



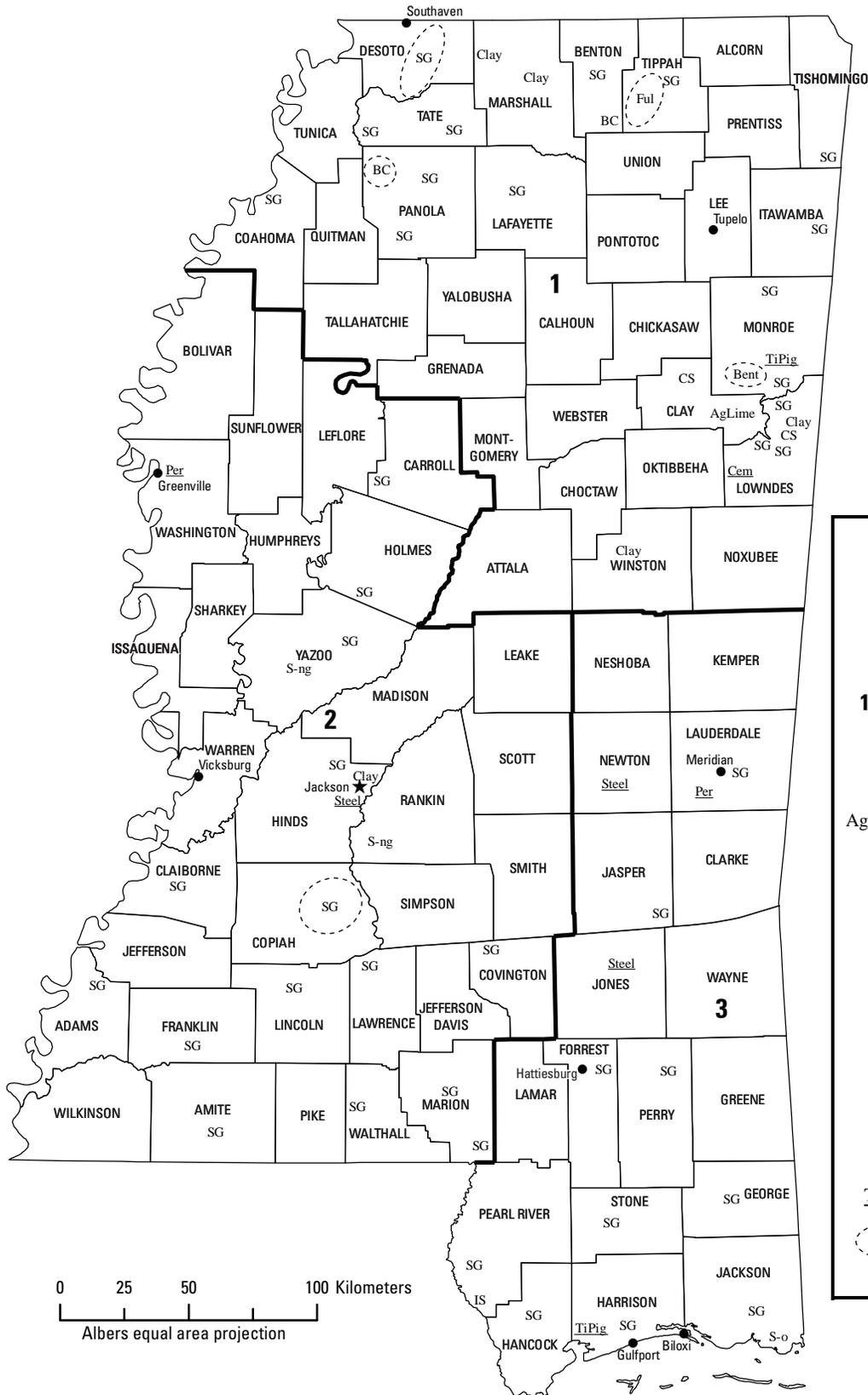
# 2007 Minerals Yearbook

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MISSISSIPPI [ADVANCE RELEASE]

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# MISSISSIPPI



**LEGEND**

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

**MINERAL SYMBOLS  
(Major producing areas)**

AgLime	Agricultural lime
BC	Ball clay
Bent	Bentonite
<u>Cem</u>	Cement plant
Clay	Common clay
CS	Crushed stone
Ful	Fuller's earth
IS	Industrial sand
<u>Per</u>	Perlite plant
S-ng	Sulfur (natural gas)
S-o	Sulfur (oil)
SG	Construction sand and gravel
<u>Steel</u>	Steel plant
<u>TiPig</u>	Titanium dioxide pigment plant
○	Concentration of mineral operations

Source: Mississippi Department of Environmental Quality/ U.S. Geological Survey (2007).

# 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 2007, Mississippi's nonfuel raw mineral production<sup>1</sup> was valued at \$238 million, based upon annual U.S. Geological Survey (USGS) data. This was a decrease of \$34 million, or 12.5%, from the State's total nonfuel mineral production value for 2006 of \$272 million, which followed a \$51 million, or more than 23%, increase in 2005.

Construction sand and gravel was Mississippi's leading nonfuel mineral in 2007, based upon value, accounting for nearly 40% of the State's total nonfuel mineral production value. This was down from being nearly 49% of the State's total in 2006, mainly owing to a 28% decrease in construction sand and gravel production. In 2007, when construction sand and gravel's value was combined with the value of crushed stone, the State's two major mined construction materials accounted for 64% of Mississippi's total nonfuel mineral value. In 2007, construction sand and gravel and crushed stone, in descending order of value, were followed by fuller's earth, portland cement, ball clay, and bentonite. Increases took place in the production and value of crushed stone and fuller's earth clays, values up by \$5.2 million and about \$4 million, respectively. Also up in value were lime and industrial sand and gravel, but the State's increases were more than offset by decreases in construction sand and gravel, down by \$38.8 million, portland cement, down by more than \$5 million and lesser decreases by ball clay, bentonite, and common clay, resulting in the total decrease in value for the year (table 1).

In 2007, Mississippi continued to be third in the quantities of fuller's earth clay and ball clay that were produced (listed in descending order of value) as compared with their production in other States and decreased to fifth from fourth in the production of bentonite clay. Additionally, the State continued to be a producer of significant quantities of construction sand and gravel and common clays. Metals that were produced, especially raw steel, were processed from raw materials (including scrap) received from other domestic and foreign sources.

The following narrative information was provided by the Mississippi Department of Environmental Quality's (DEQ) Office of Geology<sup>2</sup> (MOG). All mines in Mississippi were surface industrial mineral operations except one, the State's only coal (lignite) mine. Mississippi ranked 41st among the 50 States in total nonfuel mineral production value; this value accounted for more than 0.2% of the State's gross domestic product.

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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 2007 USGS mineral production data published in this chapter are those available as of June 2009. All USGS Mineral Industry Surveys and USGS Minerals Yearbook chapters—mineral commodity, State, and country—can be retrieved over the Internet at URL <http://minerals.usgs.gov/minerals>.

<sup>2</sup>Kenneth McCarley, Geologist and Director, Mining and Reclamation Division, Mississippi Office of Geology, authored the text of the State mineral industry information provided by that agency.

## Employment

The State's mineral operations provided direct employment to 1,750 persons and indirectly to another 6,000 persons from mining activity that took place in and outside of the State, for a total of 7,750 jobs Statewide. Jobs in the mining industry were high paying in relation to those of other industries—24% higher than the average wage in the State. In 2007, the average annual wage in the mining industry in Mississippi was \$40,000. Total direct earnings from the mining industry's payroll in the State were \$70 million. With earnings from indirect economic activity associated with the mining industry in Mississippi and elsewhere included, a total of about \$250 million was earned by workers in Mississippi. Income and payroll taxes from these payrolls, including Federal, State, local, and FICA (Federal Insurance Contributions Act), totaled nearly \$74 million.

## Mine Permitting

The State had more than 800 permitted mineral operation sites and about the same number of small exempt [1.6-hectare (ha) (less than 4 acres)] sites. Under State law, surface mines of 1.6 ha (4 acres) or less were not required either to obtain a mining permit or to perform reclamation of any kind. The Mississippi DEQ issued 41 surface mining permits for industrial mineral operations covering approximately 405 hectares (ha) (1,000 acres); the agency also processed 68 Notices of Exempt Operations covering an approximate total area of 110 ha (270 acres). The MOG's Mining and Reclamation Division (MRD) performed 870 annual inspections for all active mining permits on file. During the year, a total of 511 ha (1,260 acres) were reclaimed and released.

## Commodity Review

### *Industrial Minerals*

**Clay and Shale.**—Ball clay and fuller's earth clay continued to be mined in the northern counties of the State, and common clay, mainly for the production of bricks, was still being mined in various areas in the State, mainly in central and north central counties. The State's fuller's earth clays were used in products such as cat litter and filler in fertilizers; the ball clay was mined to be used in the making of such products as ceiling tiles, floor tiles, and asphalt sealant; and bentonite clay was mined for use as an adsorbent in edible fats and oils and for the decolorization of vegetable oils.

**Sand and Gravel, Construction.**—The mining of sand and gravel along the State's coastal areas, continued to be active mainly because of the ongoing rebuilding of New Orleans, LA, which sustained extensive damage from Hurricane Katrina in 2005. Much of the material being used to rebuild the levees in

New Orleans was mined from south Mississippi clay and sand pit mines.

### Government Programs

The MRD continued to perform safety training for miners and certain other personnel at the State's mining and mineral processing operations in compliance with the U.S. Department of Labor's Mine Safety and Health Administration (MSHA)

regulations, in particular under Part 46 (sand and gravel) and Part 48 (coal or lignite) of the MSHA regulations. Three people on the Mining and Reclamation staff are certified by MSHA to do mine safety training. A grant from MSHA helps the MRD provide training for operations that process material, such as rock crushing or washing operations. The staff trained more than 500 miners, mineral processing personnel, and contractors in 2007.

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

(Thousand metric tons and thousand dollars)

Mineral	2005		2006		2007	
	Quantity	Value	Quantity	Value	Quantity	Value
Clays:						
Bentonite	W	W	78	5,180	67	4,610
Common	642	2,860	549	3,100	508	2,860
Fuller's earth	354	33,000	W	W	W	W
Gemstones, natural	NA	1	NA	1	NA	1
Sand and gravel, construction	14,400	85,200	19,300	133,000	13,900	94,200
Stone, crushed	3,520	47,800	3,070 <sup>r</sup>	53,700 <sup>r</sup>	3,120	58,900
Combined values of cement (portland), clays (ball), lime (2007), sand and gravel (industrial), and values indicated by symbol W	XX	52,000	XX	77,200 <sup>r</sup>	XX	76,900
Total	XX	221,000	XX	272,000 <sup>r</sup>	XX	238,000

<sup>r</sup>Revised. NA Not available. W Withheld to avoid disclosing company proprietary data. Withheld values included in "Combined value" 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.

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

Type	2006			2007		
	Number of quarries	Quantity (thousand metric tons)	Value (thousands)	Number of quarries	Quantity (thousand metric tons)	Value (thousands)
Limestone	3	3,050	\$53,000	3	3,010	\$56,800
Miscellaneous stone	1	29	632	1	113	2,130
Total	XX	3,070 <sup>r</sup>	53,700 <sup>r</sup>	XX	3,120	58,900

<sup>r</sup>Revised. XX Not applicable.

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

TABLE 3  
MISSISSIPPI: CRUSHED STONE SOLD OR USED BY PRODUCERS IN 2007, BY USE<sup>1</sup>

(Thousand metric tons and thousand dollars)

Use	Quantity	Value
<b>Construction:</b>		
Coarse aggregate (+1½ inch), other	W	W
Coarse aggregate, graded, other	W	W
Fine aggregate (¾ inch), other	W	W
Coarse and fine aggregates, other	W	W
Agricultural, limestone	W	W
<b>Chemical and metallurgical:</b>		
Cement manufacture	W	W
Sulfur oxide removal	W	W
<b>Unspecified:<sup>2</sup></b>		
Reported	848	16,800
Estimated	147	2,800
<b>Total</b>	<b>3,120</b>	<b>58,900</b>

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

<sup>1</sup>Data are rounded to no more than three significant digits; 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 2007, 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:</b>						
Coarse aggregate (+1½ inch) <sup>2</sup>	W	W	--	--	W	W
Coarse aggregate, graded <sup>3</sup>	W	W	--	--	W	W
Fine aggregate (¾ inch) <sup>4</sup>	W	W	--	--	W	W
Coarse and fine aggregate <sup>5</sup>	W	W	--	--	W	W
Agricultural <sup>6</sup>	W	W	--	--	--	--
Chemical and metallurgical <sup>7</sup>	W	W	--	--	--	--
<b>Unspecified:<sup>8</sup></b>						
Reported	424	8,420	424	8,420	--	--
Estimated	34	633	113	2,100	--	--
<b>Total</b>	<b>1,660</b>	<b>25,300</b>	<b>537</b>	<b>10,600</b>	<b>919</b>	<b>23,100</b>

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 aggregate.

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

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

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

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

<sup>7</sup>Includes cement manufacture and sulfur oxide removal.

<sup>8</sup>Reported and estimated production without a breakdown by end use.

TABLE 5  
MISSISSIPPI: CONSTRUCTION SAND AND GRAVEL SOLD OR USED IN 2007,  
BY MAJOR USE CATEGORY<sup>1</sup>

Use	Quantity	Value	Unit
	(thousand metric tons)	(thousands)	value
Concrete aggregate (including concrete sand)	5,520	\$38,000	\$6.88
Concrete products (blocks, bricks, pipe, decorative, etc.) <sup>2</sup>	256	1,690	6.60
Asphaltic concrete aggregates and other bituminous mixtures	1,580	13,800	8.76
Road base and coverings <sup>3</sup>	731	4,380	5.99
Fill <sup>4</sup>	790	1,530	1.93
Unspecified: <sup>5</sup>			
Reported	1,250	9,410	7.54
Estimated	3,800	25,000	6.72
Total or average	13,900	94,200	6.77

<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>Includes plaster and gunite sands.

<sup>3</sup>Includes road and other stabilization (cement and lime).

<sup>4</sup>Includes snow and ice control.

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

TABLE 6  
MISSISSIPPI: CONSTRUCTION SAND AND GRAVEL SOLD OR USED IN 2007, 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
Concrete aggregate and concrete products <sup>2</sup>	2,520	15,900	2,010	16,000	988	5,890
Asphaltic concrete aggregates and other bituminous mixtures	496	4,080	1,080	9,740	--	--
Road base and coverings <sup>3</sup>	442	2,500	W	W	W	W
Fill <sup>4</sup>	133	298	W	W	W	W
Other miscellaneous uses	--	--	204	1,270	696	1,650
Unspecified: <sup>5</sup>						
Reported	863	7,160	73	197	313	2,060
Estimated	720	4,800	1,600	11,000	1,500	10,000
Total	5,180	34,800	4,940	37,800	3,480	19,600
	Unspecified districts					
Use	Quantity	Value				
Concrete aggregate and concrete products <sup>2</sup>	263	1,830				
Asphaltic concrete aggregates and other bituminous mixtures	--	--				
Road base and coverings <sup>3</sup>	17	107				
Fill <sup>4</sup>	29	73				
Other miscellaneous uses	--	--				
Unspecified: <sup>5</sup>						
Reported	--	--				
Estimated	--	--				
Total	308	2,010				

-- Zero.

<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 road and other stabilization (cement and lime).

<sup>4</sup>Includes snow and ice control.

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