

# THE MINERAL INDUSTRY OF GEORGIA

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 Georgia Geologic Survey, Environmental Protection Division, Georgia Department of Natural Resources, for collecting information on all nonfuel minerals.

Georgia ranked fifth nationally, for the second consecutive year, in total nonfuel mineral production value<sup>2</sup> in 1995, according to the U.S. Geological Survey (USGS). The estimated value was nearly \$1.7 billion, about an 8% increase from that of 1994. This followed the more than 8% growth in 1994 (based on final 1994 data) compared with that of 1993. The State accounted for more than 4% of the U.S. total nonfuel mineral production value.

Kaolin clay remained Georgia's foremost nonfuel mineral commodity, accounting for about 62% of the State's estimated nonfuel mineral value. Kaolin production value, the largest portion of the State's increase in mineral value in 1995, was up nearly 8%. Crushed stone, which represents almost 23% of the State's nonfuel mineral value, also had a significant effect on overall output, rising 14% in value from 1994. Compared with 1994, the value of kaolin crushed stone, fuller's earth clays, dimension stone, construction sand and gravel, masonry cement, barite, industrial sand and gravel, and feldspar increased. Decreases occurred in portland cement, common clays, mica, and bauxite.

Based on USGS estimates of quantities of minerals produced in the United States during 1995, Georgia remained first among the 50 States in kaolin fuller's earth and dimension stone; second of only two bauxite-producing

States; third in mica and iron oxide pigments; fourth in feldspar; and ninth in masonry cement. While the State rose from third to second in the production of barite and from ninth to fifth in crushed stone, it dropped from fifth to sixth in the production of common clays. Although not ranking among the top 10 States, Georgia manufacturing plants and mines produced significant quantities of portland cement and construction and industrial sand and gravel.

According to the Georgia Geologic Survey (GGS), the State's mining industry in 1995 experienced its second consecutive year of improved sales and profitability. Improved kaolin production resulted from growing strength in the paper industry, the primary customer of the kaolin industry, and because of the State's overall strong economy. Highway construction and institutional building increased significantly in 1995 in preparation for the 1996 Summer Olympics in Atlanta, providing increasing demand for crushed stone and construction sand and gravel. The Olympics were expected to have a continued effect on the consumption of construction materials as some non-Olympic construction postponed until 1997 resumes. Overall, Georgia's mining companies had modest expansions with new capital investments similar to those of 1994. The focus of capital investments during 1996 was

TABLE 1  
NONFUEL RAW MINERAL PRODUCTION IN GEORGIA<sup>1 2</sup>

Mineral	1993		1994		1995 <sup>3</sup>	
	Quantity	Value (thousands)	Quantity	Value (thousands)	Quantity	Value (thousands)
Clays <sup>3</sup> thousand metric tons	9,660	\$994,000	9,960	\$1,060,000	10,700	\$1,130,000
Gemstones	NA	51	NA	51	NA	51
Sand and gravel:						
Construction thousand metric tons	4,600	16,600	5,520	19,800	5,700	21,400
Industrial metric tons	491,000	7,940	440,000	7,040	500,000	7,040
Stone:						
Crushed thousand metric tons	49,400	292,000	54,600	331,000	61,000	381,000
Dimension <sup>4</sup> metric tons	176,000	18,700	200,000	19,100	217,000	30,200
Combined value of barite, bauxite, cement, clays [fire (1993-94)], feldspar, iron oxide pigments (crude), mica (scrap), and stone [dimension marble (1993), dimension marble and miscellaneous (1994-95)]	XX	101,000	XX	116,000	XX	98,900
Total	XX	1,430,000	XX	1,550,000	XX	1,670,000

<sup>1</sup>Estimated. <sup>2</sup>Preliminary. <sup>3</sup>Revised. NA Not available. XX Not applicable.

<sup>4</sup>Production as measured by mine shipments, sales, or marketable production (including consumption by producers).

<sup>5</sup>Data are rounded to three significant digits; may not add to totals shown.

<sup>6</sup>Excludes certain clays; kind and value included with "Combined value" data.

<sup>7</sup>Excludes certain stones; kind and value included with "Combined value" data.

projected to be on improved productivity and quality control.

The dimension granite industry in both 1994 and 1995 remained at consistent levels of production. The "Elberton Granite" remained the backbone of the industry; a growing market existed for this blue-gray granite, commonly used for road curbing in the Northeastern United States. This demand continued to help Georgia quarries by providing a large volume market for a grade of stone not usually suitable for monumental purposes. However, dimension stone prices overall remained suppressed due to competition among local producers and the growing volume of less expensive foreign products imported from Canada, China, and India. The volume of colored stone granite being finished by companies in Elberton, Elbert County, noticeably increased. These granites included black granites imported from Africa, and various domestic granites from Missouri, North Carolina, Oklahoma, Pennsylvania, and South Carolina.

Advancements in the development of automated quarrying machines continued, specifically air and oxygen burners. This equipment, developed by local machinists, was being sold throughout the United States. Although not specific to the State of Georgia alone, GGS reported that a coalition of U.S. stone producers, requesting modifications to the Harmonized Tariff, successfully petitioned the U.S. International Trade Commission to include specific classifications for imported finished monuments and markers.

Major challenges anticipated by Georgia's mining industry in 1996 involved environmental issues, under the

general titles of Environmental Justice and Environmental Audits, as well as matters relating to Clean Air Legislation and Clean Water Act reauthorization. Under the environmental justice category, various studies were performed by State personnel and private consultants to address concerns and complaints made against some minerals operations and zoning boards. Some citizen's groups claimed that mining and industrial facilities were being preferentially sited in minority neighborhoods and that environmental regulations were not being uniformly enforced. Also at issue was the fairness and proper use of Environmental Audits regarding potential liabilities of proposed mineral operation projects. Financial institutions use this information as part of their loan approval process in order to best judge the true risk of a proposed project and, if approved, assign conditions to their investments. At the convening of the 1996 Georgia General Assembly, reintroduction of a severance tax bill that would affect the mining industry was also expected.

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<sup>2</sup>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 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 a 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  
**GEORGIA: CRUSHED STONE<sup>1</sup> SOLD OR USED BY PRODUCERS IN 1994, BY USE<sup>2</sup>**

Use	Quantity (thousand metric tons)	Value (thousands)	Unit value
<b>Coarse aggregate (+1 1/2 inch)</b>			
Riprap and jetty stone	406	\$3,670	\$9.03
Filter stone	257	1,870	7.27
Other coarse aggregate	W	W	5.17
<b>Coarse aggregate, graded:</b>			
Concrete aggregate, coarse	6,130	37,000	6.04
Bituminous aggregate, coarse	7,470	46,300	6.20
Bituminous surface-treatment aggregate	12	78	6.50
Railroad ballast	W	W	5.23
Other graded coarse aggregate	W	W	6.68
<b>Fine aggregate (-3/8 inch):</b>			
Stone sand, concrete	1,980	11,800	5.98
Stone sand, bituminous mix or seal	1,170	5,950	5.09
Screening, undesignated	563	2,810	4.99
Other fine aggregate	41	338	8.24
<b>Coarse and fine aggregates:</b>			
Graded road base or subbase	2,950	14,200	4.81
Unpaved road surfacing	75	393	5.24
Terrazzo and exposed aggregate	W	W	5.74
Crusher run or fill or waste	5,470	29,500	5.39
Other coarse and fine aggregates	W	W	6.29
Other construction materials	3,490	20,100	5.77
Agricultural: Agricultural limestone	(³)	(³)	6.31
Chemical and metallurgical: Cement manufacture	(³)	(³)	4.92
Special: Other fillers or extenders	(³)	(³)	6.83
<b>Unspecified:<sup>4</sup></b>			
Actual	23,200	150,000	6.43
Estimated	421	2,710	6.44
<b>Total</b>	<b>54,600</b>	<b>331,000</b>	<b>6.07</b>

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

<sup>1</sup>Includes calcareous marl, granite, limestone, limestone-dolomite, marble, and quartzite.

<sup>2</sup>Data are rounded to three significant digits; may not add to totals shown.

<sup>3</sup>Withheld to avoid disclosing company proprietary data; included in "Total."

<sup>4</sup>Includes production reported without a breakdown by end use and estimates for nonrespondents.

TABLE 3  
**GEORGIA: CRUSHED STONE SOLD OR USED, BY KIND<sup>1</sup>**

Kind	1993				1994			
	Number of quarries	Quantity (thousand metric tons)	Value (thousands)	Unit value	Number of quarries	Quantity (thousand metric tons)	Value (thousands)	Unit value
Limestone <sup>2</sup>	13	5,270	\$32,000	\$6.08	11	5,090	\$31,000	\$6.09
Marble	7	W	W	7.20	8	W	W	7.29
Calcareous marl	1	W	W	4.00	1	W	W	4.20
Granite	52	41,600	245,000	5.90	48	47,200	287,000	6.08
Quartzite	3	357	2,100	5.89	3	340	2,100	6.18
<b>Total</b>	<b>XX</b>	<b>49,400</b>	<b>292,000</b>	<b>5.92</b>	<b>XX</b>	<b>54,600</b>	<b>331,000</b>	<b>6.07</b>

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

<sup>2</sup>Data are rounded to three significant digits; may not add to totals shown.

<sup>3</sup>Includes "Limestone-dolomite," reported with no distinction between the two.

TABLE 4  
**GEORGIA: CRUSHED STONE SOLD OR USED BY PRODUCERS IN 1994, BY USE AND DISTRICT<sup>1</sup>**

(Thousand metric tons and thousand dollars)

Use	District 1		District 2		District 3	
	Quantity	Value	Quantity	Value	Quantity	Value
<b>Construction aggregates:</b>						
Coarse aggregate (+1 1/2 inch) <sup>2</sup>	W	W	525	3,900	( <sup>3</sup> )	( <sup>3</sup> )
Coarse aggregate, graded <sup>4</sup>	W	W	11,000	67,100	( <sup>3</sup> )	( <sup>3</sup> )
Fine aggregate (-3/8 inch) <sup>5</sup>	W	W	2,650	14,000	( <sup>3</sup> )	( <sup>3</sup> )
Coarse and fine aggregate <sup>6</sup>	W	W	6,680	34,800	( <sup>3</sup> )	( <sup>3</sup> )
Other construction materials	7,350	44,800	45	350	—	—
Agricultural <sup>7</sup>	( <sup>3</sup> )	( <sup>3</sup> )	—	—	—	—
Chemical and metallurgical <sup>8</sup>	( <sup>3</sup> )	( <sup>3</sup> )	—	—	—	—
Special <sup>9</sup>	( <sup>3</sup> )	( <sup>3</sup> )	—	—	—	—
<b>Unspecified:<sup>10</sup></b>						
Actual	7,640	49,700	3,850	21,700	11,800	78,200
Estimated	421	2,710	—	—	—	—
<b>Total</b>	<b>16,400</b>	<b>102,000</b>	<b>24,700</b>	<b>142,000</b>	<b>13,500</b>	<b>87,300</b>

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

<sup>1</sup>Data are rounded to three significant digits; may not add to totals shown.

<sup>2</sup>Includes filter stone, riprap and jetty stone, and other coarse aggregate.

<sup>3</sup>Withheld to avoid disclosing company proprietary data; included in "Total."

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

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

<sup>6</sup>Includes graded road base or subbase, terrazzo and exposed aggregate, unpaved road surfacing, crusher run (select material or fill), and other coarse and fine aggregates.

<sup>7</sup>Includes agricultural limestone.

<sup>8</sup>Includes cement manufacture.

<sup>9</sup>Includes other fillers or extenders.

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

TABLE 5  
**GEORGIA: CONSTRUCTION SAND AND GRAVEL SOLD OR USED IN 1994, BY MAJOR USE CATEGORY<sup>1</sup>**

Use	Quantity (thousand metric tons)	Value (thousands)	Value per ton
Concrete aggregate (including concrete sand)	3,310	\$11,900	\$3.61
Plaster and gunite sands	388	1,320	3.39
Concrete products (blocks, bricks, pipe, decorative, etc.)	105	502	4.78
Asphaltic concrete aggregates and other bituminous mixtures	W	W	13.50
Road base and coverings	W	W	10.00
Fill	158	399	2.53
Other <sup>2</sup>	50	717	14.30
<b>Unspecified:<sup>3</sup></b>			
Actual	735	1,740	2.37
Estimated	769	3,210	4.17
<b>Total or average</b>	<b>5,520</b>	<b>19,800</b>	<b>3.59</b>

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

<sup>1</sup>Data are rounded to three significant digits; may not add to totals shown.

<sup>2</sup>Includes filtration.

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

TABLE 6  
**GEORGIA: CONSTRUCTION SAND AND GRAVEL<sup>1</sup> SOLD OR USED IN 1994, BY USE AND DISTRICT<sup>2</sup>**

(Thousand metric tons and thousand dollars)

Use	District 2		District 3	
	Quantity	Value	Quantity	Value
Concrete aggregate and concrete products <sup>3</sup>	629	2,600	3,170	11,100
Asphaltic concrete aggregates and road base materials <sup>4</sup>	9	55	174	688
Other miscellaneous uses <sup>5</sup>	—	—	24	374
Unspecified <sup>6</sup>				
Actual	89	223	646	1,520
Estimated	118	536	652	2,670
Total	845	3,420	4,670	16,400

<sup>1</sup>Production reported in District 1 was included with "District 2" to avoid disclosing company proprietary data.

<sup>2</sup>Data are rounded to three significant digits; may not add to totals shown.

<sup>3</sup>Includes plaster and gunite sands.

<sup>4</sup>Includes fill.

<sup>5</sup>Includes filtration.

<sup>6</sup>Includes production reported without a breakdown by end use and estimates for nonrespondents.