THE MINERAL INDUSTRY OF ALABAMA

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

In 1999, the preliminary estimated value[1] of nonfuel mineral production for Alabama was almost $1.1 billion, according to the U.S. Geological Survey (USGS). This was about a 7% increase from that of 1998,[2] following a 14.6 % increase from 1997 to 1998. The State rose in rank to 13th from 14th among the 50 States in total nonfuel mineral production value, of which Alabama accounted for almost 3% of the U.S. total.

The top four nonfuel mineral commodities produced in Alabama in 1999 were, in descending order of value, crushed stone, cement, lime, and construction sand and gravel, accounting for 95% of the State's total production value. The combined value of crushed stone and portland cement represented 73% of the total. Of the State's overall increase in value from 1998 to 1999, about 61% of it resulted from the $43 million increase in crushed stone plus $9 million increases in portland cement and lime and a $7 million increase in construction sand and gravel (table 1). Most other nonfuel minerals increased in value, except for bentonite and common clay, which had relatively small decreases, and fire clay, gemstones, and crude iron oxide pigments which remained the same. In 1998, crushed stone, up $110 million, was the leading mineral commodity contributing to Alabama's significant increase in nonfuel mineral value. Smaller yet significant increases also occurred (in descending order of change) in portland cement, construction sand and gravel, lime, and masonry cement (table 1).

Nonfuel mineral production in Alabama consisted entirely of industrial minerals; no metals were mined in the State. Compared with USGS estimates of the quantities produced in the other 49 States in 1999, Alabama remained first in common clays, second in bentonite (sharing second with Montana), third in kaolin and lime, fourth in iron oxide pigments, fifth in masonry cement, sixth in portland cement and fire clays, and seventh in salt. Additionally, Alabama's stone quarries and sand pits produced substantial quantities of crushed stone and construction and industrial sand and gravel. All metal production in the State, especially that of raw steel, was the result of processing materials acquired from other domestic and foreign sources. Bauxite is no longer mined in Alabama to produce primary aluminum. Production of a natural mixture of bauxite and bauxitic clay with a very low iron oxide content has been reported to the USGS since 1995 as kaolin; it is primarily used to make refractory (high-temperature-resistant) products.

The Geological Survey of Alabama[3] provided the narrative information that follows. Record production for the State of crushed stone (limestone, dolomite, granite, marble, sandstone, and quartzite) was achieved in 1999. Limestone, used for lime and cement production and as a construction material, led in this production. The Alabama Development Office reported recent capital investment in expanding industrial mineral operations to be over $35 million. This included crushed stone, refractory clay, calcium carbonate, lime, and salt (solution mining) (Alabama Development Office, 1999).

In Alabama's minerals industry there were several large expansions as well as plans to build a new cement plant. The French minerals group Imetal SA completed its acquisition of the English China Clays PLC (ECC) marble operation in Sylcauga, AL. The consolidation of the ECC operation with the adjoining operation of the Georgia Marble Co., a wholly owned subsidiary of Imetal, makes the marble operation at Sylcauga one of the largest operations in the United States for ground calcium carbonate for use in a variety of industrial applications (Sinclair, 1999). Wise Metals Group of Baltimore, MD, completed its acquisition of the Reynolds Metals Co. Listerhill operation in the northern part of the State. The Reynolds plant had been in operation since 1941. The reorganized operation, Wise Alloys LLC, will supply metal for beverage can manufacturing (Palmer, 1999). Blue Circle Cement Co. announced plans to invest $230 million in building a new cement plant to expand its operation in Shelby County, one of the leading lime producing areas in the United States. The Blue Circle operation is designed to use new technology that will keep it competitive in the global market (Daniels, 1999).

Mineral exploration continued to focus mostly on industrial mineral resources but some exploration for metals occurred. Metals exploration focused on tantalum in Coosa County and gold in Cleburne County (Burgert, 1998). Plans to restart tantalum production in Coosa County were delayed until 2000 (Burgert, 1999). The Alabama Department of Environmental Management issued a discharge permit for a precious metals

[1]The terms "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 1999 USGS mineral production data published in this chapter are preliminary estimates as of May 2000 and are expected to change. For some mineral commodities, such as, construction sand and gravel, crushed stone, and portland cement, estimates are updated periodically. To obtain the most current information, please contact the appropriate USGS mineral commodity specialist. A telephone listing for the specialists may be retrieved over the Internet at URL http://minerals.usgs.gov/minerals/contacts/ comdir.html, by using MINES FaxBack at (703) 648-4999 from a fax machine with a touch-tone handset (request Document #1000 for a telephone listing of all mineral commodity specialists), or by calling USGS information at (703) 648-4000 for the specialist's name and number. All Mineral Industry Surveys–mineral commodity, State, and country–also may be retrieved over the Internet at URL http://minerals.usgs.gov/minerals; facsimile copies may be obtained from MINES FaxBack.

[2]Values, percentage calculations, and rankings for 1998 may vary from the Minerals Yearbook, Area Reports: Domestic 1998, Volume II, owing to the revision of preliminary 1998 to final 1998 data. Data for 1999 are preliminary and are expected to change; related rankings may also be subject to change.

[3]Lewis S. Dean, a geologist at the Geological Survey of Alabama, authored the text of the State mineral industry information provided by that agency.

operation near Borden Springs in Cleburne County (Surrett, 1999).

The Geological Survey of Alabama published its annual minerals industry summary that provides details of the occurrence, mining history, and general economics of specific mineral resources in Alabama. More information on geology, hydrology, and environmental considerations related to these resources is available from the Geological Survey of Alabama.

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TABLE 1
NONFUEL RAW MINERAL PRODUCTION IN ALABAMA 1/ 2/

(Thousand metric tons and thousand dollars)

Mineral	1997		1998		1999 p/	
	Quantity	Value	Quantity	Value	Quantity	Value
Cement:						
Masonry	346	36,200 e/	371	39,100 e/	380	40,000 e/
Portland	4,280	344,000 e/	4,310	353,000 e/	4,410	362,000 e/
Clays: Common	2,590	25,400	2,400	23,100	2,410	22,500
Gemstones	NA	860	NA	76	NA	76
Lime	1,830	115,000	1,960	119,000	2,100	128,000
Sand and gravel:						
Construction	13,400	58,800	14,400	64,100	15,700	71,100
Industrial	734	9,730	757	9,910	776	10,500
Stone: Crushed	42,000	273,000	48,900	383,000	53,000	426,000
Combined values of clays (bentonite, fire, kaolin), iron oxide pigments (crude), salt, stone (dimension limestone and sandstone)	XX	17,600	XX	18,500	XX	21,000
Total	XX	881,000	XX	1,010,000	XX	1,080,000

e/ Estimated. p/ Preliminary. NA Not available. XX Not applicable.

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

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

TABLE 2
ALABAMA: CRUSHED STONE SOLD OR USED, BY KIND 1/

Kind	1997				1998			
	Number of quarries	Quantity (thousand metric tons)	Value (thousands)	Unit value	Number of quarries	Quantity (thousand metric tons)	Value (thousands)	Unit value
Limestone 2/	45	37,300	$194,000	$5.21	53	42,900	$286,000	$6.66
Dolomite	3	W	W	5.47	3	W	W	5.54
Marble	2	W	W	35.38	4	2,240	76,300	34.09
Sandstone	--	--	--	--	3	W	W	5.00
Granite	4	W	W	5.47 r/	3	W	W	5.51
Slate	1	W	W	5.18 r/	1	W	W	5.79
Miscellaneous stone	--	--	--	--	1	67	477	7.12
Total or average	XX	42,000	273,000	6.51	XX	48,900	383,000	7.83

r/ Revised. W Withheld to avoid disclosing company proprietary data; included in "Total." XX Not applicable. -- Zero.

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

2/ Includes limestone-dolomite reported with no distinction between the two.

TABLE 3
ALABAMA: CRUSHED STONE SOLD OR USED BY PRODUCERS
IN 1998, BY USE 1/ 2/

Use	Quantity (thousand metric tons)	Value (thousands)	Unit value
Coarse aggregate (+1 1/2 inch)			
Riprap and jetty stone	103	$624	$6.06
Other coarse aggregate	495	3,850	7.77
Total or average	598	4,470	7.47
Coarse aggregate, graded:			
Concrete aggregate, coarse	399	2,360	5.92
Bituminous aggregate, coarse	W	W	5.87
Bituminous surface-treatment aggregate	W	W	5.35
Other graded coarse aggregate	W	W	5.83
Total or average	8,390	48,900	5.83
Fine aggregate (-3/8 inch):			
Stone sand, concrete	W	W	6.11
Screening, undesignated	W	W	5.56
Other fine aggregate	W	W	5.61
Total or average	2,120	11,900	5.61
Coarse and fine aggregates:			
Graded road base or subbase	W	W	10.32
Terrazzo and exposed aggregate	W	W	7.61
Crusher run or fill or waste	W	W	5.84
Other coarse and fine aggregates	W	W	6.07
Total or average	5,460	33,300	6.09
Other construction materials	1,150	3,790	3.31
Agricultural:			
Agricultural limestone	165	1,100	6.67
Poultry grit and mineral food	58	700	12.07
Other agricultural uses	130	1,270	9.73
Total or average	353	3,070	8.68
Chemical and metallurgical:			
Cement manufacture	3,060	26,800	8.76
Lime manufacture	W	W	12.89
Dead-burned dolomite manufacture	W	W	5.75
Flux stone	W	W	6.36
Total or average	7,450	79,300	10.65
Special:			
Mine dusting or acid water treatment	W	W	15.75
Whiting or whiting substitute	W	W	55.09
Other fillers or extenders	W	W	40.21
Roofing granules	W	W	35.00
Total or average	1,540	71,500	46.50
Other miscellaneous uses: Other specified uses not listed	548	2,420	4.41
Unspecified: 3/			
Actual	14,900	87,800	5.91
Estimated	6,410	36,300	5.66
Total or average	21,300	124,000	5.83
Grand total or average	48,900	383,000	7.83

W Withheld to avoid disclosing company proprietary data; included in "Total."
1/ Data are rounded to no more than three significant digits, except unit value; may not add to totals shown.
2/ Includes dolomite, granite, limestone, limestone-dolomite, marble, miscellaneous stone, sandstone, and slate.
3/ Reported and estimated production without a breakdown by end use.

TABLE 4
ALABAMA: CRUSHED STONE SOLD OR USED BY PRODUCERS IN 1998,
BY USE AND DISTRICT 1/

Use	District 1		District 2		District 3	
	Quantity (metric tons)	Value (thousands)	Quantity (metric tons)	Value (thousands)	Quantity (metric tons)	Value (thousands)
Construction aggregates:						
Coarse aggregate (+1-1/2 inch) 2/	225	1,520	340	2,420	W	W
Coarse aggregate, graded 3/	3,600	20,800	W	W	W	W
Fine aggregate (-3/8 inch) 4/	817	4,710	W	W	W	W
Coarse and fine aggregate 5/	2,910	15,000	2,060	12,200	W	W
Other construction materials	--	--	7,100	37,200	642	8,500
Agricultural 6/	(7/)	(7/)	(7/)	(7/)	(7/)	(7/)
Chemical and metallurgical 8/	--	--	6,080	73,500	(7/)	(7/)
Special 9/	--	--	(7/)	(7/)	--	--
Other miscellaneous uses	--	--	548	2,420	--	--
Unspecified: 10/						
Actual	(7/)	(7/)	10,700	64,700	1,570	8,650
Estimated	(7/)	(7/)	4,780	27,200	(7/)	(7/)
Total	11,700	65,000	33,300	293,000	3,880	24,600

W Withheld to avoid disclosing company proprietary data; included with "Other construction materials." -- Zero.
1/ Data are rounded to no more than three significant digits; may not add to totals shown.
2/ Includes, riprap and jetty stone, and other coarse aggregate.
3/ Includes concrete aggregate (coarse), bituminous aggregate (coarse), bituminous surface-treatment aggregate, and other graded coarse aggregate.
4/ Includes stone sand (concrete), screening (undesignated), and other fine aggregate.
5/ Includes graded road base or subbase, terrazzo and exposed aggregates, crusher run (select material or fill), and other coarse and fine aggregate.
6/ Includes agricultural limestone, poultry grit and mineral food, and other agricultural uses.
7/ Withheld to avoid disclosing company proprietary data; included in "Total."
8/ Includes cement manufacture, lime manufacture, dead-burned dolomite manufacture, and flux stone.
9/ Includes mine dusting or acid water treatment, whiting or whiting substitute, other fillers or extenders, and roofing granules.
10/ Reported and estimated production without a breakdown by end use.

TABLE 5
ALABAMA: CONSTRUCTION SAND AND GRAVEL SOLD OR USED IN 1998,
BY MAJOR USE CATEGORY 1/

Use	Quantity (thousand metric tons)	Value (thousands)	Unit value
Concrete aggregate and concrete products 2/	4,250	$16,600	$3.90
Asphaltic concrete aggregates and other bituminous mixtures	597	2,360	3.95
Road base and coverings	724	2,480	3.42
Road and other stabilization (lime)	44	72	1.64
Fill 3/	171	366	2.14
Unspecified: 4/			
Actual	4,260	21,400	5.03
Estimated	4,360	20,900	4.78
Total or average	14,400	64,100	4.45

1/ Data are rounded to no more than three significant digits; may not add to totals shown.
2/ Includes plaster and gunite sands.
3/ Includes snow and ice control.
4/ Reported and estimated production without a breakdown by end use.

TABLE 6
ALABAMA: CONSTRUCTION SAND AND GRAVEL SOLD OR USED IN 1998,
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/	833	4,280	116	431	3,300	11,900
Asphaltic concrete aggregates	270	1,040	--	--	327	1,320
Road base and coverings 3/	--	--	225	759	542	1,790
Fill 4/	59	216	49	54	63	96
Unspecified: 5/						
Actual	--	--	1,420	7,030	2,840	14,400
Estimated	232	1,160	283	1,470	3,850	18,200
Total	1,390	6,700	2,090	9,740	10,900	47,600

-- Zero.
1/ Data are rounded to no more than three significant digits; may not add to totals shown.
2/ Includes plaster and gunite sands.
3/ Includes road and other stabilization (lime).
4/ Includes snow and ice control.
5/ Reported and estimated production without a breakdown by end use.