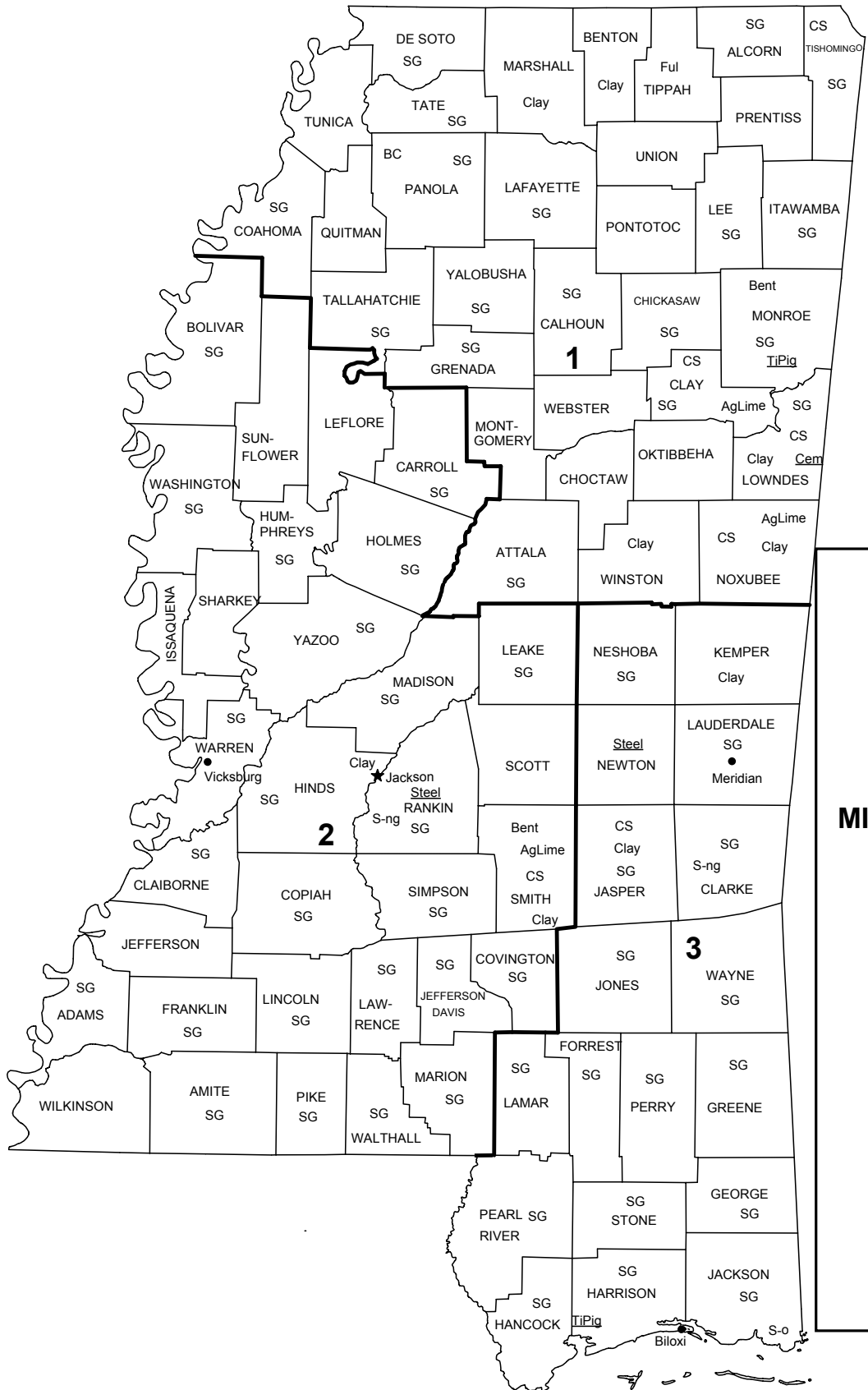


# MISSISSIPPI

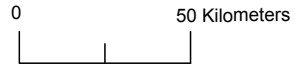


## LEGEND

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

## MINERAL SYMBOLS (Major producing areas)

- AgLime Agricultural lime
- BC Ball clay
- Bent Bentonite
- Cem Cement plant
- Clay Common clay
- CS Crushed stone
- Ful Fuller's earth
- S-ng Sulfur (natural gas)
- S-o Sulfur (oil)
- SG Construction sand and gravel
- Steel Steel plant
- TiPig Titanium dioxide pigment plant



Source: Mississippi Department of Environmental Quality, Office of Geology/U.S. Geological Survey (2003)

# THE MINERAL INDUSTRY OF MISSISSIPPI

**This chapter has been prepared under a Memorandum of Understanding between the U.S. Geological Survey and the Mississippi Department of Environmental Quality, Office of Geology, for collecting information on all nonfuel minerals.**

In 2003, the estimated value<sup>1</sup> of nonfuel mineral production for Mississippi was \$174 million, based upon preliminary U.S. Geological Survey (USGS) data. This was about a 2% decrease from that of 2002<sup>2</sup> and followed a 2.3% increase in 2002 from that of 2001.

Construction sand and gravel was Mississippi's leading nonfuel mineral, accounting for about 40% of the State's total nonfuel mineral value in 2003. It was followed by fuller's earth, crushed stone, portland cement, and industrial sand and gravel. The State's major construction materials—construction sand and gravel, crushed stone, and portland cement—accounted for more than 65% of Mississippi's total value. In 2003, the decrease in nonfuel mineral value for the State mostly resulted from a \$4 million drop in construction sand and gravel. A decrease in crushed stone value was offset by an increase of nearly the same amount in portland cement. Based on preliminary estimates, all other nonfuel minerals remained virtually unchanged (table 1). In 2002, increases in the production and value of crushed stone, up \$9.2 million, and bentonite and an increase in the value of construction sand and gravel, up \$3.1 million, led Mississippi's rise in value. The State's increase was offset, in part, by an estimated \$8 million decrease in portland cement and a \$2.2 million drop in fuller's earth (table 1).

Based upon USGS estimates of the quantities of minerals produced in the 50 States during 2003, Mississippi remained second in fuller's earth, third in bentonite, and fourth of five ball-clay-producing States. The State continued to be a significant producer of construction sand and gravel, industrial sand and gravel, and common clays. Metals produced in Mississippi, especially raw steel, were processed from materials received from other domestic and foreign sources.

The following narrative information was provided by the Mississippi Department of Environmental Quality's

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<sup>1</sup>The 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 2003 USGS mineral production data published in this chapter are preliminary estimates as of July 2004 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. Specialist contact information may be retrieved over the Internet at URL <http://minerals.usgs.gov/minerals/contacts/comdir.html>; alternatively, specialists' names and telephone numbers may be obtained by calling USGS information at (703) 648-4000 or by calling the USGS Earth Science Information Center at 1-888-ASK-USGS (275-8747). All USGS Mineral Industry Surveys and USGS Minerals Yearbook chapters—mineral commodity, State, and country—also may be retrieved over the Internet at URL <http://minerals.usgs.gov/minerals>.

<sup>2</sup>Values, percentage calculations, and rankings for 2002 may differ from the Minerals Yearbook, Area Reports: Domestic 2002, Volume II, owing to the revision of preliminary 2002 to final 2002 data. Data for 2003 are preliminary and are expected to change; related rankings also may change.

(DEQ) Office of Geology<sup>3</sup> (MOG). In 2003, the Mississippi Environmental Quality Permit Board (EQPB) issued 61 surface mining permits for industrial mineral operations covering approximately 546 hectares (ha) (1,350 acres) and processed 121 Notices of Exempt Operations [1.6 ha (4 acres) or less] covering approximately 194 ha. Under State law, surface mines of 1.6 ha or less were required neither to obtain a mining permit nor to perform reclamation of any kind. The MOG's Mining and Reclamation Division (MRD) performed 841 annual inspections for all active mining permits on file and received applications for bond release on 142 permits. During the year, 329 ha were reclaimed and released.

All mines in Mississippi were surface industrial mineral operations except for one, the State's only coal mine. Mississippi Lignite Mining Company in Choctaw County continued to mine and stockpile lignite, annually producing approximately 3.1 million metric tons (3.4 million short tons) of lignite each year from the Wilcox Group formation. The brownish black coal material is mined for feed to the 440-megawatt Red Hills "mine-mouth" powerplant that uses state-of-the-art technology to produce electricity that is sold to the Tennessee Valley Authority.

## Legislation and Government Activities

The year 2003 saw many changes in the way the mining industry does business in Mississippi; it was the first full year under the State's amended Mining and Reclamation Law (the State's noncoal surface mining law originally enacted in 1978). Previously, the Mississippi State Legislature had amended this law (effective July 1, 2002) to require that mining companies must obtain a surface mining permit before they begin any mining operation. Before the law was amended, a company could begin mining after presenting a completed application at the MOG. This amendment strengthened the agency's ability to stop illegal mining by enacting stiff penalties for mining without a permit. Among other changes made, the new law moved permit approval to the EQPB from the Mississippi Commission on Environmental Quality (CEQ) to make the mining permit procedure more consistent with how other similar DEQ permits are approved. Previously, all nonfuel mineral mining permits were issued by the State's CEQ. Additionally, the public notice period was shortened from 30 days to 15 days in order to expedite permit approval. New rules and regulations remained in draft form in 2003 awaiting final wording as a result of the change in the law.

The Mining and Reclamation Division helped oversee annual

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<sup>3</sup>Kenneth McCarley, Director of the Mining and Reclamation Division of the Mississippi Department of Environmental Quality's Office of Geology, authored the text of the State mineral industry information provided by that agency.

miner safety training for nonfuel mineral operations in the State in compliance with regulations (Parts 46 and 48) of the U.S. Department of Labor's Mine Safety and Health Administration (MSHA); it employed a contract trainer to instruct miners throughout the State. The training, funded in part by a grant

from MSHA, was provided to mine operations that process material in some way, such as mining, rock crushing, or washing operations. Two members of the MRD staff were instrumental in the training of approximately 500 miners, mineral processing personnel, and other associated staff in 2003.

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

(Thousand metric tons and thousand dollars)

Mineral	2001		2002		2003 <sup>p</sup>	
	Quantity	Value	Quantity	Value	Quantity	Value
Clays:						
Bentonite	155 <sup>e</sup>	4,900 <sup>e</sup>	W	W	W	W
Common	461	2,040	496	2,210	496	2,210
Fuller's earth	385	32,100	411	29,900	411	29,900
Gemstones	NA	1	NA	1	NA	1
Sand and gravel, construction	13,700	70,100	13,600	73,200	12,800	69,100
Stone, crushed	1,920 <sup>r,3</sup>	18,800 <sup>r,3</sup>	2,620	27,900	2,500	26,800
Combined values of cement (portland), clays (ball), sand and gravel (industrial), stone [crushed marl (2001)], and values indicated by symbol W	XX	46,300	XX	44,600	XX	45,800
Total	XX	174,000 <sup>r</sup>	XX	178,000	XX	174,000

<sup>e</sup>Estimated. <sup>p</sup>Preliminary. <sup>r</sup>Revised. NA Not available. W Withheld to avoid disclosing company proprietary data; value included with "Combined values" data. XX Not applicable.

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

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

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

TABLE 2  
MISSISSIPPI: CRUSHED STONE SOLD OR USED, BY KIND<sup>1</sup>

Kind	2001				2002			
	Number of quarries	Quantity <sup>r</sup> (thousand metric tons)	Value <sup>r</sup> (thousands)	Unit value <sup>r</sup>	Number of quarries	Quantity (thousand metric tons)	Value (thousands)	Unit value
Limestone	3 <sup>r</sup>	1,920	\$18,800	\$9.79	3	2,620	\$27,900	\$10.64

<sup>r</sup>Revised.

<sup>1</sup>Data are rounded to no more than three significant digits, except unit value.

TABLE 3  
MISSISSIPPI: CRUSHED STONE SOLD OR USED BY PRODUCERS IN 2002, BY USE<sup>1</sup>

Use	Quantity (thousand metric tons)	Value (thousands)	Unit value
Construction:			
Coarse aggregate (+1 1/2 inch), other coarse aggregates	W	W	\$21.43
Coarse aggregate, graded, other graded coarse aggregates	W	W	17.04
Fine aggregate (-3/8 inch), other fine aggregates	W	W	17.05
Coarse and fine aggregates, other	W	W	15.42
Agricultural limestone	W	W	10.41
Unspecified: <sup>2</sup>			
Reported	996	\$9,110	9.15
Estimated	780	4,400	5.59
Total or average	2,620	27,900	10.64

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

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

<sup>2</sup>Reported and estimated production without a breakdown by end use.

TABLE 4  
MISSISSIPPI: CRUSHED STONE SOLD OR USED BY PRODUCERS IN 2002, 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
Construction:						
Coarse aggregate (+1 1/2 inch) <sup>2</sup>	W	W	W	W	W	W
Coarse aggregate, graded <sup>3</sup>	W	W	W	W	W	W
Fine aggregate (-3/8 inch) <sup>4</sup>	W	W	W	W	W	W
Coarse and fine aggregate <sup>5</sup>	W	W	W	W	W	W
Agricultural <sup>6</sup>	W	W	W	W	--	--
Unspecified: <sup>7</sup>						
Reported	225	2,060	770	7,050	--	--
Estimated	780	4,400	--	--	--	--
Total	1,140	8,370	903	9,630	574	9,870

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

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

<sup>2</sup>Includes other coarse aggregates.

<sup>3</sup>Includes other graded coarse aggregates.

<sup>4</sup>Includes other fine aggregates.

<sup>5</sup>Includes other coarse and fine aggregates.

<sup>6</sup>Includes agricultural limestone.

<sup>7</sup>Reported and estimated production without a breakdown by end use.

TABLE 5  
MISSISSIPPI: CONSTRUCTION SAND AND GRAVEL SOLD OR USED IN 2002,  
BY MAJOR USE CATEGORY<sup>1</sup>

Use	Quantity	Value	Unit
	(thousand metric tons)	(thousands)	value
Concrete aggregate and concrete products <sup>2</sup>	2,210	\$14,900	\$6.73
Asphaltic concrete aggregates and other bituminous mixtures	969	5,650	5.83
Road base and coverings	729	3,860	5.30
Other miscellaneous uses <sup>3</sup>	344	945	2.75
Unspecified: <sup>4</sup>			
Reported	3,980	21,200	5.33
Estimated	5,300	27,000	5.04
Total or average	13,600	73,200	5.37

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

<sup>2</sup>Includes plaster and gunite sands.

<sup>3</sup>Includes fill and railroad ballast.

<sup>4</sup>Reported and estimated production without a breakdown by end use.

TABLE 6  
MISSISSIPPI: CONSTRUCTION SAND AND GRAVEL SOLD OR USED IN 2002, BY USE AND DISTRICT<sup>1,2</sup>

(Thousand metric tons and thousand dollars)

Use	Districts 1 and 3		District 2		Unspecified districts	
	Quantity	Value	Quantity	Value	Quantity	Value
Concrete aggregate and concrete products <sup>3</sup>	1,480	9,850	734	5,010	--	--
Asphaltic concrete aggregates and road base materials	1,440	8,000	362	1,520	--	--
Fill	343	937	1	6	--	--
Other miscellaneous uses <sup>4</sup>	--	--	--	--	--	--
Unspecified: <sup>5</sup>						
Reported	2,180	9,910	1,790	11,300	--	--
Estimated	3,200	16,000	1,800	9,100	320	1,400
Total	8,640	44,900	4,660	26,900	320	1,400

-- Zero.

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

<sup>2</sup>Districts 1 and 3 are combined to avoid disclosing company proprietary data.

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

<sup>4</sup>Includes railroad ballast.

<sup>5</sup>Reported and estimated production without a breakdown by end use.