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 13th among the Nation in nonfuel mineral value[1] in 1994, climbing from 14th in 1993, according to the U.S. Bureau of Mines (USBM). The estimated value for 1994 was $893 million, a 5% increase compared with that of 1993. This followed a significant 15% increase in 1993 as measured against that of 1992. The State accounted for about 3% of the U.S. total. The increased percentages of the past 2 years were most affected by increased values for crushed stone, lime, construction sand and gravel, and salt. Other mineral commodities having similar increasing value, but with less impact on the total value, were masonry cement and industrial sand and gravel. In 1994, Ohio's increased nonfuel mineral value was moderated by an estimated 17% decrease for portland cement, which, by contrast, had increased between 1992 and 1993 by about the same percent. Compared with 1993, the value of the following commodities increased: crushed stone, construction sand and gravel, salt, lime, industrial sand and gravel, masonry cement, gypsum, dimension stone, peat, and gemstones. Decreases occurred in portland cement, common clays, and fire clays.

In estimated mineral production in 1994, Ohio led the Nation in lime production, climbing from the rank of second in 1993. Also moving up in rank were the production of masonry cement from 11th to 10th and that of peat from 12th to 8th. The State remained second in the production of fire clays, third in construction sand and gravel, fourth in salt and common clays, sixth in crushed stone, and seventh in industrial sand and gravel. Ohio mines produced significant quantities of dimension stone and gypsum, while similar production of portland cement was achieved at manufacturing plants within the State. Production of ball clays for 1994 was not reported to the USBM. 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

TABLE 1
NONFUEL RAW MINERAL PRODUCTION IN OHIO[1]

Mineral		1992		1993		1994[p]	
		Quantity	Value (thousands)	Quantity	Value (thousands)	Quantity	Value (thousands)
Cement:							
Masonry	thousand metric tons	103	$10,260	93	$11,305	104	$12,800
Portland	do.	1,320	77,053	1,494	90,305	1,240	75,100
Clays	do.	2,288	12,062	[2]2,161	[2]12,023	2,120	12,000
Gemstones		NA	5	NA	5	NA	W
Lime	thousand metric tons	1,670	96,739	1,699	100,721	1,900	113,000
Peat	do.	W	W	W	W	19	158
Salt	do.	W	W	W	W	4,180	179,000
Sand and gravel:							
Construction	do.	42,874	177,508	[e]46,400	[e]202,900	47,000	209,000
Industrial	do.	1,276	26,445	1,360	27,533	W	W
Stone:							
Crushed	do.	[e 3]43,998	[e 3]194,500	52,167	228,364	[e]56,000	[e]260,000
Dimension	metric tons	[e]31,805	[e]2,244	[3]25,738	[3]1,207	[e]28,200	[e]1,450
Other[4]		XX	145,092	XX	176,276	XX	30,400
Total		XX	741,908	XX	850,639	XX	[5]893,000

[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]Excludes certain clays; kind and value included with "Combined value" data.
[3]Excludes certain stones; kind and value included with "Combined value" data.
[4]Combined value of abrasives (1992-93), clays [ball (1993)], gypsum (crude), stone [crushed limestone and dolomite (1992), dimension limestone (1993)], and values indicated by symbol W
[5]Data do not add to total shown because of independent rounding.

TABLE 2

OHIO: CRUSHED STONE[1] 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	28	$123	$4.39
Riprap and jetty stone	711	4,263	6.00
Filter stone	44	226	5.14
Other coarse aggregate	725	3,334	4.60
Coarse aggregate, graded:			
Concrete aggregate, coarse	4,278	17,012	3.98
Bituminous aggregate, coarse	2,857	11,506	4.03
Bituminous surface-treatment aggregate	431	2,450	5.68
Railroad ballast	216	653	3.02
Other graded coarse aggregate	709	4,633	6.53
Fine aggregate (-3/8 inch):			
Stone sand, concrete	381	1,415	3.71
Stone sand, bituminous mix or seal	913	3,293	3.61
Screening, undesignated	734	2,863	3.90
Other fine aggregate	W	W	4.41
Coarse and fine aggregates:			
Graded road base or subbase	6,207	24,159	3.89
Unpaved road surfacing	5,118	22,318	4.36
Terrazzo and exposed aggregate	31	177	5.71
Crusher run or fill or waste	2,668	10,730	4.02
Other coarse and fine aggregates	987	3,672	3.72
Other construction materials	1,198	5,372	4.48
Roofing granules	W	W	5.51
Agricultural:			
Agricultural limestone[2]	748	4,860	6.50
Chemical and metallurgical:			
Flux stone[3]	1,952	7,140	3.66
Special:			
Asphalt fillers or extenders	([4])	([4])	12.13
Whiting or whiting substitute	([4])	([4])	27.39
Other fillers or extenders	([4])	([4])	6.16
Other specified uses not listed	113	1,831	16.20
Unspecified:[5]			
Actual	20,012	90,847	4.54
Estimated	1,106	5,486	4.96
Total	52,167	[6]228,364	4.38
Total[7 8]	57,504	228,364	3.97

W Withheld to avoid disclosing company proprietary data; included with "Other construction materials."
[1]Includes dolomite, limestone, limestone-dolomite, quartzite, sandstone, and sandstone-quartzite.
[2]Includes other agricultural uses.
[3]Includes cement manufacture and lime manufacture.
[4]Withheld to avoid disclosing company proprietary data; included with "Other specified uses not listed."
[5]Includes production reported without a breakdown by use and estimates for nonrespondents.
[6]Data do not add to total shown because of independent rounding.
[7]One short ton is equal to 907 kilograms or 2,000 pounds. To convert metric tons to short tons, divide metric tons by 0.907185.
[8]Total shown in thousand short tons and thousand dollars.

steel-manufacturing State with an estimated output of more than 15 million metric tons (16.7 million short tons) of raw steel, as reported by the American Iron and Steel Institute. The State climbed from fifth to fourth in the production of primary aluminum.

According to the Ohio Division of Geological Survey, for the second consecutive year, the combined output of construction aggregates—crushed limestone and sandstone and sand and gravel—was expected to exceed 90 million metric tons (100 million short tons). Salt production also increased in 1994 due to severe winter weather in the eastern one-half of the Nation in the first 3 months of the year. Akzo Nobel Salt, Inc.'s Cleveland Mine—one of the most productive salt mines in the Nation in 1994—increased its production to fill a gap in demand following the March 1994, collapse of Akzo's large Retsof Mine in Upstate New York. Milder weather in the last quarter of 1994, appeared to lessen the degree of demand for Cleveland's salt. Despite the moderating winter weather, the company estimated that production for 1995 would increase by more than 900,000 metric tons (1 million short tons) to make up for the lost New York output. In May, Akzo suspended plans to locate a salt-brining operation in Mahoning County, reportedly because negotiations over water and electricity at the site were taking too long.

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

Kind	1991[1]				1993			
	Number of quarries	Quantity (thousand metric tons)	Value (thousands)	Unit value	Number of quarries	Quantity (thousand metric tons)	Value (thousands)	Unit value
Limestone[2]	[r]98	[r]39,512	[r]$170,620	[r]$4.32	101	47,705	$210,707	$4.42
Dolomite	[r]7	[r]3,431	[r]13,450	[r]3.92	1	3,906	15,208	3.89
Sandstone and quartzite[3]	5	279	1,089	3.90	7	555	2,449	4.41
Total[4]	XX	[r]43,221	[r]185,159	[r]4.28	XX	52,167	228,364	4.38
Total[5 6]	XX	47,643	[r]185,159	[r]3.89	XX	57,504	228,364	3.97

[r]Revised. XX Not applicable.
[1]Excludes limestone-dolomite from state total to avoid disclosing company proprietary data.
[2]Includes "Limestone-dolomite," reported with no distinction between the two.
[3]Includes "Sandstone-quartzite," reported with no distinction between the two.
[4]Data may not add to totals shown because of independent rounding.
[5]One short ton is equal to 907 kilograms or 2,000 pounds. To convert metric tons to short tons, divide metric tons by 0.907185.
[6]Total shown in thousand short tons and thousand dollars.

TABLE 4

OHIO: CRUSHED STONE SOLD OR USED BY PRODUCERS IN 1993, BY USE AND DISTRICT

(Thousand metric tons and thousand dollars)

Use	District 1		District 2		District 3	
	Quantity	Value	Quantity	Value	Quantity	Value
Construction aggregates:						
Coarse aggregate (+1 1/2 inch)[1]	459	2,860	W	W	W	W
Coarse aggregate, graded[2]	2,830	12,063	2,976	12,172	1,316	5,857
Fine aggregate (-3/8 inch)[3]	1,020	3,754	W	W	W	W
Coarse and fine aggregate[4]	7,563	29,066	2,302	8,117	2,057	9,019
Other construction materials[5]	403	1,892	702	2,625	500	2,294
Agricultural[6]	387	2,644	([7])	([7])	([8])	([8])
Chemical and metallurgical[9]	([8])	([8])	—	—	([8])	([8])
Special[10]	([8])	([8])	—	—	([8])	([8])
Other miscellaneous uses[11]	1,023	4,061	—	—	1,088	5,465
Unspecified:[12]						
Actual	8,712	36,706	([7])	([7])	2,359	11,015
Estimated	41	205	507	2,271	—	—
Total[13]	22,440	93,248	8,076	30,997	7,320	33,651
Total[14 15]	24,736	93,248	8,902	30,997	8,069	33,651

	District 4		District 5		District 6	
	Quantity	Value	Quantity	Value	Quantity	Value
Construction aggregates:						
Coarse aggregate (+1 1/2 inch)[1]	W	W	W	W	W	W
Coarse aggregate, graded[2]	W	W	W	W	356	1,350
Fine aggregate (-3/8 inch)[3]	64	299	W	W	277	1,078
Coarse and fine aggregate[4]	723	2,857	1,153	6,490	1,245	5,681
Other construction materials[5]	1,301	5,477	849	4,706	134	543
Agricultural[6]	77	470	([7])	([7])	([7])	([7])
Chemical and metallurgical[9]	—	—	—	—	—	—
Special[10]	—	—	([7])	([7])	—	—
Other miscellaneous uses[11]	—	—	—	—	—	—
Unspecified:[12]						
Actual	6,377	31,461	—	—	([7])	([7])
Estimated	104	371	226	1,572	227	1,067
Total[13]	8,646	40,935	2,301	13,148	3,384	16,385
Total[14 15]	9,531	40,935	2,536	13,148	3,730	16,385

W Withheld to avoid disclosing company proprietary data; included with "Other constructions materials."
[1]Includes filter stone, macadam, riprap and jetty stone, and other coarse aggregate.
[2]Includes concrete aggregate (coarse), bituminous aggregate (coarse), bituminous surface-treatment aggregate, railroad ballast, and other graded coarse aggregate.
[3]Includes stone sand (concrete), stone sand (bituminous mix or seal), screening (undesignated), and other fine aggregate.
[4]Includes graded road base or subbase, terrazzo and exposed aggregate, unpaved road surfacing, crusher run (select material or fill), and other coarse and fine aggregate.
[5]Includes roofing granules.
[6]Includes agricultural limestone and other agricultural uses.
[7]Withheld to avoid disclosing company proprietary data; included with "Total."
[8]Withheld to avoid disclosing company proprietary data; included with "Other miscellaneous uses."
[9]Includes cement manufacture, flux stone, and lime manufacture.
[10]Includes asphalt fillers or extenders, whiting or whiting substitute, and other fillers or extenders.
[11]Includes other specified uses not listed.
[12]Includes production reported without a breakdown by use and estimates for nonrespondents.
[13]Data may not add to totals shown because of independent rounding.
[14]One short ton is equal to 907 kilograms or 2,000 pounds. To convert metric tons to short tons, divide metric tons by 0.907185.
[15]Total shown in thousand short tons and thousand dollars.