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MINERAL PRODUCTION IN ILLINOIS IN 1955

W. H. Voskuil
W. L. Busch

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MINERAL PRODUCTION IN ILLINOIS IN 1955

by
W. H. Voskuil and W. L. Busch

ABSTRACT

The annual report of mineral production in Illinois is a summary of the output and value of Illinois mineral products. The minerals include coal, petroleum, natural gas, stone, silica sand, lime, cement, clay products, sand, gravel, fluorspar, and metals. Brief economic analyses of the mineral industries are accompanied by maps and tables. A directory of Illinois industrial minerals producers who reported recent production is included.

Value of Illinois mineral production in 1955 reached \$592,492,000, an increase of \$69,908,000 over the 1954 value. The first mineral, in value of output, is petroleum and its associated hydrocarbon liquids and gases. The history of petroleum production in Illinois since the opening of the basin fields in 1937 is beginning to show substantially the effects of secondary recovery practices. From a peak production of nearly 148 million barrels reached in 1940, production declined each year until 1954 when the decline was reversed. The first significant contribution of secondary recovery began with the Benton pool, which first showed a small increase in output in 1950 and a substantial increase in 1951. Since that year, secondary recovery operations have increased in number and have contributed to the oil production of the State so as to more than offset the natural decline from the original drillings.

Coal has dropped to second place in value owing to its almost complete displacement as fuel for railroad locomotives. In the last decade, consumption of coal by railroads has fallen from more than 125 million tons a year to less than 15 million tons. The coal mines of Illinois, at one time important suppliers of coal to railroads in the Middle West, suffered a severe loss of market when railroads installed diesel locomotives. The recovery of coal output in 1955 following a decline of several years is explained in part by an increasing population and the accompanying increase in demand for electric power, manufactured goods, and a high output of primary steel.

The mineral fluorspar, of which Illinois is the nation's leading producer, is finding an expanding usefulness as a fluxing agent to supplement or replace natural cryolite in the aluminum reduction industry. Other uses of long standing in the steel industry, in ceramics, in acid manufacture, and in the production of organic chemicals assure for the fluorspar producers a continued outlet for their product.

Activity in residential and commercial construction and a continued highway building program together sustained a demand for sand, gravel, stone, and clay products. Agstone requirements and chemical and metallurgical industries also add to the demand for limestone.

ILLINOIS STATE GEOLOGICAL SURVEY

Table 1. - Summary of Illinois Mineral Production, 1954-1955^a

Material	Unit	1954 ^{*,c}			1955 ^{b,c}		
		Quantity	Value at plants		Quantity	Value at plants	
			Total	Av.		Total	Av.
Bituminous coal	tons	41,775,752	\$162,925,433	\$3.90	45,711,555	\$182,846,220	\$4.00
Crude oil	bbls.	66,940,000	200,820,000	3.00	81,131,000	237,713,830	2.93
Natural gas, natural gasoline	-	-	15,032,450	-	-	14,500,000	-
Liquefied petroleum gases	-	-	-	-	-	-	-
Limestone and dolomite	tons	23,089,000	29,400,700	1.27	23,321,000	28,653,700	1.23
Cement	bbls.	9,419,600	24,246,500	2.57	9,470,000	24,622,000	2.60
Lime	tons	532,050	7,420,850	13.95	644,181	9,416,140	14.62
Clay products	-	-	47,200,625	-	-	54,855,670	-
Sand	tons	8,050,990	5,911,535	0.73	7,160,300	5,522,000	0.77
Gravel	tons	11,991,625	9,350,965	0.78	10,232,500	8,708,900	0.86
Special sands	-	-	10,283,200	-	-	10,682,280	-
Fluorspar	tons	107,830	5,989,219	55.54	150,000	8,400,000	56.00
Zinc	tons	14,427	3,116,230	216.00	21,555	5,302,530	246.00
Lead	tons	3,232	885,570	274.00	4,220	1,266,000	300.00
Silver	oz.	1,160	1,050	0.905	3,075	2,780	0.905
Annual mineral production			\$522,584,327			\$592,492,050	

* Revised figures.

a Compiled from figures by the U. S. Bureau of Mines, the Illinois State Department of Mines and Minerals, and the Illinois State Geological Survey.

b Preliminary or estimated figures.

c Subject to revision.

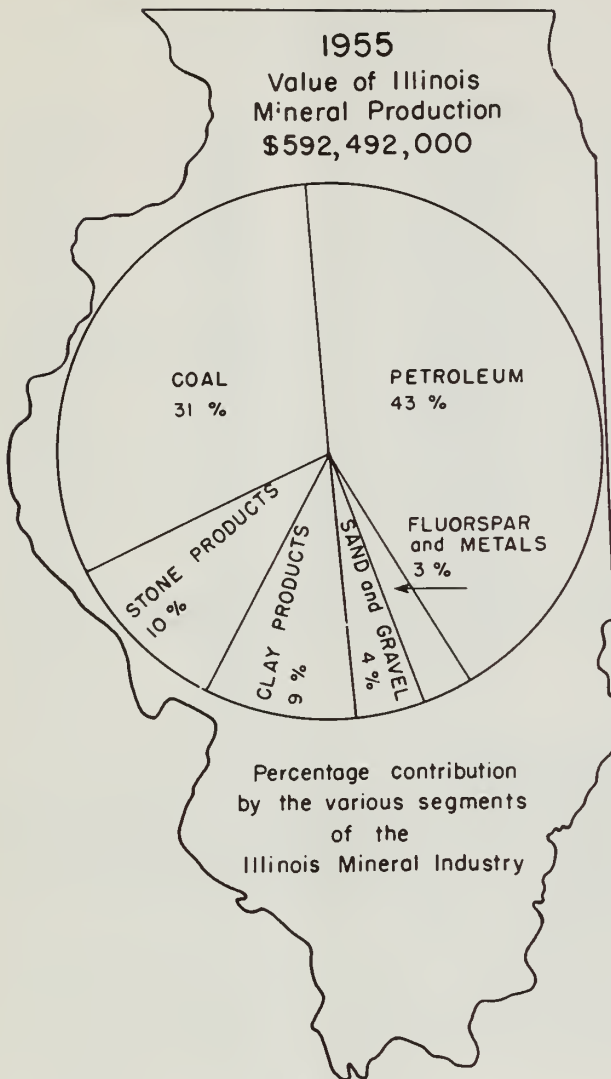


Fig. 1. - Value of Illinois mineral production in 1955

SUMMARY OF ILLINOIS MINERAL PRODUCTION

The variety of minerals produced in Illinois is shown in table 1 in which their quantities and values for the years 1954 and 1955 have been tabulated. The total value of all mineral products shows a considerable increase in 1955 over that of 1954, although some individual items, such as stone and sand and gravel, showed decreases in value.

The first mineral in value of output is petroleum, which showed the largest gain over the previous year. Coal, which continues to hold second place in value, showed an increase of about 10 percent in output and of about 12 percent in value. Clay products increased some 16 percent in value following increased

Table 2. - Value of Illinois Mineral Production, 1915-1955^a
(thousands of dollars)

Year	Mineral production	Year	Mineral production
1915	\$114,446	1935	\$96,484
1916	146,360	1936	117,916
1917	234,736	1937	133,437
1918	271,244	1938	130,155
1919	213,701	1939	215,157
1920	373,926	1940	287,327
1921	254,019	1941	333,225
1922	244,618	1942	341,835
1923	282,761	1943	337,912
1924	235,796	1944	342,832
1925	231,658	1945	344,267
1926	237,242	1946	379,673
1927	180,394	1947	458,734
1928	188,099	1948	567,624
1929	182,791	1949	487,808
1930	148,311	1950	539,236
1931	108,066	1951	542,031
1932	71,693	1952	500,820
1933	74,837	1953	501,926
1934	89,212	1954	522,584*
		1955	592,492 ^b

* Revised figure.

a Compiled from figures by the U. S. Geological Survey, U. S. Bureau of Mines, Illinois State Department of Mines and Minerals, and Illinois State Geological Survey.

b Preliminary figure.

activity in the building industry. Lime showed the same trend in value. Fluor-spar recovered from a year of low output in 1954.

COAL INDUSTRY

Coal output in the United States increased by nearly 20 percent in 1955 over that of 1954. The increased output was not shared alike by the several major producing states and districts. West Virginia and Ohio increased their output more than 20 percent, Pennsylvania and Kentucky almost as much, Virginia nearly 30 percent, and Illinois registered an increase of slightly more than 10 percent.

An interesting development in the coal industry is the tendency of coal-consuming industries and coal production to locate on, or as near as possible to, inland waterways. This has been especially significant on the Ohio River in Ohio, Kentucky, and West Virginia. The effect already is seen in the increased coal output of Ohio. Further industrial expansion is anticipated in such areas.



Fig. 2. - States that produced 90 percent of the nation's bituminous coal, 1955

Foreign Markets

The increases in coal output are a result of unusual market conditions. The most significant trend in the coal market in 1955 was the increased demand for coal exports to Europe. All the nations of western Europe have been recovering economically and expanding production in varying degrees. Industrial production has outrun local coal supplies in the major coal-producing countries - Western Germany and the United Kingdom. Europe's third large coal producer, Poland, did not send much coal to western European nations because its surplus output was taken largely by the U. S. S. R. Although part of the increased fuel requirements needed for Europe's increased industrial output was filled by oil from the Persian Gulf area, the requirements for metallurgical fuel could be met only with coal. A large portion of coal exported from the United States was of coking grade.

Domestic Markets

A second factor contributing to the unusual market was the continued increase in electric power output. Production of electricity in the nation increased from 329 billion kilowatt hours in 1950 to 546 billion kilowatt hours in 1955, an increase of 57 percent. Consumption of fuels over the same period increased at an almost comparable rate. In 1950, 92 million tons of coal were used, compared with 149 million tons in 1955; fuel oil used decreased from 75 million barrels to 74 million barrels; and natural gas consumption increased from 629 billion cubic feet to 1,159 billion cubic feet.

In Illinois, fuels used to produce electric power showed the following changes from 1950 to 1955: Coal consumption increased from 12 to 17 million tons; fuel

oil use decreased from 1 million barrels to 1/4 million; natural gas consumption increased from 37 to 72 billion cubic feet in 1954 but dropped to 57 billion cubic feet in 1955. The rate of increase and percentage of fuel supplied by natural gas to electric utilities in Illinois is of particular interest. In 1950 natural gas supplied 9.5 percent of fuel (calculated as Btu's) whereas in 1955 this figure had risen to 15.4 percent.

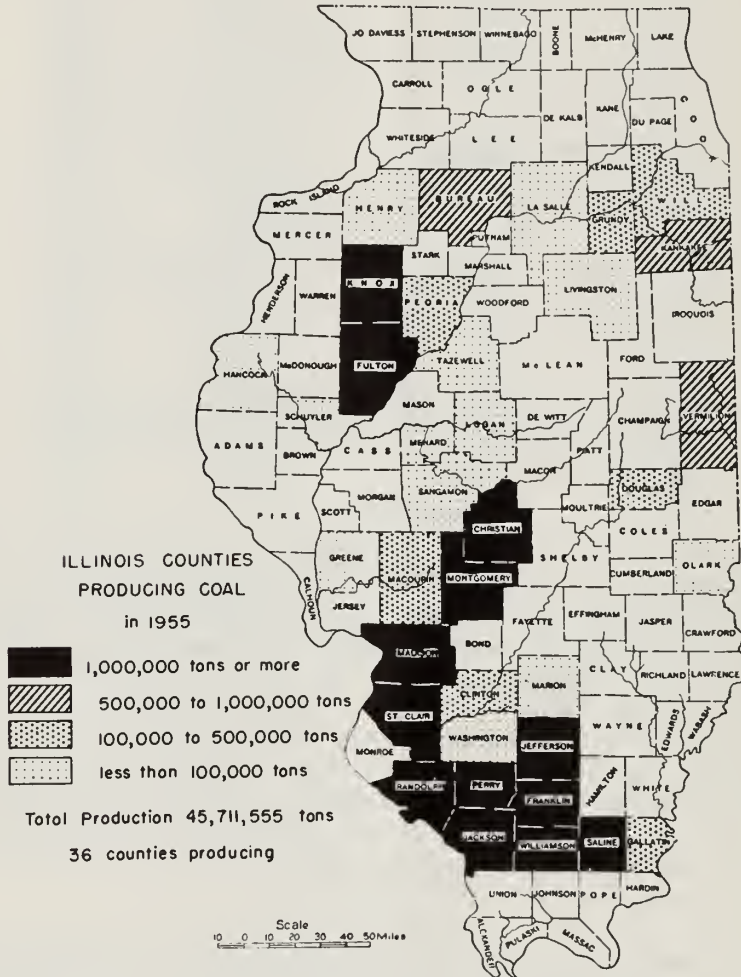


Fig. 3. - Illinois coal production by counties, 1955

In Illinois electric utilities use natural gas largely on the basis of an industrial-interruptible contract, which creates unusual competition for coal. Gas is used during that part of the year when the house-heating load is low or nonexistent. Thus in 1955, a total of 57 billion cubic feet of natural gas was used of which 14.3 percent was used in the month of August and 2.6 percent was used in February.

In 1954 (latest available figures) average fuel costs for Illinois electric plants per million Btu's were 24.7 cents for coal, 51.7 cents for oil, and 21.8 cents for natural gas.

Continued demand for coal suitable for the manufacture of metallurgical coke reflected the high level of steel production in 1955. Use of coal in coke ovens in 1955 was 24 percent higher than in 1954. Other manufacturers also increased their coal consumption, but the percentage increase was somewhat less. Demand for coal as railroad fuel decreased 10 percent. Retail deliveries remained about the same.

In summing up the market situation in 1955, the largest single factor in increased coal output was the export of coking coal, followed by electric utilities requirements. Such a market affects principally the coal-producing districts in West Virginia, Pennsylvania, and eastern Kentucky (table 6).

Coal in Illinois

The record of coal production in Illinois in 1955 is shown in a series of four tables. Table 3, "Illinois Coal Production by Counties, 1955," shows that of the 36 counties that produce coal, 13 produced more than a million tons each, or 90 percent of the State's output. Coal production by stripping methods predominates in the northwest counties of Fulton and Knox and is important also in Perry, Randolph, St. Clair, Saline, Vermilion, Williamson, and Bureau counties.

Table 4 shows the accumulated production by counties since 1882, when mining records were begun. Eleven counties produced more than 100 million tons in the 74 years of recorded production and account for three-fourths of the State's entire output. Of the 70 counties that have produced coal, 36 are still producers.

Table 5 summarizes production by type of mine and table 6 shows the position of Illinois among the principal coal-producing states of the nation. Illinois ranks fourth among the states in coal output.

Industrial and public utilities were the principal buyers. The amount of coal sold to railroads continued to decrease and is now less than 3 million tons, compared with nearly 21 million tons in 1945. Strip mines produced 41 percent of the 1955 tonnage.

The trend in the Illinois coal industry is toward fewer mines but larger output for each shipping mine. The record for the past five years bears this out.

Average Output by Shipping and Local Mines

	No. of shipping mines	Av. output (tons)	No. of local mines	Av. output (tons)
1951	136	386,729	166	13,702
1952	111	389,860	152	16,307
1953	97	452,034	135	15,695
1954	87	459,974	119	14,773
1955	85	516,244	113	16,201

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Table 3. - Illinois Coal Production by Counties, 1955^a

County	Number of mines	Tons mined		Total tons	Total ^b value
		Underground	Strip		
Bureau	1	-	794,394	794,394	\$3,177,576
Christian	2	6,162,935	-	6,162,935	24,651,740
Clark	1	-	1,230	1,230	4,920
Clinton	2	114,451	-	114,451	457,804
Douglas	1	326,180	-	326,180	1,304,720
Franklin	5	4,528,018	-	4,528,018	18,112,072
Fulton	26	76,183	5,321,591	5,397,774	21,591,096
Gallatin	7	139,482	57,331	196,813	787,252
Greene	1	-	5,811	5,811	23,244
Hancock	1	-	30,387	30,387	121,548
Henry	3	40,462	-	40,462	161,848
Jackson	7	567,305	592,889	1,160,194	4,640,776
Jefferson	1	1,582,907	-	1,582,907	6,331,628
Kankakee	1	-	798,981	798,981 ^c	3,195,924
Knox	3	-	1,784,754	1,784,754	7,139,016
LaSalle	7	100	3,382	3,482	13,928
Livingston	2	-	3,879	3,879	15,516
Logan	1	27,536	-	27,536	110,144
Macoupin	2	341,826	-	341,826	1,367,304
Madison	4	1,035,881	-	1,035,881	4,143,524
Marion	1	63,240	-	63,240	252,960
Menard	4	16,110	-	16,110	64,440
Montgomery	1	1,723,975	-	1,723,975	6,895,900
Peoria	15	39,535	403,303	442,838	1,771,352
Perry	10	1,273,599	2,328,420	3,602,019	14,408,076
Randolph	5	861,968	1,151,702	2,013,670	8,054,680
St. Clair	13	1,884,198	1,363,905	3,248,103	12,992,412
Saline	13	1,650,623	803,910	2,454,533	9,818,132
Sangamon	3	79,093	-	79,093	316,372
Schuyler	7	14,573	11,069	25,642	102,568
Tazewell	1	3,102	-	3,102	12,408
Vermilion	11	61,032	817,717	878,749	3,514,996
Washington	2	20,069	-	20,069	80,276
Will	1	-	153,205	153,205	612,820
Williamson	33	4,361,551	2,287,761	6,649,312	26,597,248
Total	198	26,995,934	18,715,621	45,711,555	\$182,846,220

a Source: Illinois State Department of Mines and Minerals.

b Average value for Illinois coal, f.o.b. mine, estimated at \$4 per ton, 1955.

c Includes 247,625 tons mined in Grundy County.

Table 4. - Coal Production by Illinois Counties, 1882-1955^a

County	Total production (in tons)	Total years of production	Last year of production
Adams	46,186	15	1942
Bond	7,355,569	57	1942
Brown	57,324	34	1950
Bureau	49,767,455	71	1955
Calhoun	96,247	27	1912
Cass	212,477	53	1941
Christian	216,925,190	71	1955
Clark	4,482	2	1955
Clinton	38,367,990	74	1955
Coles	198,932	6	1888
Crawford	44,786	13	1942
Douglas	1,473,208	10	1955
Edgar	915,698	41	1952
Effingham	796	1	1890
Franklin	471,960,772	57	1955
Fulton	179,583,633	74	1955
Gallatin	4,887,583	71	1955
Greene	633,055	72	1955
Grundy	40,438,808	74	1955
Hamilton	22,097	16	1905
Hancock	670,074	69	1955
Hardin	40	1	1890
Henry	21,930,909	74	1955
Jackson	83,180,994	74	1955
Jasper	23,739	11	1939
Jefferson	13,245,110	52	1955
Jersey	120,350	59	1951
Johnson	242,109	51	1939
Kankakee	6,260,602	36	1955
Knox	29,188,525	74	1955
LaSalle	65,520,425	74	1955
Livingston	10,103,506	74	1955
Logan	14,261,778	71	1955
Macon	11,000,468	65	1947
Macoupin	261,307,291	74	1955
McDonough	2,634,903	69	1951
McLean	5,544,139	47	1928
Madison	158,408,627	74	1955
Marion	39,012,553	74	1955
Marshall	12,516,141	70	1951

^a Source: Illinois Department of Mines and Minerals.

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Table 4. - Continued

County	Total production (in tons)	Total years of production	Last year of production
Menard	13,355,570	74	1955
Mercer	14,998,922	69	1952
Monroe	8,284	13	1941
Montgomery	84,658,961	74	1955
Morgan	190,787	64	1951
Moultrie	2,032,236	16	1924
Peoria	66,179,727	74	1955
Perry	164,229,640	74	1955
Pike	5,081	8	1942
Pope	1,562	11	1938
Putnam	10,071,893	29	1938
Randolph	69,743,360	74	1955
Richland	154	1	1890
Rock Island	3,846,169	67	1948
St. Clair	226,187,079	74	1955
Saline	190,155,405	74	1955
Sangamon	232,546,807	74	1955
Schuyler	2,979,223	73	1955
Scott	612,476	61	1942
Shelby	4,119,763	67	1950
Stark	1,227,280	69	1952
Tazewell	17,631,627	74	1955
Vermilion	150,827,506	74	1955
Wabash	186,144	29	1943
Warren	685,466	73	1954
Washington	17,774,011	74	1955
White	1,676,741	36	1940
Will	36,833,411	74	1955
Williamson	306,095,331	74	1955
Woodford	7,810,160	70	1951
Total (1882-1955)		3,374,835,347	
Estimated production (1833-1881)		73,386,123	
Total production (1833-1955)		3,448,221,470	

Table 5. - Summary of Illinois Coal Production, 1954^a

Type of mine	37 Producing Counties			Av. value ^b \$3.90 per ton
	Number of mines	Net tons produced	Percent of total tons	
Strip mines:				
Shipping	28	15,388,078	36.8	\$60,013,504
Local	40	1,037,454	2.5	4,046,071
Total	68	16,425,532	39.3	64,059,575
Underground mines:				
Shipping	59	24,629,724	59.0	96,055,924
Local	79	720,496	1.7	2,809,934
Total	138	25,350,220	60.7	98,865,858
Grand total	206	41,775,752	100.0	\$162,925,433

a Source: Illinois Department of Mines and Minerals.

b Estimated, subject to revision.

Table 6. - National Production of Bituminous Coal, 1945-1955^a
(thousands of tons)

State	1945	1950	1954 ^b	1955 ^b	Percent of 1955 total
West Virginia	152,035	144,116	116,000	142,000	30.2
Pennsylvania	132,965	105,870	71,550	86,550	18.4
Kentucky	69,593	78,495	60,045	72,300	15.4
Illinois	73,011	56,291	42,000	46,310	9.9
Ohio	32,737	37,761	30,150	36,800	7.8
Virginia	17,235	17,667	17,800	23,500	5.0
Indiana	25,183	19,957	13,010	15,950	3.4
Alabama	18,236	14,422	9,900	12,000	2.6
Tennessee	6,271	5,070	6,700	7,600	1.6
Total	527,266	479,649	367,155	443,010	94.3
All other states	50,351	36,662	24,845	26,990	5.7
Grand total	577,617	516,311	392,000	470,000	100.0

a Source: U. S. Bureau of Mines.

b Preliminary figures, subject to revision.

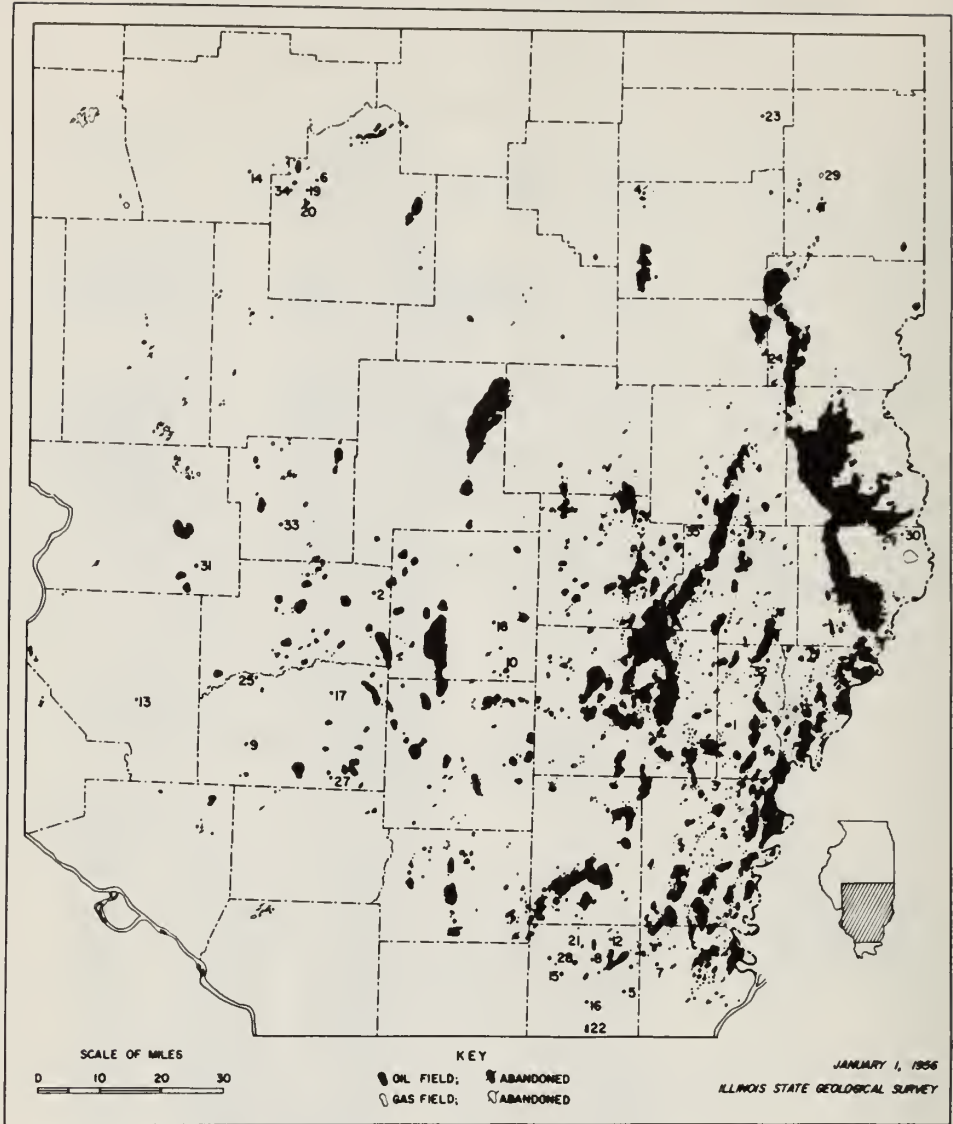


Fig. 4. - New oil pools discovered in Illinois in 1955

- | | | |
|---|-------------------------|-------------------------|
| 1. Albion Central | 12. Francis Mills South | 24. Oak Point West |
| 2. Boulder East | 13. Freeburg South | 25. Okawville North |
| 3. Centerville Northeast | 14. Glenarm | 26. Pinkstaff East |
| 4. Cooks Mills Gas (Included
in Cooks Mills Consol.) | 15. Harco East | 27. Posen South |
| 5. Cottage Grove | 16. Harrisburg South | 28. Raleigh South |
| 6. Edinburg South | 17. Hoyleton West | 29. Redmon North |
| 7. Elba | 18. Iuka West | 30. Russellville West |
| 8. Eldorado West | 19. Kincaid | 31. St. Jacob East |
| 9. Elkton | 20. Kincaid South | 32. Samsville Northwest |
| 10. Exchange East | 21. Long Branch South | 33. Stubblefield South |
| 11. Fishhook | 22. Mitchellsville | 34. Tovey |
| | 23. Murdock | 35. Wakefield South |

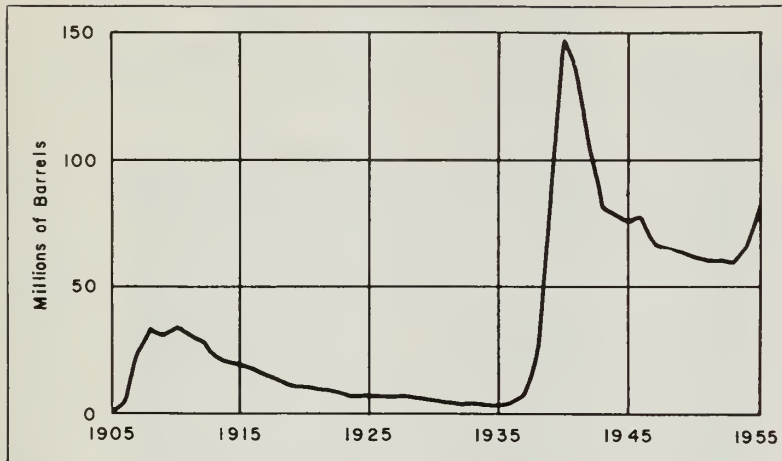


Fig. 5. - Illinois production of crude petroleum, 1905-1955.

PETROLEUM INDUSTRY

Production

The year 1955 was one of increased production of crude oil, in both the nation and Illinois. The national output of more than 2,484 million barrels was an increase of 7 percent. Illinois production of about 81.1 million barrels showed an increase of 22 percent over that of 1954.

There also was a net increase in imports of both crude oil and refined products, indicating a growing need for supplementary sources of oil from abroad. The principal source of imported oil is Venezuela, followed by Kuwait, Saudi Arabia, Canada, and Sumatra (Far East). Altogether, 15 countries export crude petroleum to the United States. Imports of crude are about 11.5 percent of domestic production.

Consumption

A total of 3 billion barrels of oil was consumed in the United States in 1955. The total includes a wide variety of products from motor fuel for automobiles, trucks, and buses to heavier oils for cooking and heating, oils and greases for lubrication, and solids such as coke and asphalt. Motor fuel takes 1.3 billion barrels or 43 percent of the total output. The second large use is for heating homes and commercial and public buildings, which takes about 20 percent of the output. Kerosene for cooking and light heating loads uses about 4 percent.

Relatively new to the petroleum industry is the use of liquid fuel for jet engines. In 1955, about 56.3 million barrels were so used, compared with 45.8 million barrels used in the previous year. This is an increase of nearly 23 percent in one year and, in time, jet fuel requirements may become substantial.

Liquefied gas also is an important product that is expanding rapidly in demand. Consumption of 142.8 million barrels in 1955 was an increase of 11 percent over the previous year.

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Table 7. - Illinois Well Completions and Production, 1936-1955

Year	Completions ^a	Producing Wells	Production ^b (thousands of barrels)		
			New fields	Old fields ^c	Total ^d
1936	93	52	-	-	4,445
1937	449	292	2,884	4,542	7,426
1938	2,536	2,010	19,771	4,304	24,075
1939	3,617	2,970	90,908	4,004	94,912
1940	3,755	3,080	142,969	4,678	147,647
1941	3,807	2,925	128,993	5,145	134,138
1942	2,017	1,179	101,837	4,753	106,590
1943	1,791	1,090 (20) ^e	77,581	4,675	82,256
1944	1,991	1,229 (12)	72,946	4,467	77,413
1945	1,763	1,094 (15)	70,839	4,371	75,210
1946	2,362	1,387 (17)	70,174	5,123	75,297
1947	2,046	1,102 (22)	61,455	5,004	66,459
1948	2,489	1,316 (21)	59,623	5,185	64,808
1949	2,741	1,447 (32)	58,571	5,930	64,501
1950	2,894	1,328 (23)	55,794	6,234	62,028
1951	2,383	947 (23)	54,147	6,097	60,244
1952	2,077	854 (35)	53,727	6,344	60,071
1953	2,161	1,161 (88)	51,924	7,101	59,025
1954	3,254	1,896 (107)	59,130	7,810	66,940
1955	3,885	2,164 (62)	72,016	9,115	81,131

a Includes only oil and gas producers and dry holes.

b Based on information furnished by oil and pipeline companies.

c Includes Devonian production at Sandoval and Bartelso.

d From U. S. Bureau of Mines through 1950.

e Figures in parentheses indicate producing wells, included in total, previously completed as dry holes.

Well Drilling

The number of wells drilled for oil and gas totaled 55,922 in 1955, of which 63 percent were oil or gas producers and the remainder dry holes. In keeping with the increasing demand for oil products, drilling also increased above that of 1954 when a total of 52,879 wells were drilled of which 64 percent produced oil or gas.

Petroleum in Illinois

Value. - The value of petroleum produced in Illinois in 1955 was \$237,713,-830 at the well and exceeded the value of coal output by \$54,867,610. Together the two fuels account for about 70 percent of the value of the mineral output of the State. In the case of petroleum, the value at the wells is only part of the story because the refining industry converts crude oil into many usable products such as gasoline, kerosene, heating oils, and lubricants, thus adding considerable value in processing.

Reserves. - The annual survey and estimate of petroleum reserves, as of January 1, 1956, by the American Petroleum Institute, shows an estimated

Table 8. - Illinois Fields Producing Over One Million Barrels of Oil During 1955

Rank	Field	Production (barrels)	Percent of State total
1	Clay City Consol.	10,219,000	12.6
2	Southeastern Illinois	8,508,000	10.5
3	Louden	7,709,000	9.5
4	Salem Consol.	7,612,000	9.4
5	New Harmony Consol.	4,518,000	5.6
6	Eldorado Consol.	3,523,000	4.3
7	Roland Consol.	2,634,000	3.2
8	Dale Consol.	1,996,000	2.5
9	Sailor Springs Consol.	1,549,000	1.9
10	Benton Consol.	1,441,000	1.8
11	Albion Consol.	1,204,000	1.5
12	Herald Consol.	1,092,000	1.3
13	Inman East Consol.	1,023,000	1.3
14	Phillipstown Consol.	1,019,000	1.2
	Total	54,047,000	66.6
	Other fields	27,084,000	33.4
	State total	81,131,000	100.0

Table 9. - National Production of Crude Oil, 1945-1955^a
(thousands of barrels)

State	1945	1950	1954*	1955 ^b	Percent of 1955 total
Texas	754,710	829,874	974,275	1,058,720	42.6
California	326,482	327,607	355,865	354,737	14.3
Louisiana	131,051	208,965	246,558	268,233	10.8
Oklahoma	139,299	164,599	185,851	203,337	8.2
Kansas	96,415	107,586	119,317	121,869	4.9
Wyoming	36,219	61,631	93,533	100,473	4.0
New Mexico	37,351	47,367	74,820	82,398	3.3
Illinois	75,094	62,028	66,798	81,610	3.3
Colorado	5,036	23,303	46,206	51,018	2.1
Mississippi	19,062	38,236	34,240	37,280	1.5
All other states	92,936	102,378	117,525	124,846	5.0
Total	1,713,655	1,973,574	2,314,988	2,484,521	100.0

* Revised figures.

a Source: U. S. Bureau of Mines.

b Preliminary figures.

ILLINOIS STATE GEOLOGICAL SURVEY

Table 10. - Estimated Oil Production by Illinois Counties, 1954^a

County	Amount (thousands of barrels)	Value (thousands of dollars)
Bond	79.0	\$237.0
Christian	755.0	2,265.0
Clark & Cumberland	1,758.0	5,274.0
Clay	4,895.0	14,685.0
Clinton	1,735.0	5,205.0
Coles	415.0	1,245.0
Crawford	2,437.0	7,311.0
Edgar	134.0	402.0
Edwards	1,440.0	4,320.0
Effingham	473.0	1,419.0
Fayette	6,693.0	20,079.0
Franklin	2,401.0	7,203.0
Gallatin	1,490.0	4,470.0
Hamilton	3,326.0	9,978.0
Hancock & McDonough	58.0	174.0
Jasper	1,710.0	5,130.0
Jefferson	2,281.0	6,843.0
Lawrence	3,258.0	9,774.0
Macon	87.0	261.0
Macoupin	0.5	1.5
Madison	568.0	1,704.0
Marion	6,525.0	19,575.0
Monroe	0.5	1.5
Montgomery	6.0	18.0
Perry	28.0	84.0
Randolph	361.0	1,083.0
Richland	3,515.0	10,545.0
St. Clair	36.0	108.0
Saline	795.0	2,385.0
Shelby	25.0	75.0
Wabash	3,638.0	10,914.0
Washington	940.0	2,820.0
Wayne	7,067.0	21,201.0
White	8,010.0	24,030.0
Total	66,940.0	\$200,820.0

^a Subject to revision.

proved reserve of 691,161,000 barrels of crude oil in Illinois, an increase of 5 percent over the known reserves of the previous year.

Natural gas reserves associated with oil are estimated at 233,565 million cubic feet, a decline of about 20 billion cubic feet from the previous year.

Oil is unlike coal or some of the metal ores in that the known reserve is only a few years ahead of annual requirements. Continual exploration for oil and discovery of new fields is an established part of the oil industry. It is the practice of the industry each year to make a survey of the amount of oil reserve that has been proved and can be produced under current conditions of price and production practices. The oil reserves of the State, therefore, are estimated each year. This figure must not be misunderstood. It does not mean that all the oil in a state or in the nation has been discovered. It merely means that the figure given represents the known amount of oil on a given date. It is something like a bank balance that gives only the bank deposit on a given date to which amounts are added or withdrawn from day to day.

The economic position of the Illinois petroleum industry is portrayed in tables 7 to 10. The historical record (table 7) shows the beginnings of production in the deep basin in 1937 and the rapid rise to a peak output in 1940. Although production did not maintain the record reached in 1940, it nevertheless has been sustained at a good level in the subsequent years. Secondary recovery practices have helped to sustain production and turn it upward from the low point of output reached in 1953. In 1955, 31 percent of the output was credited to secondary recovery methods. The list of fields producing more than 1 million barrels in 1955 is given in table 8.

Compared with Texas, Louisiana, Oklahoma, and California, Illinois is not a large producer. Table 9 shows the production position of each state. Texas overshadows all states in the nation with an output of more than 42 percent. Illinois may be classed with Kansas, Wyoming, and New Mexico, whereas California, Louisiana, and Oklahoma occupy a middle position.

The wide distribution of oil production in Illinois is shown in table 10 in the output by counties. Although 34 counties produce oil, five of them - White, Wayne, Fayette, Marion, and Clay - accounted for half the output.

LIMESTONE AND DOLOMITE INDUSTRY

Limestone and dolomite are the most important stone products of Illinois. The materials are useful in construction, highway building, railway roadbeds, agriculture, metallurgy, the chemical industry, lime and cement manufacture, and for several minor uses.

Value of limestone and dolomite produced in Illinois for all purposes except the manufacture of lime and cement was estimated at \$28,653,700 in 1955. About 23,321,000 tons were quarried during the year. The counties leading in production of limestone and dolomite are Cook, Kankakee, Randolph, St. Clair, and Will, each of which generally produces a million tons a year.

Agstone Production

The use of limestone and dolomite for correcting soil acidity on Illinois farms and improving soil tilth is a long-established practice and one that ex-

Table 11. - Illinois Limestone and Dolomite Production, 1954 and 1955^a

Use	1954*		1955 ^b	
	Tons	Value	Tons	Value
Agricultural	2,785,900	\$3,612,380	2,271,200	\$2,918,100
Construction and Paving	18,001,450	22,484,900	18,845,400	22,472,300
Metallurgical	245,015	365,140	317,600	555,800
Railroad ballast	652,215	716,370	486,300	550,500
Other	1,404,420	2,221,910	1,400,500	2,157,000
Total	23,089,000	\$29,400,700	23,321,000	\$28,653,700

* Revised figures.

a Excluding stone used in manufacture of cement and lime.

b Preliminary figures.

tends over most of the farming areas of the State. The total amount used has been 5 million tons in some years and in recent years has been about 3 million tons.

In general, limestone producers in Illinois have been well placed geographically to supply this demand. The northern tier of Illinois counties, particularly the Driftless Area, has a large number of stone outcrops that are quarried by many small stone producers to supply local markets.

Northeastern Illinois, which includes the Chicago district and environs to the south and west, has a number of large producing companies that ship stone by rail and truck to local markets as well as to more distant points in Illinois. The area around and immediately below East St. Louis, has a number of large commercial stone producers that market stone in the fertile farming area outside the St. Louis industrial district as well as eastward in south-central Illinois.

The counties that border the Mississippi River in western Illinois produce limestone and dolomite in ample quantities for local needs.

Problems of the Agstone Industry

The use of agricultural limestone on farms has declined from the high peak of 5,180,000 tons reached in 1947. The cause of this decline are complex but are related, in one aspect, to the increased use of nitrogenous, phosphate, and potassic fertilizer. Altogether, the tonnage of these materials has risen from 948,000 tons in 1950 to 1,159,000 in 1955, an increase of 22 percent.

Although consumption of agricultural limestone in Illinois has been decreasing since 1947, it is not because the soil is adequately limed. Informed agronomists are of the opinion that only about half the Illinois farms have enough lime. Some of the unlimed land is in permanent pasture to which farmers generally do not apply limestone. Large areas of crop land, however, remain inadequately limed, and there is need for demonstrating unequivocally that investment in limestone is more than returned in larger production.

CEMENT INDUSTRY

Plans to expand cement producing capacities have been announced or undertaken by cement manufacturers in Illinois and adjacent states. Illinois has four plants in the northern part of the State. On the Illinois border in Missouri are four plants at Hannibal, St. Louis, Prospect Hill, and Cape Girardeau. In Indiana plants are located at Buffington in the Chicago area and at Evansville in southern Indiana. A plant at Davenport, Iowa, is also within the Illinois market range.

The capacity of cement plants in the United States at the end of 1955 was 315 million barrels. Construction under way will add 48 million barrels capacity to the cement industry during the coming year.

Table 12. - Illinois Clay Products, 1954 and 1955

Clay product	1954*	1955 ^a
Face brick	\$8,153,255	\$7,620,380
Common brick	7,160,110	7,022,310
Structural tile	252,190	542,000
Drain tile } Sewer tile }	2,527,935	3,555,920
Other structural products	1,738,815	1,452,525
Clay and silica refractories	8,867,260	13,068,250
Pottery and whiteware	<u>18,501,060</u>	<u>21,594,285</u>
Total	\$47,200,625	\$54,855,670

* Revised figures.

a Preliminary figures.

SAND AND GRAVEL INDUSTRY

Illinois is an important producer of sand and gravel for several types of markets. The State ranks high among producers, being exceeded in output by only California, Michigan, and New York.

Sand and gravel became the leading mineral product in the United States on a basis of tonnage output in 1954, the latest year for which national statistics are available, when production rose to a record total of 557 million tons. Construction in that year was valued at 37.6 billion dollars. Indications are that sand and gravel production reached new highs in 1955 when the value of construction reached a high of 42 billion dollars.

According to the National Sand and Gravel Association, the construction of roads and buildings accounted for about 45 percent of commercial sales. The ready-mixed concrete industry took 32 percent, and retail dealers took 13 percent. The remainder went into concrete blocks, railroad ballast, and miscellaneous uses.

The enormous demand for sand and gravel is being complicated by a decrease in available deposits in some areas. Zoning regulations have restricted or blocked production in many localities. In some areas, also, potentially useful deposits of sand and gravel have been built over by homes, factories, and

Table 13. - Special Sands in Illinois, 1954 and 1955

Uses	1954*		1955 ^a	
	Tons	Value	Tons	Value
Silica sand:				
Molding sand	620,500	\$1,565,000	591,300	\$1,522,700
Other uses ^b	1,719,500	5,625,000	1,904,140	5,793,940
Ground silica ^c	275,350	2,906,200	288,015	2,977,820
Total silica sand	-	\$10,096,200	-	\$10,294,460
Natural bonded molding sand	84,300	187,000	262,610	387,820
Total special sands	-	\$10,283,200	-	\$10,682,280

* Revised figures.

a Preliminary figures.

b Glass, grinding and polishing, blast, fire and furnace, engine, filter.

c For abrasives, ceramics, foundry and filler from ground siliceous material.

Table 14. - Illinois Sand^a and Gravel Production, 1954 and 1955

Uses	1954*		1955 ^b	
	Tons	Value	Tons	Value
Building sand	5,704,045	\$4,128,965	3,646,400	\$2,835,450
Paving and road sand	1,864,110	1,439,350	1,378,700	1,072,550
Other sand	482,835	343,220	2,135,200	1,614,000
Total sand	8,050,990	5,911,535	7,160,300	5,522,000
Building gravel	4,734,120	4,163,650	3,656,100	3,342,700
Paving and road gravel	5,688,670	4,325,715	4,182,100	3,492,000
Railroad ballast	538,515	346,680	402,250	223,400
Other gravel	1,030,320	514,920	1,992,050	1,650,800
Total gravel	11,991,625	9,350,965	10,232,500	8,708,900
Total sand and gravel	20,042,615	\$15,262,500	17,392,800	\$14,230,900

* Revised figures.

a Exclusive of silica sand and natural bonded molding sand.

b Preliminary figures.

highways. An important consideration is economic availability. The sand and gravel industry is essentially local because transportation costs limit many producers to a fifty-mile market radius. If producers must ship greater distances, there will be substantial increases in prices and in construction costs.

Illinois is fortunate in possessing enormous deposits of sand and gravel along the Illinois Waterway and accessible to the principal urban areas.

FLUORSPAR INDUSTRY

Fluorspar is an important raw material for the iron and steel, aluminum, chemical, glass, and ceramic industries. Commercial fluorspar is graded principally according to its content of calcium fluoride, and secondarily according to its content of other materials and certain physical characteristics. It is ordinarily prepared as metallurgical grade, acid grade, and ceramic grade. The metallurgical grade is used primarily in the manufacture of iron and steel; the acid grade goes into the production of fluorine compounds that are used in the manufacture of aluminum and other products.

The salient features of the fluorspar industry in the United States in 1955 are an increase of production over that of 1954 from 247,700 tons to 291,275 tons, and an increase in shipments from mines from 245,628 tons to 292,110 tons. Imports for consumption exceeded domestic production, showing an increase from 293,320 tons to 372,415 tons, or 27 percent. The United States government acquired substantial tonnages of imported acid-grade fluorspar in 1955 under contracts bartering surplus agricultural commodities for fluorspar. The government also acquired fluorspar under an expansion contract with a Newfoundland producer and a domestic producer.

Uses of Fluorspar

The importance of fluorspar lies primarily in its use as a flux or slag conditioner and as a source of fluorine. The largest single use of fluorspar has been by iron foundries and by the steel industry as a flux in the production of basic open-hearth steel, electric-furnace steel, ferro-alloys and alloy steel, and Bessemer steel.

The steel industry was formerly the dominant consumer of fluorspar but in recent years the aluminum and chemical industries have taken larger amounts of acid-grade fluorspar for production of hydrofluoric acid. The aluminum industry's hydrofluoric acid goes almost entirely into manufacture of aluminum fluoride and synthetic cryolite, both needed in the manufacture of aluminum. Available information indicates that the production of one ton of aluminum requires about 85 pounds of acid-grade fluorspar converted into aluminum fluoride, and that if only synthetic cryolite is used, an additional 55 pounds of acid spar is required.

In the chemical industry, hydrofluoric acid is used primarily as an intermediate in the manufacture of numerous fluorine compounds, many of which are important in national defense.

Ceramic-grade fluorspar is used mainly in the manufacture of opal, opaque, and colored glass, and to make opaque, white, or colored enamels for coating metal ware. It also is used as a flux in such operations as the manufacture of

ILLINOIS STATE GEOLOGICAL SURVEY

Table 15. - Fluorspar Shipped from Mines in the United States, and Imports, 1954^a

State	1954		Percent of United States total tons
	Tons	Value	
Illinois	107,830	\$5,989,219	43.9
Colorado	59,197	3,197,252	24.1
Kentucky	35,831	1,510,344	14.6
Utah	4,403	82,353	1.8
Other states	38,367	1,553,611	15.6
Total	245,628	\$12,332,779	100.0
Imports for use in United States	293,320	\$8,961,595	-

^a Source: U. S. Bureau of Mines.

portland cement, rock wool, artificial abrasives, and basic refractory cement, and in the production of calcium carbide and cyanamide.

The future demand for fluorspar in the United States will be influenced by trends in its use for various purposes. Fluorspar is a relatively low-priced raw material by weight, and to a large extent the demand for it derives from this fact. Various attempts have been made to find substitutes for fluorspar used in the metallurgical field, but thus far other materials have been found to be less satisfactory or more costly.

There are no commercial substitutes for fluorspar as a source of hydrofluoric acid. Although some manufacturers can use substitutes for hydrofluoric acid, there are no substitutes for hydrofluoric acid in the production of aluminum fluoride and synthetic cryolite. Synthetic cryolite is a substitute for natural cryolite of which the only commercially exploited deposit is in Greenland.

Sources of Fluorspar

The United States is by far the first-ranking country in the world as a producer of fluorspar. The other important fluorspar producing countries are Mexico, the United Kingdom, Spain, Canada (including Newfoundland), France, Germany, and Italy. Importers of fluorspar to the United States were, in order of volume shipped, Mexico, Spain, Italy, Canada and Newfoundland, and Germany.

DIRECTORY OF ILLINOIS
INDUSTRIAL MINERALS PRODUCERS

The following pages contain lists of mineral operators (except fluorspar and metals) who have reported recent production. The lists, arranged by product and by county, are not necessarily complete because of changes in organization, mining location, or other conditions.

The directory is published in order to aid consumers of mineral raw materials to locate the most convenient sources of production, to answer queries of mine- and quarry-equipment manufacturers, and to give citizens of the State information about their local industries.

The list also will make the general report more valuable to teachers in the public schools who use the reports for studies in mineral resources and conservation.

LIMESTONE AND DOLOMITE PRODUCERS

Adams

The Black & White Limestone Co., Box 87, Front & 8th St., Quincy
Marblehead Lime Co., 300 West Washington St., Chicago 6
Menke Stone & Lime Co., 828 Vermont St., Quincy

Boone

Belvidere Lime Quarry, 129 West Locust St., Belvidere

Brown

Aber and Fry, Mt. Sterling

Calhoun

Paul C. Herter, Golden Eagle

Carroll

Minor Brothers, 1003 8th Ave., Rock Falls

Clark

Casey Stone Co., Box 128, Casey
Ralph E. Montgomery, Box 128, Marshall
Quality Lime Co., Marshall

Clay

Iola Stone & Material Co., Box 326, Centralia

Coles

Langs Stone Quarry, Box 183, Charleston 2
Olen Humphres Stone Quarry, Ashmore

Cook

Consumers Co. of Illinois, 79 West Monroe St., Chicago 3
Dolese & Shepard Co., Box 227, LaGrange
Material Service Corp., 300 West Washington St., Chicago

DuPage

Elmhurst-Chicago Stone Co., 400 West First St., Elmhurst

Effingham

Winters Stone Quarry, Altamont

Fulton

Chipman Limestone Quarry, 585 East Fulton St., Farmington

Greene

Orton Quarry, Hillview

Hancock

Colchester Stone Co., Room 314, 1630 5th Ave., Moline

The Gray Quarries, Hamilton

W. F. Hanna, Nauvoo

R. L. O'Neal & Sons, Carthage

Hardin

J. L. Bean Stone Co., Golconda

P. R. Brown Stone Co., Box 355, Golconda

Okerson Quarry Co., Box 226, Cave in Rock

Rigsby & Barnard, Box 56, Cave in Rock

Henderson

Galbraith Stone Quarry, Raritan

Olson Brothers, Box 355, Dallas City

Jackson

Illinois Quarry Co., Box 401, Ava

Jersey

Jersey Quarry, Inc., Jerseyville

Sievers Brothers, Fieldon

Jo Daviess

W. E. Broege, Warren

Elmer C. Wienen & Sons, 308 South St., Galena

Johnson

Southern Illinois Stone Co., Box 28, Buncombe

The Charles Stone Co., Cypress

Kane

Fox River Stone Co., Route 2, Elgin

Kankakee

Bourbonnais Stone Quarry, 284 South Clinton, Bradley

Lehigh Stone Co., Box 669, Kankakee

Manteno Limestone Co., Box 301, Manteno

Kendall

Central Limestone Co., R. D. 4, Morris

Knox

Abingdon Rock Co., Inc., Abingdon

LaSalle

Sheridan Stone Co., Box 117, Sheridan
Troy Grove Stone Co., Troy Grove
Utica Stone Co., Spring Valley

Lee

Frank N. Butler Co., Franklin Grove
Ward McGinnis, Route 1, Dixon
William Seitz, Oregon
Stoneridge Limestone Co., 5030 13th St., Rochelle
Wilmer Gerdes Quarry, Route 2, Dixon

Livingston

Livingston Stone Co., Inc., Route 4, Pontiac
Ocoya Stone Co., Rural Route, Pontiac
Pontiac Stone Co., Box 412, Pontiac
Wagner Stone Co., Route 1, Pontiac

Logan

Rocky Ford Limestone Co., Route 1, Lincoln

Madison

C. M. Lohr, Inc., Godfrey
Mississippi Lime Co. of Missouri, 7 Alby St., Alton
Reliance Whiting Co., Box 265, 16th St. & Alby St., Alton

McDonough

John McClure, Colchester
Colchester Stone Co., Room 314, 1630 5th Ave., Moline

McHenry

Garden Prairie Stone Co., Inc., 104 South State St., Marengo

Menard

Athens Stone Quarry, Route 2, Athens

Mercer

Independent Materials Co., Viola

Monroe

Columbia Quarry Co., 1007 Washington Ave., St. Louis 1, Missouri

Montgomery

Litchfield Stone Co., Litchfield

Ogle

Kutz Brothers Co., Forreston
Clarence Lenstrom, Stillman Valley
William Seitz, Oregon

Peoria

Lamar Stone Co., Princeville
Trivoli Stone Co., 168 North Cone St., Farmington
Princeville Stone Co., Princeville

Pike

Harry J. Lacey, Pearl
Marvin O. Lumley, Kinderhook
Pearl Stone Co., Pearl

Pulaski

Columbia Quarry Co., 1007 Washington Ave., St. Louis 1, Missouri

Randolph

Allied Chemical & Dye Corp., Solvay Process Div., Box 271, Syracuse 1,
New York
Chester Quarry Co., Chester
Al Stotz, Pautler Heights, Waterloo

Rock Island

Collinson Stone Co., 3115 23rd Ave., Moline
Cordova Quarry Inc., 3115 23rd Ave., Moline
Midway Stone Co., Inc., Hillsdale

St. Clair

Casper Stolle Quarry & Const. Co., Route 1, East St. Louis
Columbia Quarry Co., 1007 Washington Ave., St. Louis, Missouri
East St. Louis Stone Co., 528 Murphy Bldg., East St. Louis
Hecker Quarry Inc., 301 South Jackson St., New Athens

Scott

Kruger Quarry, Winchester
Thomas Quarry, Winchester

Shelby

Quality Lime Co., Marshall

Stephenson

Ray Askey, Orangeville
W. E. Broege, Warren
Ed. Finkbiener & Son, 4 East South St., Freeport
Elmer Fortner, 1116 1/2 South Carroll Ave., Freeport
Scofield & Co., Freeport
Arthur Zimmerman, Pecatonica

Union

Anna Quarries, Inc., Anna
Jonesboro Stone Co., Route 1, Anna

Vermilion

Material Service Corp., 300 West Washington St., Chicago

Washington

Radom Quarry, Radom

Whiteside

Cordova Quarry, Inc., 3115 23rd Ave., Moline
Johnson Coal Co., Morrison
Fred R. McKenzie & Co., 405 Bondi Bldg., Galesburg

Will

Lincoln Crushed Stone Co., Box 1224, Joliet
 Material Service Corp., 300 West Washington St., Chicago
 National Stone Co., Box 1213, Joliet

Winnebago

Charles G. Ind Co., 2722 Broadway, Rockford
 William Nordhop, 522 Furman St., Rockford
 Porter Brothers, Roscoe
 Art Zimmerman, Pecatonica

CLAY AND CLAY PRODUCTS PRODUCERS

Alexander

Ozark Minerals Co., 807 1/2 Washington Ave., Cairo (clay)
 Western Fire Brick Co., Granite City (clay)

Bond

Richards Brick Co., 234 Springer Ave., Edwardsville

Boone

Munson Brothers & Co., Capron

Brown

Frederic Brick & Tile Co., Box 146, Mt. Sterling

Bureau

Sheffield Shale Products Co., Sheffield

Cook

Alexander Burke's Sons, 3900 South Cicero Ave., Cicero 50
 Brisch Brick Co., 228 North LaSalle St., Chicago 1
 Carey Brick Co., 6558 West Fullerton Ave., Chicago 35
 Chicago Brick Co., 135 South LaSalle St., Chicago
 Chicago Fire Brick Co., 1467 North Elston Ave., Chicago 22
 Chicago Pottery Co., 1920 Clybourn Ave., Chicago 14
 Illinois Brick Co., 228 North LaSalle St., Chicago 1
 George Keller Pottery Co., 2618 North Lakewood Ave., Chicago 14
 Northwestern Terra Cotta Corp., 1750 West Wrightwood Ave., Chicago
 Plibrico Co., 1840 Kingsbury St., Chicago
 Tuthill Building Material Co., 545 East 103rd St., Chicago 28
 Wingert Pottery Co., 5035 West Foster Ave., Chicago

Crawford

W. A. Case & Son Manufacturing Co., 33 Main St., Buffalo 3, New York

Edwards

Albion Brick Co., Albion

Fayette

St. Elmo Brick and Tile Co., St. Elmo

Greene

Ruckels Potteries, Inc., White Hall

White Hall Sewer Pipe and Drain Tile Co., Laclede-Christy Co., Division
H. K. Porter Co., Inc., 2000 Hampton Ave., St. Louis, 10, Missouri
Lyndall W. Wyatt, Box 256, White Hall (clay)

Grundy

The Illinois Clay Products Co., 214 Barber Bldg., Joliet

Jackson

Jackson County Brick Co., Campbell Hill

Kane

Haeger Potteries, Inc., Dundee

Kankakee

Eastern Illinois Clay Co., St. Anne
Kankakee Clay Products Co., St. Anne
St. Anne Brick & Tile Co., St. Anne

Knox

Abingdon Potteries, Inc., 801 North Main St., Abingdon
Purington Brick and Tile Co., Box 110, Galesburg

Lake

National Brick Co., 3150 West Touhy Ave., Chicago 45
Pickard, Inc., Corona Ave., Antioch

LaSalle

The Conco-Meier Co., RFD Lowell, Tonica
Laclede-Christy Co., Division of H. K. Porter Co., Inc., 2000 Hampton Ave.,
St. Louis 10, Missouri
Arthur Mart, Box 149, Streator (clay)
Matthiessen & Hegeler Zinc Co., LaSalle (clay)
Streator Brick Co. Division, Hydraulic-Press Brick Co., 705 Olive St.,
St. Louis, Missouri
Streator Drain Tile Co., West 10th St., Streator

Livingston

Diller Tile Co., Chatsworth
Streator Division, Hydraulic Press Brick Co., 321 East Main St., Streator

Logan

Stetson China Co., 999 North Kickapoo St., Lincoln

Madison

Alton Brick Co., Box 394, Alton
Richards Brick Co., Edwardsville
Western Fire Brick Co., 16th St. & Madison Ave., Granite City

Marshall

Hydraulic-Press Brick Co., 809 Lehmann Bldg., Peoria 2

McDonough

Baird Clay Mine, Colchester (clay)

Illinois McGraw Electric Co., 510 North Pearl St., Macomb
Macomb Pottery Co., Macomb
Frank Nelson, Colchester (clay)
J. R. Purtscher, 216 Louckes Ave., Peoria (clay)
Western Stoneware Co., 621 West 6th Ave., Monmouth

McHenry

American Terra Cotta Corp., Box 225, Crystal Lake

Menard

Springfield Clay Products Co., Box 362, Springfield

Mercer

Hydraulic-Press Brick Co., 901 Putnam Bldg., Davenport, Iowa

Pulaski

American Charcoal Co., 201 South Green St., Detroit 17, Michigan (clay)

Rock Island

Blackhawk Clay Products, Inc., Carbon Cliff

St. Clair

Hill Brick Co., 51st St. & St. Clair Ave., East St. Louis
Hydraulic-Press Brick Co., 705 Olive St., St. Louis 1, Missouri

Saline

Ford Brick & Tile Co., Box 86, Harrisburg

Sangamon

Poston Brick & Concrete Products Co., 2600 East South Grand Ave.,
Springfield
Springfield Clay Products Co., Box 362, Springfield

Scott

Alsey Brick & Tile Co., Alsey

Tazewell

The Morton Pottery Co., 315 West Jefferson, Morton
Peoria Brick & Tile Co., Box 515, Peoria 1

Vermilion

General Refractories Co., 1520 Locust St., Philadelphia 2, Pennsylvania
Western Brick Co., P. O. Box 591, Danville

Warren

Western Stoneware Co., 621 West 6th Ave., Monmouth

Will

General Refractories Co., 1520 Locust St., Philadelphia 2, Pennsylvania

SAND AND GRAVEL PRODUCERS**Adams**

Blick's Construction Co., Quincy
Quincy Sand Company, Front & Broadway, Quincy

Alexander

H. H. Halliday Sand Co., 224-226 10th St., Cairo

Bond

Greenville Gravel Co., Inc., Greenville

W. D. Lindsey, Keyesport

Cyril Munie, Pocahontas

Boone

Christensen & Smith, Capron

Vincent Spencer Sand & Gravel Co., 120 Burgess St., Belvidere

Brown

T. F. Hollembeak & Son, Mt. Sterling

Bureau

Floyd Clapp, Walnut

Hansen Brothers, New Bedford

Frank J. Poscharscky, Wyanaet

Swanson Brothers, Box 84, Princeton

Western Sand and Gravel Co., 111 North Spalding St., Spring Valley

Calhoun

Ellis Inman, Batchtown

Carroll

Howard Nelson, Lanark

Nicol Sand Co., Albert A. Nicol, Savanna

Rein & Dahl, P. O. Box 120, Stoughton, Wisconsin

Champaign

Gibson Brothers, 407 North Edwin St., Champaign

Mahomet Sand & Gravel Co., Inc., Box 65, Urbana

W. H. Troike & C. R. Plankenhorn, Box 327, Mahomet

West Champaign Gravel Co., 404 North Neil St., Champaign

Clark

Barthelemy and Lawrence, R. R. 2, Box 120-A, West Union

Stanfield & Alexander, Marshall

Coles

Martin's Sand & Gravel, 527 Ninth St., Charleston

Pinnell's Gravel Pit, Ashmore

Cook

Chicago Gravel Co., 343 South Dearborn St., Chicago 4

Worth Sand & Gravel Co., 7545 West 111th St., Worth

Crawford

Lawrence Bowman, 140 East Lamotte St., Palestine

William J. Wyke, Box 11, Robinson

Cumberland

A. B. C. Gravel Co., Greenup

Casey Stone Co., 104 West Alabama, Casey
George Orndorff, Route 1, Greenup

DeKalb

Kirkland Gravel Yard, Kirkland
Elmer Larson, Inc., 320 Prospect St., DeKalb
Donald Tyrrell, RFD 2, Sycamore

DeWitt

Oscar Fortune, Kenny
H. M. Rickgauer, Clinton

DuPage

Elmhurst-Chicago Stone Co., 400 West 1st St., Elmhurst
John Purnell, Geneva Road, West Chicago
Henry Van Acker, Box 65, Wayne

Fayette

Don L. Burtschi, Vandalia

Ford

W. V. Williams, Box 287, Gibson City

Fulton

Liverpool Materials Co., 1265 North Main St., Canton

Gallatin

Miller Sand & Gravel Co., Carmi

Grundy

Material Service Corp., 300 West Washington, Chicago 6

Henderson

H. B. Graham Stone Quarry, Gladstone

Henry

Collinson Brothers, 2405 27th St., Moline
Oberlaender Sand Co., 519 1/2 15th St., Moline
Schadt Service Co., 623 First Ave., Silvis

Kane

H. D. Conkey & Co., Box 111, Mendota
Fox Valley Gravel Co., Box 423, Route 3, Aurora
Warren W. Krahn, 724 South St., Dundee
Material Service Corp., 300 West Washington St., Chicago 6
L. G. Raymond, Big Rock
Ed. Schneider, Rural Route 3, Box 72, Elgin
Warren T. Sellen, 344 Cedar St., Aurora

Kendall

Elmer Larson, Inc., Box 383, 320 Prospect St., DeKalb

Knox

L. K. Bandy Construction Co., Maquon

Lake

Carl L. Barthel, Antioch
 Big Hollow Sand & Gravel Co., Inc., RFD, Ingleside
 Consumers Co., 79 West Monroe St., Chicago 3
 Paul W. Schumaker, Box 185-B, Gurnee

LaSalle

G. A. Abbott, Leland
 Ray LaBolle, Somonauk
 LaSalle County Portable, Inc., Bridge St., Ottawa
 Moline Consumers Co., 314 15th St., Moline
 Edward O. Olson, Newark
 River Industries Inc., Box 641, Seneca
 Spicer Gravel Co., 445 Union St., Marseilles
 Western Sand & Gravel Co., 111 North Spalding St., Spring Valley

Lawrence

L. W. Gregory and Sons, Lawrenceville
 Lawrenceville Sand & Gravel Co., P. O. Box 240, Lawrenceville
 Vincennes Gravel Co., Inc., Vincennes, Indiana

Lee

Butler Sand & Gravel Co., Nelson
 C. C. Macklin, Steward
 Rock River Ready Mix, 206 Brinton Ave., Dixon

Livingston

Estep Gravel Co., 604 East Oak St., Fairbury
 Valley View Dirt & Gravel Co., Route 1, Manville

Logan

The Lincoln Sand & Gravel Co., P. O. Box 67, Lincoln

Macon

Decatur Sand & Gravel Co., 700 South Taylor Ave., Decatur
 Kirks Gravel Pit, Route 6, Decatur
 H. M. Rickgauer, Box 66, Clinton
 F. C. Troutman, Route 8, Decatur

Madison

Alton Sand Co., foot of Henry St., Alton
 Gary Dredging Co., 958 Union St., Alton
 Guth Sand Co., Box 1170, Route 1, Granite City
 Mississippi Lime Co. of Missouri, 7 Alby St., Alton
 Stocker Gravel & Construction Co., 509 Main St., Highland

Marshall

Consumer's Co. of Illinois, 79 West Monroe St., Chicago 3
 Vernon Henry, LaRose

McHenry

Consumer's Co. of Illinois, 79 West Monroe St., Chicago 3

Crystal Lake Trucking & Excavating Co., Route 14, Box 184, Crystal Lake
Floyd Greibel, Marengo
Grove Gravel & Excavating Co., Fox River Grove
McHenry Sand & Gravel Co., Inc., 606 Front St., McHenry
Wayne Nolan, RFD, Harvard
O'Leary Construction Co., Woodstock
Sylvester Tonyan, R. R. 1, Box 371, McHenry

McLean

Heidelberg & McDowell, Box 49, Downs
John Howe, RFD 1, Bloomington
McGrath Sand & Gravel Co., Inc., Lincoln
Rowe Construction Co., 1523 West Market St., Bloomington

Ogle

Byron Sand & Stone Co., Byron
E. C. Kolpek, Oregon
Kutz Brothers Co., Forreston
McGrath Sand & Gravel Co., Inc., Lincoln
Rockford Blacktop Construction Co., 1615 Westchester Ave., Rockford
Lloyd Shilling, Route 2, Milledgeville
Floyd Weigle, Shannon

Peoria

Chillicothe Gravel Co., 915 North 4th St., Chillicothe
Construction Materials Co., 100 Cass St., Peoria
Coogan Gravel Co., 903 Jefferson Bldg., Peoria 2
McGrath Sand & Gravel Co., Inc., Lincoln
Stevens, Inc., 2423 West Farmington Road, Peoria 5
C. L. Swords & Son, 107 South Jefferson Ave., Peoria 2

Pike

Victor Callender, Pittsfield
Missouri Gravel Co., 314 15th St., Moline

Randolph

Southern Illinois Sand Co., Inc., Chester

Rock Island

Blackhawk Aggregates, Inc., 230 4th St. West, Milan
Builders Sand & Gravel Co., 104 Western Ave., Davenport, Iowa

St. Clair

Missouri-Illinois Material Co., 2100 North Wharf, St. Louis 6, Missouri

Sangamon

Buckhart Sand & Gravel Co., Inc., Rural Route, Mechanicsburg
Clear Lake Sand & Gravel Co., P. O. Box 398, Springfield
Springfield Sand & Gravel Co., Route 7, Springfield

Scott

Homer E. Grady, Exeter

Shelby

Corley Gravel, Cowden
Henry Cummings, Sullivan
Hanfland Sand & Gravel Co., Shelbyville

Tazewell

Hoffer Construction Co., Inc., Box 106, East Peoria 8
McGrath Sand & Gravel Co., Inc., Lincoln
C. A. Powley, Route 2, Washington
Spring Lake Sand & Gravel, Manito

Union

Bittle & Emrick, Anna

Vermilion

Blakeney Gravel Co., Route 4, Danville
Lawrence Clifton, Westville
Lewis & Co., Perrysville Road, Box 38, Danville
Jesse Speranza, Route 1, Westville
Vanderpoorten Brothers, 122 Delaware St., Westville
Elton A. Wagner Co., 505 North Gilbert St., Danville

Wabash

Allendale Gravel Co., Route 1, Allendale
Dunobar Sand & Gravel Co., Box 97, Belmont
Mt. Carmel Sand & Gravel Co., Box 209, Mt. Carmel

White

Eastwood Sand & Gravel Works, Grayville
Frashier Brothers, Maunie
Miller Sand & Gravel Co., Carmi

Whiteside

Anderson Ready Mix, 903 Avenue D, Rock Falls
Ernest Johnson, Box 67, Lyndon
Max Lawrence, RFD, Prophetstown
Weldon W. Lawrence, Prophetstown
Midwest Sand & Gravel Co., Sterling
Vernon Schrader Gravel, Route 2, Sterling
William L. Taber, Prophetstown, 513 Market St.

Will

Avery Gravel Co., Plainfield
Chicago Gravel Co., 343 South Dearborn St., Chicago 4
Material Service Corp., 300 West Washington, Chicago 6
C. H. Monk, 211 Hunter St., Joliet

Winnebago

Anderson Sand & Gravel Co., 519 East State St., Rockford
Consumers Co., 79 West Monroe St., Chicago 3
Illinois-Wisconsin Sand & Gravel Co., 228 North LaSalle St., Chicago 1

John L. Kelly, Roscoe

Larson Brothers Sand & Gravel, 1822 South 5th St., Rockford

Northwest Gravel Co., 917 Main St., Evanston

Porter Brothers, Roscoe

Sahlstrom & Sons Bldg. Products, 217 Peoples Ave., Rockford

South Beloit Sand Co., 228 North LaSalle St., Chicago 1

Woodford

Wood-Mar Construction Co., 611 State St., Eureka

PORTLAND AND MASONRY CEMENT PRODUCERS

LaSalle

Alpha Portland Cement Co., 15 South Third St., Easton, Pennsylvania

Lehigh Portland Cement Co., Young Bldg., 718 Hamilton St., Allentown,
Pennsylvania

Marquette Cement Mfg. Co., 20 North Wacker Drive, Chicago 6

Lee

Medusa Portland Cement Co., Dixon

LIME PRODUCERS

Adams

Marblehead Lime Co., 300 West Washington St., Chicago 6

Menke Stone & Lime Co., 828 Vermont St., Quincy

Cook

Marblehead Lime Co., 300 West Washington St., Chicago 6

The Standard Lime & Cement Co., 2000 1st Nat'l Bank Bldg., Baltimore 3,
Maryland

St. Clair

Aluminum Co. of America, 1501 Alcoa Bldg., 425 Sixth Ave., Pittsburgh,
Pennsylvania

SILICA SAND PRODUCERS

LaSalle

The American Silica Sand Co., Inc., 402 Central Life Bldg., Ottawa

E. C. Bellrose Sand Co., 1220 West Madison St., Ottawa

Illinois Silica Sand Co., Box 36, Ottawa

LaSalle Silica Co., Box 437, Ottawa

Ottawa Silica Co., Box 437, Ottawa

George M. Pendergast & Co., 226 South First St., Milwaukee, Wisconsin

Standard Silica Co., Box 407, Ottawa

Wedron Silica Co., 135 South LaSalle St., Chicago 3

Ogle

National Silica Co., Oregon

NATURAL BONDED MOLDING SAND PRODUCERS

Bureau

Frank J. Poscharscky, Wyanet

Carroll

Albert A. Nicol, Nicol Sand Co., Box 209, Savanna

Coles

Martin's Sand and Gravel, 527 Ninth St., Charleston

Fayette

Mulberry Grove Sand Co., Charles D. Lutz & Sons, Mulberry Grove

Henry

Oberlaender Sand Co., 519 1/2 15th St., Moline

Kankakee

Portage-Manley Sand Co., Essex

Winnebago

South Beloit Sand Co., 228 North LaSalle St., Chicago 1

TRIPOLI PRODUCERS

Alexander

Ozark Minerals Co., 807 1/2 Washington Ave., Cairo

Tamms Industries, Inc., 228 North LaSalle St., Chicago 1



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