THE MINERAL INDUSTRY OF OHIO

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 Ohio Department of Natural Resources, Division of Geological Survey, for collecting information all nonfuel minerals.

Ohio ranked 14th in the Nation in total nonfuel mineral production value[1] in 1995, according to the U.S. Geological Survey (USGS). Ohio ranked 15th in 1994 (based on final 1994 data). The estimated value for 1995 was $871 million, a decrease of 1% compared with the $880 million of 1994. This followed increases of 15% from 1992 to 1993 and 3.5% from 1993 to 1994. The State accounted for more than 2% of the U.S. total nonfuel mineral production value. During 1995, substantially increased values of lime, construction sand and gravel, and clay minerals were offset mainly by 10% and 12% decreases, respectively, in crushed stone and portland cement values, accounting for the year's small net decrease in value. Compared with that of 1994, the 1995 values of the following commodities increased: construction sand and gravel, lime, industrial sand and gravel, salt, common clays, and gypsum. Decreases occurred in crushed stone, portland and masonry cements, fire clays, and peat.

Based on USGS estimates of the quantities of minerals produced in the United States during 1995, Ohio led the Nation in lime production for the second year in a row. The State remained second in the production of fire clays; fourth in construction sand and gravel, salt, and common clays; and eighth in industrial sand and gravel. The State climbed from 11th to 10th in the production of peat and marginally dropped from 7th to 8th in crushed stone, albeit in a virtual tie with 7th-ranked Virginia. Although not ranking among the top 10 States, Ohio operations produced significant quantities of dimension stone and portland and masonry cements. While Ohio was sixth of six States with reported production of ball clay in 1994, none was reported to the USGS in 1995. The State's mines exclusively produce industrial minerals and coal; any metals, especially steel and aluminum, produced in the State are processed from materials received from other domestic and foreign sources. Ohio continued to be the Nation's second leading raw steel-manufacturing State with an estimated output of almost 15 million metric tons[2] (16.4 million short tons) of

TABLE 1
NONFUEL RAW MINERAL PRODUCTION IN OHIO[1 2]

Mineral		1993		1994		1995[p]	
		Quantity	Value (thousands)	Quantity	Value (thousands)	Quantity	Value (thousands)
Cement:							
Masonry	metric tons	92,500	$11,300	W	W	W	W
Portland	do.	1,490,000	90,300	1,050,000	$69,700	926,000	$61,200
Clays	thousand metric tons	[3]2,160	[3]12,000	[3]2,080	[3]12,500	2,430	15,200
Gemstones		NA	5	NA	43	NA	43
Lime	thousand metric tons	1,700	101,000	1,850	113,000	2,030	121,000
Sand and gravel:							
Construction	do.	[e]46,400	[e]203,000	47,700	205,000	49,500	220,000
Industrial	metric tons	1,360,000	27,500	1,260,000	27,700	1,270,000	28,000
Stone:							
Crushed	thousand metric tons	52,200	228,000	56,400	251,000	58,500	226,000
Dimension	metric tons	[4]25,700	[4]1,210	W	W	23,600	1,030
Combined value of clays (ball), gypsum (crude), peat, salt, silica stone[5] (1993), stone [dimension limestone (1993), dimension limestone and sandstone (1994)], and values indicated by symbol W		XX	176,000	XX	201,000	XX	208,000
Total		XX	851,000	XX	880,000	XX	880,000

[e]Estimated. [p]Preliminary. NA Not available. W Withheld to avoid disclosing company proprietary data; value included with "Combined value" data.
XX Not applicable.
[1]Production as measured by mine shipments, sales, or marketable production (including consumption by producers).
[2]Data are rounded to three significant digits; may not add to totals shown.
[3]Excludes certain clays; kind and value included with "Combined value" data.
[4]Excludes certain stones; kind and value included with "Combined value" data.
[5]Formerly identified as "Abrasives." Grindstones, pulpstones, and sharpening stones; excludes mill liners and grinding pebbles.

raw steel, as reported by the American Iron and Steel Institute. The State remained the fourth leading producer of primary aluminum in the Nation in 1995. Ohio had previously ranked 5th in 1993.

The combined output of construction aggregates—crushed limestone, crushed sandstone, and sand and gravel—was expected to exceed 90 million tons (100 million short tons), in 1995, according to the Ohio Division of Geological Survey. It was not expected to reach more than the 106-million-ton-level (117 million short tons) achieved the previous year. This lower production, for the most part, was the result of two factors. Unusually ideal weather during 1994 from midsummer through December put many construction projects ahead of schedule, and the Ohio Department of Transportation decreased the amount of 1995 highway funds available for road construction.

While Ohio's industrial mineral operations continued to win national environmental and reclamation awards, public reactions to the opening of new aggregate mines, as well as the expansion of existing mines, often continued to be negative. Ohio's industrial mineral producers continued to counter this negativism with positive public relations, including site tours, open houses, and "Adopt-a-School" programs. The Ohio Aggregates Association, the trade association representing Ohio's aggregate industry, contributed financial support to the "Ohio Mineral Industries and the Environment" teacher workshops. The Ohio Geological Survey and the University of Akron annually cosponsor week-long workshops to educate teachers of the importance of rocks and minerals in the public's everyday lives and how mining is compatible with environmental protection. Beginning with 1995, the workshops were conducted at two separate locations to better accommodate those living in the northern and southern portions of the State.

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[1]The 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 commodities.

All 1995 USGS data are estimated as of Dec. 1995. 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.

[2]All tons are metric tons unless otherwise specified.

TABLE 2

OHIO: CRUSHED STONE[1] SOLD OR USED BY PRODUCERS IN 1994, BY USE[2]

Use	Quantity (thousand metric tons)	Value (thousands)	Unit value
Coarse aggregate (+1 1/2 inch):			
Macadam	472	$2,080	$4.41
Riprap and jetty stone	881	3,740	4.25
Filter stone	133	571	4.29
Other coarse aggregate	496	2,290	4.61
Coarse aggregate, graded:			
Concrete aggregate, coarse	3,870	16,000	4.13
Bituminous aggregate, coarse	2,740	11,000	4.02
Bituminous surface-treatment aggregate	339	2,460	7.24
Railroad ballast	1,750	6,540	3.75
Other graded coarse aggregate	339	1,630	4.81
Fine aggregate (-3/8 inch):			
Stone sand, concrete	5,660	21,500	3.80
Stone sand, bituminous mix or seal	611	2,370	3.87
Screening, undesignated	573	2,310	4.03
Coarse and fine aggregates:			
Graded road base or subbase	8,530	33,800	3.96
Unpaved road surfacing	4,760	20,900	4.39
Terrazzo and exposed aggregate	8	49	6.13
Crusher run or fill or waste	600	2,460	4.11
Other coarse and fine aggregates	82	314	3.83
Other construction materials	420	1,670	3.96
Agricultural: Agricultural limestone[3]	1,090	5,430	4.98
Chemical and metallurgical:			
Cement manufacture	1,700	7,020	4.14
Lime manufacture	W	W	2.99
Dead-burned dolomite manufacture	291	761	2.62
Flux stone	702	5,530	7.87
Glass manufacture	153	1,690	11.10
Sulfur oxide removal	W	W	11.40
Special:			
Asphalt fillers or extenders	W	W	9.74
Whiting or whiting substitute	W	W	23.50
Other fillers or extenders	W	W	8.41
Other specified uses not listed	1,180	6,730	5.70
Unspecified:[4]			
Actual	17,200	82,200	4.77
Estimated	1,740	9,570	5.49
Total or average	56,400	251,000	4.45

W Withheld to avoid disclosing company proprietary data; included with "Other specified uses not listed."
[1]Includes dolomite, limestone, limestone-dolomite, and sandstone.
[2]Data are rounded to three significant digits; may not add to totals shown.
[3]Includes other agricultural uses.
[4]Includes production reported without a breakdown by end use and estimates for nonrespondents.

TABLE 3

OHIO: CRUSHED STONE SOLD OR USED, BY KIND[1]

Kind	1993[r]				1994			
	Number of quarries	Quantity (thousand metric tons)	Value (thousands)	Unit value	Number of quarries	Quantity (thousand metric tons)	Value (thousands)	Unit value
Limestone[2]	92	38,600	$170,000	$4.40	83	41,700	$190,000	$4.56
Dolomite	16	13,000	56,200	4.31	21	14,500	59,900	4.15
Sandstone	5	231	810	3.51	5	232	832	3.59
Total or average	XX	51,800	227,000	4.37	XX	56,400	251,000	4.45

[r]Revised. XX Not applicable.
[1]Data are rounded to three significant digits; may not add to totals shown.
[2]Includes "Limestone-dolomite," reported with no distinction between the two.

TABLE 4

OHIO: CONSTRUCTION SAND AND GRAVEL SOLD OR USED IN 1994, BY MAJOR USE CATEGORY[1]

Use	Quantity (thousand metric tons)	Value (thousands)	Value per ton
Concrete aggregate (including concrete sand)	9,450	$38,600	$4.09
Plaster and gunite sands	181	1,110	6.14
Concrete products (blocks, bricks, pipe, decorative, etc.)	1,360	6,130	4.50
Asphaltic concrete aggregates and other bituminous mixtures	5,210	21,600	4.15
Road base and coverings	3,150	15,200	4.81
Fill	4,350	16,700	3.85
Snow and ice control	220	909	4.13
Filtration	103	619	6.01
Other	308	1,200	3.88
Unspecified:[2]			
Actual	16,400	71,800	4.38
Estimated	6,960	31,000	4.45
Total or average	47,700	205,000	4.30

[1]Data are rounded to three significant digits; may not add to totals shown.
[2]Includes production reported without a breakdown by end use and estimates for nonrespondents.

TABLE 5

OHIO: CONSTRUCTION SAND AND GRAVEL SOLD OR USED IN 1994, BY USE AND DISTRICT[1]

(Thousand metric tons and thousand dollars)

Use	District 1		District 2		District 3	
	Quantity	Value	Quantity	Value	Quantity	Value
Concrete aggregate and concrete products[2]	505	1,760	3,870	16,800	2,760	11,500
Asphaltic concrete aggregates and road base materials[3]	236	939	4,220	18,700	3,140	11,400
Other miscellaneous uses[4]	6	73	252	1,120	94	367
Unspecified:[5]						
Actual	—	—	1,760	8,930	12,000	50,400
Estimated	2,500	11,200	1,120	5,860	2,220	9,390
Total	3,250	13,900	11,200	51,400	20,200	83,000
	District 4		District 5		District 6	
	Quantity	Value	Quantity	Value	Quantity	Value
Concrete aggregate and concrete products[2]	1,340	5,450	1,660	6,570	858	3,840
Asphaltic concrete aggregates and road base materials[3]	1,730	8,220	2,010	8,210	1,390	6,110
Other miscellaneous uses[4]	43	168	189	757	48	239
Unspecified:[5]						
Actual	1,800	8,530	320	1,610	563	2,340
Estimated	549	2,270	471	1,900	103	406
Total	5,460	24,600	4,650	19,100	2,960	12,900

[1]Data are rounded to three significant digits; may not add to totals shown.
[2]Includes plaster and gunite sands.
[3]Includes fill.
[4]Includes filtration, and snow and ice control.
[5]Includes production reported without a breakdown by end use and estimates for nonrespondents.