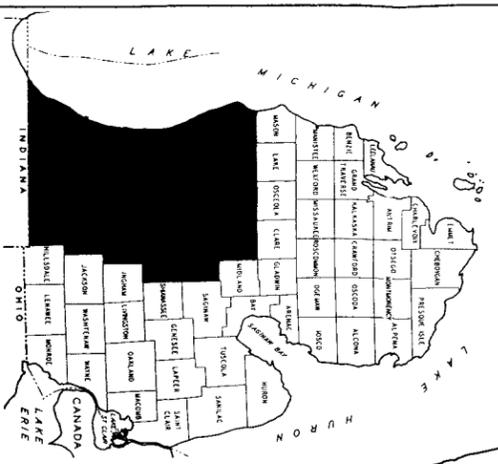
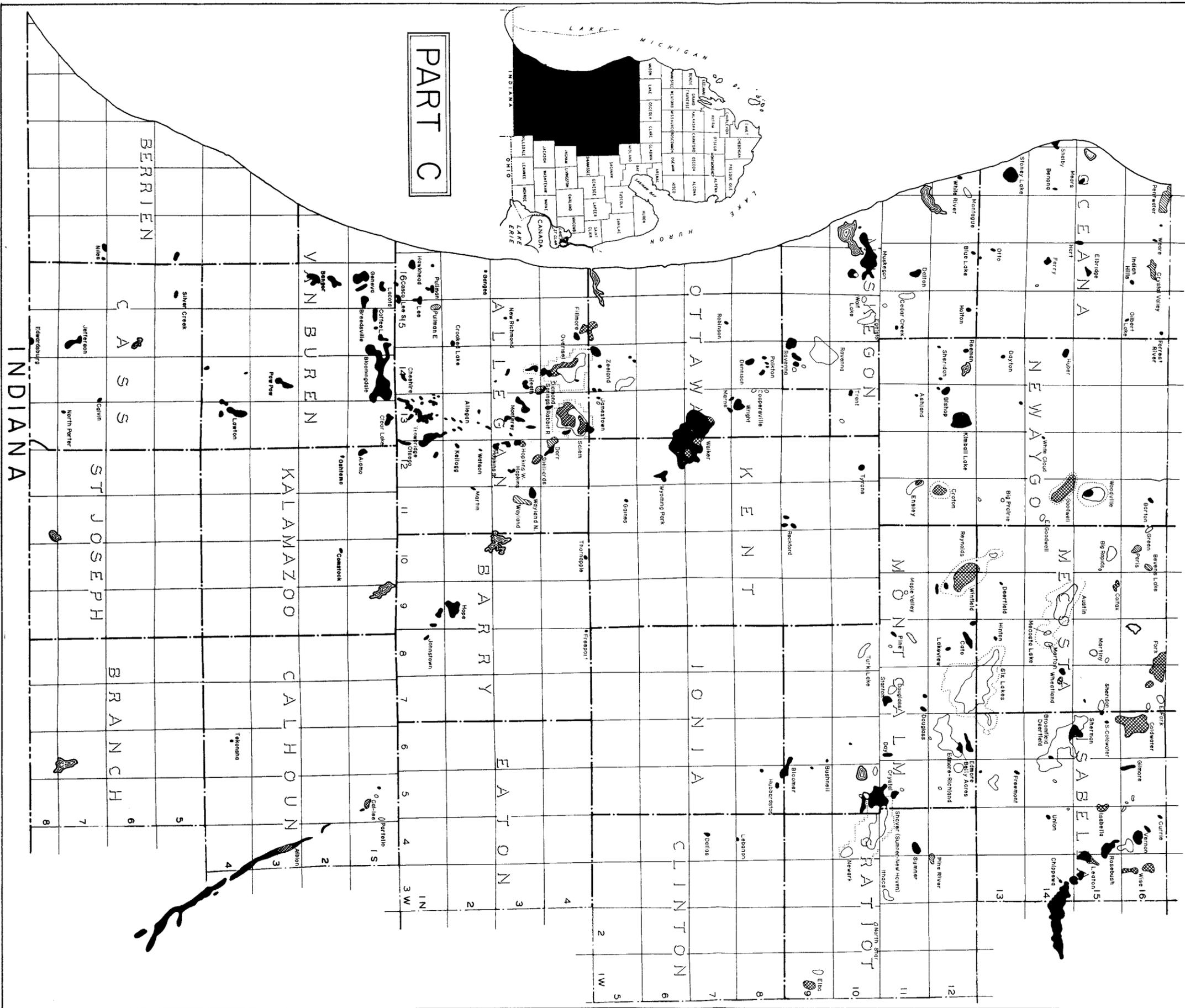


MICHIGAN OIL AND GAS FIELDS SOUTHERN PENINSULA

EXPLANATION

- OIL FIELDS
- SINGLE POOL
- GAS FIELDS
- Beaver Creek
- 2 OR MORE POOLS
- DEVELOPED GAS STORAGE AREA
- COMBINATION OIL AND GAS FIELDS
- 2 OR MORE OIL AND GAS FIELDS
- Croyton
- Westquarter
- Orient

REMARKS:
Shape and outline of all fields are generalized.
Field names not shown where space prohibits.
Includes abandoned fields.



PART C

TABLE 8. — FIELDS UTILIZING PRODUCED AND EXTRANEOUS FLUIDS AND EXTRANEOUS FLUIDS RECOVERY OPERATIONS-1966

FIELD AND COUNTY	OPERATOR OR COMPANY	TYPE OF PROJECT	YEAR PROJECT STARTED	PAY ZONE		DRILLED ACRES	INJECTION FLUIDS	SOURCE OF INJECTION FLUID	VOLUME OF INJECTED FLUID			CUMULATIVE VOLUME OF INJECTED FLUID			PRODUCTION			CUMULATIVE	
				FORM.	THICK. DEPTH				BARRELS WATER	MCF GAS	INJ. WELLS	BARRELS WATER	MCF GAS	BARRELS OIL	SALES MCF GAS	WATER PRODUCED	NO. WELLS	BARRELS OIL	SALES MCF GAS
BEAVER CREEK	CHAMBERLAIN-KALASKA	UNIT, WTR. FLOOD	1959	RICH.	20	4,160	FRESH WTR.	GLACIAL DRIFT	2,413,283	39	6,910,315	105,284	369,834	59,860	58	6,190,097	15,459,817		
BEAVERTON, SOUTH	SUN OIL CO.	UNIT, PILOT WTR. FLOOD	1959	DD.	12	3,845	FRESH WTR.	GLACIAL DRIFT	173,109	4	1,211,755	24,935	80,665	19	1,564,465	9,834			
BUCKETEY, NORTH	SUN OIL CO.	COOP. WTR. FLOOD	1948	DD.	14	3,615	FRESH WTR. & BRINE	GLACIAL DRIFT PROD. BRINES	152,740	3	2,064,332	113,609	732,555	54	18,701,240	4,465,051			
EAST NORWICH	SUN OIL CO.	P.M., GAS & WTR. UNIT	1947	RICH.	13	4,390	GAS & FRESH WTR.	PROD. GAS GLACIAL DRIFT	Discontinued 1962	35	4,947,469	200,019	327,054	74	7,394,296	370,279			
EMERFAISE	SUN OIL CO.	P.M., GAS & WTR. UNIT	1953	RICH.	15	4,405	GAS & FRESH WTR.	PROD. GAS GLACIAL DRIFT	Discontinued 1961	11	1,732,433	59,177	70,105	22	2,010,222	1,146,030			
GROUT	SUN OIL CO.	UNIT, WTR. FLOOD	1960	RICH.	10	5,039	FRESH WTR.	GLACIAL DRIFT	174,227	3	1,299,047	111,051	18,980	12	1,146,030	2,826,261			
HAMILTON	SUN OIL CO.	UNIT, WTR. FLOOD	1958	RICH.	12	5,145	FRESH WTR.	GLACIAL DRIFT	1,068,425	17	5,900,230	336,668	164,444	28	3,765,695	223,904			
JEROME	TRIUMPH OIL CO.	COOP. PILOT WTR. FLOOD	1957	DD.	10	3,743	FRESH WTR. & BRINE	GLACIAL DRIFT	7,300	1	86,114	3,019	1,095	3	13,240,345	1,010,763			
KANAWHAN	GULF OIL	UNIT, WTR. FLOOD	1953	DD.	45	2,830	FRESH WTR. & BRINE	GLACIAL DRIFT PROD. BRINES	748,781	20	4,002,416	258,267	639,480	291	(Unit prod. oil only)	4,892,456			
PENTWATER	MASON-OCEANA	UNIT, WTR. FLOOD	1960	U. TRAV.	8	1,585	BRINE	PROD. BRINES	474,576	6	1,817,846	33,279	751,900	25	39,104,120	16,257,876			
PENTWATER	MASON-OCEANA	UNIT, WTR. FLOOD	1960	DD.	10	2,088	BRINE	PROD. BRINES	Injection discontinued 1963		1,464,892			35	1,135,590	7,300			
REED CITY	MICH. CONS.	UNIT, GAS INJ. IN OIL RESERVOIR	1963	DD.-RC	10	3,585	PRODUCED BRINE EXTRANEOUS GAS	MC-GAS SYSTEM PROD. BRINES	9,484,416	9 WTR. 6 GAS	N.A.	293,478	17,906(1)132,061	18	978,571	3,147,314			
REED CITY **	ISBRANDSTEN CO. INC.	UNIT	1965	D.R.(S2)		4,184	FRESH WTR.	GLACIAL DRIFT	196,753	4	276,403	38,784	272,476	58	(2)3,362,332(3)6-051,469	7,990,243			
ROSE CITY	WISCONSIN OIL CO.	UNIT, WTR. FLOOD	1955	RICH.	9	4,125	FRESH WTR.	GLACIAL DRIFT	590,057	38	1,892,907	86,976	609,067	66	4,569,631				
ST. HELEN	SUN OIL CO.	UNIT, WTR. FLOOD	1958	RICH.	11	4,180	FRESH WTR.	GLACIAL DRIFT	Discontinued	25	3,176,425	40,871	1,128	16	651,325	3,797,982			
WEST BRANCH	WABATON OIL CO.	UNIT, WTR. FLOOD	1966	DD.	20	2,650	BRINE	TRAV. BRINE	40,871	3	4,470,830	26,173		22					
WISE	ISABELLA	B.D. & P.M.	1960	DD.	11	3,700	*FRESH WTR. & BRINE	PROD. BRINES	515,745	9									

** RICHMOND UNIT OPERATING UNIT IN REED CITY FIELD

TYPE OF PROJECT

B.D. & P.M. BRINE DISPOSAL AND PRESSURE MAINTENANCE COOP. UNIT. PILOT PROJECT WTR. FLOOD

SOURCE OF INJECTION FLUID

MC-GAS SYSTEM PRODUCED BRINES PROD. GAS

* EXTRANEOUS WTR. INJECTION DISCONTINUED

233 INJECTION WELLS

- (1) GAS FIGURES INCLUDE RUNS FROM 8 D.R. WELLS OUTSIDE THE 18 WELL RICHMOND UNIT.
- (2) UNIT OIL PRODUCTION ONLY
- (3) GAS PRODUCTION REPRESENTS ENTIRE FIELD CUMULATIVE.
- (4) WEST BRANCH UNIT DATA REPRESENTS ONE OF THE INITIAL PARTICIPATING AREA OF THE UNIT.

THIS CHART LISTS ONLY THE MORE IMPORTANT PRIMARY-SECONDARY RECOVERY OPERATIONS. SEE PREVIOUS ISSUES FOR OTHER PROJECTS DELETED FROM THIS CHART.

TABLE 9. — MICHIGAN GAS FIELDS (Sheet of 3)

FIELD NAME	COUNTY	YEAR OF OR DISC.	PRODUCING FORMATION OR POOL	DEEPEST FORMATION OR POOL TESTED	DEPTH IN FEET	PAY ZONE		NUMBER OF GAS WELLS	GAS PRODUCTION IN MCF		DRILLED ACRES	REMARKS
						DEPTH IN FEET	THICKNESS AND LITHOLOGY		TO END IN 1966	PROD. AT END IN 1966		
ALPINE	ST. CLAIR	1963	NIAGARAN	CLINTON	3470	1	D	0	0	0	80	SHUT IN
ASHTON	OSCEOLA	1946	MICHIGAN STRAY	REED CITY	3779	3	S	0	0	205,680	400	SHUT IN
ASHTON, EAST	OSCEOLA	1962	MICHIGAN STRAY	REED CITY	3750	1	S	0	0		160	SHUT IN
BEVENS LAKE	RECOSTA	1951	DUNDEE	REED CITY	3771	2	S	0	0	686,759	320	
BIG BAPTIST	RECOSTA	1943	MICHIGAN STRAY	REED CITY	3595	9	S	0	0	508,262	1440	
BLISSFIELD	LENAWEE	1965	DUNDEE	REED CITY	3595	1	L	0	0	34,785	160	
BOYD	ST. CLAIR	1952	TRENTON-BLACK RIVER	GLENWOOD	3251	1	D	0	0	0	40	SHUT IN
CAL-LEE	CALHOUN	1962	SALINA-NIAGARAN	PAIRIE DU CHIEN	4912	4	D	0	0	0	280	COMBINED WITH OIL FIELD DATA-- REFER TO OIL WELL GAS PRODUCTION
CANAC	ST. CLAIR	1961	NIAGARAN	MT. SIMON Ss.	6337	50	D	12	0	1,234,850	6340	7 WELLS SHUT IN
CEDAR	OSCEOLA	1945	MICHIGAN STRAY	SYLVANIA	5160	5	D	0	0	3,800	800	1 WELL DOMESTIC USE
CHERRY GROVE, SEC. 13	WEXFORD	1957	MICHIGAN STRAY	DUNDEE	4080	5	S	0	0	453,468	640	1 WELL SHUT IN
CHESTER	OTSEGO	1965	ANTRIM	NIAGARAN	6870	7	SH.	5	0	0	80	SHUT IN
CHESTERFIELD	MACOMB	1959	NIAGARAN	CLINTON	2707		D					COMBINED WITH OIL FIELD DATA-- REFER TO OIL WELL GAS PRODUCTION
CHINA BELLE	ST. CLAIR	1963	NIAGARAN	NIAGARAN	2451	3	D	0	0	125,143	120	
CHINA, SOUTH	ST. CLAIR	1961	SALINA-NIAGARAN	CLINTON	2743	11	D	0	2	43,412	440	3 WELLS SHUT IN
CLARE CITY	CLARE-ISABELLA	1937	MICHIGAN STRAY	DUNDEE	3865	8	S	0	0	2,294,990	720	DOMESTIC USE
CLAYTON	AREMAC	1936	BEREA	SYLVANIA	4163	31	S	0	0	5,111,048	1560	DOMESTIC USE
COLEPAX	RECOSTA	1945	MICHIGAN STRAY	DETROIT RIVER	4043	4	S	0	0	483,844	640	DOMESTIC USE
COLUMBUS	ST. CLAIR	1957	DUNDEE-REED CITY	CLINTON	3232	8	D	0	0	5,121	160	DOMESTIC USE
COLUMBUS, SEC. 23	ST. CLAIR	1965	NIAGARAN	CLINTON	3122	2	D	1	0	3,030,263	240	SHUT IN
COON CREEK	MACOMB	1963	NIAGARAN	NIAGARAN	3093	2	D	0	1	52,646	80	REFER TO OIL WELL GAS PRODUCTION
COTTRELLVILLE	ST. CLAIR	1959	SALINA-NIAGARAN	CLINTON	2511	2	D	0	0	132,588		
CRYSTAL VALLEY	OCEANA	1946	DUNDEE	TRENTON-BLACK RIVER	5985	4	L	0	1	0	160	
DEEP RIVER	AREMAC	1936	BEREA	SYLVANIA	4311	12	D	0	0	162,079	40	
DORR	ALLEGAN	1957	DETROIT RIVER	NIAGARAN	3319	1	D	0	0	1,609,812	1520	DOMESTIC USE
DORR, SEC. 17	ALLEGAN	1951	"BEREA"	TRAVERSE	1642	1	D	0	0	4,710	160	SHUT IN
DORR, SEC. 21	ALLEGAN	1940	"BEREA"	TRAVERSE	1687	1	D	0	0	0	40	SHUT IN
EBEN	MASON	1958	TRAVERSE	NIAGARAN	7249	1	L	0	0	0	60	DOMESTIC USE
EDENVILLE, SEC. 5	MIDLAND	1957	SAGINAW FM.	DUNDEE	4028	3	S	0	0	0	160	SHUT IN FOR MARKET
EGLESTON	MUSKOGON	1951	"BEREA"	DUNDEE	2282	7	D	0	1	291,097	1120	
EMLEY	RENSSELAIRE	1958	MARSHALL	DETROIT RIVER	3018	8	S	0	0	906,626	1280	SHUT IN DUE TO WATER
ENTERPRISE, SEC. 32	MISSAUBEE	1953	MICHIGAN STRAY	DETROIT RIVER	4200	2	S	0	0	0	320	DOMESTIC USE
FALMOUTH	MISSAUBEE	1962	MICHIGAN STRAY	REED CITY	4035	8	S	0	4	191,847	1280	
FERRY, SEC. 25	OCEANA	1961	"BEREA"	REED CITY	2650	1	D	0	0	0	40	DOMESTIC USE
FILMORE	ALLEGAN-OTTAWA	1959	SALINA A-2 CARB.	NIAGARAN	3045		D				1500	PRODUCTION CONTINGLED
FORK, NORTH	OSCEOLA	1956	MICHIGAN STRAY	REED CITY	3823	1	S	0	0	1,121,064	1600	DOMESTIC USE
FORK, WEST	RECOSTA	1943	MICHIGAN STRAY	SYLVANIA	5198	17	S	0	0	2,398,499	2880	DOMESTIC USE & LEASE FUEL
FORWARD	MISSAUBEE	1961	MICHIGAN STRAY	DETROIT RIVER	3225	6	S	0	0	83,785	960	1 WELL SHUT IN
FOUR CORNERS	ST. CLAIR	1966	SALINA-NIAGARAN	CLINTON	2638	2	D	2	0	0	80	SHUT IN

TABLE 9.—MICHIGAN GAS FIELDS, Continued (Sheet 2 of 3)

FIELD NAME	COUNTY	YEAR OF DISC.	PRODUCING FORMATION OR POOL	DEPTH IN FEET	THICKNESS AND LITHOLOGY	DEEPEST FORMATION OR POOL TESTED	DEPTH IN FEET	NUMBER OF GAS WELLS				GAS PRODUCTION IN MCF		REMARKS		
								TO END 1966	COMP. IN 1966	ABAND. IN 1966	PROD. AT END 1966	PRODUCED IN 1966	CUMULATIVE THROUGH 1966			
FORLIVILLE	LIVINGSTON	1961	SALINA-NIAGARAN	3680	45 D	FRATRIE DU CHIEN	5665	2	0	0	2	0	0	320	SHUT IN	
FREMONT, SEC. 32	ISABELLA	1958	MICHIGAN STRAY	1264	6 S	DUNDEE	3619	1	0	0	1	3,372	20,399	160		
HEADQUARTERS	ROSCOMMON	1945	MICHIGAN STRAY	1340	6 S	SYLVANIA	5929	12	0	0	2			1760	SHUT IN	
HESSER	ST. CLAIR	1965	NIAGARAN	2499	261 D	NIAGARAN	2887	12	3	0	12				10 WELLS SHUT IN	
HILLIARDS	ALLEGAN	1958	SALINA A-1 CAB.	2938	30 D	NIAGARAN	3157	6	0	0	6	64,629	1,972,357	960	3 WELLS SHUT IN	
LEONARD	OAKLAND	1963	NIAGARAN	4245	21 D	CLINTON	4650	1	0	0	1		0	40	SHUT IN	
LOGAN	MASON	1941	RICHFIELD	3260	5 S	RICHFIELD	3310	2	0	0	2	0	13,289	80	SHUT IN	
LOGAN	OSHTAW	1944	BEREA	1420	6 S	RICHFIELD	4537	16	1	0	14	192,529	301,227	2000	2 WELLS SHUT IN	
LYNDON	WASHINGTON	1958	TRAVERSE	1230	11 S	MEIR S.	4702	6	0	0	6			960		
MAPLE VALLEY, SEC. 16	MONTCALM	1959	DETROIT RIVER	1733	11 D	DETROIT RIVER						82,681	214,786		5 TRAVERSE WELLS - 1 TRAVERSE/DETROIT RIVER WELL	
MEYAY	CLARE	1958	MICHIGAN STRAY	1120	5 S	REED CITY	3365	1	0	0	1		0	160	DOMESTIC USE	
MARINE CITY, SOUTH	ST. CLAIR	1959	MICHIGAN STRAY	1400	3 S	DETROIT RIVER	4035	9	0	0	2		712,626	360	DOMESTIC USE	
MARSAC CREEK	ST. CLAIR	1962	SALINA A-1 CAB.	2100	4 0	NIAGARAN	2251								COMBINED WITH OIL FIELD DATA-- REFER TO OIL WELL GAS PRODUCTION	
MARTINY	MEGOSTA	1965	SALINA-NIAGARAN	?	?	?	?	5	1	0	5	0	0	40	SHUT IN	
MEGOSTA	MEGOSTA	1954	MICHIGAN STRAY	1370	2 S	DETROIT RIVER	3807	5	0	0	4	24,050	1,098,658	680		
MIDDLE BRANCH	OSGODA	1966	MICHIGAN STRAY	1345	10 S	MICHIGAN STRAY		2	2	0	2			320	SHUT IN	
MONTAGIE	MUSKOGON	1953	SALINA-NIAGARAN	1630	10 S	DETROIT RIVER	4283	4	0	0	4	153,849	153,849	640	2 WELLS SHUT IN	
MORTON	MEGOSTA	1946	MICHIGAN STRAY	3734?	80 D	DUNDEE	4517	3	0	0	2		41,482	480	DOMESTIC USE	
MUSKOGON	MUSKOGON	1927	TRAVERSE-DUNDEE-DETROIT RIVER	1279	2 S	DUNDEE	3691	2	0	0	1		118,377	320	DOMESTIC USE	
MUTTONVILLE	MACK	1946	SALINA-NIAGARAN	2023	6 L	ST. PETER	4754	?	0	0	2		7,237,438	1520	DOMESTIC USE & LEASE FUEL	
NEBARK	GRATIOT	1948	MICHIGAN STRAY	2576	194 D	CLINTON	3039	3	3	0	3	0	0	120	SHUT IN	
NORTH MORENCI	LENAWEE	1962	TRAVERSE	979	5 S	DUNDEE	3255	6	0	0	4		441,757	960	NOT PRODUCED COMMERCIALY	
NORTH STAR	GRATIOT	1940	MICHIGAN STRAY	638	2 D	FRATRIE DU CHIEN	3284	62	11	0	62	0	0	2080	SHUT IN FOR MARKET	
NORTHVILLE	WAYNE-WASHTENAW	1937	SALINA-NIAGARAN	2005	2 D	DUNDEE	5100	1	0	0	1	2,189	549,916	40		
OTSEGO	OTSEGO	1940	ANTRIX	4395	70 D	DUNDEE	5850	8	0	0	6	138,617	3,705,100	1200	SHUT IN	
PANADISE	GRAND TRAVERSE	1945	TRAVERSE	1385	4 SH	DUNDEE	3944	8	1	0	5	985	330,336	680	SHUT IN	
PABIS	MEGOSTA	1949	DUNDEE	1889	8 L	DUNDEE	1897	3	2	0	3	0	0	280	SHUT IN	
PARIS	MEGOSTA	1951	MICHIGAN STRAY	1217	5 S	REED CITY	3545	2	0	0	1	9,283	356,984	160		
PARTELO	CALHOUN	1959	SALINA A-1 CAB.	3192	30 D	TRANTON-BLACK RIVER	4905	3	0	0	3	155,860	266,915	160	1 WELL SHUT IN	
PETERS	ST. CLAIR	1955	SALINA-NIAGARAN	2386	47 D	CLINTON	2842								COMBINED WITH OIL FIELD DATA-- REFER TO OIL WELL GAS PRODUCTION	
PINE, SECS. 9 & 17	MONTCALM	1951	MICHIGAN STRAY	1251	1 S	DUNDEE	3469	2	0	0	2		37,272	80	DOMESTIC USE	
PIONEER	MISSAUKEE	1931	TRAVERSE	3025	5 L	DUNDEE	3583	1	0	0	1		0	40	SHUT IN	
PROSPER	MISSAUKEE	1948	MICHIGAN STRAY	1269	6 S	RICHFIELD	5254	3	0	0	2		152,882	480	USED FOR LEASE FUEL	
PULLMAN, EAST	ALLEGAN	1961	SALINA A-2 CAB.	1645	7 D	TRANTON	3020	3	0	0	3	1,124	27,225	480	SHUT IN	
PUTTIGUT	ST. CLAIR	1960	SALINA-NIAGARAN	2423	60 D	NIAGARAN	2774	14	0	0	14	246,002	8,227,552	440	2 WELLS SHUT IN	
RAVERNA	MUSKOGON	1956	"BEREA"	1905	10 D	DUNDEE	2306	30	0	0	4		1,437,593	4680	DOMESTIC USE	
RAVERNA, SEC. 27	MUSKOGON	1953	"BEREA"	1182	6 D	DUNDEE	2500	?	0	0	2		32,243	480	DOMESTIC USE	
REDDING	CLARE	1940	MICHIGAN STRAY	1475	3 S	SYLVANIA	5462	?	0	0	5		32,692	160	USED FOR LEASE FUEL	
REEDER	MISSAUKEE	1964	MICHIGAN STRAY	1385	4 S	DUNDEE	4002	3	0	3	0	(ABANDONED 1966)	0	320		
ROMEO	MACOMB	1965	NIAGARAN	?	?	?	3565	1	0	0	1	0	0	40	SHUT IN	
ROMULDIS	WAYNE	1955	SALINA A-1 CAB.	1980	20 D	NIAGARAN	2259	2	0	0	1	0	0	45,045	320	SHUT IN

TABLE 9.—MICHIGAN GAS FIELDS, Continued (Sheet 3 of 3)

SALIN	ALLEGAN	1937	SALINA A-2 CAB.	2725	2 D	TRANTON	4347								REFER TO DEVELOPED GAS STORAGE RESERVOIRS
SHELDAN	MEGOSTA	1958	DETROIT RIVER	1949	6 D	TRANTON	4347	3	0	3	0	(ABANDONED 1966)	49,582	320	
SURREY	CLARE	1935	MICHIGAN STRAY	1375	2 S	DUNDEE	3904	5	0	0	1		271,374	460	DOMESTIC USE
TAYMOUTH	CLARE	1945	MICHIGAN STRAY	1460	3 S	DUNDEE	4000	?	0	0	2		12,667	320	DOMESTIC USE
TURK LAKE	SAGINAW	1937	TRAVERSE	2085	6 L	TRAVERSE	2135	1	0	0	1	0	0	160	DOMESTIC USE
UNION, SEC. 6	MONTCALM	1947	MICHIGAN STRAY	1081	4 S	DETROIT RIVER	3413	4	0	0	2		217,584	640	DOMESTIC USE
WALKER	ISABELLA	1965	MICHIGAN STRAY	1382	3 S	DUNDEE	3777	2	1	0	2	0	0	240	SHUT IN FOR MARKET
WHEATLAND	KENT-OTTAWA	1939	"BEREA"	1150	8 D	ST. PETER	5222							220	
WISE	MEGOSTA	1958	TRAVERSE	2250	2 D									160	
YANKEE	ISABELLA	1940	MICHIGAN STRAY	1399	3 S	DUNDEE	3740	4	0	0	8	15,459	1,211,551	40	DOMESTIC & COMMERCIAL USE & LEASE FUEL
ZEELAND	ST. CLAIR	1963	NIAGARAN	1250	5 S	SYLVANIA	5205	?	0	0	3	1,878	502,343	160	
	OTTAWA	1946	"BEREA"	945	9 D	CLINTON	2829	2	0	0	2	1,407	1,701,485	1280	DOMESTIC USE & LEASE FUEL
						NIAGARAN	3388	7	0	0	1	0	0	80	SHUT IN
														280	P-ARRESTIC USE

7,764,022 MCF GAS PRODUCTION 1966

72,542,482 MCF CUMULATIVE GAS PRODUCTION THROUGH 1966

GAS PRODUCED IN 1966
 ACTIVE GAS FIELDS 7,764,022 MCF
 OIL WELL GAS 16,495,537
 DEVELOPED GAS STORAGE RESERVOIRS 9,854,548
 UNDEVELOPED GAS STORAGE RESERVOIRS 5,468
 TOTAL GAS PRODUCTION 34,120,015 MCF

CUMULATIVE GAS PRODUCTION
 CUMULATIVE GAS FROM ACTIVE FIELDS 72,542,482 MCF
 CUMULATIVE GAS FROM ABANDONED FIELDS 5,468
 CUMULATIVE OIL WELL GAS 17,549,980
 CUMULATIVE GAS STORAGE RESERVOIRS 252,979,943
 UNDEVELOPED GAS STORAGE RESERVOIRS 34,254,046
 CUMULATIVE TOTAL 546,290,590
 MISCELLANEOUS AND UNASSIGNED GAS FROM EARLY RECORDS 3,052,313 MCF

TABLE 10.—LOCATION OF MICHIGAN GAS FIELDS (Sheet 1 of 2)

FIELD NAME OR POOL	COUNTY	TOWNSHIP NAME	TOWNSHIP AND RANGE	PRODUCING SECTIONS	FIELD NAME OR POOL	COUNTY	TOWNSHIP NAME	TOWNSHIP AND RANGE	PRODUCING SECTIONS
ALPINE	ST. CLAIR	WALES	6N - 15E	32	FORWARD	MISSAURIE	RYERSIDE	21N - 7W	25, 36
ASTRON	OSCEOLA	LINCOLN	18N - 10W	5, 6	FOUR CORNERS	ST. CLAIR	CLAM UNION	21N - 6W	31
ASHTON, EAST	OSCEOLA	LINCOLN	18N - 10W	3	FOUR CORNERS	ST. CLAIR	CASCO	4N - 15E	36
BRYANS LAKE	MHCOSTA	GREEN	16N - 10W	13	FOUR CORNERS	ST. CLAIR	IDA	3N - 15E	1
BIG RAPIDS	MHCOSTA	BIG RAPIDS	15N - 10W	3, 9, 10, 11, 13	FOULERVILLE	LIVINGSTON	HANDY	3N - 3E	1, 2
BLISSFIELD	LENAWEE	BLISSFIELD	7S - 5E	5	FREMONT, SEC. 32	JACKSON	FREMONT	13N - 5W	32
CAL-LEE	CALHOUN	LEE	1S - 5W	16, 22	HANDY	OSCEOLA	HANDY	4S - 2W	(SEE OIL FIELD LIST FOR SECTIONS)
CANAC	ST. CLAIR	MISSISSY	7N - 13E	4, 5, 8, 9, 16, 17, 18, 20, 21, 28, 29, 32, 33	HEADQUARTERS	OSCEOLA	RUSCOMB	21N - 3W	17, 19, 20, 21, 29, 30
CEGAR	OSCEOLA	LYNN	8N - 13E	28, 29, 32, 33, 34	HESSEN	ST. CLAIR	FRANKLIN	20N - 3W	11
CHERRY GROVE, SEC. 13	WEXFORD	CEDAR	18N - 9W	27, 28, 32, 33	HULLARDS	ALLEGAN	CASCO	4N - 15E	2, 3 (ALSO SEE OIL FIELDS)
CHERRY GROVE, SEC. 17 & 21	OSCEOLA	CHERRY GROVE	21N - 10W	13	HULLARDS	ALLEGAN	COLUMBUS	5N - 15E	34, 35
CHESTER	OSCEOLA	CLAM LAKE	21N - 9W	7, 18	LEONARD	OAKLAND	DOER	4N - 12W	33 (ALSO SEE OIL FIELDS)
CHESTERFIELD	MACOMB	CHESTER	29N - 2W	10, 14	LOGAN	MASON	HOPKINS	3N - 12W	3, 4, 10
CHINA BELLE	ST. CLAIR	CHESTERFIELD	3N - 14E	29	LOGAN	MASON	ADISON	5N - 11E	15
CHINA, SOUTH	ST. CLAIR	CHINA	4N - 16E	34, 35	LYNDON	WASHTENAW	LOGAN	17N - 15W	9, 16
CLARE CITY	CLARE	CHINA	4N - 16E	28, 33, 34	LYNDON	WASHTENAW	LOGAN	22N - 4E	16, 17, 18, 20, 23, 25
CLAYTON	AREMAC	COTTRELLVILLE	3N - 16E	3, 4	MCGRAY	CLARE	CHEECHILL	22N - 3E	1, 12
COLEMAN	MHCOSTA	GRANT	17N - 4W	25, 26, 35, 36	COLEMAN	MHCOSTA	LYNDON	1S - 3E	6, 7
COLUMBUS	ST. CLAIR	SHERIDAN	17N - 3W	31	COLEMAN	MHCOSTA	UNADILLA	1N - 3E	31
COON CREEK	MACOMB	WISE	16N - 3W	6	COLEMAN	MHCOSTA	GRANT	17N - 4W	6
COTTRELLVILLE	ST. CLAIR	CLAYTON	20N - 4E	4, 5, 8, 9, 10, 11, 14, 15	COLEMAN	MHCOSTA	SUNBEY	17N - 3W	1
CRYSTAL VALLEY	OCEANA	COLEMAN	15N - 9W	4, 5 (ALSO PRODUCES OIL)	COLEMAN	MHCOSTA	HAYTON	18N - 4W	31
DEEP RIVER	AREMAC	COLUMBUS	5N - 15E	15, 16, 21, 22	COLEMAN	MHCOSTA	MAPLE VALLEY	11N - 9W	16
DOER (DETROIT RIVER)	ALLEGAN	LENOX	4N - 14E	18	COLEMAN	MHCOSTA	COTTRELLVILLE	3N - 16E	(ALSO SEE OIL FIELDS)
DOER (SEC. 17 & 21)	ALLEGAN	COTTRELLVILLE	3N - 16E	(SEE OIL FIELD LIST FOR SECTIONS)	COLEMAN	MHCOSTA	COTTRELLVILLE	3N - 16E	(ALSO SEE OIL FIELDS)
EDEN	MASON	CRYSTAL	16N - 16W	(SEE OIL FIELD LIST FOR SECTIONS)	COLEMAN	MHCOSTA	CASCO	4N - 15E	29, 30
EDENVILLE, SEC. 5	MIDLAND	DEEP RIVER	19N - 4E	7, 8, 16, 17, 18, 20	COLEMAN	MHCOSTA	MARTINY	15N - 8W	12, 22, 23
EGLESTON	MUSKOGON	DOER	4N - 12W	33 (SEE HILLIARD GAS FIELD)	COLEMAN	MHCOSTA	MORTON	14N - 8W	10
ENLEY	NEWAYGO	DOER	4N - 12W	17, 21	COLEMAN	MHCOSTA	MIDDLE BRANCH	19N - 7W	17, 18
ENTERPRISE, SEC. 32	MISSAURIE	EDEN	17N - 16W	26 (ALSO SEE OIL FIELDS)	COLEMAN	MHCOSTA	MONTAGUE	12N - 17W	7
FALMOUTH	MISSAURIE	EDENVILLE	16N - 1W	5	COLEMAN	MHCOSTA	WHITE RIVER	12N - 18W	12
FERRY, SEC. 25	OCEANA	EGLESTON	10N - 15W	3, 4, 9, 10, 15	COLEMAN	MHCOSTA	MORTON	14N - 8W	15, 22
FILLMORE	ALLEGAN	ENLEY	11N - 11W	6, 7, 8, 17, 18	COLEMAN	MHCOSTA	MUSKOGON	10N - 16W	4, 5, 6, 7, 8, 9, 15, 22
FORK, NORTH	OSCEOLA	ENTERPRISE	23N - 5W	32	COLEMAN	MHCOSTA	LAKETON	10N - 17W	12
FORK, WEST	MHCOSTA	BUTTERFIELD	22N - 5W	4	COLEMAN	MHCOSTA	LENOX	4N - 14E	13
	OSCEOLA	ASTMA	22N - 6W	30, 31	COLEMAN	MHCOSTA	NEW HAVEN	10N - 4W	23, 24, 25, 26
		REEDER	22N - 7W	25, 36	COLEMAN	MHCOSTA	SERBECA	8S - 2W	13, 14, 15, 16, 17, 19, 20, 21, 22, 23, 25, 26, 29, 30
		FERRY	14N - 16W	25	COLEMAN	MHCOSTA	MEDINA	8S - 1E	24, 25, 35
		FILLMORE	4N - 15W	2, 3	COLEMAN	MHCOSTA	NORTH STAR	10N - 2W	4
		HOLLAND	5N - 15W	34, 35	COLEMAN	MHCOSTA	LYON	1N - 7E	35, 36
		ORIENT	17N - 7W	33	COLEMAN	MHCOSTA	SALEM	1S - 7E	1, 2, 12
		POK	16N - 7W	5, 6, 7, 8, 16	COLEMAN	MHCOSTA	NORTHVILLE	1S - 8E	7, 16, 17
		CHEPPEA	16N - 8W	1, 2	COLEMAN	MHCOSTA	FURNMOUTH	1S - 8E	21, 22, 23, 25, 26
		EVART	17N - 8W	35, 36	COLEMAN	MHCOSTA	BAGLEY	30N - 3W	21, 22, 28, 34

TABLE 10. LOCATION OF MICHIGAN GAS FIELDS Continued (Sheet 2 of 2)

FIELD NAME OR POOL	COUNTY	TOWNSHIP NAME	TOWNSHIP AND RANGE	PRODUCING SECTIONS	FIELD NAME OR POOL	COUNTY	TOWNSHIP NAME	TOWNSHIP AND RANGE	PRODUCING SECTIONS
PARADISE	GRAND TRAVERSE	PARADISE	25N - 10W	16	ROMEO	MACOMB	WASHINGTON	4W - 12E	11
PARIS	MHCOSTA	GREEN	16N - 10W	21, 27, 28	ROMULUS	WAYNE	ROMULUS	3S - 9E	15, 16
PARTIELLO	CALHOUN	LEE	1S - 5W	12, 13	SAJAH (DETROIT RIVER)	ALLEGAN	SAJAH	4N - 13W	16, 21
PETERS	ST. CLAIR	CASCO	4N - 15E	(ALSO SEE OIL FIELDS)	SHERIDAN	MHCOSTA	SHERIDAN	15W - 7W	13, 14
PINE, 9 & 17	MONTCALM	PINE	11N - 8W	9, 17	SURETY	CLARE	SURETY	17N - 3W	23, 24
PIONEER, 24	MISSAURIE	PIONEER	24N - 7W	24	TAYMOUTH	SAGINAW	TAYMOUTH	10N - 5E	11
PROSPER	MISSAURIE	ASTMA	22N - 6W	34, 35	TURK LAKE	MONTCALM	MONTCALM	10N - 8W	9, 10, 14, 15
PULLMAN, EAST	ALLEGAN	CLAM UNION	21N - 6W	2	UNION, SEC. 6	ISABELLA	UNION	14N - 4W	6
PULLMAN, WEST	ST. CLAIR	LEE	1N - 15W	5, 6, 8	VICTORY	MASON	VICTORY	19W - 17W	10
PULLMAN, WEST	ST. CLAIR	CASCO	4N - 15W	11, 16, 15	WALKER	KEW	WALKER	7N - 12W	30, 32, 33
RAVERNA	MUSKOGON	RAVERNA	9N - 14W	4, 5, 6, 7, 8, 9, 17	WALKER	KEW	WALKER	6N - 12W	5
		SULLIVAN	9N - 15W	12	WYOMING	OTTAWA	WYOMING	6N - 12W	4
		HOBLAND	10N - 14W	32, 33	TALLMADE	OTTAWA	TALLMADE	7N - 13W	27
		RAVERNA	9N - 14W	22, 27, 28	WHEATLAND	MHCOSTA	WHEATLAND	14N - 7W	7, 8, 9
		ARMUDA	5N - 13E	36	WISE	ISABELLA	WISE	16N - 3W	8, 17, 20, 21, 28, 29, 33
		REDDING	19N - 6W	27, 32	YANKEE	ST. CLAIR	ST. CLAIR	5W - 16E	25
		FREEMAN	18N - 6W	2	ZEELEND	OTTAWA	ZEELEND	5N - 14W	2, 11, 12, 13, 14
		REEDER	22N - 7W	32					
		RYERSIDE	21N - 7W	5					

In the column titled PRODUCING SECTIONS, listing of a section or part of a section does not necessarily mean the entire section to be productive of oil or gas in any or all potentially productive formations. Only those sections, or parts of sections, which have had at least one well completed as an oil or gas well are listed.

TABLE II--ABANDONED GAS FIELDS

FIELD NAME	COUNTY	YEAR OF DISC.	PRODUCING FORMATION OR POOL	PAY ZONE		DEEPEST FORMATION OR POOL TESTED	DEPTH IN FEET	NUMBER OF GAS WELLS			GAS PRODUCTION IN MCF		REMARKS	
				DEPTH IN FEET	THICKNESS AND LITHOLOGY			TO END	COMP. IN	ABAND. IN	PROD. AT END	YEAR OF ABANDONMENT		CUMULATIVE PRODUCTION
ADAMS, SEC. 8	HILLSDALE	1962	TRAVERSE	1420	4 L	PRAIRIE DU CHIEN	4169	1			1965	18,919	20	
ADAMS, NORTH	AREMAC	1942	BEREA	1605	1 S	DUNDEE	3101	1			1948	1,280	40	
ALBION	CALHOON	1941	TRAVERSE	1610	7 L	ST. PETER Ss.	4510	4			1948	6,114	120	
ALGONAC	ST. CLAIR	1947	AMTRH	302	6 SH	CAROL HEAD	2504	2			1951	7,830	80	
BIG PRAIRIE	NEWAYGO	1944	MICHIGAN STRAY	1030	5 S	REED CITY	3322	1			1961	152,864	160	
BIG PRAIRIE, SEC. 33	NEWAYGO	1947	DUNDEE	2896	2 L	DUNDEE	2900	1			1952	62,324	40	
CANNON CREEK	MISSAUBIE-KALKASKA	1950	TRAVERSE	2695	11 L	RICHFIELD	4810	21			1956	851,369	3,360	
CEDAR CREEK	MUSKOGON	1940	"BEREA"	1125	7 D	DUNDEE	2252	7			1960	654,528	1,120	
COOPERVILLE	OTTAWA	1939	"BEREA"	1240	5 D	TRAVERSE	1900	3			1959	108,839	240	
DAY	MONTCALM	1934	MICHIGAN STRAY	1352	4 S	MARSHALL	1395	2			1946	8,494	80	
DIAMOND CRYSTAL SALT	ST. CLAIR	1927	NIAGARAN	2483	17 D	NIAGARAN	2500	1			1931	136,445	40	
DOUGLASS	MONTCALM	1943	MICHIGAN STRAY	1190	5 S	DUNDEE	3423	4			1951	184,806	640	
ELBA	GRATIOT	1928	MICHIGAN STRAY	670	10 S	DUNDEE	2700	10			1957	246,058	520	
FORK, EAST	MECOSTA	1942	MICHIGAN STRAY	1480	5 S	DUNDEE	3865	4			1946	102,708	640	
FREMONT	ISABELLA	1941	MICHIGAN STRAY	1235	5 S	DUNDEE	3556	5			1956	381,330	800	
GARFIELD	CLARE	1946	DETROIT RIVER	5013	8 S	SYLVANIA	5307	1			1948	535,811	40	
GILMORE	ISABELLA	1945	MICHIGAN STRAY	1560	3 S	DUNDEE	4091	6			1952	203,312	520	
GOODWELL, EAST	NEWAYGO	1945	MICHIGAN STRAY	1190	4 S	DETROIT RIVER	3498	2			1950	7,504	200	
GRANT	MASON	1929	GLACIAL DRIFT	632	1 S	DUNDEE	2385	3			1955	8,020	120	
GREEN	MECOSTA	1946	MICHIGAN STRAY	1250	3 S	REED CITY	3710	2			1951	73,368	320	
HAMILTON	CLARE	1940	MICHIGAN STRAY	1270	3 S	DUNDEE	3897	4			1954	275,606	440	
HAMILTON	MASON	1952	SALINA-NIAGARAN	9950	7 D	CAMERIAN	6620	1			1962	0	180	
HARRISON	CLARE	1945	MICHIGAN STRAY	1675	3 S	SYLVANIA	5633	7			1962	600,635	760	
HEATH, SEC. 21	ALLEGAN	1960	SALINA	2492	19 D	SALINA	2789	1			1965	63,430	160	
ISABELLA	ISABELLA	1949	MICHIGAN STRAY	1454	7 S	DETROIT RIVER	3993	6			1956	335,791	240	
ITHACA	GRATIOT	1943	MICHIGAN STRAY	900	16 S	DUNDEE	3419	5			1965	1,520,995	800	
KANKAWLIN	BAY	1941	SALINA	7760	16 D	ST. PETER Ss.	10477	1			1946	No Record		
LEATON	ISABELLA	1935	MICHIGAN STRAY	1240	2 S	DUNDEE	3710	5			1940	185,609	400	
MANISTEE	MANISTEE	1959	SALINA	3616	94 D	NIAGARAN	4165	1			1961	0	160	
MECOSTA LAKE	MECOSTA	1953	MICHIGAN STRAY	1334	12 S	DUNDEE	3690	2			1956	84,071	320	
MIRABEL SPRINGS	OSCEOLA	1952	MICHIGAN STRAY	1397	8 S	DETROIT RIVER	3963	4			1960	238,762	480	
NORTHVILLE	WAYNE-WASHTENAW	1948	DUNDEE	788	2 L	CAMRO-ORDOVICIAN	5850	4			1961	0	640	
PARIS	MECOSTA	1949	DUNDEE	3404	5 L	REED CITY	3545	2			1959	268,667	560	
RICHLAND, SEC. 27	MONTCALM	1963	MICHIGAN STRAY	1247	1 S	DUNDEE	3530	1			1964	0	160	
SEANS	OSCEOLA	1944	MICHIGAN STRAY	1492	12 S	DUNDEE	3988	1			1965	0	160	
ST. CLAIR, SEC. 18	ST. CLAIR	1953	SALINA-NIAGARAN	3567	2 D	CINCINNATIAN	3240	1			1961	16,101	160	
STIVAN	OSCEOLA	1941	MICHIGAN STRAY	1525	10 S	DETROIT RIVER	4034	1			1953	80,714	40	
VERNON	ISABELLA	1939	MICHIGAN STRAY	1300	2 S	DETROIT RIVER	3907	25			1956	1,464,249	920	
WOLF LAKE	MUSKOGON	1949	"BEREA"	1090	7 D	DETROIT RIVER	2250	2			1956	99,756	320	

8,946,309 MCF CUMULATIVE GAS PRODUCTION FROM ABANDONED FIELDS

This table also lists miscellaneous gas wells

39 ABANDONED FIELDS

TABLE 12--LOCATION OF ABANDONED GAS FIELDS

FIELD NAME OR POOL	COUNTY	TOWNSHIP NAME	TOWNSHIP AND RANGE	PRODUCING SECTIONS	YEAR OF DISCOVERY	YEAR OF ABANDONMENT	FIELD NAME OR POOL	COUNTY	TOWNSHIP NAME	TOWNSHIP AND RANGE	PRODUCING SECTIONS	YEAR OF DISCOVERY	YEAR OF ABANDONMENT
ADAMS, SEC. 8 (TRAVERSE)	WELLSDALE	ADAMS	6S - 2W	8	1962	1965	GREEN	MECOSTA	GREEN	16N - 10W	18	1946	1951
ADAMS, NORTH	AREMAC	ADAMS	19N - 3E	4	1942	1948	HAMILTON	CLARE	HAMILTON	19N - 3W	15, 23, 26	1940	1954
ALBION	CALHOON	ALBION	3S - 4W	14, 15	1941	1948	HAMILTON, SEC. 27	MASON	HAMILTON	19N - 18W	27	1952	1962
ALGONAC	ST. CLAIR	CLAY	3N - 16E	20, 29	1947	1951	HARRISON	CLARE	LIMCOOK	18N - 3W	1, 12, 13	1945	1962
BIG PRAIRIE	NEWAYGO	BIG PRAIRIE	13N - 11W	16	1944	1961	HEATH, SEC. 21	ALLEGAN	HEATH	18N - 4W	6, 7	1945	1962
BIG PRAIRIE, SEC. 33	NEWAYGO	BIG PRAIRIE	13N - 11W	33	1947	1952	ISABELLA	ISABELLA	ISABELLA	3N - 14W	21	1940	1965
CANNON CREEK	MISSAUBIE	PIONEER	24N - 6W	6, 7, 18	1950	1956	ITHACA	GRATIOT	ARCADA	11N - 3W	25, 35, 36	1943	1965
CEDAR CREEK	MUSKOGON	CEDAR CREEK	25N - 6W	31	1950	1956	KANKAWLIN	BAY	MONITOR	14N - 4E	2	1941	1946
COOPERVILLE	OTTAWA	WRIGHT	8N - 13W	7, 19	1939	1959	LEATON	ISABELLA	DERVER	15N - 3W	17, 19	1935	1940
DAY	MONTCALM	DAY	11N - 6W	1	1934	1944	MANISTEE	MANISTEE	PIER	21N - 17W	24	1959	1961
DIAMOND CRYSTAL SALT	ST. CLAIR	ST. CLAIR	5N - 17E	31	1927	1931	MIRABEL LAKE	MECOSTA	MORTON	14N - 6W	17, 20	1953	1956
DOUGLASS	MONTCALM	DOUGLASS	11N - 7W	27, 28	1943	1951	MIRABEL SPRINGS	OSCEOLA	SHERMAN	20N - 9W	20, 21	1952	1960
ELBA	GRATIOT	ELBA	12N - 6W	36	1934	1944	NORTHVILLE (DUNDEE)	WASHTENAW	SALZG	1S - 7E	1, 2	1947	1961
FORK, EAST	MECOSTA	FORK	9N - 1W	9, 14, 15, 16	1928	1957	PARIS (DUNDEE)	OSCEOLA	LYON	1N - 7E	36	1947	1961
FREMONT	ISABELLA	FREMONT	16N - 7W	2, 11	1942	1946	SEANS	OSCEOLA	STIVAN	16N - 10W	21, 22, 27, 28	1949	1959
GARFIELD	CLARE	GARFIELD	13N - 5W	20, 21, 22, 27, 28	1941	1956	ST. CLAIR, SEC. 18	ST. CLAIR	ST. CLAIR	18N - 7W	32	1964	1965
GILMORE	ISABELLA	GILMORE	17N - 6W	18	1946	1948	STIVAN	OSCEOLA	STIVAN	5N - 17W	18	1953	1961
GOODWELL, EAST	NEWAYGO	GOODWELL	16N - 3W	25, 26, 36	1930	1952	VERNON	ISABELLA	VERNON	18N - 7W	7	1941	1953
GRANT	MASON	GRANT	20N - 17W	15	1929	1955	VERNON, SEC. 31	ISABELLA	ISABELLA	16N - 4W	25, 26, 35, 36	1939	1956
							WOLF LAKE	MUSKOGON	EDGESTON	10N - 15W	7, 8	1949	1956

In the column titled **PRODUCING SECTIONS**, listing of a section or part of a section does not necessarily mean the entire section to be productive of oil or gas in any or all potentially productive formations. Only those sections, or parts of sections, which have had at least one well completed as an oil or gas well are listed. These tables also include miscellaneous, single wells which reported small amounts of oil production. Production from these wells is accounted for in the cumulative oil tables.

TABLE 13.—DEVELOPED GAS STORAGE RESERVOIRS

FIELD NAME	COUNTY	YEAR OF DISC.	PRODUCING FORMATION OR POOL	PAY ZONE		DEEPEST FORMATION OR POOL TESTED	DEPTH IN FEET	NUMBER OF GAS WELLS		GAS PRODUCTION IN MCF		REMARKS
				DEPTH IN FEET	THICKNESS LITROLOGY			TO END	AGRD. IN 1966	PROD. IN 1966	CUMULATIVE THROUGH 1966	
AUSTIN	MICHIGAN	1933	MICHIGAN STRAY	1380	14 S	DETROIT RIVER	4043	0	0	88	6,109,033	3970
BELLE RIVER MILLS	ST. CLAIR	1961	SALINA-NIAGARAN	2215	305 D	CLINTON	2694	0	0	33	879,497	840
CRANBERRY LAKE	CLARE-MISSAUBEE	1945	MICHIGAN STRAY	1321	10 S	RICHFIELD	5201	0	0	171	7,537,651	7000
CROTON	NEWAYGO	1951	MARSHALL	917	4 S	SALINA	3993	0	0	7	1,320,835	860
FREEMAN-LINCOLN	CLARE	1938	MICHIGAN STRAY	1500	10 S	DETROIT RIVER	3957	18W	0	81	18,099,450	6600
GOODWELL	NEWAYGO	1943	MICHIGAN STRAY	1162	20 S	DETROIT RIVER	3562	0	0	63	5,875,670	3020
HAMILTON, NORTH	CLARE	1952	MICHIGAN STRAY-MARSHALL	1487	8 S	RICHFIELD	5395	0	0	49	5,450,065	3040
HONELL	LIVINGSTON	1935	SALINA	3920	9 D	ST. PETER S6.	5958	0	0	49	23,678,120	2400
IRA	ST. CLAIR	1953	SALINA-NIAGARAN	2276	33 D	CLINTON	2632	0	0	14	3,498,666	680
LENIX	MACOMB	1960	SALINA-NIAGARAN	2734	46 D	CLINTON	3018	0	0	11	2,152,679	300
MALTON (WINTERFIELD)	CLARE-OSCEOLA	1940	MICHIGAN STRAY	1344	15 S	SYLVANIA	5100	1	0	282	20,084,934	10720
ORIENT	OSCEOLA	1945	MICHIGAN STRAY	1508	11 S	SYLVANIA	5307	1	0	48	5,350,856	2600
OVERISEL	ALLEGAN	1956	SALINA	2650	12 D	TRENTON	4060	0	0	186	14,645,048	6660
RAY	MACOMB	1961	SALINA-NIAGARAN	2945	101 D	NIAGARAN	3273	6	0	30	8,975,411	?
REED CITY	OSCEOLA-LAKE	1940	MICHIGAN STRAY	1217	12 S	ST. PETER S6.	8960	0	0	78	7,642,246	4880
*REED CITY	OSCEOLA-LAKE	1941	REED CITY	3585	7 D	ST. PETER S6.	8960	3+18W	1	154	COMBINATION GAS STORAGE AND SECONDARY OIL RECOVERY PROJECT, REFER TO TABLE 7 FOR DETAILS	
RIVERSIDE	MISSAUBEE	1940	MICHIGAN STRAY	1435	7 S	DUNDUE	3953	0	0	97	5,188,481	3680
SALZM	ALLEGAN	1937	SALINA	2725	2 D	TRENTON	3792	0	0	88	11,310,698	4960
SHAWER (SUMNER-NEW HAVEN)	GRATIOT-MONTCALM	1935	MICHIGAN STRAY	1020	11 S	DUNDUE	3536	0	0	49	11,114,906	3920
SIX LAKES	NECOSTA-MONTCALM	1934	MICHIGAN STRAY	1270	25 S	DETROIT RIVER	3790	0	0	269	51,604,719	11480
WINEFIELD	MONTCALM	1935	MICHIGAN STRAY	1125	8 S	DETROIT RIVER	3405	0	0	8	4,836,132	3240
WOODVILLE (NORWICH)	NEWAYGO	1943	MICHIGAN STRAY	1185	13 S	DETROIT RIVER	3405	0	0	41	2,683,259	2340
22 GAS STORAGE RESERVOIRS								11	1	1896	252,979,943	
NOT INCLUDED WITH ABOVE FIELDS IS ONE SMALL STORAGE RESERVOIR LOCATED NEAR ST. PETER S6. IN CLINTON. GAS IS STORED IN SALINA. AVERAGE AT DEPTH OF ABOUT 2050 FEET. GAS CAPACITY OF THE CAVERN, IN SALINA SALT, IS REPORTED TO BE ABOUT 341 MILLION CUBIC FEET AT A WELLHEAD PRESSURE OF 1100 PSI.								FACILITY WELLS		Total = 9,854,908		
*REED CITY - REED CITY ZONE REFERRED TO AS "LOREED"								FACILITY WELLS		252,979,943 MCF CUMULATIVE PRODUCTION FROM FIELDS PRIOR TO CONVERSION TO GAS STORAGE		
INCLUDES OBSERVATION WELLS								FACILITY WELLS		252,979,943		
5 UNDEVELOPED GAS STORAGE RESERVOIRS								FACILITY WELLS		Total = 5,548		
INCOMPLETE								FACILITY WELLS		2823+		REFER TO ACTIVE GAS FIELDS PREPARING FOR GAS STORAGE

TABLE 14.—UNDEVELOPED GAS STORAGE RESERVOIRS

FIELD NAME	COUNTY	YEAR OF DISC.	PRODUCING FORMATION OR POOL	PAY ZONE		DEEPEST FORMATION OR POOL TESTED	DEPTH IN FEET	NUMBER OF GAS WELLS		GAS PRODUCTION IN MCF		REMARKS
				DEPTH IN FEET	THICKNESS LITROLOGY			TO END	AGRD. IN 1966	PROD. IN 1966	CUMULATIVE THROUGH 1966	
BROOMFIELD-DEERFIELD	ISABELLA	1930	MICHIGAN STRAY	1355	5 S	SYLVANIA	4994	0	0	21	13,069,069	8080
COLUMWATER	ISABELLA	1945	MICHIGAN STRAY	1390	10 S	SYLVANIA	5090	0	0	12	7,352,605	2400
EDMORE-RICHLAND	MONTCALM	1936	MICHIGAN STRAY	1300	8 S	DUNDUE	3700	0	0	11	8,926,650	6800
EVART	OSCEOLA	1941	MICHIGAN STRAY	1410	7 S	DETROIT RIVER	4457	0	0	5	4,895,722	5120
NORTHVILLE	WAYNE-WASHINGTON	1954	TRENTON-BLACK RIVER	4395	70 D	CAMBRO-ORDOVICIAN	5850	0	0	5	34,254,046	2823+
5 UNDEVELOPED GAS STORAGE RESERVOIRS								FACILITY WELLS		Total = 5,548		
INCOMPLETE								FACILITY WELLS		2823+		REFER TO ACTIVE GAS FIELDS PREPARING FOR GAS STORAGE

TABLE 15.—LOCATION OF GAS STORAGE RESERVOIRS

FIELD NAME OR POOL	COUNTY	TOWNSHIP NAME	TOWNSHIP AND RANGE	PRODUCING SECTIONS	FIELD NAME OR POOL	COUNTY	TOWNSHIP NAME	TOWNSHIP AND RANGE	PRODUCING SECTIONS
		COLFAX	15N 9W	32, 33	OVERISEL	ALLEGAN	OVERISEL	4N - 14W	4, 5, 8, 9, 10, 16, 15, 16, 21, 22, 23, 27, 28
		HORTON	14N 8W	6, 7	BAY	MACOMB	BAY	4N - 13E	1, 2, 11
BELLE RIVER MILLS	ST. CLAIR	CHINA	4N 16E	11, 14, 15	REED CITY	OSCEOLA	LINCOLN	18N - 10W	8, 9, 16, 17, 18, 19, 20, 21, 29, 30, 31, 32
CRANBERRY LAKE	CLARE	SUMMERFIELD	20N 5W	4, 5, 6, 7, 8, 9, 15, 16, 17, 18, 22, 23	RIVERSIDE	LAKE	PINORA	18N - 11W	24, 25
		WINTERFIELD	20N 6W	1, 2, 3, 10, 11, 12	SIX LAKES	ISABELLA	ROLLARD	13N - 6W	29, 30
		CLAM UNION	21N 6W	25, 26, 35		NECOSTA	HINTON	13N - 8W	23, 24, 25
CROTON	NEWAYGO	CROTON	12N 11W	29, 32	WINTERFIELD	MONTCALM	MILLBROOK	13N - 7W	27, 28, 29, 30, 31, 32, 33, 34, 35, 36
FREEMAN - LINCOLN	CLARE	LINCOLN	18N 5W	7, 16, 17, 18, 19, 20, 21, 27, 28, 29	WINEFIELD	MONTCALM	BELVIDERE	12N - 7W	1, 2, 3, 4, 5, 6, 9, 10, 11, 12, 14, 15, 16, 17, 18, 20, 21
		FREEMAN	18N 6W	2, 3, 4, 9, 10, 11, 13, 14, 15, 23, 24		MONTCALM	WINEFIELD	12N - 9W	6, 7, 8, 16, 17, 18
GOODWELL	NEWAYGO	GOODWELL	14N 11W	5, 6, 7, 8, 9, 16, 17	WOODVILLE (NORWICH)	NEWAYGO	REYNOLDS	12N - 10W	1, 12
		WILCOX	14N 12W	1			NORWICH	15N - 11W	16, 17, 20, 21, 28, 29
		ROBECKE	15N 11W	31			CRYSTAL	10N - 5W	1, 2, 3, 5, 6
HAMILTON, NORTH	CLARE	HAMILTON	19N 3W	5, 6, 7, 8			PERKINS	11N - 5W	27, 30
		HAYES	19N 4W	1			ROLLARD	13N - 6W	29, 30
		FROST	20N 4W	35, 36			HINTON	13N - 8W	23, 24, 25
		GENOA	2N 5E	5, 6, 7, 8, 17			MILLBROOK	13N - 7W	27, 28, 29, 30, 31, 32, 33, 34, 35, 36
		MALTON	2N 4E	1, 2, 12			BELVIDERE	12N - 7W	1, 2, 3, 4, 5, 6, 9, 10, 11, 12, 14, 15, 16, 17, 18, 20, 21
		HOWELL	3N 4E	35			WINEFIELD	12N - 9W	6, 7, 8, 16, 17, 18
		IRA	3N 15E	1, 2, 11			REYNOLDS	12N - 10W	1, 12
		LENIX	4N 14E	32			NORWICH	15N - 11W	16, 17, 20, 21, 28, 29
		CHESTERFIELD	3N 14E	5					
MALTON (WINTERFIELD)	CLARE	WINTERFIELD	20N 6W	17, 18, 19, 20, 21, 27, 28, 29, 30, 31, 32, 33, 34, 35					
		REDDING	19N 6W	1, 2, 3, 4, 6					
		MALTON	20N 7W	24, 25, 36					
		MIDDLE BRANCH	15N 7W	1					

IN THE COLUMN TITLED PRODUCING SECTIONS, LISTING OF A SECTION OR PART OF A SECTION DOES NOT NECESSARILY MEAN THE ENTIRE SECTION TO BE PRODUCTIVE OF OIL OR GAS IN ANY OR ALL POTENTIALLY PRODUCTIVE FORMATIONS. ONLY THOSE SECTIONS, OR PARTS OF SECTIONS, WHICH HAVE HAD AT LEAST ONE WELL COMPLETED AS AN OIL OR GAS WELL ARE LISTED.

The producing sections listed for developed gas storage reservoirs does not necessarily relate to current gas storage area or boundary. The sections, or parts of sections, which are listed are those which contained at least one productive gas or oil well prior to conversion of the field to gas storage.

The producing sections or parts of sections listed for undeveloped gas storage reservoirs are those which have had at least one well completed as a gas or oil well. The listed sections do not relate to potential or future gas storage area or boundary.

UNDEVELOPED GAS STORAGE RESERVOIRS

FIELD NAME OR POOL	COUNTY	TOWNSHIP NAME	TOWNSHIP AND RANGE	PRODUCING SECTIONS
BROOMFIELD-DEERFIELD	ISABELLA	BROOMFIELD	14N 6W	1, 2, 3, 4, 5, 9, 10, 11, 13, 14, 15, 23, 24, 25
		DEERFIELD	14N 5W	7, 17, 18, 19, 20, 29, 30
COLUMWATER	ISABELLA	COLUMWATER	16N 6W	28, 29, 30, 31, 32, 33
		SHERMAN	15N 6W	6
EDMORE-RICHLAND	MONTCALM	ROME	12N 6W	11, 12, 13, 14, 15, 19, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 33
		RICHLAND	12N 5W	7, 8, 17, 18
EVART	OSCEOLA	OSCEOLA	18N 8W	19, 21, 22, 23, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35
NORTHVILLE				SEE PRODUCING GAS FIELDS

FIELD NAME	COUNTY	YEAR OF DISC.	PRODUCING FORMATION OR POOL	PAY ZONE THICKNESS AND LITHOLOGY	DEEPEST FORMATION OR POOL TESTED	DEPTH IN FEET	NUMBER OF GAS WELLS		GAS PRODUCTION IN MCF		DRILLED ACRES	REMARKS
							TO END	AT END	PRODUCED IN 1966	CUMULATIVE THROUGH 1966		
ADAIR	ST. CLAIR	1961	SALINA-NIAGARAN						34,104	448,003		
ALBION-SOCIETY TROND	CALHOUN - JACKSON - HILLSDALE	1957	TRIMON-BLACK RIVER						10,425,082	60,493,198		
BEAVER CREEK	CHAMPAIGN-KALKASKA	1947	RICHFIELD						869,834	15,559,817		
BOYD	ST. CLAIR	1952	SALINA-NIAGARAN						1,291,911	9,079,923		
BUCKEYE	CLAMATH	1939	DUNDEE						-	9,834		
CHESTERFIELD	MACOMB	1959	NIAGARAN						-	124,698		
CLINA, SEC. 12									-	27,721		
COLDWATER	ISABELLA	1944	DUNDEE						-	6,311,307		
COTTELEVILLE	ST. CLAIR	1959	SALINA						186,488	1,336,139		FORMERLY CONSOLIDATED WITH BELL RIVER MILLS
DORR	ALEGAN	1956	SALINA						64,710	992,498		
EAST NORTH	MISSAUKEE-ROSCOMMON	1942	RICHFIELD						347,054	4,462,051		
EDEN	MASON	1943	DUNDEE						-	275,801		
EMORE	MONTCALM	1958	TRAVERSE						412	1,094,960		
ETTERESS	MESSAUKEE	1943	RICHFIELD						70,105	570,279		
ESSEXVILLE	BAY	1944	DUNDEE						-	3,287		
FORK, WEST	MECOSTA	1945	RICHFIELD						-	854,415		
HAMILTON, NORTH	CLARE	1952	RICHFIELD						164,444	2,826,261		
HANOVER	JACKSON	1959	TRIMON-BLACK RIVER						-	172,830		
HEADQUARTERS	CLARE-ROSCOMMON	1942	DETROIT RIVER						152,454	4,215,358		
ISABELLA	ISABELLA	1948	DUNDEE						-	138,559		
KANKALEIN	BAY	1938	DUNDEE						-	4,590		
KIMBALL LAKE	NEWAYGO	1947	TRAVERSE						-	2,123,116		
MARINE CITY	ST. CLAIR	1955	SALINA-NIAGARAN						402,019	2,288,013		
MARINE CITY, SOUTH	ST. CLAIR	1962	SALINA						169,372	426,262		
MT. PLEASANT	MIDLAND-ISABELLA	1968	DUNDEE						934	7,809,323		

TABLE 16. — OIL WELL GAS, Continued (Sheet 2 of 2)

PENNYWATER	MASON-OZAWA	1948	TRAVERSE-DUNDEE						-	1,010,713		
PETERS	ST. CLAIR	1955	SALINA-NIAGARAN						1,631,156	9,331,564		
PORTER	MIDLAND	1933	DUNDEE						-	4,922,995		
REDDING	CLARE	1938	DUNDEE						-	1,296,056		
REED CITY	OSCEOLA	1940	TRAVERSE						1,165	388,638		
									-	16,257,876		
REED CITY, EAST	OSCEOLA		DETROIT RIVER						136,061	3,147,314		
RICH	LAFER	1962	DETROIT RIVER S. 2.						-	18,569		
REYNOLDS	MONTCALM	1954	DUNDEE						24,933	24,933		
ROSE CITY	OSHWAG	1942	RICHFIELD						-	408,555		
									136,393	6,051,469		
SHERMAN	ISABELLA	1936	DUNDEE						-	641,217		
ST. HELEN	ROSCOMMON	1941	RICHFIELD						609,067	7,990,243		
UNION	ISABELLA	1950	TRAVERSE						-	55,354		
WALKER	KENT-OTTAWA	1938	TRAVERSE						-	3,679,731		
WEST BRANCH	OSHWAG	1933	DUNDEE-DETROIT RIVER						1,839	61,430		
									16,495,537	117,569,980		

21 Fields producing oil well gas.

Cumulative oil well gas production through 1966
 117,569,980 MCF

Oil well gas (casinghead gas) accounted for about 48 percent of Michigan's annual gas production. The gathering and processing of gas produced incidental to oil production is good conservation practice. LPG production from casinghead gas is shown on Tables 17 and 18.

Oil well gas production in 1966, 16,495,537 MCF
 Active gas field production, 7,761,022 MCF
 Developed gas storage reservoirs, 9,594,568 MCF
 Undeveloped gas storage reservoirs, 34,209,015 MCF
 Total gas production in 1966

TABLE 17 GAS PLANT OPERATIONS BY PLANT OR FIELD, 1966 (All figures in MCF)

Plant or Field	Input Totals	Plant Fuel	Lease Fuel	Storage and/or Repressuring Recycling	Line Loss	Vented	Extraction Loss	To Pipe Line	L.P.G. Recovery Gallons
*Albion-Scipio	10,843,829	1,021,250	0	0	0	0	1,008,407	8,814,172	30,356,822
*Beaver Creek	499,550	27,342	100,986	0	0	5,092	10,481	355,649	156,600
Belle River Mills Belle River Mills plant functions as a recycling and storage facility.	16,427,701	258,740	0	12,046,576	0	0	545,196	3,577,189	16,848,982
Boyd Boyd plant, serving 10 fields, receives both dry and oil well gas.	13,401,485	294,040	0	3,035,350	90,599	0	530,273	9,451,223	17,569,415
Enterprise	108,714	13,389	24,587	0	633	0	0	70,105	0
*Hamilton	235,420	17,958	39,336	0	0	0	13,702	164,424	342,518
*Hanover	31,274	2,560	0	0	6,828	0	0	21,886	0
*Headquarters	273,589	24,000	26,400	0	0	98,779	0	124,410	29,054
Mt. Pleasant	1,722	148	0	0	0	0	24	1,550	6,754
*Norwich East	485,393	48,697	84,434	0	22,833	0	2,375	327,054	59,359
Reed City Reed City plant serves a combination storage and repressuring operation in an oil reservoir.	17,894,162	247,049	0	0	0	0	389,630	17,157,483	12,030,799
*Rose City	432,395	8,578	0	0	0	0	0	423,817	0
*St. Helen	993,645	52,360	65,683	0	0	0	5,996	869,606	161,187
Willow Run	156,909,254	475,906	0	0	0	0	623,288	155,810,060	20,815,896
Totals	218,538,133	2,592,017	341,426	15,081,926	120,871	103,871	3,129,372	197,168,628	98,377,386

*Receives oil well gas only. Column No. 9 does not necessarily reflect direct sales.

TABLE 18 GAS PLANT OPERATIONS BY MONTH - 1966 (All figures in MCF)

Month	Input Totals	Plant Fuel	Lease Fuel	Storage and/or Repressuring Recycling	Line Loss	Vented	Extraction Loss	To Pipe Line	L.P.G. Recovery Gallons
January	19,538,308	218,188	34,012	0	7,639	6,119	272,949	18,999,401	8,501,715
February	17,599,875	200,896	30,231	371,093	1,955	14,430	254,657	16,726,613	7,915,148
March	19,850,743	230,864	30,610	768,356	9,173	9,788	278,631	18,523,321	8,554,998
April	19,890,226	203,082	23,525	1,367,032	18,512	6,272	273,712	17,998,091	8,520,240
May	19,676,387	217,743	27,638	1,755,679	3,018	12,997	266,371	17,392,941	8,459,992
June	16,001,717	208,691	27,544	1,578,947	543	3,869	225,929	13,956,929	7,208,873
July	16,296,707	217,018	25,764	1,538,201	22,639	9,486	229,423	14,254,176	7,167,946
August	14,637,384	221,322	25,995	1,762,400	8,764	10,880	260,362	12,347,661	8,249,163
September	14,849,565	224,107	26,438	1,859,549	9,128	7,836	237,947	12,484,560	7,500,550
October	17,664,608	223,051	28,212	1,910,013	7,454	6,982	256,441	15,232,455	8,053,510
November	21,025,993	215,744	30,761	1,311,057	4,123	10,202	277,081	19,177,025	8,753,469
December	21,506,620	211,311	30,696	859,599	27,945	5,010	295,869	20,076,190	9,491,782
Totals	218,538,133	2,592,017	341,426	15,081,926	120,893	103,871	3,129,372	197,168,628	98,377,386

PRIMARY SUPPLY LOCATIONS AND STORAGE FACILITIES FOR LIQUIFIED PETROLEUM GAS

Company	Plant Location		Type of Facility	Facility Capacity ** Gallons of LPG
	County	Locality		
Bay Refining Company	Bay	Bay City	Refinery Storage	95,200
Dow Chemical Company	Midland	Midland	Chemical Plant (Underground)	4,410,000
Leonard Refineries, Inc.	Gratiot	Alma	Refinery Storage	120,000
Marathon Oil Company	Hillsdale	Mosherville	Natural Gas Processing Plant	300,000
Cities Service Oil Company	Kent	Lowell	Underground Storage	24,816,000
Skelly Oil Company	Kent	Alto	Underground Storage	10,957,000
Consumers Power Company	Macomb	New Baltimore	Natural Gas Processing Plant	150,000
Marathon Oil Company	Muskegon	Muskegon	Refinery Storage	90,000
Michigan Consolidated Gas Company	St. Clair	St. Clair	Natural Gas Processing Plant	450,000
Michigan Consolidated Gas Company	Washtenaw	Ypsilanti	Natural Gas Processing Plant	450,000
Mobil Oil Company	Wayne	Trenton	Underground Storage	15,201,000
Sun Oil Company	Wayne	Wayne	Underground Storage	24,000,000
Marathon Oil Company	Wayne	Wayne	Underground Storage	16,000,000
Phillips Petroleum Company	Wayne	Wyandotte	Underground Storage	7,000,000

TOTAL PRIMARY STORAGE BY COUNTY, GALLONS LPG	
Bay	95,200
Gratiot	120,000
Hillsdale	300,000
Kent	35,773,000
Macomb	150,000
Midland	4,410,000
Muskegon	90,000
St. Clair	450,000
Washtenaw	450,000
Wayne	62,201,000
Combined Primary Storage	104,039,200

** Facility capacities have not been revised from those noted in 1966.

TOTAL PRIMARY STORAGE, GALLONS LPG	
Refinery Storage	305,200
Gas Plant Storage	1,350,000
Underground Storage	102,384,000
Combined Primary Storage	104,039,200

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

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 1955 can be found in issues of the "Summary of Operations", Oil and Gas Fields for 1962, and prior years. 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.

WELL COMPLETIONS AND PRODUCTION BY COUNTY. These tables show the classifications of completed wells on a county basis, and the cumulative amount of oil and gas produced in individual counties. Tables also indicate the total number of dry holes, oil wells, gas wells, etc., that have been drilled under oil and gas drilling permits in an individual county.

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. 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 prior to 1937 are incomplete. This table shows the reported amount of produced brine and the method of disposal from 1937 to present. Most oil field brine is now returned to subsurface formations. Small quantities are used for dust control or ice and snow removal on county roads in local areas. A small amount of brine is also disposed in burning pits. Brine production and disposal figures should not be considered entirely accurate.

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

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

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

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

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

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

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

TABLE 20 -- OIL PRODUCTION BY FORMATIONS - 1966 AND PRIOR YEARS

Year	These data include estimates for multiple pay wells and leases when an accurate breakdown was not available						Total Barrels Oil All Formations	
	Marshall	Berea	Traverse	Dundee- Reed City	Detroit River	Salina- Niagaran		Trenton- Black River
	1938	1925	1927	1927	1939	1952	1935	
1925 Through 1929		876,559	873,777	4,017,451				5,767,787
1930 Through 1934		318,171	995,439	31,870,671				33,184,281
1935 Through 1939	7,411	310,313	13,814,816	72,339,293	14,000		43,565	86,521,987
1940 Through 1944	22,040	229,262	27,856,377	67,939,211	727,418		348,477	97,122,785
1945 Through 1949	17,283	166,687	16,914,771	62,438,443	4,302,309		106,510	83,946,003
1950 Through 1954	9,068	125,089	16,974,863	38,058,703	11,878,669	43,091	225,180	67,314,663
1955	1,662	26,193	2,048,256	5,959,338	3,101,121	11,258	118,004	11,265,832
1956	1,678	24,356	1,974,389	5,635,689	2,993,166	8,262	102,157	10,739,697
1957	1,830	19,926	1,805,959	5,342,961	2,811,865	24,082	161,979	10,168,602
1958	1,583	19,462	1,448,231	4,525,729	2,573,017	131,956	608,040	9,308,018
1959	1,430	20,702	1,511,950	4,155,217	2,238,621	392,527	2,118,161	10,438,608
1960	1,270	19,149	1,501,307	3,987,425	2,005,871	379,806	8,004,378	15,899,206
1961	1,268	16,945	1,380,081	3,539,682	1,748,644	916,157	11,298,171	18,900,948
1962	1,215	16,186	1,335,105	3,200,061	1,456,054	1,110,937	9,994,934*	17,114,492*
1963	1,223	15,899	1,329,268	2,583,882	1,580,589	1,067,729	9,393,157	15,971,747
1964	1,114	16,043	1,232,092	2,414,907	1,568,246	1,037,726	9,331,576	15,601,704
1965	1,290	17,046	923,300	2,343,628*	1,538,696*	976,836*	8,927,427*	14,728,223
1966	1,007	15,741	779,745	2,372,040	1,513,847	900,480	8,690,239	14,273,099

* See page 14

TABLE 21 -- CUMULATIVE OIL PRODUCTION BY FORMATIONS - 1966 AND PRIOR YEARS

Year	These data include estimates for multiple-pay wells and leases when an accurate breakdown was not available						Total Barrels Oil All Formations	
	Marshall	Berea	Traverse	Dundee- Reed City	Detroit River	Salina- Niagaran		Trenton- Black River
	1938	1925	1927	1927	1939	1952	1935	
1925 Through 1929		876,559	873,777	4,017,451				5,767,787
1930 Through 1934		1,194,730	1,869,216	35,888,122				38,952,068
1935 Through 1939	7,411	1,505,043	15,684,032	108,227,415	14,000		43,565	125,481,466
1940 Through 1944	29,451	1,734,305	43,540,409	176,166,626	741,418		392,042	222,604,251
1945 Through 1949	46,734	1,900,992	60,455,180	238,605,069	5,043,727		498,552	306,550,254
1950 Through 1954	55,802	2,026,081	77,430,043	276,663,772	16,922,396	43,091	723,732	373,864,917
1955	57,464	2,052,274	79,478,299	282,623,110	20,023,517	54,349	841,736	385,130,749
1956	59,142	2,076,630	81,452,688	288,258,799	23,016,683	62,611	943,893	395,870,446
1957	60,972	2,096,556	83,258,647	293,601,760	25,828,548	86,693	1,105,872	406,039,048
1958	62,555	2,116,018	84,706,878	298,127,489	28,401,565	218,649	1,713,912	415,347,066
1959	63,985	2,136,720	86,218,828	302,282,706	30,640,186	611,176	3,832,073	425,785,674
1960	65,255	2,155,869	87,720,135	306,270,131	32,547,289*	1,089,750*	11,836,451	441,684,880
1961	66,523	2,172,814	89,100,216	309,809,813	34,295,933*	2,005,907*	23,134,622	460,585,828
1962	67,738	2,189,000	90,435,321	313,009,874	35,751,987*	3,116,844*	33,129,556	477,700,320
1963	68,961	2,204,899	91,764,589	315,593,756	37,332,576*	4,184,573*	42,522,713*	493,672,067*
1964	70,075	2,220,942	92,996,681	318,008,663	38,900,822*	5,222,299*	51,854,289*	509,273,771*
1965	71,365	2,237,988	93,919,981	320,352,291*	40,439,518*	6,199,135*	60,781,716*	524,001,994
1966	72,372	2,253,729	94,699,726	322,724,331	41,953,365	7,099,615	69,471,955	538,275,093

* See page 14

TABLE 22 -- GAS PRODUCTION BY FORMATIONS - 1966 AND PRIOR YEARS

Year	Glacial Drift	Stray-Marshall	Berea	Antrim Shale	Traverse	Dundee-Reed City	Detroit River	Salina-Niagaran	Trenton-Black River	Total MCF Gas All Formations
	1949	1931	1936	1947	1934	1929	1946	1929	1954	
1925 Through 1929						1,887,732		74,867		1,962,599
1930 Through 1934		3,001,963			3,744	6,034,206		61,578		9,101,491
1935 Through 1939		30,769,471	1,391,076		69,894	8,862,165		6,331		41,098,937
1940 Through 1944		70,498,989	5,860,831		3,716,132	7,647,510		79,983		87,803,445
1945 Through 1949	8,020	80,217,680	1,467,460	52,495	1,414,004	15,710,636	793,763	7,393,744		107,057,802
1950 Through 1954		18,033,449	916,202	55,626	1,913,497	5,361,578	6,997,257	11,316,082	10,725	44,604,416
1955		2,378,082	54,582	8,289	31,671	623,664	1,432,635	1,202,718	1,056,056	6,787,697
1956		1,913,078	39,493	11,084	13,376	540,718	1,525,523	2,713,634	2,084,027	8,840,933
1957		1,031,520	26,294	11,094	13,062	444,272	2,326,744	1,617,909	1,168,918	6,639,813
1958		837,548	19,684	11,307	73,297	335,147	3,604,884	4,863,216	1,219,295	10,964,378
1959		674,191	8,032	14,912	135,217	343,265	3,649,466	9,720,047	1,081,097	15,626,227
1960		855,169	8,800	37,258	164,509	504,474	3,979,849	9,877,820	3,812,289	19,240,168
1961		616,710	7,357	25,573	208,967	348,084	4,054,480	9,955,240	9,828,375	25,044,786
1962		451,113	6,620	23,768	206,613	117,606	4,148,707	11,926,493	10,885,208	27,766,128
1963		356,283	10,626	43,213	161,041	85,347	3,849,049	16,808,200	10,581,942	31,895,701
1964		595,549	8,617	26,673	135,226	61,553	3,220,249	18,231,639	10,336,180	32,615,686
1965		404,485	114,926	15,889	105,848	27,135	2,626,290	21,027,896	10,797,899	35,120,368
1966		963,211	192,529	985	84,458	31,054	2,299,643	18,992,758	11,555,377	34,120,015

TABLE 23 -- CUMULATIVE GAS PRODUCTION BY FORMATIONS - 1966 AND PRIOR YEARS

Year	Glacial Drift	Stray-Marshall	Berea	Antrim Shale	Traverse	Dundee-Reed City	Detroit River	Salina-Niagaran	Trenton-Black River	Cumulative MCF All Formations
	1949	1931	1936	1947	1934	1929	1946	1929	1954	
1925 Through 1929						1,887,732		74,867		1,962,599
1930 Through 1934		3,001,963			3,744	7,921,938		136,445		11,064,090
1935 Through 1939		33,771,434	1,391,076		73,638	16,784,103		142,776		52,163,027
1940 Through 1944		104,270,423	7,251,907		3,789,770	24,431,613		222,759		139,966,472
1945 Through 1949		184,488,103	8,719,367	52,495	5,203,774	40,142,249	793,763	7,616,503		247,024,274
1950 Through 1954	8,020	202,521,522	9,635,569	108,121	7,117,271	45,503,827	7,791,020	18,932,585	10,725	291,628,690
1955	8,020	204,899,634	9,690,151	116,410	7,148,942	46,127,491	9,223,655	20,135,303	1,066,781	298,416,387
1956	8,020	206,812,712	9,729,644	127,494	7,162,318	46,668,209	10,749,178	22,848,927	3,150,808	307,257,320
1957	8,020	207,844,232	9,755,938	138,588	7,175,380	47,112,481	13,075,922	24,466,846	4,319,726	313,897,133
1958	8,020	208,681,780	9,775,622	149,895	7,248,677	47,447,628	16,680,806	29,330,062	5,539,021	324,861,511
1959	8,020	209,355,971	9,783,654	164,807	7,383,894	47,790,893	20,330,272	39,050,109	6,620,118	340,487,738
1960	8,020	210,211,140	9,792,454	202,065	7,548,403	48,295,367	24,310,121	48,927,929	10,432,407	359,727,906
1961	8,020	210,827,850	9,799,811	227,638	7,757,370	48,643,451	28,364,601	58,883,169	20,260,782	384,772,692
1962	8,020	211,278,963	9,806,431	251,406	7,963,983	48,761,057	32,513,308	70,809,662	31,145,662	412,538,820
1963	8,020	211,635,246	9,817,057	294,619	8,125,024	48,846,404	36,362,357	87,617,862	41,727,932	444,434,521
1964	8,020	212,230,795	9,825,674	321,292	8,260,250	48,907,957	39,582,606	105,849,501	52,064,112	477,050,207
1965	8,020	212,635,280	9,940,600	337,181	8,366,098	48,935,092	42,208,896	126,877,397	62,862,011	512,170,575
1966	8,020	213,598,491	10,133,129	338,166	8,450,556	48,966,146	44,508,539	145,870,155	74,417,388	546,290,590

TABLE 24 -- CUMULATIVE WELL COMPLETIONS BY COUNTY THROUGH 1966 (Sheet 1 of 2)

County	Area of County (including inland water)				Classification of Completed Wells (does not include reworked wells)				Total Completions	Approximate Well Density (All Classes) Wells: Sq. Miles
	Square Miles	Acres	Oil Wells	Gas Wells	Service Wells		Dry Holes			
					GS - OBS - SWD -	LPG				
Alcona	694	444,160					19	19	1:37	Square miles
Allegan	837	535,680	1,301	89	174		1,672	3,236	4:1	Square mile
Alpena	590	377,600					10	10	1:59	Square miles
Antrim	520	332,800	406	1			28	29	1:19	Square miles
Arenac	369	236,160	74	44			395	845	2:1	Square mile
Barry	571	365,440	458	1			127	201	1:3	Square miles
Bay	451	288,640					211	670	1:1	Square mile
Benzie	342	218,880					2	2	1:171	Square miles
Berrien	584	373,760	9				70	79	1:8	Square miles
Branch	517	330,880					42	42	1:13	Square miles
Calhoun	716	458,240	199	11			209	419	1:2	Square miles
Cass	505	323,200	30				123	153	1:3	Square miles
Charlevoix	451	288,640					11	11	1:41	Square miles
Cheboygan	798	510,720					15	15	1:53	Square miles
Chippewa	1,651	1,056,640	Northern Peninsula County				4	4	1:413	Square miles
Clare	577	369,280	381	171	392		357	1,301	2:1	Square mile
Clinton	573	366,720	4		1		78	82	1:7	Square miles
Crawford	566	362,240	79				21	101	1:6	Square miles
Delta	1,202	769,280	Northern Peninsula County				1	1	1:1200	Square miles
Eaton	572	366,080					21	21	1:27	Square miles
Emmet	477	305,280					3	3	1:159	Square miles
Genesee	649	415,360	11				40	51	1:13	Square miles
Gladwin	512	327,680	736	3	19		260	996	2:1	Square mile
Grand Traverse	490	313,600	46	74			8	11	1:45	Square miles
Gratiot	566	362,240	235	1			254	393	2:1	Square mile
Hillsdale	604	386,560					405	641	1:1	Square mile
Huron	824	527,360	5				75	80	1:10	Square miles
Ingham	560	358,400	9				17	17	1:33	Square miles
Ionia	578	369,920					75	84	1:7	Square miles
Iosco	563	360,320					25	25	1:25	Square miles
Isabella	573	366,720	649	161			461	1,271	2:1	Square mile
Jackson	717	458,880	132	2			223	357	1:2	Square miles
Kalamazoo	580	371,200	18				106	124	1:5	Square miles
Kalkaska	573	366,720	22	7			43	72	1:8	Square miles
Kent	868	555,520	461	6	1		337	813	1:1	Square mile
Lake	577	369,280	21	1			128	150	1:4	Square miles
Lapeer	662	423,680	14				57	71	1:10	Square miles
Totals:	10,974	1,741	30	12,724	26,771					

TABLE 24 -- CUMULATIVE WELL COMPLETIONS BY COUNTY THROUGH 1966 Continued (Sheet 2 of 2)

Leelanau	374	239,360	3	62			9	9	1:42	Square miles
Lenawee	760	486,400		19			96	161	1:5	Square miles
Livingston	583	373,120			35		75	129	1:5	Square miles
Luce	929	594,560	Northern Peninsula County				2	2	1:465	Square miles
Mackinac	1,081	691,840	Northern Peninsula County				2	2	1:541	Square miles
Macomb	481	307,840	3	40	11		210	264	1:2	Square miles
Manistee	568	363,520		1			27	28	1:21	Square miles
Mason	505	323,200	122	7			251	380	1:1	Square mile
Mecosta	570	364,800	113	196	178		379	866	1:1	Square mile
Midland	523	334,720	898	2			269	1,171	2:1	Square mile
Missaukee	572	366,080	170	63	102		194	529	1:1	Square mile
Monroe	564	360,960	45				111	156	1:4	Square miles
Montcalm	720	460,800	376	221	181		557	1,335	2:1	Square mile
Montmorency	567	362,880	3	1			17	21	1:27	Square miles
Muskegon	519	332,160	435	119			362	916	2:1	Square mile
Newaygo	867	554,880	196	46	70		354	666	1:1	Square mile
Oakland	899	575,360	5	3			60	68	1:14	Square miles
Oceana	541	346,240	327	7			474	808	1:1	Square mile
Ogemaw	580	371,200	498	21	1		163	683	1:1	Square mile
Osceola	585	374,400	334	113	119		331	897	2:1	Square mile
Oscoda	568	363,520	2				10	12	1:47	Square miles
Otsego	538	344,320	1	16			30	47	1:13	Square miles
Ottawa	572	366,080	473	19	2		482	976	2:1	Square mile
Presque Isle	678	433,920					7	7	1:97	Square miles
Roscommon	573	366,720	180	14			101	295	1:2	Square miles
Saginaw	814	520,960	378	2			172	552	1:1	Square mile
Sanilac	961	615,040					50	50	1:20	Square miles
Schoolcraft	1,229	786,560	Northern Peninsula County				2	2	1:615	Square miles
Shiawassee	540	345,600	1				52	53	1:10	Square miles
St. Clair	751	480,640	216	150	18		634	1,018	1:1	Square mile
St. Joseph	518	331,520	150	1			15	15	1:35	Square miles
Tuscola	820	524,800	722				101	252	1:3	Square miles
Van Buren	615	393,600	10	18	4		990	1,712	3:1	Square mile
Washtenaw	723	462,720	12	24	14		96	129	1:6	Square miles
Wayne	625	400,000	12	4			52	121	1:5	Square miles
Wexford	570	364,800	1	4			54	59	1:11	Square miles
Totals:	73 Counties	10,974	1,741	30	12,724	26,771				

Most Service Wells are related to gas storage reservoirs.

TABLE 25 -- CUMULATIVE OIL AND GAS PRODUCTION BY COUNTY THROUGH 1966

County	Oil Wells	Gas Wells	Cumulative Production	
			Barrels Oil	MCF Gas
Allegan	1,301	89	18,700,664	29,449,008
Arenac	411	44	44,748,190	6,722,136
Barry	74	0	619,226	0
Bay	458	1	18,346,623	7,857
Berrien	9	0	29,757	0
Calhoun	199	11	19,889,851	23,410,177
Cass	30	0	97,922	0
Clare	381	171	32,919,495	56,125,757
Clinton	4	0	4,121	0
Crawford	79	0	5,040,966	13,506,180
Genesee	11	0	95,861	0
Gladwin	736	0	31,995,027	9,834
Gratiot	46	74	1,064,639	12,926,801
Hillsdale	235	1	32,808,269	23,679,677
Huron	5	0	52,475	0
Ionia	9	0	381,269	0
Isabella	649	161	51,939,945	32,982,588
Jackson	132	2	15,174,380	13,559,955
Kalamazoo	18	0	28,868	0
Kalkaska	22	7	1,157,479	2,133,910
Kent	461	6	9,390,221	3,693,171
Lake	21	1	2,185,247	182,438
Lapeer	14	0	119,814	24,934
Lenawee	3	62	5,540	0
Livingston	0	19	109	23,716,543
Macomb	3	40	21,658	24,931,981
Mason	122	7	4,433,924	297,116
Mecosta	113	196	9,291,144	30,675,769
Midland	898	2	65,758,589	12,444,916
Missaukee	170	63	12,803,273	12,658,790
Monroe	45	0	698,364	0
Montcalm	376	221	17,391,345	52,556,135
Montmorency	3	1	7,688	0
Muskegon	435	119	7,717,748	9,759,149
Newaygo	196	46	8,647,748	13,132,193
Oakland	5	3	29,583	13,737
Oceana	327	7	14,793,109	1,172,788
Ogemaw	498	21	15,907,816	6,424,525
Osceola	334	113	51,343,967	44,614,446

51 Counties

538,275,093

546,290,590*

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

Oil and gas well figures relate to
new well completions. Well figures
for Arenac, Barry, Bay, Berrien, Cass, Crawford
and Gratiot Counties were inadvertently
deleted from this Table in the 1966
issue.

TABLE 26 -- OIL AND GAS FIELD BRINE PRODUCTION AND DISPOSAL - 1966 AND PRIOR YEARS

Year	Method of Disposal or Use (Barrels per day)		Total	
	Pits	Roads	Subsurface	Total
1937	8,342	-	10,375	21,849
1938	6,748	-	8,920	31,211
1939	4,901	-	7,466	48,579
1940	5,206	-	6,726	68,822
1941	3,540	-	8,452	78,484
1942	4,725	-	8,082	83,722
1943	4,963	-	8,170	89,207
1944	3,964	-	8,778	102,090
1945	2,352	-	8,992	107,973
1946	2,307	-	9,151	121,385
1947	1,883	-	8,579	132,844
1948	1,495	-	8,430	148,497
1949	1,541	-	8,568	162,172
1950	1,212	-	6,949	180,018
1951	1,623	-	7,630	190,074
1952	1,425	147	1,500	204,216
1953	1,233	175	460	188,949
1954	1,374	120	614	191,970
1955	1,560	161	609	200,031
1956	1,389	697	2	194,475
				196,563

Records Prior to 1937 are Incomplete

Year Pits Roads Chemical Co. Subsurface Total

1957	1,245	1,162	0	193,223	195,630
1958	1,368	1,089	0	176,774	179,231
1959	1,038	944	0	170,623	172,605
1960	1,019	1,512	0	168,466	170,997
1961	910	1,060	0	155,855	157,855
1962	982	657	0	147,789	149,428
1963	866	3,130	0	145,700	149,696
1964	896	4,245	0	143,831	148,972
1965	775	3,299	0	141,028	145,102
1966	704	2,998	0	140,680	144,382

In 1966, Michigan oil well owners and operators returned 140,680 barrels of brine per day to approved subsurface formations. This is about 98 per cent of the total brine produced. Of the remaining 2 per cent or 3,702 barrels per day, 2,998 barrels were used for county road maintenance and lease purposes, and 704 barrels were disposed of in surface pits in small amounts. Oil field brine production by individual field is shown on page 14 and on Table 4, pp. 18-24.

STRATIGRAPHIC SUCCESSION IN MICHIGAN

PALEOZOIC THROUGH RECENT



MICHIGAN DEPARTMENT OF CONSERVATION
Ralph A. MacMullan, Director
GEOLOGICAL SURVEY
Gerald E. Eddy, State Geologist

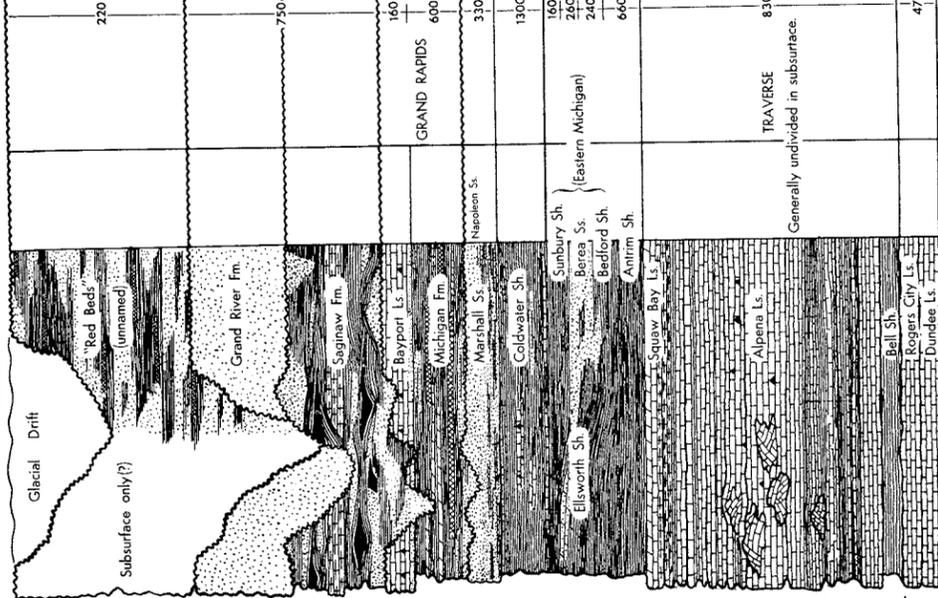
ACKNOWLEDGMENT: Compiled with the counsel of colleagues in this department, the U. S. Geological Survey, Michigan's universities, other state Geological Surveys, and geologists within Michigan's oil and gas industry. Dr. Aureal T. Cross, Department of Geology, Michigan State University, identified rocks of Mesozoic age and suggested provisional age assignments.

GEOLOGIC NAMES COMMITTEE
Gerald D. Ebb, Chairman; Robert W. Kelley, Secretary;
Harry J. Hardenberg, L. David Johnson, Harry O. Sorenson

SUBSURFACE NOMENCLATURE

ROCK-STRATIGRAPHIC		
FORMATION	MEMBER	GROUP
Approximate maximum thickness, in feet, of rock units in the subsurface. NO SCALE		

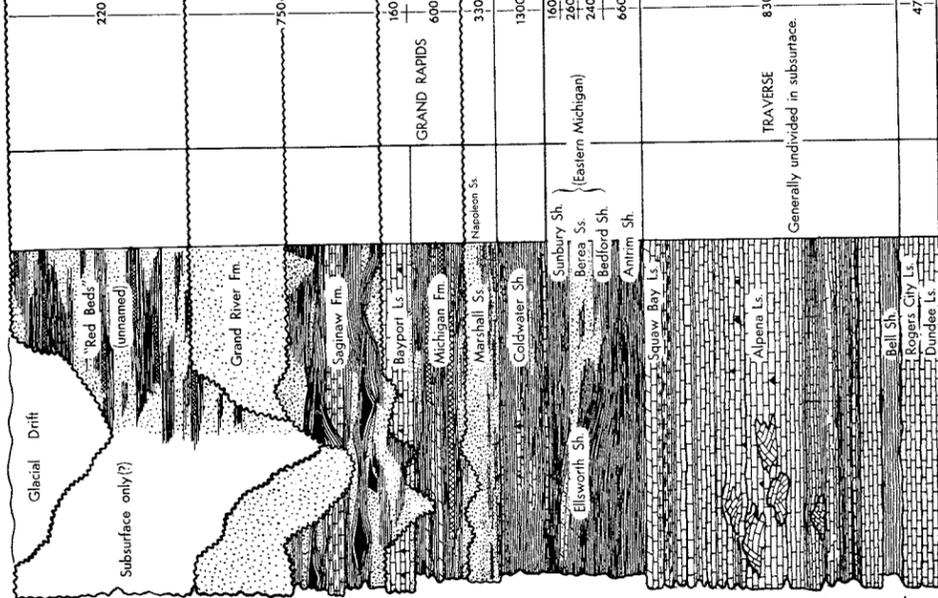
DOMINANT LITHOLOGY



OUTCROP NOMENCLATURE							
TIME-STRATIGRAPHIC		ROCK-STRATIGRAPHIC					
ERA	PERIOD	SERIES	MEMBER				
MESOZOIC	DEVONIAN	MIDDLE	TRaverse				
			ERIAN				
	DEVONIAN	LATE	CHAUTAUQUAN	Ellsworth Sh. (Western Michigan)			
				Seneca	Antrim Sh.		
		EARLY	MISSISSIPPIAN	KINDERHOOKIAN	Squaw Bay Ls.		
					Thunder Bay Ls.		
					Pontic Farm Fm.		
					Norway Point Fm.		
				EARLY LATE	MISSISSIPPIAN	GRAND RAPIDS	Four Mile Dam Fm.
							Alpena Ls.
Newton Creek Ls.							
Genshaw Fm.							
LATE	MISSISSIPPIAN	OSAGIAN	Ferron Point Fm.				
			Rockport Quarry Ls.				
EARLY LATE	PENNSYLVANIAN	CONEMAUGH	Bell Sh.				
			Rogers City Ls.				
EARLY LATE	PENNSYLVANIAN	KIMERIDGIAN	Dundee Ls.				
			Grand River Fm.				
LATE	PENNSYLVANIAN	CONEMAUGH	Iona, Eden, and Woodville Sandstones				
			Pottsville	Verm Ls.			
EARLY LATE	PENNSYLVANIAN	CONEMAUGH	Grand River Fm.				
			Pottsville	Verm Ls.			

Approximate maximum thickness, in feet, of rock units in the subsurface. NO SCALE

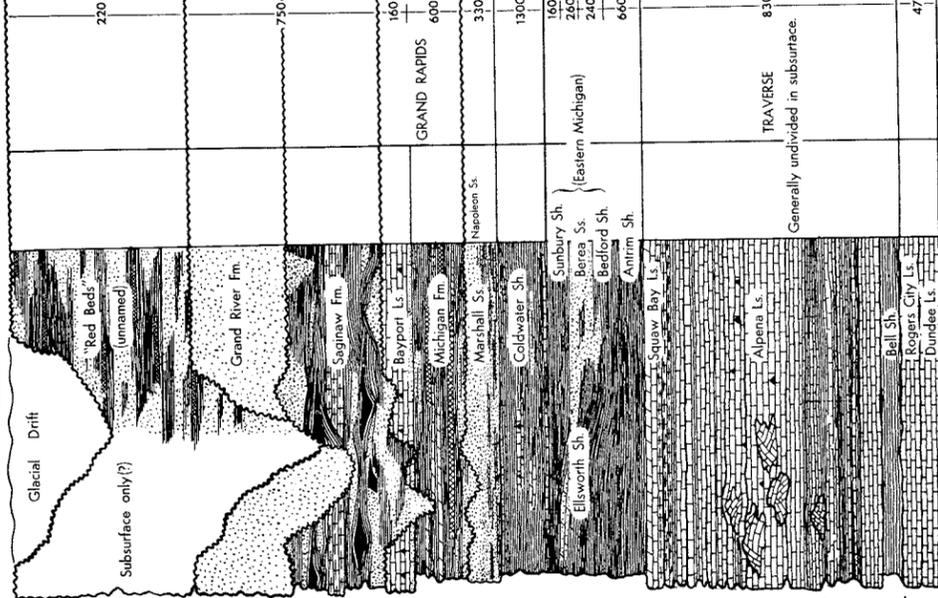
DOMINANT LITHOLOGY



OUTCROP NOMENCLATURE							
TIME-STRATIGRAPHIC		ROCK-STRATIGRAPHIC					
ERA	PERIOD	SERIES	MEMBER				
MESOZOIC	DEVONIAN	MIDDLE	TRaverse				
			ERIAN				
	DEVONIAN	LATE	CHAUTAUQUAN	Ellsworth Sh. (Western Michigan)			
				Seneca	Antrim Sh.		
		EARLY	MISSISSIPPIAN	KINDERHOOKIAN	Squaw Bay Ls.		
					Thunder Bay Ls.		
					Pontic Farm Fm.		
					Norway Point Fm.		
				EARLY LATE	MISSISSIPPIAN	GRAND RAPIDS	Four Mile Dam Fm.
							Alpena Ls.
Newton Creek Ls.							
Genshaw Fm.							
LATE	MISSISSIPPIAN	OSAGIAN	Ferron Point Fm.				
			Rockport Quarry Ls.				
EARLY LATE	PENNSYLVANIAN	CONEMAUGH	Bell Sh.				
			Rogers City Ls.				
EARLY LATE	PENNSYLVANIAN	KIMERIDGIAN	Dundee Ls.				
			Grand River Fm.				
LATE	PENNSYLVANIAN	CONEMAUGH	Iona, Eden, and Woodville Sandstones				
			Pottsville	Verm Ls.			
EARLY LATE	PENNSYLVANIAN	CONEMAUGH	Grand River Fm.				
			Pottsville	Verm Ls.			

Approximate maximum thickness, in feet, of rock units in the subsurface. NO SCALE

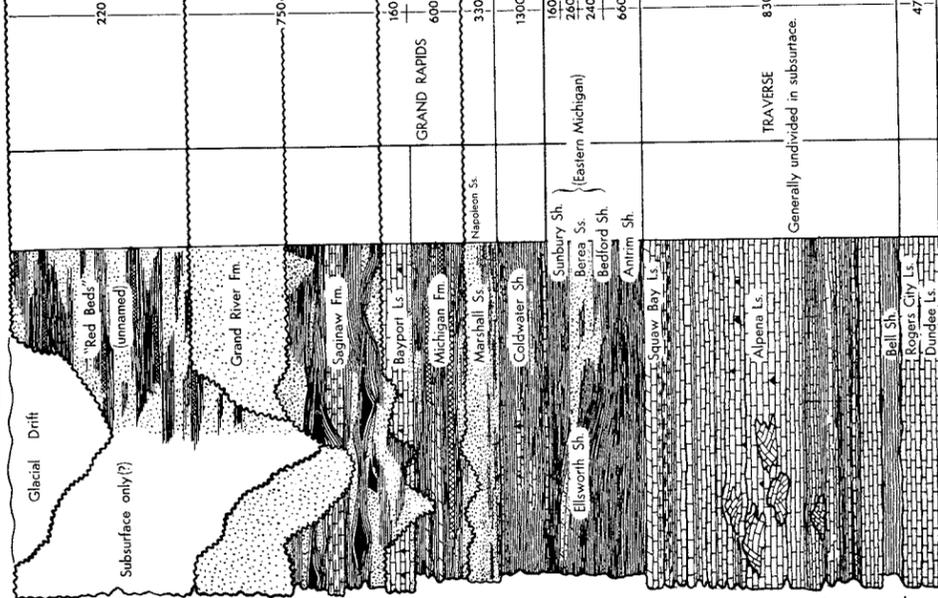
DOMINANT LITHOLOGY



OUTCROP NOMENCLATURE							
TIME-STRATIGRAPHIC		ROCK-STRATIGRAPHIC					
ERA	PERIOD	SERIES	MEMBER				
MESOZOIC	DEVONIAN	MIDDLE	TRaverse				
			ERIAN				
	DEVONIAN	LATE	CHAUTAUQUAN	Ellsworth Sh. (Western Michigan)			
				Seneca	Antrim Sh.		
		EARLY	MISSISSIPPIAN	KINDERHOOKIAN	Squaw Bay Ls.		
					Thunder Bay Ls.		
					Pontic Farm Fm.		
					Norway Point Fm.		
				EARLY LATE	MISSISSIPPIAN	GRAND RAPIDS	Four Mile Dam Fm.
							Alpena Ls.
Newton Creek Ls.							
Genshaw Fm.							
LATE	MISSISSIPPIAN	OSAGIAN	Ferron Point Fm.				
			Rockport Quarry Ls.				
EARLY LATE	PENNSYLVANIAN	CONEMAUGH	Bell Sh.				
			Rogers City Ls.				
EARLY LATE	PENNSYLVANIAN	KIMERIDGIAN	Dundee Ls.				
			Grand River Fm.				
LATE	PENNSYLVANIAN	CONEMAUGH	Iona, Eden, and Woodville Sandstones				
			Pottsville	Verm Ls.			
EARLY LATE	PENNSYLVANIAN	CONEMAUGH	Grand River Fm.				
			Pottsville	Verm Ls.			

Approximate maximum thickness, in feet, of rock units in the subsurface. NO SCALE

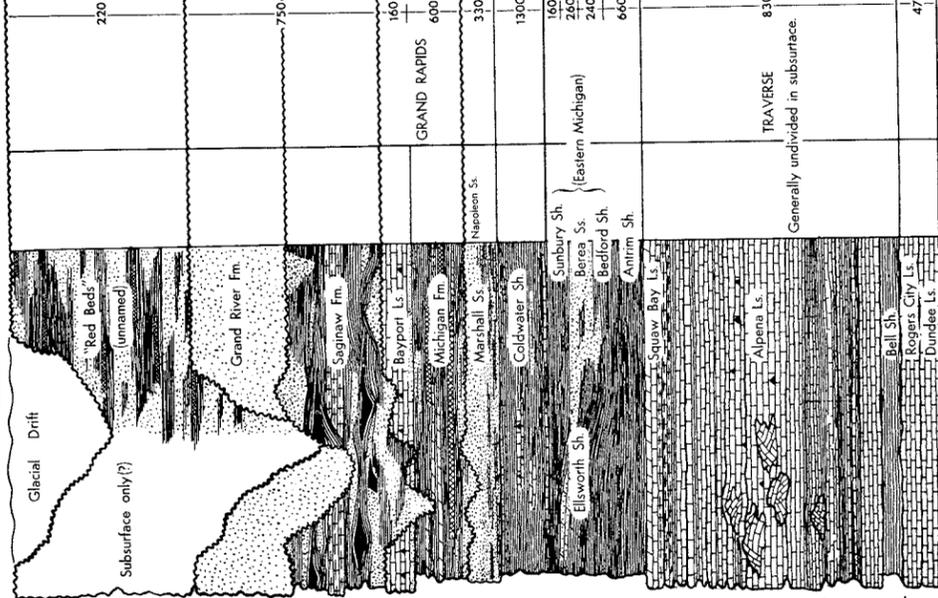
DOMINANT LITHOLOGY



OUTCROP NOMENCLATURE							
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ERA	PERIOD	SERIES	MEMBER				
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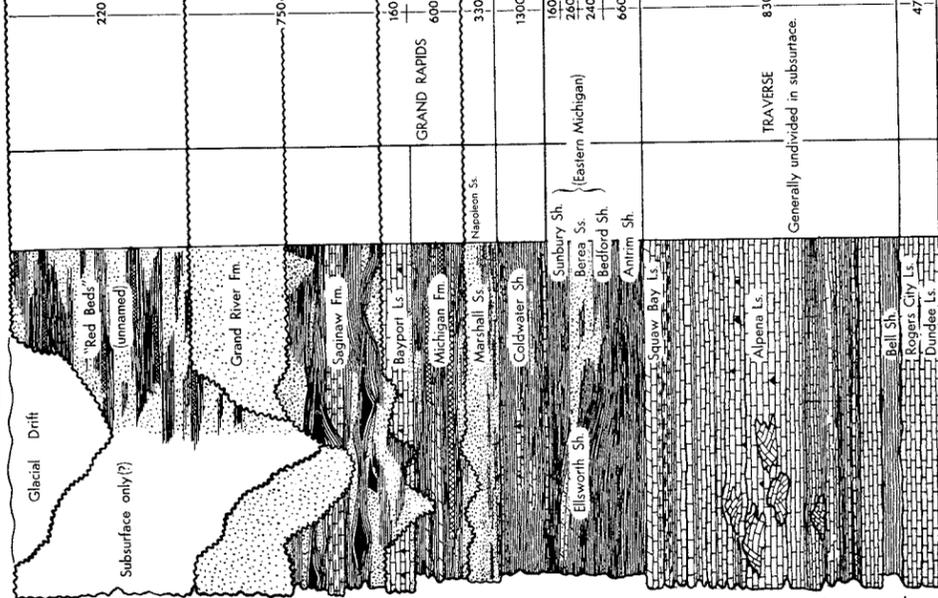
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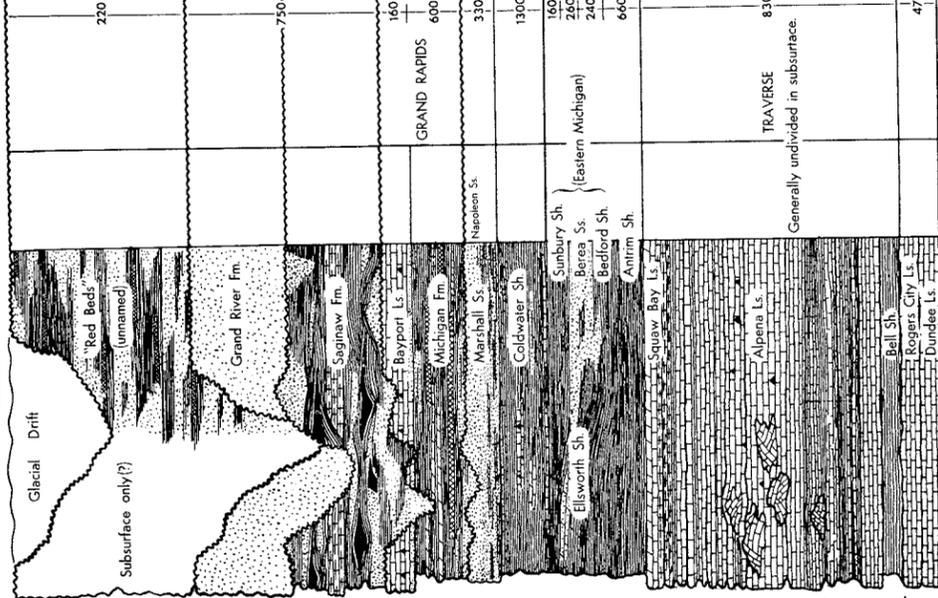
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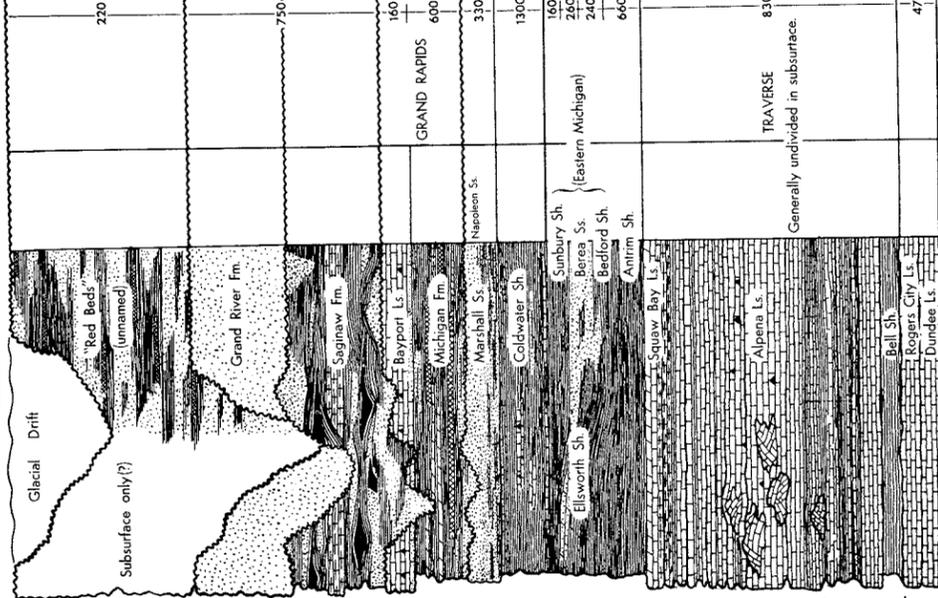
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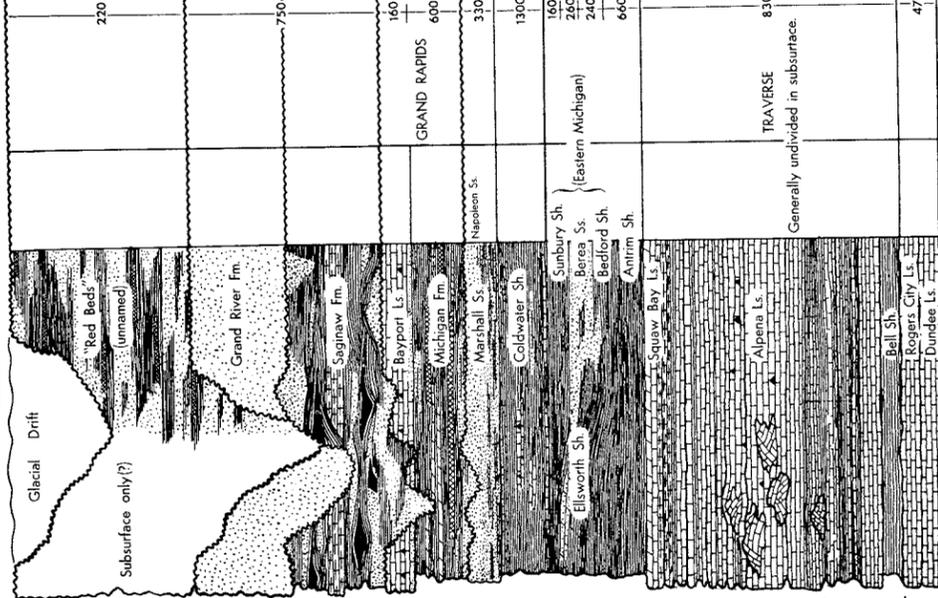
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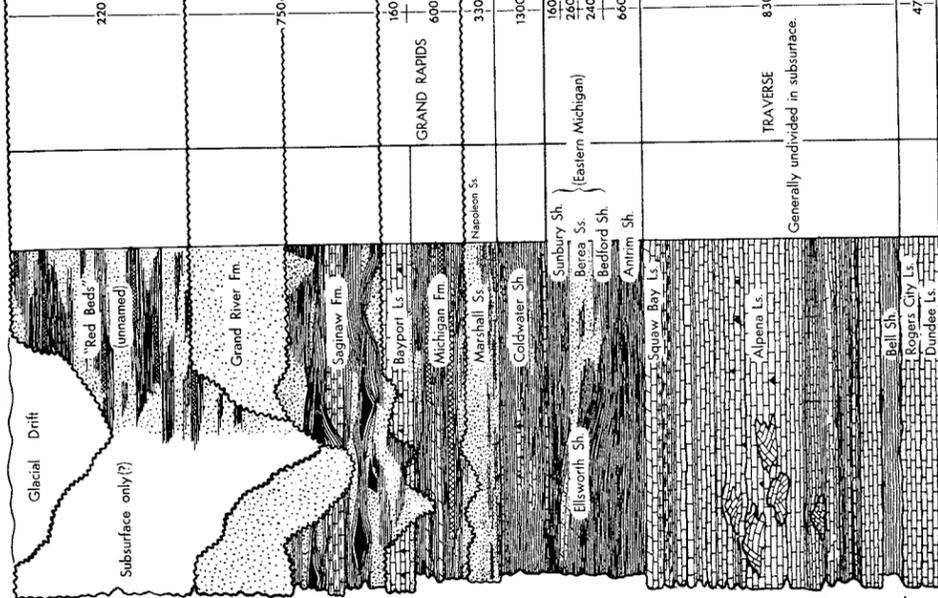
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DOMINANT LITHOLOGY



INDEX

	Page
EXPLORATORY WELLS DRILLED IN 1966, NUMBER OF	
-- by district	12
-- by month	12

	Page
ABBREVIATIONS	64

ADVISORY BOARD, OIL AND GAS	Inside front cover
---------------------------------------	--------------------

AREA OF COUNTIES

Acres	56-57
Square miles	56-57

BRINE

Disposal method or use	14, 34
Production by field	18-24
-- by formation	18-24
-- by year	14, 59

COMMISSION OF CONSERVATION, Members

Inside front cover

COMPLETIONS, NUMBER OF

-- by counties in 1966	10-11
-- by counties through 1966	56-57
-- by year, 1966 and prior years	50-51
Development wells in 1966	5
Exploratory wells in 1966	5
Gas storage wells in 1966	5

DEEP TESTS IN 1966	9
------------------------------	---

DESCRIPTIVE WELL LOG LIBRARY	14
--	----

DISCOVERY WELLS IN 1966	7
Number of fields or pools discovered by years	50

DRILLED FOOTAGE IN 1966	5
-----------------------------------	---

OIL

Oil and Gas Hearings	15
Oil Gravity (see oil field tables)	
Oil Imports and Exports	13
Production	
-- by counties in 1966	10
-- by districts in 1966	6
-- by fields	18-24
-- by geologic formation	52-53
-- by months in 1966	6
-- by years	52-53
Valuation in	9

PERMITS

Issued in 1966	3
-- by districts in 1966	3
-- by months in 1966	12
-- by years	50-51

POOLS, OIL AND GAS (See fields)

REFINERIES	16
----------------------	----

SAMPLE LIBRARY	13
--------------------------	----

STATE ACREAGE UNDER LEASE	8
-------------------------------------	---

STRATIGRAPHIC CHART	60-61
-------------------------------	-------

WELL DENSITY BY COUNTY	56-57
----------------------------------	-------

FIELDS

Gas, active	35-37
Gas, abandoned	40
Gas, location	38-39
Gas, location of abandoned fields	41
General distribution (2 insert maps)	

Oil, active	18-24
Oil, location of active fields	25-28
Oil, abandoned	29-31
Oil, location of abandoned fields	32-33
Storage, gas	42
Storage, gas, undeveloped	42
Storage, gas, location	43

GAS, NATURAL

Production in 1966	6
-- by counties in 1966	10-11
-- by counties, cumulative	58
-- by districts in 1966	6
-- by fields, cumulative	35-37
-- by geologic formation	54-55
-- by months in 1966	6
-- by years	54-55
-- oil well gas	44-45
Valuation in 1966	9
Imports for	13

INJECTION WELLS	34
---------------------------	----

LIQUID PETROLEUM GAS

Number of LPG storage wells	56-57
Primary storage facilities	48
Production or extraction	46-47

ABBREVIATIONS

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

MCFGPD
Mich.
Miss.
M.S.
NFW
(N) I.P.

Niag.
Nt.
OBS
OP
Ord.
Old Well
Prairie du Chien formation
Pennsylvanian
Pilot Wtr.
P.M.
Prod. Form.
R.C.
RW
Rich.
Sag.
Sal.-Niag.
SD
Seismograph
St. Peter formation
Michigan Stray formation
Subsurface geology
Service Well
SW
Salt Water Disposal
Sylv.
SZ
Thick.
(T) I.P.

Trav.
Trempe.
Trenton-Blk. River
Trent.
Unit.

American Petroleum Institute
(Acid) Initial Production or Potential
A-1 Carbonate
A-2 Carbonate
Barrels
Bois Blanc formation
Brine Disposal
Brine Disposal Well
Barrels Oil Per Day
Black River
Cambrian
Unidentified Cambrian
Cataract formation
Cubic feet per barrel
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Gravity Gravimeter
Gas Storage
Gas Storage Service Well
Glenwood
Includes
Injection
Liquid Petroleum Gas
Marshall formation
Thousand Cubic Feet

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