

THE MINERAL INDUSTRY OF ILLINOIS

This chapter has been prepared under a Memorandum of Understanding between the U.S. Bureau of Mines, U.S. Department of the Interior, and the State Geological Survey, Illinois Department of Energy and Natural Resources, for collecting information on all nonfuel minerals.

For the 5th year in a row and the 7th in the last 9 years, Illinois ranked 16th among the 50 States in total nonfuel mineral value¹ in 1994, according to the U.S. Bureau of Mines (USBM). The estimated value for 1994 was more than \$770 million, a 5% increase compared with that of 1993. This followed almost identical values for the previous 2 years, with only a slight increase occurring in 1993 compared with that of 1992. The State accounted for more than 2% of the U.S. total. Illinois is almost entirely an industrial mineral-producing State, accounting for more than 97% of the total nonfuel mineral value in 1994. Of these, crushed stone, the State's leading commodity, represented 45% of the total, and construction sand and gravel was 20%. The largest value mineral commodity to decline in value was portland cement, which accounted for more than 15% of the total value. The only metal produced in significant quantities from Illinois' mines is zinc. Compared with 1993, the value of crushed stone, construction sand and gravel, lime, zinc, lead, dimension stone, and copper increased. Decreases occurred in portland cement, industrial sand and gravel, fuller's earth,

fluorspar, and gemstones. Minerals that increased in value accounted for more than 73% of the total nonfuel mineral value.

Compared with USBM estimates of the quantities of minerals produced in the other 49 States during 1994, Illinois remained first in industrial sand and gravel and fluorspar; fourth in crushed stone; one of the top six States producing fuller's earth; seventh in lime, zinc, and lead; and eighth in construction sand and gravel. The State dropped from 9th to 10th in the manufacture of portland cement.

According to the Illinois State Geological Survey (ISGS), 1994 production of construction aggregates exceeded 100 million metric tons. Mineral production in Illinois is dominated by construction aggregates, which have been increasing since the mid-1980's, although industrial sand and gravel and portland cement also are major mineral products. In the last several years, obtaining permits to open new sites for the mining of minerals has proven to be more difficult than in previous years. In an Illinois' crushed-stone producing area, one company needed more than 4 years to obtain a permit. In another example,

TABLE 1
NONFUEL RAW MINERAL PRODUCTION IN ILLINOIS¹

Mineral	1992		1993		1994 ^p	
	Quantity	Value (thousands)	Quantity	Value (thousands)	Quantity	Value (thousands)
Cement (portland) thousand metric tons	2,595	\$118,982	2,430	\$122,779	2,332	\$118,000
Clays ² do.	535	2,362	477	1,086	477	1,090
Gemstones	NA	715	NA		NA	325
Sand and gravel:						
Construction thousand metric tons	32,382	123,720	^e 34,500	^e 37,300	36,500	151,000
Industrial do.	⁴ 4,241	⁵ 57,454	4,224	61,734	W	W
Stone (crushed) ³ do.	^e 65,952	^e 322,800	61,487	315,149	^e 65,000	^e 345,000
Combined value of barite (1992-93), cement [masonry (1992)], clays (fuller's earth), copper, fluorspar, lead, lime, peat, silver, stone [crushed sandstone (1993-94), crushed sandstone and limestone (1992), dimension], tripoli (1992-93), zinc, and value indicated by symbol W	XX	108,252	XX	95,929	XX	155,000
Total	XX	⁷ 734,285	XX	734,305	XX	⁴ 770,000

^eEstimated. ^pPreliminary. ^rRevised. NA Not available. W Withheld to avoid disclosing company proprietary data; value included with "Combined value" data. XX Not applicable.

¹Production as measured by mine shipments, sales, or marketable production (including consumption by producers).

²Excludes certain clays; kind and value included with "Combined value" data.

³Excludes certain stones; kind and value included with "Combined value" data.

⁴Data do not add total shown because of independent rounding.

TABLE 2
ILLINOIS: CRUSHED STONE¹ SOLD OR USED BY PRODUCERS IN 1993, BY USE

Use	Quantity (thousand metric tons)	Value (thousands)	Unit value
Coarse aggregate (+1 1/2 inch):			
Macadam	1,473	\$6,668	\$4.53
Riprap and jetty stone	491	3,171	6.46
Filter stone	364	1,813	4.98
Other coarse aggregate	111	612	5.51
Coarse aggregate, graded:			
Concrete aggregate, coarse	6,280	31,380	5.00
Bituminous aggregate, coarse	3,876	22,730	5.86
Bituminous surface-treatment aggregate	1,125	6,241	5.55
Railroad ballast	666	3,523	5.29
Other graded coarse aggregate	368	2,052	5.58
Fine aggregate (-3/8 inch):			
Stone sand, concrete	832	4,094	4.92
Stone sand, bituminous mix or seal	412	1,855	4.50
Screening, undesignated	662	2,528	3.82
Other fine aggregate	1	4	4.00
Coarse and fine aggregates:			
Graded road base or subbase	12,421	53,753	4.33
Unpaved road surfacing	1,861	8,578	4.61
Crusher run or fill or waste	797	3,917	4.91
Other coarse and fine aggregates	W	W	4.22
Other construction materials	247	1,197	4.85
Roofing granules	3	95	31.67
Agricultural:			
Agricultural limestone	2,339	9,161	3.92
Poultry grit and mineral food	36	553	15.36
Other agricultural uses	36	188	5.22
Chemical and metallurgical:			
Cement manufacture	3,333	14,345	4.30
Flux stone	(?)	(?)	4.19
Chemical stone	(?)	(?)	6.18
Sulfur oxide removal	(?)	(?)	4.01
Special:			
Asphalt fillers or extenders	15	200	13.33
Other fillers or extenders	(?)	(?)	5.51
Other specified uses not listed	667	3,598	5.39
Unspecified:³			
Actual	14,813	89,130	6.02
Estimated	<u>8,257</u>	<u>43,762</u>	<u>5.30</u>
Total ⁴	61,487	315,149	5.13
Total ^{5 6}	67,778	315,149	4.65

W Withheld to avoid disclosing company proprietary data; included with "Other construction materials."

¹Includes dolomite, limestone, and limestone-dolomite; excludes sandstone from State totals to avoid disclosing company proprietary data.

²Withheld to avoid disclosing company proprietary data; included with "Other specified uses not listed."

³Includes production reported without a breakdown by use and estimates for nonrespondents.

⁴Data may not add to totals shown because of independent rounding.

⁵One short ton is equal to 907 kilograms or 2,000 pounds. To convert metric tons to short tons, divide metric tons by 0.907185.

⁶Total shown in thousand short tons and thousand dollars.

a company was thwarted in its permitting attempts when a county circuit court ruled in favor of the county board of supervisors, which had denied an application for a zoning change from prime agricultural to stone quarrying. In other developments, two quarries were purchased by Martin Marietta Aggregates, signaling its reentry into the Illinois aggregate industry after nearly a 10-year absence. Union Pacific Minerals, Inc., owner of a high-calcium limestone prospect in southern most Illinois adjacent to the Mississippi River, reportedly was looking for a company with appropriate expertise to develop the property. Ozark-Mahoning Co., described by ISGS as the only primary producer of fluorspar in the United States, mined out and closed the Denton Mine, one of its three mines in Hardin County. According to the company, output from the two remaining mines was being increased to make up for the

reduced mine production caused by the closure of Denton. Additionally, Ozark-Mahoning arranged the purchase of a large tonnage of acid-grade fluorspar (flotation concentrates) from a Wilmington, DE, facility operated by the U.S. Defense Logistics Agency's National Defense Stockpile Center. The material was to be processed at the company's recently modernized plant near its mines in southern Illinois. However, reprocessing the concentrates by the plant's existing methods of flotation was not efficient enough, so the company began research on how best to reprocess the concentrate materials.

²The term value means the total monetary value as represented by either mine shipments, mineral commodity sales, or marketable production as is applicable to the individual mineral commodities.

TABLE 3
ILLINOIS: CRUSHED STONE SOLD OR USED, BY KIND

Kind	1991 ¹				1993 ²			
	Number of quarries	Quantity (thousand metric tons)	Value (thousands)	Unit value	Number of quarries	Quantity (thousand metric tons)	Value (thousands)	Unit value
Limestone	'154	'40,205	'\$203,346	'\$5.06	152	46,948	\$242,544	\$5.17
Dolomite	'18	'17,547	'86,379	'4.92	18	14,538	72,605	4.99
Sandstone	1	381	W	W	3	3	3	3
Total ⁴	XX	'58,133	'309,610	'5.33	XX	61,487	315,149	5.13
Total ^{5 6}	XX	'64,081	'309,610	'4.83	XX	67,778	315,149	4.65

¹Revised. W Withheld to avoid disclosing company proprietary data; included with "Total." XX Not applicable.

²Excludes limestone-dolomite quantity from State total to avoid disclosing company proprietary data; value included with "Total."

³Includes "Limestone-Dolomite," reported with no distinction between the two.

⁴Excludes sandstone from state total to avoid disclosing company proprietary data.

⁵Data may not add to totals shown because of independent rounding.

⁶One short ton is equal to 907 kilograms or 2,000 pounds. To convert metric tons to short tons, divide metric tons by 0.907185.

⁷Total shown in thousand short tons and thousand dollars.

TABLE 4
ILLINOIS: CRUSHED STONE¹ SOLD OR USED BY PRODUCERS IN 1993, BY USE AND DISTRICT

(Thousand metric tons and thousand dollars)

Use	District 1		District 2		District 3		District 4	
	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value
Construction aggregates:								
Coarse aggregate (+1 1/2 inch) ²	1,247	6,229	244	1,462	367	1,628	581	2,945
Coarse aggregate, graded ³	5,806	31,426	799	4,445	2,853	16,185	2,857	13,870
Fine aggregate (-3/8 inch) ⁴	846	3,541	37	163	W	W	W	W
Coarse and fine aggregate ⁵	7,048	29,676	1,351	6,252	2,794	13,317	3,927	17,253
Other construction materials ⁶	60	194	—	—	368	1,515	806	4,111
Agricultural ⁷	499	1,570	(⁸)	(⁸)	(⁸)	(⁸)	(⁸)	(⁸)
Chemical and metallurgical ⁹	(¹⁰)	(¹⁰)	46	186	(⁸)	(⁸)	(⁸)	(⁸)
Special ¹¹	—	—	(⁸)	(⁸)	(⁸)	(⁸)	—	—
Other miscellaneous use	—	—	903	4,446	2,349	10,364	1,850	9,262
Unspecified:¹²								
Actual	(¹⁰)	(¹⁰)	3,925	33,507	(¹⁰)	(¹⁰)	—	—
Estimated	(¹⁰)	(¹⁰)	1,513	6,221	(¹⁰)	(¹⁰)	2,091	11,933
Total ¹³	29,884	145,149	8,817	56,682	10,674	53,944	12,112	59,374
Total ^{14 15}	32,941	145,149	9,719	56,682	11,766	53,944	13,351	59,374

W Withheld to avoid disclosing company proprietary data; included with "Other construction materials.

¹Excludes sandstone from State total to avoid disclosing company proprietary data.

²Includes filter stone, macadam, and riprap and jetty stone.

³Includes concrete aggregate (coarse), bituminous aggregate (coarse), bituminous surface-treatment aggregate, railroad ballast, and other graded coarse aggregates.

⁴Includes stone sand (concrete), stone sand (bituminous mix or seal), screening (undesignated), and other fine aggregate.

⁵Includes graded road base or subbase, unpaved road surfacing, crusher run (select material or fill), and other coarse and fine aggregates.

⁶Includes roofing granules.

⁷Includes agricultural limestone, poultry grit and mineral food, and other agricultural uses.

⁸Withheld to avoid disclosing company proprietary data; included with "Other miscellaneous uses."

⁹Includes cement manufacturing, chemical stone for alkali works, flux stone, and sulfur oxide removal.

¹⁰Withheld to avoid disclosing company proprietary data; included with "Total."

¹¹Includes asphalt fillers or extenders, other fillers or extenders, and other specified uses not listed.

¹²Includes production reported without a breakdown by use and estimates for nonrespondents.

¹³Data may not add to totals shown because of independent rounding.

¹⁴One short ton is equal to 907 kilograms or 2,000 pounds. To convert metric tons to short tons, divide metric tons by 0.907185.

¹⁵Total shown in thousand short tons and thousand dollars.