

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.

In 1995, for the 6th year in a row and the 8th in the last 10 years, Illinois ranked 16th among the 50 States in total nonfuel mineral production value,¹ according to the U.S. Geological Survey (USGS). The estimated value for 1995 was \$820 million, a decrease from the \$823 million in 1994. This followed a 12% increase in 1994 (based on final 1994 data) from that of 1993. The State accounted for more than 2% of the total U.S. nonfuel mineral production value.

More than 97% of Illinois' total nonfuel mineral value in 1995 resulted from the production of industrial minerals. In terms of mineral value, crushed stone was the State's leading commodity, accounting for about 41% of the total, followed by portland cement with 19%, and construction sand and gravel with 18%. Decreases in crushed stone and construction sand and gravel values during 1995 were offset for the most part by increases in values for common clay, fuller's earth clays, and lime. The only metal produced in significant quantities from Illinois' mines was zinc. Compared with that of 1994, the values of the following commodities increased in 1995: portland cement, industrial sand and gravel (marginal increase), lime, fuller's earth, zinc, common clays, and copper. Decreases occurred in crushed stone, construction sand and gravel, fluorspar (marginal decrease), gemstones, and

barite.

Compared with USGS estimates of the quantities of minerals produced in the other 49 States during 1995, Illinois remained the only fluorspar-producing State; first in industrial sand and gravel; one of the top four States producing fuller's earth; and seventh in lime, zinc, and barite. Changes in ranking occurred for four commodities. Illinois climbed from 9th in the manufacture of portland cement and 19th in the mined production of common clays to 8th for both commodities. The State dropped from fifth to sixth in the production of crushed stone and from sixth to seventh in construction sand and gravel. Raw steel was produced in Illinois, but it was processed from materials obtained from other domestic and foreign sources. Illinois continued to be the Nation's fifth leading raw steel-manufacturing State with an estimated output of 6.8 million metric tons (7.5 million short tons), as reported by the American Iron and Steel Institute.

The remainder of this narrative was derived from information provided by the Illinois State Geological Survey (ISGS). The ISGS reported a reorganization of Illinois mineral-resource-related agencies into one department in 1995. The Department of Conservation, Department of Mines and Minerals (DMM), Illinois State Geological Survey, and other small agencies were brought

TABLE 1
NONFUEL RAW MINERAL PRODUCTION IN ILLINOIS^{1 2}

Mineral	1993		1994		1995 ^p	
	Quantity	Value (thousands)	Quantity	Value (thousands)	Quantity	Value (thousands)
Cement (portland) metric tons	2,430,000	\$123,000	2,590,000	\$151,000	2,600,000	\$152,000
Clays ³ thousand metric tons	477	1,090	494	1,170	1,070	4,140
Gemstones	NA	328	NA	376	NA	269
Sand and gravel:						
Construction thousand metric tons	°34,500	°137,000	37,900	150,000	35,000	144,000
Industrial metric tons	4,220,000	61,700	4,420,000	65,700	4,410,000	65,800
Stone (crushed) ⁴ thousand metric tons	61,500	315,000	62,600	353,000	59,500	340,000
Combined value of barite, cement [masonry (1994-95)], clays (fuller's earth), copper, fluorspar, (lead (1993-94), lime, peat, silver, stone [crushed sandstone (1993), crushed miscellaneous (1994-95), dimension (1993, 1995), dimension dolomite (1994)], tripoli, and zinc	XX	95,900	XX	102,000	XX	114,000
Total	XX	734,000	XX	823,000	XX	820,000

^aEstimated. ^pPreliminary. NA Not available. XX Not applicable.

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

²Data are rounded to three significant digits; may not add to totals shown.

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

⁴Excludes certain stones; kind and value included with "Combined value" data.

together under the new Department of Natural Resources (DNR), about 75% or more of the DNR having come from the former Department of Conservation. The Illinois legislature enacted two pieces of legislation that related to the mineral industry during 1995. The existing Surface Mining Land Conservation and Reclamation Act was amended, effective July 1, 1995. The amended legislation enabled the Office of Mines and Minerals of the DNR, formerly DMM, to collect annual fees from all operating noncoal surface mines; it promulgated that regulations concerning blasting standards be established for mining and quarrying operations; and required that blasters be certified with the State. Introduction of the blasting standard regulations were expected during 1996 and will take effect 1 year after adoption. The second bill, a geologist registration bill, also was enacted, effective July 1, 1996. The law, to be administered by the Illinois Department of Professional Regulation, requires that a geologist who signs official reports submitted to public authorities in Illinois must be officially registered in the State.

An era is about to come to an end for Ozark-Mahoning Co. (OMC), a subsidiary of Elf Atochem North America, Inc. OMC announced the closing of its last two fluorspar mines in Hardin County, the last two operating fluorspar mines in the United States. Fluorspar has been mined commercially in Hardin County since about 1870. Mineral collectors will find fluorite, Illinois' State mineral, increasingly difficult to obtain because the availability of specimens up to now has depended on a company policy that allowed miners to carry specimens out of the mines in their "lunch pails." The company laid off 103 of 128 employees, effective January 31, 1996, retaining those necessary to operate the product drying system, conduct reclamation work, and administer the remaining company interests in the area. The closing was expected to be a

severe blow to the local economy because Ozark-Mahoning was the county's largest single employer in a county of about 5,000 population. Some exploratory core drilling had been performed in 1995, but there was little chance of anyone opening a new mine unless the price of fluorspar improved.

The Calcium Carbonate Division of J. M. Huber Corp., a producer of chemical and filler (or whiting) grade of calcium carbonate at its Quincy, IL, location as well as at other corporation mineral-producing divisions, were combined into one large division under the name Engineered Minerals Division of J. M. Huber Corp. Golden Cat Corp., which makes cat box filler products from the absorbent clay it mines from its southern Illinois operations, near Olmsted in Pulaski County, was purchased by Ralston Purina Company of St. Louis, MO. Chicago-based Material Service Corp., a subsidiary of General Dynamics Corp., sold its ready-mixed concrete operations and its concrete pipe plants to smaller local companies. The operations were sold in order to streamline the company's overall operations and to concentrate more on its mining operations. Material Service is one of the largest construction aggregate producers in the State, having 3 sand and gravel pits and 8 limestone and dolomite quarries, including its Thornton Quarry that is ranked as 1 of the 10 largest quarries in the country.

¹The terminologies "nonfuel mineral production" and related "values" encompass variations in meaning, depending on the minerals or mineral products. Production may be measured by mine shipments, mineral commodity sales, or marketable production (including consumption by producers) as is applicable to the individual mineral commodity.

All 1995 USGS mineral production data published in this chapter are estimated as of Dec. 1995. Estimates for some commodities, e.g., construction sand and gravel, crushed stone, and portland cement, are periodically updated. To obtain the most recent information please contact the appropriate USGS mineral commodity specialist. Call MINES FaxBack at (703) 648-4999 from your fax machine and request Document No. 1000 for a telephone listing of all mineral commodity specialists or call USGS information at (703) 648-4000 for the specialist's name and number.

TABLE 2
ILLINOIS: CRUSHED STONE¹ SOLD OR USED BY PRODUCERS IN 1994, BY USE²

Use	Quantity (thousand metric tons)	Value (thousands)	Unit value
Coarse aggregate (+1 1/2 inch):			
Macadam	674	\$3,290	\$4.88
Riprap and jetty stone	429	2,670	6.23
Filter stone	264	1,460	5.52
Other coarse aggregate	453	2,120	4.67
Coarse aggregate, graded:			
Concrete aggregate, coarse	5,450	28,300	5.19
Bituminous aggregate, coarse	4,320	26,400	6.10
Bituminous surface-treatment aggregate	1,130	6,390	5.64
Railroad ballast	586	2,970	5.07
Other graded coarse aggregate	1,130	5,860	5.17
Fine aggregate (-3/8 inch):			
Stone sand, concrete	1,210	5,690	4.69
Stone sand, bituminous mix or seal	191	878	4.60
Screening, undesignated	819	3,100	3.78
Other fine aggregate	2	14	7.00
Coarse and fine aggregates:			
Graded road base or subbase	10,000	43,700	4.35
Unpaved road surfacing	1,640	7,910	4.81
Crusher run or fill or waste	274	1,250	4.54
Other construction materials ³	128	562	4.39
Agricultural: Agricultural limestone ⁴	2,300	10,900	4.74
Chemical and metallurgical: Cement manufacture ⁵	2,510	9,370	3.73
Special:			
Mine dusting or acid water treatment	15	161	10.70
Other fillers or extenders ⁶	667	26,600	39.90
Unspecified: ⁷			
Actual	19,800	114,000	5.76
Estimated	8,560	49,600	5.80
Total	62,600	353,000	5.64

¹Includes dolomite, limestone, and limestone-dolomite; excludes miscellaneous stone from State total to avoid disclosing company proprietary data.

²Data are rounded to three significant digits; may not add to totals shown.

³Includes roofing granules and terrazzo and exposed aggregate.

⁴Includes poultry grit and mineral food.

⁵Includes chemical stone for alkali and flux stone.

⁶Includes asphalt fillers or extenders.

⁷Includes production reported without a breakdown by end use and estimates for nonrespondents.

TABLE 3
ILLINOIS: CRUSHED STONE SOLD OR USED, BY KIND¹

Kind	1993 ²				1994 ³			
	Number of quarries	Quantity (thousand metric tons)	Value (thousands)	Unit value	Number of quarries	Quantity (thousand metric tons)	Value (thousands)	Unit value
Limestone ⁴	152	46,900	\$243,000	\$5.17	145	47,600	\$276,000	\$5.79
Dolomite	18	14,500	72,600	4.99	17	14,900	76,800	5.15
Total	XX	61,500	315,000	5.13	XX	62,600	353,000	5.64

XX Not applicable.

¹Data are rounded to three significant digits; may not add to totals shown.

²Excludes sandstone from State total to avoid disclosing company proprietary data.

³Excludes miscellaneous stone from State total to avoid disclosing company proprietary data.

⁴Includes "Limestone-dolomite," reported with no distinction between the two.

TABLE 4
ILLINOIS: CRUSHED STONE¹ SOLD OR USED BY PRODUCERS IN 1994, BY USE AND DISTRICT²

(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) ³	779	3,720	177	1,120	359	2,130	505	2,580
Coarse aggregate, graded ⁴	W	W	W	W	W	W	1,900	9,520
Fine aggregate (-3/8 inch) ⁵	W	W	W	W	W	W	715	(⁶)
Coarse and fine aggregate ⁷	6,140	26,700	706	3,540	2,290	10,500	2,860	12,300
Other construction materials	8,670	47,200	310	1,830	3,350	18,300	—	—
Agricultural ⁸	541	2,370	324	2,180	690	3,390	741	2,940
Chemical and metallurgical ⁹	(⁶)	(⁶)	—	—	(⁶)	(⁶)	(⁶)	(⁶)
Special ¹⁰	(⁶)	(⁶)	(⁶)	(⁶)	(⁶)	(⁶)	(⁶)	(⁶)
Unspecified:¹¹								
Actual	(⁶)	(⁶)	(⁶)	(⁶)	2,460	8,930	4,960	28,000
Estimated	3,540	20,500	1,560	7,180	1,730	11,300	1,730	10,700
Total	30,400	153,000	7,390	69,600	10,900	57,800	13,900	72,500

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

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

²Data are rounded to three significant digits; may not add to totals shown.

³Includes filler stone, macadam, riprap and jetty stone, and other coarse aggregate.

⁴Includes concrete aggregate (coarse), bituminous aggregate (coarse), bituminous surface-treatment aggregate, railroad ballast, and other graded coarse aggregate.

⁵Includes stone sand (concrete), stone sand (bituminous mix or seal), screening (undesignated), and other fine aggregate.

⁶Withheld to avoid disclosing company proprietary data; included with "Total."

⁷Includes graded road base or subbase, roofing granules, terrazzo and exposed aggregate, unpaved road surfacing, and crusher run (select material or fill).

⁸Includes agricultural limestone and poultry grit and mineral food.

⁹Includes cement manufacture, chemical stone for alkali works, and flux stone.

¹⁰Includes asphalt fillers or extenders, mine dusting or acid water treatment, and other fillers or extenders.

¹¹Includes production reported without a breakdown by end use and estimates for nonrespondents.

TABLE 5
ILLINOIS: CONSTRUCTION SAND AND GRAVEL SOLD OR USED IN 1994, BY MAJOR USE CATEGORY¹

Use	Quantity (thousand metric tons)	Value (thousands)	Value per ton
Concrete aggregate (including concrete sand)	7,170	\$26,200	\$3.65
Plaster and gunite sands	318	1,180	3.71
Concrete products (blocks, bricks, pipe, decorative, etc.)	850	3,640	4.28
Asphaltic concrete aggregates and other bituminous mixtures	1,870	7,630	4.09
Road base and coverings ²	6,580	32,300	4.91
Fill	4,500	15,600	3.46
Snow and ice control	68	362	5.32
Filtration	24	167	6.96
Other ³	77	602	7.82
Unspecified:⁴			
Actual	12,600	48,900	3.88
Estimated	3,860	13,000	3.36
Total or average	37,900	150,000	3.94

¹Data are rounded to three significant digits; may not add to totals shown.

²Includes road and other stabilization (cement).

³Includes railroad ballast and roofing granules.

⁴Includes production reported without a breakdown by end use and estimates for nonrespondents.

TABLE 6
ILLINOIS: CONSTRUCTION SAND AND GRAVEL SOLD OR USED IN 1994, BY USE AND DISTRICT¹

(Thousand metric tons and thousand dollars)

Use	District 1		District 2		District 3		District 4	
	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value
Concrete aggregate and concrete products ²	3,830	15,200	1,400	3,970	1,980	8,380	1,120	3,490
Asphaltic concrete aggregates and road base materials ³	8,900	40,800	1,330	3,980	1,960	8,420	763	2,300
Snow and ice control	29	241	24	68	15	53	(⁴)	(⁴)
Other miscellaneous uses ⁵	25	213	20	105	57	451	—	—
Unspecified: ⁶								
Actual	10,300	42,500	872	3,610	1,430	2,820	—	—
Estimated	1,500	5,090	84	264	1,340	4,110	929	3,510
Total	24,600	104,000	3,730	12,000	6,780	24,200	2,820	9,300

¹Data are rounded to three significant digits; may not add to totals shown.

²Includes plaster and gunite sands.

³Includes fill and road and other stabilization (cement).

⁴Less than 1/2 unit.

⁵Includes railroad ballast and roofing granules.

⁶Includes production reported without a breakdown by end use and estimates for nonrespondents.