

PIG IRON PRODUCTION.

Year.	Michigan production.	U. S. Production.			Total.
		Charcoal.	Anthracite.	Bituminous.	
1854		342,298	339,435	54,485	736,218
1855		339,922	381,866	62,390	784,178
1856		370,470	443,113	69,554	883,137
1857		330,321	390,385	77,451	798,157
1858		285,313	361,430	58,351	705,094
1859		284,041	471,745	84,841	840,627
1860		278,331	519,211	122,228	919,770
1861		195,278	409,229	127,037	731,544
1862		186,660	470,315	130,687	787,662
1863		212,005	577,638	157,961	947,604
1864		241,853	684,018	210,125	1,135,996
1865		262,342	479,558	189,682	931,582
1866		332,580	749,367	268,396	1,350,343
1867		344,341	798,638	318,647	1,461,626
1868		370,000	893,000	340,000	1,603,000
1869		392,150	971,150	553,341	1,916,641
1870		365,000	930,000	570,000	1,865,000
1871		385,000	956,608	570,000	1,911,608
1872	86,840	500,587	1,369,812	984,159	2,854,558
1873	113,975	577,620	1,312,754	977,904	2,868,278
1874	128,965	576,557	1,202,144	910,712	2,689,413
1875	101,805	410,990	908,046	947,545	2,266,581
1876	82,477	308,649	794,578	990,009	2,093,236
1877	75,216	317,843	934,797	1,061,945	2,314,585
1878	70,853	293,399	1,092,870	1,191,092	2,577,361
1879	101,539	358,873	1,273,024	1,438,978	3,070,875
1880	154,424	537,558	1,807,651	1,950,025	4,295,414
1881	187,043	638,838	1,734,462	2,268,264	4,641,564
1882	210,195	697,906	2,042,138	2,438,078	5,178,122
1883	173,185	571,726	1,885,596	2,689,650	5,146,972
1884	172,834	458,418	1,586,453	2,544,742	4,589,613
1885	143,121	399,844	1,454,390	2,675,635	4,529,869
1886	190,734	459,557	2,099,597	3,806,174	6,365,328
1887	190,663	529,457	1,901,256	2,957,232	6,387,945
1888	190,403	598,789	1,925,729	4,743,989	7,268,507
1889	191,395	644,300	1,920,354	5,952,414	8,517,068
1890	230,769	703,522	2,448,781	7,154,725	10,307,028
1891	213,145	576,964	1,866,108	5,386,798	8,279,870
1892	184,421	537,621	1,797,113	6,822,266	9,157,000
1893	117,538	386,789	1,347,529	5,390,184	7,124,502
1894	95,171	222,422	914,742	5,520,224	6,657,388
1895	91,222	225,341	1,270,899	7,950,068	9,446,308
1896	149,511	310,244	1,146,412	7,166,471	8,623,127
1897	132,578	255,211	932,777	8,464,692	9,652,680
1898	147,640	296,750	1,203,273	10,273,911	11,773,934
1899	134,443	284,766	1,599,552	11,736,385	13,620,703
1900	163,712	299,124	1,841,857	12,253,818	13,789,242
1901	170,762	390,147	1,712,527	13,782,386	15,578,354
1902	155,213	378,504	1,115,247	16,315,891	17,821,307
1903	244,709	504,757	1,161,347	15,592,221	18,169,252
1904	233,225	337,529	1,228,140	14,931,364	16,497,633
1905	288,704	352,928	1,300,000	21,339,452	22,992,380
1906	369,456	433,007	1,305,094	23,113,498	25,503,191
1907	436,507	437,397	1,371,554	23,972,410	25,781,361
1908	348,096	249,146	1,355,009	15,331,865	15,915,018
1909	964,289	376,003	698,431	24,721,037	25,795,471
1910	1,250,103	394,377	649,082	26,255,086	27,298,545
1911	542,193	278,676	212,548	23,141,296	23,649,547
1912	459,975	347,025	236,467	29,132,733	29,726,937

*Estimated.

PRODUCTION, VALUE, ETC., OF PORTLAND CEMENT IN MICHIGAN AND UNITED STATES, 1896-1912.

Year.	No. of plants in operation.	Michigan Rank.	No. of kilns.	Rotary.	Daily capacity.	Michigan Cement made, Bbls.	U. S. Cement made, Bbls.	Michigan Per cent made.	Change Per cent in production.	Michigan Cement shipped, Bbls.	U. S. Cement shipped, Value.	Michigan Value.	Michigan Per cent of value.	Michigan Stock on hand Dec. 31.	Michigan average price per barrel.	U. S. average price per barrel.
1896	1	1	1	1	1	1,543,023	1,543,023	0.25	275.0	.....	2,424,011	7,000	0.29	.....	\$1.57	\$1.57
1897	2	2	2	2	2	2,677,775	2,677,775	0.56	413.3	.....	4,315,801	26,250	0.60	.....	1.75	1.61
1898	4	4	4	4	4	3,692,284	3,692,284	2.11	346.2	.....	5,970,773	134,750	2.30	.....	1.747	1.62
1899	6	6	6	6	6	5,652,266	5,652,266	6.1	63.4	.....	8,074,571	513,849	6.36	.....	1.492	1.43
1900	10	10	10	10	10	8,482,020	8,482,020	7.8	54.1	.....	9,280,323	830,990	8.9	.....	1.25	1.09
1901	10	10	10	10	10	12,711,225	12,711,225	8.0	53.7	.....	12,532,360	1,128,290	9.0	.....	1.10	0.99
1902	13	13	13	13	13	17,230,644	17,230,644	9.1	53.9	.....	20,864,078	2,134,396	10.2	.....	1.10	1.21
1903	16	16	16	16	16	22,342,973	22,342,973	8.7	23.9	.....	27,713,313	2,674,780	10.2	.....	1.353	1.24
1904	16	16	16	16	16	26,505,881	26,505,881	8.5	14.9	.....	23,355,719	2,865,656	9.7	.....	1.367	1.24
1905	14	14	14	14	14	35,246,812	35,246,812	7.9	23.4	.....	33,245,867	2,921,307	10.1	.....	1.052	0.88
1906	4	4	4	4	4	46,463,424	46,463,424	8.06	35.5	.....	52,466,186	4,814,965	8.7	.....	1.053	0.94
1907	4	4	4	4	4	48,785,890	48,785,890	7.3	4.6	.....	53,092,551	4,384,731	9.2	.....	1.284	1.13
1908	15	15	15	15	15	51,072,612	51,072,612	5.6	19.0	.....	43,547,679	53,092,551	8.1	.....	1.227	1.11
1909	12	12	12	12	12	64,901,431	64,901,431	4.9	11.6	.....	53,858,354	43,547,679	5.8	.....	0.883	0.85
1910	11	11	11	11	11	76,549,951	76,549,951	4.8	11.7	.....	68,203,800	53,858,354	4.9	.....	0.815	0.813
1911	8	8	8	8	8	82,438,096	82,438,096	4.69	0.03	.....	66,268,817	68,203,800	4.56	.....	0.916	0.891
1912	10	10	10	10	10	82,438,096	82,438,096	4.23	5.21	3,651,094	69,109,800	3,145,001	4.55	506,758	0.820	0.843
														370,956	0.861	0.813

PRODUCTION OF COAL IN MICHIGAN, 1860-1910, IN SHORT TONS.

Year.	Quantity. Tons.	Year.	Quantity. Tons.	Year.	Quantity. Tons.	Year.	Quantity. Tons.	Year.	Quantity. Tons.
1860	2,320	1871	32,000	1882	135,339	1893	45,979	1904	1,342,840
1861	3,000	1872	33,600	1883	71,296	1894	70,022	1905	1,472,211
1862	5,000	1873	58,000	1884	36,712	1895	112,322	1906	1,342,238
1863	8,000	1874	58,000	1885	45,178	1896	92,882	1907	2,035,838
1864	12,000	1875	62,500	1886	60,434	1897	223,592	1908	1,583,019
1865	15,000	1876	66,000	1887	71,461	1898	315,722	1909	1,484,092
1866	20,000	1877	69,197	1888	81,407	1899	624,708	1910	1,924,907
1867	25,000	1878	85,322	1889	67,431	1900	849,475	1911	1,476,073
1868	28,000	1879	82,015	1890	74,977	1901	1,241,241	1912	1,164,373
1869	29,380	1880	100,800	1891	80,307	1902	1,964,718	Total	21,638,668
1870	28,150	1881	112,000	1892	77,990	1903	1,367,619		

PRODUCTION, COST, ETC., OF COAL IN MICHIGAN BY MONTHS IN 1912.

	No. of mines oper- ated.	Average number of employees.	Average No. of hours worked per day.	Average number of days worked per month.	Average daily wages.	No. of mines using powder.	No. of kegs of powder used.	Tons of pick coal mined.	Tons of machine coal mined.	Total tonnage of coal mined.	Total cost of mining.	Aver. cost per ton.
January	26	2,720	7.9	23.9	\$2.98	23	4,754	82,282	69,841	152,123	\$298,350.28	\$1.96
February	26	2,708	7.9	20.9	2.90	24	3,922	77,061	60,817	137,878	226,000.92	1.63
March	26	2,657	7.9	24.3	3.30	24	4,251	85,410	81,942	164,352	272,808.84	1.65
April	8	142	7.9	13.1	2.83	4	130	2,544	.....	2,544	5,355.00	2.10
May	7	409	8	4.8	2.09	3	237	2,520	.....	2,520	6,567.71	2.60
June	14	1,413	8	14.3	3.40	13	2,035	32,578	9,427	42,005	92,106.46	2.19
July	16	1,574	8.1	18.2	3.37	15	2,133	44,034	22,688	66,722	134,268.50	2.05
August	18	1,702	8	22	3.76	17	2,894	46,848	39,752	86,600	163,052.22	1.88
September	21	2,017	8	19.5	3.75	20	3,262	53,432	50,928	104,360	206,416.09	1.97
October	24	2,378	8	23.1	3.41	22	4,103	66,737	65,269	132,006	251,536.15	1.90
November	24	2,447	8	21.7	3.05	22	3,941	67,402	67,510	134,912	245,440.75	1.88
December	24	2,471	7.8	22.9	3.18	21	4,275	70,491	73,460	143,951	270,081.89	1.81
Totals	24	2,471	7.9	19.1	3.09	24	35,987	623,339	541,634	1,164,973	\$2,172,083.90	1.87

PRODUCTION OF COAL BY COUNTIES, 1899-1912.

	Bay.	Eaton.	Ingham.	Jackson.	Saginaw.	Shiawassee.	Tuscola.	Other counties.
	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.
*1912..	607,740	374	3,874		489,198	4,532	59,252	
1911..	766,470	100			667,282	13,000	66,427	19,000
1910..	766,470	100			667,282			101,215
1909..	822,577	558		1,500	859,434			100,623
1908..	782,503	2,286		5,539	999,338			45,353
1907..	962,574	5,982		5,645	1,047,927			13,730
1906..	481,398	18,507		8,658	835,475			2,300
1905..	544,154	4,058		9,196	915,803			
1904..	410,634	9,057		16,860	906,289			
1903..	325,021	7,393		23,307	1,011,898			
1902..	248,645	8,800		23,889	670,304			13,400
1901..	253,821	4,803		20,288	938,042			24,284
1900..	190,814	4,530		23,317	601,112			
1899..	104,588	3,421		21,600	455,607			39,492

*Compiled from Annual Report of State Department of Labor for 1912.

*PRODUCTION, COST, ETC., OF COAL IN MICHIGAN BY MONTHS AND BY COUNTIES, IN 1912.

January.

County.	Number of mines operated.	Number of employees.	Average number of hours worked per day.	Average number of days worked per month.	Average daily wages.	Total amount of wages.	No. of mines using powder.	No. of kegs of powder used.	No. of tons of picked coal mined.	No. of tons of machine coal mined.	Total number of tons of coal mined.	Total cost of output.	Average cost per ton.
Bay.....	10	1,393	8	24.9	\$2 82	\$98,048 22	10	2,310	44,790	36,052	80,842	\$137,876 88	\$1 75
Eaton.....	1	5	7.2	25.4	1 40	72 05			110		110	182 50	1 65
Ingham.....	1	14	8	25	2 14	749 00			493		493	1 108 25	2 24
Saginaw.....	11	1,135	8	21	3 43	81,809 16	11	2,160	31,448	32,020	63,468	144,664 00	1 80
Shiawassee.....	2	5	8	24	2 50	300 00	1	2	135		135	297 00	2 20
Tuscola.....	1	168	8	23	3 31	12,789 84	1	282	5,306	1,769	7,075	14,220 75	2 01
Totals.....	26	2,720	7.9	23.9	\$2 98	\$193,891 27	23	4,794	82,282	69,841	152,123	\$298,350 28	\$1 96

February.

Bay.....	10	1,390	8	20.6	\$2 64	\$75,691 84	10	1,895	39,202	29,026	68,228	\$109,887 51	\$1 61
Eaton.....	1	2	6	26	1 40	72 80			40		40	60 00	1 50
Ingham.....	1	14	8	25	2 14	649 00			673		673	1,514 25	2 25
Saginaw.....	11	1,120	8	21.1	3 16	74,930 46	11	1,614	30,873	29,898	60,771	99,464 47	1 47
Shiawassee.....	2	17	8	21.1	2 52	904 80	2	24	595		595	864 50	1 45
Tuscola.....	1	165	8	23	3 34	12,445 30	1	389	5,678	1,893	7,571	14,309 19	1 89
Totals.....	26	2,708	7.9	20.9	\$2 90	\$164,694 20	24	3,922	77,061	60,817	137,878	\$226,099 92	\$1 63

March.

Bay.....	10	1,369	8	23.4	\$3 40	\$169,158 36	10	2,026	44,393	39,869	84,262	\$143,674 71	\$1 75
Eaton.....	1	2	6	26	1 40	72 80			40		40	60 00	1 50
Ingham.....	1	14	8	25	2 25	787 50			349		349	783 25	2 27
Saginaw.....	11	1,091	8	25.4	3 19	88,613 01	11	1,923	31,008	40,066	71,074	112,023 39	1 57
Shiawassee.....	2	23	8	17.7	2 41	983 32	2	17	600		600	833 32	1 35
Tuscola.....	1	158	8	26	3 30	13,556 40	1	285	6,020	2,007	8,027	15,331 57	1 91
Totals.....	26	2,657	7.9	24.3	\$3 30	\$213,171 39	24	4,251	82,410	81,942	164,352	\$272,808 84	\$1 65

*Compiled from the Annual Report of the Department of Labor for 1912.

PRODUCTION, COST, ETC., OF COAL IN MICHIGAN BY MONTHS AND BY COUNTIES, IN 1912.—Continued.

April.

County.	Number of mines operated.	Number of employees.	Average number of hours worked per day.	Average number of days worked per month.	Average daily wages.	Total amount of wages.	Number of mines using powder.	Number of kegs of powder used.	Number of tons of picked coal mined.	Number of tons of coal mined.	Total number of tons of coal mined.	Total cost of output.	Average cost per ton.
Bay.....	1	8	8	30	\$2 50	\$600 00			26		26	\$36 40	\$1 40
Eaton.....	1	1	8	27	1 40	36 40			176		176	306 00	2 25
Ingham.....	2	6	8	17	2 25	229 50			1 425		1 425	2 937 49	2 07
Saginaw.....	1	87	8	6.1	3 39	1 679 40	2	99	917		917	1 065 20	2 14
Shiawassee.....	2	37	8	22.2	2 46	2 024 80	2	31					
Tuscola.....	1	9	8	30	2 60	702 00							
Totals.....	8	142	7.9	13.1	\$2 83	\$5 272 10	4	130	2 544		2 544	\$5 355 09	\$2 10

May.

Bay.....	2	308	8	3.7	\$1 53	\$1 815 00	1	181	1 120		1 120	\$3 687 97	\$3 29
Eaton.....	1	6	9	15	2 20	198 00			89		89	234 35	2 63
Ingham.....	2	81	8	2 69	1 092 00		1	55	986		986	2 320 30	2 33
Saginaw.....	1	5	8	24	2 50	300 00	1	1	325		325	325 00	1 00
Shiawassee.....	1	9	8	30	2 60	702 00							
Totals.....	7	409	8	4.8	\$2 09	\$4 107 00	3	237	2 520		2 520	\$6 567 71	\$2 60

June.

Bay.....	5	785	8	15.3	\$3 62	\$42 629 46	5	1 008	16 937	6 636	23 573	\$52 327 32	\$2 21
Eaton.....	1	5	9	16	2 45	196 00			69		69	210 65	3 18
Ingham.....	6	496	8	13	3 14	20 300 02	6	893	13 516	2 199	15 715	34 519 81	2 19
Saginaw.....	1	5	8	24	2 50	300 00	1	1	280		280	280 00	1 00
Shiawassee.....	1	122	8	13	3 41	5 408 26	1	133	1 776	592	2 368	4 739 68	2 01
Totals.....	14	1 413	8	14.3	\$3 40	\$68 833 74	13	2 035	32 578	9 427	42 005	\$92 106 46	\$2 91

PRODUCTION, COST, ETC., OF COAL IN MICHIGAN BY MONTHS AND BY COUNTIES, IN 1912.—Continued.

July.

County.	Number of mines operated.	Number of employees.	Average number of hours worked per day.	Average number of days worked per month.	Average daily wages.	Total amount of wages.	Number of mines using powder.	Number of kegs of powder used.	Number of tons of picked coal mined.	Number of tons of coal mined.	Total number of tons of coal mined.	Total cost of output.	Average cost per ton.
Bay.....	6	803	8.2	19.9	\$3 41	\$54 631 38	6	1 021	21 567	11 426	32 993	\$65 531 52	\$1 98
Eaton.....	1	3	9	23	2 00	138 00			29		29	\$150 00	5 17
Ingham.....	7	631	8	16.6	3 24	34 941 86	7	639	18 602	10 075	28 677	59 148 34	2 06
Saginaw.....	1	5	8	24	2 50	300 00	1	1	275		275	275 00	2 75
Shiawassee.....	1	132	8	15	3 38	6 692 40	1	172	3 561	1 187	4 748	9 163 64	1 93
Totals.....	16	1 574	8.1	18.2	\$3 37	\$96 703 74	15	2 133	44 034	22 688	66 722	\$134 268 50	\$2 05

August.

Bay.....	7	866	8	22.8	\$2 33	\$46 030 30	7	1 167	20 961	20 548	41 509	\$81 525 03	\$1 95
Eaton.....	1	9	9	24	2 65	572 40			324		324	703 30	2 17
Ingham.....	8	684	8	21	3 21	46 214 71	8	1 458	20 108	17 460	37 577	67 873 69	1 86
Saginaw.....	1	5	8	24	2 50	300 00	1	1	250		250	250 00	1 00
Shiawassee.....	1	138	8	22	3 40	10 322 40	1	268	5 205	1 735	6 940	12 700 20	1 83
Totals.....	18	1 702	8	22	\$2 76	\$103 439 81	17	2 894	46 848	39 752	86 600	\$163 052 22	\$1 88

September.

Bay.....	9	1 034	8	21.5	\$3 55	\$78 989 90	9	1 472	25 592	26 714	52 306	\$107 428 94	\$2 05
Eaton.....	1	8	9	21	2 41	404 88			219		219	492 60	2 24
Ingham.....	9	835	8	19.9	3 46	57 648 52	9	1 531	22 852	22 658	45 510	86 865 05	1 90
Saginaw.....	1	8	8	24	2 50	300 00	1	1	100		100	300 00	3 00
Shiawassee.....	1	132	8	23	3 33	10 170 60	1	258	4 669	1 556	6 225	11 329 50	1 32
Totals.....	21	2 017	8	19.5	\$3 75	\$147 693 90	20	3 262	53 432	50 928	104 360	\$206 416 09	\$1 97

PRODUCTION, COST, ETC., OF COAL IN MICHIGAN BY MONTHS AND BY COUNTIES, IN 1912.—Continued.

October.

County.	Number of mines operated.	Number of employees.	Average number of hours worked per day.	Average number of days worked per month.	Average daily wages.	Total amount of wages.	Number of mines using powder.	Number of kegs of powder used.	Number of tons of picked coal mined.	Number of tons of machine coal mined.	Total number of tons of coal mined.	Total cost of output.	Average cost per ton.
Bay	9	1,236	8	24.9	\$3 47	\$107,162 16	9	2,008	37,893	35,287	73,180	\$138,021 78	\$1 88
Eaton	1	2	6	26	2 50	130 00			52	52	52	65 00	1 25
Ingham	1	10	9	21	2 45	514 50			325	325	325	642 50	1 97
Saginaw	10	996	8	20.7	3 32	68,517 68	10	1,859	23,750	28,527	52,277	100,775 37	1 92
Shawasssee	2	8	8	24.3	2 31	450 00	2	3	350	350	350	387 50	1 10
Tuscola	1	126	8	25	3 36	10,584 00	1	233	4,367	1,455	5,822	11,644 00	2 00
Totals	24	2,378	8	23.1	\$3 41	\$187,358 34	22	4,103	66,737	65,269	132,006	\$251,536 15	\$1 90

November.

Bay	9	1,289	8	22.5	\$2 59	\$75,147 44	9	1,928	34,344	35,092	69,436	\$126,704 33	\$1 82
Eaton	1	12	7	27	2 50	135 00			67	67	67	75 00	1 12
Ingham	1	104	9	30	2 65	954 00			575	575	575	1,177 60	2 04
Saginaw	10	1,004	8	20.7	3 92	71,602 10	10	1,812	23,486	31,218	54,704	106,652 32	1 95
Shawasssee	2	8	8	24.3	2 31	450 00	2	3	330	330	330	367 50	1 11
Tuscola	1	132	8	21	3 39	9,397 08	1	198	3,600	1,200	4,800	10,464 00	2 18
Totals	24	2,447	8	21.7	\$3 05	\$157,685 62	22	3,941	62,402	67,510	129,912	\$245,440 75	\$1 88

December.

Bay	8	1,294	7.9	23.2	\$3 76	\$105,596 34	8	2,162	40,967	39,324	80,291	\$143,980 83	\$1 82
Eaton	1	17	7	28	2 00	62 10			42	42	42	62 10	1 10
Ingham	1	17	9	27	3 12	918 00			553	553	553	1,000 08	1 82
Saginaw	11	1,027	8	21.8	3 05	82,085 80	11	1,903	24,297	32,717	57,014	113,295 08	1 95
Shawasssee	2	10	8	23.5	2 25	435 00	2	6	375	375	375	435 00	1 11
Tuscola	1	121	8	23	3 34	9,295 22	1	204	4,257	1,419	5,676	12,089 88	2 18
Totals	24	2,471	7.8	22.9	\$3 18	\$198,392 46	21	4,275	70,491	73,460	143,951	\$270,081 89	\$1 88
Grand Total	24	2,471	7.9	19.1	\$3 09	\$1,541,233 57	24	35,937	623,339	541,634	1,164,973	\$2,172,083 90	\$1 88

PRODUCTION AND VALUE OF SALT IN MICHIGAN AND UNITED STATES, 1860-1912.

Year.	U. S. production. Quantity. bbls.	Michigan production.		Per cent of total Michigan.	Rank of state quantity.	Value. Michigan.	Price. Michigan.
		State Salt Inspectors. Quantity. bbls.	U. S. G. S. Quantity. bbls.				
1860		4,000					
1861		125,000					
1862		243,000					
1863		466,000					
1864		529,073					
1865		477,200					
1866		407,997				\$734,395	\$1 80
1867		474,721				840,255	1 77
1868		555,690				1,028,027	1 85
1869		561,288				786,835	1 58
1870		621,352				820,185	1 32
1871		728,175				1,063,135	1 46
1872		724,481				1,057,742	1 46
1873		821,346				1,127,984	1 37
1874		1,026,970				1,220,094	1 19
1875		1,081,856				1,190,042	1 10
1876		1,482,729				1,556,865	1 05
1877		1,660,997				1,411,847	0 85
1878		1,855,884				1,577,501	0 85
1879		2,058,040				2,099,200	1 02
1880	5,961,060	2,676,588	2,485,177	41.69	1	2,271,931	0 75
1881	6,200,000	2,750,299		44.35	1	2,418,171	0 85
1882	6,412,373	3,037,317	3,037,317	47.36	1	2,126,122	0 70
1883	6,192,231	2,894,672	3,894,672	46.74	1	2,344,684	0 81
1884	6,514,937	3,161,806	3,161,806	48.53	1	2,392,648	0 757
1885	7,038,653	3,297,403	3,297,403	46.84	1	2,967,663	0 900
1886	7,707,081	3,667,257	3,667,257	47.58	1	2,426,989	0 661
1887	8,003,962	3,944,309	3,944,309	49.17	1	2,291,842	0 581
1888	8,055,881	3,866,228	3,866,228	47.99	1	2,261,743	0 585
1889	8,005,565	3,846,979	3,856,929	48.17	1	2,088,909	0 541
1890	8,776,991	3,838,637	3,838,632	43.72	1	2,302,579	0 600
1891	9,987,945	3,927,671	3,966,748	39.52	1	2,037,289	0 513
1892	11,698,890	3,812,504	3,829,478	32.81	1	2,046,963	0 523
1893	11,897,208	3,514,485	3,057,898	25.70	2	888,837	0 287
1894	12,968,417	3,138,941	3,341,425	26.53	2	1,243,619	0 375
1895	13,669,649	3,529,362	3,343,395	24.46	2	1,048,251	0 315
1896	13,850,726	3,336,242	3,164,238	22.89	2	718,408	0 229
1897	15,973,202	3,622,764	3,993,225	24.99	2	1,243,619	0 313
1898	17,612,634	4,171,916	5,263,564	29.88	2	1,628,081	0 311
1899	19,708,614	4,732,669	7,117,382	36.14	2	2,205,924	0 309
1900	20,869,342	4,738,085	7,210,621	34.55	2	2,033,731	0 282
1901	20,566,661	5,580,101	7,729,641	37.58	1	2,437,677	0 328
1902	23,849,231	4,994,245	8,131,781	34.10	2	1,535,823	0 188
1903	18,968,089	4,387,982	4,297,542	22.65	2	1,119,984	0 260
1904	22,030,002	5,390,812	5,425,904	24.62	2	1,579,206	0 309
1905	25,966,122	5,671,253	9,492,173	35.24	1	1,851,332	0 196
1906	28,172,380	5,644,559	9,936,802	36.31	1	2,018,700	0 203
1907	29,704,128	6,298,463	10,786,630	35.39	1	2,231,129	0 208
1908	28,822,062	6,247,073	10,194,279	35.34	1	2,458,303	0 241
1909	30,107,646	6,055,661	9,966,744	33.10	1	2,732,556	0 274
1910	30,305,656	5,597,276	9,452,022	31.18	2	2,231,262	0 236
1911	31,183,968		10,320,074	33.10	2	2,633,155	0 255
1912	33,324,808		10,946,739	32.84	1	2,974,429	0 277
Totals							
Grand Total			186,018,035	33.82		\$83,305,726	0 448

PRODUCTION AND VALUE OF SALT IN MICHIGAN BY GRADES, 1906-1912.

Year.	Table and dairy.		Common fine.		Common coarse.	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
	Barrels.		Barrels.		Barrels.	
1906....	509,905	\$362,368	2,927,478	\$757,470	2,021,287	\$618,727
1907....	657,509	392,641	3,601,270	914,154	1,743,840	471,378
1908....	584,452	620,647	3,454,062	968,617	2,020,956	610,286
1909....	585,370	732,907	3,530,303	1,125,095	2,103,719	647,878
1910....	798,434	565,653	2,216,181	734,828	1,992,465	596,301
1911....	817,486	742,702	2,362,075	698,203	2,070,745	745,720
1912....	905,593	920,782	2,225,337	645,692	2,086,492	835,673
Year.	Packers.		Other, rock, etc.		Brine and other.*	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
	Barrels.		Barrels.		Barrels.	
1906....	91,098	\$33,733			4,387,043	\$246,462
1907....	119,459	48,455			4,664,552	235,729
1908....	134,726	53,669			3,991,083	205,084
1909....	93,357	3,983			3,648,395	185,051
1910....	92,426	43,942			4,104,934	211,317
1911....	105,401	45,421	576,595	\$181,865	4,387,772	219,244
1912....	223,866	84,638	763,908	250,680	4,737,038	236,852
Total.					Total.	
					Quantity.	Value.
					Barrels.	
1906....					9,936,802	\$2,018,760
1907....					10,786,630	2,062,357
1908....					10,194,270	2,458,303
1909....					9,966,744	2,732,556
1910....					9,452,022	2,231,262
1911....					10,320,074	2,633,155
1912....					10,946,739	2,974,429

*Brine only after 1910.

PRODUCTION OF SALT IN MICHIGAN BY COUNTIES FOR 1912.

County.	Table and dairy.		Common fine.		Common coarse.		Packers.	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quant.	Value.
	Barrels.		Barrels.		Barrels.		Barrels.	
Bay.....	38,009	\$57,014	1,327,112	\$383,337	1,425,732	\$559,493	36,510	\$20,434
Isabella.....								
Mason.....								
Midl'd.....								
Saginaw.....					275,146	116,270	13,040	6,674
St. Clair.....	718,284	785,740	382,088	140,662	159,136	68,999	165,911	53,761
Wayne.....	149,300	78,028	516,137	121,693	226,478	90,911	8,405	3,769
State total...	905,593	\$920,782	2,225,337	\$645,692	2,086,492	\$835,673	223,866	\$84,638
County.	Other grades and rock salt.		Brine.		Total.			
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.		
	Barrels.		Barrels.		Barrels.			
Bay.....	48,284	\$9,608	4,505	\$112	2,880,152	\$1,029,998		
Isabella.....								
Mason.....								
Midland.....								
Saginaw.....	1,185	355			289,371	123,299		
St. Clair.....	18,156	5,229			1,443,575	1,054,391		
Wayne.....	696,283	235,488	4,737,038	236,852	6,333,641	766,741		
State total...	763,908	\$250,680	4,741,543	\$236,964	10,946,739	\$2,974,429		

ANNUAL PRODUCTION OF BRICK AND TILE PRODUCTS IN MICHIGAN, 1899-1912.

Year.	Common brick.		Average price per M.	Front brick.		Average price per M.	Vitrified brick.		Average price per M.	Fancy or ornamental brick.	Fire brick.		Average price per M.
	Quantity.	Value.		Quantity.	Value.		Quantity.	Value.			Quantity.	Value.	
1899	200,144,000	933,176	\$4.66	4,290,000	58,920	\$13.73	a	a	\$12.42				
1900	180,892,000	863,250	4.77	8,421,000	48,411	5.75	a	a	12.30				
1901	215,836,000	1,095,254	5.07	9,476,000	64,031	6.76	a	a	12.30				
1902	237,254,000	1,331,752	5.61	5,684,000	42,792	7.53	a	a	12.26				
1903	215,791,000	1,251,572	5.80	2,225,000	19,000	8.54	a	a	13.27				
1904	205,196,000	1,116,714	5.44	1,080,000	7,500	6.94	a	a	13.25				
1905	211,558,000	1,152,505	5.45	693,000	5,995	8.65	a	a	13.57				
1906	206,583,000	1,178,202	5.70	1,474,000	14,162	9.61	a	a	13.13				
1907	200,817,000	1,181,015	5.88	3,956,000	32,116	8.12	a	a	11.96				
1908	181,049,000	994,525	5.49	1,896,000	19,496	10.28	a	a	12.43				
1909	219,820,000	1,250,787	5.69	2,379,000	18,654	7.84	a	a	12.34				
1910	232,551,000	1,363,316	5.86	2,209,000	27,533	12.46	a	a	12.82				
1911	252,465,000	1,301,998		2,498,000	31,572		a	a					
1912	271,189,000	1,592,283		3,934,000	41,476		a	a					
Totals.	3,031,145,000	16,606,349		50,215,000	431,658		58,167,000	750,816					

a Concealed, less than three producers.

ANNUAL PRODUCTION OF BRICK AND TILE PRODUCTS IN MICHIGAN, 1899-1912.—Concluded.

Year.	Stove linings.	Drain tile.		Sewer pipe.	Fire-proofing.	Tile (not drain).	Miscellaneous.		Hollow building tile or blocks.	Per cent of total product in U. S.	Rank of state.	No. of firms operating.	Total value.
		Quantity.	Value.				Value.	Value.					
1899			140,171	50,300	5,900		22,709			1.68	13	196	1,254,256
1900			114,747	57,916	2,350		2,406			1.50	17	189	1,147,378
1901			98,972	a	1,880		637			1.71	14	180	1,497,169
1902			96,645	a	3,290					1.69	13	182	1,660,942
1903			129,028	a						1.58	14	178	1,662,414
1904			208,088	a				19,138		1.58	14	168	1,670,892
1905			205,445	a				8,080		1.41	16	154	1,719,746
1906			314,098	a				4,290		1.39	16	142	1,793,367
1907			289,868	a			1,500			1.54	17	136	1,786,190
1908			327,630	a			40,100			1.39	16	132	1,666,381
1909			364,006	a			66,128			1.44	16	122	1,947,059
1910			348,205	a			a			1.53	15	118	2,083,442
1911		3,971	313,072	a			228,530						2,953,442
1912		a	387,945	a	1,461		235,459						2,350,606
Totals.			3,337,920										24,193,367

a Concealed under miscellaneous, less than three producers.

VALUE OF THE PRODUCTION OF LIMESTONE IN MICHIGAN, 1899-1912.

Year.	Rough building. Value.	Dressed building. Value.	Paving. Value.	Curbing. Value.	Flagging. Value.	Rubble. Value.	Riprap. Value.	Crushed stone.		
								Road making. Value.	Railroad ballast. Value.	Concrete. Value.
1899.....	30,299	a	62,815	.....	.....	.....	1,111	.....	.....	.....
1900.....	32,362	a	105,266	.....	380	5,098	799	18,200	.....	75,643
1901.....	47,785	a	.....	489	200	3,101	5,740	40,810	.....	49,430
1902.....	58,707	a	49,000	280	5,150	3,710	800	35,340	.....	48,504
1903.....	36,528	805	37,665	.....	.....	2,800	2,405	57,100	.....	60,745
1904.....	32,941	.....	.....	160	.....	744	1,568	43,649	.....	107,396
1905.....	17,071	.....	90,723	75	.....	4,654	1,204	103,442	.....	61,852
1906.....	9,368	641	56,500	.....	100	1,433	1,234	33,000	.....	97,762
1907.....	15,120	100	10,825	300	.....	15,907	1,574	182,510	.....	73,200
1908.....	7,276	7,445	.....	.....	.....	1,572	3	42,445	.....	112,820
1909.....	4,450	.....	35,500	.....	.....	2,205	908	110,184	.....	178,318
1910.....	3,552	.....	.....	.....	.....	165	380	113,574	.....	137,285
1911.....	7,526	.....	.....	.....	.....	380	75	295,449	.....	97,298
1912.....	9,997	.....	.....	.....	.....	.....	.....	.....	.....	.....
Total.....	312,982	.....	448,294	.....	5,730	38,769	21,413	1,364,740	527,126	1,100,262

a Included under rough building.

b Included under flagging.

c Included under rubble.

VALUE OF THE PRODUCTION OF LIMESTONE IN MICHIGAN, 1899-1912.—Continued.

Year.	Flux. Value.	Sugar factories. Value.	To chemical plants. Value.	To paper mills. Value.	For agricultural purposes. Value.	Sold to lime burners. Value.	Other. Value.	Total. Value.
1900.....	3,200	.....	.....	.....	.....	65,000	124,220	330,847
1901.....	13,488	.....	.....	.....	.....	136,173	101,399	429,771
1902.....	32,246	.....	.....	.....	.....	98,000	68,164	413,148
1903.....	15,502	.....	.....	.....	.....	132,600	4,747	390,473
1904.....	62,586	.....	.....	.....	.....	180,683	5,323	501,708
1905.....	109,853	294,356	.....	.....	.....	9,380	142,790	544,754
1906.....	81,517	22,234	.....	.....	.....	.....	278,297	760,353
1907.....	109,429	52,394	.....	.....	.....	.....	253,690	669,017
1908.....	56,841	23,845	.....	.....	.....	.....	327,571	750,589
1909.....	91,915	69,647	.....	.....	.....	.....	209,305	842,126
1910.....	100,149	63,141	a	12,558	3,003	.....	440,857	1,005,751
1911.....	186,046	36,944	508,044	8,150	3,447	.....	13,896	1,139,560
1912.....	137,812	.....	.....	.....	.....	.....	.....	.....
Total.....	1,028,126	476,761	508,044	20,708	6,450	779,493	2,094,010	8,716,115

a Included under other value.

PRODUCTION AND VALUE OF SAND AND GRAVEL IN MICHIGAN, 1904-1912.

Year.	Glass sand.		Molding sand.		Building sand.		Fire sand.		Engine sand.	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
	Tons.		Tons.		Tons.		Tons.		Tons.	
1903.										
1904.			167,147	76,299	69,656	30,898				
1905.			19,382	13,247	263,315	148,065	5,000	2,500		
1906.	600	3,000	61,387	26,108	403,199	127,937			4,000	400
1907.	4,300	8,600	54,172	24,190	451,646	157,150	6,000	3,000	1,534	153
1908.	17,000	34,000	4,584	2,892	474,238	228,395			1,901	319
1909.	65,000	79,000	53,226	20,756	1,090,419	327,247	4,000	2,000	12,415	1,493
1910.	16,212	25,675	93,812	24,004	1,151,588	334,336	5,000	3,000	22,270	2,172
1911.	a	a	68,878	17,901	833,729	247,997	a	a	25,392	4,447
1912.	a	a	152,433	40,145	902,556	294,115			18,575	4,774
Totals.			675,021	245,542	5,640,346	1,896,140			86,177	13,758

PRODUCTION AND VALUE OF SAND AND GRAVEL IN MICHIGAN, 1904-1912.

Year.	Furnace sand.		Paving sand.		Other sand.	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
	Tons.		Tons.		Tons.	
1903.						
1904.						
1905.					50,187	14,476
1906.	5,000	2,500			51,005	12,140
1907.	3,858	3,133			173,724	12,187
1908.	3,329	3,828			29,187	6,850
1909.	3,183	3,660			295,612	50,953
1910.	3,185	4,924			372,880	57,385
1911.	a	a	152,144	29,650	114,801	52,005
1912.			68,453	16,898	130,624	54,746
Totals.					220,597	46,548
					1,218,020	260,742

Year.	Gravel.		Total.	
	Quantity.	Value.	Quantity.	Value.
	Tons.		Tons.	
1903.				
1904.			236,803	107,197
1905.			76,625	32,321
1906.			72,598	25,614
1907.			329,407	81,182
1908.			312,262	94,081
1909.			695,902	200,523
1910.			1,197,791	364,841
1911.			935,072	203,218
1912.			1,409,180	407,925
Total.			5,028,837	1,409,705
				13,065,814
				4,062,006

a Included under other sand.

TABLE SHOWING PRODUCTION OF GYPSUM IN MICHIGAN.

Year.	Ground into land plaster. Tons.	Gypsum calcined into plaster. Tons.	Sold crude. Tons.	Total production. Tons.	Total value.
Before 1868.	132,043	14,285		146,328	\$671,022
1868.	28,837	6,244		35,081	165,298
1869.	29,996	7,355		37,351	178,824
1870.	31,437	8,246		39,683	191,718
1871.	41,126	8,694		49,820	234,054
1872.				54,209	259,524
1873.	43,536	10,673		59,696	297,678
1874.	44,972	14,724		53,849	274,284
1875.	39,126	14,723		37,933	195,386
1876.	27,019	10,914		50,629	248,504
1877.	39,131	11,498			
1877.	40,000	9,819		49,819	238,550
1878.	40,000	8,634		48,634	229,070
1879.	43,658	9,070		52,728	247,192
1880.	49,570	18,929		68,499	349,710
1881.	33,178	20,145		53,323	293,872
1882.	37,821	24,136		61,957	344,374
1883.	40,082	28,410		68,492	377,567
1884.	27,888	27,959		55,847	335,382
1885.	28,184	25,281		53,465	286,802
1886.	29,373	27,370		56,748	308,904
1887.	28,794	30,376		61,957	329,392
1888.	22,177	35,125		57,302	347,531
1889.	19,823	36,800		56,623	353,869
1890.	12,714	47,163	15,000	74,877	192,099
1891.	15,100	53,600	11,000	97,700	223,725
1892.	14,458	77,599	47,500	139,557	306,527
1893.	16,263	77,327	31,000	124,590	303,921
1894.	11,982	47,976	20,000	79,958	189,620
1895.	9,003	51,028	6,488	66,519	174,007
1896.	6,582	60,352	700	67,634	146,424
1897.	7,193	71,680	16,001	94,874	193,576
1898.	13,345	77,852	1,984	93,181	204,310
1899.	17,196	88,315	39,266	144,776	283,537
1900.	10,354	86,972	33,328	129,654	285,119
1901.	9,808	129,256	46,086	185,150	267,243
1902.	13,022	158,320	68,885	240,227	459,621
1903.	18,409	198,119	52,565	269,093	700,912
1904.	18,294	185,422	34,669	238,385	541,197
1905.	20,285	203,313	24,284	247,882	634,434
1906.	30,220	208,715	27,517	341,716	753,878
1907.	15,500	197,666	36,543	317,261	681,351
1908.	11,414	192,403	40,324	327,810	491,928
1909.	11,890	344,171	45,781	394,907	1,213,347
1910.	7,097	240,905	64,566	357,174	667,199
1911.	15,548	206,299	79,050	347,296	523,926
1912.	10,103	243,656	63,819	384,297	621,547
Totals.	1,213,551	3,657,519	806,356	6,077,674	16,817,145

PRODUCTION OF GYPSUM IN MICHIGAN 1911-1912.

Year.	Gypsum sold crude.									
	Crude gypsum mined.		To Portland Cement Mills.		As land plaster.		For other purposes.		Total sold crude.	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
1911.....	347,296	69,497	15,548	15,706	13	52			79,050	85,255
1912.....	384,297	52,420	10,103	9,375	5	50			63,819	61,845
Year.	Gypsum sold calcined.									
	As mixed with wall plaster.		As plaster of Paris, etc.		As stucco.		As dental plaster.		To plate glass works.	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
1911.....	146,920	\$381,362	47,989	\$88,168			20	\$110	11,370	\$19,031
1912.....	146,039	368,676	937	3,229	82,010	\$168,734	3	12	6,214	8,078

PRODUCTION OF GYPSUM IN MICHIGAN, 1911-1912.—Concluded.

Year.	Gypsum sold calcined.											
	For other purposes.		Total sold calcined.		Total value.	Kettles in mill.		Daily capacity of mill.	Shifts run by mill during year.		No. mines.	No. mills.
	Quantity.	Value.	Quantity.	Value.		No.	Size.		Total No.	Hrs. in shift.		
1911.....	8,303	10,973	206,299	488,671	573,926	29	8 x 10	2,200+			8	8
1912.....			243,656	559,702	621,547	28	8 x 10	2,140	1,850	11	6	8

ANNUAL PRODUCTION AND VALUE OF SAND-LIME BRICK IN MICHIGAN, 1904-1912.

Year.	Number of operating plants.	Common brick.		Front brick.		Fancy brick.		Total value.
		Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	
1904	10	9,886,000	64,054	580,000	5,234	19,000*	497	69,765
1905	12	24,841,000	155,883	1,577,000	12,893	24,000*	526	169,302
1906	11	27,281,000	162,879	1,796,000	12,022	700*	20	174,921
1907	13	25,488,000	158,606	2,000,000*	14,234			172,840
1908	10	21,997,000	131,827	900,000*	6,982			138,809
1909	11	34,217,000	207,082	1,600,000*	11,144			218,226
1910	10	37,648,337	218,627	3,255,890	22,922			240,649
1911	10	32,889,000	192,224	2,726,000	17,777			210,001
1912	11	48,129,000	307,106	1,163,000	9,626			316,732
Grand total		262,376,337	1,598,268	15,597,890	111,934	43,700	1,043	1,711,245

*Estimated.

PRODUCTION AND VALUE OF LIME IN MICHIGAN, 1904-1912.

Year.	Total lime burned.		Average price per ton.	No. of plants operating.	Rank of state. Production.
	Quantity, tons.	Value.			
1904	63,601	256,955	\$4 04		
1905	48,089	192,844	4 01		
1906	68,133	281,465	4 13		
1907	65,822	276,534	4 20	13	
1908	68,050	282,023	4 14	12	
1909	83,108	354,135	4 24	10	15
1910	72,345	303,377	4 26	12	13
1911	80,709	352,608	4 19	10	14
1912	74,720	311,448	4 37	14	14
			4 17	11	16
Total	624,577	2,611,389			

VALUE OF THE PRODUCTION OF POTTERY IN MICHIGAN, 1899-1912.

Year.	Rank of state.	Firms.	Red earthen-ware value.	Porcelain electrical supplies value.	C. C. ware value.	Miscellaneous value.	Total value.	Per cent of total product in U. S.
1899	18	4	29,641		100		29,741	17
1900	17	4	34,317				34,317	17
1901	16	5	42,465			2,400	44,865	20
1902	14	4	44,098			30,000	83,098	41
1903	10	4	43,007			36,000	83,007	19
1904			40,621			7,000	43,621	
1905		5			a	7,600	45,061	16
1906	17	6	43,510			7,100	51,110	20
1907	16	6	54,474			7,750	62,400	25
1908	16	6	54,650			34,500	92,430	31
1909	13	5	60,929			13,300	112,697	33
1910	13	6	90,450	a		a	130,490	38
1911	13	6	80,580	a		a	194,892	
1912	10	6	99,555	a		a		
Totals							1,038,221	

a Included in the total.

OUTPUT OF MINERAL WATERS IN MICHIGAN, 1900-1912.

Year.	No. of springs.	Total.		Medicinal Value.	Table Value.	Price per gal.
		Quantity. gal.	Value.			
1900	28	3,398,996	411,935			
1901	28	7,019,168	1,195,614			
1902	28	8,653,690	275,763			
1903	19	6,919,107	200,668			
1904	19	3,385,675	118,422			
1905	17	2,684,800	277,188	38,900	238,288	\$.10
1906	19	902,528	73,357			
1907	19	1,472,679	127,133	35,091	92,042	.09
1908	24	2,004,433	88,910	5,995	82,915	.04
1909	19	2,760,604	104,454	6,099	98,355	.04
1910	17	1,454,020	69,538	100	69,438	.05
1911	23	1,713,401	72,253	12,156	60,097	.04
1912	17	1,420,465	75,611	777	74,834	.053
Total		43,789,566	3,090,846	93,118	715,969	

PRODUCTION OF TRAP ROCK IN MICHIGAN, 1911-1912.

Year.	No. of producers.	Crushed stone.				Riprap. value.	Total value.
		Road making.		Concrete.			
		Quantity.	Value.	Quantity.	Value.		
		Tons.		Tons.			
1911	3			45,250	\$38,429	\$51,000	
1912	5	21,805	\$18,366	11,355	9,340	36,206	
Total		21,805	\$18,366	56,605	\$47,769	\$87,206	

*VALUE OF THE PRODUCTION OF SANDSTONE IN MICHIGAN, 1899-1912.

Year.	Rough building. Value.	Dressed building. Value.	Curbing. Value.	Flagging. Value.	Rubble. Value.	Riprap. Value.	Crushed stone.		Other. Value.	Total value.
							Road making. Value.	Concrete. Value.		
1899.....	102,447	51,682	109	a					23,800	178,098
1900.....	73,850	58,800			26,519				19,000	132,650
1901.....	128,909				27,393	b				174,428
1902.....	136,280	23,600			15,594	800				188,078
1903.....	89,931	10,365			10,657			3,450		124,350
1904.....	47,593	14,818			10,332			1,400		174,868
1905.....	64,056	36,035			10,403					123,193
1906.....	35,272	18,950			7,900	770				123,193
1907.....	33,561	10,918		528	5,190	96				53,003
1908.....	15,100	18,813			6,294					36,084
1909.....	12,985	16,805			2,505					31,283
1910.....	13,312	15,416			3,068	1,140				12,083
1911.....	5,682	2,809				c			286	16,438
1912.....										
Totals.....	758,978	279,011	109		125,815		3,450	3,850	55,786	1,246,771

a Included under curbing.

b Included under rubble.

c Included in total.

* Exclusive of sandstone made into grindstones and whetstones.

PRODUCTION OF CLAY IN MICHIGAN, 1910-1912.

Year.	Slip clay.		Brick clay.		Miscellaneous clay.		Total	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
	Tons.		Tons.		Tons.		Tons.	
1910.....	1,363	\$3,889	60	\$105	1	\$400	1,424	\$4,394
1911.....	1,744	5,090	18	32	2	150	1,764	5,272
1912.....	2,034	6,164			9	9	2,043	6,173
Total.....	5,141	\$15,143	78	\$137	12	\$559	5,231	15,839

PRODUCTION OF NATURAL GAS IN MICHIGAN, 1911-1912.

Year.	No. of producers.	Domestic.		Industrial.		Other.		Total.	
		Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
		M. cu. ft.		M. cu. ft.		M. cu. ft.		M. cu. ft.	
1911.....	22	930	\$930			800	\$400	1,730	\$1,330
1912.....	17		1,020	900	\$450			900	1,470
Total.....		930	\$1,950	900	\$450	800	\$400	2,630	\$2,800

SUMMARY TABLE OF THE PRODUCTION AND VALUE OF THE MINERAL PRODUCTS IN MICHIGAN FOR 1912.

	Quantity.	Value.
Copper, pounds.....	231,112,228	\$35,992,837
Iron ore, long tons.....	12,649,296	28,862,818
Pig iron sold, long tons.....	459,975	6,579,048
Portland cement, barrels.....	3,651,094	3,145,001
*Salt, barrels.....	10,946,739	2,974,429
Brick and tile products, number of brick.....	281,741,000	2,350,606
Coal, tons.....	1,164,973	2,203,808
Coke.....		a
Limestone.....		1,139,560
Sand and gravel, tons.....	2,681,821	818,603
Gypsum and gypsum products, tons.....	384,297	621,547
Silver—fine, ounces.....	528,453	324,999
Sand lime brick.....	49,292,000	316,732
Lime, tons.....	74,720	311,448
Pottery.....		194,892
Mineral paints.....		a
Grindstones.....		a
Bromine.....		a
Mineral water, gallons.....	1,420,465	75,611
Calcium chloride.....		a
Trap rock, tons, exclusive of riprap.....	33,160	36,206
Graphite.....		a
Sandstone.....		16,438
Quartz.....		a
Scythestones.....		a
Clay, tons.....	2,043	6,173
Natural gas, M. cu. ft.....	900	1,470
Petroleum.....		a
Miscellaneous.....		2,088,197
Total.....		\$88,076,861

*Includes rock salt but not bromine or calcium chloride.
a Included under miscellaneous.

BLAST FURNACES IN MICHIGAN.

Name of furnace.	Name of company.	Location of furnace.	Activity.	Type of fuel.	Activity of furnace.
Antrim.....	Antrim Iron Company	Antrim.....	In blast.....	Charcoal.....	115 tons
Cadillac.....	Mitchell-Diggins Iron Co.	Cadillac.....	In blast.....	Charcoal.....	100 tons
Carp.....	Pioneer Iron Company	Near Marquette.....	Idle.....	Charcoal.....	50 tons
Choccolay.....	Lake Superior Iron & Chemical Co.	Harvey.....	Idle.....	Charcoal.....	70 tons
Detroit.....	Detroit Furnace Company	Detroit.....	Idle.....	Coke.....	75 tons
East Jordan.....	East Jordan Furnace Company	East Jordan.....	In blast.....	Charcoal.....	80 tons
Elk Rapids.....	Lake Superior Iron & Chemical Co.	Elk Rapids.....	Idle.....	Charcoal.....	110 tons
Gladstone.....	Pioneer Iron Company	Gladstone.....	In blast.....	Charcoal.....	110 tons
Manistique.....	Lake Superior Iron & Chemical Co.	Manistique.....	Idle.....	Charcoal.....	120 tons
Marquette.....	Pioneer Iron Company	Marquette.....	In blast.....	Charcoal.....	80 tons
Newberry.....	Lake Superior Iron & Chemical Co.	Newberry.....	Idle.....	Charcoal.....	110 tons
Pine Lake.....	Lake Superior Iron & Chemical Co.	Boyer City.....	In blast.....	Charcoal.....	80 tons
Spring Lake.....	Spring Lake Iron Company	Fruitport.....	Idle.....	Charcoal.....	75 tons
Stevenson.....	Stevenson Charcoal Iron Co.	Wells.....	In blast.....	Charcoal.....	80 tons
Zug Island A.....	Detroit Iron & Steel Company	Detroit.....	In blast.....	Coke.....	300 tons
Zug Island B.....	Detroit Iron & Steel Company	Detroit.....	In blast.....	Coke.....	325 tons

MINERAL PRODUCTS OF MICHIGAN.

CEMENT PRODUCERS, 1912.

Operators.	Office.	Works.
Alpena Portland Cement Co.	Alpena.	Alpena.
Huron Portland Cement Co.	1525 Ford Bldg., Detroit.	Alpena.
The Hecla Co.	Penobscot Bldg., Detroit.	Bay City.
Burt Portland Cement Co.	Bellevue.	Bellevue.
Chanute Cement & Clay Product Co.	Bronson.	Bronson.
Peninsular Portland Cement Co.	Cooley Block, Jackson.	Cement City.
Michigan Portland Cement Co.	Chelsea.	Chelsea.
Wolverine Portland Cement Co.	Coldwater.	Coldwater and Quincy.
New Aetna Portland Cement Co.	412 Union Trust Bldg., Detroit.	Fenton.
Egyptian Portland Cement Co.	712 Union Trust Bldg., Detroit.	Fenton.
Logan Portland Cement Co.	Fenton.	Fenton.
Omega Portland Cement Co.	Jonesville.	Mosherville.
Newaygo Portland Cement Co.	Grand Rapids.	Newaygo.
Elk Cement & Lime Co.	Elk Rapids.	Elk Rapids.
Peerless Portland Cement Co.	Union City.	Union City.
Wyandotte Portland Cement Co.	1525 Ford Bldg., Detroit.	Wyandotte.

SALT PRODUCERS, 1912.

Operators.	Office.	Works.
<i>Bay County:</i>		
The Mershon-Bacon Co.	Bay City.	Bay City.
Hine & Co.	Sta. A, Bay City, W. S.	West Bay City.
<i>Isabella County:</i>		
Peter Van Schaack & Sons.	140 Lake Street, Chicago, Ill.	Mt. Pleasant.
<i>Manistee County:</i>		
The R. G. Peters Salt and Lumber Co.	Care of Michigan Trust Co., Receiver, East Lake.	East Lake.
Filer & Sons, Vacuum Pan Salt Works.	Filer City.	Filer City.
The Buckley & Douglass Lumber Co.	381 River St., Manistee.	Manistee.
Manistee Salt Co.	Manistee, (or Chicago, Ill.)	Manistee.
Geo. I. Hicks		
Jas. I. Ennis		
Jos. E. Fitch		
Louis Sands Salt and Lumber Co.	Manistee.	Manistee. (Reitz & River Street Plants.)
<i>Mason County:</i>		
Anchor Salt Co., C. S. Ostrom, Auditor.	Ludington.	Ludington.
The Stearns Salt & Lumber Co.	Wash'n Ave., Ludington.	Ludington.
<i>Midland County:</i>		
The Dow Chemical Co., Hubert H. Dow, G. M. (Also Bromine.)	Midland.	Midland and Mt. Pleasant (Isabella Co.)
<i>Saginaw County:</i>		
Mershon, Eddy, Parker & Co.	Saginaw.	Carrllton.
Bliss & Van Auken.	Saginaw, W. S.	Saginaw.
S. L. Eastman Flooring Co.	Saginaw, W. S.	Saginaw.
Edward Germain.	Holland Ave., near Genesee, Saginaw.	Saginaw.
Saginaw Plate Glass Co., E. F. Ackard, Mgr. (Also Calcium Chloride).	Saginaw, W. S.	Saginaw.
Saginaw Salt Co., Chas. Coryell.	430 Shearer Bldg., Bay City.	St. Charles.
<i>St. Clair County:</i>		
Crystal Flake Salt Co., A. F. Hunger.	Marine City.	Marine City.
Davidson-Wonsey Co.	Marine City.	Marine City.
Michigan Salt Works, S. C. McLouth, Sec.-Treas.	Marine City.	Marine City.
Port Huron Salt Co., Sterling Morton.	717 Ry. Exchange, Chicago, Ill., Port Huron.	Port Huron and St. Clair.
Diamond Crystal Salt Co., V. N. Whitney.	St. Clair.	St. Clair.
Walton Salt Works.	720 Hammond Bldg. Detroit.	(Mich. M. I.)
<i>Wayne County:</i>		
Delray Salt Co., A. A. Nelson, Mgr.	Detroit.	Delray.
Solvay Process Co.	Syracuse, N. Y.	Delray.
Detroit Salt Co.	406 Moffat Bldg, Detroit.	Detroit.
Mulkey Salt Co.	Detroit.	Detroit.
Peninsular Salt Co.	Ecorse.	Ecorse.
Worcester Salt Co.	168 Duane St., New York City.	Ecorse.
Michigan Alkali Co., Jno. M. Griffith, Aud'r.	Wyandotte.	Wyandotte.
Morton Salt Co.	Wyandotte.	Wyandotte.
Pennsylvania Salt Mfg. Co.	115 Chestnut St., Philadelphia, Pa.	Wyandotte.

BRICK AND TILE MANUFACTURERS, 1912.

Operators.	Office.	Works.
<i>Alger County:</i> Nathaniel Lobb	Munising	Hallston.
<i>Allegan County:</i> Allegan Brick Works, Fidus E. Fish & Son Props. L. Y. Cady	Allegan	Allegan.
Zeeland Brick Co.	289 Thomas St., Allegan. Zeeland	Allegan. Hamilton (also in Barry, Kalamazoo and Ottawa Cos.)
<i>Alpena County:</i> Richard Collins	151 Water St., Alpena....	Alpena.
Michigan Enameled Brick & Tile Co.	Alpena, Mich.	Alpena.
<i>Arenac County:</i> Michigan Paving Brick Co., J. S. Deitrich, Sec.	Saginaw	Omer.
M. K. Perlberg	Standish	Standish.
Cook Brick & Tile Co., S. B. Cook, Mgr.	Harrisville	Twining.
<i>Barry County:</i> Zeeland Brick Co.	Zeeland	Cloverdale, also in Allegan Kalamazoo & Ottawa Cos.
Wm. Leonard	Delton	Delton.
<i>Bay County:</i> Michigan Vitrified Brick Co.	Bay City	Bay City.
<i>Berrien County:</i> Benton Harbor Brick & Tile	Benton Harbor	Benton Harbor.
<i>Branch County:</i> Lorenzo D. Reynolds & Son	Quincy	Algansee.
<i>Charlevoix County:</i> Boyne City Brick Co., W. S. Shaw, Prop.	Boyne City	Boyne City.
Northern Brick Co., Inc., L. A. Moon, Sec.	Boyne Falls	Boyne Falls.
Price Brick Co., Harry S. Price, Prop.	East Jordan	East Jordan.
<i>Chippewa County:</i> Rudyard Brick Works, Thornton Bros. Brick Co.	Rudyard	Rudyard.
<i>Clinton County:</i> C. F. Pulfrey	St. Johns	St. Johns.
<i>Dickinson County:</i> Vulcan Brick Works, W. J. Turner, Prop.	Vulcan	Vulcan.
<i>Eaton County:</i> American Sewer Pipe Co.	Broad St., Akron, Ohio....	Grand Ledge.
Grand Ledge Clay Product Co.	Grand Ledge	Grand Ledge.
<i>Emmet County:</i> C. A. De Arment	Petoskey	Petoskey.
<i>Genesee County:</i> Gale Bros.	Atlas	Atlas.
Thomas Oliff	Clio	Clio.
Uptegraff Bros. & Co.	Davison	Davison.
Duffield Brick & Tile Wks., John J. Middlesworth, Prop.	Duffield	Duffield.
Haas & McCann, Fredk. W. McCann.	Gaines	Gaines.
Brick & Drain Tile Co.	Grand Blanc	Grand Blanc.
Otter Lake Brick & Tile Co., Stewart & Kerby Frank Sharp	Otter Lake	Otter Lake.
	R. D. No. 1, Linden	South Mundy.
<i>Gladwin County:</i> Christ Korkoske	Gladwin	Gladwin.
<i>Grand Traverse County:</i> Traverse City Brick Co.	Traverse City	Keystone.

BRICK AND TILE MANUFACTURERS, 1912.—Continued.

Operators.	Office.	Works.
<i>Gratiot County:</i> Ashley Tile Co., Wm. Fichtehebiner	Ithaca	Ashley.
David Stevenson & Sons	Ashley	Ashley.
Ithaca Brick & Tile Yards, Redman & Thomas, Props.	Ithaca	Ithaca.
Batroff & Snyder	Ithaca	North Star.
C. D. Peet	North Star	North Star.
W. H. H. Smith & Son	St. Louis	St. Louis.
Riverside Brick & Tile Co., R. E. Duffield Bros.	Sumner	Sumner.
<i>Hillsdale County:</i> Lee Wade	Jerome	Jerome.
J. B. Keiser & Son	Prattville	Prattville.
Conley & Gish	Waldron	Waldron.
<i>Huron County:</i> Wyers & O'Connell	Ubyly	Ubyly.
John Lecht	Warren	Elkton.
Ernst Reinhold	Sebewaing	Sebewaing.
<i>Ingham County:</i> Clippert, Spaulding & Co.	Michigan Ave., Lansing ..	Lansing.
<i>Ionia County:</i> Albert Brown	Saranac	Saranac.
Fred H. Van Der Heyden	Ionia	Ionia.
<i>Isabella County:</i> Kane Bros.	Mt. Pleasant	Mt. Pleasant.
T. Thompson & Son, W. J. Thompson	Mt. Pleasant	Mt. Pleasant.
<i>Jackson County:</i> American Sewer Pipe Co.	Broad St., Akron, Ohio....	Jackson, also in Eaton Co., and in Ind., Ohio, Pa. and W. Va.
Nathan F. Simpson, Warden, Michigan State Prison	Jackson	Jackson.
<i>Kalamazoo County:</i> Zeeland Brick Co.	Zeeland	Brownell also in Ottawa, Barry and Allegan Cos.
Manager, Brick Works	Williams	Williams.
<i>Kent County:</i> Grand Rapids Brick Co., W. J. Clark, Secy.	Michigan Ave & Fuller St. Grand Rapids	Grand Rapids.
Sparta Clay Works, H. B. Fox, Prop.	Sparta	Sparta.
<i>Leelanau County:</i> James W. Markham	Traverse City, R. F. D. 5..	Traverse City.
<i>Lenawee County:</i> Laurenson & Saunders	Addison	Addison.
B. O. Newell	Jackson	Addison Junc.
C. H. Wilt	Blissfield	Blissfield.
Britton Pressed Brick Co.	216 E. Washington St. Ann Arbor	Britton.
Wm. T. Atkin	Deerfield	Deerfield.
Jasper Brick & Tile Co., B. F. Woodford & Son, Props.	Jasper	Jasper.
G. D. Ellis	Macon	Macon.
American Brick & Tile Co., Edward D. Clark, Pres.	Morenci	Morenci.
Morenci Brick & Tile Wks., L. V. Lee, Prop.	Morenci	Morenci.
Saxton Brick & Tile Wks., J. S. Saxton & Son, Props.	Blissfield, R. D. No. 2...	Riga.
Albert A. Confort	Tecumseh, R. D.	Tecumseh.
<i>Mackinac County:</i> Northern Michigan Brick & Tile Co.	St. Ignace	Reavie.

BRICK AND TILE MANUFACTURERS, 1912.—Continued.

Operators.	Office.	Works.
<i>Macomb County:</i>		
Jacob Hartsig	Warren	Centerline.
Frank G. Hacker	Mt. Clemens	Clinton.
East Gass	Washington, R. D. No. 2	Davis.
Mt. Clemens Brick & Tile Co.,		
Fred B. Schott, Pres.	Mt. Clemens	Mt. Clemens.
Warren Brick & Tile Works, Schulte, Hennes & Evans, Props., C. O. Evans, Mgr.	Warren (or Detroit)	Warren.
<i>Manistee County:</i>		
Joseph Kujawski	Oakhill (or Filer City)	Oakhill.
<i>Marquette County:</i>		
Shaw Brick Works, George W. Shaw, Prop.	Marquette	Shaw.
<i>Mason County:</i>		
A. A. Keiser	105 Ludington Ave., Ludington	Ludington.
<i>Mecosta County:</i>		
Win. F. Nehmer	Milton Ave., Big Rapids	Big Rapids.
<i>Midland County:</i>		
Midland Brick & Tile Co., Olmstead & Ryal, Props.	Midland	Midland.
<i>Missaukee County:</i>		
J. A. Smith	Cadillac	McBain.
<i>Monroe County:</i>		
Meyers Bros.	Azalia	Azalia.
Linenfelter Brick & Tile Co., Fred Linenfelter	Maybee	Maybee.
John Strong & Son	South Rockwood	South Rockwood
Gerhard Rehn	Strasburg	Strasburg.
<i>Muskegon County:</i>		
Holton Brick Co., P. J. Connell, Pres.	Muskegon	Holton.
E. M. Ruggles	Whitehall	Whitehall.
<i>Newaygo County:</i>		
Schrier & Klooster	Grant, R. D.	Grant.
<i>Oceana County:</i>		
Walkerville Brick & Tile Co., Alton J. Walker, Prop.	Walkerville	Walkerville.
<i>Ottawa County:</i>		
Zeeland Brick Co.	Zeeland	Zeeland, also in Allegan, Barry, and Kalamazoo Cos.
<i>Saginaw County:</i>		
Parker-Lehmann Brick & Tile Co.	Saginaw, W. S., R. D. 10	Paines.
Mrs. Peter Robie	Saginaw, W. S., R. D. 10	Paines.
Sperry Bros., Chas. E. Sperry	Paines, via Saginaw, W. S.	Paines.
James Day	Saginaw, R. D. 8	Saginaw.
Thomas Day	Saginaw, R. D. 3	Saginaw.
Saginaw Paving Brick Co., John H. Qualman, Mgr.	1850 S. Jefferson St., Saginaw, E. S.	Saginaw.
<i>St. Clair County:</i>		
Frederick A. Beard	Atkins, R. D. 2	Ruby.
Belknap & Phillips	Bell River Road, St. Clair	St. Clair.
<i>Sanilac County:</i>		
John Large	Brown City	Brown City.
Croswell Brick Co.	Croswell	Croswell.
Minden City Brick & Tile Works, A. H. Jones, Prop.	Minden City	Minden City.
Dawson & Bissett	Sandusky	Sandusky.

BRICK AND TILE MANUFACTURERS, 1912.—Concluded.

Operators.	Office.	Works.
<i>Shiawassee County:</i>		
Detroit Vitrified Brick Co., J. P. Kaiser, Mgr.	Box 289, Corunna	Corunna.
M. L. Parker	822 S. Cedar St., Owosso	Owosso.
Reliance Motor Truck Co.	Owosso	Owosso.
<i>Tuscola County:</i>		
Charles Hall	Cass City	Cass City.
John Thompson & Son	Tuscola	Tuscola.
<i>Van Buren County:</i>		
James Stewart	Bangor, R. D. 2	Bangor.
Hartford Drain Tile Co., L. P. Walker, Prop.	Hartford	Hartford.
<i>Wayne County:</i>		
Henry Ford, Lessee of A. Wagner property	1254 Dix Ave., Detroit	Dearborn.
Burke Bros.	2296 Michigan Ave., Detroit	Detroit.
Jacob Daniel & Bros., Brick Co.	1955 Michigan Ave., Detroit	Detroit.
John S. Haggerty	312 Hammond Bldg., Detroit	Detroit.
John C. McDonald & Son	15 McGraw Bldg., Detroit	Springwells.
Schneider Brick Co.	605 Dix Ave, Detroit	Detroit.
Wolf & Del.	40 29th St., Detroit	Detroit.
Bunte Bros.	Flat Rock	Flat Rock.
Beardslee Bros.	Redford	Redford.
Geo. H. Clippert & Bros. Brick Co.	1960 Mich. Ave., Detroit	Springwells.
Wm. Clippert	1950 Mich. Ave., Detroit	Springwells.
Combination Brick Co., Frank A. Rasch, Sec.	1427 Majestic Bldg., Detroit	Springwells.
Detroit Roofing Tile Co., August Hecht, Treas.	304 Bamlet Bldg., Springwells, Detroit	Springwells.
Michael Downey	699 Campbell Ave., Detroit	Springwells.
Lonyo Brick Co.	Michigan Ave. & Lonyo Road, Detroit	Springwells.
Lonyo Bros.	Michigan Ave., Springwells, Detroit	Springwells.
Porath Bros.	301 Penobscot Bldg., Detroit	Springwells.
Sass Bros. & Steue	32 29th St., Detroit	Springwells.
Springwells Brick Co., W. T. Walker, Mgr.	1009 Hammond Bldg., Detroit	Springwells.
Walker & Frank Brick Co., Props.	Detroit	Springwells.
F. H. Wolf Brick Co.	1467 Central Ave., Detroit	Springwells.
John M. Welch	303 Hammond Bldg., Detroit	Ford City.
<i>Washtenaw County:</i>		
Cadillac Brick Co., Wilcox Bros.	Cadillac	Cadillac.
Estate of Robt. Wilson	Cadillac	Harriette.
Vosburg, Stanley & Cornwell	Cadillac	Cadillac.

MICHIGAN COAL

Operator.	Office.	Mine.
<i>Bay County:</i>		
Central Coal Mining Co. (Consol'd Coal Co.)	Saginaw	Central
Handy Bros. Mining Co.	Bay City, W. S.	Monitor
Michigan Vitrified Brick Co.	Bay City, W. S.	
Republic Coal Co. (Robt. Gage Coal Co.)	Bay City, E. S.	Beaver
Robert Gage Coal Co.	Bay City, E. S.	Robt. Gage No. 5
Robert Gage Coal Co.	Bay City, E. S.	Robt. Gage No. 6
Robert Gage Coal Co.	Bay City, E. S.	Black Diamond or Robt. Gage No. 7
Royal Coal Co.	Bay City, W. S.	Royal
United City Coal Co. (Consol'd Coal Co.)	Saginaw	United City
What Cheer Coal Co.	Bay City	What Cheer
Wolverine Coal Co., (Consolidated Coal Co.)	Saginaw	Wolverine No. 2
Wolverine Coal Co., (Consolidated Coal Co.)	Saginaw	Wolverine No. 3
<i>Calhoun County:</i>		
*Jackson Coal Co.	Albion	
<i>Eaton County:</i>		
H. D. Pickens	Grand Ledge	Pickens
M. D. Sattler	Grand Ledge	Sattler
Eben Wright	Grand Ledge	Wright
<i>Genesee County:</i>		
Genesee Coal Co.	Flint	Genesee No. 1
Genesee Coal Co.	Flint	Genesee No. 2
What Cheer Coal Co.	Bay City	What Cheer No. 2
<i>Ingham County:</i>		
Cedar River Coal Co.	Williamston	Cedar River
<i>Saginaw County:</i>		
Banner Coal Co.	Swan Creek	Banner
Bliss Coal Co.	Swan Creek	Swan Creek
Buena Vista Coal Co.	Saginaw	Buena Vista
Caledonia Coal Mining Co.	Saginaw	Caledonia No. 2
Caledonia Coal Mining Co.	Saginaw	Caledonia No. 3
Carbon Coal Co.	Saginaw	Verne or Carbon
‡Consolidated Coal Co.	Saginaw	Chappel & Fordney No. 2
‡Consolidated Coal Co.	Saginaw	P. Marquette No. 3
Jimtown Coal Co. (Consolidated Coal Co.)	Saginaw	"Jimt'n" or Northern
Riverside Coal Co., (Consolidated Coal Co.)	Saginaw	Riverside No. 1
‡Riverside Coal Co., (Consolidated Coal Co.)	Saginaw	Riverside No. 2
Robt. Gage Coal Co.	Bay City	No. 2 (Old)
Robt. Gage Coal Co.	Bay City	No. 2 (New)
Robt. Gage Coal Co.	Bay City	No. 3
Saginaw Coal Co., (Consolidated Coal Co.)	Saginaw	Saginaw Old Mine
Shiawassee Coal Co., (Consolidated Coal Co.)	Saginaw	Shiawassee
Uncle Henry Coal Co., (Consolidated Coal Co.)	Saginaw	Uncle Henry
<i>Shiawassee County:</i>		
Corunna Union Coal Co.	Corunna	Union Mine
Detroit Vitrified Brick Co.	Detroit	Peak
Nond-Kean Coal Mining Co.		
<i>Tuscola County:</i>		
Handy Bros. Mining Co.	Bay City, W. S.	Akron

*Shaft not yet completed.
‡Not yet in operation.

MINES IN 1912.

Location.	General Manager.	Superintendent.	Remarks.
Bay City, W. S.	R. M. Randall	Jno. Weaver	Abandoned.
Monitor Twp., S. W. ¼, N. W. ¼, Sec. 22.	T. L. Handy	James Love	
Frankenlust Twp., N. E. ¼, Sec. 1.	J. Barnett		Drowned by high w'r.
Frankenlust Twp., N. W. ¼, S. E. ¼, Sec. 2.	Chas. Coryell	Wm. Jones	
Monitor Twp., S. W. ¼, N. E. ¼, Sec. 19.	Chas. Coryell	H. Lewis	
Monitor Twp., S. W. ¼, S. E. ¼, Sec. 18.	Chas. Coryell	A. Dorran	
Monitor Twp., N. E. ¼, S. E. ¼, Sec. 30.	Chas. Coryell	Thos. Thompson.	
Bay City, W. S.	Jos. Bierd	J. Calhoun	
Bay City, W. S.	R. M. Randall	Geo. Woodhead	Abandoned.
Merritt Twp., Sec. 30.	E. B. Foss	Wm. Thompson.	
Monitor Twp., S. W. ¼, S. E. ¼, Sec. 17.	R. M. Randall	A. McElwain.	
Williams Twp., S. E. ¼, N. E. ¼, Sec. 12.	R. M. Randall	Wm. Williams.	
Four and half miles E. of Albion	C. W. Selbers	Irving Jenkins.	
Grand Ledge	H. D. Pickens.		
Grand Ledge	M. D. Sattler.		
Grand Ledge	E. Wright.		
Flint	DeVere Hall		Abandoned.
Flint	DeVere Hall		Idle.
Flint	E. B. Foss	A. Jefferies	Shaft not completed.
Williamston	T. M. Jenkins.		
James Twp., N. E. ¼, S. W. ¼, Sec. 12	W. B. Carmichael		Drowned by high water.
James Twp., S. E. ¼, S. W. ¼, Sec. 11.	C. E. Linton	Jno. Phillips	Abandoned.
Buena Vista Twp., S. W. ¼, Sec. 31.	Arthur Hun	Jno. Harris	Drowned.
Saginaw Twp., N. W. ¼, S. E. ¼, Sec. 22.	John Dagan.		
Saginaw Twp., S. E. ¼, Sec. 21	John Dagan.		
	E. Savage.		
Saginaw, E. S.	R. M. Randall		
Saginaw Twp., S. E. ¼, N. E. ¼, Sec. 33.	R. M. Randall	Jno. Snowball.	
James Twp., S. W. ¼, N. E. ¼, Sec. 7	R. M. Randall	Tim Hollis.	
James Twp., S. W. ¼, N. E. ¼, Sec. 4	R. M. Randall	Geo. Nyehouse.	
Saginaw, W. S., N. E. ¼, N. E. ¼, Sec. 3.	R. M. Randall	Geo. Nyehouse.	
St. Charles Twp., N. E. ¼, N. E. ¼, Sec. 17.	Chas. Coryell	Richard Jenkins.	
St. Charles Twp., N. E. ¼, S. W. ¼, Sec. 9.	Chas. Coryell	Richard Jenkins.	
St. Charles Twp., S. E. ¼, N. W. ¼, Sec. 17.	Chas. Coryell	Henry Donse.	
Buena Vista Twp., N. E. ¼, Sec. 31.	R. M. Randall	Robt. Johnson.	
James Twp., S. E. ¼, S. W. ¼, Sec. 8.	R. M. Randall	Thos. Westwood.	
Blumfield Twp., N. W. ¼, Sec. 18.	R. M. Randall	John Snowball.	
Corunna	W. F. Striggon.		
Corunna	F. Schmidt	J. J. Johnson.	
Owosso	J. J. Kean	John Edwards.	
Fairgrove Twp., N. W. ¼, N. W. ¼	T. L. Handy	D. Morris.	

COKE PRODUCERS, 1912.

Operators.	Address.	Location or name of mine.	No. of oven.	County.
Michigan Alkali Co.....	Wyandotte.....	Plant No. 2....	U. O. 30.....	Wayne.
Semet-Solvay Co.....	Syracuse, N. Y.....	Detroit.....	S. S. 132....	Wayne.

LIMESTONE PRODUCERS, 1912.

Operators.	Office.	Quarry.
<i>Alpena County:</i>		
R. Collins, (also lime).....	151 Water St., Alpena....	Alpena.
Illinois Steel Co.....	72 W. Adams St., Chicago, Illinois.....	Alpena.
Michigan Alkali Co.....	Wyandotte (or Detroit)....	Alpena.
<i>Arenac County:</i>		
M. J. Griffin.....	169 Stanton Ave., Detroit.....	Alpena.
Jas. McDonald, (also lime).....	Twining.....	Twining.
<i>Bay County:</i>		
Boutell Bros. & Co., (also lime).....	1201 Water St., Bay City	Bay City.
<i>Charlevoix County:</i>		
Elk Cement & Lime Co., E. M. Sly, Sec., (also lime).....	Elk Rapids.....	Bayshore.
Northern Lime Co., (also lime).....	Grand Rapids.....	Bayshore.
Superior Lime Co., (also lime).....	2 First Ave., Gd. Rapids.	Bayshore.
Charlevoix Rock Product Co., (also lime).....	Charlevoix.....	Charlevoix.
City of Charlevoix Street Commissioner.....	Charlevoix.....	Charlevoix.
<i>Cheboygan County:</i>		
Campbell Stone Co., (also lime).....	Afton.....	Afton.
<i>Chippewa County:</i>		
Drummond Island Stone Co., Ludlow Seaman.....	Drummond.....	Drummond.
<i>Delta County:</i>		
Delta Contracting Co.....	108 N. Charlotte St., Escanaba.....	Escanaba (Hyde).
Escanaba Stone & Gravel Co.....	917 Ludington St., Escanaba.....	Escanaba (Groos.)
A. T. Garland.....	Escanaba.....	Escanaba (Hyde.)
John Bichler.....	Groos.....	Groos (Escanaba.)
<i>Emmet County:</i>		
Antrim Lime Co.....	912 Mich. Trust Bldg., Grand Rapids.....	Petoskey.
Michigan Lime Co., (also lime).....	Petoskey.....	Petoskey.
Petoskey Crushed Stone Co.....	Petoskey.....	Petoskey.
The Petoskey Stone and Lime Co., L. G. Grimes, (also lime).....	1220 Emmet St., Petoskey.....	Petoskey.
<i>Huron County:</i>		
Wallace Stone Co.....	Bayport.....	Bayport.
<i>Jackson County:</i>		
Jackson Stone Co.....	Jackson.....	Jackson.
<i>Mackinac County:</i>		
Ozark Stone Quarry, E. W. Hough, Mgr.....	Ozark.....	Ozark, (operated by Ozark Qy. Co. for a time only.)
Union Carbide Co., (also lime).....	79 Wall St., New York, N. Y.....	Rexton.
S. P. Martin Co.....	Fiborn Quarry.....	Fiborn Quarry.
<i>Marquette County:</i>		
F. B. Spear & Sons.....	Marquette.....	Marquette.

LIMESTONE PRODUCERS, 1912.—Concluded.

Operators.	Office.	Works.
<i>Menominee County:</i>		
Menominee Stone Crusher, Robert Rick, Prop.....	2401 Broadway, Menominee.....	Menominee.
<i>Monroe County:</i>		
B. E. Bullock.....	433 Delaware Ave., Toledo, Ohio.....	Dundee.
Shore Line Stone Co., Thornton Dixon, Pres. Chas. Augerer, Jr.....	Monroe..... R. F., Maybee.....	Frenchtown. Maybee (near Shofield)
John Horing.....	Monroe.....	Monroe.
Monroe Stone Co., Fred C. Wagner, Sec.....	12 Washington St.....	Monroe.
Sam W. Morris.....	Monroe.....	Monroe.
Newport Stone Co.....	12 Woodward Ave, Detroit.....	Newport.
W. M. Strouse.....	Ottawa Lake.....	Ottawa Lake.
R. H. Nogar.....	Samaria.....	Samaria.
Morris Cummins.....	R. F. D. 1, Samaria.....	Temperance.
<i>Oakland County:</i>		
The Henry Meridian Co., (cobblestones), W. O. Smith, Mgr.....	616 Moffat Bldg., Detroit.....	Clarkston.
<i>Presque Isle County:</i>		
Michigan Limestone & Chem. Co.....	55 Liberty St., New York, N. Y.....	Calcite.
Onaway Limestone Co.....	Onaway.....	Onaway.
<i>Schoolcraft County:</i>		
The White Marble Lime Co.....	Manistique.....	Blaney (no lime here.)
The White Marble Lime Co., (also lime).....	Manistique.....	Manistique.
The White Marble Lime Co., (also lime).....	Manistique.....	Marblehead.
<i>Wayne County:</i>		
Gibraltar Quarry Co.....	80 Griswold St., Detroit..	Gibraltar.
Solvay Process Co., (also lime).....	Syracuse, N. Y.....	Trenton and Sibley.
Dunbar Stone Co.....	Detroit.....	Quarry (?) mouth of Detroit River (Quarry for Gov. work.) (Stone is dredged.)

LIST OF SAND AND GRAVEL PRODUCERS OF MICHIGAN.

Alcona County:

Curtis Township—
Lilly, Samuel, Glennie P. O., Michigan.
Paul, Allen, Glennie P. O., Michigan.

Gustin Township—
Township Pits.

Harrisville Township—
Barlow, Jno., Harrisville, Michigan.
Campbell, Archie, Harrisville, Michigan.
Elmer, Frank, Harrisville, Michigan.
Holmes, George, Harrisville, Michigan.

Alger County:

Limestone Township—
The C. C. I. & Co., Negaunee, Michigan.
The N. W. C. & L. Co., Gladstone, Michigan.

Mathias Township—
North, W., Cooperage Co., Gladstone, Michigan.
Williams, W. V., Winters, Michigan.

Onato Township—
Alanko, Herman (?)
C. C. I. Co., (?)
Hongisto, V. (?)
Peter White Co. (?)
Schaffer, C. H. (?)

Allegan County:

(?) Township—
Barrett, Wm., Dunningville, Michigan.
Kouliak, John, Allegan, Michigan.
Peet, A., Allegan, R. F. D. No. 8, Mich.
Stratum, John N., R. F. D., No. 8, Mich.

Casco Township—
Fry, W. G., South Haven, Michigan.
L. L. Otis, Kibbie, Michigan.

Dorr Township—
Troutman, Ray, Moline, Michigan.
Weber, George, Dor, Michigan.

Fillmore Township—
Kooyker, G. G., Hamilton, R. F. D. No. 2, Mich.
Schoop, Otto G., Holland, R. F. D. No. 7, Michigan.

Ganges Township—
Davis, C. N., Fennville, R. F. D. No. 1, care of E. H. Atwater, Mich.
Spanknebell, (?) Fennville, R. F. D. No. 1, Mich.

Gun Plain Township—
Anson, Floyd, Plainwell, R. F. D., Mich.
Myers Bros., Plainwell, R. F. D., Mich.
Roberts, Frank, Plainwell, R. F. D., Mich.
Sperry, L. D., Doster, R. F. D., Mich.
Stamp, A. J., Plainwell, R. F. D., Mich.
Wilroth, Sarah, Doster, R. F. D., Mich.

Heath Township—
Brower, Ed., Dunningville, Mich.
Alderink, Joe, Hamilton, Mich.
Tera Vest, John, Hamilton, Mich.
Terpstra, Geo., Dunningville, Mich.

Laketown Township—
Knoll, John, Holland, R. F. D. No. 1, Mich.

Manlius Township—
Kool, Henry, New Richmond, Mich.

Martin Township—
Anderson Est., Arthur, Martin, Mich.
Anderson, Fannie, Martin, Mich.
Carpenter, A. B., Martin, Mich.
Larraway, D. F., Martin, Mich.
McLoud, G., Martin, Mich.
McVean, Millard, Martin, Mich.
Wheeler, Mrs. J. C., Martin, Mich.

Salem Township—
Buege, Norm, Dorr Center, R. F. D. No. 2, Mich.
Sutter, Fred Wm., Byron Center, R. F. D. No. 62, Mich.
Wiest, Peter, Dorr Center, R. F. D. No. 2, Mich.

Wayland Township—
Dean, Mrs. John, Shelbyville, Mich.
Swartz, John Bradley, Mich.

Alpena County:

Alpena Township—
Riley & Monkman, 501 State St., Alpena, Michigan.

Antrim County:

Banks Township—
Elzinga, Martin, Central Lake, Mich.
Wilson, Emanuel, Ellsworth, Mich.

Central Lake Township—
Sand, F. E., Sirron, Central Lake, Mich.
Smith, John C., Central Lake, Mich.

Custer Township—
Township Pits.

Elk Rapids Township—
Township Pits.

Forest Home Township—
Candall, F. S., Bellaire, R. F. D. No. 1, Mich.
May, Wm., Bellaire, R. F. D. No. 2, Mich.
New, C. O., Bellaire, R. F. D. No. 1, Mich.
Powell, B. J., Bellaire, R. F. D. No. 2, Mich.
Stiner, Jake, Bellaire, R. F. D. No. 1, Mich.

Kearney Township—
Hilton, Robert, Bellaire, Mich.
Waurpel, A., Bellaire, Mich.

Mancelona Township—
Antrim Iron Co., Mancelona, Mich.
Austin, S., Mancelona, Mich.
Campbell, W., Mancelona, Mich.
Foot, D. A., Mancelona, Mich.
Grody, E., Mancelona, Mich.
Hardesty, S., Mancelona, Mich.
Swan, Guy, Mancelona, Mich.

Torch Lake Township—
Glazier, Geo., Central Lake, R. F. D. No. 1, Mich.
Guth, F. W., East Port, Mich.
Clark, Hiram, Central Lake, R. F. D. No. 1, Mich.
Harvey, M. L., East Port, Mich.
McPherson, Guy, East Port, Mich.
Page, H. R., Jaxon, Mich.
Russell, John, East Port, Mich.

Arenac County:

Adams Township—
Nizner, Carl, Standish, R. F. D. No. 2, Mich.
Wells, H., Standish, R. F. D. No. 2, Mich.

Au Gres Township—
No gravel in township.

Clayton Township—
Daniels, Wm., Sterling, R. F. D. No. 1, Mich.
Lasure, Frank, Sterling, R. F. D. No. 1, Mich.

Mason Township—
Deitzel, Henry, Twining, R. F. D. No. 2, Mich.
Lagman, (?), Twining, R. F. D. No. 2, Mich.
Peffit, Frank, Twining, R. F. D. No. 1, Mich.
Squires, Joe, Turner, Mich.

Moffatt Township—
Merrick, Mrs. Jannie, Alger, Mich.

Turner Township—
Rodgers, Sidney, Twining, Mich.

Baraga County:

Marshall Butters Lumber Co., L'Anse, Mich. (Arvon T.)
Loosemore, George, Skanee, Mich.

Baraga Township—
Wolmer, Charles, Baraga, Mich.

Covington Township—
Township Pits.
Keskinen, John, Covington, Mich.

Spurr Township—
Michigan Land & Iron Co., Marquette, Mich.
Sheldon & Duglass, Houghton, Mich.

Barry County:

Assyria Township—
Miller, Arthur J., Nashville, R. F. D. No. 4, Mich.
Palmiter, S. J., Bellevue, R. F. D. No. 4, Mich.
Tuckerman, Charlie, Bellevue, R. F. D. No. 3, Mich.
Vonnocken, E., Bellevue, R. F. D. No. 6, Mich.

Baltimore Township—
Aultman, Otis, Hastings, R. F. D. No. 4, Mich.
Hokomb, Mrs. Adelia, Hastings, R. F. D. No. 6, Mich.

Barry Township—
Letts, W., Delton, Mich.
Lichtnitener, Charlie, Delton, Mich.

Carlton Township—
Lancaster, J., Hastings, Mich.
Woolston, Mr., Hastings, Mich.

Hastings Township—
Andrews, Wm., Hastings, Mich.
McIntosh, Scot, Quinby, Mich.
Schanty, Wm., Hastings, Mich.

Hope Township—
Osgood, Mr. Ira, Cloverdale, R. F. D., Mich.
Owens, Mr. Art, Delton, R. F. D. No. 3, Mich.

Thornapple Township—
Campbell, Scott, Middleville, Mich.
Cleuer, Lloyd, Middleville, Mich.
Davis, George (Sr.), Middleville, Mich.
Finkbeiner, Geo., Middleville, Mich.
Hoyt, Mrs. M. A., Middleville, Mich.
Harpter, Wm., Middleville, Mich.
Stokoe, Fred, Middleville, Mich.

Woodland Township—
Jordon, Dayton, Woodland, Mich.
Jordon, Bernie, Woodland, Mich.
Hitt, Geo., Woodland, Mich.
King, Allen, Woodland, Mich.
Smith, J. H. M., Woodland, Mich.
Welch, Edd., Woodland, Mich.

Yankee Springs Township—
Headley, A., Mayland, R. F. D., No. 2, Mich.
Park, Bennie, Middleville, R. F. D. No. 4, Mich.

Bay County:

Bangor Township—
Hayward, R., R. F. D. No. 3, Bay City, Michigan.

Frankenlust Township—
No sand or gravel in township.

Monitor Township—
Gillman, A. (?)
Beard, W. (?)
Lemkey, H. (?)

Mt. Forest Township—
No sand or gravel in township.

Pinconning Township—
No sand or gravel in township.

Benzie County:

Almira Township—
Schneider, Adam, Lake Ann, Mich.
Wilson, Fred, Lake Ann, Mich.

Colfax Township—
Dwyer, Sarah, Nesen City, Mich.
Sebens, H. B., Nesen City, Mich.

Hammer, Herb, Thompsonville, Mich.
Hively, Chas., Thompsonville, Mich.
Hyde, Partley, Nesen City, Mich.
Kochendefter, Wm., Thompsonville, Mich.

Gilmore Township—
No sand or gravel in township.

Inland Township—
Huddleston, Wm., Bendon, R. F. D. No. 2, Mich.
McCwaig, F. D., Bendon, R. F. D. No. 2, Mich.

Joyfield Township—
Davis, W. O., Benzonia, R. F. D. No. 1, Mich.
Rice, J. R., Benzonia, R. F. D. No. 1, Mich.

Platte Township—
Baxter, J. P., Manistee, Mich.
Davey, Fred, Manistee, Mich.
Oleary, Wm., Honor, R. F. D. No. 1, Mich.
Wilce Co., T., Empire, Mich.

Weldon Township—
Ben Newhall & Company, Thompsonville, Mich.

Berrien County:

Bainbridge Township—
Farington, Mrs. George, Watervliet, R. F. D. No. 3, Mich.
Petters, Henry, Watervliet, R. F. D. No. 3, Mich.

Benton Township
Lull, H., Benton Harbor, R. F. D. No. 2, Mich.

Benton and St. Joseph Township—
Benton Harbor Sand Co., Benton Harbor, Mich.
Squire Co., Ed. E., 1520 Bank of Com. Bldg., St. Louis, Mo.

Berrien Township—
Bedford, J. W. (?)
Hochbergen, L. (?)
Irland, Frank (?)
Whittman, (?) (?)

Bertrand Township—
Leiter, Elmer, Buchanan, Mich.
Womer, W. A., Niles, Mich.

Buchanan Township—
Bishop, Chas., Buchanan, Mich.
Hess, Geo., Buchanan, Mich.
Spaulding, Clarence, Buchanan, Mich.

Chickaming Township—
Chickaming Township Pits, Sawyer, Mich.
Wire, R. L., Lake Side, Michigan.

Lincoln Township—
No sand and gravel pits in township.

Niles Township—
Young Brothers, Niles, Michigan.
Decher, H. P., Niles, Michigan.
Franz, Fred, Niles, Mich.
Roth, John R., Niles, Michigan.
Winn, George, Niles, Mich.

Pipestone Township—
Gilbert, Will, Dowagiac, Mich.
Olney, Ed., Eau Claire, Mich.

St. Joseph Township—
Kerlikowske Bros., St. Joseph, Michigan.

Three Oaks Township—
Sawin, Benj., Three Oaks, Mich.
Warren, C. K., Three Oaks, Mich.

Branch County:

Bethel Township—
Bates, Bert G., Coldwater, Michigan.
Hoyt, Moses, Coldwater, Michigan.

California Township—
Bates, Edwin, Ray, Ind.
Broughton, Lester, Montgomery, Mich.
Ford, Earl, Ray, Ind.
Speer, David, Ray, Ind.

Coldwater Township—

Fredericks, W. H. (?)
 Gifford, Earl (?)
 Haynes, Levi (?)
 Kyte, Oscar (?)
 Sherman, Filbert (?)

Girard Township—

Kingston, Lyman, Union City, R. F. D. No. 5, Mich.
 Girard Twp. Pits, Coldwater, Mich.
 Reed, Chas., Coldwater, R. F. D. No. 9, Mich.
 Wye, I. L., Coldwater, R. F. D. No. 7, Mich.

Matteron Township—

Birch, Wm., Union City, Mich.
 Werner, Jake, Bronson, Michigan.

Ovid Township—

Davis, Ed., Coldwater, Mich.
 Quinby, G. F., Coldwater, Mich.

*Branch County:**Sherwood Township—*

Sargent, E. L., Sherwood, Mich.
 Spencer, G. M., Sherwood, Mich.

Union Township—

Brown, Vern, Union City, Mich.
 Strong, Geo., Union City, Mich.
 Thatcher, Mrs. C. M., Union City, Mich.
 Whitcomb, L. S., Union City, Mich.

*Calhoun County:**Athens Township—*

Blowers, N. A., Athens, Mich.
 Marrow, O. G., Athens, Mich.

Battle Creek Township—

Adams, Jasper Battle Creek, Mich.
 Adrian, John, 323 Hamblin Ave., Battle Creek, Mich.
 Baltz, Geo. D., 209 Kendall St., Battle Creek, Mich.
 Cowles, R. B., Battle Creek, Mich.
 Crystal Sand & Gravel Co., Battle Creek, Mich.
 Fish, E. I., 15 Grove St., Battle Creek, Mich.
 Hiscock, Seth, Battle Creek, R. D. No. 8, Mich.
 Home & Fireside Co., Battle Creek, Mich.
 Mills, Mrs. W., Battle Creek, R. D. No. 8, Mich.
 Porter, G. W., Battle Creek, R. F. D. No. 6, Mich.
 Post Land Co., Battle Creek, Mich.
 Walter, Willard, Sturgis, Mich.

Bedford Township—

Bedford Township Pits, Battle Creek, Mich.
 Miller, (?) Battle Creek, Mich.
 Sperry & Son, Battle Creek, Mich.
 Topy, Ben, Battle Creek, Mich.

Burlington Township—

Larnard, Charles, Union City, Mich.
 Grosbeck, Fred, Burlington, Mich.
 March, Andrew, Union City, Mich.
 Washburn, Frank, Burlington, Mich.

Clarence Township—

Hardt, F. A., Springport, Mich.
 Ringler, A., Albion, Mich.

Emmett Township—

Brown, Geo., Battle Creek, Michigan.
 Morgan, B. F., Battle Creek, R. F. D. No. 1, Mich.
 Cronkhite, J. F., Battle Creek, R. F. D. No. 1, Mich.
 Fanning, R. W., Battle Creek, R. F. D. No. 1, Mich.

Homer Township—

Mount, F., Homer, Mich.
 Watts, James, Homer, Mich.

Leroy Township—

Hall, Homer, Battle Creek, R. F. D., Mich.
 Lyod, John, Battle Creek, Mich.

Newton Township—

Funk, F. J., Battle Creek, R. F. D. No. 2, Mich.
 Hagelshaw, Albert, Union City, R. F. D. No. 2, Mich.
 Schultz, Leo, Ceresco, R. F. D. No. 2, Mich.

Pennfield Township—

Ellis, Bert, Battle Creek, R. F. D. No. 5, Mich.
 McKenzie, Geo., Battle Creek, R. F. D. No. 11, Mich.
 Potter, A. J., Battle Creek, R. F. D. No. 11, Mich.
 Webb, Mrs. M. E., Battle Creek, R. F. D. No. 11, Mich.
 Wilbur, Richard, Battle Creek, R. D. No. 11, Mich.

Sheridan Township—

Andrews, Floyd A., Albion, R. F. D. No. 2, Mich.
 Johnson, George, Albion, R. F. D. No. 2, Mich.
 Krenerick, Charles, Albion, R. F. D. No. 2, Mich.
 Roggonbuk, Ernest, Albion, R. F. D., No. 6 Mich.
 Young, Willard, Albion, R. F. D. No. 6, Mich.
 Quehkie, William, Albion, R. F. D. No. 7, Mich.

Tekonsha Township—

Hollenbeck, Chas. (?)

*Cass County:**La Grange Township—*

Fletcher, Clare, Cassopolis, Mich.
 Gould, Lowell, Cassopolis, Mich.
 Kelsey, Jas. H., Cassopolis, Mich.
 McNab, M., Cassopolis, Mich.
 Tharp, Mrs. L. S., Niles, Mich.
 Tarboss, Squire, Cassopolis, Michigan.
 Van Riper, John, Cassopolis, Mich.

Ontwa Township—

Bucklin, H. E., Chicago, Ill.
 Hicks, O. V., Edwardsburg, Mich.

Porter Township—

Benson, Joseph, White Pigeon, Mich.
 Lintz, Chas., Jones, Michigan.

Silvercreek Township—

Bakeman, H., Dowagiac, Mich.
 Curran, P. T., Dowagiac, Mich.
 Fricke, W., Dowagiac, Mich.
 Ryther, C., Dowagiac, Mich.
 Trobridge, Mrs. Wm., Dowagiac, Mich.
 Wolf, F., Dowagiac, Mich.

Volinia Township—

Brown, Wilber, Marcellus, R. F. D. No. 6, Mich.
 Vancuren, Burl, Decatur, Mich.

*Charlevoix County:**Boyne Valley Township.*

Carson, W. J., Boyne Falls, Mich.
 Pearson, W. J., Boyne Falls, Mich.
 Stewart, Frank L., Boyne Falls, Mich.

Evangeline Township—

Gardener, Ben., Boyne City, R. F. D. No. 3, Mich.
 Harris, Pat, Boyne City, R. F. D. No. 2, Mich.
 Millspaugh, H. E., Boyne City, Mich.
 Rounds, Chas., Boyne City, R. F. D. No. 3, Mich.

Eveline Township—

Healey, Chas., East Jordan, R. F. D. No. 2, Mich.
 King, Hugh, East Jordan, R. F. D. No. 1, Mich.
 Jarman, Geo., East Jordan, R. F. D. No. 2, Mich.
 White, Fred, Charlevoix, Mich.

Hudson Township—

Clasbell, Rollo, Vanderbilt, R. F. D. No. 1, Mich.
 Davis, Amasa, Boyne Falls, R. F. D. No. 1, Mich.
 Llazier, Wm., Boyne Falls, R. F. D. No. 1, Mich.
 Webster, H. A., Elmira, Mich.

Marion Township—

Neil, Mrs. Robert O., Charlevoix, R. F. D. No. 2, Mich.
 Thices, Mrs. F., Charlevoix, R. F. D. No. 4, Mich.

Melrose Township—

Hass, A. E., Walloon Lake, Mich.

St. James Township—

Beaver Island Lumber Co., St. James, Mich.
 Gallaghan, W. J., St. James, Mich.

*Cheboygan County:**Benton Township—*

Charpointer, Joseph, Cheboygan, R. F. D. No. 2, Mich.
Graves, Adolf, Cheboygan, Mich.
Eno, Adlore, Cheboygan, R. F. D. No. 2, Mich.
Mason, John, Cheboygan, R. F. D. No. 2, Mich.
Wixon, Henry, Cheboygan, R. F. D. No. 2, Mich.

Burt Township—

Township Pits, Topinabee, Mich.

Ellis Township—

Ford, Frank, Wolverine, Michigan.
Roamy, M. E., Wolverine, Michigan.

Munro Township—

Armantrout, Mr., Levering, R. F. D. No. 2, Michigan.

Tuscarora Township—

Hudson, Warren, Indian River, Michigan.
Sabin, Mary, Alanson, Mich.
Steward, A. H., Alanson, Michigan.
Wilver, E. O., Alanson, Mich.

*Chippewa County:**Bruce Township—*

Beamish, John, Donaldson, Mich.
Buck, James, Rosedale, Mich.
Butler, John, McCarron, Mich.
Crawford, Wm., Donaldson, Mich.
Kirkpatrick, Robert, McCarron, Mich.
Holtier, Nat, McCarron, Mich.
Morrow, David, Donaldson, Mich.
Smith, John, Rosedale, Mich.

Drummond Township—

Fairchild, A., Drummond, Mich.
Seaman, Ludlow, Drummond, Mich.

Kinross Township—

No sand and gravel in township.

Pickford Township—

Eveleigh, Mrs. Jos., Stirlingville, Mich.
Hudson, Mrs. T., Rockview, Mich.
Kennedy, Alex., Pickford, Mich.
Michigan Land Co., Sault Ste. Marie, Mich.
Roe, Robert, Pickford, Mich.
Stevenson, Wm., Pickford, Michigan.
Stevenson, Jas., Pickford, Mich.
Taylor, F. H., Pickford, Mich.
Thompson, Mrs. A. C., Pickford, Mich.

Raber Township—

Aullon, Nal., Raber P. O., Mich.
Forgrave, James, Stalwart, P. O. Mich.
Fouten, Andred, Gatesville, P. O., Mich.
Stevenson, John, Raber, P. O., Mich.

Sault Ste. Marie Township—

Hatton Bros., Sault Ste. Marie, Mich.
Rye, Jas., 409 Maple St., Sault Ste. Marie, Mich.

Sugar Island Township—

Belanger, Louis, Sault Ste. Marie, Mich.
Chippewa County Pits.
McMullen, John, Hand Station, Mich.
Moore, J. T., Sault Ste. Marie, Mich.

*Clare County—**Franklin Township—*

Ladd, J. E., Harrison, Mich.
Wallace, Everett L., Gladwin, Mich.

Frost Township—

Onsted, (?), Harrison, Mich.
Page, Wallace, Adrian, Mich

Garfield Township—

Township Pits.

Greenwood Township—

Township Pits.

Hamilton Township—

Mathues, (?), Gladwin, R. F. D. No. 4, Gladwin, Mich.
McCracken, (?), Gladwin, R. F. D. No. 4, Gladwin, Mich.

Hatton Township—

Herman, Henry, Clare, R. F. D. No. 5, Mich.
Magnus, Wm., Clare, R. F. D. No. 5, Mich.

Sheridan Township—

Kliner, H., Clare, R. F. D., No. 6, Mich.
Strouse, W., Clare, R. F. D., No. 2, Mich.

Summerfield Township—

Briggs, John, Leota, Mich.
Burgey, H., Leota, Mich.

Surry Township—

Littlefield, J. L., Farwell, Michigan.
McGoogan, Sam, Farwell, Mich.

Winterfield Township—

Davis, Neal, Marion, R. F. D. No. 2, Mich.
Township Pitts, Marion, R. F. D. No. 2, Mich.

*Clinton County:**Bath Township—*

Sargent, Collins M., Bath, R. F. D., No. 24, Mich.
Sleight, J. Bath, Michigan.
Wilhelm, Noah, R. F. D., Bath, Mich.

Bengal Township—

Light, Mary, St. Johns, R. F. D. No. 1, Mich.
Pung, Edward, St. Johns, R. F. D. No. 2, Mich.
Schomisch, John, St. Johns, R. F. D. No. 3, Mich.

Bingham Township—

Keys, Hiram, St. Johns, Mich.
Sage, Albert, St. Johns, Mich.

Dewitt Township—

Angell, O. G., Lansing, Michigan.
Lerg, C. P., Dewitt, Mich.
Schoewe, Theo., Dewitt, Mich.

Eagle Township—

Babbitt, B. F., Eagle Mich.
Byam, F. S., Eagle Mich.
Doty, H. P., Eagle Mich.
Eddy, O. L., Eagle Mich.
Havens, R., Eagle, Mich.
Hemisucy, Geo., Eagle, Mich.
How, F. T., Eagle, Mich.
Kleopher, Fred, Dewitt, Mich.
Jones, H. F., Grand Ledge, Mich.
McCrum, Geo., Eagle, Mich.
Tallman, W. L., Eagle, Mich.
Whittier, N. V., Portland, Mich.

Greenbush Township—

Bond, S., St. Johns, R. F. D., Mich.
Burgess, Wm., St. Johns, R. F. D., Mich.
Case, Henry, St. Johns, R. F. D., Mich.
Doty, Frank, St. Johns, R. F. D., Mich.
Martin, August, St. Johns, R. F. D., Mich.
Mootz, Tony, St. Johns, R. F. D., Mich.
Pratt, Loam, St. Johns, R. F. D., Mich.
Greenwood, Chas., St. Johns, R. F. D., Mich.
Taber, Mrs. L., St. Johns, R. F. D., Mich.
Tinklepough, L., St. Johns, R. F. D., Mich.

Lebanon Township—

Goolthrite, Myron, Hubbardston, Mich.
Hennely, Mrs. James, Maple Rapids, Mich.
Piggott, F. M., Fowler, Mich.
Pinkney, Wm., Maple Rapids, Mich.
Timlin, Mrs. R., Hubbardston, Mich.

Olive Township—

Merrihew, Verne, St. Johns, R. F. D. No. 4, Mich.
Protts, George, St. Johns, R. F. D. No. 4, Mich.

Victor Township—

Beckwith, Lyod, Ovid, R. F. D. No. 17, Mich.
Tronchal, Geo., Ovid, R. F. D. No. 17, Mich.

Watertown Township—

Conrad, K. H., Lansing, R. F. D. No. 4, Mich.
Cushmaul, Gottlieb, Dewitt, R. F. D. No. 8, Mich.

*Crawford County:**Frederic Township—*

Township Pits.

Lovell Township—
Ward, G. W., Avery Island, La.

South Branch Township—
Barns, Orland F., Lansing, Mich.
Blanchard Campbell & DeWale, Roscommon, Mich.
Floeter, P. C., Bay City, Mich.
Latham, Nathan J., Grayling, Mich.
Thoman, Frederick, Lansing, Mich.

Delta County:

Baldwin Township—
No sand or gravel in township.

Bay De Noc Township—
Chicago & N. W. R. R. Co., Chicago, Ill.
Cook, N., Stonington, Mich.
Escanaba Stone & Gravel Co., Escanaba, Mich.
Fitzpatrick, George, Escanaba, Mich.
Jacobsen, M., Stonington, Mich.
Peterson, George, Stonington, Mich.
Ross, Wm. Ogonz, Mich.
Van Cleve, F. H., Escanaba, Mich.

Garden Township—
Lyon, Mrs. J., Garden, Mich.
Bamfass, Garden, Mich.
Kellan, Geo., Garden, Mich.
Putvin, Louis, Garden, Mich.

Masonville Township—
Proehl, Hermann, Rapid River, Mich.
Vietzke, Carl, Rapid River, Mich.

Dickinson County:

Breitung Township—
Chicago & N. W. R. R. Co., Chicago, Ill.
McKenna Est., Mary, Quinnesec, Mich.

Norway Township—
Keweenaw Asso., Marquette, Mich.
Vulcan Brick Works, Vulcan, Mich.

West Branch Township—
No sand or gravel in township.

Eaton County:

Benton Township—
Churchill, S. C., Potterville, R. F. D. No. 1, Mich.
French, Est., E., Potterville, R. F. D. No. 1, Mich.
Kinnie, J. L., Charlotte, Mich.
Pinch, Ray, Potterville, Mich.
Township Pits.

Carmel Township—
Beach Mfg. Co., Charlotte, Mich.
Myers, Mr., Charlotte, R. F. D. No. 10, Mich.
Phillips, Mrs., Charlotte, R. F. D. No. 10, Mich.

Delta Township—
Abfalter, Adam, Lansing, R. F. D. No. 6, Mich.
Saier, Harry, Lansing, R. F. D. No. 6, Mich.
Sawyer, J. J., Lansing, R. F. D. No. 2, Mich.

Eaton Township—
Dacons, Mrs. J. H., Charlotte, Mich.
Lamont, H. A., Charlotte, Mich.
Shepherd, L. H., Charlotte, Mich.
Van Dusen, Est., Mary, Eaton Rapids, Mich.

Eaton Rapids Township—
Hilliard, Will, Eaton Rapids, Mich.
Johnson, C., Eaton Rapids, Mich.
Keeney, W. T., Eaton Rapids, Mich.
Meacham, J., Eaton Rapids, Mich.
Parker, Guy, Eaton Rapids, Mich.
Wood, M., Eaton Rapids, Mich.

Hamlin Township—
Holmes, A., Eaton Rapids, Mich.
Hovey, Mrs., Eaton Rapids, Mich.

Kalamo Township—
Mead, Ira, Charlotte, R. F. D. No. 2, Mich.
Tompson, Frank, Vermontville, R. F. D. No. 4, Mich.

Oneida Township—
Divine Bros., Grand Ledge, Mich.
Frost, C. A., Grand Ledge, Mich.
Gibbs, Mrs. Hattie L., Grand Ledge, Mich.
Kent, V. M., Grand Ledge, Mich.

Roxana Township—
Anderson, A., Charlotte, R. F. D., Mich.
Fultz, Washington, Grand Ledge, Mich.
Rimmel, Geo., Mulliken, R. F. D. No. 2, Mich.

Sunfield Township—
Cheal, J. E., Sunfield, Mich.
Roberts, A., Sunfield, Mich.

Vermontville Township—
Church, H. H., Vermontville, Mich.
Wells, C. E., Vermontville, Mich.

Windsor Township—
Hull, John, Dimondale, Mich.
Mercer, Rufus, Dimondale, Mich.
Ripley, Benj., Dimondale, Mich.
Weldon, Mrs. E., Dimondale, Mich.

Emmet County:

Bear Creek Township—
Cable, Leu, Petoskey, Mich.
Hasting, Dave, Coning, Mich.
Kruzel, Peter, Petoskey, Mich.

Bliss Township—
Errickson, J., Bliss, Mich.
Johnson, James, Bliss, Mich.
Keisen, James, Levering, Mich.

Cap Lake Township—
Carlton, Geo., Levering, Mich.
Hoog, A., Mount Pleasant, Mich.

Center Township—
Sand and gravel but owner unknown.

Cross Village Township—
Kruskie, James, Cross Village, Mich.

McKinley Township—
Sand and gravel but owner unknown.

Springvale Township—
Fike, Henry, Wildwood, Mich.
Lambert, J. H., Petoskey, Mich.

Genesee County:

Atlas Township—
Borton, H. W., Goodrich, R. F. D. No. 1, Mich.
Stine, Martin, Goodrich, Mich.

Barton Township—
Root, Charlie, Flint, R. F. D. No. 6, Mich.
Wolcott, L., Flint, R. F. D. No. 6, Mich.

Davison Township—
Bird, Joseph, Davison, Mich.
Daly, T., Davison, Mich.
Kitchen, W. S., Davison, Mich.
Taumble, A. M., Davison, Mich.

Fenton Township—
Bowles, E., Linden, Mich.
City of Linden, Linden, Mich.
Hogan, Daniel, Linden, Mich.
Fletcher, Seward, Linden, Mich.
Sansan, Geo., Linden, Mich.
Orr, Robert, Linden, Mich.

Flint Township—
Flint Sandstone Brick Co., Flint, Mich.

Flushing Township—
Buell, Jake, Flushing, Mich.
Deland, Albert, Flushing, Mich.
Formen, O. G., Flushing, Mich.
Jordan, E., Brent Station, Mich.
Turner, John, Flushing, Mich.
Miller, Wm., Flushing, Mich.

Gaines Township—
Allen, John, Gaines, Mich.
Brown, D., Swartz Creek, Mich.
Burnt, Ed., Duffield, Mich.
Crapo Farm, Swartz Creek, Mich.

Genesee Township—
Merrick, S., Flint, R. F. D., Mich.
Scott, F. D., Genesee, Mich.

Mundy Township—
Johnson, Ernie, Swartz Creek, Mich.
Reid, Alfred, Flint, Mich.

Richfield Township—
Clemons, A., Davison, Mich.
Mathews, A., Rogersville, Mich.

Vienna Township—
Andrews, Chas., Clio, Mich.
Jones, Fred, Clio, Mich.
Montague, Ed., Clio, Mich.

Gladwin County:

Beniley Township—
Wilkinson, Frank, Estey, Mich.

Billings Township—
Rose, John, Billings, Mich.

Buckeye Township—
Sand and gravel in township but unable to make out the owners of the pits.

Butman Township—
Hager, Arthur, Gladwin, Star Route, Mich.
Soldan, L. V., Butman, Mich.

Clement Township—
Challin, Henry, Alger, R. F. D. No. 1, Mich.
Cummings, J., Alger, R. F. D. No. 1, Mich.
Grover, J. H., Alger, R. F. D. No. 1, Mich.
Loop, John, Alger, R. F. D. No. 1, Mich.
Stevens, H., Alger, R. F. D., No. 1 Mich.

Sherman Township—
Cassiday, Thomas, Gladwin, R. F. D. No. 4, Mich.
Fisher, Chas., Oberlin, P. O., Mich.

Tobacco Township—
McKibbin, Roy, Beaverton, Mich.
Wenzel, John, Beaverton, R. F. D. No. 1, Mich.

Gogebic County:

Bessemer Township—
Castile Mining Co., Ramsay, Mich.
Erickson, Herman, Bessemer, Mich.
Bolson, Otto, Bessemer, Mich.
Santijohn, J., Bessemer, Mich.

Watersmeet Township—
Chicago & N. W. R. R. Co., Chicago, Illinois.

Grand Traverse County:

Grant Township—
Brigham, F. A., Buckley, Mich.
B. & D. Lumber Co., Manistee, Mich.

Green Lake Township—
Adamec, Joe, Bendon, R. F. D. No. 1, Mich.
Saxton, W. J., Interlochen, Mich.

Long Lake Township—
Kindgon, Henry, Traverse City, R. F. D. No. 2, Michigan.
Thomas, J., Traverse City, Mich.

Paradise Township—
Koch, John, Mayfield, Mich.
Schuster, Jos., Summit City, Mich.

Union Township—
Hager, Mark, Fife Lake, Mich.

Whitewater Township—
Gay, Wm., Elk Rapids, Mich.
Watson, Walter, Rapid City, Mich.
Township Pits.

Gratiot County:

Arcada Township—
Cline, B. F., Alma, Mich.
Curtis, C., Ithaca, R. F. D. No. 9, Mich.
Ydell, A., St. Louis, R. F. D. No. 6, Mich.

Bethany Township—
Burlingame, John, Breckenridge, Mich.
Sawvel, Robert, Breckenridge, Mich.

Ithaca Township—
Drayer, Ed., Ithaca, Mich.

Lafayette Township—
Cob, Wm., Breckenridge, Mich.
Smith, H., Breckenridge, Mich.

New Haven Township—
Davis, Chas., Sumner, R. F. D., No. 2, Mich.
Wiles, Wm., Sumner, R. F. D. No. 1, Mich.

North Shade Township—
Connell, Thomas O., Carson City, Mich.
Rosecrance, Jay, Carson City, Mich.

North Star Township—
Dibble, A. T., Ithaca, R. F. D. No. 6, Mich.
Greenby, I., North Star, R. F. D. No. 1, Mich.
Hass Bros., North Star, R. F. D. No. 3, Mich.
Pittman, Charles, North Star, R. F. D. No. 3, Mich.

Pine River Township—
Church, I. H., Alma, Mich.
Whitecraft, Frank, Alma, Mich.

Seville Township—
Bradley, C., Riverdale, Mich.
Brazee, Chas., Riverdale, Mich.
Crum, Wm. C., Elwell, Mich.
Dexter, James, Shepherd, Mich.
Humphrey, R., Elwell, Mich.
Lippert, Jacob, Elwell, Mich.
Miller, H. M., Elwell, Mich.
Gould, Wm., Riverdale, Mich.
Moffett, John, Elwell, Mich.
Taylor, J. P., Elwell, Mich.

Sumner Township—
Andrews, Geo., Elm Hall, Mich.
Gee, B. J., Alma, Mich.
Hale, D., Sumner, Mich.
Long, Wm. R., Elm Hall, Michigan.
Newsbomb, (?) Sumner, Mich.
Tomlin, A., Sumner, Mich.

Hillsdale County:

Amboy Township—
Howald, George, Camden, R. F. D. No. 37, Mich.
Morgan, H. C., Camden, R. F. D. No. 37, Mich.

Camden Township—
Brown, L. A., Camden, Mich.
Fowler, H. M., Camden, Mich.

Fayette Township—
Gilnur, Ed., Jonesville, Mich.
Howard, E. F., Jonesville, Mich.
Lake Shore & Mich. So. R. R. Co., Chicago, Ill.

Hillsdale Township—
Nelson E. Wolcott, Hillsdale, Mich.
Stevens, C. J., Hillsdale, Mich.

Jefferson Township—
Oldenwilder, J., Pittsford, R. F. D. No. 29, Mich.
Putt, George, Osseo, Michigan.

Ransom Township—
Brown, Chas., Osseo, Mich.
Benson, Est., Pittsford, Mich.
Curth, Frank, Osseo, Mich.
Hoover, A. F., Waldron, Mich.
Mills, Chas., Ransom, Mich.
Schofield, H. C., Pittsford, Mich.
Smith, Leroy, Frontier, Mich.
Thompson, L. W., Waldron, Mich.
Vernier, E., Pittsford, Mich.

Reading Township—
Harper, A. J., Reading, Mich.
Mallery, S. S., Reading, Mich.

Somerset Township—
Baker, Geo., Somerset Center, Mich.
Chandler, Jay, Jerome, Mich.

Wheatland Township—
Fuller, Charlie, Hudson, Michigan.
Pease, A. A., North Adams, Mich.

Woodbridge Township—
Crowl, A., Camden, R. F. D., Mich.
Rubel, Chas., Hillsdale, R. F. D., Mich.
Weaver, George, Hillsdale, R. F. D., Mich.

Wright Township—
Cramer, George, Prattville, Mich.
Lickley, Henry, Prattville, Mich.

Houghton County:

Calumet Township—
Centennial Mining Co., Calumet, Mich.
Kearsarge Mining Co., Calumet, Mich.

Chassell Township—
Miron, Eugene, Chassell, Mich.

Elm River Township—
Elm River Copper Co., Elm River, Mich.
Elm River township pits.
Wyandotte Copper Co., Wyandotte, Michigan.

Hancock Township—
Kivari, M., Hancock, Mich.
Kuotsala, H., Hancock, Mich.

Portage Township—
Isle Royale Mng. Co., Houghton, Mich.

Quincy Township—
Hancock Mining Co., Hancock, Mich.

Schoolcraft Township—
No sand or gravel pits in the township.

Stanton Township—
Johnson Est., Andres, Hancock, Mich.
Kurn, Thomas, Oskar, Michigan.

Huron County:

Bingham Township—
Hurford, George, Ubly, Mich.
Kapler, Philip, Ubly, Mich.
Mills, George, Bad Axe, Mich.
Shaw, Richard, Ubly, Mich.

Bloomfield Township—
Green, W. H., Port Hope, R. F. D. No. 3, Mich.
Perce, Adolph, Fillion, R. F. D. No. 3, Mich.

Caseville Township—
(?)

Colfax Township—
Bordner, John, Bad Axe, Mich.
Hayes, James, Bad Axe, Mich.

Pair Haven Township—
Deming, Herbert, Bay Port, R. F. D. No. 2, Mich.
Sylvanus, M., Sebawaing, Mich.

Lake Township—
Conkey, Sam, Caseville, R. F. D. No. 1, Michigan.

Oliver Township—
No sand or gravel in township.

Port Austin Township—
Haskell, Miss Elizabeth A., Port Austin, Mich.
Henitski, Andrew, Port Austin, Mich.
O'Brien, Michael, Port Austin, Mich.
Wallace Co., The, Port Austin, Mich.

Sand Beach Township—
Highdales, Peter, Harbor Beach, Mich.
McIntosh, John, Harbor Beach, Mich.

Sebawaing Township—
No sand or gravel in township.

Segel Township—
Cook, Frank, Harbor Beach, R. F. D. No. 1, Mich.
Gentner, Peter, Harbor Beach, R. F. D. No. 1, Mich.
Gryates, Mrs., Harbor Beach, R. F. D. No. 1, Mich.
Smiser, Ferd, Harbor Beach, R. F. D. No. 1, Mich.

Sheridan Township—
Henley, Mrs. N. O., Bad Axe, No. 1, Mich.
McDonald, Dan J., Bad Axe, R. F. D. No. 8, Mich.
McIntosh, John S., Cass City, R. F. D., Mich.
Watson, Neil, Ubly, R. F. D. No. 2, Mich.

Sherman Township—
Owner unknown.

Ingham County:

Aurelius Township—
Couch, Charley, Mason, Mich.
Morton, L., Eaton Rapids, Mich.

Bunker Hill Township—
Bunker, Charles, Stockbridge, Mich.
Ryan, Robert, Leslie, R. F. D., Mich.

Lansing Township—
Breitenwischer, Lewis, 512 Oakland Blk., Lansing, Mich.
Stockman, Francis M., Lansing, R. F. D. No. 4, Mich.
Holbrook, John, Lansing, Mich.

Leroy Township—
DeWitt, Mrs. E., Webberville, Mich.
Lewis, Edd., Webberville, Mich.

Vevay Township—
Campbell, Hugh, 1515 Sixth St., Bay City, Mich.
Malcolm, Estate of Peter, Saginaw, Mich.
Nice, Geo., Mason, Mich.
Poots, Walter F., Mason, Mich.

Wheatfield Township—
Backe, A. C., Mason, Mich.
Convin, L., Williamston, Mich.
Gorslin Est., D., Williamston, Mich.
Graves, Frank, Williamston, Mich.
Herald, Est., C., Dansville, Mich.
Linder, L., Williamston, Mich.
Owitz, G. H., Williamston, Mich.
Warner, W., Mason, Mich.

White Oak Township—
Brogan, John, Stockbridge, Michigan.
Clark, Will, Stockbridge, Mich.
Gillam, F. J., Stockbridge, Mich.
Green, Arthur, Dansville, Mich.
Hutson, Henry, Stockbridge, Mich.
Lantes, Clifford, Webberville, Mich.
McKimpny, DeBert, Stockbridge, Mich.
Rock, Nelson, Webberville, Mich.
Wimpel, (?), Dansville, Michigan.

Ionia County:

Berlin Township—
Dausman, Samuel, Saranac, Mich.
Foster, N. S., Saranac, Mich.
Hiserman, Herman, Lake Odessa, Mich.
Mills, John, Saranac, Mich.
Youngs, Marvin, Ionia, Mich.

Boston Township—
Bird, Charles, Saranac, R. F. D. No. 11, Mich.
Church, E. E., Clarksville, R. F. D. No. 48, Mich.
Grieves, Mrs., Saranac, R. F. D. No. 9, Mich.
Keyser, Charles, Saranac, R. F. D. No. 10, Mich.
Richmond, Arthur, Saranac, R. F. D. No. 12, Mich.

Campbell Township—
Hahn, Henry, Clarksville, Mich.
McCormick, Alva, Clarksville, Mich.
Scott, J. J., Clarksville, Mich.

Danby Township—
Barr, P. S., Portland, Mich.
Curry, J. B., Portland, Mich.

Dye, O. H., Portland, Mich.
 Fos, F. A., Portland, Mich.
 Pryor, F. W., Portland, Mich.
 Smith, C. P., Portland, Mich.
 Ferphagen, (?), Mulliken, Mich.

Ionia Township—
 Crawford, Geo. W., Ionia, R. F. D. No. 3, Mich.
 Emmons, E. J., Ionia, Mich.
 Gardner, John, 346 Division St., Ionia, Mich.
 Miller, Henry, East Main St., Ionia, Mich.
 Ionia Cement Products Co., Ionia, Mich.

Odessa Township—
 Amsworth, Thomas, Lake Odessa, R. F. D., Mich.
 Fellows, James, Lake Odessa, R. F. D., Mich.
 Lasher, John, Lake Odessa, R. F. D., Mich.
 Llayle, Geo., Lake Odessa, R. F. D., Mich.
 Koutz, Chas., Lake Odessa, R. F. D., Mich.
 Van Houten, Archie, Lake Odessa, R. F. D., Mich.

Orleans Township—
 Township own pits.

Ronald Township—
 Bailey, John, Shiloh, Mich.
 Burdick, Harlow, Ionia, R. F. D., Mich.
 Hazelitt, J. J., Ionia, Mich.
 Normington, Frank, Ionia, Mich.
 Millard, Seymour, Palo, Mich.
 Trowbridge, F., Ionia, Mich.
 Warren, Mrs. Edward, Ionia, Mich.

Iosco County:

Alabaster Township—
 Benson, John H., Alabaster, Mich.
 Marsh & Co., Sandusky, Ohio.
 U. S. Gypsum Co., 205 Monroe St., Chicago, Ill.

Plainfield Township—
 Merchant, Frank, Hale, Michigan.
 Pleipart, J., Hale, Michigan.
 Reimer, Wm., Hale, Mich.

Reno Township—
 Harding, Mr. N. C., Tawas City, Mich.
 Market, Mr. F., Whittemore, R. F. D. No. 2, Mich.

Tawas Township—
 Davison, Thomas, Tawas City, Mich.

Iron County:

Bates Township—
 Oliver Iron Mining Co., (?).
 Winton, Wilbur, Iron River, Mich.

Crystal Falls Township—
 Kimball, Ray, Crystal Falls, Mich.

Iron River Township—
 Chicago & N. W. R. R. Co., Chicago, Ill.

Mastodon Township—
 No gravel or sand pits in the township.

Stambaugh Township—
 Bergquist, Jake, Palatka, Mich.
 Fitzpatrick, Chas., Iron River, Mich.
 Homes, H. Crystal Falls, Mich.
 Saldon, W. H., Iron River, Mich.

Isabella County:

Chippewa Township—
 Hook, M. E., Shepherd, Mich.
 Shepherd, Wm., Shepherd, Mich.
 Servoss, Dewitt, Mackinaw City, Mich.

Coe Township—
 Clemens, A. F., St. Louis, R. F. D. No. 3, Mich.
 Frost, J. R., Shepherd, R. F. D., Mich.
 Leonard, H. E., St. Louis, R. F. D., Mich.
 Myers, John Shepherd, R. F. D., Mich.

Deerfield Township—
 Cross, E., Mt. Pleasant, Mich.
 Art, John, Mt. Pleasant, Mich.
 Davis, Geo., Mt. Pleasant, Mich.
 Himebach, Geo., Mt. Pleasant, Mich.

Fremont Township—
 Earl, Dass, Blanchard, Mich.
 Foglesong, Henry, Shepherd, R. F. D. No. 1, Mich.
 Livingston, Joseph, Riverdale, R. F. D. No. 1, Mich.
 Taylor, Mrs. John, Mt. Pleasant, R. F. D., Mich.

Isabella Township—
 No pits in the township.

Lincoln Township—
 Battles, John, Shepherd, Mich.
 Coughlin, Will, Shepherd, R. F. D. No. 1, Mich.
 Luce, Oscar, Shepherd, R. F. D. No. 1, Mich.
 Merrills, Dudley, Shepherd, R. F. D. No. 1, Mich.
 Miller, Roy, Shepherd, R. F. D. No. 1, Michigan.
 Piat, W., Shepherd, Mich.
 Willson, Geo., Shepherd, R. F. D. No. 1, Mich.

Nottawa Township—
 Doll, Selvester, Rosebush, R. F. D., Mich.
 Schafer, P., Rosebush, R. F. D., Mich.

Rolland Township—
 Garrison, Stewart, Blanchard, Mich.
 Moody, A. L., Blanchard, Mich.
 Winans, Frank, Blanchard, Mich.

Veron Township—
 McCandless, Mrs. J., Saginaw, Mich.

Wise Township—
 Pits belong to township.

Jackson County:

Blackman Township—
 Blake, J. E., Jackson, Mich.
 Emmons, Wm. P., 423 Clinton St., Jackson, Mich.
 Former, Joseph, Jackson, R. F. D. No. 4, Mich.
 Holton & Weatherwax Co., Jackson, Mich.
 Myers, Albert, R. F. D. No. 6, Jackson, Mich.
 Smith, T., Jackson, R. F. D. No. 4, Mich.
 True, H., Jackson, R. F. D. No. 3, Mich.
 Wickwire, Harry, Jackson, R. F. D., Mich.

Columbia Township—
 (?)

Hanover Township—
 Cavanaugh, Wm., Horton, Mich.
 Cooper, Alfred, Horton, Mich.

Henrietta Township—
 Leeke, W. A., Munith, Mich.

Leoni Township—
 Harr, Eleanor, Jackson, R. F. D. No. 2, Mich.
 Michigan Central R. R. Co., Geo. H. Webb, Chf. Engr., Detroit, Mich.
 Sager, E. A., Jackson, R. F. D. No. 9, Mich.
 Todd, Miss Rosetta, Jackson, R. F. D. No. 9, Mich.

Libert Township—
 Smith, Jefferson, Clarke Lake, R. F. D. No. 2, Mich.

Napoleon Township—
 Alger, Harry Jackson, care of Commonwealth Power Co., Mich.
 Blackmar, Chas., 107 Stewart Ave., Jackson, Mich.
 Potter, K. L., Jackson City Bank, Jackson, Mich.
 Tate, Geo., Jackson, Mich.

Rives Township—
 Blood, Charlie, Rives Jct., R. F. D. No. 3, Mich.
 Jones, W. J., Jackson, R. F. D. No. 3, Mich.

Sandstone Township—
 Anderson, F. L., Parma, Mich.
 Benn, C. E., Parma, Mich.
 Chapel, Clarence, Parma, Mich.
 Cochran, Chas., Parma, Mich.
 Hunn, G. L., Parma, Mich.
 Kress, Nick, Parma, Mich.
 Sackrider, F. C., Jackson, R. F. D. No. 5, Mich.
 Titus, C. Parma, Mich.

Spring Arbor Township—
 Roberts, Hiram, Concord, Mich.
 Sanders, John, Horton, Mich.

Tompkins Township.

McArthur, Oscar, Rives Jet., R. F. D. No. 1, Mich.
Townley, M. C., Jackson, Mich.

*Kalamazoo County.**Alamo Township—*

Bennett, C. W., Alamo, P. O., Mich.
Brown, Ward, Plainwell, Mich.
Gunn, J. W., Watervliet, Mich.
Hughes, Byron, Otsego, Mich.
Hipp, Joseph, Alamo, P. O., Mich.
Kesinger, C., Otsego, Mich.
Miller, M. F., Alamo, Mich.
Myers, Fred, Alamo, Mich.
Pearce, Myron, Otsego, P. O., Mich.
Powell, J. C., Plainwell, Mich.
Riethkerk, L., Alamo, Mich.
Ransom, C., Alamo, Mich.
Russell, H. L., Alamo, Mich.
Shafer, W., Alamo, Mich.
Tallman, A., Alamo, Mich.

Charleston Township—

Henderson Bros., Galesburg, Mich.
Miller, J. B., Augusta, Mich.

Climax Township—

Burgur, Martin, Climax, Mich.
Cramlin, Frank S., Climax, Mich.
Kay, Charles, Scots, Mich.
Tobey, Arch, Climax, Mich.

Kalamazoo Township—

Balch, Wm. A., 1425 Forbes St., Kalamazoo, Mich.
Balch, Uriel K., 1317 Summit Ave., Kalamazoo, Mich.
Buurma, Samuel H., 315-317 E. Frank St., Kalamazoo.
Haas, H. C., Kalamazoo, Mich.
Hall, G. D. B., Kalamazoo, Mich.
Huff, Archie, 109 E. Ramson St., Kalamazoo, Mich.
Klepper, Jacob, 1711 N. West St., Kalamazoo, Mich.
Lane & Lay, Kalamazoo, Mich.
Lane, M. H., Kalamazoo, Mich.
Leenhouts, Peter, Kalamazoo, Mich.
Moihar, Peter, Kalamazoo, Mich.
Newhouse, Jacob, 225 W. Washington St., Kalamazoo, Mich.
Owens, Michael, 837 Reed St., Kalamazoo, Mich.
Russell, Jas. T., 602 Maple St., Kalamazoo, Mich.
Speir, Samuel O., Wheaton Ave., Kalamazoo, Mich.

Oshemo Township—

Gibbs, Martin, Oshemo, Mich.
Gunn, Dr., Oshemo, Mich.
King, Mr., Oshemo, Mich.
Myron, Frank, Oshemo, Mich.
Roop, Myron, Kalamazoo, Mich.
Stratton, Harry, Kalamazoo, Mich.

Portage Township—

Meredith, Warren, Kalamazoo, Mich.

Richland Township—

Chadderton, Emroy, Richland, Mich.
Laine, F. B., Kalamazoo, R. F. D., Mich.

*Kalkaska County:**Boardman Township—*

Hayward, W. F., South Boardman, Mich.
Stevens, Milton, South Boardman, Mich.

Clearwater Township—

Kerpatrick, D. Reid, Rapid City, Mich.
Letherby, Mrs. John, Barker Creek, Mich.
Letherby, J. H. F., Barker Creek, Mich.
Manley, Chas., Rapid City, Mich.
Morrison, John, Rapid City, Mich.

Coldsprings Township—

No gravel in township.

Kalkaska Township—

Drake, John, Kalkaska, R. F. D. No. 2, Mich.
Murphy, Josiah, Kalkaska, R. F. D. No. 2, Mich.

Oliver Township—

Lewis Sands, S. L., Co., Manistee, Mich.

Orange Township—

Andrewson, Lind, Kalkaska, Mich.
Etzcorn, Peter, South Boardman, Mich.

Rapid River Township—

Besaw, Joseph, Mancelona, R. F. D. No. 3, Mich.
Wood, E. F., Rapid City, R. F. D. No. 2, Mich.
Antrim Iron Co., Mancelona, Mich.

Springfield Township—

Ingersoll, Nathan, Fife Lake, Mich.
Woodward, Mrs. J., Fife Lake, Mich.

Wilson Township—

Parker, Nelson, Kalkaska, Mich.

*Kent County:**Ada Township—*

Bogart, A., Ada, Mich.
Pettis, Edwin, Ada, Mich.

Alboma Township—

Beauchamp Bros., Edgerton, Mich.
Burleson, Harry, Cedar Springs, R. F. D., Mich.
Grant, Howard, Rockford, R. F. D. No. 27, Mich.
King, A. R., Sparta, R. F. D., Mich.
Turner, M. C., Rockford, R. F. D., Mich.
Sovelace, R. D., Rockford, R. F. D., Mich.

Alpine Township—

Deiss, Jos., Alpine, R. F. D. No. 17, Mich.
Reed, Percy, Alpine, Mich.

Cascade Township—

Fisher, J., McCords, Mich.
Holt, C. F., Ada, R. F. D. No. 42, Mich.
Linton, Geo., McCords, Mich.
Patterson, B. B., Ada, R. F. D. No. 42, Mich.
Scott, Ed., McCords, Mich.
Slater, R. J., Ada, R. F. D. No. 42, Mich.

Gaines Township—

Brewer, Earl, Byron Center, R. F. D., Mich.
Overholt, R., Dutton, R. F. D., Mich.
Pickett, J. W., Caledonia, R. F. D., Mich.
Ross, J., Ross, R. F. D., Mich.
Ryno, M. J., Ross, R. F. D., Mich.

Grand Rapids Township—

Battjes Fuel & Bldg., Mat. Co., Grand Rapids, Mich.
Bunker Co., G. W., Grand Rapids, Mich.
Byres, March, Grand Rapids, R. F. D. No. 6, Mich.
Conley, Wm., Grand Rapids, R. F. D., Mich.
Harrison Land Co., Ltd., Cor. Pine & 4th Sts., Grand Rapids, Mich.
Jansma, Fred, Gravel Co., 426 Walker Ave., Grand Rapids, Mich.
Michigan Sand & Gravel Co., 16 Hawkins Bldg., Grand Rapids, Mich.
Naysmith, Chas., Knap Ave., Grand Rapids, Mich.
Valley City Stone & Gravel Co., 19 West Broadway, Grand Rapids, Mich.
Van Der Veer & Kloate Gravel Co., Grand Rapids, Mich.

Nelson Township—

Farmer, Ruben, Sand Lake, Mich.
Keltz, Henry, Sand Lake, Mich.

Oakfield Township—

Bennett, Harmon, Harvard, R. F. D. No. 40, Mich.
Crawford, Thomas, Greenville, R. F. D. No. 2, Mich.
House, Bert, Lincoln Lake, R. F. D., Mich.
Lewis, George, Greenville, R. F. D. No. 2, Mich.
Maloney, Pat, Harvard, R. F. D. No. 40, Mich.
Smith, Geo., Harvard, R. F. D. No. 40, Mich.
Walbright, L., Wayland, Mich.
Ward, Michael, Harvard, Mich.
Wooster, Dell, Harvard, Mich.

Paris Township—

No pits in township.

Spencer Township—

Force, William, Harvard, Mich.
Gale, Geo., Sand Lake, Mich.

Tyrane Township—

Barrett, A. H., Kent City, Mich.
Clark, L., Kent City, Mich.
Hohnguen, E. A., Kent City, Mich.
Kregger, M., Kent City, Mich.

Wyoming Township—
Ide, D. K., Grandville, Mich.
Noel, Frank, Grandville, Mich.

Walker Township—
Butterfield, C. H., Grand Rapids, Mich.
Corporan, J., Grand Rapids, Mich.
Kepkey, F. D., Grand Rapids, Mich.
Sparp, A., Grand Rapids, Mich.

Keweenaw County:

Grant Township—
Keweenaw Copper Co., Calumet, Mich.
St. Mary Canal Co., Houghton, Mich.

Eagle Harbor—
Calumet & Hecla, Calumet, Mich.

Sherman Township—
Mandan (Delinquent).
Tamarack, Calumet, Mich.

Lake County:

Chase Township—
Eichenberger, H., Reed City, R. F. D., Mich.
Saunders, George, Chase, Mich.

Cherry Valley Township—
Lacy, Mrs. F. D., Nirvana, Mich.
Pinchon, J. M., Nirvana, Mich.
Lorce, Andrew, Nirvana, Mich.

Dover Township—
Anderson, Ed., Tustin, R. F. D. No. 1, Mich.
Bell, Edd., Tustin, R. F. D. No. 1, Mich.
Truman, Earl, Luther, R. F. D. No. 1, Mich.

Eden Township—
Irons, Geo., Irons, Mich.
Kosmata, Fr., Willow Springs, Mo.

Elk Township—
Griffes, E. B., Dublin, Mich.
Riggs, Fred, Irons, Mich.
Anderson, W. E., Youngstown, R. F. D. No. 1, Ohio.
Bortz, S. E., Millerton, Mich.
Myers, Frank, Sauble, Mich.
Seaman, W. A., Peacock, Mich.

Ellsworth Township—
Ceming, Al., Luther, Mich.
Schall, C. A., Luther, Mich.

Newkirk Township—
Buckner, S., Luther, Mich.
Rugles, Chas., Manistee, Mich.

Pinora Township—
Buckley & Douglas, Manistee, Mich.

Pleasant Plains Township—
Denis, Parson, Detroit, Mich.

Sweetwater Township—
Bosley, D., Branch, Mich.
London, C. H., Branch, Mich.
Stevenson, Mat., Branch, Mich.

Webber Township—
Miller, David, Baldwin, Mich.

Lapeer County:

Almont Township—
Angle, R. J., Almont, Mich.
Bishop, Frank, Almont, Mich.
Bristol, Geo. C., Almont, Mich.
Chandler, Leon F., Almont, Mich.
Gatchies, Julia, Almont, Mich.
Hallock, Roy P., Almont, Mich.
Messer, Geo., Almont, Mich.
Muir, Mrs. Gillis, Almont, Mich.
Muir, William, Dryden, Mich.
Welton, Chas., Imlay City, Mich.

Arcadia Township—
Clark, Ed., Lum, Mich.
Grinnell, Geo., Attica, Mich.
Schwerin, Fred, Kings Mill, Mich.

Attica Township—
Sumner, Luther, Attica, Mich.
Smith, Lee G., Attica, Mich.

Deerfield Township—
Bears, Mrs. Joseph, Fostoria, Mich.
Burch, Geo. Fostoria, Mich.
Doeherty, Thomas, North Branch, Mich.
Frickie, Perry, North Branch, Mich.
Hunt, Marcellus, North Branch, Mich.
Main, Vernon, Flint, Mich.
Matthews, Geo., North Branch, Mich.
North West Lapeer, Mich. (Unknown.)

Elba Township—
Lassen, J. C., Lapeer, Mich.
Peterson, Wm., Lapeer, Mich.

Goodland Township—
Best, Wm., Imlay City, R. F. D. No. 1, Mich.
Churchill, Carey, Imlay City, R. F. D. No. 2, Mich.
McKillen, David, Brown City, Mich.
Yerex, W., Imlay City, R. F. D. No. 1, Mich.
Teepie, Geo., Imlay City, R. F. D. No. 1, Mich.
Young, Cash, Imlay City, R. F. D. No. 2, Mich.

Hadley Township—
Brocke, August, Goodrich, Mich.
Metun, Fred, Goodrich, Mich.

Imlay Township—
Donovan, Ed., Imlay City, Mich.
Phelp, Dayton, Imlay City, Mich.
Weyer, Albert, Imlay City, Mich.

Metamora Township—
Beardsley, F., Metamora, Mich.
Caley, M., Hunters Creek, Mich.
Coryell, M., Metamora, Mich.
Dudley, R. L., Metamora, Mich.
Gardiner, Robert, Metamora, Mich.
Gardiner, F., Metamora, Mich.
Linabury, A., Metamora, Mich.
Michael, C., Metamora, Mich.
Palmer, I., Metamora, Mich.
Snoier, S., Metamora, Mich.
Walker, J., Hunters Creek, Mich.

North Branch Township—
Frederick, Jno., North Branch, Mich.
Wilder, Glenn, Kings Mill, P. O., Mich.

Oregon Township—
Holcomb, A., Lapeer, Mich.
Rich, John T., Port Huron, Mich.
Spears, W. A., Columbiaville, Mich.

Rich Township—
Hall, Samuel, Silverwood, Mich.
Harris, Ernest, Fostoria, Mich.

Leclanau County:

Bingham Township—
Jissup, Linly, Bingham, R. F. D. No. 5, Mich.
Reinoki, Elmer, Suttons, R. F. D. No. 2, Mich.

Centerville Township—
Swonson, Jr., P., Maple City, R. F. D. No. 1, Mich.

Empire Township—
Daly, E. R., Empire, Mich.
Dorconk, Alonzo, Empire, Mich.

Glen Arbor Township—
Bronson, Margaret, Maple City, R. F. D. No. 1, Michigan.
Day, D. H., Glen Haven, Mich.
Fisher, Edw., Glen Arbor, Mich.
Fisher, Fred, Glen Arbor, Mich.
Meredith, Edw., Glen Arbor, Mich.
Ray, W. C., Glenmere, Mich.
Walker, W. H., Traverse City, Mich.
Westcott, John, Glen Arbor, Mich.

Leclanau Township—
Johnson, Adolph, Northport, Mich.
Larson, Edward, Northport, Mich.
Mojay, Peter, Omena, Mich.
Morgan, N. C., Omena, Mich.

Leland Township—

Alpers, Herman, Suttons Bay, Mich.
Bossie, Henry, Plovermont, Mich.
Egler, Henry, Suttons Bay, Mich.

*Lenawee County:**Clinton Township—*

Bruce, Marion C., Clinton, Mich.
Gillispie, R. P., Tecumseh, Mich.
Johnson, Frank, Clinton, Mich.
Miner, I., Clinton, Mich.
Smith, Porter C., Clinton, Mich.

Deerfield Township—

No sand or gravel in township.

Hudson Township—

Burnes, J., Hudson, Mich.
Bivins, H., Hudson, Mich.
Church, Will, Hudson, Mich.
Her, H. J., Clayton, Mich.
Lowe, Frank, Hudson, Mich.
Lockwood, Sam, Hudson, Mich.
Moore, Geo., Hudson, Mich.
Zimmerman, Wm., Clayton, Mich.

Macon Township—

Crittenden, S., Saline, Mich.
Gilman, W. F., Tecumseh, Mich.
Howell, Mrs. J., Tecumseh, Mich.
Miller, Fred, Ridgeway, Mich.
Ransom, Geo., Ridgeway, Mich.
Ward, W. W., Ridgeway, Mich.

Medina Township—

Bailey, A., Morenci, Mich.
Colegrove, O. D., Morenci, Mich.
Cramer, Will, Hudson, Mich.
Evans, Geo., Morenci, Mich.

Raisin Township—

Baldwin, Will, Tecumseh, Mich.
Becker, Wm., Tecumseh, Mich.
Doty, S., Hollaway, Mich.
Fetzer, David, Hollaway, Mich.
Haight, Sam, Tecumseh, Mich.
Hoog, Ed., Tecumseh, R. F. D. No. 1, Mich.
Judson, V., Hollaway, Mich.
McIntyre, J. C., Hollaway, Mich.
Nyland, John, Tecumseh, Mich.
Raisin Township Pits.
Wilson, Ira, Tecumseh, R. F. D. No. 3, Mich.

Ridgeway Township—

Homman, C. F., Ridgeway, Mich.
Low, C. C., Britton, Mich.

Riga Township—

Robinson, Willard D., 250 Ohio Bldg., Toledo, Ohio.

Seneca Township—

Township Pits.

Tecumseh Township—

Grey, J. W., Tecumseh, Mich.
Hayden, Win., Tecumseh, Mich.
Howard, A. O., Tecumseh, Mich.
Stacey, Mrs. G. N., Tecumseh, Mich.

Woodstock Township—

Porter, Mrs., Devils Lake, Mich.
Ryan, J. J., Adison, Mich.
Wilsey, Wm., Devils Lake, Mich.

*Livingston County:**Cokochah Township—*

Greener, Luther, Howell, Mich.
Thomas, Henry, Oak Grove, Mich.

Conway Township—

Smith, J. E., Webberville, Mich.
Stow, W. E., Fowlerville, R. F. D. No. 1, Mich.

Hamburg Township—

Butler, Dwight, Hamburg, Mich.
Haight, B. N., Hamburg, Mich.

Hendricks, Myron, Hamburg, Mich.

Ohio & Michigan Sand Co., The, 1019 Nichols Bldg., Toledo, Ohio.
Roth, Geo., Chilson, Mich.

Handy Township—

Bowers, Ben., Fowlerville, Mich.
Briggs, Chet., Fowlerville, Mich.
Cole, Ben., Fowlerville, Mich.
Church, Bert, Fowlerville, Mich.
Nerington, Charles, Webberville, Mich.
Smith, Floyd, Fowlerville, Mich.
Wallace, Will, Fowlerville, Mich.

Hartland Township—

Armstrong, L. L., Brighton, Mich.
Crouse, J. B., Hartland, Mich.
Cundey, A., Brighton, Mich.
Kiltrider, Geo., Oak Grove, Mich.
Phipps, B., Oak Grove, Mich.
Tamlyer, Eli, Oak Grove, Mich.

Howell Township—

Crandel, Fred, Howell, R. F. D. No. 5, Mich.
Deiterle, Clara, Howell, R. F. D. No. 8, Mich.
Filkins, D. J., Howell, R. F. D. No. 4, Mich.
Gats, Marion, Howell, R. F. D. No. 8, Mich.
Hasley, E. B., Howell, R. F. D. No. 9, Mich.
Munsell, S. H., Howell, R. F. D. No. 5, Mich.
Reed, E. C., Howell, Mich.
Reed, R. C., Howell, Mich.

Marion Township—

Michigan State Sanatorium, Howell, R. F. D. No. 2, Mich.
Ruttman Bros., Howell, R. F. D. No. 8, Mich.

Osceola Township—

Bramer, Rudolf, Howell, Mich.
Browning, John, Howell, Mich.
Hetchler, Albert, Howell, Mich.
Horley, E. B., Howell, Mich.
Walker, Thomas, Howell, Mich.

Putnam Township—

Briggs, Lyle, Pinckney, Mich.
Hinchey, Chester, Pinckney, Mich.
Monks, Alfred, Pinckney, Mich.
Mowers, George, Pinckney, Mich.
Tupper, Willis, Pinckney, Mich.

Tyrone Township—

Bartelle, August, Fenton, R. F. D. No. 5, Mich.
Brown, Mr., Fenton, R. F. D. No. 2, Mich.
Chamberlain, Clyde, Grand Rapids, Mich.
Cornell, George, Fenton, R. F. D. No. 3, Mich.
Cullen, Mrs. John, Fenton, Mich.
Gates, Elmer, Fenton, R. F. D. No. 2, Mich.
Hogan, John, Fenton, R. F. D. No. 3, Mich.
Love, Daniel C., Fenton, R. F. D. No. 5, Mich.
McHugh, Edward, Fenton, Mich.
Mehlbery, Ira, Fenton, R. F. D. No. 2, Mich.
Morehouse, William, Fenton, Mich.
Reed, Armstrong, Fenton, R. F. D. No. 2, Mich.
Skidmore, Corwin, Fenton, R. F. D. No. 4, Mich.
Thompson, Clark, Fenton, Mich.
Thompson, Harry, Fenton, R. F. D. No. 2, Mich.
Tarnham, Henry, Fenton, R. F. D. No. 3, Mich.
Warden, A. J., Fenton, R. F. D. No. 3, Mich.
Wolverton, Bert, Fenton, R. F. D. No. 3, Mich.

Unadilla Township—

Arnold, O. B., Gregory, Mich.
Castill, James, Pinckney, Mich.

*Luce County:**Pentland Township—*

Township Pit.

*Mackinaw County:**Bois Blanc Township—*

No sand and gravel in township.

Hendricks Township—

Berry, Joseph, Rexton, (?), Mich.

Hudson Township—

Enkema, A., Security Bank Bldg., Minneapolis, Minn.
 Graunstadt, F. J., Garnet, Mich.
 Hudson Lumber Co., Garnet, Mich.
 Lake Superior Iron & Chemical Co., (?).
 Union Carbide Co., Soo, Mich.

Marquette Township—

Leach, Hugh, Pickford, Mich.
 Wise, Fred W., Pickford, Mich.

Newton Township—

Escanaba Lumber Co., Escanaba, Mich.
 McEachern & Sons, A., Gould City, Mich.
 Wisconsin Land & Lumber Co., Hermansville, Mich.
 Western Land Securities Co., St. Paul, Minn.
 McArthur, Duncan, Gould City, Mich.

Portage Township—

Escanaba Lumber Co., Escanaba, Michigan.
 McCalpire, Sol, Curtis, Mich.

*Macomb County:**Armada Township—*

Henderson Gravel Co., The, 412 Weadock Bldg., Saginaw, Mich.
 Spencer, C., Allington, Mich.

Chesterfield Township—

Bates, W., New Baltimore, Mich.
 Crawford, A., New Haven, Mich.
 Crittenton, Frank, Mt. Clemens, Mich.

Clinton Township—

Lake Side Ice & Coal Co., Mt. Clemens, Mich.
 Wacker, H. Jacob, Rose St., Mt. Clemens, Mich.

Jasper Township—

Get their sand and gravel from Coe Twp. Isabella County.
 Lenard, H. E., St. Louis, Mich.
 Frost, J. H., Shepherd, Mich.

Lenox Township—

Harder, Henry, Richmond, Mich.

Roy Township—

Keitchenmeister, Chas., New Haven, R. F. D., Mich.
 Thompson, Wm., Romeo, R. F. D. No. 5, Mich.

Richmond Township—

Farr, Mrs. Elma, Richmond, Mich.
 Hall, R. R., Richmond, Mich.
 Hawkins, Elsworth, Richmond, Mich.
 McGuffin, Wm., Memphis, Mich.
 Pratt, Benj., Armada, Mich.
 Spencer, James, Armada, Mich.

Shelby Township—

Detroit Sand & Gravel Co., 34 McGraw Bldg., Detroit, Mich.
 Dull, J., Rochester, Mich.
 Houghton, H., Detroit, Mich. (806 Hammond Bldg.)
 Little, C. H., Detroit, Mich.
 Superior Sand & Gravel Co., Utica, Mich.
 Swartz, Fred, Washington, Mich.

Sterling Township—

Couchez, Bruno, Mt. Clemens, Mich.
 Savedore, J., Utica, R. F. D. No. 2, Mich.
 Seiferlein, George, Warren, Mich. (Sterling Twp. ?).
 Schroeder, Herman, Warren, Mich. (Sterling Twp. ?).

Warren Township—

No gravel pits in township.

Washington Township—

McKinney, Mrs. L., Washington, Mich.
 Stewart, Byron, Romeo, Mich.

*Manistee County:**Arcadia Township—*

Boss and Johnson, Bear Lake, R. F. D., Mich.
 Gilroy, Elias, Elberta, Mich.
 Gingrich and Rubel, Arcadia, Mich.
 Nelson, Parrett, Bear Lake, R. F. D., Mich.
 Putney, V. L., Arcadia, Mich.
 Putney, O. E., Arcadia, Mich.
 Stuart, Aca, Arcadia, Mich.
 St. Pierre, (?).

Bear Lake Township—

Johnson, John, Chief, Mich.
 Haphens, H., Bear Lake, Mich.

Brown Township—

Hanson, Mrs. Hannah, Norwalk, Mich.
 Potter, Wm., Chief, R. F. D. No. 1, Mich.

Cleon Township—

Camell, H. S., Copemish, R. F. D. No. 2, Mich.
 Fox, Wm., Copemish, R. F. D. No. 2, Mich.
 Griner, S. J., Pomona, Mich.
 Rogers, H. S., Copemish, R. F. D., Mich.
 Steves, Frank, Pomona, Mich.
 Taylor, A., Copemish, R. F. D., Mich.
 Williams, Burt, Copemish, R. F. D., Mich.

Dickson Township—

Commonwealth Power Co., Grand Rapids, Mich.
 Hibbs, Wm., Brethren, Mich.

Filer Township—

Filer, E. G., Filer City, Mich.
 Hubbell Sand Co., Manistee, Mich.
 Miller Bros. & Co., Manistee, Mich.
 Summerfield, Port M., 290 N. Water St., Manistee, Mich.

Maple Grove Township—

Heidorn, Arnold, Kaleva, Mich.
 Larsen, Ludwig, Kaleva, Mich.
 McMartin, Charles, Chief, R. F. D. No. 2, Mich.
 Milks, D. T., Kaleva, Mich.

Marilla Township—

Barnhart, Copemish, R. F. D. No. 1, Mich.
 Evens, Wm., Copemish, R. F. D. No. 1, Mich.
 Homes, M. S., Copemish, R. F. D., No. 1, Mich.
 Reom, Wm., Copemish, R. F. D., No. 1, Mich.

Onokama Township—

Farr, M. A., Onokama, Mich.
 Lang, Robert, Bear Lake, R. F. D., Mich.

*Marquette County:**Champion Township—*

C. & N. W. Ry. Co., (?)
 Champion Iron Co., (?)

Ishpeming Township—

Cleveland Cliffs Iron Co., Ishpeming, Mich.
 Snell, Isaac, Ishpeming, Mich.

Marquette Township—

Cleveland Cliffs Iron Co., Negaunee, Mich.

Michigamme Township—

Not known.

Negaunee Township—

No pits in the township.

Republic Township—

Sand and gravel in township but pits not opened up and owners not given.
 Klonan Iron Co., Republic, Mich.
 Republic Iron Co., Republic, Mich.

West Branch Township—

June, Mrs. E. M., Skandia, Mich.
 Libby, Forrest D., Skandia, Mich.

*Mason County:**Amber Township—*

Barclay, Frank, Scottville, Mich. (R. F. D. No. 3.)
 Beebie, Bert, Ludington, R. F. D. No. 2, Mich.
 Fitch, Marion, Scottville, R. F. D. No. 3, Mich.
 Peterson, Andrew, Ludington, R. F. D. No. 2, Mich.
 Tenson, Ben., Ludington, R. F. D. No. 2, Mich.

Branch Township—

Dodge, C. C., Tallman, Mich.
 Dunbar, H. E., Tallman, Mich.
 Edmonson, James, Tallman, Mich.
 Foster, C. J., Scottville, Mich.
 Landon, C. H., Branch, Mich.

Custer Township—
Briggs, E. M., Custer, Mich.
Quick, J., R. F. D. No. 1, Custer, Mich.
Slagel, J., R. F. D. No. 2, Custer, Mich.

Eden Township—
Clark, Henry, Ludington, Mich.
Ferry, Fred, Pentwater, Mich.
Hall, Ed., Custer, R. F. D. No. 2, Mich.
Saxton, Wm., Custer, R. F. D. No. 2, Mich.

Freesoil Township—
Nippres, Wm. E., Freesoil, Mich.

Grant Township—
Szymanski, George, Freesoil, R. F. D. No. 2, Mich.
Wair, John, Freesoil, R. F. D. No. 2, Mich.

Hamlin Township—
Beaune, Oliver, Ludington, R. F. D., Mich.
Homer, W., Ludington, Mich.

Sheridan Township—
Loftis, John, Fountain, Mich.
Snellenburgh, John, Bachelor, Mich.

Victory Township—
Edwards, F. E., Scottville, R. F. D. No. 4, Mich.

Mecosta County:

Aetna Township—
Benson, Anto, Morley, Mich.
Moore, C. S., Morley, Mich.

Big Rapids Township—
Conard, R. F. D. No. 3, Big Rapids, Mich.
Conklin, Wm., Big Rapids, Mich. (114 P. M. Street).
Wright, D., Big Rapids, Mich.

Chippewa Township—
Carmicheal, Ed., Ewart, R. F. D. No. 1, Mich.
Hodges, John, Ewart, R. F. D. No. 1, Mich.

Colfax Township—
Gadner, Mrs., T. C., Big Rapids, Mich.
Granger, A. T., Big Rapids, Mich.
Larson, Oscar, Big Rapids, Mich.

Deerfeld Township—
Barber, W., Morley, R. F. D. No. 2, Mich.
Branch, O., Morley, Mich.

Fork Township—
Chamberlin, D. W., Barryton, Mich.
Langley, E., Barryton, R. F. D. No. 1, Mich.

Grant Township—
Frieberg, Charles, Big Rapids, R. F. D. No. 4, Mich.
Stone, Charles E., Hersey, R. F. D. No. 1, Mich.

Marting Township—
Adams, W. F., Mecosta, Mich.
Jehnzen, Wm., Rodney, Mich.
Kempee, W. S., Rodney, Mich.

Millbrook Township—
Allen, Lenden, Blanchard, R. F. D. No. 2, Mich.
Picket, S., Millbrook, R. F. D. No. 2, Mich.
Riley, Ed., Millbrook, R. F. D. No. 2, Mich.

Sheridan (?).
Creavy, Chas., Remus, R. F. D. No. 2, Mich.
Shanks, William, Barryton, Mich.

Whealland Township—
Windling, Jacob, Remus, Mich.

Menominee County:

Harris Township—(?)
Charboneau, Frank, Perronville, Mich.
Mashek Lumber Co., Escanaba, Mich.
Marsicek, Frank, Wilson, Mich.
Machina, Louis, Wilson, Mich.
Perron, M., Perronville, Mich.
Sandon, Chas., Perronville, Mich.
Schoen, Jno. A., Wilson, Mich.
Vian Bros., Bark River, R. F. D. No. 2, Mich.

Ingallston Township—
Algyer, F., Wallace, Mich.
Erickson, Peter E., Wallace, Mich.
Limon, Henry, Wallace, Mich.
Ritmeyer, Alicke, Ingalls, Mich.

Menominee Township—
Burchgeaf, Jos., Menominee, Mich.
Cook, C. T., Menominee, Mich.
Hechel, Wm., Menominee, Mich.
Osborn, J. W., Wallace, Mich.

Millen Township—
Schuette, E. E., Wallace, Mich.
Smith, Geo. M., Wallace, Mich.
Stralow, Emil, Ingalls, Mich.

Myers Township—
Kent & Burg, Menominee, Mich.
Wis. L. & L. Co., Hermansville, Mich.

Stephenson Township—
Chicago & N. W. R. R. Co., Chicago, Ill.

Midland County:

Geneva Township—
McDonald, M., Coleman, Mich.

Hope Township—
No sand or gravel in township.

Ingersoll Township—
Bailey, Eli, Midland, Mich.
Curry, W. F., Midland, Mich.
Johnson, Dr., Midland, Mich.

Larkin Township—
Cheski, Fritch, Midland, R. F. D. No. 1, Mich.
Gehoski, Mike, Midland, R. F. D. No. 1, Mich.

Lee Township—
No sand or gravel in township.

Lincoln Township—
No sand and gravel in township.

Mills Township—
Gordon & Maxwell, Midland, Mich.
Troyer, D. J., Brier, Mich.

Porter Township—
Kinkade, David, Wheeler, R. F. D. No. 3, Mich.
Stinson, Geo., Merrill, R. F. D., Mich.

Warren Township—
Ferguson, Wm., Coleman, Mich.
Love, M., Coleman, Mich.

Missaukee County:

Aetna Township—
Armstead, W., Dinca, Mich.
Hamel, Louis, Lake City, Mich.
Minthorn, Wm., Lake City, Mich.
Stevens, Frank, Lake City, Mich.

Bloomfield Township—
Finley, L., Manton, R. F. D. No. 5, Mich.
Stauffer, J. W., Manton, R. F. D. No. 5, Mich.

Caldwell Township—
Austin, Ed., Manton, Mich.
Mitchell Bros. Co., Cadillac, Mich.

Forest Township—
Dicker, J. W., Lake City, Mich.
Foss, Fred, Lake City, Mich.
Laurance, Geo., Lake City, Mich.
Wood, Geo. W., Lake City, Mich.

Lake Township—
No pits in township.

Pioneer Township—
Eubanks, John, Lake City, Mich.
Mitchell Bros. Co., Cadillac, Mich.

Richland Township—
Merchwo, (?), D. G., Cadillac, Mich.
Richland township pits.

Riverside Township—
Bain, Wm., McBain, Mich.
Herwire, Leonard, Marion, R. F. D. No. 1, Mich.
Spears, E., McBain, Mich.
Whitney, H., McBain, Mich.

West Branch Township—
Pickering, J., Lake City, Mich.
Stitt, J., Lake City, Mich.

Monroe County:

Bedford Township—
Houck, (?), Lambertville, Mich.
Lecklock, (?), Samaria, Mich.
Nagar, R. H., Samaria, Mich.
Thorn, (?), Temperance, Mich.
Wilson, (?), Temperance, Mich.

Frenchtown Township—
Stoeckart, Wm., Monroe, Mich.
National Silica Co., 1009 Union Trust Bldg., Detroit, Mich.

Ida Township—
No pits in township.

Milan Township—
No sand and gravel in township.

Raisinville Township—
No sand and gravel in township.

Montcalm County:

Bloomer Township—
Bolinger, J., Carson City, Mich.
Bloomer Township Pits, Carson City, Mich.
Soders, A., Hubbardston, Mich.

Cato Township—
Allen, Frank L., Lakeview, Mich.
Buckholtz, William, Lakeview, Mich.
Edgar, Wallace, Lakeview, Mich.
Grames, Andy B., Lakeview, Mich.
Jamison, William, Lakeview, Mich.
Macomber & Bale, Lakeview, Mich.
Orr, William D., Lakeview, Mich.
Robbins, Wilber, Lakeview, Mich.
Stewart, Fred V., Lakeview, Mich.

Crystal Township—
Ball, R. R., Carson City, Mich.
Finkbinder, Squire, (of the state of Washington.)
Loucks, Stephen, Carson City, R. F. D. No. 1, Mich.
Powell, Albert, Vickeryville, Mich.
Tissue, Lenn, Stanton, R. F. D. No. 1, Mich.
Sinkey, Mrs. L. M., Carson City, Mich.
Trimm, Levi, Crystal, R. F. D. No. 1, Mich.

Douglas Township—
Cross, Chas., Stanton, R. F. D. No. 1, Mich.
Comden, S. J., Stanton, R. F. D. No. 1, Mich.
Gordon, Mr., Stanton, R. F. D. No. 1, Mich.
Van Patten, Fred, Stanton, R. F. D. No. 1, Mich.
Wilson, Geo., Stanton, R. F. D. No. 1, Mich.

Eureka Township—
Snyder, A. J., Greenville, Mich.
Vandevere, W. R., Greenville, Mich.

Fairplains Township—
Hansen, Has L., Greenville, R. F. D., No. 1, Mich.
Potter, Roy, Greenville, R. F. D. No. 1, Mich.
Worden, Tom, Fenwick, Mich.

Ferris Township—
Cole, Martin, Stanton, Mich.
Douglass, Al., Vestaburg, Mich.
Griffin, Charles, Elm Hall, Mich.
Norris, Charles, Elm Hall, Mich.
Scott, Frank, Vestaburg, Mich.

Home Township—
Fowle, Delos A., Stanton, Mich.
Peterson, C. C., Edmore, Mich.
Williams, E. O., Edmore, Mich.

Montcalm Township—
Ehler, Fred J., Gowen, Mich.
Hansen, L. F., Gowen, Mich.
Oliver, Geo., Gowen, Mich.
Rasmussen, Oscar, Gowen, Mich.
Skinner, Oscar, Gowen, Mich.

Pierson Township—
Baezwinkle, Wm., Pierson, Mich.
Cramers, H. J., Pierson, Mich.
Matz, Chas., Pierson, Mich.

Pine Township—
Gibby, John, Stanton, R. F. D. No. 3, Mich.
McConnel, John, Stanton, R. F. D. No. 3, Mich.
Peckham, A. C., Greenville, R. F. D. No. 3, Mich.
Williams, Joe, Lake View, R. F. D. No. 2, Mich.

Reynold Township—
Gee, T., Morley, R. F. D. No. 3, Mich.
Ferrish, Chas., Grand Rapids, Mich.

Richland Township—
Nickeson, Geo., Vestaburg, Mich.
Richland township pits, Vestaburg, Mich.
Ward, W. E., Vestaburg, Mich.

Sidney Township—
Flenery, John, Sheridan, R. F. D. No. 1, Mich.
Hansen, Peter, Sidney, Mich.

Winfield Township—
Hiembecker, C., Howard City, R. F. D. No. 3, Mich.
Paulson, Bradie, Amble, Mich.

Montmorency County:

Albert Township—
No pits in township.

Avery Township—
Ellsworth, W. O., Hillman, Mich.
Smith, C. B., Atlanta, Mich.

Hillman Township—
Hunt, R. J., Hillman, Mich.
Wright, Eligh, Hillman, Mich.

Muskegon County:

Casnovia Township—
Bettis, Philo, Ravenna, R. F. D., Mich.
Gilbert, H., Casnovia, R. F. D., Mich.
Hommer, Wm., Ravenna, R. F. D., Mich.

Holtton Township—
No sand and gravel in township.

Laketon Township—
Burns, C. C., Muskegon, R. F. D. No. 8, Mich.

Montague Township—
Baxter, William, Montague, Mich.
Gurnar, Paul, Montague, Mich.
Smith, S., Montague, Mich.
Sumner, George, Montague, Mich.
Mears Estate, (?).
Vanderpils, John, Whitehall, Mich.

Newaygo County:

Beaver Township—
Bayle, M., Bitely, R. F. D. No. 1, Mich.
Conley, James, Bitely, R. F. D. No. 1, Mich.
Dake, Gilbert, Hesperia, R. F. D. No. 5, Mich.
Giddings, A., Hesperia, R. F. D. No. 5, Mich.
Harding, Mose, Hesperia, R. F. D. No. 5, Mich.
Larney, Bert, Hesperia, R. F. D. No. 5, Mich.
Mullmux, Jas., Bitely, R. F. D. No. 1, Mich.
Tarney, Norrah, Hesperia, R. F. D. No. 5, Mich.

Big Prairie Township—
Hartman, Aron, Newaygo, Mich.
Wall, John, Newaygo, Mich.

Bridgeton Township—
Scott, J. W., Bridgeton, Mich.
Valley, Edward, Twin Lakes, Mich.

Brooks Township—

Muskegon Power Co., G. R., Grand Rapids, Mich.
Shick, Edwin, Newaygo, R. F. D. No. 2, Mich.

Croton Township—

Galvester, Geo. (?)
Griffin, Malvin, (?)
Hall, A. E., (?)
Tennwitz, Joseph, (?)

Dayton Township—

Dykman, Nick, Fremont, Mich.
Hast, Chas., Brunswick, Mich.
Westenfelder, Edward, Fremont, Mich.

Denver Township—

Buhon, Henry, Fremont, R. F. D. No. 2, Mich.
Maynard, John, Fremont, R. F. D. No. 2, Mich.

Ensley Township—

Anderson, J., Sand Lake, R. F. D. No. 35, Mich.
Chambers, B., Wayland, Mich.
Cochran, R., Sand Lake, R. F. D. No. 36, Mich.
Dickerson, J., Sand Lake, R. F. D. No. 35, Mich.
Pratt, J., Howard City, R. F. D. No. 1, Mich.
Randai, M., Sand Lake, R. F. D. No. 35, Mich.

Goodwell Township—

Gerst, Roy, Woodville, R. F. D. No. 1, Mich.
Gergan, Gust, Handwood, R. F. D. No. 1, Mich.
Hutzman, Jacob, Whitecloud, R. F. D. No. 2, Mich.
Nestle, Christ, White Cloud, Mich.
Scott, Arthur, Woodville, R. F. D. No. 1, Mich.

Grant Township—

Nieboes, J. Grant, Mich.
Raymond, D. J., Grant, Mich.

Home Township—

Jackson, Geo. A., Otia, Mich.
Peters Lumber Co., (?), Cincinnati.

Lilley Township—

Ford, Kirk, Bitely, Mich.
Higly, Charley, Bitely, Mich.

Lincoln Township—

Archer, F., White Cloud, Mich.
McGong Co., W., Somomauk, Ill.
Township pits.

Norwich Township—

Fisher, Harry, Woodville, R. F. D. No. 1, Mich.
Seth, Jacob, Woodville, R. F. D. No. 1, Mich.
Smith, Jas., Woodville, R. F. D., Mich.
Turner, Delbert, Woodville, R. F. D., Mich.
Wentlen, Mrs., Woodville, R. F. D., Mich.

Sheridan Township—

Stone, Elwin, Fremont, Mich.
Township pits, Fremont, Mich.

*Oakland County:**Avon Township—*

Heal, Geo., 669 Baker St., Detroit, Mich.
Michigan Builders Supply Co., 520 Forest St. E., Detroit, Mich.

Bloomfield Township—

Caswell, Jas., Birmingham, Mich.
Dawson, George, Birmingham, Mich.
Forman, G., Birmingham, Mich.
Gorden, Walker, Birmingham, Mich.
George, Edwin S., Pontiac, R. F. D. No. 3, Mich.
Harbison, Frank, Birmingham, Mich.
Park, A., Birmingham, Mich.
Rockwell, C., Pontiac City, Mich.

Commerce Township—

Alliot, W., Milford, Mich. (?)
Cheeseman, A. E., Milford, Mich. (?)
Crumb, C., Walled Lake, Mich. (?)
Fuller, Ema, Milford, Mich.
Sleeth, Fred, Milford, Mich.
Taylor, J. D., Walled Lake, Mich.

Farmington Township—

Coleman, O., Farmington, Mich.

Conray, E., Farmington, Mich.
Ely, C., Farmington, Mich.
Francis, (?), Farmington, Mich.
Graham, J., Farmington, Mich.
Grummer, E., Farmington, Mich.
Hatten, C., Farmington, Mich.
Stodgel, E., Farmington, Mich.

Groveland Township—

Campbell, John, Ortonville, R. F. D. No. 2, Mich.
Hankinson, J. P., Holly, R. F. D., Mich.
Howe, Jerome, Holly, R. F. D., Mich.
Jones, Seth, Clawson, Mich.
Mills, Fred, Ortonville, Mich.
Warden, Rob, Holly, Mich.

Highland Township—

Armstrong, Clarence, Highland, Mich.
Barrett, A. G., Clyde, Mich.
Feeney, John, Highland, Mich.
Hewitt, P., Highland, Mich.
P. & M. Railroad, Highland, Mich.
Rogers, T., Clyde, Mich.

Holly Township—

Donovan, Mrs. Thomas, Fenton, R. F. D. No. 4, Mich.
Fish, E., (?)
Green, T. H., (?)
Hadden, Mrs. R. E., (?)
Hadley, D. D., Holly, Mich.
Haddis, P., (?)
Hadley, F. L., (?)
Lindsay, John, (?)
Marsh, Elmer, (?)
Mitchell, D. W., (?)
Mitchell, E., (?)
Osmun, H., (?)
Patterson, S. D., (?)
Selly, Mr., (?)

Independence Township—

Meridian Co., The Henry, 616 Moffat Bldg., Detroit, Mich.
Michigan Portland Cement Pav. Co., Rm. 92, Griswold St., Detroit, Mich.

Lyon Township—

Cox, Charley, South Lyon, Mich.
Fisher, D., New Hudson, Mich.
Hunter, L. R., New Hudson, Mich.
Marshall, Mary, South Lyon, Mich.

Milford Township—

Gordon, J., New Hudson, Mich.
Milford & Nixon, New Hudson, Mich.
Pittenger, Cas., New Hudson, Mich.
Rice, E. J., New Hudson, Mich.

Pontiac Township—

Anderson, Frank B., Pontiac, Mich.
Bartlett, R., Pontiac, Mich.
Howarth, Chas., Pontiac, Mich.
Hortung, Chas., Pontiac, Mich.
Kemp, W. H., Pontiac, Mich.
Rockwell, C. L., 180 Franklin Road, Pontiac, Mich.
Stanley, C., Pontiac, Mich.
Ward, Henry C., Pontiac, Mich.

Rose Township—

Demode, A. Y., Fenton, Mich.
Lake, Howard, Holly, Mich.
Sutton, N. B., Rose, Mich.
Wolf, W. Y., Holly, Mich.

Springfield Township—

Galligar, L., Clarkston, Mich.
Ellis, W. J., Clarkston, Mich.
Virgin, Ben, Lanisburg, Mich.
Walls, Fred, Lanisburg, Mich.

Troy Township—

Donaldson, John, Birmingham, R. F. D., Mich.
Groves, Robert, Birmingham, R. F. D., Mich.
Hadsell, C. E., Troy, Mich.
Howarth, Chas., Birmingham, R. F. D., Mich.
Moore, Roy, Troy, R. F. D., Mich.
Parks, Chas., Birmingham, R. F. D., Mich.

Waterford Township—

Brown & Brown Coal Co., Detroit, Mich.

*Oceana County:**Benona Township—*

Bartish, G., (?)
 Bird, Frank, Shelby, R. F. D. No. 2, Mich.
 Gaff, L. A., (?)
 Hines, H. S., (?)
 Hodge, Frank, (?)
 Kelleg, Thos., (?)
 Roth, Will., (?)
 McVay, Anna, Shelby, R. F. D. No. 2, Mich.
 Satterlie, Wm., (?)
 Esley, George, (?)

Clay Banks Township—

Harrison, A., Shelby, R. F. D., Mich.
 Jackson, C. J., Montague, R. F. D. No. 5, Mich.

Crystal Township—

Aldrich, A. O., Crystal Valley, Mich.

Elbridge Township—

Hart Cedar and Lumber Co., Hart, Mich.
 Tompson, J. R., Hart, Mich.
 Trometer, Hart, Mich.

Golden Township—

Ling, H. W., Mears, Mich.

Grant Township—

Myres, Carl, Rothbury, R. F. D. No. 1, Mich.
 Wherle, Frank, Rothbury, R. F. D. No. 1, Mich.

Hart Township—

Fisher, John, Hart, R. F. D. No. 4, Mich.
 Hale, Robert, Hart, Mich.
 Noret, E. A., Hart, Mich.
 Shinn, O. W., Hart, R. F. D. No. 1, Mich.

Leavitt Township—

No names given or pits.

Newfield Township—

Township of Newfield pits, Hesperia, Mich.
 Village pit, Hesperia, Mich.

Otto Township—

Cartright, Thomas, Rothbury, R. F. D. No. 1, Mich.
 Midlecamp, John, Rothbury, R. F. D. No. 1, Mich.

Pentwater Township—

Burington, Andy, Pentwater, Mich.
 Mears, Miss Carrie, Chicago, Illinois.

Shelby Township—

Hobby, H. B., Shelby, R. F. D. No. 6, Mich.

*Osceola County:**Cedar Township—*

Owner of pits unknown.

Comins Township—

(?)

Evart Township—

Evart township pits, Evart, Mich.
 White & Day, Evart, Mich.

Hersey Township—

Woodward, Carl, Hersey, Mich.
 Woodward, Lew, Hersey, Mich.

Highland Township—

Beebe, C. M., Marion, R. F. D. No. 3, Mich.
 Fralick, A., Tustin, Mich.
 George, Perry, Marion, R. F. D. No. 1, Mich.
 Vanderhoof, D., Marion, R. F. D. No. 3, Mich.

LeRoy Township—

Powers, Hurlon, LeRoy, Mich.
 Johnson, Chas., LeRoy, R. F. D. No. 1, Mich.

Lincoln Township—

Hoogerhide, Jno., Reed City, R. F. D. No. 6, Mich.
 Parkhurst Bros., Reed City, Mich.

Marion Township—

Johnson, Thos., Marion, R. F. D. No. 3, Mich.
 Wise, John, Marion, R. F. D. No. 3, Mich.

Orient Township—

Flickinger, Jacob, Sears, Mich.
 Hoff, H. H., Sears, Mich.

Osceola Township—

Clark, Ward, Evart, Mich.
 Schamholtz, Henry, Evart, Mich.

Sherman Township—

Feland, Oscar, Tustin, R. F. D. No. 2, Mich.
 Kunan, Henry, Dighton, Mich.
 Marvin, Seymore, Tustin, R. F. D. No. 2, Mich.
 Mint, John, Dighton, Mich.
 Syers, Williard, Tustin, R. F. D. No. 2, Mich.

Sylvan Township—

Tahnstock, O., Carlton, Mich.

*Ogemaw County:**Churchill Township—*

Lathrop, Joseph, Selkirk, Mich.
 Parlement, Ray, Selkirk, Mich.
 Walker, G. E., Selkirk, Mich.

Klacking Township—

Bartells, Chas., Rose City, Mich.
 Beetz, Chris., West Branch, R. F. D. No. 3, Mich.
 Maclees, Leonard, Rose City, Mich.
 Slater, Erwin, Rose City, Mich.

Logan Township—

Breach, John, Prescott, R. F. D. No. 2, Mich.
 McKean, Albert, Detroit, Mich.
 Schegdell, Chas., Prescott, R. F. D. No. 2, Mich.

Richland Township—

Adams, Milt, Prescott, Mich.
 Drew, Semin, Prescott, Mich.
 Edwards, John, Prescott, Mich.
 Prescott, C. H., Prescott, R. F. D. No. 1, Mich.
 Ward, Robert, Prescott, Mich.

Rose Township—

Brooks, H. F., Rose City, Mich.
 Fletcher, Joe, Ausable, Mich.
 Vaughn, Clinton, Lupton, Mich.

West Branch Township—

Depue, Mont, R. F. D. No. 3, West Branch, Mich. (?)
 Harvey, D., R. F. D. No. 1, West Branch, Mich.
 Newelecbue, (?) Peter, Campbell's Corner, R. F. D. No. 2, Mich.
 Quackbush, L., West Branch, R. F. D. No. 3, Mich.

*Ontonagon County:**Bohemia Township—*

No sand and gravel in township.

Bergland Township—

Finley, John, Bergland, Mich.
 Longyear, J. M., Marquette, Mich.

Haight Township—

Lee, Chas., Bruce Crossing, Mich.
 Jenkins, J. B., Bruce Crossing, Mich.

*Ottawa County:**Allendale Township—*

Boush, Will, Grand Haven, R. F. D. No. 1, Mich.
 Brinks, Henry, Allendale, Mich.

Blendon Township—

No sand and gravel in township.

Chester Township—

Bunce, C. W., Casnovia, Mich.
 Mansfield, Henry, Conklin, R. F. D., Mich.
 Wilkeson, Albert, Conklin, R. F. D., Mich.

Crockery Township—

Gleason, Oliver, Nunica, Mich.

Grand Haven Township—

No sand and gravel in township.

Holland Township—

Boone, Egbert, Holland, R. F. D. No. 10, Mich.
Kamps, Albert, Holland, R. F. D. Mich.
Lennon, B., Holland, R. F. D., Mich.
Stegeman, J., Holland, R. F. D., Mich.

Jamestown Township—

DeWard, John H., Hudsonville, R. F. D. No. 4, Mich.

Polton Township—

Harmsew, Herman, Coopersville, Mich.
Luben, Gert, Coopersville, Mich.

Robinson Township—

Graham, Mrs. T., Grand Haven, R. F. D. No. 3, Mich.
Hecksall, Mr. Wm., Grand Haven, R. F. D. No. 1, Mich.

Springlake Township—

Pierplanke, C., Bass River, Mich.
Walsma & Co., Grand Haven, Mich.

Wright Township—

Lilliebridge, Sarah, Berlin, P. O., Mich.
Schoenborn, Mrs. Mary, Conklin, P. O., Mich.
Schoenborn, Conrad, Conklin, P. O., Mich.
Stephen, Joseph, Conklin, Mich.

Zeeland Township—

Fok, Albert, Zeeland, R. F. D. No. 3, Mich.
Leenhouse, Cornelius, Zeeland, R. F. D. No. 4, Mich.

*Otsego County—**Dover Township—*

Batchler Lumber Co., West Branch, Mich.
Sudders, G., Gaylord, Mich.

Elmer Township—

Hatch, Charley, Hallock, Mich.
Township of Elmer, Elmer, Mich.

Hayes Township—

Hayes township pits, Gaylord, Mich.

Otsego Lake Township—

Gratwick, Smith, & Fryer, (?).
Welsh, Chas., Gaylord, Mich.

*Presque Isle County:**Allis Township—*

Baker, Geo., Onaway, R. F. D. No. 1, Mich.
Chandler, M., Onaway, Mich.

Bearinger Township—

Eirb, J. I., Canada, N. W.
Hall, Chas., Onaway, Mich.
Doncke, E., (?).
Kidney, A. J., Ocqueoc, Mich.
McArthur, Arthur, Canada, N. W.

Bismarck Township—

Cissero, Frank, Hawks, Mich.
Elowski, Aug., Hawks, Mich.

Case Township—

Geric, Fred, Millersburg, Mich.
Whitsett, Jos., Millersburg, Mich.

Krakow Township—

Township pits, Posen, R. F. D., Mich.

North Allis Township—

Allis, North, Onaway, Mich.
Clark, J. M., Onaway, Mich.
Township pits.

Posen Township—

Garity, T., Presque Isle, Mich.
Kaborn, K., Alpena, Mich.
King, Andrew, Posen, Mich.
McPhee, M., Alpena, Mich.
Smolinski, Adam, Posen, Mich.
Solk, Anton, Posen, Mich.
Wade, Jas., Alpena, Mich.
Zawrotny, Frank, Posen, Mich.

Pulaski Township—

Hafet, Paul, Rogers City, Mich.
Liski, Joseph, Pulaski, Mich.

Rogers Township—

Larke, Augusta, Rogers, Mich.
Larke, Hoelt, & Osgood, Rogers, Mich.
Loud and Hoelt, Rogers, Mich.

*Roscommon County:**Higgins Township—*

Campbell Gravel Co., Roscommon, Mich.

Markey Township—

Burlson, D., Markey, Mich.
Sesshand, Ralph, Markey, Mich.

Richfield Township—

St. Helen Developing Co., St. Helens, Mich.

Roscommon Township—

Michelson, Michelson, Mich.
Roscommon township pits.

*Saginaw County:**Albee Township—*

No sand and gravel in township.

Birch Run Township—

No sand and gravel in township.

Brady Township—

Cramer, C., Chesaning, Mich.
Koyne, E., Oakley, Mich.

Chapin Township—

Borwman, Arthur, Chapin, Mich.

Frankenmuth Township—

(?)

Jonesfield Township—

No pits in township.

Maple Grove Township—

No pits in township.

Saginaw Township—

Cresswell, Thos. B., Saginaw, Mich.
Moiles, C. B., 336 Howard St., Saginaw.
Schlatterer, Christian, 327 S. Water St., Saginaw, Mich.

Thomastown Township—

Saginaw Sandstone Brick Co., Saginaw, W. S., Mich.

Zilwaukie Township—

No gravel or sand pits in township.

*Saint Clair County:**Berlin Township—*

Elliott, B. S., Allenton, Mich.
Eldridge, Geo. E., Allenton, Mich.
Gooch, Chas., Allenton, Mich.
Hulbert Est., Geo., Allenton, Mich.
Merritt, H. H., Allenton, Mich.

Caseo Township—

Donnerback, Michael, Lenox, R. F. D., Mich.
Ruff, Michael, Lenox, R. F. D., Mich.

China Township—

Marvin, L., Marine City, Mich.
Schreinee, Martin, St. Clair, Mich.

Clyde Township—

Armitage, Sidney, Atkins, R. F. D. No. 1, Mich.
Baker, Julius, Atkins, R. F. D. No. 1, Mich.
Kinney, Chester, Atkins, R. F. D. No. 1, Mich.
Ratford, Chas., Atkins, R. F. D. No. 1, Mich.
Snyder, Wm., Atkins, R. F. D. No. 1, Mich.

Cottrelville Township—

VanComberg, Alex., Marine City, Mich.

Kimball Township—

McJennett, James, Smith Creek, Mich.
Patterson, Wm., Port Huron, R. F. D. No. 3, Mich.

Lynn Township—

Dudley, John, Brown City, Mich.

Mursey Township—
Knoll, Albert, Capac, Mich.

Port Huron Township—
Cadwell Sand & Gravel Co., Windsor, Canada.
Duluth Superior Sand & Gravel Co., Duluth, Minn.
Jaques & Sons, E. Foot First St., Duluth, Minn.
Knisley & Co., 333 River St., Port Huron, Mich.
Marine Contracting Co., 211 Quay St., Port Huron, Mich.

Riley Township—
Bearss, James, Memphis, Mich.
Chapman, James, Memphis, Mich.
Bywater, F., Memphis, Mich.
Baker, Wm., Memphis, Mich.
Pratt, Bert, Memphis, Mich.
Shafer, Chas., Memphis, Mich.
Storey, Nathan, Memphis, Mich.

Wales Township—
Armstrong, D., Emmett, Mich.
Kitchen, Serenos, Goodells, Mich.

Sanilac County:

Argyle Township—
Chase, Bud, Shabbona, Mich.
Langenberg, Geo., Argyle, Mich.

Austin Township—
Merrith, Cyrus, Tyre, Mich.
Walsh, Patrick, Tyre, Mich.

Bridgehampton Township—
Bluminfeld, E., Carsonville, Mich.
Bridgehampton township pit.
Rich, John, Deckerville, Mich.

Custer Township—
Loyd, T., McGregor, Mich.
Tallmon, H., McGregor, Mich.

Delaware Township—
Mills, Henry, Minden City, Mich.

Evergreen Township—
Parrott, Geo., Shabbona, Mich.
Travis, E. J., Shabbona, Mich.

Lamotte Township—
Lamotte township pits, Snover, R. F. D. No. 1, Mich.

Lexington Township—
Matthews, Frank, Croswell, Mich.
Munn, Mrs. D. J., Lexington, Mich.

Marvin Township—
Harris, Jas., Deckerville, R. F. D., Mich.
Boats, Fernand, Palms, R. F. D., Mich.
Furey, Andy, Palms, R. F. D., Mich.
Hunt, J. F., Palms, R. F. D., Mich.
Moore, B., Deckerville, R. F. D., Mich.
McGregor, R., Palms, R. F. D., Mich.
Mosure, Wm., Deckerville, R. F. D., Mich.
Swaffar, Chas., Deckerville, R. F. D., Mich.
Wagester, Geo., Palms, R. F. D., Mich.

Marlette Township—
Anderson, Albert, Marlette, Mich.
Buck, C. J., Marlette, Mich.
Crothers, Geo., Marlette, Mich.
Cochran, Wm., Marlette, Mich.
Dawson, Wm., Marlette, Mich.
Kerr, Wm., Marlette, Mich.
McRoy, W. W., Marlette, Mich.
Redman, Fred, Marlette, Mich.
Stephenson, Ralph, Marlette, Mich.
Sullivan, James, Marlette, Mich.

Minden Township—
Obbe, Frank, Minden City, Mich.

Moore Township—
Kennidy, Went, Argyle, Mich.
Stanton, T. J., Marlette, Mich.

Speaker Township—
Cork, William, Melvin, R. F. D. No. 1, Mich.
Gilbert, George, Melvin, R. F. D. No. 6, Mich.
Omaley, Mrs., Melvin, R. F. D. No. 1, Mich.
Reddcliffe, Wm., Melvin, R. F. D. No. 1, Mich.

Watertown Township—
Dawson & Son, Sandusky, Mich.

Schoolcraft County:

Doyle Township—
Bellenger, Joseph, Manistique, Mich.
Planute Estate, Manistique, Mich.

Germfask Township—
Cornell, W. F., Germfask, Mich.
Hargrave, W. W., Seney, Mich.

Hiawatha Township— (?)
No sand or gravel pits in this township.

Shiawassee County:

Burns Township—
Bailey, Robert, Byron, Mich.
Close, F. E., Byron, Mich.
Barnes, Millard, Byron, Mich.
Barnes, Olin, Byron, Mich.
Village of Byron, Byron, Mich.
Cosselman, John, Byron, Mich.
Graham, John, Byron, Mich.
Harrington, Jos., Byron, Mich.
Redmond, W. H., Byron, Mich.
Sheldon, P. E., Byron, Mich.
Shelp, F. B., Byron, Mich.

Fairfield Township—
Allon, F., Elsie, Mich.
Shannon, A. E., Carland, Mich.

Hazelton Township—
Conry, Patric, New Lothrop, Mich.
Gillett, Wm., New Lothrop, Mich.
Leroy, Floyd, New Lothrop, Mich.

Middlebury Township—
Fulton, Mrs. D., Burton, Mich.
Simpson, Emery, Burton, Mich.

New Haven Township—
Brown, A., Corunna, Mich.
Nancampen, C., Henderson, R. F. D., Mich.

Perry Township—
Colby, Mrs. Nettie, Perry, Mich.
Drain, F. W., Morrice, Mich.
Kinney, Geo., Perry, Mich.
Green, M. H., Perry, Mich.
Millhisler, Wm., Perry, Mich.
Osborne, J. H., Perry, Mich.
Reed, Marsh, Perry, Mich.
Smith, A. D., Perry, Mich.
Thompson, Mrs. Sol, Perry, Mich.

Owosso Township—
Bock, Geo., Owosso, R. F. D., Mich.
McDonald, E. A., Owosso, R. F. D., Mich.

Rush Township—
Arthur, D., Henderson, Mich.
Huffman, George, Henderson, Mich.

Sciota Township—
Austin, C. J., Laingsburg, Mich.
Berry, W. W., Laingsburg, Mich.
Seigal, Wm., Laingsburg, Mich.
Schultz, A. A., Laingsburg, Mich.
Sherman, A. A., Laingsburg, Mich.
Stark, Joe, Laingsburg, Mich.

Vernon Township—
Gillmore, E., Vernon, Mich.
Huff, C., Durand, Mich.
Porter, G., Vernon, Mich.
Smith, J. K., Durand, Mich.

St. Joseph County:

Colon Township—
Brown, Samuel, Colon, Mich.
Greeley, Mr., Colon, Mich.
Hill, S., Colon, Mich.
Townsend, Half, Chicago, Ill.

Flowerfield Township—
Sager, Joseph, Flowerfield, Mich.
Zerby, Isaac, Marcellus, R. F. D. No. 3, Mich.

Leonidas Township—
Lawrence, Frances, Leonidas, Mich.
Miller, Fred, Leonidas, Mich.

Mendon Township—
No sand and gravel in township.

Motville Township—
Gray, Wm., Constantine, Mich.
Gang, Wm., Motville, Mich.
Morden, Mrs., Motville, Mich.
Taverner, Henry, White Pigeon, Mich.
Whitehead, T., Motville, Mich.

Park Township—
Stofflet, Amroes, Parkville, Mich.
Velch, Emma, Three Rivers, R. F. D. No. 1, Mich.

White Pigeon Township—
Cogswell, Geo., White Pigeon, Mich.
Wade, H. H., White Pigeon, Mich.

Tuscola County:

Akron Township—
Rose, C., Akron, Mich.
Roller, Jacob, Unionville, Mich.

Columbia Township—
Bitzer, Mat, Unionville, Mich.
Colling, Dav, Unionville, Mich.
Hill, Elmer, Unionville, Mich.
Knerr, Wm., Unionville, Mich.

Dayton Township—
Haley, A., Silverwood, Mich.
Seiver, Est., Chas., Mayville, Mich.
Shay, J., Mayville, Mich.
Smith, H., Mayville, Mich.
Stahl, Jas., Mayville, Mich.

Denmark Township—
Guliver, I., Reese, R. F. D. No. 1, Mich.
King, Geo., Vassar, R. F. D. No. 1, Mich.
North, Mrs. C., Vassar, Mich.
Stott, Wm., Reese, R. F. D. No. 1, Mich.

Ellington Township—
Dorman, Ann, Caro, R. F. D. No. 8, Mich.
Lockwood, Wm., Caro, R. F. D. No. 4, Mich.

Gilford Township—
Kehn, John, Gilford, Mich.
Stewart, Alex, Gilford, Mich.

Juniata Township—
Cohnan, A., Caro, Mich.
Hess, Dr., Caro, Mich.
Hile, Tom, Caro, Mich.
Larabee, Sam, Vassar, Mich.

Kingston Township—
Brown, John, Wilmot, Mich.
Van Horn, Simon, Kingston, Mich.

Koylton Township—
Baker, Gilbert, Kingston, Mich.
Hunter, James V., Marlette, Mich.
Marion, L., Marlette, Mich.
VanHorn, A., Kingston, Mich.

Millington Township—
Donigan, Joseph, Millington, Mich.
Mohan, Amos, Millington, Mich.

Novesta Township—
Hower, Homer, Cass City, Mich.
Smith, P., Cass City, Mich.

Tuscola Township—
Consolidated Coal Co., Saginaw, Mich.
Tuscola and Frankenmuth townships, Tuscola. (?)

Wells Township—
Wells, S., Caro, Mich.
Whitkur, B., Kingston, Mich.

Watertown Township—
Bench, Geo., Mayville, R. F. D., Mich.
Brudshaw, Geo., Fostoria, R. F. D., Mich.
Fowler, Wm., Mayville, Mich.
Henderson, Mrs., Mayville, Mich.
Romp, Geo., Mayville, Mich.

Van Buren County:

Almena Township—
Brown, H. L., (?).
Thompson, G. E., (?).

Bangor Township—
Burger, F. A., Bangor, Mich.
Shine, John, Bangor, Mich.

Bloomington Township—
Burris, Mike, Bloomington, Mich.

Columbia Township—
Hoppin, A. D., Bangor, Mich.
Lyster, A. B., Breedsville, R. F. D. No. 1, Mich.

Decatur Township—
McAdan, Ed., Decatur, Mich.
McKee, Darwin, Decatur, Mich.
Mold, Daniel, Decatur, Mich.
Orr, James, Decatur, Mich.
Sherbwin, John, Decatur, Mich.

Geneva Township—
Funk, Elijah, Bangor, Mich.
Wertemberger, B., Bangor, Mich.

Lawrence Township—
Crawford, A. L., Lawrence, Mich.
Hunt, Geo., Lawrence, Mich.
Plepper, Edward, Lawrence, Mich.
Schimmel, Frank, Lawrence, Mich.

Waverly Township—
Cleveland, Harry, Gobleville, Mich.
Harvey, Hastial, Gobleville, Mich.
Brown, T., Paw Paw, Mich.

Washtenaw County:

Ann Arbor Township—
Elsifor, S. A., 117 N. 1st St., Ann Arbor, Mich.

Augusta Township—
Collin, Geo., Ypsilanti, R. F. D., Mich.
Phelps, Don D., Willis, Mich.

Freedom Township—
Burkhardt, Chas., Manchester, Mich.
Kuhl, Edwin, Chelsea, Mich.

Manchester Township—
English, A. D., Manchester, Mich.
Geskie, J., Manchester, Mich.
Hall, Homer, Manchester, Mich.
Heimendinger Bros., Manchester, Mich.
Lake Shore & Mich Southern R. R. Co., Cleveland, Ohio.
Martin, Miles, Manchester, Mich.
Mull, O., Manchester, Mich.
Parr, H., Manchester, Mich.
Paul, H. P., Manchester, Mich.
Renaux, H., Manchester, Mich.
Rheffuss, Wm., Manchester, Mich.
Schwab, John, Manchester, Mich.
Walker, Wm., Manchester, Mich.
Winstler, A. J., Manchester, Mich.
Wellwood, J., Manchester, Mich.

Pittsfield Township—
Deakes, C. & O., Ypsilanti, Mich.
Pease, Wm., Saline, Mich.

Salem Township—
Boyle, Frank, Salem, Mich.
Wheeler, Calvin, Salem, Mich.

Saline Township—
Dorrel, Joseph, Tecumseh, Mich. (?)
Gorden, John, Saline, R. F. D., Mich.
Gorden, David, Saline, R. F. D., Mich.
Higgins, Will, Saline, R. F. D., Mich.
Rencler, Cris, Saline, R. F. D., Mich.
Stierle, Will, Saline, R. F. D., Mich.
Teppe, Bank, Saline, R. F. D., Mich.
Wienett, Sam, Saline, R. F. D., Mich.
Youngs, Edd., Saline, R. F. D., Mich.

Scio Township—
Frigel, Fred, Ann Arbor, R. F. D. No. 3, Mich.
Grayer, Fred, Dexter, R. F. D. No. 4, Mich.

Superior Township—
Eddie, Geo., Ann Arbor, Mich.
Parker, Fred, Ypsilanti, R. F. D. No. 6, Mich.
Rooke, John, Ypsilanti, R. F. D. No. 6, Mich.
Tait, Wm., Ann Arbor, R. F. D. No. 8, Mich.

York Township—
Gilman, H. W., Milan, Mich.
Hendershot, C., Milan, Mich.
Loveland, W. J., Milan, Mich.
Laffin, L. H., York, Mich.
Lamkin, W. P., Milan, Mich.

Ypsilanti Township—
Crane, Mortimer R., 217 Michigan St., Ypsilanti, Mich.
Gotts, Wm., Ypsilanti, R. F. D. No. 4, Mich.

Wayne County:

Ecorse Township—
Little Co., The C. H., 320 Penobscot Bldg., Detroit, Mich.
McKerchey, John M., Room 2, Anchor Line Bldg., Detroit, Mich.

Canton Township—
Bird, John, Plymouth, Mich.
Wilkin, Byron, Plymouth, Mich.

Brownstown Township—
American Silica Co., Rockwood, Mich.

Hamtramck Township—
No sand and gravel in township.

Livonia Township—
Erch, Will, Plymouth, Mich.
Pankoer, Gust, Northville, Mich.

Nankin Township—
No gravel pits in township.

Northville Township—
Dekay, Elmer, Northville, Mich.
Knapp, J. O., Northville, Mich.
Tompson, Robert, Northville, Mich.
Whipple, Chas., Northville, Mich.

Redford Township—
No sand or gravel pits in township.

Sumpter Township—
Miller, H., Belleville, Mich. (Owner of sand pit.)

Van Buren Township—
Dalman, August, Belleville, R. F. D., Mich.
Miller, Jr., H. F., Belleville, R. F. D., Mich.
Raymond, John, Belleville, R. F. D., Mich.

Wexford County:

Antioch Township—
Crummer & Co., Cadillac, Mich.
Franks, John, Mesich, Mich.
Goodrich, John, Mesich, Mich.
Kinney, Frank, Mesich, Mich.

Colfax Township—
Murphy & Diggins, Cadillac, Mich.
Smith, Ed., Cadillac, Mich.

Hanover Township—
Anderson, August. (?)
Hopkins, Willet M.

Haring Township—
Haring township pits.

Henderson Township—
Cummings & Diggins, Cadillac, Mich.
Peters, R. G., Manistee, Mich.

Liberty Township—
Averill, D. B., Manton, R. F. D. No. 1, Mich.
Fewless, John, Manton, R. F. D. No. 3, Mich.
Paulson, James, Manton, R. F. D. No. 5, Mich.

Selma Township—
Bardguell, Mathew, Meanwataka, Mich.
Chaff, C. J., Cadillac City, Mich.
Hillard, George, Cadillac, R. F. D. No. 2, Mich.
Selma township pit.

PRODUCERS OF GYPSUM PRODUCTS, 1912.

Operator.	Office.	Name of plant.	Location of mine.
United States Gypsum Co.....	Chicago, Ill.....	Alabaster.....	Alabaster.
United States Gypsum Co.....	Chicago, Ill.....	Midland.....	Grand Rapids.
Acme Cement Plaster Co.....	St. Louis, Mo.....	Mill No. 5.....	Beverly.
Michigan Gypsum Co., H. C. Hamilton.....	Grand Rapids.....	Grand Rapids.....	Grand Rapids.
American Cement Plaster Co.....	Lawrence, Kans.....	Grand Rapids.....	Grand Rapids.
Grand Rapids Plaster Co.....	429 Mich. Trust Bldg., Grand Rapids.....	Eagle Mill.....	Grand Rapids.
Grand Rapids Plaster Co.....	429 Mich. Trust Bldg., Grand Rapids.....	Grandville.....	Grandville.
Gypsum Products Mfg. Co.....	44 Powers Theater Bldg., Grand Rapids	Grand Rapids.....	Grand Rapids.

PRODUCERS OF SAND-LIME BRICK, 1912.

Operators.	Office.	Works.
<i>Genesee County:</i> Flint Sandstone Brick Co., C. S. Mott, Sec.-Treas., W. E. Wood, Pres.....	Box 191, Flint.....	Flint.
<i>Houghton County:</i> L. S. Stone Brick Co., J. W. Wycoff, Mgr.....	Calumet.....	Ripley.
Lake Superior Stone Brick Co., Paul P. Roohm, Pres., J. W. Wyckoff, Mgr.....	Calumet.....	Ripley.
<i>Huron County:</i> Sebewaing Sandstone Brick Co., C. F. Bach, Pres., Gustav Reinhold, Supt.....	Sebewaing.....	Sebewaing.
<i>Jackson County:</i> Jackson Lansing Brick Co., Jno. C. Reinke, Gen. Mgr., J. L. Jackson, Pres.....	Rives Junction.....	Rives Junc'n.
<i>Kalamazoo County:</i> South Michigan Brick Co., Jno. C. Reinke, Gen. Mgr.....	Kalamazoo.....	Kalamazoo.
<i>Kent County:</i> Grande Brick Co., Wm. Joseph, Supt., H. O. Joseph, Sec'y., Jno. C. Reinke, Gen. Mgr.....	Kalamazoo Ave., Grand Rapids.....	Grand Rapids.
<i>Manistee County:</i> Manistee Brick Co.....	Manistee.....	Manistee.
<i>Menominee County:</i> Menominee Brick Co., Alfred A. Henes, Sec.....	Broadway & Saxton Ave., Menominee.....	Menominee.
<i>Ottawa County:</i> Holland Pressed Brick Co., H. J. Yonkers, Sec. and Treas.....	Holland.....	Holland.
<i>Saginaw County:</i> Saginaw Brick Co., John L. Jackson, Pres., Jno. C. Reinke, Gen. Mgr.....	321 N. Hamilton St., Saginaw.....	Saginaw.
<i>Wayne County:</i> Michigan Pressed Brick Co., J. H. Schluchter, Mgr.....	Cor. Lawton Ave., M. C. R. R., Detroit.....	Detroit.
Church Brick Co.....	Sibley.....	Sibley.

PRODUCERS OF POTTERY, 1912.

Operators.	Office.	Works.
<i>Ionia County:</i> Ionia Pottery Co.....	Ionia.....	Ionia.
<i>Washtenaw County:</i> Markham Pottery, Harman C. & Kenneth S. Markham, Props.....	562 S. 7th St., Ann Arbor.....	Ann Arbor.
<i>Wayne County:</i> Detroit Flowerpot Co., T. S. Balsley & Son.....	490 Howard St., Detroit.....	Detroit.
Anton Hupprich.....	83 Otis St., Detroit.....	Detroit.
Jeffery-Dewitt Co.....	Detroit.....	Detroit.
Pewabic Pottery & Tile Co., Miss Mary C. Perry & H. J. Caulkins, Props.....	2161 Jefferson.....	Detroit.

PRODUCERS OF MINERAL PAINTS, 1912.

Pigment.	Operator.	Office.	Location of plant.
Met. paint..	Huron Valley Consolidated Paint & Oil Co., A. J. Boatwright, Sec.....	24-26 S. Huron St., Ypsilanti...	Belleville.
White lead } Red lead.. }	Acme White Lead & Color Works.....	Detroit.....	Detroit.
Met. paint..	Pickands, Mather & Co., (Hemlock Mine)..	Cleveland, Ohio.	Iron county.

GRINDSTONE PRODUCERS, 1912.

Operators.	Office.	Quarry.
<i>Huron County:</i> Eureka Grindstone Co.....	Uby.....	Austin.
John Holland.....	207 The Arcade, Cleveland, Ohio.....	Caseville.
Cleveland Stone Co.....	Cleveland, Ohio.....	Grindstone City.
The Wallace Co.....	Port Austin.....	Grindstone City.
Cleveland Stone Co.....	Cleveland, Ohio.....	Port Austin.

PRODUCERS OF MINERAL WATER IN 1912.

Spring.	Company.	Address.
Arctic	Arctic Spring Water Co., Cornelius	250 N. Ottawa St., Grand Rapids.
Arctic Lithia	John Sicott	Harvey.
Bromo-Hygeia Well	Bromo-Hygeia Mineral Water Co., Ltd., L. A. Wakeman	Coldwater.
Charlevoix Mineral	Charlevoix Mineral Water Co., Ed. Seaman	Charlevoix.
Cooper Farm	Walker Gordon Farm & Laboratory Co., C. P. Price	Birmingham.
Crystal	Crystal Springs Water Fuel & Northern Ice Co., G. E. Fowle	35 No. Division St., Grand Rapids.
Eastman Springs	Eastman Springs Co., W. H. Woodruff	Benton Harbor.
Giant Mineral	Giant Mineral Water Co., Inc.	Detroit.
Harrison Springs	Geo. A. Ford	360 W. Bridge St., Grand Rapids.
Lake Superior Mineral Spgs	Polaris Water Co., E. D. Cox	Marquette.
Maple Leaf Springs	Jno. H. Charbeneau	Mt. Clemens.
Medea	Mt. Clemens Bath Co.	Mt. Clemens.
Midland Mineral	W. L. Stearnes, Methodist Home for the Aged	College Hill, Cincinnati.
No-Che-Mo	No-Che-Mo Mineral Spring Co., N. A. Stoddard	Reed City.
Ogemaw	Ogemaw Spring Water Co., J. W. Kinney	Bay City.
Osseo	C. M. DeWitt	Osseo.
Pagoda	Pagoda Water Co.	Mt. Clemens.
Pantland	Pantland Spring Water Co., C. McMillan	Grand Rapids.
Ponce-de-Leon	Ponce-de-Leon Co., A. W. Hine	98 S. Div. St., Grand Rapids.
Royal Oak Lithia	Royal Oak Lithia Water Co., T. O. Lumsden	Detroit (Royal Oak).
St. Louis Magnetic Min'l.	Magnetic Spring Water Co., Albert W. Fausend	Saginaw, W. S.
Salutaris	Salutaris Water Co., G. H. Thompson	411 Hammond Bldg., Detroit.
Sanitas	H. H. Pike's Sons, Lute H. Pike	Topinabee.
Silver Springs	Silver Springs Water Co., Dick DeBruyn	40 W. Leonard St., Grand Rapids.
Sprudel	Sprudel Water Co., P. H. Irish	Mt. Clemens.
Sterling	Jackson Bros.	Crystal Falls.
Victory	Charles Shorkey	Mt. Clemens.
White Oak	Coca-Cola Bottling Co.	Battle Creek.
Ypsilanti	Ypsilanti Mineral Water & Bath Co.	Ypsilanti.

TRAP ROCK PRODUCERS, 1912.

Operators.	Office.	Quarry.
<i>Marquette County:</i> Lipsett & Sinclair	Marquette	Marquette.
Marquette Stone Co.	Marquette	Marquette.
Powell & Mitchell	Marquette	Marquette.

GRAPHITE PRODUCERS, 1912.

Name.	Office.	Mine.
<i>Baraga County:</i> Detroit Graphite Co., A. A. Boutell, Pres.	10-12th St., Detroit	L'Anse.
Northern Graphite Works, Edward Copps	L'Anse	L'Anse.

SANDSTONE PRODUCERS, 1912.

Operators.	Office.	Quarry.
<i>Eaton County:</i> J. W. Willis	Grand Ledge	Grand Ledge.
<i>Houghton County:</i> The Portage Entry Quarries Co., Portage Entry Redstone Co., Ltd	614-206 LaSalle St., Chicago, Ill.	Jacobsville.
<i>Huron County:</i> John Holland	207-8 The Arcade, Cleveland, Ohio	Caseville.
Cleveland Stone Co.	Cleveland, Ohio	Grindstone & Port Austin.
Wallace & Sons	Port Austin	Port Austin.
<i>Ionia County:</i> David Meginnity	68 Selden Ave., Detroit	Lyons.
<i>Marquette County:</i> Furst-Neu Co.	619-206 S. LaSalle St., Chicago, Ill.	Marquette.
<i>Monroe County:</i> Francis Cain	R. F. D. No. 2, Riga	Ottawa Lake.

QUARTZ PRODUCERS, 1912.

Name.	Office.	Mine.
<i>Marquette County:</i> Michigan Quartz Silica Co.	Milwaukee, Wis.	Ishpeming.

SCYTHESTONE PRODUCERS, 1912.

Operators.	Office.	Quarry.
<i>Huron County:</i> Cleveland Stone Co.	Cleveland, Ohio	Grindstone City.
The Wallace Co.	Port Austin	Grindstone City.
Cleveland Stone Co.	Cleveland, Ohio	Port Austin.

CLAY MINERS, 1912.

Operators.	Office.	Mine.
<i>Bay County:</i> Valley Land Co.	Bay City	Bay City.
<i>Calhoun County:</i> George D. Baltz & Co.	209 S. Kendall St., Battle Creek	Battle Creek.
<i>Ontonagon County:</i> Wm. F. Emmond, Thos. Emmond Estate	Rockland	Rockland.
Jeffs Land Co., Ltd., W. B. Jeffs, Prop.	Rockland	Rockland.
Robinson Clay Product Co.	1010 E. Market St., Akron, Ohio	Rockland.
W. P. Vogtlin	Box 36, Rockland	Rockland.
<i>Wexford County:</i> J. Z. Stanley & Son	Harriette	Harriette.
<i>Shiawassee County:</i> New Haven Coal Mng. Co., Props. Noud Kean Coal Mng. Co., Lessees	Owosso	Six Mille Creek.

NATURAL GAS PRODUCERS, 1912.

Operator.	No. of wells.	Address.
<i>Hillsdale County:</i>		
C. M. DeWitt.....		Osseo.
<i>Macomb County:</i>		
August Brozowska.....		Warren.
John Dobberowsky.....		Halfway. (Grosspoint Farm.)
Frank Elwart.....	1	Warren, R. F. D. No. 2.
(Mrs. H.) Wm. Hanekow.....	1	Warren, R. F. D. No. 2.
Wm. L. Hartsig.....	1	Warren, R. F. D. No. 2.
Otto & Edward Jacob.....		Warren, R. F. D. No. 2.
August Mielke.....		Warren, R. F. D. No. 2.
Alfred R. Peters.....		Warren, R. F. D. No. 2.
Chas. Schaack.....		Halfway.
Louis Schemm.....	1	North Detroit, R. F. D. No. 1 Box 47.
Alexander Smith.....		Warren, R. F. D. No. 2.
Henry and John Vohs (well used by both).....	1	Warren.
Max Wolgast.....	1	Warren, R. F. D. No. 2.
<i>Muskegon County:</i>		
Lawrence W. Boozer (Tenant Fred W. Reed).....		Ravenna, R. F. D. No. 2.
Robert Jackson.....		Ravenna, R. F. D. No. 3.
<i>Oakland County:</i>		
Louis Granzow.....	1	Royal Oak, R. F. D.
Frank Grosjean.....	1	Southfield.
Wm. Hilzinger.....	2	Royal Oak.
Ed. Landan.....	1	Royal Oak, R. F. D.
Henry Langer.....	2	Royal Oak.
Ed. McHugh.....	1	Redford, R. F. D. 1.
Wm. J. Purdy.....	1	Redford, R. F. D. No. 1.
Nelson E. Springsteen.....		Royal Oak.
E. A. Starr.....		Royal Oak.
Daniel Wilkinson, Tenant. Frank Parmenter, Owner.....	1	Royal Oak, R. F. D.
<i>Saginaw County:</i>		
Saginaw Development Co.....		609 Barringer Bldg., Saginaw.
<i>St. Clair County:</i>		
Frank Dana.....		Algonac.
Lawrence Gillett.....		Port Huron, R. F. D. No. 3.
M. J., C., and L. J. Harron.....		Algonac.
Michigan Developing Co. (G. O. W.).....	21	Port Huron.
Vancuren Brothers.....		Box 38, Port Huron.
<i>Wayne County:</i>		
Irving Becker.....		Redford, R. F. D. No. 2.
John Degrandchamp.....		N. Detroit.
Unverified Names.		
<i>St. Clair County:</i>		
L. Gillett.....		Port Huron, R. F. D. No. 3., Box 38.
Henry Marks.....		Port Huron, R. F. D. No. 3. Box 40.
Peter Schwitzer.....		Port Huron, R. F. D. No. 3, Box 39.

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PETROLEUM PRODUCERS, 1912.

Operators.	Address.
<i>Saginaw County:</i>	
Saginaw Valley Development Co.....	517 Bearinger Bld., Saginaw.
<i>St. Clair County:</i>	
Michigan Developing Co.....	103 Huron Ave., Port Huron.
New names—not verified.	
Dewey Hitchcock.....	Allegan.
Northern Oil & Gas Co.....	Kalamazoo.
Michigan Central Oil & Gas Co., G. W. VanCuren	Port Huron, Box 38.

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