

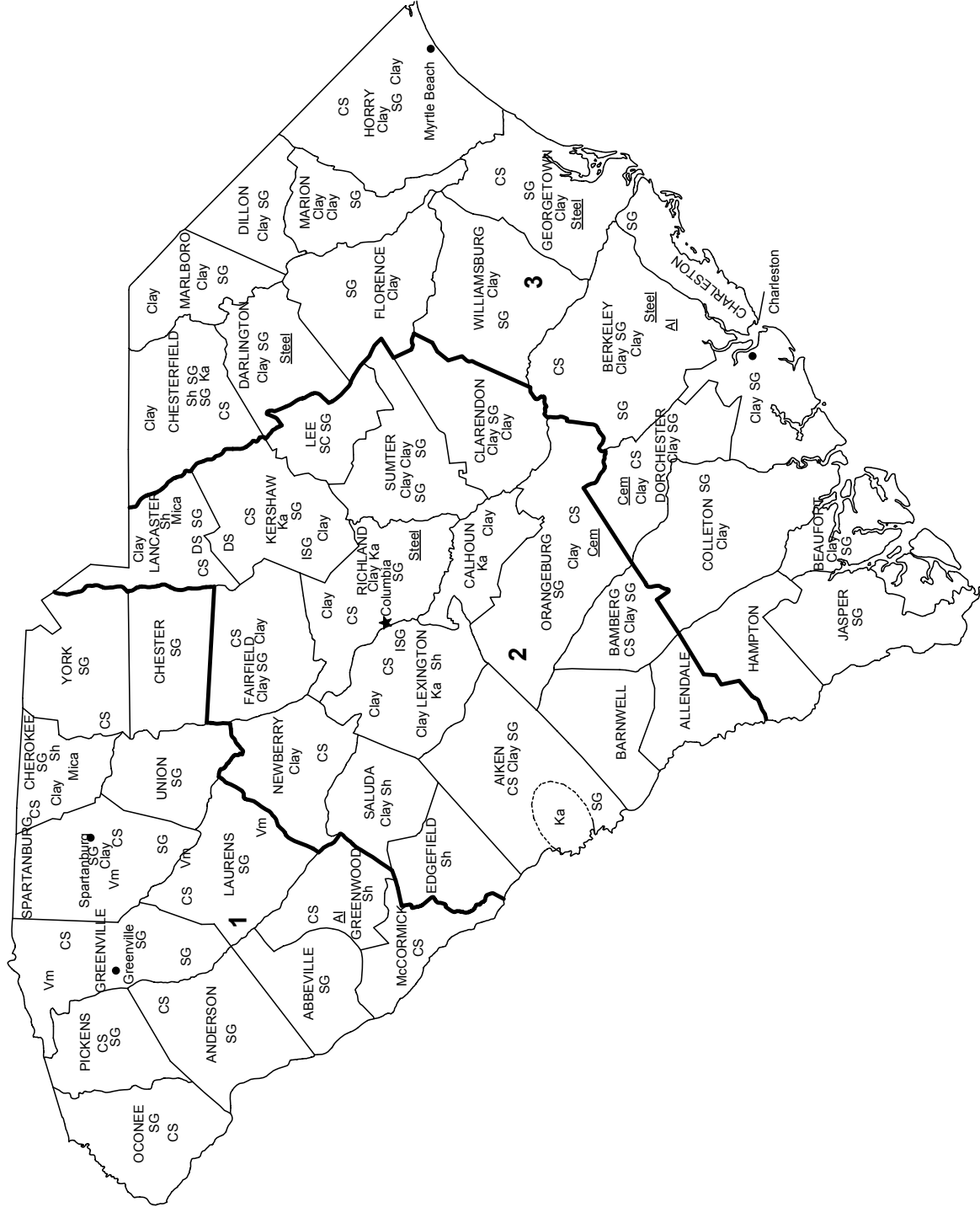
SOUTH CAROLINA

LEGEND

- County boundary
- ★ Capital
- City
- 1 — Crushed stone/sand and gravel districts

MINERAL SYMBOLS (Major producing areas)

- Al Aluminum plant
- Cem Cement plant
- Clay Common clay
- CS Crushed stone
- DS Dimension stone
- ISG Industrial sand and gravel
- Ka Kaolin
- Mica Mica
- SG Construction sand and gravel
- Sh Shale
- Steel Steel plant
- Vm Vermiculite
- Concentration of mineral operations



THE MINERAL INDUSTRY OF SOUTH CAROLINA

This chapter has been prepared under a Memorandum of Understanding between the U.S. Geological Survey and the South Carolina Geological Survey for collecting information on all nonfuel minerals.

In 2004, South Carolina's nonfuel raw mineral production was valued at \$532 million, based upon annual U.S. Geological Survey (USGS) data. This was a 4.7% increase from the State's total nonfuel mineral value for 2003,¹ which was up 10.4% from 2002. The State was 27th in rank (26th in 2003) among the 50 States in total nonfuel mineral production value and accounted for more than 1% of the U.S. total. [Because data for mica and vermiculite have been withheld (company proprietary data) for 2002 and 2004, the actual total values for those years are somewhat higher than those reported in table 1.]

In 2004, cement (portland and masonry), by value, remained the State's leading nonfuel mineral commodity, followed by crushed stone, construction sand and gravel, kaolin, industrial sand and gravel, and vermiculite. The first three raw construction materials accounted for more than 92% of South Carolina's total nonfuel raw mineral production value. A 15% increase in the production of crushed stone, value up \$26 million, and a more than \$8 million rise in the value of cement (production down marginally overall) led the State's increase in total nonfuel mineral value for the year. The largest decrease in value was a \$2.1 million drop in the value of kaolin. All other changes in value were significantly smaller and inconsequential to the net result (table 1).

In 2003, a 22% increase in the production of portland cement, cement (portland and masonry combined) value up \$20.7 million, and a 6% increase in crushed stone, value up \$19 million, led the State's increase in total nonfuel mineral value for the year. The largest decrease in value was in that of crude vermiculite.

In 2004, South Carolina continued to be ranked first of the two vermiculite-producing States, third in the quantity of kaolin produced, and eighth in portland cement. While the State rose to third from fourth in the production of masonry cement, it decreased to third from second in fire clays, to fifth from fourth in mica, and to ninth from eighth in common clays. In addition, significant quantities of crushed stone and industrial sand and gravel were produced in the State. Primary aluminum and raw steel also were produced in the State but from raw materials that were acquired from other domestic and foreign sources. South Carolina rose to fifth from seventh of 12 States in the production of primary aluminum in 2004.

¹The terms "nonfuel mineral production" and related "values" encompass variations in meaning, depending upon the 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 2004 USGS mineral production data published in this chapter are those available as of December 2005. All USGS Mineral Industry Surveys and USGS Minerals Yearbook chapters—mineral commodity, State, and country—also can be retrieved over the Internet at URL <http://minerals.usgs.gov/minerals>.

TABLE 1
NONFUEL RAW MINERAL PRODUCTION IN SOUTH CAROLINA^{1,2}

(Thousand metric tons and thousand dollars)

Mineral	2002		2003		2004	
	Quantity	Value	Quantity	Value	Quantity	Value
Cement:						
Masonry	426	41,000 ^e	425	43,700 ^e	453	49,900 ^e
Portland	2,510	176,000 ^e	3,150	194,000 ^e	3,110	196,000 ^e
Clays:						
Common	1,020	3,360	1,060	2,660	1,050	3,350
Fire	53	739	W	W	1	64
Kaolin	374	21,400	355	21,700	296	19,600
Gemstones	NA	1	NA	1	NA	1
Sand and gravel:						
Construction	10,300	35,500	10,100	34,700	9,960	35,100
Industrial	831	16,400	655	16,700	719	17,600
Stone:						
Crushed	25,700	165,000	27,300	184,000	31,300	210,000
Dimension	9	850	9	850	9	850
Combined values of mica (crude), vermiculite (crude), and value indicated by symbol W	XX	(3)	XX	10,100	XX	(3)
Total	XX	460,000	XX	508,000	XX	532,000

^eEstimated. NA Not available. W Withheld to avoid disclosing company proprietary data. Withheld value included in "Combined values" data.

XX Not applicable.

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

²Data are rounded to no more than three significant digits; may not add to totals shown.

³Value withheld to avoid disclosing company proprietary data.

TABLE 2
SOUTH CAROLINA: CRUSHED STONE SOLD OR USED, BY KIND¹

Kind	2002				2003				2004			
	Number of quarries	Quantity (thousand metric tons)	Value (thousands)	Unit value	Number of quarries	Quantity (thousand metric tons)	Value (thousands)	Unit value	Number of quarries	Quantity (thousand metric tons)	Value (thousands)	Unit value
Limestone	4	2,320	\$14,700	\$6.32	4	2,290	\$14,500	\$6.32	6	6,410	\$32,600	\$5.08
Marble	1	W	W	7.41	1	W	W	8.29	1	W	W	8.32
Calcareous marl	3	W	W	4.57	3	W	W	3.48	3	W	W	4.44
Granite	24	18,900	128,000	6.76	23	20,500	151,000	7.39	23	22,200	163,000	7.36
Total or average	XX	25,700	165,000	6.43	XX	27,300	184,000	6.75	XX	31,300	210,000	6.70

W Withheld to avoid disclosing company proprietary data; included in "Total or average." XX Not applicable.

¹Data are rounded to no more than three significant digits; may not add to totals shown.

TABLE 3a

SOUTH CAROLINA: CRUSHED STONE SOLD OR USED BY PRODUCERS IN 2003, BY USE¹

Use	Quantity (thousand metric tons)	Value (thousands)	Unit value
Construction:			
Coarse aggregate (+1½ inch):			
Macadam	301	\$1,910	\$6.38
Riprap and jetty stone	W	W	13.02
Filter stone	W	W	13.81
Other coarse aggregates	395	4,520	11.43
Total or average	696	6,430	9.24
Coarse aggregate, graded:			
Concrete aggregate, coarse	(2)	(2)	9.61
Bituminous aggregate, coarse	(2)	(2)	10.58
Bituminous surface-treatment aggregate	(2)	(2)	5.12
Railroad ballast	(2)	(2)	9.62
Other graded coarse aggregates	2,290	12,400	5.42
Total or average	8,540	70,300	8.23
Fine aggregate (-¾ inch):			
Stone sand, bituminous mix or seal	(2)	(2)	6.45
Screening, undesignated	(2)	(2)	10.39
Other fine aggregates	1,010	5,840	5.81
Total or average	2,100	13,800	6.56
Coarse and fine aggregates:			
Graded road base or subbase	(2)	(2)	6.46
Crusher run or fill or waste	(2)	(2)	6.26
Roofing granules	(2)	(2)	10.24
Other coarse and fine aggregates	1,740	14,200	8.15
Total or average	4,930	34,800	7.07
Chemical and metallurgical, cement manufacture	3,950	13,700	3.48
Unspecified:³			
Reported	6,760	43,200	6.39
Estimated	290	1,700	5.80
Total or average	7,040	44,900	6.37
Grand total or average	27,300	184,000	6.75

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

¹Data are rounded to no more than three significant digits, except unit value; may not add to totals shown.

²Withheld to avoid disclosing company proprietary data; included in "Total or average."

³Reported and estimated production without a breakdown by end use.

TABLE 3b

SOUTH CAROLINA: CRUSHED STONE SOLD OR USED BY PRODUCERS IN 2004, BY USE¹

Use	Quantity (thousand metric tons)	Value (thousands)	Unit value
Construction:			
Coarse aggregate (+1½ inch):			
Macadam	W	W	\$5.59
Riprap and jetty stone	W	W	13.25
Filter stone	W	W	14.46
Total or average	503	\$5,810	11.55
Coarse aggregate, graded:			
Concrete aggregate, coarse	W	W	9.55
Bituminous aggregate, coarse	W	W	10.61
Bituminous surface-treatment aggregate	W	W	6.49
Railroad ballast	W	W	9.85
Other graded coarse aggregates	33	180	5.45
Total or average	5,890	57,700	9.79
Fine aggregate (-¾ inch):			
Stone sand, concrete	W	W	5.67
Stone sand, bituminous mix or seal	W	W	7.48
Screening, undesignated	247	2,510	10.15
Other fine aggregates	6	33	5.50
Total or average	1,900	11,900	6.28
Coarse and fine aggregates:			
Graded road base or subbase	4,140	26,400	6.37
Crusher run or fill or waste	719	4,650	6.47
Roofing granules	(2)	(2)	10.65
Other coarse and fine aggregates	139	1,220	8.78
Total or average	5,000	32,300	6.46
Chemical and metallurgical, cement manufacture	5,020	19,100	3.81
Unspecified:³			
Reported	12,800	81,700	6.39
Estimated	220	1,300	5.83
Total or average	13,000	83,000	6.38
Grand total or average	31,300	210,000	6.70

W Withheld to avoid disclosing company proprietary data; included in "Total or average."

¹Data are rounded to no more than three significant digits, except unit value; may not add to totals shown.

²Withheld to avoid disclosing company proprietary data; included with "Other coarse and fine aggregates."

³Reported and estimated production without a breakdown by end use.

TABLE 4a
 SOUTH CAROLINA: CRUSHED STONE SOLD OR USED BY PRODUCERS IN 2003, BY USE AND DISTRICT¹

(Thousand metric tons and thousand dollars)

Use	District 1		District 2		District 3	
	Quantity	Value	Quantity	Value	Quantity	Value
Construction:						
Coarse aggregate (+1½ inch) ²	489	4,560	W	W	W	W
Coarse aggregate, graded ³	W	W	W	W	W	W
Fine aggregate (-¾ inch) ⁴	W	W	W	W	W	W
Coarse and fine aggregate ⁵	W	W	W	W	W	W
Chemical and metallurgical ⁶	--	--	W	W	W	W
Unspecified:⁷						
Reported	727	4,650	3,090	19,700	2,950	18,800
Estimated	--	--	160	1,000	130	640
Total	10,800	77,300	8,120	50,800	8,370	55,700

W Withheld to avoid disclosing company proprietary data; included in "Total." -- Zero.

¹Data are rounded to no more than three significant digits; may not add to totals shown.

²Includes filter stone, macadam, riprap and jetty stone, and other coarse aggregates.

³Includes bituminous aggregate (coarse), bituminous surface-treatment aggregate, concrete aggregate (coarse), railroad ballast, and other graded coarse aggregates.

⁴Includes screening (undesignated), stone sand (bituminous mix or seal), and other fine aggregates.

⁵Includes crusher run (select material or fill), graded road base or subbase, roofing granules, and other coarse and fine aggregates.

⁶Includes cement manufacture.

⁷Reported and estimated production without a breakdown by end use.

TABLE 4b
SOUTH CAROLINA: CRUSHED STONE SOLD OR USED BY PRODUCERS IN 2004, BY USE AND DISTRICT¹

(Thousand metric tons and thousand dollars)

Use	District 1		District 2		District 3	
	Quantity	Value	Quantity	Value	Quantity	Value
Construction:						
Coarse aggregate (+1½ inch) ²	W	W	W	W	W	W
Coarse aggregate, graded ³	W	W	W	W	W	W
Fine aggregate (-¾ inch) ⁴	W	W	W	W	W	W
Coarse and fine aggregate ⁵	W	W	W	W	W	W
Chemical and metallurgical ⁶	--	--	W	W	W	W
Unspecified:⁷						
Reported	3,690	23,000	3,750	23,900	5,360	34,800
Estimated	--	--	160	1,000	50	220
Total	11,800	84,900	9,520	56,000	10,000	69,000

W Withheld to avoid disclosing company proprietary data; included in "Total." -- Zero.

¹Data are rounded to no more than three significant digits; may not add to totals shown.

²Includes filter stone, macadam, and riprap and jetty stone.

³Includes bituminous aggregate (coarse), bituminous surface-treatment aggregate, concrete aggregate (coarse), railroad ballast, and other graded coarse aggregates.

⁴Includes screening (undesignated), stone sand (bituminous mix or seal), stone sand (concrete), and other fine aggregates.

⁵Includes crusher run or fill or waste, graded road base or subbase, roofing granules, and other coarse and fine aggregates.

⁶Includes cement manufacture.

⁷Reported and estimated production without a breakdown by end use.

TABLE 5a
SOUTH CAROLINA: CONSTRUCTION SAND AND GRAVEL SOLD OR USED IN 2003,
BY MAJOR USE CATEGORY¹

Use	Quantity (thousand metric tons)	Value (thousands)	Unit value
Concrete aggregate (including concrete sand)	5,650	\$22,100	\$6.00
Concrete products (blocks, bricks, pipe, decorative, etc.) ²	530	2,000	3.56
Asphaltic concrete aggregates and other bituminous mixtures	356	947	2.80
Road base and coverings	58	361	2.29
Fill	789	1,420	1.71
Other miscellaneous uses	131	729	6.34
Unspecified: ³			
Reported	7	27	5.53
Estimated	2,600	7,100	2.73
Total or average	10,100	34,700	3.45

¹Data are rounded to no more than three significant digits; may not add to totals shown.

²Includes plaster and gunite sands.

³Reported and estimated production without a breakdown by end use.

TABLE 5b
 SOUTH CAROLINA: CONSTRUCTION SAND AND GRAVEL SOLD OR USED IN 2004,
 BY MAJOR USE CATEGORY¹

Use	Quantity (thousand metric tons)	Value (thousands)	Unit value
Concrete aggregate and concrete products ²	3,480	\$14,600	\$4.18
Asphaltic concrete aggregates and road base materials	129	383	2.96
Fill	927	1,660	1.79
Other miscellaneous uses	41	73	1.79
Unspecified: ³			
Reported	2,850	11,000	3.88
Estimated	2,500	7,400	2.91
Total or average	9,960	35,100	3.52

¹Data are rounded to no more than three significant digits; may not add to totals shown.

²Includes plaster and gunite sands.

³Reported and estimated production without a breakdown by end use.

TABLE 6a
 SOUTH CAROLINA: CONSTRUCTION SAND AND GRAVEL SOLD OR USED IN 2003,
 BY USE AND DISTRICT^{1,2}

(Thousand metric tons and thousand dollars)

Use	District 1 and 2		District 3	
	Quantity	Value	Quantity	Value
Concrete aggregate and concrete products ³	1,690	6,200	4,490	17,900
Asphaltic concrete aggregates and road base materials	W	W	W	W
Other miscellaneous uses ⁴	263	850	1,070	2,610
Unspecified: ⁵				
Reported	7	27	--	--
Estimated	400	1,300	2,200	5,800
Total	2,330	8,340	7,740	26,300

W Withheld to avoid disclosing company proprietary data; included in "Other miscellaneous uses." -- Zero.

¹Data are rounded to no more than three significant digits; may not add to totals shown.

²Districts 1 and 2 are combined to avoid disclosing company proprietary data.

³Includes plaster and gunite sands.

⁴Includes fill.

⁵Reported and estimated production without a breakdown by end use.

TABLE 6b
 SOUTH CAROLINA: CONSTRUCTION SAND AND GRAVEL SOLD OR USED IN 2004,
 BY USE AND DISTRICT^{1,2}

(Thousand metric tons and thousand dollars)

Use	Districts 1 and 2		District 3	
	Quantity	Value	Quantity	Value
Concrete aggregate and concrete products ³	1,750	7,760	1,860	7,200
Fill	154	387	773	1,270
Other miscellaneous uses	--	--	41	73
Unspecified: ⁴				
Reported	11	45	2,840	11,000
Estimated	370	1,200	2,200	6,100
Total	2,280	9,430	7,680	25,700

-- Zero.

¹Data are rounded to no more than three significant digits; may not add to totals shown.

²Districts 1 and 2 are combined to avoid disclosing company proprietary data.

³Includes asphaltic concrete aggregates, plaster and gunite sands, and road base materials.

⁴Reported and estimated production without a breakdown by end use.