STATE OF MICHIGAN

DEPARTMENT OF CONSERVATION

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GEOLOGICAL SURVEY DIVISION

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1956

SUMMARY OF OPERATIONS OIL AND GAS FIELDS

BY

THE STAFF OF THE OIL AND GAS SECTION

AS COMPILED BY

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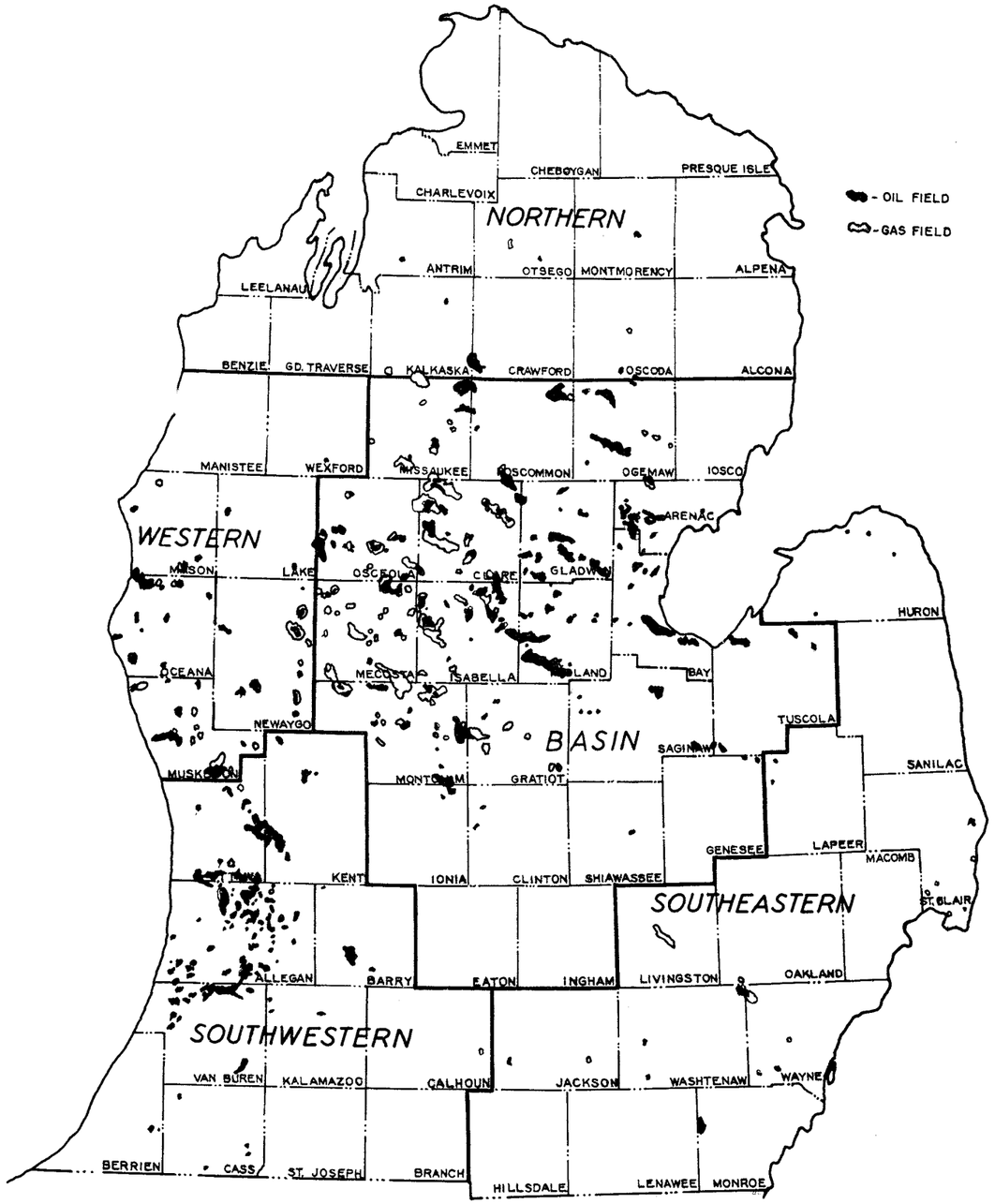
OIL AND GAS FIELDS
SOUTHERN PENINSULA OF MICHIGAN
BY DISTRICTS



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GENERAL ACTIVITIES

(Comparative Statistics 1955-56)

There were 476 drilling permits issued during 1956. Of this number, 448 were for exploratory and development wells and 28 were for service wells. In 1955, permits were issued for 483 exploratory and development wells and one service well. These figures represent a 7.2% decline in exploratory and development well permits from 1955.

In comparison with the permits, completions also registered a noticeable drop from 1955 with a total of 510 for that year as against 463 for 1956. There is, in reality, a difference of 14.5% in the exploratory and development well completions for the two years as 28 were service wells in 1956 and only one was a service well in 1955. Table I is a comparative tabulation of the exploratory and development wells for the two years.

TABLE I
COMPARATIVE COMPLETION SUMMARY, MICHIGAN, 1955 - 1956 (Inc.)[1]

	1955					1956				
	Oil	Gas	Dry	Total	Percent Success	Oil	Gas	Dry	Total	Percent Success
Exploratory Wells	11	2	190	203	6.8	12	1	152	165	7.9
Development Wells	193	11	102	306	66.6	184	11	75	270	68.1
Totals	204	13	292	509	42.6	196	12	227	435	47.8

[1]Figures do not include one liquid petroleum gas storage well drilled in 1955 and 28 gas storage wells drilled in 1956, all of which are referred to as service wells in the text.

Footage drilled as with completions and permits declined proportionately. In 1956 the exploratory and development footage totaled 1,281,675 feet or 236,276 feet less than last year. Of the 1956 footage drilled, 461,359 feet were attributed to exploratory wells and 820,298 feet to development wells. The average exploratory effort penetrated 2,796 feet and the average development well effort 3,038 feet. In 1955 the exploratory footage totaled 594,405 feet and development well footage 923,546 feet or 2,928 feet per exploratory effort and 3,018 feet per development well.

The production of oil declined 4.7% in 1956 and gas increased 23.2%. Production totaled 10,739,697 barrels of oil and 8,840,933 MCF of gas in 1956. The production for 1955 was 11,265,842 barrels of oil and 6,787,697 MCF of gas.

Undeveloped acreage under lease at the end of the year as reported by 11 major oil companies was 752,051 acres. These same companies had 817,361 undeveloped acres under lease on December 31, 1955. State undeveloped acreage under lease also declined with 225,000 acres under lease on December 31, 1956 as compared to 264,725 acres under lease on December 31, 1955.

EXPLORATION

The 165 exploratory wells drilled during the year resulted in five new oil fields, four extensions and four deeper pool discoveries. This is a 7.9 percent success ratio. Additional encouragement was provided by the discovery of five new pays due to the reworking of older wells and encountering of shallower pays in field development wells.

Core tests dropped off considerably during the year with only 13 permits being issued. Of those issued only 8 were drilled. In 1955 the core permits numbered 114, all of which were drilled.

Very little geophysical exploration was done in 1956. A seismic crew was reported in Concord Township, Jackson County. Their work was very limited and consisted of rechecking gravity anomalies. A combination gravity and radiation survey was made in Allegan County. The work was of a semi-technical nature and over limited areas.

Thirty important deep tests were drilled in 19 counties. Of these tests 2 reached the Cambrian, 3 the Trenton, 6 the Cataract, 3 the Clinton, 1 the Niagaran, 4 the Salina, 1 the Sylvania, 8 the Detroit River - Richfield Zone, and 2 the Detroit River. The tests resulted in the discovery of 1 new Richfield oil field in Roscommon County, 1 deeper Richfield pool in Gladwin County, 2 deeper Salina pools and 1 Salina pool extension in Allegan County. As in the past the majority of the deeper formation tests were concentrated in the southern part of Michigan and on the flanks of the Basin where the older formations are at a shallower depth. The 16.7% success ratio of these tests is encouraging and should lead to more extensive drilling of the older formations.

Subsurface geology continued to be the most efficient tool of exploration in Michigan. Only two discoveries were reported as being from geophysical surveys. The McClure's Koopman No. 1 Salina gas discovery in Allegan County was reported as being the result of a combination gravity and radiation survey and the O'Neill's Larsen No. 1 in Mecosta County was reported as being the result of a radiation survey. The latter discovery was plugged in 1956 and no oil runs were reported.

PROSPECTS FOR 1957

Oil and gas activity in 1957 is expected to maintain about the same level as in 1956. The Basin District will as in the past have the largest number of completions. However, the recent deeper formation discoveries in Allegan County will undoubtedly increase the activity in the Southwestern area. Also, a drilling well not yet completed reported good shows of gas and oil for the Trenton formation in Scipio Township, Hillsdale County. Although the Trenton exploratory tests have been somewhat disappointing to date, this potential discovery should stimulate interest in the Southern District.

Michigan oil fields were producing a total of 196,563 barrels of brine per day at the end of 1956. This was a decrease of 5,798 barrels per day as compared with a total of 202,361 barrels per day at the end of 1955.

Table II is a record of all Michigan oil fields which were producing in excess of 2,000 barrels of brine per day and the percentage factor of the total produced from these fields in relation to the total daily brine produced in the state.

TABLE II

Field	1951	1952	1953	1954	1955	1956
Coldwater	17,551	21,287	22,601	26,751	29,799	33,256
Reed City	32,214	34,859	30,498	28,105	24,907	23,822
Porter	12,005	11,606	11,966	12,528	12,604	12,292
Fork	20,494	20,695	19,109	18,632	16,475	12,115
Freeman-Redding	17,942	18,885	17,485	14,501	12,734	11,930
Deep River	953	3,898	4,368	5,174	10,538	11,729
Kimball Lake	15,819	16,532	11,543	12,859	12,276	10,040
Pentwater	7,201	7,233	7,473	6,997	8,196	8,129
Stony Lake	4,514	4,814	4,466	5,142	7,139	7,062
Sylvan	2,670	3,250	3,780	3,960	4,830	6,407
Adams North	5,599	5,476	4,972	5,278	5,387	5,449
Winterfield	4,456	4,641	4,416	3,205	3,624	4,612
Evart	8,502	9,000	6,692	6,035	5,590	4,610
Prosper	3,363	3,060	3,060	3,012	3,544	3,644
Vernon	2,360	2,335	2,335	2,300	2,825	2,825
Headquarters (Trv.)	4,470	3,085	3,042	2,579	3,027	2,580
Clayton	2,420	2,268	2,453	2,517	2,390	2,477
Total (17 fields)	162,533	172,924	160,259	159,575	165,885	162,979
State total	199,327	207,288	190,817	194,078	202,361	196,563
Percent state total	81.5	83.4	84.	82.2	82.	82.9

Of the seventeen fields tabulated, seven had an increase in daily brine produced, nine a decrease and one remained the same. The most significant increases were in the Coldwater, Deep River and Sylvan fields with a continued rise over a six year period. The Winterfield field also had a noticeable increase over the previous year. The substantial decrease in brine produced in the Fork, Evart and Kimball Lake fields was due to abandonment of wells previously producing large volumes of brine.

Operators in Michigan oil fields were returning 194,475 barrels of brine per day to approved subsurface formations. This was 98.94 percent of the total brine produced. Of the remaining 1.06 percent, one-third was used in drilling operations, lease maintenance and by county road commissions and two-thirds was disposed of on the surface and released in small widely scattered amounts in accordance with temporary arrangements with the operators.

TABLE III

SUMMARY OF OIL FIELD BRINE PRODUCTION AND DISPOSAL DATA
AS OF DECEMBER 31, 1956

Brine Production and Disposal by Formation in Barrels Daily

Producing Formation	Produced From Formation	Returned to Producing Formation	Surface		Subsurface										
			Chemical Companies	Surface Pits and Roads	Basal Drift	Parma	Parma and Marshall	Marshall	Coldwater	Berea	Traverse	Dundee	Lower Dundee	Sylvania	Total Subsurface
Marshall	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Berea	111	0	0	15	0	0	0	71	25	0	0	0	0	0	96
Traverse	45,614	34,822	0	501	5	1,552	2,226	2,606	966	0	34,822	2,936	0	0	45,113
Dundee	149,443	126,489	0	811	0	5,680	4,267	1,390	0	109	10,697	123.105	3,384	0	148,632
Detroit-River	1,201	0	0	608	0	8	0	357	0	0	86	142	0	0	593
Salina-Niagaran	13	0	2	1	0	0	0	0	0	0	10	0	0	0	10
Trenton	181	0	0	150	0	0	0	0	0	0	0	0	28	3	31
Totals	196,563	161,311	2	2,086	5	7,240	6,493	4,424	991	109	45,615	126,183	3,412	3	194,475
% Total	100.00	82.07	.001	1.06	.002	3.68	3.30	2.25	.50	.06	23.21	64.19	1.74	002	98.94

TABLE IV

MONTHLY SUMMARY OF OIL AND GAS OPERATIONS AND PRODUCTION FOR 1956

Month 1956	Permits Issued	COMPLETIONS					INITIAL PRODUCTION		Explor-atory Wells	Field Wells	MONTHLY PRODUCTION	
		Oil Wells	Gas Wells	Service Wells*	Dry Holes	Total	Oil (Bbls.)	Gas (MCF)			Oil (Bbls.)	Gas (MCF)
January	43	21	0	0	23	44	931		14	30	924,320	759,359
February	37	18	1	0	20	39	683	1,650	16	23	857,425	987,985
March	31	19	2	0	22	43	633	20,900	12	31	914,981	1,077,651
April	58	16	0	0	13	29	585		9	20	884,036	718,359
May	38	17	1	0	16	34	858	1,730	10	24	938,856	674,755
June	37	13	0	10	19	42	568		14	28	869,399	687,652
July	40	19	0	11	24	54	717		18	36	907,727	622,885
August	34	12	1	7	15	35	470	1,350	12	23	917,111	585,871
September	38	18	3	0	21	42	695	9,200	18	24	844,434	577,149
October	37	12	0	0	18	30	503		13	17	929,166	621,910
November	32	19	3	0	11	33	1,008	5,530	10	23	859,087	672,925
December	51	12	1	0	25	38	321	80	19	19	893,155	854,432
Totals	476	196	12	28	227	463	7,994	40,440	165	298	10,739,697	8,840,933

*28 Gas Storage Wells

TABLE V

MICHIGAN OPERATIONS BY DISTRICTS IN 1956

District*	Permits Issued	Wells Completed	Oil Wells	Initial Potential (Bbls.)	Gas Wells	Initial Potential (MCF)	Dry Holes	Service Wells	Production Oil (Bbls.)	Production Gas (MCF)	Geol. Test Permits	Wild-cat Wells	Success-ful Wildcats
Basin	255	245	124	5,835	1	1,730	92	28	8,398,052	2,292,959	3	66	7
Northern	12	10	2	120			8		288,483	1,001,900	4	6	1
Southeastern	20	30	1	20	6	30,630	23		109,926	4,776,571	5	11	
Southwestern	105	94	52	903	5	8,080	37		557,679	36,897		28	4
Western	84	84	17	1,116			67		1,385,557	732,606	1	54	1
Totals	476	463	196	7,994	12	40,440	227	28	10,739,697	8,840,933	13	165	13

*Districts outlined on inside front cover.

Area of Districts in Square Miles:

Basin	12,931	Southwestern	6,748
Northern	7,974	Western	4,110
Southeastern	8,981		

TABLE VI

SUMMARY OF OIL AND GAS DEVELOPMENTS BY COUNTIES FOR 1956

County	Permits Issued	COMPLETIONS Oil Wells	Gas Wells	Service Wells*	Dry Holes	Total	INITIAL PRODUCTION Oil (Bbls.)	Gas (MCF)
Allegan	46	27	5		13	45	516	8,080
Arenac	18	14			6	20	437	
Barry	3	2				2	20	
Bay	17	10			6	16	450	
Branch	3				2	2		
Calhoun	1				2	2		
Clare	17	13			5	18	577	
Clinton					1	1		
Crawford	3	2				2	120	
Genesee	1				1	1		
Gladwin	21	12			5	17	425	
Grand Traverse	1				1	1		
Gratiot	9	5			9	14	271	
Hillsdale	2				1	1		
Huron	2				1	1		
Ionia	2				1	1		
Isabella	7	3			7	10	105	
Jackson	1				3	3		
Kalamazoo	19	9			6	15	201	
Kalkaska	3				2	2		
Kent	5	1			2	3	3	
Lake	3				2	2		
Lapeer	1				1	1		
Lenawee	1				1	1		
Macomb					1	1		
Mason	10	1			15	16	50	
Mecosta	14	2	1	6	6	15	38	1,730
Midland	10	3			7	10	37	
Missaukee	3	1			1	2	20	
Montcalm	78	28		22	21	71	1,846	
Muskegon	13	5			6	11	155	
Newaygo	29	8			24	32	778	
Oakland	4		1		2	3		130
Oceana	29	3			20	23	133	
Ogemaw	9	4			5	9	83	
Osceola	9	3			4	7	207	
Otsego	4				4	4		
Ottawa	21	12			10	22	123	
Presque Isle	1				1	1		
Roscommon	10	8			1	9	475	
Saginaw	9	4			2	6	235	
St. Clair	1				2	2		
Tuscola	21	14			4	18	629	
Van Buren	7	1			2	3	40	
Washtenaw	3	1			6	7	20	
Wayne	5		5		5	10		30,500
Totals	476	196	12	28	227	463	7,994	40,440

*28 Gas Storage Wells

TABLE VII

1956 DISCOVERY WELLS

County	Field Name	Section Township Range	Well	Permit Number	Disc. Date 1956	Depth to Pay	Initial Production Oil (Bbls.)	Gas (MCF)	Producing Form.	Method of Location
			NEW FIELDS:							
Mecosta	Deerfield, Sec. 17	17-13N-9W	O'Neill Oil Co-Larson #1	19879	1/11	3582	P 8 + 30 W/d A[1]		Reed City	Rad.*
Oceana	Gilbert Lake	34-16N-15W	Ford Oil Co-Williams & Richmond #1	20344	12/31	2032	F 200		Traverse	Ss**
Ottawa	Zeeland, Sec. 4	4-5N-14W	Cook Petroleum Co. - DeJonge #1	20256	11/12	1670	P 10 + 25 W/d A		Traverse	Ss
Ottawa	Robinson, Sec. 3	3-7N-15W	Miller Bros.-Siemion #1	19857	4/27	2107	P 8/d A		Dundee	Ss
Roscommon	Nellsville	8-22N-4W	Sun Oil Co. - Hogan #1	20260	11/1	4932	F 10 + 10 W/d A		Richfield	Ss
			NEW PAYS:							
Allegan	Hopkins, West	18-3N-12W	Oil Producers, Inc. - Shafer #1	20184	9/24	2755) 2861)	P 6/d A		Salina	Ss
Allegan	Overisel	16-4N-14W	McClure Oil Co. - Koopman #1	20115	8/9	2650		1350/d A	Salina	Gr*** & Rad.
Arenac	Adams, North	21-19N -3E	Rayburn - Doyle #1	19862	1/13	3943	F 7/d A		Det. Riv.	Ss
Arenac	Au Gres	2-19N-6E	Lakeland- State Au Gres#1-B	19795	7/21	3829	P 22/d A		Det. Riv.	Ss
Gladwin	Buckeye, South	25-18N-1W	Carlson & Sole - Oard #1	20040	7/5	2891	F 85/d		Traverse	Ss
Gladwin	Grout	10-18N-2W	Sun Oil - Linnaberry #1	20145	7/29	5041	P 15 + 30 W/d A		Richfield	Ss
Gratiot	Pine River	36-12N-4W	The MOCO - Hoxie #1	20295	12/9	2890	P 10 + sw/d A		Traverse	Ss
Missaukee	East Norwich	14-24N-5W	Sun Oil - Horner #67	18171	6-22	4025	P 7/d A		Det. Riv.	Ss
Osceola	North Fork	33-17N-7W	McClure Oil - Manley #1	16138	4/18	1433		1530/d	Mich.Stray	Ss
			EXTENSIONS:							
Allegan	Dorr Salina Pool	25-4N-13W	Zellman - Helmer #1	19897	8/25	2922	P 6-8/d A		Salina	Ss
Montcalm	Edmore	11-12N-6W	Brehm - Peterson #1	20276	11/24	3088	F 85-90/d		Traverse	Ss
Montcalm	Reynolds	6-12N-9W	Cline - M.C.G.C. #1	19892	2/15	3361	F 100/d		Reed City	Ss
Gratiot	Elba	14-9N-1W	Collin - Sipka #1	20092	6/8	2523	F 80/d		Traverse	Ss

***Gravity

*Radiation **Subsurface

[1]Initial Production After Acid

TABLE VIII
SUMMARY OF PRODUCING OIL WELL DATA BY FORMATIONS
AS OF DECEMBER 31, 1956

FORMATION	NUMBER OF Pools	NUMBER OF Wells	DAILY PRODUCTION - BBLS. Oil	DAILY PRODUCTION - BBLS. Water	Per Well Oil	Per Well Water	PERCENTAGE OF TOTAL Wells	PERCENTAGE OF TOTAL Oil	PERCENTAGE OF TOTAL Water
Marshall	1	5	6	0	0.8	0.0	.12	0.02	0.00
Berea	11	40	77	111	1.9	2.8	0.95	0.24	.06
Traverse	86	1,351	6,675	45,614	4.9	33.8	32.22	20.64	23.20
Dundee	72	1,990	16,856	149,443	8.5	75.1	47.48	52.13	76.03
Detroit River	33	776	8,400	1,201	10.8	1.5	18.51	25.97	0.61
Salina-Niagaran	5	5	54	13	10.8	2.6	.12	0.17	.01
Trenton	3	25	268	181	10.7	7.2	.60	0.83	.09
Totals	212	4,192	32,336	196,563	7.71	46.9	100.00	100.00	100.00

TABLE IX

STATUS OF PRODUCING OIL WELLS BY FORMATIONS
DATA AS OF DECEMBER 31, 1956

FORMATION	NUMBER OF WELLS — STATUS OF WELLS Prod.	Down	Total	Pump	Flow	Water	BREAKDOWN BY PRODUCTION (BBLS.) 0-3	3-6	6-10	10-20	20-50	50 plus
Marshall	3	2	5	3	0	0	3	0	0	0	0	0
Berea	38	2	40	37	1	26	31	6	0	1	0	0
Traverse	1,281	70	1,351	1,269	12	828	896	187	89	51	41	17
Dundee	1,931	59	1,990	1,857	74	1,261	922	481	219	140	90	79
Detroit River	726	50	776	224	502	414	83	164	184	195	91	9
Salina-Niagaran	5	0	5	2	3	3	1	1	0	3	0	0
Trenton	11	14	25	10	1	7	4	2	1	3	0	1
Totals	3,995	197	4,192	3,402	593	2,539	1,940	841	493	393	222	106

TABLE X

SUMMARY OF MICHIGAN OIL FIELDS

LINE NO.	FIELD NAME AND COUNTY		YEAR OF DISC.	PRODUCING FORMATION	PAY ZONE DEPTH	PAY ZONE THICK	PAY ZONE LITHOLOGY	GRAV. A.P.I.	DEEPEST ZONE TESTED	DEPTH IN FEET	NUMBER OF OIL WELLS TO END 1956	COMP. IN 1956	ABAND. IN 1956	PROD. AT END 1956	OIL PRODUCTION IN BARRELS 1956	CUMULATIVE	DRILLED ACRES	RECOVERY PER ACRE DRILLED (BBLS.)	BRINE PRODUCTION DISPOSAL SUBSURFACE	BRINE PRODUCTION DISPOSAL SURFACE	BBLS. PER DAY TOTAL PRODUCTION	LINE NO.
1	Adams	Arenac	1937	Traverse	2032	15	L	37.0	Bois Blanc	5079	23	2	0	11	39,068	1,122,174	750	613	0	11	11	
2			1937	Dundee	2958	15	L	34.7	Bois Blanc	5079	32	0	2	19			)		17	6	23	
3		Arenac-Bay	1941 1956	Richfield Detroit River	4278 3943	5 5	L	38.0	Bois Blanc Bois Blanc	5079) 5079)	30	2	0	10			1,080		0	8	8	
4	Adams, North	Arenac	1940	Dundee	2905	15	D		Detroit River	4489	49	0	0	23	55,679	8,744,353	460	19,009	5,449	0	5,449	
5	Akron	Tuscola	1936	Dundee	2678	17	L	37.3	Sylvania	4130	37	6	0	26					0	258**	258	
6		(1)	1938	Detroit River	3422	11	D	41.9	Sylvania	4130	24	3	0	21	153,490	841,341	930	904	0	37**	37	
7			1954	Richfield	3774	6	D		Sylvania	4130	1	0	0	1					0	0	0	
8	Alamo	Kalamazoo	1949	Traverse	1310	2	L	36.0	Traverse	1420	11	9	1	10	12,820	18,394	110	167	115	7	122	
9	Allegan	Allegan	1937	Traverse	1563	2	L	38.0	Bass Island	1875	18	2	3	1	3,017	13,663	180	76	0	12	12	
10	Arbella	Tuscola	1946	Dundee	2557	7	L		Detroit River	3375	34	1	0	1	Re-Activated 1956 103	273,315	350	781	0	0	0	
11	Ashton	Osceola	1945	Traverse	2950	4	L	42.0	Detroit River	3686	2	0	0	1	14,677	312,075	200	1,560	260	0	260	
12			1945	Reed City	3645	5	L	40.0	Detroit River	3686	4	0	0	4					0	1	1	
13	Atlanta	Montmorency	1945	Detroit River	2183	5	D		Detroit River	2550	3	0	1	1	0	6,945	30	232	Shut down			
14	Au Gres, Sec. 11	Arenac	1953	Richfield	4152	11	L		Richfield	4315	3	1	0	3	4,129	6,166	120	51	0	1	1	
15	Bangor	Van Buren	1939	Traverse	1002	2	L	29.5	Trenton	2552	65	0	1	2	0	933,851	610	1,531	140	0	140	
16	Bard	Gladwin	1949	Dundee	1933	6	L	42.8	Dundee	4017	16	0	1	13	25,662	430,237	160	2,689	146	0	146	
17	Beaver, Sec. 31	Bay	1954	Berea	2413	16	SL	40.1	Sylvania	4754	1	0	0	1	82	724	10	72	1	0	1	
18	Beaver Creek	Crawford-Kalkaska	1947	Richfield	4160	20	D	44.7	Sylvania	4503	96	2	1	95	285,357	4,580,048	3,840	1,193	281	42**	323	
19	Beaverton	Gladwin	1934	Dundee	3929	12	L	41.3	Richfield	5225	25	0	0	3	8,623	793,801	320	2,481	65	0	65	
20	Beaverton, South	Gladwin	1936	Dundee	3845	12	L	41.1	Detroit River	4977	33	0	0	25	33,173	1,298,104	700	1,854	22	19	41	
21	Beaverton, West	Gladwin	1943	Dundee	3876	2	L	41.2	Dundee	3912	1	0	0	1	980	17,770	20	889	0	11**	11	
22	Belly Achers	Montcalm	1944	Dundee	3470	1.3	D	48.2	Dundee	3615	7	0	0	4	6,987	298,541	220	1,357	1,500	0	1,500	
23	Benona, Sec. 13	Oceana	1949	Traverse	1640	3	L		Detroit River	2276	2	1	1	0	Re-Act.1956 Aban.1956 140	4,951	20	248	0	0	0	
24	Bentley	Gladwin	1937	Dundee	3510	13	L	42.1	Sylvania	5114	87	0	1	61	91,581	2,135,971	1,910	1,118	124	32	156	
25			1952 1952	Traverse Richfield	2855 4480	6 14	L L		Sylvania Sylvania	5114) 5114)	1	0	0	1					1	0	1	
26	Bevens Lake	Mecosta	1951	Traverse	2997	1	L	44.2	Reed City	3731	2	0	0	2	6,827	49,237	20	2,462	45	0	45	
27	Billings	Gladwin	1949	Dundee	3549	6	L	39.7	Richfield	4995	19	0	0	19	33,679	527,322	480	1,099	1	0	1	
28			1950	Detroit River	4070	7	D	43.3	Richfield	4995	10	0	0	10					0	0	0	
29	Birch Bela	Saginaw-Tuscola	1951	Dundee	2504	7	L		Dundee	2577	7	4	0	7	4,801	4,801	70	69	0	1	1	
30	Birch Run	Saginaw	1954	Dundee	2536	10	L	36.2	Dundee	2716	6	3	0	6	28,735	41,386	120	345	0	0	0	
31			1934	Berea	(Refer to abandoned fields)																	
32	Bloomer	Montcalm-Ionia	1944	Traverse	2640	3.3	L	42.3	Detroit River	3271	29	0	5	16	75,528	1,528,276	530	2,884	1,700	0	1,700	
33	Bloomingdale	Van Buren	1938	Traverse	1244	4	L	42.0	Trenton	3007	428	0	8	49	29,473	9,812,448	4,010	2,447	1,912	50	1,962	
34	Breedsville	Van Buren	1943	Traverse	1061	2	L	33.0	Detroit River	1445	32	0	1	7	3,447	278,973	300	930	676	0	676	
35	Buckeye, North	Gladwin	1936	Dundee	3615	14	L	39.0	Sylvania	5351	268	0	1	80	128,437	17,242,221	2,720	6,339	993	50	1,043	
36	Buckeye, South	Gladwin	1936	Dundee	3570	11	L	39.0	Detroit River	4509	193	2	6	29	56,304	4,568,458	2,290	1,995	0	12	12	
37			1956	Traverse	2891	3	D	42.0	Detroit River	4509	4	4	0	4					215	0	215	
38	Butman	Gladwin	1949	Dundee	3596	6	L	41.4	Sylvania	5027	1	0	0	1	18,590	163,832	240	683	20	0	20	
39			1949	Richfield	4921	10	D		Sylvania	5027	5	0	0	5					0	11	11	
40	Casco	Allegan	1940	Traverse	1095	1.5	L	38.6	Traverse	1115	9	0	0	3	571	16,110	50	322	0	6	6	
41	Cato	Montcalm	1944	Reed City	3542	3	D		Detroit River	3731	16	0	1	11	28,566	677,575	580	1,168	1,875	0	1,875	
42	Cedar	Osceola	1943	Dundee	3810	2	L	46.0	Sylvania	5165	10	0	0	8	24,667	853,586	420	2,032	1,215	0	1,215	
43			1945	Richfield	5060	6	L		Sylvania	5165	1	0	0	1					2	0	2	

TABLE X

SUMMARY OF MICHIGAN OIL FIELDS

LINE NO.	FIELD NAME AND COUNTY	YEAR OF DISC.	PRODUCING FORMATION	PAY ZONE: DEPTH	PAY ZONE: THICK	PAY ZONE: LITHOLOGY	GRAV. A. P. I.	DEEPEST ZONE TESTED	DEPTH IN FEET	NUMBER OF OIL WELLS: TO END 1956	NUMBER OF OIL WELLS: COMP IN 1956	NUMBER OF OIL WELLS: ABAND. IN 1956	NUMBER OF OIL WELLS: PROD. AT END 1956	OIL PRODUCTION IN BARRELS: 1956	OIL PRODUCTION IN BARRELS: CUMULATIVE	DRILLED ACRES	RECOVERY PER ACRE DRILLED (BBLS.)	BRINE PRODUCTION: DISPOSAL: SUBSURFACE	BRINE PRODUCTION: DISPOSAL: SURFACE	BBLS. PER DAY: TOTAL PRODUCTION	LINE NO.
44	Chase Lake	1943	Berea	2460	4	SL		Detroit River	3734	2	0	0	1	501	4,957	20	248	0	0	0	
45	Cheshire Allegan	1947	Traverse	1289	2	L	35.0	Traverse	1348	3	0	0	1	77	9,290	30	310	Shut down			
46	Chester, Sec. 15 Otsego	1951	Salina	6610	5	D	47.0	Niagaran	6870	1	0	1	0	Aban.1956 (83)	2,752	40	69				
47	Clare City Clare	1938	Michigan Stray	1303	2	S	30.2	Dundee	3853	7	1	0	5	1,678	59,142	120	493	0	0	0	
48	Clayton Arenac-Ogemaw	1935	Dundee	2465	12	EL	34.2	Sylvania	4163	79	0	0	51	89,053	5,506,958	1,290	4,269	2,458	19	2,477	
49	(2)	1953	Detroit River	3507	6	D	45.9	Sylvania	4163	5	0	0	5					0	0	0	
50		1947	Richfield	3790	9	D		Sylvania	4163												
51	Clinton Washtenaw	1953	Traverse	986	2	D		Trenton	3606	2	1	0	1	Re-Activated 1956 (222)	1,844	20	92	Shut down			
52	Coldwater Isabella	1944	Dundee	3692	13	L	46.0	Detroit River	5090	81	0	0	65	917,369	17,140,965	3,200	5,357	33,256	0	33,256	
53	Coldwater, South	1951	Dundee	3739	4	D		Dundee	3743	1	0	0	1	745	9,697	20	485	100	0	100	
54	Concord Jackson	1953	Traverse	1627	1	L		Salina	2417	5	0	1	1	1,957	6,437	50	129	Shut down			
55	Cranberry Lake Clare	1943	Dundee	3835	2	L		Richfield	5201	6	0	2	2					709	0	709	
56		1952	Traverse	3120	7	L		Richfield	5201	6	1	0	4	101,269	787,729	780	1,010	173	0	173	
57		1951	Richfield	5048	15	D		Richfield	5201	16	0	1	15					51	3	54	
58	Crooked Lake Allegan	1949	Traverse	1278	1	L		Traverse	1312	2	0	1	0	Aban.1956 (1,875)	115,452	40	2,886				
59	Croton Newaygo	1951	Traverse	2543	2	L		Salina	3993	10	0	3	4	3,976	88,480	200	442	195	0	195	
60	Crystal Montcalm	1935	Dundee	3187	4	D	43.5	Detroit River	3391	192	1	2	11	37,923	7,575,131	2,000	3,788	775	10	785	
61		1954	Traverse	2769	4	L		Detroit River	3391	2	0	0	1					100	0	100	
62	Crystal Valley Oceana	1945	Traverse	1809	3	L	37.0	Salina	3843	5	0	0	3	4,144	21,405	50	430	450	0	450	
63	Currie Isabella	1936	Dundee	3918	2	D	45.9	Dundee	4042	2	0	0	2	1,455	186,827	40	4,671	0	0	0	
64	Dalton Muskegon	1940	Traverse	1852	5	L	40.0	Dundee	2515	16	0	0	10	2,251	90,225	300	301	0	14	14	
65	Deep River Arenac	1944	Dundee	2795	4+	D	43.2	Richfield	4258	106	0	4	72	859,399	24,097,231	1,060	22,733	11,729	0	11,729	
66		1953	Richfield	(Consolidated with Sterling Detroit River - Richfield in 1954)																	
67	Deerfield Monroe	1920	Trenton	2115	10	L	42.7	Cambrian	3250	37	0	0	15	7,952	593,633	350	1,696	28	0	28	
68	Deerfield, Sec. 17 Mecosta	1956	Reed City	3582	14	L		Detroit River	3708	1	1	1	0	Aban.1956 (0)	0	10	0				
69	Diamond Springs Allegan	1938	Traverse	1461	3	L	41.0	Traverse	1783	56	0	0	8	5,858	943,434	420	2,246	190	3	193	
70	Dorr Allegan	1938	Traverse	1617	4	L	41.0	Niagaran	3319	40	4	0	5	8,188	387,628	630	644	0	9	9	
71		1955	Detroit River	2082	6	D	38.0	Niagaran	3319	14	12	0	14	17,695	17,894			0	88	88	
72		1956	Salina	2922	7		17.0	Niagaran	3319	2	1	0	1					10	0	10	
73	Douglas Montcalm	1945	Dundee	3400	2	L	47.1	Dundee	3458	6	0	0	1	455	239,104	120	1,993	Shut down			
74	Douglas, Sec. 3 Montcalm	1954	Traverse	3025	8	L		Dundee	3666	1	0	1	0	Aban.1956 (1,195)	3,099	20	155				
75	Dunningville Allegan	1950	Traverse	1435	3	L	38.0	Traverse	1438	5	0	2	3	3,886	107,419	40	2,685	135	2	137	
76	Dwight Huron	1945	Detroit River	2862	4	L	36.2	Sylvania	3290	1	0	0	1	1,753	25,465	10	2,547	0	0	0	
77	East Norwich Missaukee-Roscommon (3)	1942	Richfield	4390	14	D		Sylvania	4632												
		1956	Detroit River	4025	22			Sylvania	4632	109	1	0	109	(A) 398,674	5,045,648	4,260	1,184	17	79**	96	
78	Eden Mason	1948	Dundee	2240	2	L	45.3	Cambrian	7249	33	1	0	33	(B) 418,304	1,882,884	370	5,089	1,405	0	1,405	
79		1948	Reed City	2345	8	D	42.8	Cambrian	7249	4	0	0	2					3	0	3	
80	Edenville Midland	1938	Dundee	3790	8	L	41.0	Dundee	3962	36	0	0	7	6 wells shut in (1,346)	1,343,194	370	3,630	4	0	4	
81	Edmore Montcalm	1933	Traverse	3102	4	L	43.2	Dundee	3633	12	1	0	8	17,021	586,335	100	5,863	132	0	132	
82	Elba Gratiot	1927	Traverse	2440	2	L	47.0	Dundee	3044	8	2	0	2	Re-Activated 1956 (3,434)	41,039	90	456	0	1	1	
83	Elmwood Tuscola	1945	Dundee	2740	8	L	31.3	Bois Blanc	3945	9	1	0	6	7,277	35,440	90	394	0	39	39	
84	Ensley Newaygo	1954	Traverse	2439	2	L		Detroit River	3018	6	0	1	3	15,963	59,904	120	499	174	0	174	
85	Enterprise Missaukee-Roscommon	1943	Richfield	4405	15	D		Richfield	4625	32	0	0	32	(C) 124,099	1,266,666	1,280	990	54	0	54	
86	Essexville Bay	1944	Dundee	2835	17	L	35.3	Sylvania	4130	46	3	0	37	172,052	2,259,259	1,640	1,378	112	2	114	
87	Evart Osceola	1942	Dundee	3755	6	L		Sylvania	5292	29	0	4	12	30,917	3,635,214	1,100	3,305	4,610	0	4,610	

TABLE X

SUMMARY OF MICHIGAN OIL FIELDS

LINE NO.	FIELD NAME AND COUNTY	YEAR OF DISC.	PRODUCING FORMATION	PAY ZONE: DEPTH	PAY ZONE: THICK	PAY ZONE: LITHOLOGY	GRAV. A. P. I.	DEEPEST ZONE TESTED	DEPTH IN FEET	NUMBER OF OIL WELLS: TO END 1956	NUMBER OF OIL WELLS: COMP IN 1956	NUMBER OF OIL WELLS: ABAND. IN 1956	NUMBER OF OIL WELLS: PROD. AT END 1956	OIL PRODUCTION IN BARRELS: 1956	OIL PRODUCTION IN BARRELS: CUMULATIVE	DRILLED ACRES	RECOVERY PER ACRE DRILLED (BBLS.)	BRINE PRODUCTION: DISPOSAL: SUBSURFACE	BRINE PRODUCTION: DISPOSAL: SURFACE	BBLS. PER DAY: TOTAL PRODUCTION	LINE NO.
88	Excelsior Kalkaska	1950	Traverse	2003	2	L		Traverse	2136	1	0	0	1	725	4,643	10	464	0	1	1	
89	Fillmore Allegan	1940	Traverse	1516	2.7	L	41.1	Bass Island	2455	63	0	2	35	10,510	890,522	770	1,157	145	7	152	
90	Fork Mecosta	1942	Dundee	3845	8	L	49.0	Bois Blanc	5294	64	0	10	25	70,016	7,627,597	2,700	2,825	12,114	1	12,115	
91		1945	Richfield	5001	11	D	54.8	Bois Blanc	5294	1	0	0	1					0	5	5	
92	Fork, North Osceola	1951	Dundee	3788	3	D		Dundee	3823	5	0	4	0	Aban.1956 (2,751)	150,542	100	1,505				
93	Freedom Washtenaw	1954	Trenton	3963	20	D	43.5	Cambro-Ord.	4691	1	0	1	0	Aban.1956 (311)	7,217	40	180				
94	Freeman-Redding Clare	1938	Dundee	3885	4.5	L	44.4	Sylvania	5462	170	0	2	39	81,988	16,006,540	2,800	5,717	11,930	0	11,930	
95	Fremont Isabella	1938	Dundee	3696	4	D		Dundee	3700	2	0	1	0	Aban.1956 (91)	3,045	30	102				
96	Geneva Van Buren	1940	Traverse	1042	2	L	31.5	Traverse	1163	77	0	1	6	6,654	470,351	750	627	618	0	618	
97	Gibson Bay	1935	Traverse	2036	4	L		Detroit River	4343	12	0	2	4	477	51,831	130	399	Shut down to be plugged.			
98	Gibson, Sec. 20 Bay	1951	Dundee	3097	11	L		Dundee	3157	2	0	0	2	1,238	9,118	20	456	0	0	0	
99	Gilbert Lake Oceana	1956	Traverse	2032	8		42.5	Reed City	2711	1	1	0	1	95	95	10	10	0	0	0	
100	Gilmore Isabella	1955	Dundee	3803	3			Dundee	3813	5	2	0	5	36,510	56,834	50	1,137	248	0	248	
101	Goodwell Newaygo	1943	Traverse	2760	12	L	43.0	Bass Island		31	0	0	2	4,776	1,061,476	1,240	856	5	3	8	
102	Grant, Sec. 29 Huron	1953	Detroit River	3358	8	D		Bois Blanc	3918	2	0	0	2	1,654	5,084	80	64	0	1	1	
103	Grout Gladwin	1940	Dundee	3825	4	L		Detroit River	5228	5	1	0	1	Re-Activated 1956 (4,883)	38,745	130	298	0	0	0	
104		1956	Richfield	5039	10	D		Detroit River	5240	3	3	0	3					0	25**	25	
105	Hamilton Clare	1940	Dundee	4041	10	L	41.8	Richfield	5395	3	0	0	1	329,725	1,286,404	1,830	703	0	5	5	
106		1952	Richfield	5145	12	D	42.2	Richfield	5395	45	4	0	45					0	128**	126	
107	Hamlin Mason	1952	Niagaran	4224	20	D	46.2	Cambrian	6622	1	0	0	1	6,010	55,634	40	1,391	0	2 (1)	2	
108	Harrison Clare	1945	Dundee	4190	13	L	39.7	Sylvania	5633	2	0	0	2	5,613	104,284	80	1,304	0	21	21	
109	Hawkhead Allegan	1946	Traverse	1103	1	L	36.0	Detroit River	1385	16	0	0	2	1,104	66,813	160	418	25	0	25	
110	Headquarters Clare-Roscommon	1941	Traverse	3356	5	L	42.3	Bois Blanc	5929	47	0	2	15	290,614	8,233,442			2,580	0	2,580	
111	(4)	1942	Detroit River	4946	13	D	48.9	Bois Blanc	5929	47	8	0	45			3,280	2,510				
112		1952	Richfield	5147	23	D		Bois Blanc	5929									25	25	50	
113	Heath Allegan	1948	Traverse	1498	2	L	38.0	Traverse	1560	23	0	1	14	7,586	164,770	250	659	0	11	11	
114	Hilliards Allegan	1944	Traverse	1576	1.2	L		Traverse	1608	17	0	0	1	574	122,241	300	407	0	0	0	
115	Holton Muskegon	1948	Traverse	1993	1	L	37.3	Dundee	2554	3	0	0	2	4,093	79,389	60	1,323	600	0	600	
116	Hope Barry	1939	Traverse	1869	3	L	37.6	Detroit River	2300	62	2	0	46	34,981	379,250	610	622	0	8	8	
117	Hopkins Allegan	1939	Traverse	1633	4	L	41.5	Detroit River	1965	10	0	1	0	Aban.1956 (135)	145,513	110	1,323				
118	Hopkins, South Allegan	1948	Traverse	1538	3	L	38.0	Traverse	1611	35	0	3	2	930	251,675	320	786	0	1	1	
119	Hopkins, West Allegan	1941	Traverse	1571	2	L	41.5	Clinton?	3140	See abandoned fields											
		1956	Salina	2715	7	D	17.9	Clinton?	3140	1	1	0	1	0	0	10	0	0	1	1	
120	Hubbardston Ionia	1947	Dundee	3028	5	L		Dundee	3072	5	0	0	3	2,580	44,426	50	889	140	0	140	
121	Huber Newaygo	1955	Traverse	2109	2	L	41.3	Reed City	2730	13	8	0	13	216,483	232,944	260	896	592	0	592	
122	Isabella Isabella	1948	Dundee	3783	9	D	46.9	Detroit River	3993	20	0	2	5	9,947	804,693	370	2,175	1,450	0	1,450	
123	Jerome Midland	1947	Dundee	3743	10	L		Detroit River	4001	12	0	1	7	6,406	190,887	260	734	0	1	1	
124	Johnstown Barry	1951	Traverse	1870	2	L	37.0	Traverse	1899	4	0	0	2	1,532	11,966	40	299	0	0	0	
125	Kawkawlin Bay	1938	Dundee	2830	45	L	35.0	St. Peter	10447	318	5	0	316	436,373	9,442,582			117	46	163	
126		1939	Detroit River	3515	5	D	42.0	St. Peter	10447	4	2	0	3			6,680	1,414	0	0	0	
127		1941	Berea	1505	4	S	38.0	St. Peter	10447	4	0	0	4					0	0	0	
128	Kimball Lake Newaygo	1947	Traverse	2332	6	L	43.3	St. Peter	6689	106	0	13	33	64,563	6,089,457	2,140	2,846	10,040	0	10,040	
129		1955	Reed City	2852	37	?	39.2	St. Peter	6689	2	0	0	2					52	0	52	
130	Lakefield Saginaw	1937	Dundee	3185	12	L	39.0	Dundee	3197	1	0	0	1	788	17,874	10	1,787	0	0	0	
131	Lake George Clare	1954	Dundee	3968	2	L	43.8	Dundee	3997	10	5	0	10	110,729	149,456	100	1,495	174	25	199	

TABLE X

SUMMARY OF MICHIGAN OIL FIELDS

LINE NO.	FIELD NAME AND COUNTY	YEAR OF DISC.	PRODUCING FORMATION	PAY ZONE DEPTH	PAY ZONE THICK	PAY ZONE LITHOLOGY	GRAV. A.P.I.	DEEPEST ZONE TESTED	DEPTH IN FEET	NUMBER OF OIL WELLS TO END 1956	NUMBER OF OIL WELLS COMP. IN 1956	NUMBER OF OIL WELLS ABAND. IN 1956	NUMBER OF OIL WELLS PROD. AT END 1956	OIL PRODUCTION IN BARRELS 1956	OIL PRODUCTION IN BARRELS CUMULATIVE	DRILLED ACRES	RECOVERY PER ACRE DRILLED (BBLS.)	BRINE PRODUCTION DISPOSAL SUBSURFACE	BRINE PRODUCTION DISPOSAL SURFACE	BBLS. PER DAY TOTAL PRODUCTION	LINE NO.
132	Lawton, Van Buren	1939	Traverse	1140	1	L	37.5	Trenton	2775	58	1	11	23	6,914	171,738	580	296	8	31	39	
133	Leaton, Isabella	1929	Dundee	3655	7.5	L	43.0	Detroit River	4390	40	1	0	2	6,651	1,685,823	500	3,372	150	0	150	
134	Lucht, Bay	1949	Traverse	2230	3	L	37.2	Dundee	3240	5	0	0	5	10,162	158,344	50	3,167	266	0	266	
135	Marathon, Sec. 16, Lapeer	1955	Berea	1449	18	S		Berea	1467	1	0	0	1	67	67	10	7	Shut down			
136	Marine City, St. Clair	1955	Salina	2176	21	D	38.0	Clinton	2428	1	0	0	1	1,754	1,754	10	175	0	0	0	
137	Martin, Allegan	1948	Traverse	1617	1	L	36.0	Traverse	1645	2	0	0	1	0	2,111	20	106	0	1	1	
138	Mears, Oceana	1949	Dundee	2210	3	L	32.2	Reed City	2347	3	0	0	2	3,266	101,646)	170	598	25	0	25	
139		1951	Traverse	1745	2.5	DL	36.1	Reed City	2347	11	0	0	4		)			0	4	4	
140	Mineral Springs, Osceola	1951	Dundee	3854	7	D		Detroit River	3963	12	0	8	3	8,400	252,194	240	1,051	101	0	101	
141	Mio, Ogemaw-Oscoda	1946	Richfield	4219	6	D		Bois Blanc	5133	4	1	0	4	3,258	27,707	160	173	0	4	4	
142	Moffatt, Sec. 34, Arenac	1953	Dundee	2984	4	L		Dundee	3026	1	0	1	0	Aban.1956 (1,596)	8,392	10	839				
143	Monterey, Allegan	1938	Traverse	1618	3	L	37.6	Detroit River	2045	99	0	0	19	6,021	958,415	1,030	931	0	19	19	
144	Mt. Forest, Bay	1947	Dundee	3025	9	D	35.4	Richfield	4305	37	1	0	33	41,658	615,694)	1,040	592	0	18	18	
145		1952	Traverse	2134 2224	2 3	L L	36.2	Richfield	4305	4	0	1	2		)			0	3	3	
146	Mt. Pleasant, Isabella-Midland	1928	Dundee	3545	15	L	41.8	Sylvania	4821	482	2	4	155	163,869	25,857,783	5,690	4,544	780	114	894	
147	Muskegon, Muskegon	1928	Traverse	1700	3.5	L	37.4	St. Peter	4754)	3	3	0	23	19,206	6,904,421)	3,150	2,192	90	21	111	
148		1928	Dundee	2025	10	L	32.0	St. Peter	4754)						)						
149	Nellsville, Roscommon	1956	Richfield	4932	17			Detroit River	5165	1	1	0	1	291	291	40	7	0	7	7	
150	Niles, Berrien	1940	Traverse	645	7	L	21.5	Traverse	671	7	0	0	7	0	29,672	70	424	Shut down			
151	Northville, Washtenaw-Wayne-Oakland	1954	Trenton-Black River	4395	2+	D	45.6	Cambro-Ord.	5850	11	0	1	9	94,254	342,193	170	2,013	3	150**	153	
152	Otisville, Genesee	1945	Berea	1500	3	S		Dundee	2674	8	0	1	5	4,113	63,609	110	578	25	0	25	
153		1944	Dundee	2450	3	L	37.0	Dundee	2674	2	1	0	2					6	0	6	
154	Otto, Sec. 30, Oceana	1955	Traverse	1857	3	L	34.4	Traverse	1860	1	0	1	0	Aban. 1956	)	20					
155	Otto, Sec. 32, Oceana	1950	Berea	1445	1	L		Traverse	1895	1	0	0	1	604	2,731)	10	91	Shut down			
156	Overisel, Allegan	1938	Traverse	1478	3	L	42.1	Salina	2680	164	0	2	36	23,193	2,731,011	1,770	1,543	58	56	114	
157	Paris, Mecosta	1949	Traverse	2890	10	D	43.6	Reed City	3545	21	0	0	19	43,840	943,744	420	2,247	910	0	910	
158	Pentwater, Mason-Oceana	1948	Traverse	1585	8	L	40.4	Prairie Du Chien	5383)	149	0	6	100	196,765	5,585,586	2,120	2,635	8,128	1	8,129	
159	(5)	1948	Dundee	2088	10	D	43.1	Prairie Du Chien	5383)												
160	Pinconning, Bay	1944	Dundee	2898	?	D	36.2	Dundee	3012	9	0	0	4	36,739	698,867	90	7,765	481	0	481	
161	Pine, Montcalm	1938	Traverse	2836	1	L	45.0	Dundee	3308	1	0	0	1	2,440	85,113	10	8,511	75	0	75	
162	Pine River, Gratiot	1942	Dundee	3280	2	L		Dundee	3285	2	0	1	0	Aban. 1956 (0)	13,285	90	148				
163		1956	Traverse	2890	5	L		Dundee	3285	1	1	0	1					Testing			
164	Polkton, Ottawa	1942	Traverse	1878	2	L		Dundee	2351	9	1	2	2	1,971	32,966	90	356	0	2	2	
165	Porter, Midland	1933	Dundee	3415	12	L	40.6	Sylvania	4733	?	0	5	232	255,063	46,590,899	6,620	7,038	12,271	21	12,292	
166	Prosper, Missaukee	1942	Dundee	3837	4	L	43.2	Richfield	5254	13	0	0	10	35,898	1,420,718	520	2,732	3,644	0	3,644	
167		1954	Richfield	5128	21	D		Richfield	5254	1	0	0	1	1,650	6,446	40	161	0	0	0	
168	Pullman, East, Allegan	1949	Traverse	1331	2	L	39.0	Traverse	1220	25	0	2	14	12,437	294,821	250	1,179	111	29	140	
169	Rabbit River, Allegan	1950	Traverse	1655	3	L		Traverse	1678	8	0	0	1	223	11,716	80	146	0	2	2	
170	Ravenna, Muskegon	1952	Traverse	1842	1.5	L		Detroit River	2601	35	2	7	23	36,099	368,482	690	534	975	13	988	
171	Reed City, Lake-Osceola	1940	Dundee	3490	3	L	46.3	St. Peter	8917)												
172	(6)	1941	Traverse	2925	5	L		St. Peter	8917)	208	0	4	129	421,786	40,722,406	5,360	7,597	23,818	4	23,822	
173		1941	Reed City	3585	7	D		St. Peter	8917)												
174		1955	Detroit River	4184	73	DL	48.2	St. Peter	8917)	22	4	0	22					110	0	110	
175	(7)	1954	Richfield	4633	12	SL	45.8	St. Peter	8917)												

TABLE X

SUMMARY OF MICHIGAN OIL FIELDS

LINE NO.	FIELD NAME AND COUNTY	YEAR OF DISC.	PRODUCING FORMATION	PAY ZONE DEPTH	PAY ZONE THICK	PAY ZONE LITHOLOGY	GRAV. A.P.I.	DEEPEST ZONE TESTED	DEPTH IN FEET	NUMBER OF OIL WELLS TO END 1956	NUMBER OF OIL WELLS COMP. IN 1956	NUMBER OF OIL WELLS ABAND. IN 1956	NUMBER OF OIL WELLS PROD. AT END 1956	OIL PRODUCTION IN BARRELS 1956	OIL PRODUCTION IN BARRELS CUMULATIVE	DRILLED ACRES	RECOVERY PER ACRE DRILLED (BBLS.)	BRINE PRODUCTION DISPOSAL SUBSURFACE	BRINE PRODUCTION DISPOSAL SURFACE	BBLS. PER DAY TOTAL PRODUCTION	LINE NO.
176	Reed City, East, Osceola	1947	Traverse	3106	1	L		Detroit River	3840	9	0	1	5	19,996	242,869	80	3,036	455	0	455	
177	Reynolds, Montcalm	1954	Reed City	3343	2	D		Detroit River	3405	33	25	0	33	466,048	627,215	1,350	465	33	22	55	
178		1955	Traverse	2787	4	D		Detroit River	3405	4	3	1	3					420	3	423	
179	Ridgeway, Sec. 1, Lenawee	1954	Trenton	2415	4	D		Trenton	2491	1	0	0	1	0	47	10	5	Shut down			
180	Riverside, Missaukee	1942	Dundee	3944	3	L	44.5	Dundee	3953	1	0	0	1	2,268	68,546	20	3,427	0	0	0	
181	Robinson, Sec. 3, Ottawa	1956	Dundee	2107	7			Dundee	2110	2	2	0	2	547	547	20	27	25	7	32	
182	Rockford, Kent	1945	Traverse	2204	3	L	44.0	Detroit River	3850	21	0	3	4	11,014	425,237	220	1,887	455	0	455	
183	Rosebush, Isabella	1933	Dundee	3690	6	L	42.0	Detroit River	4522	39	0	0	35	48,864	1,637,755	900	1,819	333	6	339	
184	Rose City, Ogemaw	1942	Richfield	4125	9	D	41.2	Sylvania	5367	115	0	1	111	(D) 384,632	3,064,856	4,520	678	0	66	66	
185	Rose Lake, Osceola	1943	Traverse	3140	5	L	45.5	Detroit River	3990	18	0	0	7	34,292	1,395,055	680	2,052	370	2	372	
186	Saginaw, Saginaw	1925	Berea	1825	16	S	46.1	Sylvania	3970	?	0	0	18	8,625	1,572,902	1,500	1,053	0	13	13	
187	Salem, Allegan	1937	Traverse	1583	8	L	38.3	Trenton	3792	337	0	3	121	69,524	8,370,664	3,390	2,469	402	40	442	
188	Sanford, Midland	1951	Dundee	3755	3	L	42.6	Detroit River	4811	6	2	0	6	17,022	53,167	60	886	0	0	0	
189	Sauble, Lake	1942	Traverse	2111	2	L	35.6	Traverse	2156	5	0	1	2	2,824	131,418	200	657	600	0	600	
190	Shelby, Oceana	1951	Traverse	1743	3	L	43.0	Dundee	2234	19	1	6	9	22,911	175,100	330	531	115	0	115	
191	Sherman, Isabella	1936	Dundee	3650	4	D	42.0	Sylvania	4094	88	0	0	6	9,893	4,619,767	1,000	4,620	212	0	212	
192	Skeels, Clare-Gladwin	1950	Dundee	3840	?	D	39.6	Sylvania	6016	5	0	0	4					150	0	150	
193	(8)	1942	Detroit River	4844	4	D	47.4	Sylvania	6016)	28	5	0	27					0	25	25	
194		1953	Richfield	5080	17	D	44.8	Sylvania	6016)					261,491	966,023	1,120	863				
195		1955	Traverse	3102	6	L	38.4	Sylvania	6016	4	0	0	4					0	5	5	
196	St. Helen, Roscommon	1941	Richfield	4180	11	D	43.3	Bois Blanc	4883	95	0	0	90	(8) 205,891	2,730,089	3,800	718	0	79	79	
197	Standish, Arenac	1948	Richfield	4108	3	D	35.4	Richfield	4210	1	0	0	1	1,708	19,969	40	499	0	0	0	
198	Stanton, Montcalm	1951	Traverse	2916	7	DL		Dundee	3492	16	0	1	13	43,366	598,843	320	1,871	544	0	544	
199	Sterling, Arenac	1947	Dundee	2872	17	L	33.6	Richfield	4285	19	0	0	18					0	0	0	
200		1948	Traverse	1970	5	L	36.2	Richfield	4285	22	0	0	17	219,888	745,990	1,740	429	0	6	6	
201	(9)	1950	Richfield	4153	8	D	37.6	Richfield	4285)	90	9	1	97					2	10	12	
202		1952	Detroit River	3918	5	D		Richfield	4285)												
203	Stony Lake, Oceana	1946	Traverse	1630	19	L	44.9	Niagaran	3837	78	0	8	60	341,842	6,725,829	1,540	4,367	7,057	5	7,062	
204		1949	Berea	930	1	SL	48.0	Niagaran	3837	2	1	0	2					1	1	2	
205	Sumner, Gratiot	1953	Traverse	2853	1	L	44.5	Dundee	3366	11	2	0	10	37,538	148,300	110	1,348	940	0	940	
206	Sylvan, Osceola	1948	Dundee	3925	7	D	48.0	Dundee	4100	11	0	0	9	46,775	1,054,799	440	2,397	6,407	0	6,407	
207	Thornapple, Sec. 4, Barry	1952	Traverse	1951	2	L		Traverse	1973	2	0	0	2	378	1,891	20	95	0	5	5	
208	Trent, Muskegon	1949	Traverse	2039	1	L		Traverse	2118	2	0	0	1	934	24,567	40	614	0	3	3	
209	Trowbridge, Allegan	1937	Traverse	1358	2	L	41.2	Detroit River	1624	157	7	16	50	42,474	411,308	1,790	230	576	30	606	
210	Tyrone, Kent	1952	Traverse	2379	2	L		Detroit River	2900	7	0	2	0	Aban.1956 (1,028)	31,449	140	225				
211	Union, Isabella	1950	Traverse	3191	2	L		Detroit River	4096	1	0	0	1	2,893	53,207	20	2,660	45	0	45	
212	Vernon, Isabella	1930	Dundee	3755	3	DL	44.1	Dundee	3890	78	0	0	7	17,191	4,894,136	890	5,499	2,825	0	2,825	
213	Walker, Kent-Ottawa	1938	Traverse	1872	8	L	40.0	St. Peter	5222	627	9	3	389	210,282	13,265,218	7,090	1,871	60	65	125	
214	Wayland, Allegan	1944	Traverse	1799	6	L	36.0	Traverse	1830	52	0	3	33	10,361	222,766	510	437	0	3	3	
215	West Branch, Ogemaw	1933	Traverse	1796	2	L		Cambro-Ord.	11012	Aban. 1956 - Total included in Dundee											
216		1933	Dundee	2650	20	L	36.8	Cambro-Ord.	11012	275	1	6	182	120,177	7,495,442	4,710	1,769	117	23	140	
217	(10)	1951	Detroit River	3579	7	D	38.9	Cambro-Ord.	11012)	60	8	0	59	316,632	794,626			0	3	3	
218		1952	Richfield	4127	9	D	42.3	Cambro-Ord.	11012)												

TABLE X

SUMMARY OF MICHIGAN OIL FIELDS

LINE NO.	FIELD NAME AND COUNTY		YEAR OF DISC.	PRODUCING FORMATION	PAY ZONE DEPTH	PAY ZONE THICK	PAY ZONE LITH-OLOGY	GRAV. A.P.I.	DEEPEST ZONE TESTED	DEPTH IN FEET	NUMBER OF OIL WELLS TO END 1956	NUMBER OF OIL WELLS COMP. IN 1956	NUMBER OF OIL WELLS ABAND. IN 1956	NUMBER OF OIL WELLS PROD. AT END 1956	OIL PRODUCTION IN BARRELS 1956	OIL PRODUCTION IN BARRELS CUMULATIVE	DRILLED ACRES	RECOVERY PER ACRE DRILLED (BBLS.)	BRINE PRODUCTION DISPOSAL SUBSURFACE	BRINE PRODUCTION DISPOSAL SURFACE	BBLS. PER DAY TOTAL PRODUCTION	LINE NO.
219	Wheatland	Mecosta	1945	Dundee	3690	2	L	43.0	Detroit River	3849	6	0	2	2	2,971	135,663	100	1,357	600	0	600	
220	Winfield	Montcalm	1936	Dundee	3340	1	L	43.2	Dundee	3430	5	0	1	2	688	67,955	50	1,359	130	0	130	
221	Winterfield	Clare	1940	Traverse	3105	1	L		Sylvania	5273												
222		(11)	1940	Dundee	3794	3	L	44.2	Sylvania	5273	47	0	0	17	51,866	4,687,825	1,100	4,262	4,611	1	4,612	
223			1942	Richfield	5015	15	D		Sylvania	5273												
224	Wise	Isabella	1938	Dundee	3700	11	L	45.2	Sylvania	5202	78	1	11	29	52,381	3,482,839	1,640	2,124	222	0	222	
225		(12)	1953	Traverse	3090	31	L		Sylvania	5202												
226			1955	Detroit River	4415	48	DL	42.6	Sylvania	5202	2	0	1	1					8	0	8	
227	Woodville	Newaygo	1943	Traverse	2820	5	L	43.5	Detroit River	3534	7	0	0	7	13,510	369,507	320	1,155	65	0	65	
228	Wright	Ottawa	1953	Traverse	1920	1	L		Detroit River	2337	6	0	1	2	6,822	30,502	90	339	0	3	3	
229			1954	Berea	1170		L		Detroit River	2337	3	0	0	3					70	0	70	
230	Wyoming Park	Kent	1939	Traverse	1870	6	L	39.0	Traverse	2255	21	0	0	2	752	151,986	300	507	0	1	1	
231	Zeeland	Ottawa	1942	Traverse	1514	3	L	41.9	Dundee	2053	20	0	0	6	2,216	301,912	400	755	90	0	90	
232	Zeeland, Sec. 4	Ottawa	1956	Traverse	1668	2	L		Traverse	1670	1	1	0	1	0	0	10	0	Testing			
233	Zeeland, Sec. 28	Ottawa	1954	Traverse	1491	1	L		Detroit River	2215	3	0	3	0	Aban.1956	(601) 4,437	30	148				
	MISCELLANEOUS AND ABANDONED:																					
234	Barton	Newaygo	1947	Traverse	3097	1	L	30.0	Detroit River	3745	1	0	0	0	Aband.	1947 1,195	10	120				
235	Big Prairie, Sec. 33	Newaygo	1947	Dundee	2896	1	L	36.1	Dundee	3102	1	0	0	0	Aband.	1949 94	10	9				
236	Birch Run	Saginaw	1934	Berea	1530	5	S	43.3	Dundee	2646	26	0	0	0	Aband.	1951 215,876	250	864				
237	Bishop	Newaygo	1950	Traverse	2226	3	L		Traverse	2238	7	0	0	0	Aband.	1952 33,327	110	303				
238	Bloomer, Sec. 18	Montcalm	1936	Traverse	2717	6	L		Dundee	3138	1	0	0	0	Aband.	1936 814	10	81				
239	Bloomfield, Sec. 20	Huron	1940	Traverse	1425	2	L		Traverse	1500	1	0	0	0	Aband.	1941 71	10	7				
240	Blue Lake, Sec. 5	Muskegon	1940	Traverse	1830	2	L		Traverse	1840	1	0	0	0	Aband.	1941 26	10	3				
241	Bushnell	Montcalm	1935	Dundee	3105	2	L	33.9	Dundee	3125	1	0	0	0	Aband.	1939 4,035	10	403				
242	Butman	Gladwin	1950	Traverse	2789	2	L		Sylvania	5027	1	0	0	0	Aband.	1953 (Production combined with Butman Dundee & Richfield)						
243	Calvin	Cass	1954	Traverse	931		L	36	Traverse	968	2	0	0	0	Aband.	1955 67	10	7				
244	Cedar Creek, Sec. 23	Muskegon	1949	Traverse	1951	2	L		Dundee	2453	1	0	0	0	Aband.	1951 1,223	10	122				
245	Cherry Grove	Wexford	1952	Traverse	3145	4	D		Dundee	3998	1	0	0	0	Aband.	1953 4,814	10	481				
246	Clear Lake	Van Buren	1950	Traverse	1380	1	L		Traverse	1399	14	0	0	0	Aband.	1953 17,490	140	125				
247	Coffee Lake	Van Buren	1946	Traverse	1128	1	L		Traverse	1130	11	0	0	0	Aband.	1954 34,649	110	315				
248	Comstock, Sec. 5	Kalamazoo	1949	Traverse	1430	3	L		Traverse	1480	2	0	0	0	Aband.	1952 974	20	49				
249	Crump	Bay	1950	Dundee	3294	7	L		Dundee	3354	1	0	0	0	Aband.	1951 1,043	10	104				
250	Dallas	Clinton	1942	Traverse	2482	2	L		Detroit River	2934	3	0	0	0	Aband.	1948 3,085	40	770				
251	Day	Montcalm	1946	Dundee	3337	2	L	43.0	Dundee	3387	2	0	0	0	Aband.	1954 16,239	20	812				
252	Decatur, Sec. 4	Van Buren	1942	Traverse	1025	1	L		Traverse	1026	1	0	0	0	Aband.	1942 38	10	4				
253	East Norwich	Missaukee	1942	Dundee	3082	4	L	44.2	Sylvania	4632	1	0	0	0	Aband.	1947 (Production combined with East Norwich Richfield)						
254			1944	Traverse	2410	1	L		Sylvania	4632	1	0	0	0	Aband.	1944 (Production combined with East Norwich Richfield)						
255	Eden	Mason	1948	Traverse	1679	3	L	34.5	Cambrian	7249	3	0	0	0	Aband.	1954 (Production combined with Eden Dundee)						
256	Edwards	Ogemaw	1951	Dundee	3362	10	L		Sylvania-Bois Blanc	5260	1	0	0	0	Aband.	1954 4,941	10	494				
257	Edwardsburg	Cass	1940	Traverse	673	3	L	28.0	Detroit River	960	4	0	0	0	Aband.	1950 277	30	9				
258	Elkland	Tuscola	1946	Dundee	2653	14	L		Sylvania	3735	2	0	0	0	Aband.	1947 1,546	20	77				
259	Evergreen, Sec. 22	Montcalm	1953	Traverse	2803	8	L		Dundee	3272	1	0	0	0	Aband.	1954 455	10	46				

TABLE X

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LINE NO.	FIELD NAME AND COUNTY		YEAR OF DISC.	PRODUCING FORMATION	PAY ZONE DEPTH	PAY ZONE THICK	PAY ZONE LITH-OLOGY	GRAV. A.P.I.	DEEPEST ZONE TESTED	DEPTH IN FEET	NUMBER OF OIL WELLS TO END 1956	NUMBER OF OIL WELLS COMP. IN 1956	NUMBER OF OIL WELLS ABAND. IN 1956	NUMBER OF OIL WELLS PROD. AT END 1956	OIL PRODUCTION IN BARRELS 1956	OIL PRODUCTION IN BARRELS CUMULATIVE	DRILLED ACRES	RECOVERY PER ACRE DRILLED (BBLS.)	BRINE PRODUCTION DISPOSAL SUBSURFACE	BRINE PRODUCTION DISPOSAL SURFACE	BBLS. PER DAY TOTAL PRODUCTION	LINE NO.
260	Fremont	Saginaw	1946	Dundee	3125	1	L		Dundee	3150	2	0	0	0	Aband.	1947 2,000	20	200				
261	Freeport	Barry	1949	Traverse	2031	3	L		Detroit River	2430	1	0	0	0	Aband.	1951 19,229	10	1,923				
262	Gaines, Sec. 8	Kent	1945	Traverse	1869	1	L		Traverse	1949	1	0	0	0	Aband.	1945 47	10	5				
263	Ganges, Sec. 4	Allegan	1954	Traverse	1287	2	L		Detroit River	1552	1	0	0	0	Aband.	1955 64	10	6				
264	Garfield	Clare	1946	Detroit River	5013	10	S		Sylvania	5307	1	0	0	0	Aband.	1948 13,769	40	344				
265	Geneva	Midland	1935	Dundee	3678	2	L	42.7	Dundee	3690	5	0	0	0	Aband.	1941 60,996	60	1,016				
266	Gibson	Bay	1950	Dundee	2942	4	L		Detroit River	4343	1	0	0	0	Aband.	1952 (Production combined with Gibson Traverse)						
267	Greenwood, Sec. 11	Clare	1952	Dundee	4054	10	L		Richfield	5432	1	0	0	0	Aband.	1953 1,324	10	132				
268	Hart	Oceana	1933	Traverse	1911	4	D	34.0	Dundee	2410	17	0	0	0	Aband.	1936 116,275	150	775				
269	Hatton	Clare	1941	Dundee	3945	2	L		Dundee	4000	4	0	0	0	Aband.	1948 139,272	160	870				
270	Heath, Sec. 35	Allegan	1945	Traverse	1468	2	L		Traverse	1470	1	0	0	0	Aband.	1946 559	10	56				
271	Hinton, Sec. 21	Mecosta	1948	Traverse	3083	2	L		Dundee	3726	1	0	0	0	Aband.	1948 66	10	7				
272	Hopkins, West	Allegan	1941	Traverse	1571	2	L	41.5	Traverse	1726	31	0	0	0	Aband.	1951 388,777	370	1,051				
273	Hume, Sec. 12	Huron	1953	Detroit River	3111	7	D		Detroit River	3206	1	0	0	0	Aband.	1953 71	40					
274	Jamestown, Sec. 29	Ottawa	1942	Traverse	1615	1	L		Detroit River	2017	1	0	0	0	Aband.	1942 52	10	5				
275	Jonesfield, Sec. 9	Saginaw	1949	Dundee	3373	2	L		Dundee	3406	1	0	0	0	Aband.	1949 35	10	4				
276	Jonesfield Sec. 24	Saginaw	1943	Dundee	3289	6	L		Dundee	3305	1	0	0	0	Aband.	1943 63	10	6				
277	Lacota	Van Buren	1946	Traverse	1110	2	L		Traverse	1208	11	0	0	0	Aband.	1955 51,904						
278	Larkin	Midland	1935	Berea	2473	4	S	39.0	Dundee	3829	2	0	0	0	Aband.	1945 7,070	20	353				
279	Lebanon	Clinton	1948	Traverse	2548	1	L		Traverse	2570	1	0	0	0	Aband.	1950 1,036	10	104				
280	Lee	Allegan	1941	Traverse	1170	1	L		Traverse	1207	6	0	0	0	Aband.	1952 3,030	60	51				
281	Lee, South	Allegan	1949	Traverse	1171	1	L		Traverse	1422	12	0	0	0	Aband.	1953 91,117	120	759				
282	Lincoln, Sec. 9	Midland	1939	Berea	2535	10	S		Dundee	3854	1	0	0	0	Aband.	1939 71	10	7				
283	Logan	Mason	1928	Traverse	1907	2	L		Sylvania	3300	1	0	0	0	Aband.	1936 228	10	23				
284	Marne	Ottawa	1940	Berea	1170	3	L		Traverse	1904	2	0	0	0	Aband.	1946 6,253	20	313				
285	Mt. Haley	Midland	1934	Dundee	3477	3	D	39.6	Dundee	3500	1	0	0	0	Aband.	1947 36,069	10	3,607				
286	Mt. Forest, Sec. 1	Bay	1946	Dundee	2960	2	L		Dundee	3057	1	0	0	0	Aband.	1946 1,906	10	191				
287	New Boston	Wayne	1943	Trenton	2635	4	L		Trenton	2983	2	0	0	0	Aband.	1949 2,349	20	117				
288	North Plains, Sec. 18	Ionia	1950	Dundee	2982	3	L		Dundee	3027	1	0	0	0	Aband.	1951 239	10	24				
289	North Porter	Cass	1930	Traverse	660	2	L	37.0	Trenton	2382	2	0	0	0	Aband.	1955 1,424	20	71				
290	Oshtemo, Sec. 5	Kalamazoo	1944	Traverse	1391	1	L	31.0	Traverse	1392	1	0	0	0	Aband.	1944 50	10	5				
291	Otisville	Genesee	1941	Traverse	1895	2	L		Dundee	2674	1	0	0	0	Aband.	1946 (Production combined with Otisville Dundee and Berea)						
292	Otsego	Allegan	1938	Traverse	1532	1	L		Traverse	1600	5	0	0	0	Aband.	1955 2,290	90	25				
293	Otsego, Sec. 9	Allegan	1950	Traverse	1456	1	L		Traverse	1457	1	0	0	0	Aband.	1957 314	10	31				
294	Overisel, Sec. 11	Allegan	1940	Traverse	1553	4	L		Traverse	1578	1	0	0	0	Aband.	1944 6,370	10	637				
295	Port Huron	St. Clair	1886	Dundee	575	20	L		Cambrian	4048	21	0	0	0	No Record							
296	Pullman	Allegan	1949	Traverse	1185	1	L		Bass Island	1942	9	0	0	0	Aband.	1951 26,840						
297	Richland	Saginaw	1936	Traverse	2739	10	L	46.0	Dundee	3264	1	0	0	0	Aband.	1936 1,871	10	187				
298	Secord	Gladwin	1937	Dundee	3437	5	L	38.0	Dundee	3500	2	0	0	0	Aband.	1941 12,024	20	601				
299	Sheridan, Sec. 25	Newaygo	1951	Traverse	2204	1	L		Traverse	2205	1	0	0	0	Aband.	1955 628	10	63				
300	Sheridan, Sec. 26	Mecosta	1952	Traverse	3369	7	L		Dundee	3858	1	0	0	0	Aband.	1953 173						
301	Sherman, Sec. 18	Isabella	1939	Traverse	3217	4	L		Dundee	3835	3	0	0	0	Aband.	1947 1,364	20	68				
302	Shiawassee, Sec. 11	Shiawassee	1930	Traverse	1800	4	L		Dundee	2410	1	0	0	0	Aband.	1931 236	10	24				

TABLE X

SUMMARY OF MICHIGAN OIL FIELDS

LINE NO.	FIELD NAME AND COUNTY		YEAR OF DISC.	PRODUCING FORMATION	PAY ZONE DEPTH	PAY ZONE THICK	PAY ZONE LITH-OLOGY	GRAV. A.P.I.	DEEPEST ZONE TESTED	DEPTH IN FEET	NUMBER OF OIL WELLS TO END 1956	COMP. IN 1956	ABAND. IN 1956	PROD. AT END 1956	OIL PRODUCTION IN BARRELS 1956	OIL PRODUCTION IN BARRELS CUMULATIVE	DRILLED ACRES	RECOVERY PER ACRE DRILLED (BBLS.)	BRINE PRODUCTION DISPOSAL SUBSURFACE	BRINE PRODUCTION DISPOSAL SURFACE	BBLS. PER DAY TOTAL PRODUCTION	LINE NO
303	Silver Creek	Cass	1939	Traverse	806	2	L		Detroit River	1135	2	0	0	0	Aband. 1943	25	10				
304	Sumpter, Sec. 22	Wayne	1941	Trenton	2625	?	L		Trenton	2653	1	0	0	0	Aband. 1942	221	10	22			
305	Tyrone, Sec. 15	Kent	1946	Traverse	2349	2	L		Traverse	2353	1	0	0	0	Aband. 1946	191	10	19			
306	Watson, Sec. 8	Allegan	1949	Traverse	1779	2	L		Traverse	1781	1	0	0	0	Aband. 1950	374	10	37			
307	Weare, Sec. 14	Oceana	1952	Traverse	1674	1	L	41.4	Dundee	2217	1	0	0	0	Aband. 1954	1,096	10	110			
308	White River	Muskegon	1950	Dundee	2053	2	L	28.0	Dundee	2055	1	0	0	0	Aband. 1951	7,061	20	353			
	MISCELLANEOUS PRODUCTION REPORTED FROM WELLS COMPLETED AS DRY HOLES:																				
309	Colfax, Sec. 35	Oceana	1952	Traverse	1998										Aband. 1952	35					
310	Sherman, Sec. 4	Newaygo	1951	Traverse	2309										Aband. 1952	63					
311	North Plains, Sec. 19	Ionia	1953	Traverse	2576										Aband. 1953	59					
312	Springfield, Sec. 22	Oakland	1955	Niagaran	4601										Aband. 1955	649					
313	St. Charles, Sec. 7	Saginaw	1956	Traverse	2420										Aband. 1956 (111)	111					
	Totals (165 Producing Fields at end of 1956)											+205	++236	+++4,191	10,739,697	395,870,446			194,475	2,088 (X)	196,563

\+ Includes 9 wells deepened or reworked to new pays as compared to a total of 196 wells in other tables.

++ Includes 9 abandoned pay zones where wells were re-completed in new zones. Actual Wells Abandoned = 227

+++ Includes 4 water injection, 17 gas injection, 10 shut in High Gas Oil Ratio and 146 shut down wells.

(X) Actual total to surface pits 1,389

(1) 22 wells include 1 Richfield, 12 Sour Zone, 9 Dundee and Sour Zone.

(2) 5 wells include 2 Richfield, 1 Sour Zone, 2 Sour Zone and Richfield.

(3) 109 wells include 106 Richfield and 3 Sour Zone.

(4) 45 wells include 13 Richfield, 21 Sour Zone, 11 Sour Zone and Richfield.

(5) 108 wells include 31 Dundee, 35 Traverse, 42 Traverse and Dundee.

(6) 129 wells include 97 Dundee-Reed City, 17 Dundee-Reed City and Traverse, 14 Traverse, 1 Berea.

(7) 22 wells include 14 Richfield, 7 Sour Zone, 1 Sour Zone and Richfield.

(8) 27 wells include 20 Richfield, 7 Sour Zone.

(9) 37 wells include 13 Richfield, 14 Sour Zone, 10 Sour Zone and Richfield.

(10) 59 wells include 27 Richfield, 27 Sour Zone, 5 Sour Zone and Richfield.

(11) 17 wells include 10 Dundee, 6 Traverse, 1 Richfield

(12) 29 wells include 26 Dundee, 2 Traverse, 1 Dundee and Traverse.

(A) Includes 10 gas injection and 2 water injection wells.

(B) Includes 1 water injection well.

(C) Includes 1 gas injection well.

(D) Includes 7 shut in high gas oil ratio and 1 water injection well.

(E) Includes 3 shut in high gas oil ratio and 6 gas injection wells.

**Portion of brine used for roads, lease purposes, etc. 697

(1) Taken by Dow Ludington plant 2

Total 699

TABLE XI

SUMMARY OF MICHIGAN GAS FIELDS

LINE NO.	FIELD NAME AND COUNTY		YEAR OF DISC.	PRODUCING FORMATION	PAY ZONE DEPTH	PAY ZONE THICK	PAY ZONE LITH-OLOGY	DEEPEST ZONE TESTED	DEPTH IN FEET	NUMBER OF GAS WELLS TO END 1956	COMP. IN 1956	ABAND. IN 1956	PROD. AT END 1956	GAS PRODUCTION IN M C F 1956	GAS PRODUCTION IN M C F CUMULATIVE	DRILLED ACRES	RECOVERY PER ACRE DRILLED M C F
1	Ashton	Osceola	1946	Mich. Stray	1215	2	S	Dundee	3700	3	0	0	1	5,357	179,971	400	
2	Bevans Lake	Mecosta	1951	Dundee	3536	?	L	Reed City	3731	2	0	0	2				
3			1952	Mich. Stray	1244	?	S	Reed City	3731	2	0	0	2	117,810	898,645	400	
4	Big Prairie	Newaygo	1944	Mich. Stray	1030	5	S	Mich. Stray	1040	1	0	0	1	1,413	152,814	160	
5	Big Rapids	Mecosta	1943	Mich. Stray	1145	7	S	Dundee	3466	9	0	0	5	59,731	2,210,793	1,440	
6	Boyd	St. Clair	1952	Salina-Niagaran	2467	?	D	Niagaran	2772	1	0	0	1	254,187	498,251	160	
7	Broomfield-Deerfield	Isabella	1930	Mich. Stray	1355	5	S	Sylvania	4994	-	0	2	17	70,888	13,039,459	7,920	
8	Cannon Creek	Missaukee-Kalkaska	1950	Traverse	2695	11	L	Richfield	4810	21	0	1	0	Aband. 1956 (0)	851,369	3,360	
9	Cedar	Osceola	1945	Mich. Stray	1490	7	S	Sylvania	5160	5	0	0	5	40,189	1,260,928	800	
10	Cedar Creek	Muskegon	1940	"Berea"	1125	7	D	Dundee	2252	7	0	0	4	11,257	607,028	1,120	
11	Clare City	Clare-Isabella	1937	Mich. Stray	1290	5	S	Dundee	3865	8	0	0	3	20,189	2,248,741	720	
12	Clayton	Arenac	1936	Berea	1180	10	S	Sylvania	4163	31	0	0	18	0	5,111,048	1,560	
13	Coldwater	Isabella	1945	Mich. Stray	1390	10	S	Sylvania	5090	15	0	0	12	139,774	6,500,868	2,400	
14	Colfax	Mecosta	1945	Mich. Stray	1240	8	S	Detroit River	4043	4	0	0	1	1,233	485,844	640	
15	Coopersville	Ottawa	1939	"Berea"	1240	5	D	Traverse	1900	3	0	0	2	0	108,839	240	
16	Croton	Newaygo	1951	Marshall	917	4	S	Salina	3993	7	0	0	7	258,056	1,311,563	860	
17	Crystal	Montcalm	1935	Mich. Stray	1000	5	S	Detroit River	3520	21	0	0	2	309	930,639	840	
18	Crystal Valley	Oceana	1946	Dundee	2400	7	L	Salina	3843	2	0	0	1	0	0	160	
19	Deep River	Arenac	1936	Berea	1490	10	S	Sylvania	4311	12	0	0	4	0	1,609,812	1,520	
20	Dorr, Sec. 17	Allegan	1951	"Berea"	953	8	D	Traverse	1642	1	0	0	1	0	0	40	
21	Dorr, Sec. 21	Allegan	1940	"Berea"	957	1	D	Traverse	1687	1	0	0	1	0	0	40	
22	Edmore-Richland	Montcalm	1936	Mich. Stray	1300	8	S	Dundee	3700	-	0	0	12	30,978	8,931,124	6,800	
23	Egelston	Muskegon	1951	"Berea"	1120	5	D	Detroit River	2282	7	0	2	1	22,185	206,384	1,120	
24	Elba	Gratiot	1928	Mich. Stray	670	10	S	Dundee	3700	10	0	0	1	0	246,058	520	
25	Ensley, Sec. 17	Newaygo	1952	Mich. Stray	877	?	S	Dundee	3099	1	0	0	1	0	0	160	
26	Enterprise, Sec. 32	Missaukee	1953	Mich. Stray	986	5	S	Detroit River	4200	2	0	0	2	0	0	320	
27	Evart	Osceola	1941	Mich. Stray	1410	7	S	Detroit River	4457	-	0	0	11	11,158	4,895,722	5,120	
28	Evart, Sec. 19	Osceola	1946	Mich. Stray	1487	5	S	Mich. Stray	1492	1	0	0	1	0	0	160	
29	Fork, North	Osceola	1956	Mich. Stray	1433	19	S	Dundee	3823	1	1	0	1	0	0	160	
30	Fork, West	Mecosta	1943	Mich. Stray	1490	5	S	Sylvania	5198	-	0	3	4	35,848	2,307,678	2,880	
31	Fremont	Isabella	1941	Mich. Stray	1235	5	S	Dundee	3556	-	0	1	0	Aban. 1956 (0)	381,330	800	
32	Hamilton, North	Clare	1952	Mich. Stray-Marshall	1487	8	S	Richfield	5395	19	0	0	17	442,893	4,565,536	3,040	
33	Headquarters	Roscommon	1945	Mich. Stray	1340	6	S	Sylvania	5929	-	0	0	5	7,692	1,680,024	1,600	

TABLE XI

SUMMARY OF MICHIGAN GAS FIELDS

LINE NO.	FIELD NAME AND COUNTY		YEAR OF DISC.	PRODUCING FORMATION	PAY ZONE			DEEPEST ZONE TESTED	DEPTH IN FEET	NUMBER OF GAS WELLS				GAS PRODUCTION IN M C F		DRILLED ACRES	RECOVERY PER ACRE DRILLED M C F
					DEPTH	THICK	LITH-OLOGY			TO END 1956	COMP. IN 1956	ABAND. IN 1956	PROD. AT END 1956	1956	CUMULATIVE		
34	Howell	Livingston	1935	Salina	3920	9	D	St. Peter	5958	-	0	0	14	1,142,925	19,700,156	2,400	
35	Ira	St. Clair	1953	Salina-Niagaran	2276	?	D	Clinton	2632	1	0	0	1	137,228	287,263	160	
36	Isabella	Isabella	1949	Mich. Stray	1454	7	S	Detroit River	3993	6	0	1	0	Aban. 1956 (0)	335,791	240	
37	Ithaca	Gratiot	1943	Mich. Stray	900	16	S	Dundee	3300	-	0	0	2	1,530	1,520,995	800	
38	Logan	Mason	1941	Sylvania	3260	5	S	Sylvania	3330	1	0	0	1	0	0	40	
39	Logan	Ogemaw	1944	Berea	1420	6	S	Richfield	4537	-	0	0	4	0	0	800	
40	McKay	Clare	1929	Mich. Stray	1400	3	S	Detroit River	4055	-	0	0	2	0	712,626	360	
41	Martiny	Mecosta	1934	Mich. Stray	1370	2	S	Detroit River	3807	-	1	0	3	121,465	265,792	520	
42	Mecosta Lake	Mecosta	1953	Mich. Stray	1314	12	S	Dundee	3690	2	0	2	0	Aban. 1956 (0)	84,071	320	
43	Mineral Springs	Osceola	1952	Mich. Stray	1397	8	S	Detroit River	3963	4	0	0	4	59,081	217,045	480	
44	Montague	Muskegon	1953	Salina-Niagaran	? 3734	?	D	Trenton	4517	3	0	1	2	0	0	480	
45	Morton	Mecosta	1946	Mich. Stray	1279	2	S	Dundee	3691	2	0	0	2	5,943	116,765	320	
46	Muskegon	Muskegon	1927	Traverse-Dundee-Detroit River	1640 2025	6	L	St. Peter	4754	-	0	1	4	0	7,237,438	1,520	
47	Newark	Gratiot	1948	Mich. Stray	979	5	S	Dundee	3255	6	0	0	4	4,091	440,355	960	
48	North Star	Gratiot	1940	Mich. Stray	870	7	S	Dundee	3100	-	0	0	1	21,394	441,325	40	
49	Northville	Wayne-Washtenaw	1937	Salina-Niagaran	2905	2	D	Cambro-Ord.	5850	6	0	0	5	1,158,203	1,917,793		
50			1954	Trenton				Cambro-Ord.	5850	22	7	0	22	2,084,027	3,150,808		
51			1948	Dundee	788	2	L	Cambro-Ord.	5850	4	0	1	3				
52	Otsego	Otsego	1940	Antrim	1385	4	SH	Dundee	3949	-	0	0	3	11,084	119,664	240	
53	Overisel	Allegan	1956	Salina	2650	12	D	Salina	2680	5	5	0	5	0	0	800	
54	Paris	Mecosta	1949	Dundee	3404	5	L	Reed City	3545	2	0	0	1	18,505	426,176	480	
55			1951	Mich. Stray	1217	5	S	Reed City	3545	1	0	0	1				
56	Peters	St. Clair	1955	Salina	2386	47	D	Salina	2443	1	0	0	1	0	0	160	
57	Pine	Montcalm	1940	Mich. Stray	1134	2	S	Mich. Stray	1146	-	0	1	0	Aban. 1956 (0)	0	160	
58	Pine, Sec. 9	Montcalm	1951	Mich. Stray	1251	1	S	Dundee	3469	2	0	0	2	0	12,494	80	
59	Pioneer, Sec. 24	Missaukee	1931	Traverse	3025	5	L	Dundee	3583	1	0	0	1	0	0	40	
60	Port Huron, Sec. 3	St. Clair	1948	Dundee	538	8	L	Dundee	695	1	0	0	1	0	0	40	
61	Prosper	Missaukee	1948	Mich. Stray	1269	6	S	Richfield	5254	3	0	0	3	25,106	120,248	480	
62	Ravenna	Muskegon	1936	"Berea"	1205	10	D	Dundee	2306	29	0	0	5	0	1,432,593	4,480	
63	Ravenna, Sec. 27	Muskegon	1953	"Berea"	1182	6	D	Dundee	2500	3	0	0	3	4,566	32,198	480	
64	Redding	Clare	1940	Mich. Stray	1475	3	S	Sylvania	5462	-	0	0	4	0	32,692	160	
65	Rolland	Isabella	1946	Mich. Stray	1310	2	S	Detroit River	3696	-	0	0	3	33,516	764,088	480	
66	Romulus	Wayne	1955	Salina	1980	207	D	Niagaran	2259	2	0	0	2	0	0	320	
67	Rose Lake	Osceola	1950	Mich. Stray	1347	4	S	Detroit River	3990	1	0	0	1	0	0	160	

TABLE XI

SUMMARY OF MICHIGAN GAS FIELDS

LINE NO.	FIELD NAME AND COUNTY		YEAR OF DISC.	PRODUCING FORMATION	PAY ZONE			DEEPEST ZONE TESTED	DEPTH IN FEET	NUMBER OF GAS WELLS				GAS PRODUCTION IN M C F		DRILLED ACRES	RECOVERY PER ACRE DRILLED M C F
					DEPTH	THICK	LITH-OLOGY			TO END 1956	COMP. IN 1956	ABAND. IN 1956	PROD. AT END 1956	1956	CUMULATIVE		
68	Salem	Allegan	1937	Salina	2725	2	D	Trenton	3792	1	0	0	1	21,091	309,029	40	
69	Shaver	Gratiot	1935	Mich. Stray	1020	11	S	Dundee	3536	-	0	0	24	25,236	10,133,711	3,080	
70	Sheridan	Mecosta	1935	Mich. Stray	1375	2	S	Dundee	3904	-	0	2	1	0	271,374	480	
71	St. Clair, Sec. 18	St. Clair	1953	Salina-Niagaran	2567	2	D	Cincinnatian	3240	1	0	0	1	0	0	160	
72	Surrey	Clare	1945	Mich. Stray	1460	3	S	Dundee	4000	-	0	0	1	0	12,667	160	
73	Turk Lake	Montcalm	1947	Mich. Stray	1081	4	S	Detroit River	3413	4	0	1	3	0	217,584	640	
74	Vernon	Isabella	1939	Mich. Stray	1300	2	S	Detroit River	3907	-	0	1	0	Aban. 1956 (303)	1,464,249	920	
75	Walker	Kent-Ottawa	1939	"Berea"	1150	8	D	St. Peter	5222)	12	0	0	9	15,807	1,025,162	320	
76			1940	Detroit River	2250	2	D	St. Peter	5222)								
77	Weare, Sec. 10	Oceana	1949	"Berea"	810	2	D	Dundee	2219	1	0	0	1	0	0	40	
78	Wheatland	Mecosta	1947	Mich. Stray	1399	3	S	Dundee	3740	4	0	0	4	76,832	308,118	160	
79	Wise	Isabella	1940	Mich. Stray	1250	5	S	Sylvania	5205	-	0	0	7	0	1,663,027	1,280	
80	Wolf Lake	Muskegon	1949	"Berea"	1050	7	D	Detroit River	2250	2	0	2	0	Aban. 1956 (630)	99,756	320	
81	Zeeland	Ottawa	1946	"Berea"	945	9	D	Traverse	1759	7	0	2	2	0	0	280	
	MISCELLANEOUS AND ABANDONED:																
82	Adams, North	Arenac	1942	Berea	1605	1	S	Dundee	3101	1	0	0	0	Aband. 1948	1,280	40	
83	Albion	Calhoun	1941	Traverse	1610	7	L	Trenton	4286	4	0	0	0	Aband. 1948	6,114	120	
84	Algonac	St. Clair	1947	Antrim	302	6	SH	Cabot Head	2504	2	0	0	0	Aband. 1951	7,830	80	
85	Big Prairie, Sec. 33	Newaygo	1947	Dundee	2896	2	L	Dundee	2900	1	0	0	0	Aband. 1952	62,324	40	
86	Day	Montcalm	1934	Mich. Stray	1352	4	S	Marshall	1395	2	0	0	0	Aband. 1944	8,494	80	
87	Diamond Crystal Salt	St. Clair	1927	Salina	2843	8	D	Niagaran	2500	1	0	0	0	Aband. 1931	136,445	40	
88	Douglas	Montcalm	1943	Mich. Stray	1190	5	S	Dundee	3423	4	0	0	0	Aband. 1951	184,806	640	
89	Eden	Mason	1950	Detroit River	2328	6	D	Cambrian	7249	1	0	0	0	Aband. 1955		40	
90	Fork, East	Mecosta	1942	Mich. Stray	1480	5	S	Dundee	3865	4	0	0	0	Aband. 1946	102,708	640	
91	Garfield	Clare	1946	Detroit River	5013	8	S	Sylvania	5307	1	0	0	0	Aband. 1948	535,811	40	
92	Gilmore	Isabella	1945	Mich. Stray	1560	3	S	Dundee	4091	-	0	0	0	Aband. 1952	202,192	320	
93	Goodwell, East	Newaygo	1945	Mich. Stray	1190	4	S	Detroit River	3498	2	0	0	0	Aband. 1950	7,504	200	
94	Grant	Mason	1929	Glacial Drift	632	1	S	Dundee	2385	3	0	0	0	Aband. 1955	8,020	120	
95	Green	Mecosta	1946	Mich. Stray	1250	3	S	Reed City	3710	2	0	0	0	Aband. 1951	179,423	320	
96	Hamilton	Clare	1940	Mich. Stray	1270	3	S	Dundee	3897	4	0	0	0	Aband. 1954	275,606	440	
97	Harrison	Clare	1945	Mich. Stray	1675	3	S	Sylvania	5633	5	0	0	0	Aband. 1951	414,201	600	
98	Kawkawlin	Bay	1941	Salina	7760	16	D	St. Peter	10447	1	0	0	0	Aband. 1946	No record		
99	Leaton	Isabella	1935	Mich. Stray	1240	2	S	Dundee	3710	5	0	0	0	Aband. 1940	185,609	400	

TABLE XI

SUMMARY OF MICHIGAN GAS FIELDS

LINE NO.	FIELD NAME AND COUNTY		YEAR OF DISC.	PRODUCING FORMATION	PAY ZONE			DEEPEST ZONE TESTED	DEPTH IN FEET	NUMBER OF GAS WELLS				GAS PRODUCTION IN M C F		DRILLED ACRES	RECOVERY PER ACRE DRILLED M C F
					DEPTH	THICK	LITH-OLOGY			TO END 1956	COMP. IN 1956	ABAND. IN 1956	PROD. AT END 1956	1956	CUMULATIVE		
100	Sylvan	Osceola	1941	Mich. Stray	1525	10	S	Detroit River	4034	1	0	0	0	Aband. 1953	80,714	40	
101	Vernon, Sec. 31	Isabella	1930	Mich. Stray	1500	1	S	Dundee	4055	5	0	0	0	Aband. 1944	1,120	200	
	GAS STORAGE RESERVOIRS:																
102	Austin	Mecosta	1933	Mich. Stray	1380	14	S	Detroit River	4043	-	0	0	81	0	6,109,033	3,970	
103	Cranberry Lake	Clare-Missaukee	1943	Mich. Stray	1321	10	S	Richfield	5201	-	0	0	141	0	7,537,451	6,960	
104	Freeman-Lincoln	Clare	1938	Mich. Stray	1500	10	S	Detroit River	3957	-	0	0	74	0	18,099,490	6,600	
105	Goodwell	Newaygo	1943	Mich. Stray	1142	20	S	Detroit River	3562	-	0	0	56	367,194	5,875,670	3,020	
106	Marion	Clare-Osceola	1940	Mich. Stray	1344	15	S	Sylvania	5100	-	0	0	220	0	20,084,934	10,720	
107	Orient	Osceola	1945	Mich. Stray	1508	11	S	Sylvania	5307	-	0	0	18	2,292	5,353,148	2,600	
108	Reed City	Osceola-Lake	1940	Mich. Stray	1217	13	S	St. Peter	8960	-	0	0	80	0	7,642,246	4,880	
109	Riverside	Missaukee	1940	Mich. Stray	1435	7	S	Dundee	3953	-	0	0	78	0	5,188,481	3,680	
110	Six Lakes	Mecosta-Montcalm	1934	Mich. Stray	1270	25	S	Detroit River	3790	-	28	0	169	0	50,829,422	11,000	
111	Winfield	Montcalm	1935	Mich. Stray	1125	8	S	Detroit River	3405	-	0	0	10	0	4,836,132	3,240	
112	Woodville	Newaygo	1943	Mich. Stray	1185	13	S	Detroit River	3534	-	0	0	5	0	2,683,259	2,240	
	OIL WELL GAS:																
113	Beaver Creek	Crawford-Kalkaska	1947	Richfield										990,818	8,323,233		
114	Buckeye	Gladwin	1939	Dundee										0	9,834		
115	Coldwater	Isabella	1944	Dundee										273,459	5,488,456		
116	Eden	Mason	1948	Dundee										66,846	163,567		
117	Essexville	Bay	1944	Dundee										0	3,267		
118	Fork, West	Mecosta	1945	Richfield										26,131	704,625		
119	Hamilton	Clare	1952	Richfield										306,386	883,655		
120	Headquarters	Clare-Roscommon	1942	Detroit River										(C)			
121	Isabella	Isabella	1948	Dundee										0	138,559		
122	Kawkawlin	Bay	1938	Dundee										0	4,590		
123	Kimball Lake	Newaygo	1947	Traverse										0	2,123,116		
124	Mt. Pleasant	Isabella-Midland	1928	Dundee										83,873	7,439,303		
125	Pentwater	Mason-Oceana	1948	Dundee										457	1,009,517		
126			1948	Traverse													
127	Porter	Midland	1933	Dundee										0	4,992,995		
128	Redding	Clare	1938	Dundee										0	1,956,056		
129	Reed City	Osceola	1940	Traverse										10,356	326,396		

TABLE XI

SUMMARY OF MICHIGAN GAS FIELDS

LINE NO.	FIELD NAME AND COUNTY		YEAR OF DISC.	PRODUCING FORMATION	PAY ZONE			DEEPEST ZONE TESTED	DEPTH IN FEET	NUMBER OF GAS WELLS				GAS PRODUCTION IN M C F		DRILLED ACRES	RECOVERY PER ACRE DRILLED M C F
					DEPTH	THICK	LITH-OLOGY			TO END 1956	COMP. IN 1956	ABAND. IN 1956	PROD. AT END 1956	1956	CUMULATIVE		
130			1940	Dundee										8,203	16,245,924		
131			1954	Detroit River										202,188	301,854		
132	Reed City, East	Osceola	1947	Traverse										1,426	18,569		
133	Sherman	Isabella	1936	Dundee										0	641,217		
134	Union	Isabella	1950	Traverse										1,594	53,098		
135	Walker	Kent-Ottawa	1938	Traverse										0	3,678,731		
136	West Branch	Ogemaw	1933	Dundee										0	17,770		
	Totals 70 Producing Gas Fields at end of 1956										42 (A)	24	310 (B)	8,840,933	307,257,320		
	11 Gas Storage Reservoirs									Unassigned gas from early records with no breakdown					3,050,143		
														Cumulative state total	310,307,463		

(A) Includes 2 oil wells reworked to gas wells and 28 new gas storage field wells as compared to a total of 12 new wells as shown in other tables.

(B) 310 producible gas wells plus 932 wells in gas storage fields for a total of 1,242.

(C) The Headquarter Gas Plant has reported Detroit River gas sales of 159,747 MCF during 1956 which has not been reported by the revenue division and has not been included in the above table based on revenue reports.

TABLE XII
IMPORTANT DEEP TESTS
1956

County		Well	Section Township Range	Permit Number	Total Depth (Feet)	Oldest Formation Tested	Age
Allegan	(1)	McClure - Koopman #1	16-4N-14W	20115	2680	Salina	Silurian
Allegan	(2)	Oil Producers, Inc. - Schafer #1	18-3N-12W	20184	3140	Clinton	Silurian
Allegan		Sheldon & Stewart - Wall #1	12-2N-13W	19874	2092	Sylvania (?)	Devonian
Allegan	(3)	Zellman - Helmer #1	25-4N-13W	19897	2764	Salina	Silurian
Arenac		Rayburn - McClean #1	17-20N-5E	20314	4200	Richfield	Devonian
Branch		McClure - Maxsom #1	28-5S-5W	20322	2556	Cataract	Silurian
Branch		Aurora & McClure - Warden #1	1-6S-5W	19967	2532	Cataract	Silurian
Calhoun		Aurora & McClure - Snyder #1	24-3S-8W	19880	2836	Cataract	Silurian
Calhoun		Aurora & McClure - Smith #1	22-3S-8W	20241	2777	Cataract	Silurian
Clinton	(4)	Parson Bros. - Silliman #1	27-8N-4W	19272	7456	Black River	Ordovician
Gladwin		Rhoco & Drury - Welker #1	2-17N-2W	19834	5190	Richfield	Devonian
Gladwin	(5)	Sun - Linaberry #1	10-18N-2W	20145	5228	Richfield	Devonian
Hillsdale		Aurora & McClure - Cole #1	32-6S-3W	20220	2455	Cataract	Silurian
Huron		Viking Oil Co. - Hahn #1	32-15N-9E	20167	3705	Detroit River	Devonian
Jackson	(6)	Rovell - Kassock #1	35-3S-3W	19840	2417	Salina	Silurian
Jackson		Aurora & McClure - Kintigh #2	20-3S-3W	20201	2321	Salina	Silurian
Kalamazoo		McClure - Ware #1	15-1S-12W	20323	2756	Cataract	Silurian
Lenawee		Vaughn - Sherman #1	14-5S-4E	20036	2063	Niagaran	Silurian
Macomb		Panhandle - Dobson #1	36-3N-13E	19898	2815	Clinton	Silurian
Mason		Smith Petro. and Cameron & Dean - Clemenson #1	19-19N-17W	20126	2800	Detroit River	Devonian
Mecosta		Courtis - Hass #1	24-13N-10W	20003	4201	Richfield	Devonian
Ogemaw		West - Nelson #1	3-21N-2E	20091	4075	Richfield	Devonian
Ogemaw		Major - Rozsa #1	16-21N-3E	19978	4020	Richfield	Devonian
Presque Isle		Mich. Ls. Div. of U. S. Steel - Fee #1	31-35N-6E	20194	4500	Trenton	Ordovician
Roscommon	(7)	Sun - Hogan #1	8-22N-4W	20260	5165	Richfield	Devonian
St. Clair		Sun - Fish #1	12-6N-15E	19876	3400	Clinton	Silurian
Tuscola		Bartlett - Gokey #1	29-15N-8E	20159	4200	Richfield	Devonian
Tuscola		Rayburn - Watchorn & Wells #1	5-10N-9E	20209	9128	Trempealeau (?)	Cambro-Ord.

County	Well	Section Township Range	Permit Number	Total Depth (Feet)	Oldest Formation Tested	Age
Washtenaw	Degenther - Wenk #1	33-2S-4E	19891	4758	Trempealeau (?)	Cambro-Ord.
Washtenaw	Darke - Lindsley #1	32-4S-5E	19778	3475	Trenton	Ordovician
Wayne	Sun - Haener-Sanok #1	9-4S-9E	11746	2942	Trenton	Ordovician

(1) Deeper pool, Discovery well, Salina Gas, Overisel Field.
(2) Deeper pool discovery well, Salina Oil, West Hopkins Field.
(3) Deeper pool extension discovery, Salina Oil, Dorr Field.
(4) 1955 Completion, not included in 1955 Summary.
(5) Deeper pool discovery, Richfield Oil, Grout Field.
(6) Deeper field test, Dry, Concord Field.
(7) Discovery, Richfield Oil, Nelsville Field.

TABLE XIII

OIL AND GAS ACTIVITIES IN MICHIGAN

Year	Permits Issued	COMPLETIONS Oil Wells	Gas Wells	Gas Stor.	LPG Wells	Dry Holes	Total	Fields Discovered Oil	Gas	WELLS AT END OF YEAR Oil	Gas	Gas Stor.	LPG	ABANDONED WELLS Oil Wells	Gas Wells	Gas Stor.
1925		3	0				3	1								
1926		89	0			16	105		1							
1927	16	218	3			46	267	1	1							
1928	283	79	30			49	158	1								
1929	576	324	22			137	483									
1930	257	154	19			158	331	2	3							
1931	111	59	17			52	128		1	634	64			292*	27*	
1932	184	109	10			64	183	1		645	72			98	2	
1933	429	223	10			85	318	3	1	831	70			37	12	
1934	444	272	47			150	469	3	2	977	117			126	0	
1935	700	319	101			221	641	1	5	1,167	212			129	6	
1936	777	333	206			268	807	6	5	1,360	402			140	16	
1937	973	622	66			267	955	6	1	1,778	442			204	26	
1938	996	580	27			411	1,018	17	2	2,141	448			217	21	
1939	1,465	845	56			578	1,479	8	2	2,684	485			302	19	
1940	1,121	557	59			565	1,181	8	13	2,928	510			313	34	
1941	1,044	441	97			413	951	7	8	3,158	577	13		211	15	
1942	570	297	74			311	682	14	4	3,324	631	13		131	22	
1943	627	233	47			355	635	12	8	3,386	639	13		171	39	
1944	741	246	64			400	710	10	2	3,433	651	13		199	52	
1945	755	271	57	6		467	801	11	11	3,536	663	19		168	45	
1946	822	223	53	86		461	823	19	10	3,520	547	226		239	44	4
1947	886	318	43	148		387	896	10	4	3,532	534	409		306	17	4
1948	918	371	32	77		437	917	10	5	3,554	502	482		349	64	4
1949	999	439	22	73		473	1,007	21	2	3,818	471	554		175	53	1
1950	901	336	28	47		473	884	14	2	3,954	471	610		200	19	0
1951	744	227	20	43	1	466	757	13	5	3,911	417	673	1	270	49	5
1952	694	261	30	51	2	370	714	8	4	3,979	388	732	3	193	50	1
1953	824	258	18	110	1	360	747	9	6	4,089	313	901	4	148	34	0
1954	573	214	15	2	2	338	571	13	0	4,167	316	903	6	136	12	0
1955	484	204	13	1	1	291	510	5	2	4,223	321	904	7	148	8	0
1956	476	196	12	28	0	227	463	5	0	4,191	310	932	7	228	23	0
Totals	20,390	9,321	1,298	672	7	9,296	20,594	239	110	4,191	310	932	7	5,130	709	19

*Accumulative abandonments through 1931.

TABLE XIV

OIL, GAS, AND BRINE PRODUCTION IN MICHIGAN

Year	OIL PRODUCTION Annual (Bbls.)	Accumulative (Bbls.)	GAS PRODUCTION Annual (M.C.F.)	Accumulative (M.C.F.)	BRINE PRODUCTION AND DISPOSAL (BBLS. PER DAY) Disposal Surface	Chem. Co.	Subsurface	Total
1925	4,000	4,000	400	16,490				
1926	94,000	98,000	400	16,890				
1927	435,928	533,928	600	17,490				
1928	592,620	1,126,548	469,000	486,490				
1929*	4,641,239	5,767,787	4,526,000	5,012,490				
1930	3,928,229	9,696,016	2,369,550	7,382,040				
1931	3,785,633	13,481,649	594,363	7,976,403				
1932	6,925,665	20,407,314	1,432,159	9,408,562				
1933	7,941,995	28,349,309	1,697,628	11,106,190				
1934	10,602,759	38,952,068	3,008,085	14,114,275				
1935	15,776,237	54,728,305	5,553,858	19,668,133				
1936	11,918,013	66,646,318	6,864,726	26,532,859				
1937	16,628,344	83,274,662	9,310,844	35,843,703	8,342	10,375	21,489	40,206
1938	18,744,709	102,019,371	9,232,509	45,076,212	6,748	8,920	31,211	46,879
1939	23,462,095	125,481,466	10,137,003	55,213,215	4,901	7,466	48,579	60,946
1940	19,753,103	145,234,569	14,126,364	69,339,579	5,206	6,726	62,822	74,754
1941	16,358,717	161,593,286	15,092,464	84,432,043	3,540	8,452	78,484	90,476
1942	21,753,771	183,347,057	17,749,249	102,181,292	4,725	8,082	83,722	96,529
1943	20,767,724	204,114,781	19,581,420	121,762,712	4,963	8,170	89,207	102,340
1944	18,489,470	222,604,251	21,253,903	143,016,615	3,964	8,778	102,090	114,832
1945	17,267,493	239,871,744	23,298,548	166,315,163	2,352	8,992	107,973	119,317
1946	17,074,518	256,946,262	23,774,495	190,089,658	2,307	9,151	121,385	132,843
1947	16,215,613	273,161,875	23,954,925	214,044,583	1,883	8,579	132,884	143,346
1948	16,871,046	290,032,921	21,369,587	235,414,170	1,495	8,430	148,497	158,422
1949	16,517,333	306,550,254	14,660,247	250,074,417	1,541	8,568	162,672	172,781
1950	15,826,148	322,376,402	12,614,024	262,688,441	1,212	6,949	180,018	188,179
1951	13,926,518	336,302,920	10,524,495	273,212,936	1,623	7,630	190,074	199,327
1952	13,249,428	349,552,348	8,677,737	281,890,673	1,572	1,500	204,216	207,288
1953	12,284,510	361,836,858	7,089,985	288,980,658	1,408	460	188,949	190,817
1954	12,028,059	373,864,917	5,698,175	294,678,833	1,494	614	191,970	194,078
1955	11,265,832	385,130,749	6,787,697	301,466,530	1,721	609	200,031	202,361
1956	10,739,697	395,870,446	8,840,933	310,307,463	2,088	0	194,475	196,563
Totals	395,870,446		310,307,463					

*Oil production data are from Michigan state tax records since 1929 and from United States Bureau of Mines prior to 1929.

TABLE XV

CUMULATIVE WELL COMPLETIONS BY COUNTIES

January 1, 1925 to January 1, 1957

	County	Oil	Gas	Storage	LPG	Dry	Total Completions
1.	Alcona	0	0	0	0	14	14
2	Allegan	1,232	6	0	0	1,504	2,742
3.	Alpena	0	0	0	0	8	8
4.	Antrim	0	1	0	0	24	25
5.	Arenac	389	44	0	0	353	786
6.	Barry	69	0	0	0	106	175
7.	Bay	445	1	0	0	199	645
8.	Benzie	0	0	0	0	2	2
9.	Berrien	7	0	0	0	52	59
10.	Branch	0	0	0	0	10	10
11.	Calhoun	0	4	0	0	29	33
12.	Cass	10	0	0	0	63	73
13.	Charlevoix	0	0	0	0	7	7
14.	Cheboygan	0	0	0	0	8	8
15.	Clare	370	167	287	0	318	1,142
16.	Clinton	4	0	0	0	67	71
17.	Crawford	75	0	0	0	16	91
18.	Eaton	0	0	0	0	11	11
19.	Emmet	0	0	0	0	3	3
20.	Genesee	10	0	0	0	34	44
21.	Gladwin	680	0	0	0	222	902
22.	Grand Traverse	0	0	0	0	7	7
23.	Gratiot	22	74	0	0	218	314
24.	Hillsdale	0	0	0	0	23	23
25.	Huron	4	0	0	0	62	66
26.	Ingham	0	0	0	0	11	11
27.	Ionia	9	0	0	0	62	71
28.	Iosco	0	0	0	0	17	17
29.	Isabella	636	156	0	0	425	1,217
30.	Jackson	5	1	0	0	41	47
31.	Kalamazoo	13	0	0	0	87	100
32.	Kalkaska	22	7	0	0	37	66
33.	Kent	412	5	0	4	314	735
34.	Lake	18	1	0	0	91	110
35.	Lapeer	2	0	0	0	44	46
36.	Leelanau	0	0	0	0	8	8
37.	Lenawee	1	1	0	0	29	31
38.	Livingston	0	16	0	0	58	74
39.	Macomb	1	0	0	0	17	18
40.	Manistee	0	0	0	0	20	20
41.	Mason	48	5	0	0	104	157
42.	Mecosta	97	192	113	0	318	720
43.	Midland	883	0	0	0	250	1,133
44.	Missaukee	142	45	81	0	146	414
45.	Monroe	34	0	0	0	71	105
46.	Montcalm	319	219	69	0	458	1,065
47.	Montmorency	3	1	0	0	17	21
48.	Muskegon	423	118	0	0	320	861
49.	Newaygo	184	38	43	0	266	531
50.	Oakland	2	2	0	0	42	46

Page 2 - Cumulative Well Completions by Counties

	County	Oil	Gas	Storage	LPG	Dry	Total Completions
51.	Oceana	269	4	0	0	265	538
52.	Ogemaw	483	10	0	0	151	644
53.	Osceola	302	107	79	0	267	755
54.	Oscoda	2	0	0	0	8	10
55.	Otsego	1	5	0	0	28	34
56.	Ottawa	340	14	0	0	391	745
57.	Presque Isle	0	0	0	0	2	2
58.	Roscommon	167	14	0	0	95	246
59.	Saginaw	348	1	0	0	152	501
60.	Sanilac	0	0	0	0	17	17
61.	Shiawassee	1	0	0	0	41	42
62.	St. Clair	8	9	0	0	91	108
63.	St. Joseph	0	0	0	0	11	11
64.	Tuscola	111	1	0	0	89	201
65.	Van Buren	703	0	0	0	924	1,627
66.	Washtenaw	8	13	0	0	67	88
67.	Wayne	6	16	0	3	39	64
68.	Wexford	1	0	0	0	35	36
	Totals (S.P.)	9,321	1,298	672	7	9,286	20,584
69.	Chippewa	0	0	0	0	4	4
70.	Delta	0	0	0	0	1	1
71.	Luce	0	0	0	0	1	1
72.	Mackinac	0	0	0	0	2	2
73.	Schoolcraft	0	0	0	0	2	2
	Totals (N.P.)	0	0	0	0	10	10
	Totals State	9,321	1,298	672	7	9,296	20,594

TABLE XVI
OIL PRODUCTION BY COUNTIES JANUARY 1, 1951 TO JANUARY 1, 1957, IN BARRELS

	County	Yearly Breakdown in Barrels 1951	1952	1953	1954	1955	1956	Cumulative Jan. 1, 1957
1.	Alcona							
2.	Allegan	464,431	366,664	275,843	249,354	225,698	224,320	16,353,256
3.	Alpena							
4.	Antrim							
5.	Arenac	2,339,198	2,124,029	2,037,582	1,885,888	1,554,816	1,262,958	40,140,134
6.	Barry	36,260	36,653	37,685	38,449	42,976	36,894	412,334
7.	Bay	895,298	838,298	746,165	660,892	686,198	698,777	13,281,241
8.	Benzie							
9.	Berrien	5,948	4,595	3,677	1,383	1,752	-	29,672
10.	Branch							
11.	Calhoun							
12.	Cass	-	-	-	316	-	-	1,793
13.	Charlevoix							
14.	Cheboygan							
15.	Clare	301,088	431,058	645,304	1,070,174	1,136,510	1,016,973	27,281,164
16.	Clinton	-	-	-	-	-	-	4,121
17.	Crawford	512,445	408,154	298,561	283,423	244,453	227,723	3,692,360
18.	Eaton							
19.	Emmet							
20.	Genesee	6,283	5,560	5,857	3,972	3,707	4,113	63,608
21.	Gladwin	657,576	645,104	547,133	472,987	422,362	419,230	27,421,823
22.	Grand Traverse							
23.	Gratiot	938	84	169	37,731	73,530	40,971	202,623
24.	Hillsdale							
25.	Huron	753	1,937	3,735	3,997	3,739	3,408	30,688
26.	Ingham							
27.	Ionia	30,040	28,077	40,500	7,603	6,874	4,982	367,294
28.	Iosco							
29.	Isabella	1,848,677	1,631,831	1,521,140	1,394,275	1,286,579	1,155,957	45,908,297
30.	Jackson	-	-	2,525	-	1,955	1,957	6,437
31.	Kalamazoo	526	834	519	341	1,498	12,821	19,418
32.	Kalkaska	128,513	103,323	122,947	59,279	54,385	58,357	892,332
33.	Kent	153,601	151,542	152,001	125,870	118,745	120,357	8,087,690
34.	Lake	38,108	32,577	36,495	10,037	10,241	9,623	2,109,174
35.	Lapeer	-	-	-	-	-	67	67
36.	Leelanau							
37.	Lenawee	-	-	-	-	47	-	47

Page 2 - Oil Production by Counties Jan. 1, 1951 to Jan. 1, 1957, in Barrels

	County	Yearly Breakdown in Barrels 1951	1952	1953	1954	1955	1956	Cumulative Jan. 1, 1957
38.	Livingston							
39.	Macomb							
40.	Manistee							
41.	Mason	135,981	129,840	255,829	532,703	557,919	426,135	2,375,745
42.	Mecosta	455,482	300,500	217,645	181,401	150,263	129,275	8,762,166
43.	Midland	606,564	552,722	439,777	436,085	420,586	394,510	62,810,321
44.	Missaukee	616,620	656,229	643,387	602,366	552,299	526,546	7,296,530
45.	Monroe	13,426	20,972	7,187	19,747	12,754	7,953	593,634
46.	Montcalm	227,162	358,646	287,129	297,842	351,539	672,195	11,993,906
47.	Montmorency	989	1,013	880	-	-	-	6,945
48.	Muskegon	32,082	38,357	153,280	120,941	101,133	62,584	7,477,390
49.	Newaygo	615,629	476,558	326,496	226,768	197,072	319,271	7,934,012
50.	Oakland				1,734	2,494	159	4,387
51.	Oceana	1,559,964	1,377,327	1,034,892	875,446	668,405	567,944	12,296,859
52.	Ogemaw	357,346	730,178	806,501	840,691	860,214	827,709	11,441,829
53.	Osceola	1,067,277	1,015,648	798,989	722,044	656,241	597,962	46,606,155
54.	Oscoda	-	1,876	1,373	2,523	2,214	2,320	11,786
55.	Otsego	-	2,315	354	-	-	83	2,752
56.	Ottawa	144,641	95,682	128,920	127,281	127,942	116,798	6,615,156
57.	Presque Isle							
58.	Roscommon	455,264	506,623	466,555	408,969	430,196	441,962	8,189,206
59.	Saginaw	12,651	11,997	11,212	10,614	18,777	35,173	1,853,159
60.	Sanilac							
61.	Shiawassee	-	-	-	-	-		236
62.	St. Clair						1,755	1,755
63.	St. Joseph							
64.	Tuscola	60,550	53,512	50,623	65,392	108,768	168,758	1,162,404
65.	Van Buren	145,007	105,598	174,344	101,420	66,185	46,490	11,773,642
66.	Washtenaw	-	-	-	148,121	85,130	78,904	312,155
67.	Wayne	-	-	-	-	19,636	15,723	37,929
68.	Wexford	-	3,515	1,299	-	-	-	4,814
	Totals	13,926,518	13,249,428	12,284,510	12,028,059	11,265,832	10,739,697	395,870,446

TABLE XVII

ANNUAL OIL PRODUCTION BY FORMATIONS

Year	Marshall	Berea	Traverse	Dundee	Detroit River	Salina-Niagaran	Trenton	Yearly Totals
1925		4,000						4,000
1926		94,000						94,000
1927		434,000	482	1,446				435,928
1928		231,000	83,650	277,970				592,620
1929		113,559	789,645	3,738,035				4,641,239
1930		89,387	330,510	3,508,332				3,928,229
1931		61,876	152,787	3,570,970				3,785,633
1932		63,616	145,176	6,716,873				6,925,665
1933		55,066	143,630	7,743,299				7,941,995
1934		48,226	223,336	10,331,197				10,602,759
1935		63,305	174,992	15,537,778			162	15,776,237
1936		93,599	134,888	11,681,886			7,640	11,918,013
1937		62,877	509,299	16,047,245			8,923	16,628,344
1938	2,879	51,119	2,488,753	16,194,612			7,346	18,744,709
1939	4,532	39,413	10,506,884	12,877,772	14,000		19,494	23,462,095
1940	3,875	34,154	8,717,972	10,879,392	9,125		108,585	19,753,103
1941	5,504	43,764	4,455,607	11,695,296	73,763		84,783	16,358,717
1942	4,486	53,570	5,475,975	16,030,753	119,698		69,289	21,753,771
1943	4,118	50,310	4,858,236	15,623,591	180,282		51,187	20,767,724
1944	4,057	47,464	4,348,587	13,710,179	344,550		34,633	18,489,470
1945	3,876	42,485	2,943,994	13,651,857	598,240		27,041	17,267,493
1946	4,175	32,132	2,332,730	14,064,533	616,651		24,297	17,074,518
1947	3,263	32,794	3,157,115	12,443,546	556,028		22,867	16,215,613
1948	3,079	30,311	4,200,258	11,702,520	916,179		18,699	16,871,046
1949	2,890	28,965	4,280,674	10,575,987	1,615,211		13,606	16,517,333
1950	2,175	28,996	4,442,243	9,516,523	1,820,598		15,613	15,826,148
1951	1,609	27,254	3,689,227	8,242,103	1,952,899		13,426	13,926,518
1952	1,989	24,596	3,397,823	7,297,355	2,504,094	2,599	20,972	13,249,428
1953	1,420	22,026	2,997,465	6,599,408	2,632,204	24,800	7,187	12,284,510
1954	1,875	22,217	2,447,233	6,404,186	2,968,874	15,692	167,982	12,028,059
1955	1,662	26,193	2,046,875	5,960,719	3,101,121	11,258	118,004	11,265,832
1956	1,678	24,356	1,971,416	5,638,662	2,993,221	8,207	102,157	10,739,697

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

TABLE XVIII

PERCENTAGE ANNUAL OIL PRODUCTION BY FORMATIONS

Year	Marshall	Berea	Traverse	Dundee	Detroit River	Salina-Niagaran	Trenton
1925		100.00					
1926		100.00					
1927		99.56	.11	.33			
1928		38.98	14.12	46.90			
1929		2.45	17.01	80.54			
1930		2.27	8.42	89.31			
1931		1.64	4.05	94.31			
1932		.92	2.10	96.98			
1933		.69	1.82	97.49			
1934		.46	2.11	97.43			
1935		.40	1.11	98.49			.001
1936		.79	1.13	98.02			.06
1937		.38	3.06	96.51			.05
1938	.02	.27	13.28	86.39			.04
1939	.02	.17	44.78	54.89	.06		.08
1940	.02	.17	44.14	55.07	.05		.55
1941	.03	.27	27.24	71.49	.45		.52
1942	.02	.24	25.18	73.69	.55		.32
1943	.02	.24	23.39	75.23	.87		.25
1944	.02	.26	23.52	74.15	1.86		.19
1945	.02	.25	17.05	79.06	3.46		.16
1946	.02	.19	13.66	82.37	3.62		.14
1947	.02	.21	19.47	76.73	3.43		.14
1948	.02	.18	24.90	69.36	5.43		.11
1949	.02	.18	25.92	64.02	9.78		.08
1950	.01	.18	28.07	60.13	11.51		.10
1951	.01	.20	26.49	59.18	14.02		.10
1952	.01	.19	25.64	55.08	18.90	.02	.16
1953	.01	.18	24.40	53.72	21.43	.20	.06
1954	.02	.18	20.35	53.24	24.68	.13	1.40
1955	.02	.23	18.16	52.91	27.53	.10	1.05
1956	.02	.23	18.35	52.50	27.87	.08	.95

TABLE XIX

ACCUMULATIVE OIL PRODUCTION BY FORMATIONS

Year	Marshall	Berea	Traverse	Dundee	Detroit River	Salina-Niagaran	Trenton	Accumulative Totals
1925		4,000						4,000
1926		98,000						98,000
1927		532,000	482	1,446				533,928
1928		763,000	84,132	279,416				1,126,548
1929		876,559	873,777	4,017,451				5,767,787
1930		965,946	1,204,287	7,525,783				9,696,016
1931		1,027,822	1,357,074	11,096,753				13,481,649
1932		1,091,438	1,502,250	17,813,626				20,407,314
1933		1,146,504	1,645,880	25,556,925				28,349,309
1934		1,194,730	1,869,216	35,888,122				38,952,068
1935		1,258,035	2,044,208	51,425,900			162	54,728,305
1936		1,351,634	2,179,096	63,107,786			7,802	66,646,318
1937		1,414,511	2,688,395	79,155,031			16,725	83,274,662
1938	2,879	1,465,630	5,177,148	95,349,643	14,000		24,071	102,019,371
1939	7,411	1,505,043	15,684,032	108,227,415	23,125		43,565	125,481,466
1940	11,286	1,539,197	24,402,004	119,106,807	96,888		152,150	145,234,569
1941	16,790	1,582,961	28,857,611	130,802,103	216,586		236,933	161,593,286
1942	21,276	1,636,531	34,333,586	146,832,856	396,868		306,222	183,347,057
1943	25,394	1,686,841	39,191,822	162,456,447	741,418		357,409	204,114,781
1944	29,451	1,734,305	43,540,409	176,166,626	1,339,658		392,042	222,604,251
1945	33,327	1,776,790	46,484,403	189,818,483	1,956,309		419,083	239,871,744
1946	37,502	1,808,922	48,817,133	203,883,016	2,512,337		443,380	256,946,262
1947	40,765	1,841,716	51,974,248	216,326,562	3,428,516		466,247	273,161,875
1948	43,844	1,872,027	56,174,506	228,029,082	5,043,727		484,946	290,032,921
1949	46,734	1,900,992	60,455,180	238,605,069	6,864,325		498,552	306,550,254
1950	48,909	1,929,988	64,897,423	248,121,592	8,817,224		514,165	322,376,402
1951	50,518	1,957,242	68,586,650	256,363,695	11,321,318	2,599	527,591	336,302,920
1952	52,507	1,981,838	71,984,473	263,661,050	13,953,522	27,399	548,563	349,552,348
1953	53,927	2,003,864	74,981,938	270,260,458	16,922,396	43,091	555,750	361,836,858
1954	55,802	2,026,081	77,429,171	276,664,644	20,023,517	54,349	723,732	373,864,917
1955	57,464	2,052,274	79,476,046	282,625,363	23,016,738	62,556	841,736	385,130,749
1956	59,142	2,076,630	81,447,462	288,264,025			943,893	395,870,446

TABLE XX

PERCENTAGE ACCUMULATIVE OIL PRODUCTION BY FORMATIONS

Year	Marshall	Berea	Traverse	Dundee	Detroit River	Salina-Niagaran	Trenton
1925		100.00					
1926		100.00					
1927		99.64	.09	.27			
1928		67.73	7.47	24.80			
1929		15.20	15.15	69.65			
1930		9.96	12.42	77.62			
1931		7.62	10.07	82.31			
1932		5.35	7.36	87.29			
1933		4.04	5.81	90.15			
1934		3.07	4.80	92.13			
1935		2.30	3.73	93.97			.001
1936		2.03	3.27	94.69			.01
1937		1.70	3.23	95.05			.02
1938	.003	1.44	5.08	93.46			.02
1939	.01	1.20	12.50	86.25	.01		.03
1940	.01	1.06	16.80	82.01	.02		.10
1941	.01	.98	17.86	80.94	.06		.15
1942	.01	.89	18.73	80.08	.12		.17
1943	.01	.83	19.20	79.59	.19		.18
1944	.01	.78	19.56	79.14	.33		.18
1945	.01	.74	19.38	79.13	.56		.18
1946	.01	.71	19.00	79.35	.76		.17
1947	.02	.67	19.03	79.19	.92		.17
1948	.02	.65	19.36	78.62	1.18		.17
1949	.01	.62	19.73	77.83	1.65		.16
1950	.01	.60	20.14	76.96	2.13		.16
1951	.01	.58	20.40	76.22	2.62		.17
1952	.01	.57	20.60	75.41	3.24	.01	.16
1953	.02	.55	20.73	74.68	3.86	.01	.15
1954	.02	.54	20.72	73.99	4.53	.01	.19
1955	.01	.53	20.65	73.38	5.20	.01	.22
1956	.01	.52	20.58	72.82	5.82	.01	.24

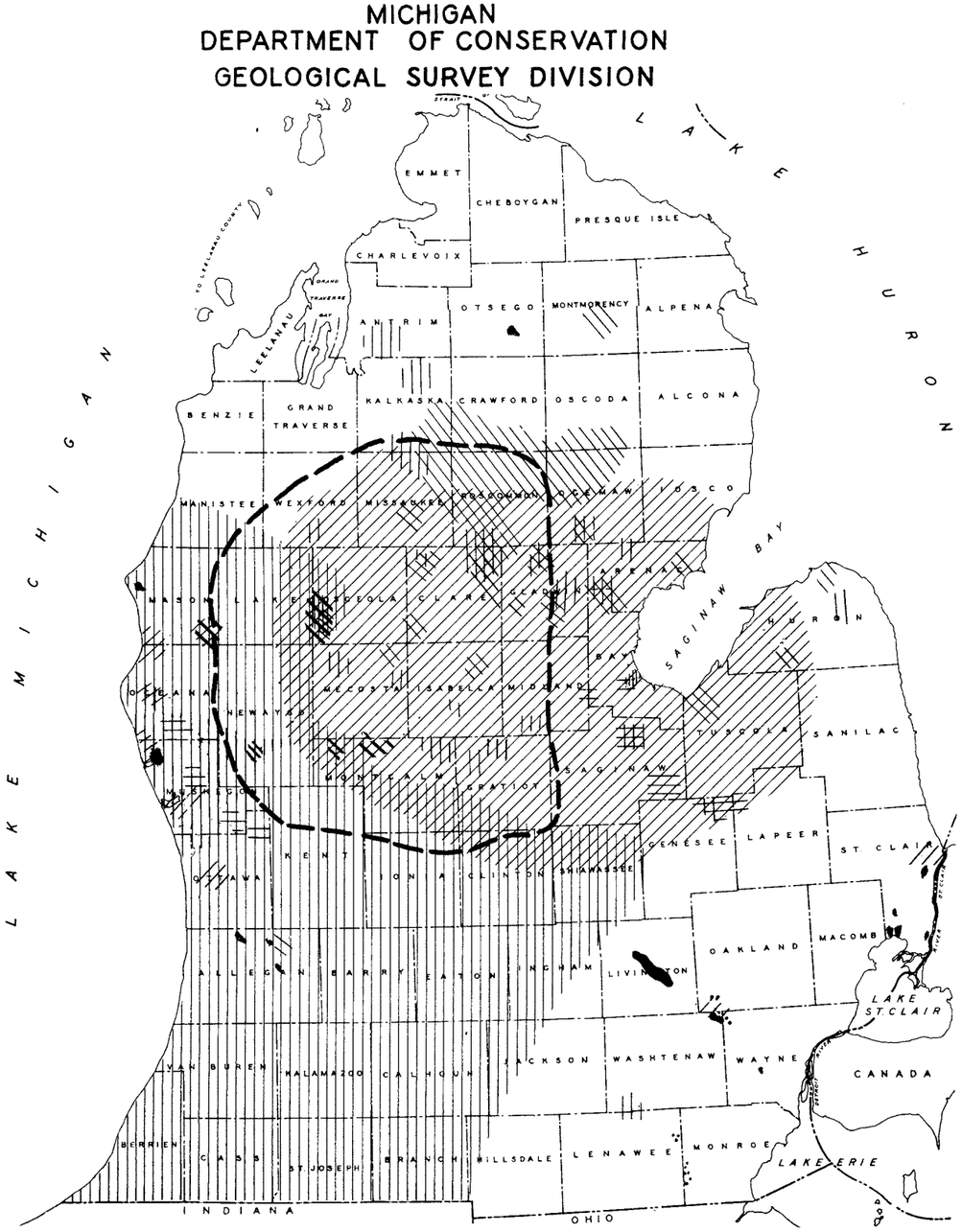
STATE OF MICHIGAN

ACTIVE CRUDE OIL REFINERIES

January 1, 1957

Name of Refinery	Location	Rated Capacity* Bbls. Daily
Aurora Gasoline Co. (Elsie Division)	Elsie (Address 15911 Wyoming Ave., Detroit 21)	6,000
Aurora Gasoline Co. (Detroit Division)	15911 Wyoming Ave., Detroit 21	47,500
Aurora Gasoline Co. (Old Dutch Division)	2920 E. Laketon Ave., Muskegon	14,800
Bay Refining Corporation	Bay City (Address 1201 Second Nat'l. Bank Bldg., Saginaw)	10,500
Crystal Refining Co. of Carson City, Inc.	Carson City	6,000
Lakeside Refining Co.	Kalamazoo	3,000
Leonard Refineries, Inc. (Leonard Division)	Alma	10,000
Leonard Refineries, Inc. (Mid-West Division)	Alma	10,500
Leonard Refineries, Inc. (Roosevelt Division)	Mt. Pleasant	8,000
Marvel Refining Co.	2201 Chicago Drive, Grand Rapids	2,000
Naph-Sol Refining Co.	Muskegon	5,500
Osceola Refining Co., Inc.	Reed City	2,000
Petroleum Specialties, Inc.	Flat Rock	6,500
Socony-Mobile Oil Co., Inc.	Trenton (Address 903 W. Grand Blvd., Detroit)	29,500
West Branch Refineries, Inc.	West Branch	2,500
Total refinery capacity		164,300

*Nominal ratings only. Actual operating rates could be either more or less than these figures.



OIL AND GAS PRODUCING AREAS BY FORMATION 1956

OUTLINE OF MICH. STRAY
BEREA
TRAVERSE
DUNDEE
REED CITY
DETROIT RIVER
SALINA
TRENTON

GENERALIZED COLUMNAR SECTION OF MICHIGAN

MICHIGAN GEOLOGICAL SURVEY DIVISION

SYSTEM, SERIES	FORMATION, GROUP	LITHOLOGY	THICKNESS	ECONOMIC PRODUCTS
RECENT				
PLEISTOCENE	GLACIAL DRIFT	SAND, GRAVEL, CLAY, boulders, marl	0-1000	SAND, GRAVEL, PEAT, MARL, FRESH WATER
"PERMO-CARBONIFEROUS"	"RED-BEDS"	SHALE, CLAY, SANDY SHALE, gypsum		
PENNSYLVANIAN	GRAND RIVER	SANDSTONE, sandy shale	80-95	BUILDING STONE, FRESH WATER
	SAGINAW	SHALE, SANDSTONE, limestone, coal	20-535	SHALE, COAL, FRESH WATER, BRINE, GAS
MISSISSIPPIAN	BAY PORT	LIMESTONE, SANDY OR CHERTY LIMESTONE, SANDSTONE	2-100	LIMESTONE, FRESH WATER
	MICHIGAN	SHALE, gypsum, anhydrite, sandstone	0-500	GYPSUM
	"MICHIGAN STRAY"	SANDSTONE	0-80	GAS
	MARSHALL	SANDSTONE, sandy shale	100-400	FRESH WATER, BRINE BUILDING STONE
	COLDWATER	SHALE, sandstone, limestone	500-1100	SHALE, FRESH WATER
	SUNBURY	SHALE	0-140	
	BEREA-BEDFORD	SANDSTONE, SHALE	0-325	GAS, OIL
	ELLSWORTH-ANTRIM	SHALE, limestone	100-950	SHALE, GAS
DEVONIAN	TRAVERSE	LIMESTONE, SHALE	100-800	LIMESTONE, OIL, GAS, FRESH WATER
	BELL	SHALE, Limestone	0-80	SHALE
	ROGERS CITY-DUNDEE	LIMESTONE	0-475	LIMESTONE, OIL, GAS, FRESH WATER
	DETROIT RIVER	DOLOMITE, limestone, salt anhydrite	150-1400	LIMESTONE, DOLOMITE, OIL, GAS, SALT, BRINE, FRESH WATER
	SYLVANIA	SANDSTONE, SANDY DOLOMITE	0-550	GLASS SAND, FRESH WATER
	BOIS BLANC	DOLOMITE, CHERTY DOLOMITE	0-1000	
SILURIAN	BASS ISLAND	DOLOMITE	50-570	DOLOMITE, FRESH WATER
	SALINA	SALT, DOLOMITE, Shale, anhydrite	50-4000	SALT, GAS, OIL
	NIAGARAN (Guelph-Lockport-Engadine) (Manistique-Burnt Bluff) (Cataract)	DOLOMITE, Limestone, shale	150-800	LIMESTONE, DOLOMITE, OIL, GAS, FRESH WATER
ORDOVICIAN	CINCINNATIAN (Richmond) (Maysville-Eden)	SHALE, LIMESTONE	250-800	
	TRENTON-BLACK RIVER	LIMESTONE, DOLOMITE	200-1000	OIL, GAS, LIMESTONE, FRESH WATER
	ST. PETER	SANDSTONE	0-150	FRESH WATER
OZARKIAN OR CANADIAN	PRAIRIE DU CHIEN	DOLOMITE, Shale	0-410	
	HERMANSVILLE	DOLOMITE, SANDY DOLOMITE, sandstone	15-500	
CAMBRIAN	LAKE SUPERIOR (Munising) (Jacobsville)	SANDSTONE	500-2000	BUILDING STONE FRESH WATER
ALGONKIAN	KEWEENAW (Copper formations)	LAVA FLOWS, conglomerate, shale, sandstone	9800-35000	COPPER, SILVER, ROAD METAL, SEMI-PRECIOUS GEM STONES
	KILLARNEY GRANITE	GRANITE, GNEISS, diorite, syenite		
	HURONIAN (Iron formations)	SLATES, HEMATITE, SCHIST, QUARTZITE, GRANITE, marble, dolomite	2000+	IRON ORE, ROOFING SLATE, ROAD METAL, GRAPHITE MARBLE
ARCHEAN	LAURENTIAN	SCHIST, GNEISS, GRANITE		ROAD METAL, BUILDING STONE, VERDE ANTIQUE, TALC, GOLD
	KEEWATIN	SCHIST, GREENSTONE, SLATE		ROAD METAL