	0	2,359	25
OF	RIVERSIDE	DUNDEE	1942	MISSAUKEE, RIVERSIDE-21N,7W,14	3571	3,944	3 L	44.5	DUNDEE		6	0	0	6	220	13,798	196,836	0	0	894	1,720
AOF	RIVERTON	TRAVERSE	1957	MASON, RIVERTON-17N,17W,10	3716	1,650	6 L	38.5	DUNDEE	2,317	19		1971		190	0	242,206	0	0	1,275	0
OF	RIVERTON, SEC. 21	TRAVERSE	1964	MASON, RIVERTON-17N,17W,21	3627	1,683	4 L	38.2	DUNDEE	2,290	3	0	0	2	30	1,600	20,814	0	0	693	5
AOF	ROBINSON, SEC. 03	DUNDEE	1956	OTTAWA, ROBINSON-7N,15W,3	3548	2,107	7 L	--	DUNDEE	2,210	2		1972		20	0	10,630	0	0	531	0
OF	ROCKFORD	TRAVERSE	1945	KENT, ALGOMA-9N,11W,25	3609	2,204	3 L	44.0	DETROIT RIVER	2,850	23	0	0	3	210	4,891	579,746	0	0	2,760	470
GF	ROLLAND	MICHIGAN STRAY	1978	ISABELLA, ROLLAND-13N,6W,13	3889	1,314	14 S	--	MICHIGAN STRAY	1,328	2	0	0	2	80	0	0	0	0	0	0
OF	ROLLAND	DUNDEE	1979	ISABELLA, ROLLAND-13N,6W,24	3889	3,560	6 D	--	REED CITY	3,755	5	3	0	5	200	15,851	20,165	0	0	100	465
AGF	ROMULUS	A-1 CARBONATE	1955	WAYNE, ROMULUS-3S,9E,16	3664	1,980	20 D	--	NIAGARAN	2,259	2		1972		320	0	0	0	45,946	0	0
OF	ROSE CITY	RICHFIELD	1942	OGEMAW, FOSTER-24N,2E,33	3658	4,125	9 D	41.2	CAMBRIAN	12,996	134	2	0	71	5,200	221,291	8,157,383	68,995	9,500,882	1,568	205
OF	ROSE LAKE	TRAVERSE	1943	OSCEOLA, ROSE LAKE-19N,19W,31	3594	3,140	5 L	45.5	DETROIT RIVER	3,990	18	0	0	6	720	11,385	1,947,890	0	0	2,705	865
OF	ROSEBUSH	DUNDEE	1933	ISABELLA, DENVER-15N,3W,7	3098A	3,690	6 L	42.0	RICHFIELD	4,838	46	0	0	33	1,020	25,813	2,435,799	0	0	2,388	528
OF	ROSEBUSH	RICHFIELD	1969	ISABELLA, VERNON-16N,4W,36	3630	4,790	4 D	--	RICHFIELD					80	SEE	ROSEBUSH	DUNDEE				
GF	ROTHBURY	"BEREA"	1978	OCEANA, GRANT-13N,17W,14	3455	1,103	3 S	--	BEREA	1,120	1	0	0	1	40	0	0	0	0	0	0
OF	SAGE	DUNDEE	1971	GLADWIN, SAGE-19N,2W,12	3440	3,867	2 L	--	DETROIT RIVER	4,235	4	0	0	3	120	559	72,432	0	0	603	0
OF	SAGINAW	BEREA	1925	SAGINAW, SAGINAW-12N,4E,14	3578	1,825	16 S	46.1	SYLVANIA	3,920	?	0	0	5	1,500	5,400	1,720,800	0	0	1,147	6
OF	SALEM	TRAVERSE	1937	ALLEGAN, SALEM-4N,13W,24	3501	1,583	8 L	38.3	TRENTON	4,347	337	0	1	82	3,390	32,462	9,406,778	0	0	2,774	246
AGF	SALEM	DETROIT RIVER	1958	ALLEGAN, SALEM-4N,13W,16	3501	1,969	6 D	--	TRENTON		3		1966		320	0	0	0	50,574	0	0
OF	SALEM	SALINA	1941	ALLEGAN, SALEM-4N,13W,21	3715	2,725	2 D	--	TRENTON						SEE	GAS	STORAGE	AND	MISC IN	ABANDONED	TOTALS
OF	SANFORD	TRAVERSE	1959	MIDLAND, JEROME-15N,1W,13	3669	3,125	2 L	--	DETROIT RIVER	4,811	13	0	0	10	260	333	214,896	0	0	826	5
OF	SANFORD	DUNDEE	1951	MIDLAND, JEROME-15N,1W,13	3669	3,755	3 L	42.6	DETROIT RIVER							2,414	SEE	SANFORD	TRAVERSE	CUM	
OF	SAUBLE	TRAVERSE	1942	LAKE, SAUBLE-19N,14W,16	3570	2,111	2 L	35.6	TRAVERSE	2,156	5	0	0	1	200	365	146,018	0	0	730	20
OF	SCOTTVILLE	TRAVERSE	1961	MASON, AMBER-18N,17W,14	3751	1,646	3 L	34.6	CINCINNATIAN	5,129	17	0	0	2		SEE	REED CITY				0
OF	SCOTTVILLE	REED CITY	1962	MASON, AMBER-18N,17W,14	3751	2,319	3 L	37.2	CINCINNATIAN		11	0	0	2	420	1,848	531,961	0	0	1,266	55
AGF	SEARS	MICHIGAN STRAY	1964	OSCEOLA, SYLVAN-18N,7W,32	3635	1,492	12 S	--	DUNDEE	3,988	1		1965		160	0	0	0	0	0	0
AOF	SECORD	DUNDEE	1937	GLADWIN, SECORD-19N,1E,11	3440	3,437	5 L	38.0	DUNDEE	3,500	2		1941		20	0	12,024	0	0	601	0
AOF	SHELBY	TRAVERSE	1951	OCEANA, BENONA-14N,18W,18	3931	1,743	3 L	43.0	DUNDEE	2,234	20		1971		350	0	228,092	0	0	652	0
GF	SHERIDAN	MICHIGAN STRAY	1935	MECOSTA, SHERIDAN-15N,7W,13	3453	1,375	2 S	--	DUNDEE	3,904	5	0	0	1	480	0	0	0	276,801	0	DOMESTIC
AOF	SHERIDAN, SEC. 25	TRAVERSE	1951	NEWAYGO, SHERIDAN-12N,14W,25	3581	2,204	1 L	--	TRAVERSE	2,205	1		1955		10	0	628	0	0	63	0
OF	SHERMAN	DUNDEE	1936	ISABELLA, BROOMFIELD-14N,6W,4	3477	3,650	4 D	42.0	SYLVANIA	4,994	88	0	0	5	1,020	6,443	4,778,234	0	637,734	4,684	373
AOF	SHERMAN, SEC. 18	TRAVERSE	1939	ISABELLA, SHERMAN-15N,6W,18	3477	3,217	4 L	--	DUNDEE	3,835	3		1947		20	0	1,364	0	0	68	0
OF	SKEELS	TRAVERSE	1955	CLARE, FRANKLIN-20N,3W,25	3666	3,102	6 L	38.4	SYLVANIA	6,016	4	0	0	2	40	311	46,808	0	0	1,170	2
OF	SKEELS	DUNDEE	1950	GLADWIN, SHERMAN-20N,2W,30	3666	3,840	7 D	39.6	SYLVANIA		5	0	0	4	50	2,728	1,000,617	0	0	20,012	2
OF	SKEELS	DETROIT RIVER SZ	1942	CLARE, FRANKLIN-20N,3W,25	3666	4,844	4 D	47.4	SYLVANIA		31	0	0	24	1,280	15,275	1,353,657	0	0	1,057	2
OF	SKEELS	RICHFIELD	1953	CLARE, FRANKLIN-20N,3W,25	3666	5,080	17 D	44.8	SYLVANIA						1,240	SEE	SKEELS	DETROIT	RIVER	SOUR ZONE	
AGF	SOUTH BRANCH	RICHFIELD	1968	CRAWFORD, SOUTH BRANCH-25N,1W,32	3623	4,203	12 D	--	DETROIT RIVER	4,436	1		1971		40	0	0	0	0	0	0
OF	SPRINGDALE 20-24N-14W	NIAGARAN	1978	MANISTEE, SPRINGDALE-24N,14W,20	3802	4,764	6 D	40.9	NIAGARAN	4,915	1	0	0	1	80	87,401	369,090	66,819	252,265	4,613	56
OF	SPRINGDALE 21-24N-14W	NIAGARAN	1975	MANISTEE, SPRINGDALE-24N,14W,21	3802	4,883	24 D	39.0	NIAGARAN	5,085	4	0	0	3	320	177,074	1,284,592	233,451	1,002,087	4,014	39
OF	SPRINGDALE 25-24N-14W	NIAGARAN	1972	MANISTEE, SPRINGDALE-24N,14W,25	3802	5,006	71 D	43.2	NIAGARAN	5,448	1	0	0	1	40	50,245	429,437	85,112	725,230	10,735	10
OF	SPRINGDALE 26-24N-14W	NIAGARAN	1974	MANISTEE, SPRINGDALE-24N,14W,26	3802	5,094	12 D	44.5	NIAGARAN	5,195	3	0	0	3	240	115,837	992,749	255,338	1,218,331	4,136	0
OF	SPRINGDALE 28-24N-14W	SALINA-NIAGARAN	1973	MANISTEE, SPRINGDALE-24N,14W,28	3802	4,719	134 D	34.4	NIAGARAN	5,180	2	0	0	2	160	88,304	673,870	90,988	420,445	4,211	116
OF	SPRINGDALE 29-24N-14W	NIAGARAN	1976	MANISTEE, SPRINGDALE-24N,14W,29	3802	4,633	14 D	--	NIAGARAN	4,959	1	0	0	1	80	9,416	59,421	0	4,280	742	123
OF	SPRINGDALE 32-24N-14W	NIAGARAN	1974	MANISTEE, SPRINGDALE-24N,14W,32	3802	4,634	16 D	41.9	NIAGARAN	5,050	2	0	0	2	240	19,004	64,929	0	0	270	124
OF	SPRINGDALE 34-24N-14W	SALINA-NIAGARAN	1974	MANISTEE, SPRINGDALE-24N,14W,34	3802	4,764	168 D	68.0	NIAGARAN	5,315	2	0	0	2	80	18,738	75,551	24,444	569,626	944	61
OF	SPRINGDALE 34-24N-14W P/A	NIAGARAN	1975	MANISTEE, SPRINGDALE-24N,14W,34	3802	4,995	18 D	40.6	NIAGARAN	5,180	2	0	0	2	160	154,222	882,017	151,909	529,577	5,512	143
OF	SPRINGDALE 35-24N-14W	NIAGARAN	1978	MANISTEE, SPRINGDALE-24N,14W,35	3802	5,026	119 D	47.2	NIAGARAN	5,417	1	0	0	1	80	8,568	68,212	17,532	211,514	852	4
AOF	SPRINGPORT	TRENTON-BLK. RIVER	1960	JACKSON, SPRINGPORT-1S,3W,11	3914	4,696	12 D	46.5	PRAIRIE DU CHIEN	5,250	2		1970		80	0	3,430	0	0	43	0
AOF	ST. CHARLES	TRAVERSE	1957	SAGINAW, ST. CHARLES-10N,3E,26	3578	2,305	3 L	51.6	TRAVERSE	2,308	1		1967		10	0	13,250	0	0	1,325	0
AGF	ST. CLAIR, SEC. 18	SALINA-NIAGARAN	1953	ST. CLAIR, ST. CLAIR-5N,17E,18	3750	2,567	2 D	--	CINCINNATIAN	3,240	1		1961		160	0	0	0	16,423	0	0
OF	ST. HELEN	RICHFIELD	1941	ROSCOMMON, AU SABLE-24N,1W,29	3555	4,180	11 D	43.3	SALINA	5,440	123	6	0	72	4,440	332,682	7,093,030	557,800	12,651,134	1,597	1,393
OF	ST. MARY'S LAKE	TRAVERSE	1968	MASON, RIVERTON-17N,17W,35	3627	1,641	3 L	--	TRAVERSE	1,644	2	0	0	2	40	179	28,791	0	0	719	25
AOF	STANDISH	RICHFIELD	1948	ARENAC, LINCOLN-18N,4E,10	3728	4,108	3 D	35.4	RICHFIELD	4,210	9		1967		360	0	147,062	0	0	409	0
OF	STANTON	TRAVERSE	1951	MONTCALM, DOUGLASS-11N,7W,26	3670	2,916	7 DL	43.0	DUNDEE	3,492	17	0	0	5	340	6,167	1,011,757	0	0	2,975	66
OF	STARRVILLE	NIAGARAN	1967	ST. CLAIR, COTTRELLVILLE-3N,16E,9	3738	2,336	5 D	--	NIAGARAN	2,396	3	0	0	3	120	883	134,953	0	0	1,124	8
OF	STERLING	TRAVERSE	1948	ARENAC, DEEP RIVER-19N,4E,18	3580	1,970	5 L	36.2	RICHFIELD	4,285	22	0	0	16	220	3,751	301,994	0	0	1,372	6
OF	STERLING	DUNDEE	1947	ARENAC, DEEP RIVER-19N,4E,18	3580	2,872	17 L	33.6	RICHFIELD		20	0	0	17	200	7,020	472,078	0	0	2,360	7
OF	STERLING	DETROIT RIVER SZ	1952	ARENAC, DEEP RIVER-19N,4..,17	3580	3,918	5 D	41.1	RICHFIELD		42	1	0	36	1,870	32,908	1,986,848	0	0	1,062	1
OF	STERLING	RICHFIELD	1950	ARENAC, DEEP RIVER-19N,4E,17	3580	4,153	8 D	37.6	RICHFIELD							SEE	STERLING	DETROIT	RIVER	SOUR ZONE	
OF	STERLING, SEC. 30	RICHFIELD	1980	ARENAC, DEEP RIVER-19N,4E,30	3580	4,265	15 D	38	AMHERSTBURG	4,344	16	4	0	6	240	7,703	9,459	0	0	39	4
OF	STOCKBRIDGE 06-01N-02E	A-1 CARBONATE	1972	INGHAM, STOCKBRIDGE-1N,2E,6	3828	3,960	12 D	33.6	NIAGARAN	4,471	3	0	0	2	200	1,060	67,661	0	16,776	338	400
OF	STOCKBRIDGE 07-01N-02E	A-1 CARBONATE	1974	INGHAM, STOCKBRIDGE-1N,2E,7	3828	3,906	10 D	--	NIAGARAN	4,445	1	0	0	1	80	712	16,611	0	SHUT-IN	185	200
AOF	STONY LAKE	"BEREA"	1949	OCEANA, CLAYBANKS-13N,18W,9	3618	930	1 SL	48.0	NIAGARAN	3,837	2		1965			SEE	STONY	LAKE	TRAVERSE		
OF	STONY LAKE	TRAVERSE	1946	OCEANA, CLAYBANKS-13N,18W,11	3618	1,630	19 L	44.9	NIAGARAN		80	0	0	11	1,540	1,772	7,576,475	0	0	4,919	264
AOF	SUMMERFIELD	TRENTON-BLK. RIVER	1958	MONROE, SUMMERFIELD-7S,6E,30	3505	1,940	10 DL	--	TRENTON-BLACK RIVER	2,382	2		1964		20	0	2,142	0	0	107	0
OF	SUMNER	TRAVERSE	1953	GRATIOT, SUMNER-11N,4W,11	3720	2,853	1 L	44.5	DUNDEE	3,366	35	0	0	18	350	7,188	1,141,111	0	0	3,260	720
GF	SURREY	MICHIGAN STRAY	1945	CLARE, SURREY-17N,5W,23	3496	1,460	3 S	--	DUNDEE	4,000	?	0	0	2	320	0	0	0	12,920	0	DOMESTIC
AGF	SYLVAN	MICHIGAN STRAY	1941	OSCEOLA, SYLVAN-18N,7W,7	3635	1,525	10 S	--	DETROIT RIVER	4,100	1		1953		40	0	0	0	82,328	0	0
OF	SYLVAN	DUNDEE	1948	OSCEOLA, SYLVAN-18N,7W,9	3635	3,925	14 D	48.0	DETROIT RIVER		11	0	0	2	440	2,661	1,208,902	0	0	2,747	200

TABLE 23 MICHIGAN OIL AND GAS FIELDS

POOL CLASS	FIELD OR POOL NAME	PRODUCING FORMATION	YEAR OF DISC.	COUNTY, TOWNSHIP – T, R, SEC. for DISCOVERY WELL only	MAP REF. NO.	DEPTH IN FEET	PAY ZONE THICK-NESS & LITHO	PAY ZONE API OIL GRAV	DEEPEST FORMATION TESTED FORMATION OR POOL NAME	DEEPEST FORMATION TESTED DEPTH IN FEET	NUMBER OF WELLS TO END 1981	NUMBER OF WELLS COMP. IN 1981	NUMBER OF WELLS ABND. IN 1981	NUMBER OF WELLS ACTIVE END OF 1981	ACRES DRILLED	OIL IN BBLS. PRODUCED IN 1981	OIL IN BBLS. CUMM. THROUGH 1981	GAS IN MCF PRODUCED IN 1981	GAS IN MCF CUMM. THROUGH 1981	RECOVERY PER ACRE DRILLED IN BBLS	TOTAL BARRELS OF BRINE PER DAY
GF	TAYMOUTH	TRAVERSE	1957	SAGINAW, TAYMOUTH-10N,5E,11	3578	2,085	6 L	--	TRAVERSE	2,135	1	0	0	1	160	147	465	0	SHUT-DOWN	2	0
AOF	TEKONSHA	TRENTON	1959	CALHOUN, TEKONSHA-4S,6W,17	3845	3,553	? DL	34.5	PRAIRIE DU CHIEN	4,147	4		1976		90	0	19,309	0	SHUT-IN	215	0
AOF	THOMPSON CORNERS	TRAVERSE	1968	NEWAYGO, BEAVER-15N,14W,30	3581	2,138	2 L	--	TRAVERSE	2,140	1		1973		40	0	9,374	0	0	234	0
AOF	THORNAPPLE, SEC. 04	TRAVERSE	1952	BARRY, THORNAPPLE-4N,10W,4	3551	1,951	2 L	--	TRAVERSE	1,973	2		1961		20	0	2,716	0	0	136	0
AOF	TRENT	TRAVERSE	1949	MUSKEGON, CASNOVIA-10N,13W,19	3557	2,039	1 L	--	TRAVERSE	2,118	2		1969		40	0	30,771	0	0	769	0
OF	TROWBRIDGE	TRAVERSE	1937	ALLEGAN, TROWBRIDGE-1N,13W,29	3562	1,358	2 L	41.2	CINCINNATIAN	2,952	165	3	0	7	1,940	1,449	528,721	0	0	272	96
GF	TURK LAKE	MICHIGAN STRAY	1947	MONTCALM, MONTCALM-10N,8W,9	3454	1,081	4 S	--	DETROIT RIVER	3,413	4	0	0	1	640	0	0	0	221,936	0	DOMESTIC
AOF	TYRONE	TRAVERSE	1952	KENT, TYRONE-10N,12W,10	3546	2,379	2 L	--	DETROIT RIVER	2,900	7		1956		140	0	31,558	0	0	225	0
AOF	UNION	TRAVERSE	1950	ISABELLA, UNION-14N,4W,20	3477	3,191	2 L	--	DETROIT RIVER	4,096	1		1963		20	0	58,263	0	55,053	2,913	0
G-C	UNION 01-26N-09W	NIAGARAN	1972	GD. TRAVERSE, UNION-26N,9W,1	3787	6,380	78 D	--	NIAGARAN	6,865	1	0	0	1	160	272	32,877	187,020	4,666,991	205	0
G-C	UNION 02-26N-09W	NIAGARAN	1973	GD. TRAVERSE, UNION-26N,09W,02	3787	6,215	335 D	61	NIAGARAN	6,745	2	0	0	2	240	3,389	170,384	913,544	12,247,297	709	0
G-C	UNION 03-26N-09W	NIAGARAN	1972	GD. TRAVERSE, UNION-26N,9W,3	3787	6,514	14 D	62.3	NIAGARAN	6,878	2	0	0	2	320	892	57,605	175,558	3,740,390	180	0
OF	UNION 03-26N-09W P/A	NIAGARAN	1981	GD. TRAVERSE, UNION-26N,09W,03	3787	6,557	10 D	--	NIAGARAN	6,681	1	1	0	1	80	2,747	2,747	0	0	34	0
OF	UNION 04-26N-09W	NIAGARAN	1981	GD. TRAVERSE, UNION-26N,09W,04	3787	6,170	6 D	--	NIAGARAN	6,601	1	1	0	1	80	1,946	1,946	0	0	24	140
G-C	UNION 05-26N-09W	NIAGARAN	1973	GD. TRAVERSE, UNION-26N,9W,5	3787	6,070	19 D	68.2	NIAGARAN	6,440	1	0	0	1	80	5,266	161,996	352,993	5,246,432	2,024	68
OF	UNION 06-26N-09W	SALINA-NIAGARAN	1974	GD. TRAVERSE, UNION-26N,9W,6	3787	5,936	184 D	64.5	NIAGARAN	6,475	3	0	0	3	320	31,036	218,964	310,310	6,463,590	684	50
G-C	UNION 08-26N-09W MUNCIE LKS	NIAGARAN	1970	GD. TRAVERSE, UNION-26N,9W,8	3787	6,267	97 D	63.6	NIAGARAN	6,666	2	0	0	2	320	4,007	122,922	449,449	10,788,932	384	0
G-C	UNION 11-26N-09W	NIAGARAN	1972	GD. TRAVERSE, UNION-26N,9W,11	3787	6,580	118 D	61.0	NIAGARAN	6,802	1	0	0	1	160	820	67,568	271,900	5,349,856	422	0
G-C	UNION 12-26N-09W P/A	NIAGARAN	1975	GD. TRAVERSE, UNION-26N,09W,12	3787	6,490	132 D	--	NIAGARAN	6,922	1	0	0	1	160	0	3,966	0	173,967	24	0
G-C	UNION 12-26N-09W S.BOARDMAN	NIAGARAN	1969	GD. TRAVERSE, UNION-26N,9W,12	3787	6,779	50 D	57.9	NIAGARAN	6,910	1	0	0	1	160	0	1,103	0	0	6	0
G-C	UNION 14-26N-09W	NIAGARAN	1973	GD. TRAVERSE, UNION-26N,9W,14	3787	6,660	24 D	59.0	NIAGARAN	6,860	1	0	0	1	160	1,360	50,335	340,888	3,724,955	314	0
G-C	UNION 16-26N-09W	NIAGARAN	1975	GD. TRAVERSE, UNION-26N,9W,16	3787	6,207	183 D	58.0	NIAGARAN	6,716	1	0	0	1	80	446	41,477	512,283	4,290,030	518	0
G-C	UNION 16-26N-09W P/A	NIAGARAN	1976	GD. TRAVERSE, UNION-26N,9W,16	3787	6,392	94 D	66	NIAGARAN	6,645	2	0	0	2	160	338	40,103	186,313	3,297,771	250	0
G-C	UNION 17-26N-09W	NIAGARAN	1978	GD. TRAVERSE, UNION-26N,9W,17	3787	6,448	20 D	68.8	NIAGARAN	6,540	1	0	0	1	160	1,047	7,838	63,110	646,779	48	0
G-C	UNION 18-26N-09W	NIAGARAN	1973	GD. TRAVERSE, UNION-26N,9W,18	3787	6,298	14 D	59.3	NIAGARAN	6,471	1	0	0	1	80	111	5,474	11,398	302,643	68	0
G-C	UNION 18-26N-09W P/A	NIAGARAN	1979	GD. TRAVERSE, UNION-26N,9W,18	3787	6,352	62 L	62.7	NIAGARAN	6,580	1	0	0	1	80	898	8,646	199,361	530,598	108	0
G-C	UNION 20-26N-09W	NIAGARAN	1978	GD. TRAVERSE, UNION-26N,9W,20	3787	6,400	80 D	76.2	NIAGARAN	6,731	2	0	0	1	160	4,371	39,574	1,489,998	4,082,453	247	0
G-C	UNION 21-26N-09W	NIAGARAN	1978	GD. TRAVERSE, UNION-26N,9W,21	3787	6,758	22 D	67.3	NIAGARAN	6,889	1	0	0	1	280	8,975	55,401	426,228	2,070,635	197	0
G-C	UNION 22-26N-09W	NIAGARAN	1978	GD. TRAVERSE, UNION-26N,9W,22	3787	6,740	10 D	76.3	NIAGARAN	6,881	1	0	0	1	80	13	16,759	37,362	1,616,613	209	0
G-C	UNION 28-26N-09W	NIAGARAN	1975	GD. TRAVERSE, UNION-26N,9W,28	3787	6,810	105 D	51.0	NIAGARAN	7,062	1	0	0	1	80	1,128	39,355	285,388	2,484,377	491	0
G-C	UNION 29-26N-09W	NIAGARAN	1980	GD. TRAVERSE, UNION-26N,9W,29	3787	6,808	28 D	--	NIAGARAN	7,095	1	1	0	1	80	0	0	0	0	0	0
G-C	UNION 29-26N-09W P/A	SALINA-NIAGARAN	1981	GD. TRAVERSE, UNION-26N,09W,29	3787	6,840	66 D	--	NIAGARAN	7,075	1	0	0	1	80	0	175	0	0	2	0
G-C	UNION 31-26N-09W	NIAGARAN	1978	GD. TRAVERSE, UNION-26N,9W,31	3787	6,608	176 D	68.8	NIAGARAN	7,082	1	0	0	1	160	422	2,993	73,616	182,843	18	0
GF	UNION, SEC. 06	MICHIGAN STRAY	1965	ISABELLA, UNION-14N,4W,6	3477	1,382	3 S	--	DUNDEE	3,777	2	0	0	2	320	0	0	0	22,394	0	0
OF	VASSAR	DETROIT RIVER SZ	1980	TUSCOLA, VASSAR-11N,8E,29	3576	3,190	19 D	--	SYLVANIA	3,554	1	0	0	1	40	0	0	0	0	0	0
OF	VERNON	DUNDEE	1930	ISABELLA, VERNON-16N,4W,27	3272	3,755	3 DL	38.6	DETROIT RIVER	3,907	25		1956		920	0	0	0	1,493,534	0	0
AGF	VERNON	MICHIGAN STRAY	1939	ISABELLA, VERNON-16N,4W,36	3272	1,300	2 S	--	AMHERSTBURG	4,840	1	0	0	1	40	11,202	11,912	0	0	297	6
OF	VERNON	DETROIT RIVER SZ	1980	ISABELLA, VERNON-16N,4W,35	3272	4,470	4 D	--	BOIS BLANC	5,118	78	1	0	2	890	1,354	5,056,538	0	0	5,681	800
AGF	VEVAY 08-02N-01W	NIAGARAN	1975	INGHAM, VEVAY-2N,1W,8	3779	4,140	44 D	43.8	NIAGARAN	4,312	1		1976		80	0	0	0	0	0	0
OF	VEVAY 16-02N-01W (MASON)	NIAGARAN	1970	INGHAM, VEVAY-2N,1W,16	3779	4,165	39 D	49.4	NIAGARAN	4,555	2	0	0	2	120	16,014	232,000	219,234	1,339,629	1,933	8
OF	VEVAY 17-02N-01W	NIAGARAN	1972	INGHAM, VEVAY-2N,1W,17	3779	4,162	12 D	--	NIAGARAN	4,300	3	0	0	3	240	29,111	283,394	107,860	752,362	1,180	12
AOF	VEVAY 19-02N-01W	TRAVERSE	1971	INGHAM, VEVAY-2N,1W,19	3779	2,141	65 L	37	CINCINNATIAN	4,600	3	1	0	1	80	7,718	20,648	0	0	258	0
GF	VEVAY 19-02N-01W P/A	NIAGARAN	1971	INGHAM, VEVAY-2N,1W,19	3779	3,942	24 D	46.8	CINCINNATIAN		2	0	0	1	320	4,083	211,513	13,295	2,807,026	660	29
OF	VEVAY 19-02N-01W P/B	NIAGARAN	1972	INGHAM, VEVAY-2N,1W,18	3779	4,030	50 D	42	CINCINNATIAN		4	0	0	4	640	22,081	370,850	418,409	5,625,742	579	0
OF	VEVAY 19-02N-01W P/C	NIAGARAN	1972	INGHAM, VEVAY-2N,1W,18	3779	4,142	50 D	--	CINCINNATIAN		1	0	0	1	160	8,935	84,669	141,003	799,803	529	0
AOF	VEVAY 20-02N-01W	NIAGARAN	1972	INGHAM, VEVAY-2N,1W,20	3779	3,939	2 D	--	PRAIRIE DU CHIEN	5,985	1		1976		80	0	17,013	0	126,542	213	0
G-C	VICTORY 05-19N-17W	NIAGARAN	1974	MASON, VICTORY-19N,17W,5	3801	4,199	200 D	69.0	NIAGARAN	4,779	1	0	0	1	80	0	2,083	378	149,769	26	0
GF	VICTORY 05-19N-17W P/A	NIAGARAN	1981	MASON, VICTORY-19N,17W,05	3801	4,470	13 D	--	NIAGARAN	4,601	1	1	0	1	80	443	443	41,901	41,901	5	0
G-C	VICTORY 07-19N-17W	NIAGARAN	1973	MASON, VICTORY-19N,17W,7	3801	4,052	369 D	61.2	NIAGARAN	4,730	3	0	0	3	240	8,476	98,217	224,594	1,741,932	409	56
OF	VICTORY 18-19N-17W	NIAGARAN	1973	MASON, VICTORY-19N,17W,18	3801	4,344	22 D	50.0	NIAGARAN	4,658	2	0	0	2	160	31,826	177,843	121,077	586,644	1,111	584
G-C	VICTORY 18-19N-17W P/A	NIAGARAN	1974	MASON, VICTORY-19N,17W,18	3801	4,467	5 D	73.3	NIAGARAN	4,555	2	0	0	2	160	151	11,899	52,080	953,100	74	260
OF	VICTORY 19-19N-17W	NIAGARAN	1972	MASON, VICTORY-19N,17W,19	3801	4,387	14 D	--	NIAGARAN	4,537	2	0	0	2	160	13,578	313,547	18,700	1,116,300	1,959	27
G-C	VICTORY 19-19N-17W P/A	NIAGARAN	1974	MASON, VICTORY-19N,17W,19	3801	4,358	16 D	69.2	NIAGARAN	4,516	2	0	0	2	160	783	48,763	317,967	6,188,523	304	0
AOF	VICTORY, SEC. 10	TRAVERSE	1957	MASON, VICTORY-19N,17W,10	3801	1,603	9 L	36.0	TRAVERSE	1,616	1		1958		10	0	580	0	0	58	0
OF	VOGEL CENTER	DUNDEE	1966	MISSAUKEE, CLAM UNION-21N,6W,32	3877	3,892	3 L	--	DUNDEE	3,895	2	0	0	1	80	1,036	50,524	0	0	631	250
GF	WALES 16-06N-15E	SALINA-NIAGARAN	1976	ST. CLAIR, WALES-6N,15E,16	3774	3,264	196 D	--	SALINA-NIAGARAN	3,650	3	0	1	2	120	14,423	42,982	17,364	475,114	358	7
GF	WALKER	BEREA, TRAV. & D.R.	1939	KENT, WALKER-6N,12W,4	3730			--	ST. PETER SS.	5,222	WELL COUNT	COMB.	WITH	TRAVERSE	220	435	50,386	0	0	227	4
OF	WALKER	BEREA	1940	KENT, WALKER-7N,12W,4	3730	1,121	21 SL	--	ST. PETER SS.		783	0	0	340	8,560	88,296	17,520,413	0	3,658,751	2,047	208
OF	WALKER	TRAVERSE	1938	KENT, WALKER-7N,12W,32	3730	1,872	8 L	36.0	ST. PETER SS.		1	0	0	1	10	SEE	WALKER	TRAVERSE			2
OF	WALKER	DETROIT RIVER	1957	KENT, WYOMING-6N,12W,2	3730	2,132	12 D	--	ST. PETER SS.		14	0	0	5	0	0	0	0	1,348,473	DOMESTIC	& LEASE
GF	WASHINGTON, SEC. 10	SALINA-NIAGARAN	1974	MACOMB, WASHINGTON-4N,12E,10	3813	3,304	179 D	--	NIAGARAN	3,635	17	2	0	17	840	7,982	17,959	2,240,386	6,203,388	21	0
GF	WASHINGTON, SEC. 10 P/A	NIAGARAN	1976	MACOMB, WASHINGTON-4N,12E,10	3813	3,352	234 D	--	SALINA-NIAGARAN	3,722	5	0	0	5	200	2,347	6,201	529,847	2,156,616	31	0
GF	WASHINGTON, SEC. 11	NIAGARAN	1965	MACOMB, WASHINGTON-4N,12E,11	3813	3,290	180 D	--	NIAGARAN	3,686	1	0	0	1	40	280	726	51,390	5,594,049	18	0
GF	WASHINGTON, SEC. 28	A-1 CARBONATE	1975	MACOMB, WASHINGTON-4N,12E,28	3813	3,357	18 D	--	NIAGARAN	3,546	•9	0	0	9	400	6,095	21,021	740,551	2,299,567	52	0
OF	WAYLAND	TRAVERSE	1944	ALLEGAN, WAYLAND-3N,11W,8	3650	1,799	6 L	36.0	TRENTON-BLK. RIVER	4,400	54	0	0	2	530	427	268,964	0	0	507	1
OF	WAYLAND	SALINA	1960	ALLEGAN, WAYLAND-3N,11W,17	3650A	3,132	12 D	28.0	TRENTON-BLK. RIVER		42	2	0	38	1,766	54,816	1,730,385	0	0	979	0
OF	WAYLAND, NORTH	TRAVERSE	1957	ALLEGAN, WAYLAND-3N,11W,6	3650	1,696	7 L	--	TRAVERSE	1,712	15	0	0	5	150	717	119,058	0	0	793	20
AOF	WEARE	TRAVERSE	1961	OCEANA, WEARE-16N,17W,12	3934	1,681	2 L	--	TRAVERSE	1,737	3		1964		30	0	6,919	0	0	231	0
AOF	WEARE, SEC. 14	TRAVERSE	1952	OCEANA, WEARE-16N,17W,14	3934	1,674	1 L	41.4	DUNDEE	2,217	1		1954		10	0	1,096	0	0	110	0
OF	WEST BRANCH	TRAVERSE	1933	OGEMAW, WEST BRANCH-22N,2E,27	3687	1,796	2 L	--	CAMBRO-ORDOVICIAN	11,012						1,404	SEE	WEST BRANCH	DUNDEE CUM.		
OF	WEST BRANCH	DUNDEE	1933	OGEMAW, WEST BRANCH-22N,2E,27	3687	2,650	20 L	36.8	CAMBRO-ORDOVICIAN		330	6	9	189	3,170	304,576	11,502,412	0	0	3,629	3,814
OF	WEST BRANCH	DETROIT RIVER SZ	1951	OGEMAW,MILLS-21N,3E,6	3687A	3,585	9 D	38.9	CAMBRO-ORDOVICIAN							SEE	WEST BRANCH	RICHFIELD			
OF	WEST BRANCH	RICHFIELD	1952	OGEMAW, OGEMAW-22N,1E,10	3687	4,127	8 D	33.0	CAMBRO-ORDOVICIAN		69	4	0	66	2,720	52,579	3,452,649	2,612	77,941	1,269	9
G-C	WEXFORD 01-24N-12W	NIAGARAN	1977	WEXFORD, WEXFORD-24N,12W,1	3812	6,231	91 D	63.4	NIAGARAN	6,640	1	0	0	1	80	531	10,634	113,217	458,799	132	1
G-C	WEXFORD 01-24N-12W P/A	NIAGARAN	1978	WEXFORD, WEXFORD-24N,12W,1	3812	6,167	100 D	63	NIAGARAN	6,612	1	0	0	1	80	529	6,523	165,659	511,715	81	1

TABLE 23 MICHIGAN OIL AND GAS FIELDS

POOL CLASS	FIELD OR POOL NAME	PRODUCING FORMATION	YEAR OF DISC.	COUNTY, TOWNSHIP – T, R, SEC. for DISCOVERY WELL only	MAP REF. NO.	DEPTH IN FEET	PAY ZONE THICK-NESS & LITHO	PAY ZONE API OIL GRAV	DEEPEST FORMATION TESTED FORMATION OR POOL NAME	DEEPEST FORMATION TESTED DEPTH IN FEET	NUMBER OF WELLS TO END 1981	NUMBER OF WELLS COMP. IN 1981	NUMBER OF WELLS ABND. IN 1981	NUMBER OF WELLS ACTIVE END OF 1981	ACRES DRILLED	OIL IN BBLS. PRODUCED IN 1981	OIL IN BBLS. CUMM. THROUGH 1981	GAS IN MCF PRODUCED IN 1981	GAS IN MCF CUMM. THROUGH 1981	RECOVERY PER ACRE DRILLED IN BBLS	TOTAL BARRELS OF BRINE PER DAY
G-C	WEXFORD 02-24N-12W	NIAGARAN	1977	WEXFORD, WEXFORD-24N,12W,2	3812	6,156	49 D	--	NIAGARAN	6,267	1	0	0	1	80	53	44,595	91,232	1,137,057	557	0
G-C	WEXFORD 03-24N-12W	NIAGARAN	1977	WEXFORD, WEXFORD-24N,12W,3	3812	6,077	76 D	65.2	NIAGARAN	6,324	1	0	0	1	80	807	47,528	58,283	1,986,524	594	0
G-C	WEXFORD 04-24N-12W	NIAGARAN	1978	WEXFORD, WEXFORD-24N,12W,4	3812	6,095	45 D	64.8	NIAGARAN	6,316	1	0	0	1	160	7,045	95,368	671,008	2,274,038	596	0
OF	WEXFORD 05-24N-12W	NIAGARAN	1974	WEXFORD, WEXFORD-24N,12W,5	3812	5,820	127 D	--	NIAGARAN	6,119	7	1	0	7	440	137,215	721,094	225,966	721,848	1,638	9
OF	WEXFORD 05-24N-12W P/A	NIAGARAN	1976	WEXFORD, WEXFORD-24N,12W,5	3812	5,785	229 D	48.3	NIAGARAN	6,192	1	0	0	1	80	26,027	161,399	152,803	737,460	2,017	0
OF	WEXFORD 06-24N-12W	NIAGARAN	1975	WEXFORD, WEXFORD-24N,12W,6	3812	5,775	153 D	41.1	NIAGARAN	6,061	4	0	0	4	320	335,854	1,325,271	236,030	649,886	4,141	13
AG-C	WEXFORD 09-24N-12W	NIAGARAN	1973	WEXFORD, WEXFORD-24N,12W,9	3812	6,232	4 D	69.8	NIAGARAN	6,265	1		1978		80	0	0	0	0	0	0
G-C	WEXFORD 09-24N-12W P/A	NIAGARAN	1973	WEXFORD, WEXFORD-24N,12W,9	3812	6,041	101 D	69.8	NIAGARAN	6,414	1	0	0	1	80	575	153,011	67,368	888,632	1,912	0
OF	WEXFORD 09-24N-12W P/B	NIAGARAN	1974	WEXFORD, WEXFORD-24N,12W,9	3812	6,081	71 D	42.4	NIAGARAN	6,324	3	0	0	3	240	70,064	530,440	59,143	498,088	2,210	14
G-C	WEXFORD 10-24N-12W	NIAGARAN	1972	WEXFORD, WEXFORD-24N,12W,10	3812	6,124	107 D	68.9	NIAGARAN	6,352	1	0	0	1	160	36	86,061	222,609	3,453,893	537	0
GF	WEXFORD 17-24N-12W	NIAGARAN	1981	WEXFORD, WEXFORD-24N,12W,17	3812	6,128	51 D	--	NIAGARAN	6,270	1	1	0	1	80	40	40	0	0	0	0
G-C	WEXFORD 18-24N-12W	NIAGARAN	1973	WEXFORD, WEXFORD-24N,12W,18	3812	5,842	96 D	--	NIAGARAN	6,130	3	0	0	3	360	970	65,826	842,205	6,224,156	182	1
OF	WEXFORD 18-24N-12W P/A	NIAGARAN	1975	WEXFORD, WEXFORD-24N,12W,18	3812	5,885	54 D	42.1	NIAGARAN	6,165	3	0	0	3	240	17,531	531,442	55,261	935,467	2,214	3
G-C	WEXFORD 20-24N-12W	NIAGARAN	1979	WEXFORD, WEXFORD-24N,12W,20	3812	6,082	20 L	--	NIAGARAN	6,240	2	1	0	2	160	48	48	0	0	0	0
AOF	WHEATLAND	DUNDEE	1945	MECOSTA, WHEATLAND-14N,7W,7	3673	3,690	2 L	43.0	DETROIT RIVER	3,849	4	0	0	1	160	0	0	0	516,496	0	DOMESTIC
GF	WHEATLAND	MICHIGAN STRAY	1947	MECOSTA, WHEATLAND-14N,7W,9	3673	1,399	3 S	--	DETROIT RIVER		6		1960		100	0	141,631	0	0	1,416	0
AOF	WHITE CLOUD	TRAVERSE	1963	NEWAYGO, WILCOX-14N,12W,19	3581	2,537	1 L	--	TRAVERSE	2,540	1		1964		40	0	1,295	0	0	32	0
OF	WHITE OAK 04-02N-02E	NIAGARAN	1981	INGHAM, WHITE OAK-02N,02E,04	3825	4,479	45 D	--	NIAGARAN	4,617	1	1	0	1	80	6,397	6,397	0	0	79	0
OF	WHITE OAK 11-02N-02E	SALINA-NIAGARAN	1981	INGHAM, WHITE OAK-02N,02E,11	3825	4,252	48 D	--	NIAGARAN	4,728	1	1	0	1	80	1,485	1,485	0	0	18	0
OF	WHITE OAK 15-02N-02E	NIAGARAN	1980	INGHAM, WHITE OAK-2N,2E,15	3825	4,357	4 D	33	NIAGARAN	4,480	1	0	0	1	80	9,484	11,340	0	0	141	0
OF	WHITE OAK 15-02N-02E P/A	NIAGARAN	1981	INGHAM, WHITE OAK-02N,02E,15	3825	4,197	21 D	--	NIAGARAN	4,469	1	1	0	1	160	0	0	0	0	0	0
OF	WHITE OAK 29-02N-02E	SALINA-NIAGARAN	1974	INGHAM, WHITE OAK-2N,2E,29	3825	4,066	19 D	--	NIAGARAN	4,583	2	0	0	1	160	6,004	66,533	0	0	415	13
OF	WHITE OAK 30-02N-02E	NIAGARAN	1980	INGHAM, WHITE OAK-2N,2E,30	3825	4,231	25 D	36.4	NIAGARAN	4,276	1	0	0	1	80	23,150	34,536	3,938	3,938	431	0
OF	WHITE OAK 32-02N-02E	SALINA-NIAGARAN	1973	INGHAM, WHITE OAK-2N,2E,32	3825	3,970	8 D	--	CATARACT	4,583	2	0	0	2	160	2,571	73,522	1,160	19,458	459	96
OF	WHITE OAK 32-02N-02E P/A	NIAGARAN	1977	INGHAM, WHITE OAK-2N,2E,32	3825	4,046	6 D	--	CATARACT	4,278	1	0	0	1	80	752	14,274	0	0	178	0
AOF	WHITE RIVER	DUNDEE	1950	MUSKEGON, WHITE RIVER-12N,18W,15	3557	2,053	2 L	28.0	DUNDEE	2,055	1		1951		20	0	7,061	0	0	353	0
OF	WHITEWATER 20-27N-09W	NIAGARAN	1978	GD. TRAVERSE, WHITEWATER-27N,9W,20	3789	6,095	15 D	45.7	NIAGARAN	6,360	1	0	0	1	80	40,465	101,980	174,816	398,737	1,274	35
OF	WHITEWATER 20-27N-09W P/A	NIAGARAN	1979	GD. TRAVERSE, WHITEWATER-27N,9W,20	3789	6,149	24 D	45	NIAGARAN	6,360	1	0	0	1	80	110,655	298,444	136,669	344,102	3,730	46
OF	WHITEWATER 20-27N-09W P/B	NIAGARAN	1979	GD. TRAVERSE, WHITEWATER-27N,9W,20	3789	5,962	17 D	48.3	NIAGARAN	6,455	1	0	0	1	80	1,141	5,632	6,123	76,008	70	0
G-C	WHITEWATER 22-27N-09W	NIAGARAN	1973	GD. TRAVERSE, WHITEWATER-27N,9W,22	3789	6,172	62 D	--	NIAGARAN	6,516	3	0	0	3	200	76,929	371,493	962,351	14,524,964	1,857	450
OF	WHITEWATER 28-27N-09W	NIAGARAN	1975	GD. TRAVERSE, WHITEWATER-27N,9W,28	3789	6,096	22 D	43.8	NIAGARAN	6,310	1	0	0	1	80	46,466	289,222	165,207	853,872	3,615	154
OF	WHITEWATER 32-27N-09W	NIAGARAN	1972	GD. TRAVERSE, WHITEWATER-27N,9W,32	3789	6,100	10 D	44.3	NIAGARAN	6,260	2	0	0	2	160	50,809	1,002,836	155,977	1,664,035	6,267	345
OF	WHITEWATER 34-27N-09W	NIAGARAN	1972	GD. TRAVERSE, WHITEWATER-27N,9W,34	3789	6,292	16 D	44.9	NIAGARAN	6,580	1	0	0	1	80	2,093	80,171	0	3,552	1,002	150
OF	WHITEWATER 35-27N-09W	NIAGARAN	1972	GD. TRAVERSE, WHITEWATER-27N,9W,35	3789	6,270	60 D	39	NIAGARAN	6,770	1	0	0	1	80	5,604	158,389	0	7,020	1,979	150
OF	WHITEWATER 35-27N-09W P/A	NIAGARAN	1980	GD. TRAVERSE, WHITEWATER-27N,9W,35	3789	6,412	28 D	51.1	NIAGARAN	6,743	1	0	0	1	80	15,504	16,279	67,355	67,355	203	0
G-C	WHITEWATER 36-27N-09W	NIAGARAN	1971	GD. TRAVERSE, WHITEWATER-27N,9W,36	3789	6,560	40 D	66	NIAGARAN	6,750	1	0	0	1	40	243	64,472	79,727	6,204,578	1,611	0
G-C	WHITEWATER 36-27N-09W P/A	NIAGARAN	1976	GD. TRAVERSE, WHITEWATER-27N,9W,36	3789	6,300	334 D	61.9	NIAGARAN	6,757	1	0	0	1	80	309	30,387	175,587	5,927,314	379	0
OF	WILEY	TRAVERSE	1962	MASON, EDEN-17N,16W,18	3628	1,663	5 L	39.9	ST. PETER SS.	5,890	18	0	0	4	380	0	426,427	0	0	1,122	0
OF	WILLIAMS	BEREA	1980	BAY, WILLIAMS-14N,3E,8	3935	2,403	5 S	43	DUNDEE	3,718	15	13	0	15	560	32,477	35,402	0	0	63	52
AOF	WINFIELD	DUNDEE-REED CITY	1936	MONTCALM, WINFIELD-12N,9W,20	3718	3,340	1 L	43.2	REED CITY	3,500	8		1980		120	0	119,412	0	0	995	0
OF	WINTERFIELD	TRAVERSE	1940	CLARE, WINTERFIELD-20N,6W,29	3569	3,105	1 L	--	SYLVANIA	5,273	SEE	RICH FOR	WELL	COUNT	200	11,466	338,010	644,577	1,868,956	1,690	10
OF	WINTERFIELD	DUNDEE	1940	CLARE, WINTERFIELD-20N,6W,35	3569	3,794	3 L	44.2	SYLVANIA		SEE	RICH FOR	WELL	COUNT	740	17,964	4,896,622	0	0	6,617	3,745
OF	WINTERFIELD	RICHFIELD	1942	CLARE, WINTERFIELD-20N,6W,30	3569	5,015	15 D	--	SYLVANIA		81	1	0	43	1,300	140,463	685,424	0	0	527	136
GF	WISE	MICHIGAN STRAY	1940	ISABELLA, WISE-16N,3W,17	3542	1,250	5 S	--	SYLVANIA	5,205	?	0	0	5	1,280	0	0	0	1,739,233	0	DOM/LEASE
OF	WISE	TRAVERSE	1953	ISABELLA, WISE-16N,3W,33	3542	3,090	31 L	43.0	SYLVANIA		SEE	DD FOR	WELL	COUNT	1,580	808	56,643	0	0	42	0
OF	WISE	DUNDEE	1938	ISABELLA, WISE-16N,3W,28	3542	3,700	11 L	45.2	SYLVANIA		79	0	0	22	1,640	17,375	4,023,248	0	0	2,453	1,683
OF	WISE	DETROIT RIVER	1955	ISABELLA, WISE-16N,3W,33	3542	4,415	48 DL	42.6	SYLVANIA		2	0	0	1	80	1,886	75,145	0	0	939	30
AGF	WOLF LAKE	BEREA	1949	MUSKEGON, EGELSTON-10N,15W,7	3557	1,050	7 D	--	DETROIT RIVER	2,250	2		1956		320	0	0	0	101,751	0	0
OF	WOLF LAKE	TRAVERSE	1968	MUSKEGON, EGELSTON-10N,15W,18	3557	1,741	23 L	--	DETROIT RIVER		4	0	0	2	60	0	5,530	0	0	92	14
GF	WOODSTOCK	TRAVERSE	1969	LENAWEE, WOODSTOCK-5S,1E,18	3698	1,465	2 L	--	TRAVERSE	1,467	2	0	0	1	80	0	0	SHUT-IN FOR MARKET	0	0	0
OF	WOODVILLE	TRAVERSE	1943	NEWAYGO, NORWICH-15N,11W,29	3676	2,820	5 L	43.5	DETROIT RIVER	3,534	10	0	0	9	350	5,373	598,037	0	0	1,708	205
OF	WRIGHT	BEREA	1954	OTTAWA, WRIGHT-8N,13W,32	3682	1,170	3 L	--	DETROIT RIVER	2,337	7	0	0	1	60	265	49,650	SHUT-IN LACK	OF STORAGE	820	0
OF	WRIGHT	TRAVERSE	1953	OTTAWA, WRIGHT-8N,13W,33	3682	1,920	1 L	--	DETROIT RIVER		7	0	0	2	70	319	19,087	0	0	272	3
AOF	WYOMING PARK	TRAVERSE	1939	KENT, WYOMING-6N,12W,14	3731	1,870	6 L	39.0	DETROIT RIVER	2,255	21		1970		300	0	157,873	0	0	526	0
GF	YANKEE	NIAGARAN	19[illegible]	ST. CLAIR, ST. CLAIR-5N,16E,25	3750	2,620	20 D	--	NIAGARAN	2,829	2	0	0	2	80	0	0	0	363,109	0	0
AGF	ZEELAND	"BEREA"	[illegible]	OTTAWA, ZEELAND-5N,14W,2	3583	945	9 D	--	NIAGARAN	3,388	7		1975		280	0	0	0	0	0	DOMESTIC
AOF	ZEELAND	TRAVERSE	[illegible]	OTTAWA, ZEELAND-5N,14W,30	3583	1,514	3 L	41.9	NIAGARAN	3,052	21		1967		400	0	310,085	0	0	775	0
OF	ZEELAND	SALINA	1955	OTTAWA, ZEELAND-5N,14W,29	3583	2,792	5 D	20.5	NIAGARAN		4	1	0	2	230	4,125	22,658	0	0	98	22
AOF	ZEELAND, SEC. 28	TRAVERSE	1954	OTTAWA, ZEELAND-5N,14W,28	3583	1,491	1 L	--	DETROIT RIVER	2,215	3		1956		30	0					

TABLE 24 GAS STORAGE RESERVOIRS

POOL CLASS	FIELD OR POOL NAME	PRODUCING FORMATION	YEAR OF	COUNTY, TOWNSHIP - T, R, SEC for Discovery Well	MAP REF	DEPTH IN	PAY ZONE THICK-NESS &	API OIL	DEEPEST FORMATION TESTED FORMATION OR POOL NAME	DEPTH IN FEET	--- NUMBER OF WELLS --- TO END 1981	COMP IN 1981	ABND IN 1981	ACTIV @ END 1981	ACRES DRILLED	---- OIL in BBLS ---- PRODUCED IN 1981	CUMMULATIVE THROUGH 1981	---- GAS in MCF ---- PRODUCED IN 1981	CUMMULATIVE THROUGH 1981	YEAR MADE STORAGE FIELD	STORAGE WORKING CAPACITY [Bcf]
GS	AUSTIN	MICHIGAN STRAY	1933	MECOSTA, AUSTIN-14N, 9W, 11	3449A	1,380	14 S	--	DETROIT RIVER	4,034	123	2	0	115	3,970		0		6,231,214	1941	13
GS	BELLE RIVER MILLS	SALINA-NIAGARAN	1961	ST. CLAIR, CHINA-4N,16E,15	3741	2,215	305 D	--	NIAGARAN	2,694	27	0	2	24	840		1,212		24,457,396	1965	54
GS	CAPAC	NIAGARAN	1962	ST. CLAIR, MUSSEY-7N,13E,18	3689	4,505	6 D	--	MT. SIMON SS.	6,337	98	0	0	91	12,560		5,983		21,365,445	1978	30
GS	CHESTER, SEC. 15	NIAGARAN	1970	OTSEGO, CHESTER-29N,02W,15	3777	5,930	348 D	--	NIAGARAN	6,697	6	0	0	6		9,759	294,903	0	13,977,778		0
GS	CLARENCE 19-01S-04W	NIAGARAN	1971	CALHOUN, CLARENCE-1S,4W,19	3869	3,154	24 D	--	NIAGARAN	3,240	1	0	0	1	160		0		1,057,656	1975	1
GS	COLD SPRINGS 12-28N-06W	NIAGARAN	1973	KALKASKA, COLD SPRINGS-28N,06W,12	3784	6,564	296 D	66.8	NIAGARAN	6,970	11	0	0	11	400	93,370	447,901	0	18,329,674		11
GS	COLD SPRINGS 31-28N-06W	NIAGARAN	1974	KALKASKA, COLD SPRINGS-28N,6W,31	3784	6,970	14 D	--	NIAGARAN	7,135	3	2	0	3	80		88,370		5,042,845	1980	5
GS	COLDWATER	MICHIGAN STRAY	1945	ISABELLA, COLDWATER-16N,6W,29	3599	1,390	10 S	--	SYLVANIA	5,090	78	0	0	73	2,400		0		7,530,450	1956	8
GS	COLLIN	SALINA-NIAGARAN	1968	ST. CLAIR, COTTRELLVILLE-3N,16E,20	3738	2,196	4 D	--	NIAGARAN	2,364	2	0	0	2	80		2,139		1,686,717	1981	2.0
GS	COLUMBUS	SALINA-NIAGARAN	1964	ST. CLAIR, COLUMBUS-3N,15E,22	3755	2,738	190 D	--	NIAGARAN	3,232	20	0	0	18	320		0		13,598,373	1972	18
GS	COLUMBUS, WEST	SALINA-NIAGARAN	1967	ST. CLAIR, COLUMBUS-3N,15E,18	3755	3,183	14 D	--	NIAGARAN	3,447	29	0	0	21	520		0		16,613,514	1973	20
GS	CRANBERRY LAKE	MICHIGAN STRAY	1943	CLARE, SUMMERFIELD-20N,5W,5	3645	1,321	10 S	--	RICHFIELD	5,201	171	0	0	149	7,000		0		7,688,200	1947	13
GS	CROTON	MARSHALL	1951	NEWAYGO, CROTON-12N,11W,29	3668	917	4 S	--	SALINA	3,993	63	0	0	56	860		0		1,347,252	1957	4
GS	EXCELSIOR 06-27N-06W	NIAGARAN	1973	KALKASKA, EXCELSIOR-27N,6W,6	3794	6,740	105 D	66	NIAGARAN	7,076	6	5	0	6	160		160,244		6,895,079	1980	9.6
GS	FOUR CORNERS	SALINA-NIAGARAN	1966	ST. CLAIR, IRA-3N,15E,1	3737	2,205	212 D	--	NIAGARAN	2,638	5	0	0	2	80		0		1,124,375	1972	1.4
GS	FREEMAN-LINCOLN	MICHIGAN STRAY	1938	CLARE, LINCOLN-18N,5W,17	3898	1,500	10 S	--	DETROIT RIVER	3,957	179	0	0	155	6,600		0		18,461,480	1950	21
GS	GOODWELL	MICHIGAN STRAY	1943	NEWAYGO, GOODWELL-14N,11W,9	3675	1,142	20 S	--	DETROIT RIVER	3,562	98	0	0	87	3,020		0		5,993,183	1948	19
GS	HAMILTON, NORTH	MICH. STRAY-MARSHALL	1952	CLARE, HAMILTON-19N,3W,6	3559	1,487	8 S	--	RICHFIELD	5,395	66	0	0	53	3,040		0		5,559,066	1960	8
GS	HESSEN	NIAGARAN	1965	ST. CLAIR, CASCO-4N,15E,3	3737	2,499	261 D	--	NIAGARAN	2,887	21	0	0	12	640		119,972		11,811,127	1976	13.6
GS	HOWELL	SALINA-NIAGARAN	1935	LIVINGSTON, HOWELL-3N,4E,35	3282	3,920	9 D	--	ST. PETER SS.	5,958	72	0	0	69	2,400		0		24,151,682	1962	20
GS	IRA	SALINA-NIAGARAN	1953	ST. CLAIR, IRA-3N,15E,2	3757	2,276	33 D	--	NIAGARAN	2,632	15	0	0	10	680		0		3,568,639	1961	4
GS	KALKASKA 01-27N-07W	NIAGARAN	1975	KALKASKA, KALKASKA-27N,7W,1	3785	7,116	20 D	65	NIAGARAN	7,197	2	1	0	2	160		25,926		2,647,612	1980	
GS	LACEY STATION	A-2 SALT SOLN. CAVERN	1971	BARRY, JOHNSTOWN-2N,8W,14	3551			--	CAMBRIAN		2	0	0	2			0		0	1975	.2
GS	LEE 02-01S-05W	NIAGARAN	1973	CALHOUN, LEE-01S,05W,02	3842	3,377	12 D	--	NIAGARAN	3,710	1	0	0	1	160	0	509		SEE LEE 02-01S-05W	P/B FOR	CUM GAS 0
GS	LEE 04-01S-05W	SALINA-NIAGARAN	1972	CALHOUN, LEE-1S,5W,4	3842	3,162	86 D	--	NIAGARAN	3,475	2	0	0	2	320		178		716,595	1976	0.7
GS	LEE 16	SALINA-NIAGARAN		CALHOUN, LEE-1S,5W,16	3842	3,200		--	NIAGARAN		1	0	0	1	300		0		0	1975	1
GS	LENOX	SALINA-NIAGARAN	1960	MACOMB, LENOX-4N,14E,32	3690	2,734	46 D	--	NIAGARAN	3,018	14	0	0	6	300		2,565		2,195,733	1965	1.5
GS	MARION(WINTERFIELD)	MICHIGAN STRAY	1940	CLARE, WINTERFIELD-20N,6W,19	3569	1,344	15 S	--	SYLVANIA	5,100	284	0	0	256	10,720		0		20,486,635	1947	33
GS	MARSAC CREEK	SALINA-NIAGARAN	1965	ST. CLAIR, CASCO-4N,15E,29	3737	2,450	190 D	--	NIAGARAN	2,903	7	0	0	3	200	0	1,681	0	4,024,523	1977	3.3
GS	MARYSVILLE-MORTON	SEE FOOTNOTE FOR GAS STORAGE		FIELDS ON NEXT PAGE				--									0		0	1975	0
GS	MUTTONVILLE	SALINA-NIAGARAN	1966	MACOMB, LENOX-4N,14E,13	3690	2,576	194 D	--	NIAGARAN	3,039	18	0	0	16	280		0		10,506,417	1975	14
GS	NORTHVILLE	TRENTON-BLK. RIVER	1954	WASHTENAW, SALEM-1S,7E,1	3683	4,395	70 D	--	CAMBRO-ORDOVICIAN	5,850	78	0	0	67	2,825		0		18,202,766	1968	11.8
GS	ORIENT	MICHIGAN STRAY	1945	OSCEOLA, ORIENT-17N,7W,13	3561	1,508	11 S	--	SYLVANIA	5,307	77	0	0	68	2,600		0		5,457,873	1951	6
GS	OVERISEL	SALINA	1956	ALLEGAN, OVERISEL-4N,14W,16	3705	2,650	12 D	--	TRENTON	4,060	194	0	0	160	6,660		0		14,937,949	1960	24
GS	PARTELLO	SALINA-A-1 CARB.	1959	CALHOUN, LEE-1S,5W,12	3761	3,192	30 D	--	TRENTON-BLK. RIVER	4,905	7	0	0	4	200		0		1,729,226	1971	2
GS	PUTTYGUT	SALINA-NIAGARAN	1960	ST. CLAIR, CASCO-4N,15E,11	3737	2,423	60 D	--	NIAGARAN	2,774	26	0	0	23	440	SEE	ADAIR		11,485,690	1971	11
GS	RAPID RIVER 35-28N-07W	NIAGARAN	1973	KALKASKA, RAPID RIVER-28N,7W,35	3781	6,719	27 D	67	NIAGARAN	6,886	9	0	0	9	360	41,468	269,746	0	13,685,116	1980	15
GS	RAY	SALINA-NIAGARAN	1961	MACOMB, RAY-4N,13E,1	3690	2,945	101 D	--	NIAGARAN	3,273	49	0	0	39	660		1,689		35,907,293	1966	46
GS	REED CITY	MICHIGAN STRAY	1940	OSCEOLA, LINCOLN-18N,10W,30	3857	1,217	12 S	--	ST. PETER SS	8,960	102	0	0	92	4,880		0		7,795,091	1947	18
GS	REED CITY	REED CITY	1941	OSCEOLA, LINCOLN-18N,10W,31	3857	3,585	7 D	42.8	ST. PETER SS		274	0	0	171			0		0	1963	45
GS	RIVERSIDE	MICHIGAN STRAY	1940	MISSAUKEE, RIVERSIDE-21N,7W,22	3571	1,435	7 S	--	DUNDEE	3,953	99	0	0	79	3,680		0		5,292,251	1962	2
GS	SALEM	SALINA	1941	ALLEGAN, SALEM-4N,13W,21	3713	2,725	2 D	--	TRENTON	3,792	64	0	0	62	4,960		2,973		11,536,912	1963	10
GS	SHAVER (SUMNER-NEW HAVEN)	MICHIGAN STRAY	1935	GRATIOT, NEW HAVEN-10N,4W,4	3447	1,020	11 S	--	DUNDEE	3,536	55	0	0	45	3,920		0		11,337,204	1958	12
GS	SIX LAKES	MICHIGAN STRAY	1934	MONTCALM, BELVIDERE-12N,7W,11	3660	1,270	25 S	--	DETROIT RIVER	3,790	404	0	0	194	11,480		0		52,636,813	1953	54
GS	SWAN CREEK	SALINA-NIAGARAN	1967	ST. CLAIR, CASCO-4N,15E,36	3737	2,256	245 D	--	NIAGARAN	2,638	1	0	0	1	40		0		417,539	1972	1.4
GS	WINFIELD	MICHIGAN STRAY	1935	MONTCALM, WINFIELD-12N,5W,17	3718	1,125	8 S	--	DETROIT RIVER	3,405	133	0	0	86	3,240		0		4,932,855	1950	12
GS	WOODVILLE (NORWICH)	MICHIGAN STRAY	1943	NEWAYGO, NORWICH-15N,11W,21	3677	1,185	13 S	--	DETROIT RIVER	3,405	53	0	0	39	2,240		0		2,736,924	1951	5

TABLE 26 GAS PLANT OPERATIONS BY PLANT OR FIELD, 1981 (All figures in Mcf)

Plant or Field	Input Totals	Plant Fuel	Lease Fuel	Recycled	Line Loss	Vented	Extraction Loss	Sales to Pipe Line	L.P.G. Recovery Gallons
Albion-Scipio	5,524,514	684,500	0	0	380,517	375	669,115	3,790,007	19,862,969
Aurelius	6,417,443	364,165	0	0	79,693	13,068	462,535	5,532,034	14,096,932
Beaver Creek	401,895	15,679	144,010	0	0	0	20,951	228,823	295,394
Chester	67,152	8,774	0	0	0	0	4,703	53,675	155,720
Columbus, Sec. 3	865,423	70,200	32,351	662,794	70,550	0	45,063	0	1,401,884
Convis	172,788	19,104	0	0	12,631	3,800	18,612	122,955	270,231
Hamilton*	101,252	11,973	47,361	0	0	0	0	41,916	0
Kalkaska (Amoco)	43,817,371	683,801	0	0	455,860	0	2,699,094	40,353,504	94,198,368 (1)
Kalkaska (Shell)	81,783,578	2,874,743	0	0	857,525	0	12,128,263	66,710,197	342,335,026 (1)
Leonard	1,441,719	205,312	0	0	0	73,974	46,629	1,139,257	1,456,440
Marathon	362,221	38,494	0	0	28,759-H_2S	741	25,920	269,426	779,068
Otsego 27	242,540	4,000	29,770	0	0	0	16,022	192,749	608,636
Reed City	10,592,979	168,295	0	10,287,253	0	0	137,371	0	2,624,360
Romeo	4,418,767	2,468	0	0	0	0	112,295	4,342,983	3,642,761
TOTALS:	186,209,642	5,151,508	253,492	10,950,047	1,885,535	91,958	16,386,573	122,777,526	481,727,789

*Receives and processes oil well gas only.

(1) These LPG figures include stabilized condensate.

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

All data from Production and Proration Unit records.

TABLE 27 MICHIGAN OIL REFINERIES

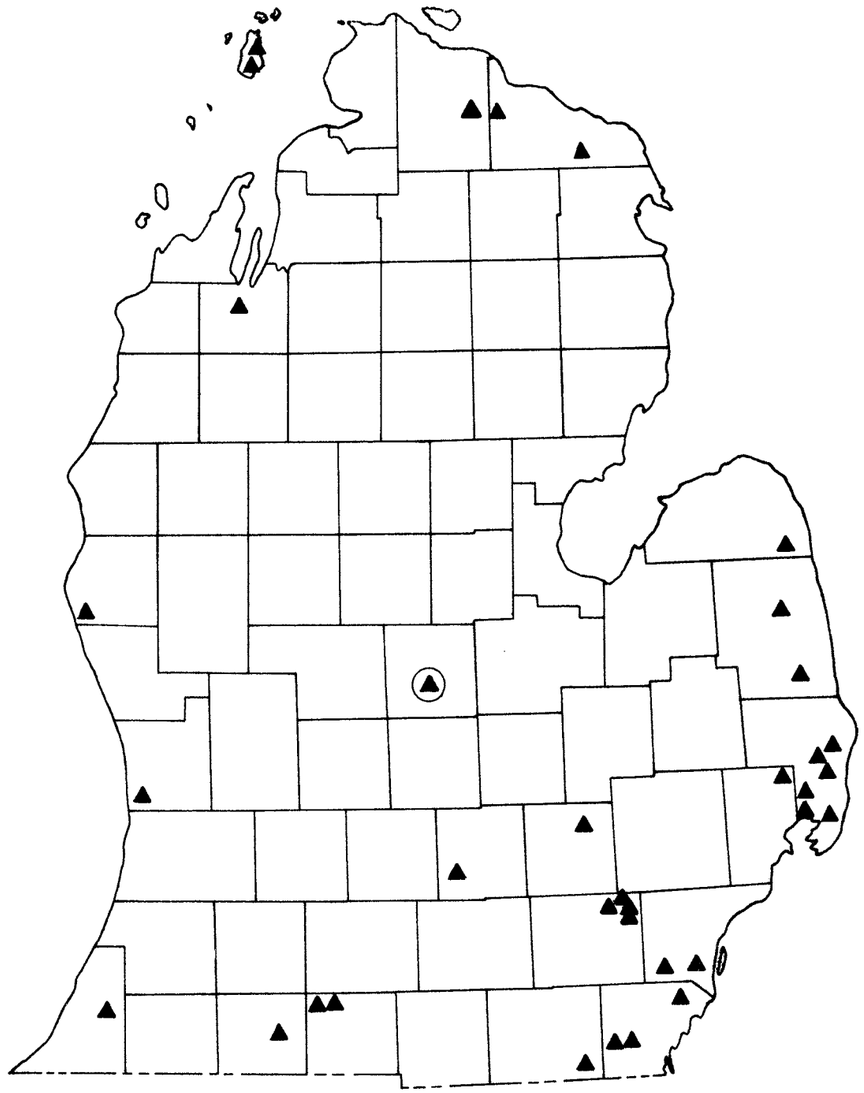
COMPANY	REFINERY LOCATION	NOMINAL CAPACITY BBLS/DAY
Bay Refining, Dow Chemical Co.	Bay City	17,000
Crystal Refining Co.	Carson City	6,200
Lakeside Refining Co.	Kalamazoo	5,600
Total Petroleum, Inc.	Alma	42,500
Marathon Oil Co.	Detroit	68,500
Osceola Refining Co.	West Branch	12,500
	TOTAL CAPACITY	152,300

TOTAL AVERAGE DAILY AMOUNT OF CRUDE REFINED (Bbls.)

Michigan produced crude	61,743
Out-of-State Produced crude	33,069
	94,812

TABLE 28 TESTS REPORTED TO HAVE PENETRATED PRECAMBRIAN ROCK IN THE SOUTHERN PENINSULA OF MICHIGAN

PERMIT NUMBER	COUNTY NAME TOWNSHIP NAME	SECTION NO.- TWP. - RANGE	OPERATOR NAME LEASE NAME	PRECAMBRIAN DEPTH	TOTAL DEPTH	YEAR COMPLETED	
26112	Berrien Co. Berrien Twp.	10-6S-17W	Security Oil & Gas Thalmann #1	4604 (-3800)	5647 (-4843)	1965	
29779	Branch Co. Sherwood Twp.	7-5S-8W	Consumers Power Co. et al Lindsey-Hostetler #1	5375 (-4485)	5439 (-4549)	1974	
29969	Branch Co. Sherwood Twp.	8-5S-8W	Consumers Power Co. et al H. Clark #1	5418 (-4539)	5475 (-4586)	1974	
23478	Charlevoix Co. Peaine Twp.	6-37N-10W	McClure Oil Co. State-Beaver Island #2	4718 (-3977)	4803 (-4062)	1961	Age Rb-Sr K-Ar Biotite 1100 1090 Feldspar 1110
23435	Charlevoix Co. Peaine Twp.	27-38N-10W	McClure Oil Co. State-Beaver Island #1	4566 (-3888)	5383 (-4705)	1961	
30682	Cheboygan Co. Waverly Twp.	24-35N-1W	North. Mich. Explor. Co. et al State-Waverly #1-24	5617 (-4816)	5753 (-4952)	1975	
34292	Grand Traverse Blair Twp.	24-26N-11W	Shell Oil Co. State Blair #2-24	10,910 (-9,995)	11,020 (-10,105)	1981	
29739	Gratiot Co. North Star Twp.	8-10N-2W	McClure Oil Co. Sparks et al #1-8	12,176 (-11,414)	17,466 (-16,704)	1975	
29191	Huron Co. Sherman Twp.	26-15N-15E	Mobil Oil Corp. C. J. Volmering #1	8872 (-8161)	9086 (-8375)	1973	
28607	Ingham Co. Vevay Twp.	29-2N-1W	Mobil Oil Corp. Walter Kranz, Jr. #1	7690 (-6751)	7866 (-6927)	1971	
10448	Lenawee Co. Riga Twp.	32-8S-5E	Walter H. Eckert Harry Taylor #1	3865 (-3150)	3902 (-3186)	1944	
27986	Livingston Co. Osceola Twp.	11-3N-5E	Mobil Oil Corp. H. J. Messmore #1	7150?(-6170)	7589 (-6609)	1970	
33737	Macomb Co. Richmond Twp.	24-5N-14E	Energy Acquisition Corp. Grierson #1-24	5340 (-4601)	5389 (-4650)	1980	
11221	Monroe Co. Berlin Twp.	29-5S-10E	Joseph W. Sturman D. L. & R. L. Chapman #1	3342 (-2745)	3377 (-2780)	1945	
07702	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	
33134	Oceana Co. Claybanks Twp.	10-13N-18W	Amoco Production Co. Schiller #1-10	6130 (-5378)	7240 (-6488)	1980	
None	Ottawa Co. Holland Twp.	30-5N-15W	H. J. Heinz Co. H. J. Heinz Co. #2	6142 (-5523)	6221 (-5602)	1972	
29372	Presque Isle Co. Metz Twp.	13-33N-5E	Shell Oil Co. Taratuta #1-13	6738?(-5962)	6738 (-5962)	1973	Granite wash 6545? (-5769)
27199	Presque Isle Co. North Allis Twp.	29-35N-2E	Pan American Petro. Corp. D. E. Draysey #1	5877 (-5069)	5940 (-5132)	1968	
BD139	St. Clair Co. Casco Twp.	31-4N-15E	Consumers Power Co. Consumers Power Co. BD#1	4605 (-3989)	4627 (-4011)	1964	
25780	St. Clair Co. Clay Twp.	Projected 17-2N-16E	L. Bernhardt Puzzuoli #1	4152 (-3572)	4188 (-3608)	1965	
30376	St. Clair Co. Ira Twp.	14-3N-15E	Mich. Cons. Gas Co. Osterland #1-14	4449 (-3846)	4550 (-3947)	1975	
00196	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	
31335	St. Joseph Co. Nottawa Twp.	11-6S-10W	Marathon Oil Co. Lloyd Cupp #1-11	5074 (-4182)	5283 (-4391)	1977	
30974	Sanilac Co. Bridgehampton Twp.	20-12N-15E	McClure Oil & Mich. Nat. Res. Hewett-Shadd Unit #1-20	8676 (-7891)	8975 (-8190)	1976	
33999	Sanilac Co. Buel Twp.	19-10N-15E	Mid-American Oil & Gas Woodruff #1-19	8298 (-7533)	8511 (-7746)	1980	
34223	Washtenaw Co. Northfield Twp.	28-1S-6E	Hunt Energy Corp. Worrell #1-28	6294 (-5352)	6330 (-5388)	1981	
10792	Washtenaw Co. Salem Twp.	27-1S-7E	I. C. Chamness Troy-Roddenberry Comm. #1	6075 (-5189)	6094 (-5208)	1944	
10141	Washtenaw Co. Salem Twp.	16-1S-7E	Colvin & Assoc. & Elec. Wm. F. Voss Comm. #1	6374 (-5459)	6410 (-5495)	1944	Age Rb-Sr Biotite 950
11341	Washtenaw Co. Superior Twp.	12-2S-7E	Colvin & Assoc. & Rot. St. Viola Meinzinger #1	5670 (-4852)	5692 (-4874)	1945	Age Rb-Sr Biotite 1050
BD146	Wayne Co., City of Woodhaven	22-4S-10E	Marathon Oil Co. Woodhaven BD#1	3704 (-3095)	3752 (-3143)	1969	
10430	Wayne Co. Huron	16-4S-9E	Colvin & Assoc. & Elec. Theisen Estate #1	3985 (-3360)	4046 (-3321)	1944	



▲ Reported Precambrian Test

(▲) Deepest Exploratory Well In Michigan (Precambrian)

ILLUSTRATION 2 PRECAMBRIAN WELL LOCATION MAP

TABLE 29 CUMULATIVE OIL AND GAS PRODUCTION BY COUNTY THROUGH 1981

COUNTY	CUMULATIVE PRODUCTION Barrels Oil	MCF Gas
Allegan	20,140,442	30,468,143
Antrim	1,519,208	7,173,324
Arenac	47,935,209	6,856,583
Barry	770,170	0
Bay	21,599,458	3,249
Benzie	456,330	448,421
Berrien	29,757	0
Calhoun	6,726,801	23,255,367
Cass	216,283	0
Cheboygan	8,853	0
Clare	34,765,987	62,521,211
Clinton	4,121	0
Crawford	20,063,132	34,765,980
Eaton	2,751,721	31,816,763
Gd. Traverse	28,484,299	284,321,194
Genesee	380,157	0
Gladwin	36,954,728	9,781
Gratiot	1,198,081	14,184,607
Hillsdale	120,079,496	199,354,918
Huron	63,611	0
Ingham	16,760,781	32,042,171
Ionia	48,479	0
Isabella	42,103,542	34,720,413
Jackson	1,352,141	597,737
Kalamazoo	32,140	0
Kalkaska	29,778,825	242,345,187
Kent	18,339,976	5,007,224
Lake	1,705,708	0
Lapeer	1,880,612	657,170
Lenawee	7,362	159,103
Livingston	17,282	31,754,597
Macomb	137,808	70,566,590
Manistee	44,144,057	177,265,051
Mason	6,283,875	21,700,512
Mecosta	10,539,037	17,360,821
Midland	80,593,349	12,931,387
Missaukee	23,625,657	23,010,142
Monroe	753,252	0
Montcalm	19,325,032	68,657,957
Montmorency	10,319	0
Muskegon	8,059,336	9,809,572
Newaygo	8,899,284	13,356,058
Oakland	318,431	11,159,216
Oceana	15,848,961	1,170,545
Ogemaw	22,626,414	10,945,118
Osceola	59,041,254	40,846,460
Oscoda	64,450	0
Otsego	52,701,028	107,497,602
Ottawa	1,810,918	5,426,292
Presque Isle	23,370	0
Roscommon	18,113,240	16,899,694
Saginaw	3,085,112	0
Shiawassee	194,397	0
St. Clair	17,409,004	172,246,120
Tuscola	2,753,479	103,517
Van Buren	12,160,360	0
Washtenaw	9,644	466,950
Wayne	1,131,441	14,378,304
Wexford	3,784,235	21,420,776
59 Counties	** 869,621,436	* 1,859,681,827

**Includes 9,634 barrels of oil from miscellaneous fields.

*Does not include 2,938,258 MCF of unassigned gas shown on early records.

TABLE 30 OIL PRODUCTION BY GEOLOGIC SYSTEM AND FORMATION - 1981 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
	Stray-Marshall	Berea	Traverse	Dundee-Reed City	Detroit River	Salina-Niagaran	Trenton-Black River	
	First Year of Recorded Oil Production by Formation							All Formations
	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)	. . . . .	381,171	995,439	31,870,671	. . . . .	. . . . .	. . . . .	33,184,281
1935 Through 1939 (Cumulative-5 year interval)	7,411	310,313	13,814,816	72,339,293	14,000	. . . . .	43,565	86,529,398
1940 Through 1944 (Cumulative-5 year interval)	22,040	229,262	27,856,377	67,939,211	727,418	. . . . .	348,477	97,122,785
1945 Through 1949 (Cumulative-5 year interval)	17,283	166,687	16,914,771	62,438,443	4,302,309	. . . . .	106,510	83,946,003
1950 Through 1954 (Cumulative-5 year interval)	9,068	125,089	16,974,863	38,058,703	11,878,669	43,091	225,180	67,314,663
1955 Through 1959 (Cumulative-5 year interval)	8,183	110,639	8,788,785	25,618,934	13,716,790	568,085	3,108,341	51,920,757
1960 Through 1964 (Cumulative-5 year interval)	6,090	84,222	6,777,853	15,725,957	8,260,636	4,611,123	48,022,216	83,488,097
1965 Through 1969 (Cumulative-5 year interval)	5,293	113,898	3,831,321	12,186,197	8,387,775	4,195,694	39,132,615	67,852,793
1970 Through 1974 (Cumulative-5 year interval)	4,553	97,444	2,669,026	9,115,667	10,992,939	25,986,136	20,288,822	69,174,372
1975 Through 1979 (Cumulative-5 year interval)	4,536	108,273	2,191,034	7,203,284	12,074,546	126,012,182	9,649,045	157,215,550
1980	925	55,596	457,813	1,506,950	2,827,265	27,697,663	1,262,251	33,808,463
1981	1,068	110,178	460,657	1,273,415	2,942,586	26,596,115	1,128,100	32,512,119

ILLUSTRATION 3 TRENDS IN MICHIGAN OIL PRODUCTION

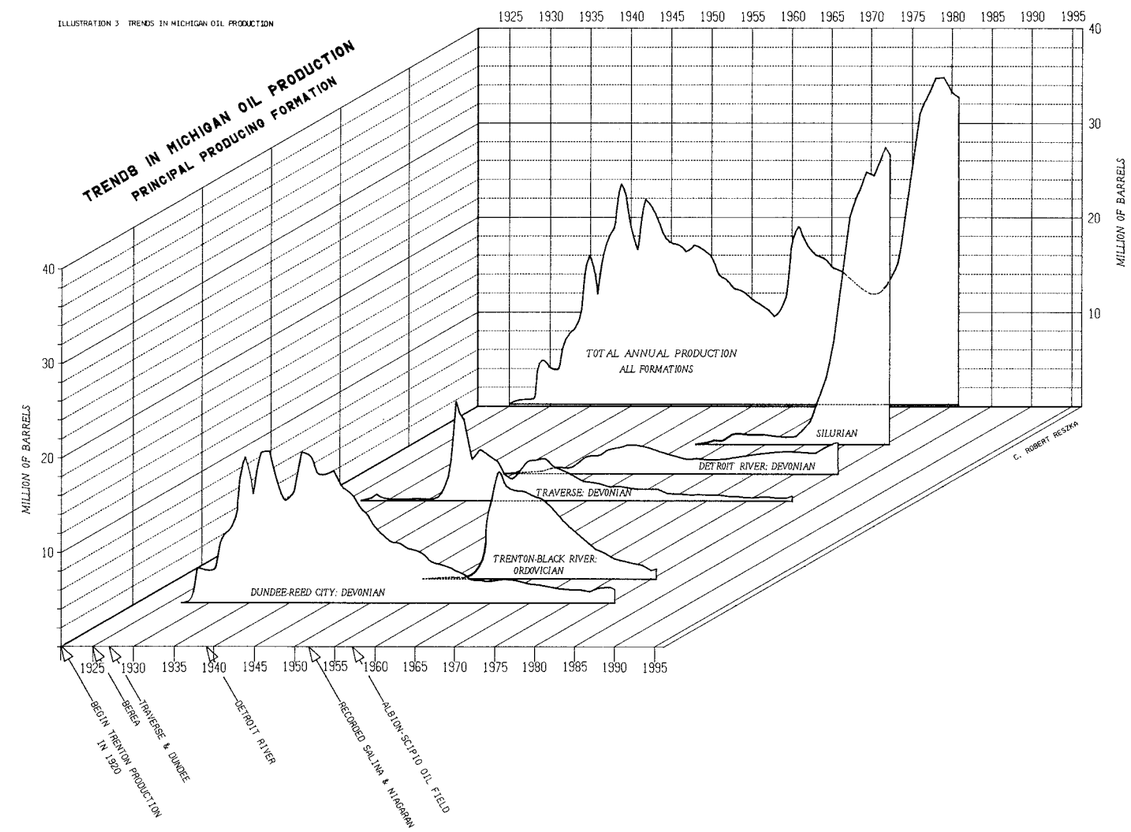


TABLE 31 GAS PRODUCTION BY GEOLOGIC SYSTEM AND FORMATION - 1981 AND PRIOR YEARS

YEAR	CENOZOIC	MISSISSIPPIAN		DEVONIAN				SILURIAN	ORDOVICIAN	Total MCF Gas All Formations
	Glacial Drift	Stray-Marshall	Berea	Antrim Shale	Traverse	Dundee-Reed City	Detroit River	Salina-Niagaran	Trenton-Black River	
	First Year of Recorded Gas Production by Formation									
	1949	1931	1936	1947	1934	1929	1946	1929	1954	
1925 Through 1929	. . .	(Cumulative-5 year interval)		. . .	. . .	1,887,732	. . .	74,867	. . .	1,962,599
1930 Through 1934	. . .	3,001,963 (Cumulative-5 year interval)		. . .	3,744	6,034,206	. . .	61,578	. . .	9,101,491
1935 Through 1939	. . .	30,769,471 (Cumulative-5 year interval)	1,391,076	. . .	69,894	8,862,165	. . .	6,331	. . .	41,098,937
1940 Through 1944	. . .	70,498,989 (Cumulative-5 year interval)	5,860,831	. . .	3,716,132	7,647,510	. . .	79,983	. . .	87,803,445
1945 Through 1949	8,020	80,217,680 (Cumulative-5 year interval)	1,467,460	52,495	1,414,004	15,710,636	793,763	7,393,744	. . .	107,057,802
1950 Through 1954	0	18,033,449 (Cumulative-5 year interval)	916,202	55,626	1,913,497	5,361,578	6,997,257	11,316,082	10,725	44,604,416
1955 Through 1959	0	6,834,419 (Cumulative-5 year interval)	148,085	56,686	266,623	2,287,066	12,539,252	20,117,524	6,609,393	48,859,048
1960 Through 1964	0	2,874,824 (Cumulative-5 year interval)	42,020	156,485	876,356	1,117,064	19,252,334	66,799,392	45,443,994	136,562,469
1965 Through 1969	0	2,636,857 (Cumulative-5 year interval)	814,223	220,305	454,198	150,659	10,649,603	106,149,601	57,253,914	178,329,360
1970 Through 1974	0	157,966 (Cumulative-5 year interval)	391,050	760,309	265,850	219,781	8,342,041	148,999,929	53,573,311	212,710,237
1975 Through 1979	0	357,934 (Cumulative-5 year interval)	220,994	680,817	77,255	236,494	6,625,152	617,530,506	40,691,633	663,983,600
1980	0	21,313	28,849	375,88/	620,738	15,118	1,885,846	149,445,361	5,944,814	158,337,922
1981	0	8,228	34,802	355,809	644,611	1,675	2,051,953	140,823,661	5,678,680	149,599,419

CHANGES IN GAS VOLUMETRIC MEASUREMENT

IN AN ATTEMPT TO OBTAIN NATIONAL UNIFORMITY OF DATA, ALL ANNUAL AND CUMULATIVE GAS PRODUCTION FIGURES FOR MICHIGAN WERE CONVERTED TO A STANDARD BASE PRESSURE FOR VOLUMETRIC MEASUREMENT OF 14.73 POUNDS PER SQUARE INCH IN 1978. THIS CONVERSION AND SUBSEQUENT ADJUSTMENT OF GAS PRODUCTION FIGURES RESULTED IN SLIGHT CHANGES IN CUMULATIVE PRODUCTION VOLUMES IN THOSE FIELDS WHICH HAD BEEN MEASURED AT VARYING PRESSURE BASES IN PRIOR YEARS.

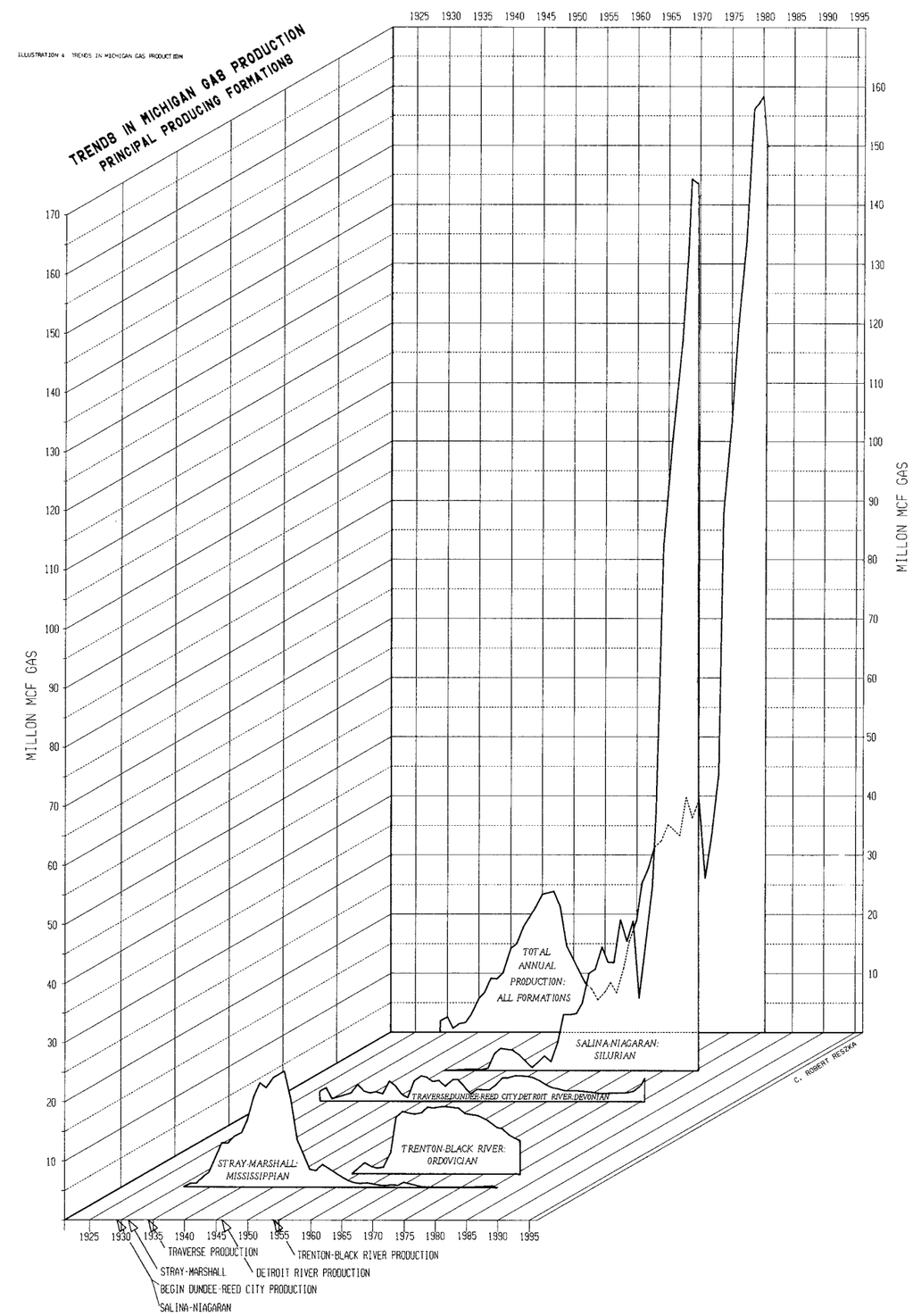


TABLE 32 CUMULATIVE OIL PRODUCTION BY GEOLOGIC SYSTEM AND FORMATION - 1981 AND PRIOR YEARS

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
	Stray-Marshall	Berea	Traverse	Dundee-Reed City	Detroit River	Salina-Niagaran	Trenton-Black River	
	First Year of Recorded Oil Production by Formation							
	1938	1925	1927	1927	1939	1952	1935	
1925 Through 1929	. . . . .	876,559	873,777	4,017,451	. . . . .	. . . . .	. . . . .	5,767,787
	(Cumulative-5 year interval)							
1930 Through 1934	. . . . .	1,194,730	1,869,216	35,888,122	. . . . .	. . . . .	. . . . .	38,952,068
	(Cumulative-5 year interval)							
1935 Through 1939	7,411	1,505,043	15,684,032	108,227,415	14,000	. . . . .	43,565	125,481,466
	(Cumulative-5 year interval)							
1940 Through 1944	29,451	1,734,305	43,540,409	176,166,626	741,418	. . . . .	392,042	222,604,251
	(Cumulative-5 year interval)							
1945 Through 1949	46,734	1,900,992	60,455,180	238,605,069	5,043,727	. . . . .	498,552	306,550,254
	(Cumulative-5 year interval)							
1950 Through 1954	55,802	2,026,081	77,430,043	276,663,772	16,922,396	43,091	723,732	373,864,917
	(Cumulative-5 year interval)							
1955 Through 1959	63,985	2,136,720	86,218,828	302,282,706	30,639,186	611,176	3,832,073	425,784,674
	(Cumulative-5 year interval)							
1960 Through 1964	70,075	2,220,942	92,996,681	318,008,663	38,900,822	5,222,299	51,854,289	509,273,771
	(Cumulative-5 year interval)							
1965 Through 1969	75,368	2,334,840	96,848,002	330,194,860	47,288,597	9,417,993	90,986,904	577,126,564
	(Cumulative-5 year interval)							
1970 Through 1974	79,668	2,077,719	83,788,468	311,232,618	102,632,670	35,417,637	111,307,955	646,555,321
	(Cumulative-5 year interval)							
1975 Through 1979	84,204	2,529,548	106,665,092	341,229,283	70,867,445	161,459,651	120,957,221	803,792,444
	(Cumulative-5 year interval)							
1980	85,129	2,585,144	107,122,905	342,736,233	73,694,710	189,157,314	122,219,472	837,600,907
1981	86,197	2,695,322	107,583,562	344,009,648	76,637,296	215,753,429	123,347,572	870,113,026

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

TABLE 33 CUMULATIVE GAS PRODUCTION BY GEOLOGIC SYSTEM AND FORMATION - 1981 AND PRIOR YEARS

YEAR	CENOZOIC	MISSISSIPPIAN		DEVONIAN				SILURIAN	ORDOVICIAN	Cumulative MCF All Formations
	Glacial Drift	Stray-Marshall	Berea	Antrim Shale	Traverse	Dundee-Reed City	Detroit River	Salina-Niagaran	Trenton-Black River	
	First Year of Recorded Gas Production by Formation									
	1949	1931	1936	1947	1934	1929	1946	1929	1954	
1925 Through 1929	. . .	(Cumulative-5 year interval)		. . . . .		1,887,732	. . . . .	74,867	. . . . .	1,962,599
1930 Through 1934	. . .	3,001,963	. . . . .	. . . . .	3,744	7,921,938	. . . . .	136,445	. . . . .	11,064,090
		(Cumulative-5 year interval)								
1935 Through 1939	. . .	33,771,434	1,391,076	. . . . .	73,638	16,784,103	. . . . .	142,776	. . . . .	52,163,027
		(Cumulative-5 year interval)								
1940 Through 1944	. . .	104,270,423	7,251,907	. . . . .	3,789,770	24,431,613	. . . . .	222,759	. . . . .	139,966,472
		(Cumulative-5 year interval)								
1945 Through 1949	8,020	184,488,103	8,719,367	52,495	5,203,774	40,142,249	793,763	7,616,503	. . . . .	247,024,274
		(Cumulative-5 year interval)								
1950 Through 1954	8,020	202,521,522	9,635,569	108,121	7,117,271	45,503,827	7,791,020	18,932,585	10,725	291,628,690
		(Cumulative-5 year interval)								
1955 Through 1959	8,020	209,355,971	9,783,654	164,807	7,383,894	47,790,893	20,330,272	39,050,109	6,620,118	340,487,738
		(Cumulative-5 year interval)								
1960 Through 1964	8,020	212,230,795	9,825,674	321,292	8,260,250	48,907,957	39,582,606	105,849,501	52,064,112	477,050,207
		(Cumulative-5 year interval)								
1965 Through 1969	8,020	214,867,652	10,639,897	541,597	8,714,448	49,058,616	50,232,209	211,999,102	109,318,026	655,379,567
		(Cumulative-5 year interval)								
1970 Through 1974	8,020	213,298,888	11,249,818	1,284,841	9,233,011	48,568,150	60,395,689	357,050,974	162,958,467	864,047,858
		(Cumulative-5 year interval)								
1975 Through 1979	8,020	213,656,822	10,990,672	1,965,658	9,048,289	41,517,206	75,000,346	974,584,054	207,444,618	1,534,877,591
		(Cumulative-5 year interval)								
1980	8,020	213,678,135	11,019,521	2,341,541	9,669,027	41,532,324	76,886,192	1,124,029,415	213,389,432	1,693,215,513
1981	8,020	213,686,363	11,054,323	2,697,350	10,313,638	41,533,999	78,938,145	1,264,853,076	219,068,112	1,842,153,026

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

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

TABLE 34 CUMULATIVE WELL COMPLETIONS BY COUNTY THROUGH 1981

County	Area of County (including inland water)		Classification of Completed Wells (New Hole) (does not include reworked wells)						Approximate Well Density
	Square Miles	Acres	Oil Wells	Gas Wells	Service Wells GS - OBS - BDW	Service Wells LPG	Dry Holes	Total Completions	(All Classes) Wells:Sq. Miles
Alcona	694	444,160					24	24	1:29
Allegan	837	535,680	1,322	89	174		1,728	3,313	4:1
Alpena	590	377,600		1			15	16	1:37
Antrim	520	332,800	6	2	1		58	67	1:8
Arenac	369	236,160	413	44	1		416	874	2:1
Barry	571	365,440	74		4		143	221	1:3
Bay	451	288,640	484	1	1		241	727	2:1
Benzie	342	218,880	3				22	25	1:14
Berrien	584	373,760	9				76	85	1:7
Branch	517	330,880					68	68	1:8
Calhoun	716	458,240	326	70	4		525	925	1:1
Cass	505	323,200	69				153	222	1:3
Charlevoix	451	288,640					16	16	1:28
Cheboygan	798	510,720	7				52	59	1:14
Chippewa	1,651	1,056,640	Northern Peninsula County				10	10	1:165
Clare	577	369,280	423	174	501		382	1,480	3:1
Clinton	573	366,720	4				83	87	1:7
Crawford	566	362,240	127	11	14		60	212	1:3
Delta	1,202	769,280	Northern Peninsula County				1	1	1:1200
Eaton	572	366,080	45	19			123	187	1:3
Emmet	477	305,280					5	5	1:95
Gd. Traverse	490	313,600	129	124	3		498	754	2:1
Genesee	649	415,360	32	2			46	80	1:6
Gladwin	512	327,680	780		1		285	1,066	2:1
Gratiot	566	362,240	46	74	29		283	432	1:1
Hillsdale	604	386,560	317	2			520	839	1:1
Huron	824	527,360	6				82	88	1:9
Ingham	560	358,400	88	15	14		160	277	1:2
Ionia	578	369,920	9				85	94	1:6
Iosco	563	360,320					27	27	1:21
Isabella	573	366,720	677	163	58		511	1,409	2:1
Jackson	717	458,880	141	3			300	444	1:1
Kalamazoo	580	371,200	19				118	137	1:4
Kalkaska	573	366,720	162	83	26		297	568	1:1
Kent	868	555,520	461	6	2	11	349	829	1:1
Lake	577	369,280	51	1	8		159	219	1:3
Lapeer	662	423,680	83	7	2		71	163	1:4
Leelanau	374	239,360					9	9	1:42
Lenawee	760	486,400	4	72			118	194	1:4
Livingston	583	373,120	4	35	55		120	214	1:3
Luce	929	594,560	Northern Peninsula County				2	2	1:465
Mackinac	1,081	691,840	Northern Peninsula County				3	3	1:360
Macomb	481	307,840	6	79	36		393	514	1:1
Manistee	568	363,520	210	78	13		400	701	1:1
Mason	505	323,200	141	17	1		332	491	1:1
Mecosta	570	364,800	131	203	236		426	996	2:1
Midland	523	334,720	908	2	1	2	284	1,197	2:1
Missaukee	572	366,080	267	65	105		238	675	1:1
Monroe	564	360,960	45				114	159	1:4
Montcalm	720	460,800	384	221	280		616	1,501	2:1
Montmorency	567	362,880	4	2			74	80	1:7
Muskegon	519	332,160	447	120			391	958	2:1
Newaygo	867	554,880	215	48	161		395	819	1:1
Oakland	899	575,360	14	20	5		109	148	1:6
Oceana	541	346,240	340	11			568	919	2:1
Ogemaw	580	371,200	560	21	48		184	813	1:1
Osceola	585	374,400	347	121	201		389	1,058	2:1
Oscoda	568	363,520	2				14	16	1:36
Otsego	538	344,320	148	67	21		358	594	1:1
Ottawa	572	366,080	474	19	2		504	999	2:1
Presque Isle	678	433,920	12	8			179	199	1:3
Roscommon	573	366,720	221	14	2		107	344	1:2
Saginaw	814	520,960	388	2			181	571	1:1
Sanilac	961	615,040					57	57	1:17
Schoolcraft	1,229	786,560	Northern Peninsula County				2	2	1:615
Shiawassee	540	345,600	9				57	66	1:8
St. Clair	751	480,640	266	192	112	16	916	1,502	2:1
St. Joseph	518	331,520					23	23	1:23
Tuscola	820	524,800	180	5			123	308	1:3
Van Buren	615	393,600	743		1		1,019	1,763	3:1
Washtenaw	723	462,720	10	18	5	1	119	153	1:5
Wayne	625	400,000	12	24	20	30	54	140	1:4
Wexford	570	364,800	14	18			101	133	1:4
73 Counties	47,342	Totals:	12,819	2,368	2,148	60	16,975	34,370	

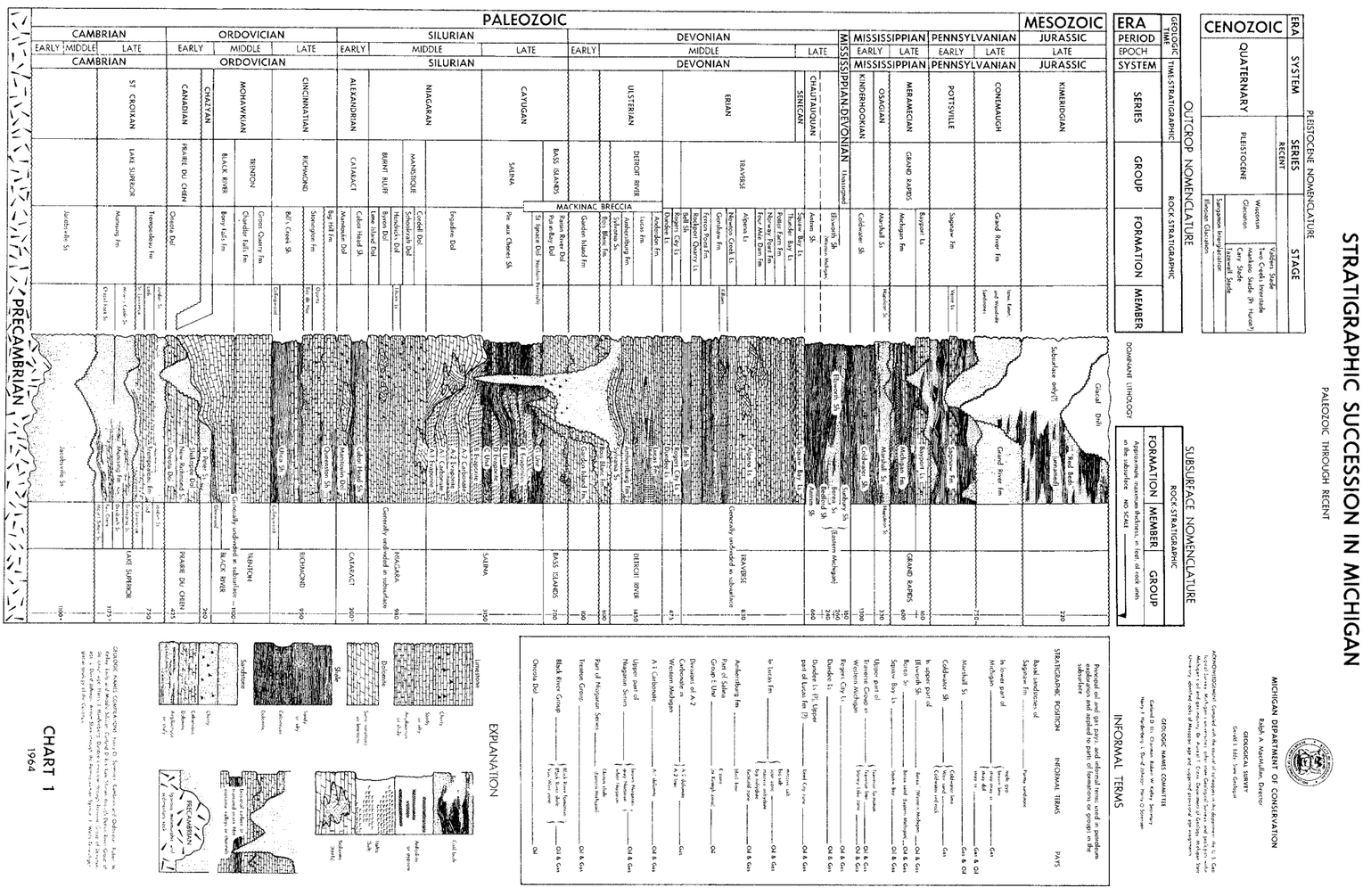
TABLE 35 PERMITS, DISCOVERIES, WELL COMPLETIONS, WELLS AT END OF YEAR, 1981 AND PRIOR YEARS

Year	Permits Issued	Classification of Well Completions: Oil Wells	Gas Wells	Service Wells GS-OBS-SWD	Service Wells LPG	Dry Holes	Total Completions	Fields or Pools Discovered: Oil	Gas	Wells at End of Year: Oil Wells	Gas Wells	GS OBS	Inj.* P.M.	LPG*
1925	0	3					3	1		Incomplete records from 1925 through 1930				
1926	0	89				16	105		1					
1927	16	218	3			46	267	1	1					
1928	283	79	30			49	158	1		*LPG injection and extraction wells in LPG storage facilities.				
1929	576	324	22			137	483							
1930	257	154	19			158	331	2	3					
1931	111	59	17			52	128		1	634	64			
1932	184	109	10			64	183	1		645	72			
1933	429	223	10			85	318	3	1	831	70			
1934	444	272	47			150	469	3	2	977	117			
1935	700	319	101			221	641	1	5	1,167	212			
1936	777	333	206			268	807	6	5	1,360	402			
1937	973	622	66			267	985	6	1	1,778	442			
1938	996	580	27			411	1,018	17	2	2,141	448			
1939	1,465	845	56			578	1,479	8	2	2,684	485			
1940	1,121	557	59			565	1,181	8	13	2,928	510			
1941	1,044	441	97			413	951	7	8	3,158	577	13		
1942	570	297	74			331	682	14	4	3,324	631	13		
1943	627	233	47			355	635	12	8	3,386	639	13		
1944	741	246	64			400	710	10	2	3,433	651	13		
1945	755	271	57	6		467	801	11	11	3,536	663	19		
1946	822	223	53	86		461	823	19	10	3,520	547	226		
1947	886	318	43	148		387	896	10	4	3,532	534	409		
1948	918	371	32	77		437	917	10	5	3,554	502	482		
1949	999	439	22	73		473	1,007	21	2	3,818	471	554		
1950	901	336	28	47		473	884	18	4	3,954	471	610		
1951	744	227	20	43	1	466	757	16	6	3,911	417	673		1
1952	694	261	30	51	2	370	714	14	5	3,979	388	732		3
1953	824	258	18	110	1	360	747	11	6	4,089	313	901		4
1954	573	214	15	2	2	338	571	18		4,167	316	903		6
1955	484	204	13	1	1	291	510	12	2	4,223	321	904		7
1956	476	196	12	28		227	463	12	2	4,191	310	932		7
1957	461	176	40	35	3	207	461	12	5	4,233	335	977		10
1958	481	166	20	36	4	227	453	10	7	4,201	345	1,025		14
1959	727	257	47	72	4	272	652	8	7	4,327	323	1,094		18
1960	904	372	19	79	1	441	912	7	4	4,555	249	1,337	242	19
1961	849	207	57	74	3	476	817	13	10	4,619	292	1,420	260	22
1962	711	148	62	53	4	474	741	5	7	4,603	300	1,531	287	26
1963	704	135	72	56	2	384	650	7		4,598	367	1,601	287	28
1964	583	82	48	126		376	632	6	4	4,588	404	1,632	288	28
1965	494	53	34	107		291	485	6	7	4,368	424	1,859	341	28
1966	430	56	45	11	2	290	404	8	3	4,315	429	1,896	233	30
1967	405	69	38	26		287	420	8	2	4,273	481	1,921	333	30
1968	378	70	12	30	6	251	369	9	4	4,372	414	2,010	394	36
1969	379	73	9	26		239	347	7	3	4,349	410	2,034	---	36
1970	425	50	16	108	3	211	388	11	7	4,324	418	2,119	---	39
1971	425	83	31	83	13	186	396	28	13	4,323	418	2,299	---	52
1972	423	84	38	64	2	186	374	34	23	4,313	450	2,377	---	54
1973	445	81	47	67	0	173	369	38	37	4,334	491	2,462	---	54
1974	503	134	61	54	2	235	484	55	39	4,376	488	2,494	---	56
1975	653	167	40	38	0	330	575	55	19	---	---	---	---	56
1976	645	120	57	50	0	333	560	30	36	---	---	---	---	56
1977	692	136	70	49	1	341	597	35	36	---	---	---	---	57
1978	690	146	57	74	0	325	602	29	25	---	---	---	---	57
1979	649	173	58	68	0	290	589	42	28	---	---	---	---	---
1980	856	208	51	57	0	416	732	41	21	---	---	---	---	---
1981	1,048	252	43	34	0	450	779	51	18	---	---	---	---	---

TABLE 36 STATE OIL AND GAS REVENUE

Years	Royalty	Rental	Bonus	Application and Assignment Fees	Total Income
1927-1931	$ 85,262.60	$ 43,821.60	$ 27,707.50	$ 1,204.00	$ 157,995.70
1932-1936	209,125.99	205,349.64	87,211.25	4,506.00	506,192.88
1937-1941	1,302,355.65	724,330.32	515,705.83	7,367.00	2,549,758.80
1942-1946	1,645,462.42	2,021,512.76	601,065.34	3,759.00	4,271,799.52
1947-1951	1,813,632.16	2,256,913.51	1,307,470.34	4,398.00	5,382,414.01
1952-1956	2,727,410.47	1,989,342.96	257,186.50	3,028.00	4,976,967.93
1957-1961	1,879,927.18	769,593.64	475,840.80	3,702.00	3,129,063.62
1962-1966	1,259,162.06	1,476,949.69	409,809.00	4,982.00	3,150,902.75
1967-1971	2,160,038.71	3,258,021.87	2,168,524.59	6,009.00	7,592,594.17
1972-1976	31,650,974.98	5,998,725.51	18,339,236.24	9,979.00	55,998,915.73
1977	13,327,908.44	1,190,619.60	357,005.74	3,069.00	14,878,602.78
1978	18,244,756.02	1,131,238.25	14,483.00	1,733.00	19,392,210.27
1979	24,269,564.28	1,100,306.53	1,414,667.00	1,047.00	26,785,584.81
*1980	24,488,630.88	1,015,879.01	-2,982.64	1,679.00	25,503,206.25
*1981	44,912,755.96	1,216,258.42	32,277,235.00	1,860.00	78,408,109.38
Total	136,976,967.80	24,398,863.31	58,250,165.49	58,322.00	252,684,318.60

*Figures compiled on a State fiscal year basis; prior years compiled on a calendar year basis.



DEPARTMENT OF NATURAL RESOURCES
GEOLOGICAL SURVEY DIVISION

MICHIGAN OIL AND GAS FIELDS, 1981

SOUTHERN PENINSULA

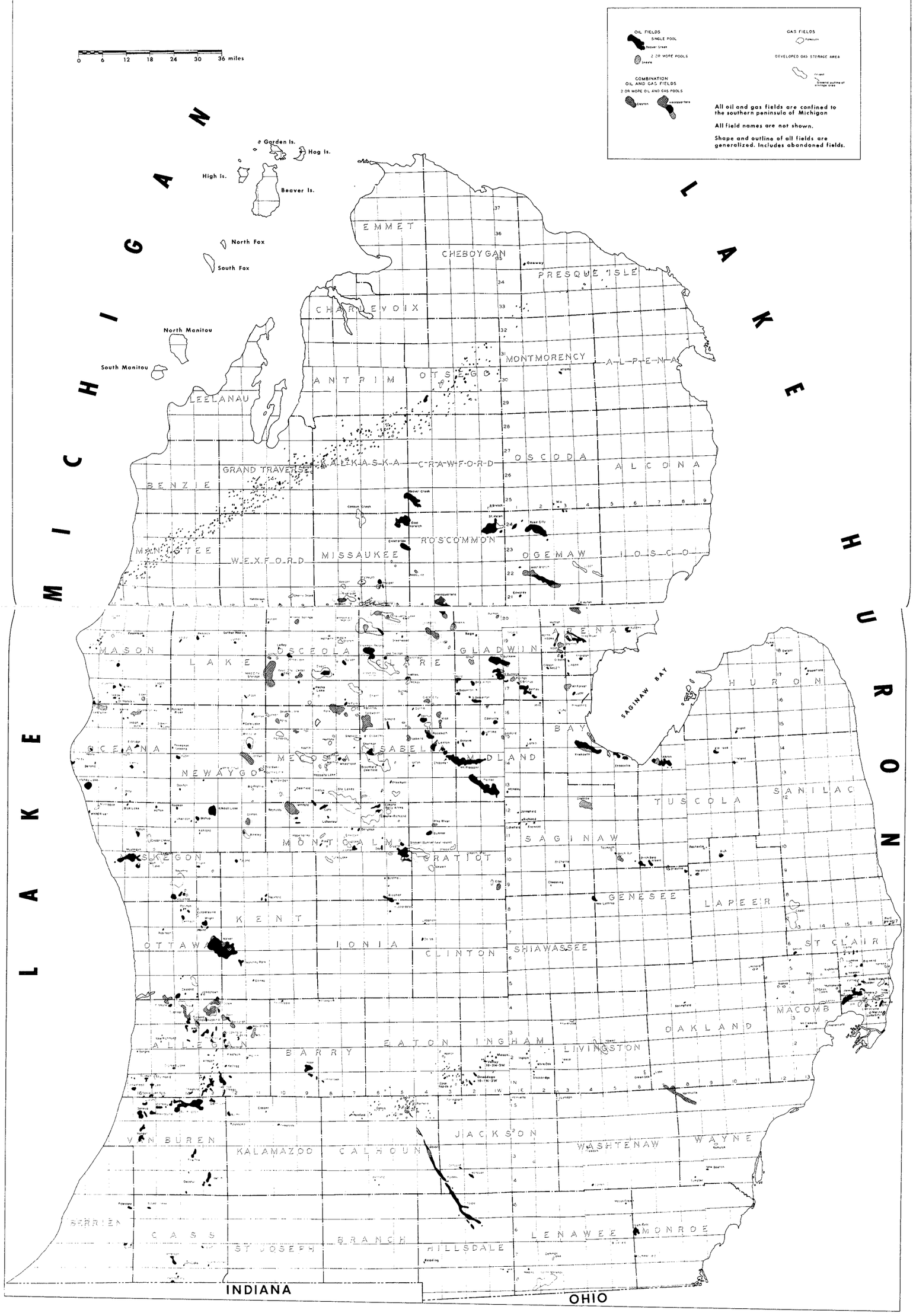


ILLUSTRATION 7
GEOLOGICAL SURVEY ADMINISTRATIVE DISTRICT BOUNDRIES

The dots shown on the map are the general location of Michigan Department of Natural Resources (DNR) Geological Survey district and area field offices. These districts are arranged for administrative and regulatory purposes. Although they are often called oil and gas districts they should not be confused with the statistical reporting districts shown in Illustration 1.

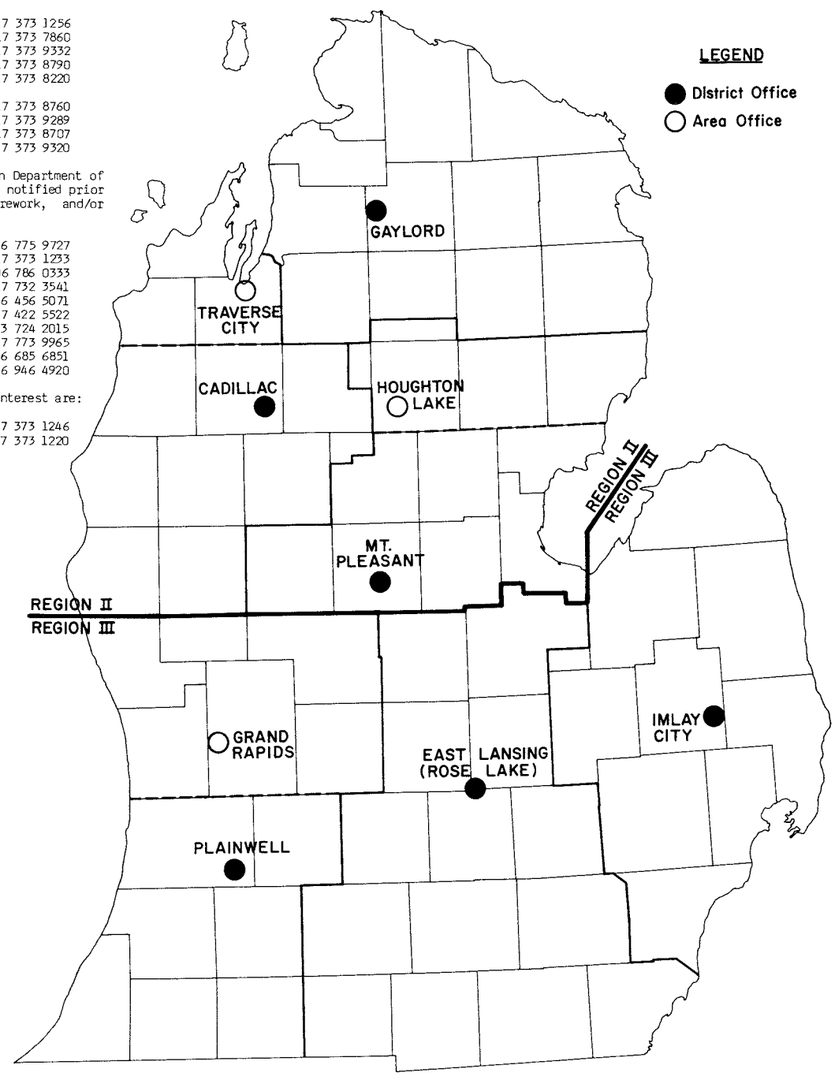
The following listing of telephone numbers is included for your reference.

Michigan DNR Geological Survey Division
Box 30028 (4th Floor Mason Bldg.)
Lansing, Michigan 48909

State Geologist	517 373 8014
Compliance	517 373 8741
Information & Technical Services	517 373 1256
Maps and Graphics	517 373 9236
Microfilm	517 373 7836
Planning & Fiscal Control	517 373 1256
Economic and Environmental Geology Section	517 373 1256
Groundwater	517 373 7860
Mine Reclamation	517 373 9332
Mining & Economic Geology	517 373 8790
Petroleum Geology	517 373 8220
Oil and Gas Section	517 373 8760
Mineral Wells	517 373 9289
Production & Proration	517 373 8707
Regulatory Control	517 373 9320

The nearest Field Office of the Michigan Department of Natural Resources Geological Survey must be notified prior to the commencement of any drilling, rework, and/or plugging operations.

Cadillac	616 775 9727
East Lansing	517 373 1233
Escanaba	906 786 0333
Gaylord	517 732 3541
Grand Rapids	616 456 5071
Houghton Lake	517 422 5522
Imlay City	313 724 2015
Mt. Pleasant	517 773 9965
Plainwell	616 685 6851
Traverse City	616 946 4920

Other DNR telephone numbers that may be of interest are:

Lands Division	517 373 1246
DNR Information Services Center	517 373 1220