

# THE MINERAL INDUSTRY OF ALABAMA

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 Geological Survey of Alabama for collecting information on all nonfuel minerals.

Alabama ranked 19th in the Nation in nonfuel mineral value<sup>1</sup> in 1994, down from 18th in 1993, according to the U.S. Bureau of Mines. The estimated value for 1994 was \$576 million, a 2.5% increase over that of 1993. This followed a 3.5% increase in 1993 over that of 1992. The State accounted for a little less than 2% of the U.S. total. Nonfuel mineral production in Alabama consisted entirely of industrial minerals; no metals were mined in the State. Bauxite materials mined in the State are a natural mixture of bauxitic clay and bauxite having very low iron oxide content and are primarily used to make refractory (high temperature resistant) products, rather than in the production of primary aluminum. In descending order of dollar value, the top four mineral commodities produced in Alabama were crushed stone, portland cement, lime, and construction sand and gravel. These commodities accounted for almost 88% of the State's total nonfuel mineral value, while crushed stone and portland cement together represented almost 65% of the total. In estimated mineral production for 1994, Alabama remained first in common clays and first of only two States that produced bauxite; third in lime, kaolin clays, and fire clays; seventh in portland cement and salt; and was one of the top seven States that produce bentonite clays. The State dropped from third to fifth in masonry cement. Production of talc

and pyrophyllite resumed in 1994. Compared with 1993, the value of crushed stone, lime, construction sand and gravel, common clays, kaolin clays, fire clays, bauxite, and talc and pyrophyllite increased. Decreases occurred in portland cement, masonry cement, industrial sand and gravel, and dimension stone.

According to the Geological Survey of Alabama, crushed stone production continued to lead nonfuel mineral mining activity in Alabama during 1994. The types of stone quarried were limestone, dolomite, marble, granite, quartzite, and sandstone. Mine production (by quantity produced) of crushed stone was followed by that of construction sand and gravel, a variety of clays, including common clays and shale, fire clays, bentonite, fuller's earth clays and kaolin, and lime. Vance Material L.L.C. reopened a crushed stone quarry in eastern Tuscaloosa County adjacent to one of the largest construction sites in the State, the Mercedes-Benz automobile assembly plant. The Drummond Co. Inc. began production from its Shoal Creek underground mine in western Jefferson County. Low-sulfur coal was mined at a depth of 360 meters (1,190 feet) with expected annual production of 4.1 million metric tons (Mmt), or 4.5 million short tons (Mst), making Shoal Creek one of the five largest underground coal mines in the United States. Coal production through the third quarter of

TABLE 1  
NONFUEL RAW MINERAL PRODUCTION IN ALABAMA<sup>1</sup>

Mineral	1992		1993		1994 <sup>a</sup>		
	Quantity	Value (thousands)	Quantity	Value (thousands)	Quantity	Value (thousands)	
<b>Cement:</b>							
Masonry	thousand metric tons	193	\$11,105	277	\$21,908	276	\$21,800
Portland	do.	3,721	180,763	3,748	190,770	3,650	186,000
Clays <sup>2</sup>	do.	2,381	20,914	2,492	23,195	2,850	27,300
Lime	do.	1,454	82,619	1,625	89,457	1,660	91,500
<b>Sand and gravel:</b>							
Construction	do.	11,153	42,038	<sup>e</sup> 10,300	<sup>e</sup> 39,100	10,600	41,300
Industrial	do.	605	6,768	559	6,802	W	W
Stone (crushed)	do.	<sup>e</sup> 25,945	<sup>e</sup> 175,600	28,863	175,607	<sup>e</sup> 30,500	<sup>e</sup> 187,000
Combined value of bauxite, clays [bentonite, kaolin (1992)], gemstones, salt, stone [crushed dolomite and granite (1992), dimension], talc and pyrophyllite (1994), and value indicated by symbol W							
		XX	22,907	XX	14,937	XX	21,110
Total		XX	542,714	XX	561,776	XX	<sup>4</sup> 576,000

<sup>1</sup>Estimated. <sup>a</sup>Preliminary. W Withheld to avoid disclosing company proprietary data; value included with "Combined value" data. XX Not applicable.

<sup>2</sup>Production as measured by mine shipments, sales, or marketable production (including consumption by producers).

<sup>3</sup>Excludes certain clays; kind and value included with "Combined value" data.

<sup>4</sup>Excludes certain stones; kind and value included with "Combined value" data.

<sup>e</sup>Data do not add to total shown because of independent rounding.

fiscal year 1994 totaled 16.4 Mmt (18.1 Mst). Underground mine production was 10.1 Mmt (11.1 Mst) and surface mine production totaled 6.3 Mmt (6.9 Mst). Jefferson, Tuscaloosa, and Walker Counties were the principal areas of coal production. The Geological Survey of Alabama completed several geologic studies to establish

baseline data related to the State's future mineral resource development efforts.

<sup>1</sup>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 2  
ALABAMA: CRUSHED STONE<sup>1</sup> SOLD OR USED BY PRODUCERS IN 1993, BY USE

Use	Quantity (thousand metric tons)	Value (thousands)	Unit value
Coarse aggregate (+1 1/2 inch):			
Riprap and jetty stone	699	\$3,016	\$4.31
Filter stone	1	4	4.00
Coarse aggregate, graded:			
Concrete aggregate, coarse	4,045	18,076	4.47
Bituminous aggregate, coarse	2,419	10,862	4.49
Bituminous surface-treatment aggregate	399	1,824	4.57
Railroad ballast	W	W	4.43
Fine aggregate (-3/8 inch):			
Stone sand, concrete	596	2,682	4.50
Stone sand, bituminous mix or seal	W	W	4.55
Screening, undesignated	476	1,509	3.17
Coarse and fine aggregates:			
Graded road base or subbase	2,403	9,289	3.87
Unpaved road surfacing	W	W	4.60
Terrazzo and exposed aggregate	W	W	4.84
Crusher run or fill or waste	2,105	9,131	4.34
Other coarse and fine aggregates	W	W	4.08
Other construction materials <sup>2</sup>	1,909	8,639	4.53
Agricultural:			
Agricultural limestone	287	2,089	7.28
Chemical and metallurgical:			
Cement manufacture	2,113	5,086	2.41
Lime manufacture	1,760	8,063	4.58
Flux stone	( <sup>3</sup> )	( <sup>3</sup> )	4.12
Special:			
Mine dusting or acid water treatment	( <sup>3</sup> )	( <sup>3</sup> )	5.30
Asphalt fillers or extenders	( <sup>3</sup> )	( <sup>3</sup> )	20.38
Other fillers or extenders	( <sup>3</sup> )	( <sup>3</sup> )	66.10
Other specified uses not listed	835	47,477	56.86
Unspecified: <sup>3</sup>			
Actual	8,035	42,650	5.31
Estimated	781	5,210	6.67
Total	28,863	175,607	6.08
Total <sup>4, 5</sup>	31,816	175,607	5.52

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

<sup>1</sup>Includes dolomite, granite, limestone, limestone-dolomite, marble, and slate.

<sup>2</sup>Included with "Other specified uses not listed."

<sup>3</sup>Includes production reported without a breakdown by use and estimates for nonrespondents.

<sup>4</sup>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.

<sup>5</sup>Total shown in thousand short tons and thousand dollars.

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

Kind	1991				1993			
	Number of quarries	Quantity (thousand metric tons)	Value (thousands)	Unit value	Number of quarries	Quantity (thousand metric tons)	Value (thousands)	Unit value
Limestone <sup>1</sup>	37	23,029	\$100,386	\$4.36	36	24,937	\$107,217	\$4.30
Dolomite	3	W	W	4.63	3	W	W	5.89
Marble	3	W	W	42.14	2	W	W	41.40
Granite	1	W	W	5.97	1	W	W	6.58
Sandstone	1	34	222	6.52	—	—	—	—
Slate	1	W	W	6.57	2	W	W	5.61
Total <sup>2</sup>	XX	27,057	173,864	6.43	XX	28,863	175,607	6.08
Total <sup>3 4</sup>	XX	29,825	173,864	5.83	XX	31,816	175,607	5.52

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

<sup>2</sup>Includes "Limestone-dolomite," reported with no distinction between the two.

<sup>3</sup>Data may not add to totals shown because of independent rounding.

<sup>4</sup>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.

<sup>5</sup>Total shown in thousand short tons and thousand dollars.

TABLE 4  
ALABAMA: 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) <sup>1</sup>	W	W	W	W	—	—
Coarse aggregate, graded <sup>2</sup>	2,140	9,370	4,790	21,690	—	—
Fine aggregate (-3/8 inch) <sup>3</sup>	W	W	W	W	—	—
Coarse and fine aggregate <sup>4</sup>	W	W	W	W	—	—
Other construction materials	3,638	13,950	4,484	20,022	—	—
Agricultural <sup>5</sup>	( <sup>6</sup> )	( <sup>6</sup> )	( <sup>6</sup> )	( <sup>6</sup> )	—	—
Chemical and metallurgical <sup>8</sup>	—	—	3,974	13,564	—	—
Special <sup>9</sup>	—	—	( <sup>6</sup> )	( <sup>6</sup> )	—	—
Other miscellaneous uses	—	—	896	48,320	—	—
Unspecified: <sup>10</sup>						
Actual	( <sup>6</sup> )	( <sup>6</sup> )	( <sup>6</sup> )	( <sup>6</sup> )	2,292	11,962
Estimated	228	1,494	552	3,716	—	—
Total <sup>11</sup>	7,906	34,300	18,665	129,345	2,292	11,962
Total <sup>12 13</sup>	8,715	34,300	20,575	129,345	2,526	11,962

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

<sup>1</sup>Includes riprap and jetty stone.

<sup>2</sup>Includes concrete aggregate (coarse), bituminous aggregate (coarse), bituminous surface treatment-aggregate, and railroad ballast.

<sup>3</sup>Includes stone sand (concrete), stone sand (bituminous mix or seal), and screening (undesignated).

<sup>4</sup>Includes graded road base or subbase, unpaved road surfacing, terrazzo and exposed aggregate, crusher run (select material or fill), and other coarse and fine aggregates.

<sup>5</sup>Includes agricultural limestone.

<sup>6</sup>Withheld to avoid disclosing company proprietary data; included with "Total."

<sup>7</sup>Withheld to avoid disclosing company proprietary data; included with "Other miscellaneous uses."

<sup>8</sup>Includes cement manufacture, lime manufacture, and flux stone.

<sup>9</sup>Includes mine dusting or acid water treatment, asphalt fillers or extenders, other fillers or extenders, and other specified uses not listed.

<sup>10</sup>Includes production reported without a breakdown by use and estimates for nonrespondents.

<sup>11</sup>Data may not add to totals shown because of independent rounding.

<sup>12</sup>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.

<sup>13</sup>Total shown in thousand short tons and thousand dollars.