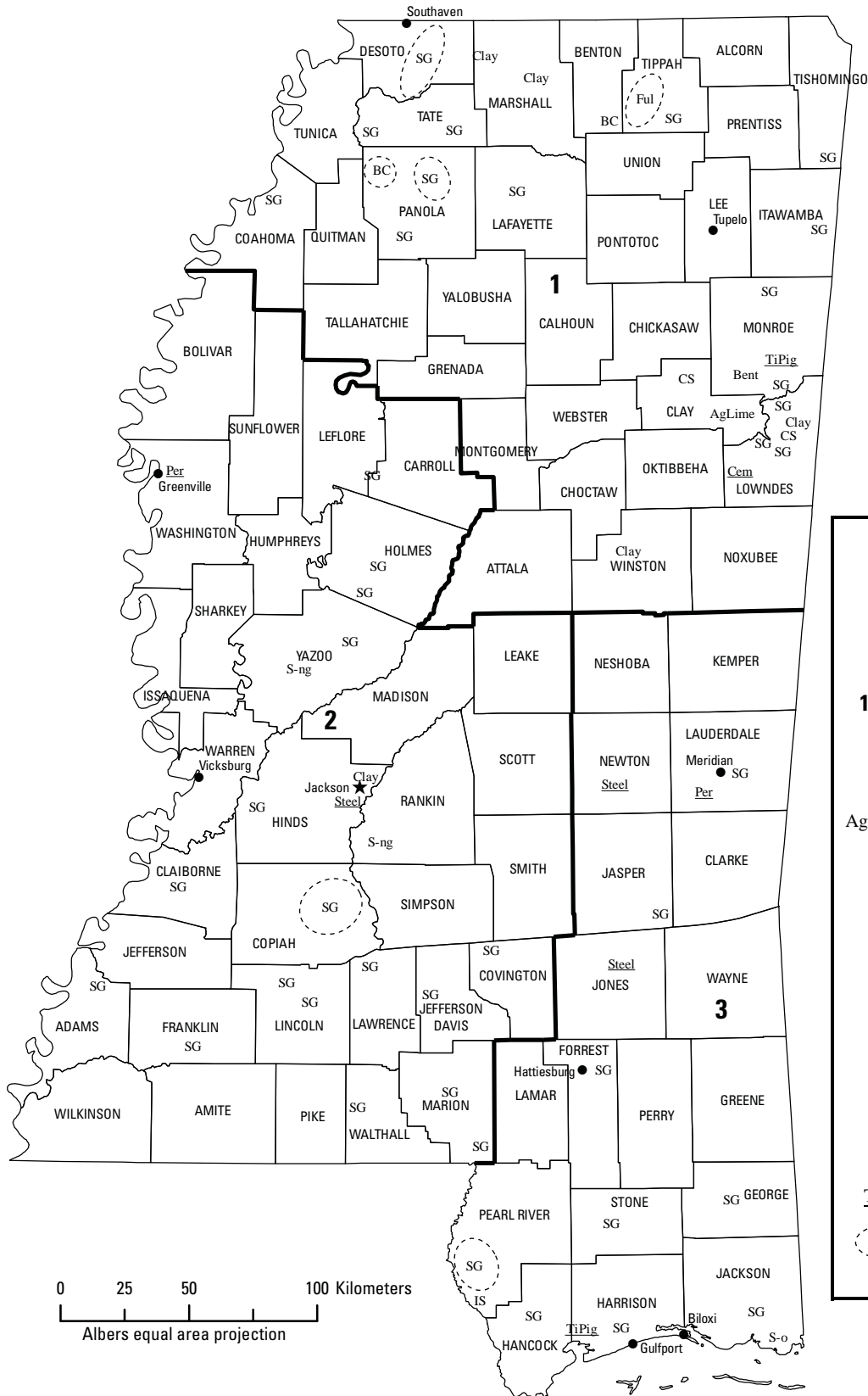




2006 Minerals Yearbook

MISSISSIPPI

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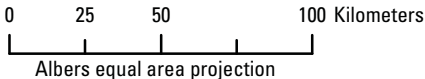


LEGEND

- 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 (2006).

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 2006, Mississippi's nonfuel raw mineral production¹ was valued at \$270 million, based upon annual U.S. Geological Survey (USGS) data. This was up by \$49 million, or up 22%, from the State's total nonfuel mineral value for 2005 of \$221 million, which followed a nearly 14% increase from 2004 to 2005.

Construction sand and gravel was Mississippi's leading nonfuel mineral, accounting for 49% of the State's total nonfuel mineral production value in 2006, up from 39% of the State's total in 2005. When combined with the value of crushed stone, the State's two major mined construction materials accounted for 69% of Mississippi's total nonfuel mineral value.

In 2006, in descending order of value, construction sand and gravel was followed by crushed stone, portland cement, fuller's earth, ball clay, and bentonite (in contrast to 2002–04 when fuller's earth was the State's second-leading nonfuel mineral by value). A substantial increase in the production and value of construction sand and gravel led the State's increase in value in 2006. A 34% increase of 4.9 million metric tons contributed to a \$48 million, or 56%, increase in the commodity's total value for the year. Although crushed stone production decreased by about 13%, a substantial increase in its unit value led to an 11%, or \$5 million, rise in its value. A smaller yet significant increase took place in the value of ball clay (table 1). The only decreases in value took place in the commodities of bentonite clay and portland cement.

In 2006, Mississippi continued to be third in the quantities of ball clay and fuller's earth clay that were produced as compared with other producing States and decreased to fourth from second in the production of bentonite clay. Additionally, the State continued to be a significant producer of construction sand and gravel and common clays. Metals that were produced, 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 (DEQ) Office of Geology² (MOG). The Mississippi DEQ issued 41 surface mining permits for industrial mineral operations covering approximately 405 hectares (ha) (1,000 acres) and processed 74 Notices of Exempt Operations [1.6 ha (4 acres) or less] covering approximately 117 ha (290 acres). Under State law, surface mines of 1.6 ha or less were not required either

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 2006 USGS mineral production data published in this chapter are those available as of March 2008. 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>.

²Kenneth 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.

to obtain a mining permit or to perform reclamation of any kind. The MOG's Mining and Reclamation Division (MRD) performed 924 annual inspections for all active mining permits on file and received applications for bond release on 50 permits. During the year, a total of 350 ha (864 acres) were reclaimed and released.

All mines in Mississippi were surface industrial mineral operations except one, the State's only coal (lignite) mine. Mississippi Lignite Mining Company in Choctaw County, continued to mine and stockpile lignite, mining the lignite from the Wilcox Group formation. The brownish black coal material was 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. In 2005, a proposal by the company to use coal ash on roads and ramps in the mine had been approved by the Mississippi Department of Environmental Quality, Office of Pollution Control.

Commodity Review

Industrial Minerals

The mining of nonfuel minerals in Mississippi, mainly for sand and gravel, continued to be very active mainly because of the ongoing rebuilding of the Gulf Coast after Hurricane Katrina in 2005. Much of the material being used to rebuild the levees in New Orleans was mined from south Mississippi clay sand mines. The demand for materials for use in building new roads, houses, and other structures was very high. The demand for sand and gravel was also very high in other parts of the State, such as the northwest counties south of Memphis, TN.

Clay.—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 bentonite clay mines in Monroe County that had been idle since their closure in 2005 continued to be idle but plans were being formulated for the formation of a new company that would start these mines back up possibly in 2007 or 2008. BASF Catalysts LLC, which had several permits to mine bentonite in Monroe County, reduced personnel but continued to operate mines in that area.

Government Programs

The MRD completed a mining database for all mining sites in the State by electronically recording all permitted and exempt [1.6 ha (4 acres) or less] sites into an ArcGIS™ format. Paper maps had been in use since 1978; when fully operational, use of the database via the Internet will allow the public to access the data on the MRD Web site.

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 were 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 520 miners and contractors in 2006.

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

(Thousand metric tons and thousand dollars)

Mineral	2004		2005		2006	
	Quantity	Value	Quantity	Value	Quantity	Value
Clays:						
Bentonite	W	W	W	W	78	5,180
Common	610	2,700	642	2,860	549	3,100
Fuller's earth	381	35,200	354	33,000	338	33,600
Gemstones, natural	NA	1	NA	1	NA	1
Sand and gravel, construction	14,100	80,700	14,400	85,200	19,300	133,000
Stone, crushed	2,760	34,200	3,520 ^r	47,800 ^r	3,050	53,000
Combined values of cement (portland), clays (ball), sand and gravel (industrial)	XX	41,500	XX	52,000	XX	42,400
Total	XX	194,000	XX	221,000 ^r	XX	270,000

^rRevised. NA Not available. W Withheld to avoid disclosing company proprietary data; included in "Total." 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.

TABLE 2
MISSISSIPPI: CRUSHED STONE SOLD OR USED, BY KIND¹

Kind	2005			2006		
	Number of quarries	Quantity (thousand metric tons)	Value (thousands)	Number of quarries	Quantity (thousand metric tons)	Value (thousands)
Limestone	4	3,520 ^r	\$47,800 ^r	3	3,050	\$53,000

^rRevised.

¹Data 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 2006. BY USE¹

(Thousand metric tons and thousand dollars)

Use	Quantity	Value
Construction:		
Coarse aggregate (+1½ inch), other	W	W
Coarse aggregate, graded:		
Railroad ballast	W	W
Other graded coarse aggregate	W	W
Fine aggregate (-¾ inch), other	W	W
Coarse and fine aggregates, other	W	W
Agricultural, limestone	W	W
Chemical and metallurgical:		
Cement manufacture	W	W
Sulfur oxide removal	W	W
Unspecified: ²		
Reported	886	17,600
Estimated	27	320
Total	913	17,900
Grand total	3,050	53,000

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

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

²Reported and estimated production without a breakdown by end use.

TABLE 4
MISSISSIPPI: CRUSHED STONE SOLD OR USED BY PRODUCERS IN 2006. 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
Coarse aggregate, graded ³	W	W	--	--	W	W
Fine aggregate (-¾ inch) ⁴	W	W	--	--	W	W
Coarse and fine aggregate ⁵	W	W	--	--	W	W
Agricultural ⁶	W	W	--	--	W	W
Chemical and metallurgical ⁷	W	W	--	--	--	--
Unspecified: ⁸						
Reported	391	7,770	495	9,820	--	--
Estimated	27	320	--	--	--	--
Total	1,620	22,700	495	9,820	933	20,500

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 other coarse aggregate.

³Includes railroad ballast and other graded coarse aggregate.

⁴Includes other fine aggregate.

⁵Includes other coarse and fine aggregates.

⁶Includes agricultural limestone.

⁷Includes cement manufacture and sulfur oxide removal.

⁸Reported and estimated production without a breakdown by end use.

TABLE 5
MISSISSIPPI: CONSTRUCTION SAND AND GRAVEL SOLD OR USED IN 2006,
BY MAJOR USE CATEGORY¹

Use	Quantity (thousand metric tons)	Value (thousands)	Unit value
Concrete aggregate (including concrete sand)	4,340	\$31,500	\$7.27
Concrete products (blocks, bricks, pipe, decorative, etc.) ²	138	1,120	8.09
Asphaltic concrete aggregates and other bituminous mixtures	1,350	9,960	7.37
Road base and coverings ³	734	3,990	5.43
Fill	196	491	2.51
Unspecified: ⁴			
Reported	5,970	40,400	6.76
Estimated	6,540	45,000	6.89
Total or average	19,300	133,000	6.88

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

²Includes plaster and gunite sands.

³Includes road and other stabilization (cement and lime).

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

TABLE 6
MISSISSIPPI: CONSTRUCTION SAND AND GRAVEL SOLD OR USED IN 2006. BY USE AND DISTRICT¹
(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	1,430	8,610	1,890	15,300	909	7,170
Asphaltic concrete aggregates and road base materials ³	859	5,240	1,140	8,100	45	396
Fill	113	264	7	17	60	168
Unspecified: ⁴						
Reported	2,800	19,000	48	205	3,120	21,200
Estimated	1,280	8,800	2,800	19,300	2,450	16,900
Total	6,490	41,900	5,890	42,900	6,590	45,800
	Unspecified districts					
Use	Quantity	Value				
Concrete aggregate and concrete products ²	246	1,620				
Asphaltic concrete aggregates and road base materials ³	38	209				
Fill	17	42				
Unspecified: ⁴						
Reported	--	--				
Estimated	--	--				
Total	301	1,880				

-- Zero.

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

²Includes plaster and gunite sands.

³Includes road and other stabilization (cement and lime).

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