USGS
science for a changing world

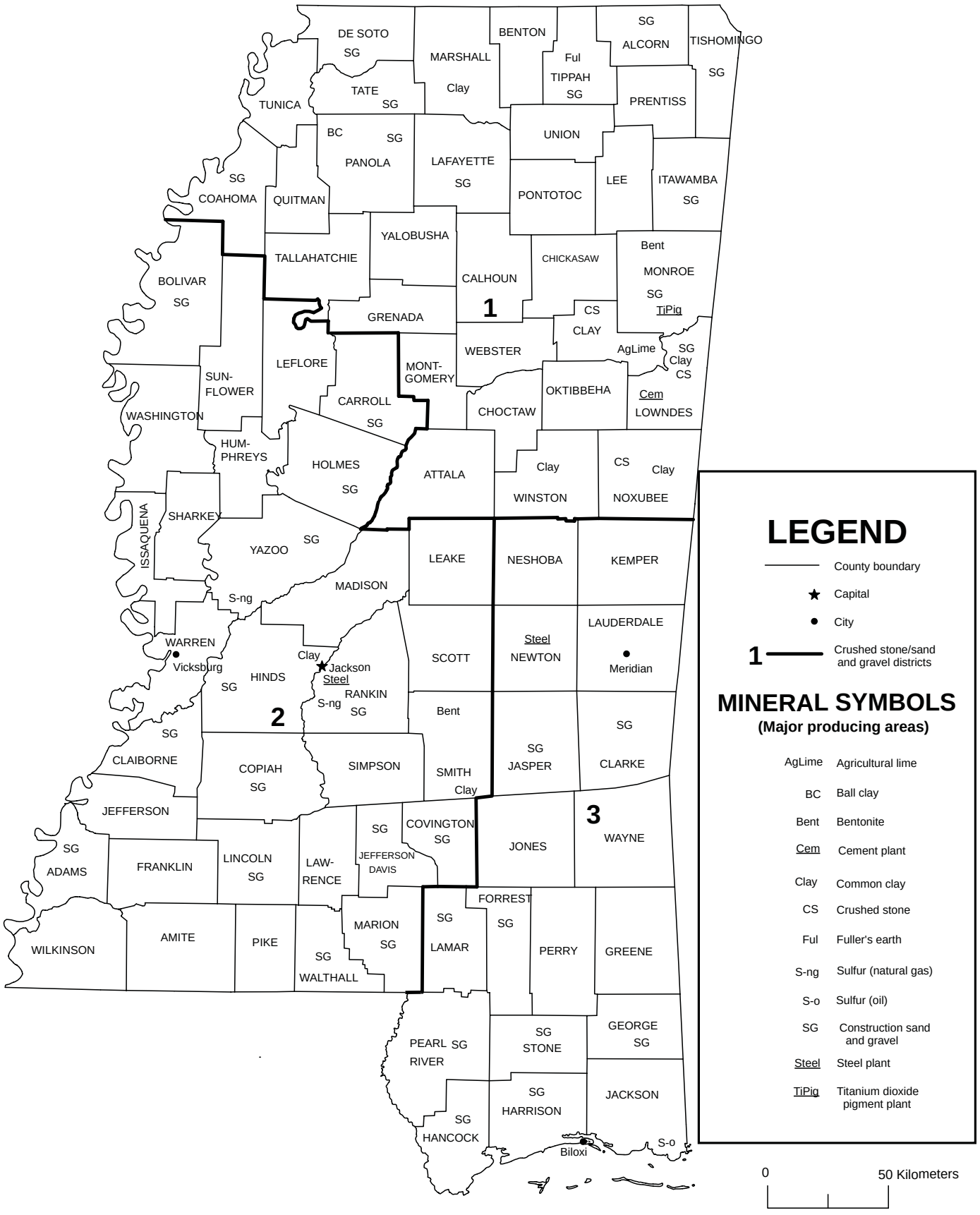
2005 Minerals Yearbook

MISSISSIPPI

U.S. Department of the Interior
U.S. Geological Survey

August 2007

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 (2005)

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 2005, Mississippi's nonfuel raw mineral production was valued[1] at $215 million, based upon annual U.S. Geological Survey (USGS) data. This was up 10.8% from the State's total nonfuel mineral value for 2004 of $194 million, which followed a marginal increase from 2003.

Construction sand and gravel was Mississippi's leading nonfuel mineral, accounting for nearly 40% of the State's total nonfuel mineral production value in 2005. When combined with the value of crushed stone, the State's two major mined construction materials accounted for 59% of Mississippi's total value. In 2005, in descending order of value, construction sand and gravel was followed by crushed stone, portland cement, fuller's earth, bentonite, and ball clay, in contrast to 2004 when fuller's earth was the State's second-leading nonfuel mineral by value. The production and value of fuller's earth decreased a relatively small amount; the major changes were significant increases in the production and value of crushed stone and in the value of portland cement (slight production increase). In 2005, increases in the values of portland cement, up more than $10 million, crushed stone, up $7.5 million, and construction sand and gravel, up $4.5 million, led the State's rise in value for the year. These increases were partly offset by decreases in fuller's earth, down $2.2 million, and bentonite, down about $1 million (table 1).

In 2005, Mississippi continued to be second in the quantities of bentonite produced and third in ball clay and fuller's earth as compared with other producing States. Additionally, the State continued to be a significant producer of construction sand and gravel and common clays. Metals that were 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 (DEQ) Office of Geology[2] (MOG). The Mississippi DEQ issued 65 surface mining permits for industrial mineral operations covering approximately 615 hectares (ha) (1,520 acres) and processed 110 Notices of Exempt Operations [1.6 ha (4 acres) or less] covering approximately 178 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 Mining and Reclamation Division performed 816 annual inspections for all active mining permits on file and received applications for bond release on 92 permits. During the year, a total of 408 ha was 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, producing approximately 3.1 million metric tons per year (3.4 million short tons) of lignite 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. In 2005, a proposal by the company to use coal ash on roads and ramps in the mine was approved by the Mississippi Department of Environmental Quality, Office of Pollution Control.

Commodity Review

Industrial Minerals

Mining activity in the State, mainly for sand and gravel, saw a large increase after Hurricane Katrina brought significant devastation to communities along the northcentral coast of the Gulf of Mexico. The demand for materials for use in building new houses, roads, and other structures rose substantially. Several mines on the coast also supplied sandy clay for use in rebuilding the levees in the city of New Orleans, LA. Many Mississippi mines that had previously stopped producing materials, but were not yet in the reclamation phase, became sites for landfills as the need for these became critical to the coastline communities. An unprecedented amount of debris had to be disposed of after the hurricane.

Bentonite.—The bentonite mines in northeast Mississippi declined in production in 2005 when one of the largest mines closed in Monroe County. Unimin Corp., the company that operated the mine, decided to move its interests out of the State. Unimin's mine was in the reclamation phase at yearend. Basf Catalysts LLC, which has a large bentonite mine in this area, also reduced personnel in Monroe County.

Government Programs

The Mining and Reclamation Division (MRD) continued to perform safety training for miners and certain other personnel at the State's mining and mineral processing operations in compliance with regulations (Part 46 and 48) of the U.S. Department of Labor's Mine Safety and Health Administration (MSHA). A grant from MSHA helped MRD provide the safety training. Of the MRD staff, three are certified by MSHA to do mine safety training, which was completed by approximately

[1]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 2005 USGS mineral production data published in this chapter are those available as of December 2006. 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.

[2]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.

580 people in 2005. Additionally, all operations that process material in some way, such as mining, rock crushing, or washing operations, were required to have detailed and all-encompassing safety plans in place at mines or mineral-processing sites, and all personnel were required to be trained in the execution of such plans.

TABLE 1
NONFUEL RAW MINERAL PRODUCTION IN MISSISSIPPI[1, 2]

(Thousand metric tons and thousand dollars unless otherwise specified)

Mineral	2003		2004		2005	
	Quantity	Value	Quantity	Value	Quantity	Value
Clays:						
Common	524	2,050	610	2,700	642	2,860
Fuller's earth	534	42,700	381	35,200	354	33,000
Gemstones	NA	1	NA	1	NA	1
Sand and gravel, construction	14,600	82,600	14,100	80,700	14,400	85,200
Stone, crushed	2,850	33,900	2,760	34,200	3,500	41,700
Combined values of cement (portland), clays (ball, bentonite), sand and gravel (industrial)	XX	31,400	XX	41,500	XX	52,000
Total	XX	193,000	XX	194,000	XX	215,000

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
MISSISSIPPI: CRUSHED STONE SOLD OR USED, BY KIND[1]

Kind	2004			2005		
	Number of quarries	Quantity (thousand metric tons)	Value (thousands)	Number of quarries	Quantity (thousand metric tons)	Value (thousands)
Limestone	3	2,760	$34,200	4	3,500	$41,700

[1]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 2005, BY USE[1]

(Thousand metric tons and thousand dollars)

Use	Quantity	Value
Construction:		
Coarse aggregate (+1½ inch), other coarse aggregate	W	W
Coarse aggregate, graded, other graded coarse aggregate	W	W
Fine aggregate (-⅜ inch), other fine aggegate	W	W
Coarse and fine aggregates, other coarse and fine aggregates	W	W
Agricultural limestone	W	W
Chemical and metallurgical:		
Cement manufacture	W	W
Sulfur oxide removal	W	W
Unspecified:[2]		
Reported	937	6,710
Estimated	20	235
Total	957	6,950
Grand total	3,500	41,700

W Withheld to avoid disclosing company proprietary data; included in "Grand total."
[1]Data are rounded to no more than three significant digits; may not add to totals shown.
[2]Reported and estimated production without a breakdown by end use.

TABLE 4
MISSISSIPPI: CRUSHED STONE SOLD OR USED BY PRODUCERS IN 2005, BY USE AND DISTRICT[1]

(Thousand metric tons and thousand dollars)

Use	District 1		District 2		District 3		Unspecified districts	
	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value
Construction:								
Coarse aggregate (+1½ inch)[2]	W	W	W	W	W	W	2	18
Coarse aggregate, graded[3]	W	W	W	W	W	W	269	4,410
Fine aggregate (-⅜ inch)[4]	W	W	W	W	W	W	26	425
Coarse and fine aggregate[5]	W	W	W	W	W	W	4	12
Agricultural[6]	W	W	--	--	W	W	--	--
Chemical and metallurgical[7]	W	W	--	--	--	--	--	--
Unspecified:[8]								
Reported	468	3,360	468	3,360	--	--	--	--
Estimated	20	235	--	--	--	--	--	--
Total	1,890	18,600	480	3,560	834	14,700	301	4,870

W Withheld to avoid disclosing company proprietary data; included in "Total." -- Zero.
[1]Data are rounded to no more than three significant digits; may not add to totals shown.
[2]Includes other coarse aggregate.
[3]Includes other graded coarse aggregate.
[4]Includes other fine aggregate.
[5]Includes other coarse and fine aggregates.
[6]Includes agricultural limestone.
[7]Includes cement manufacture and sulfur oxide removal.
[8]Reported and estimated production without a breakdown by end use.

TABLE 5
MISSISSIPPI: CONSTRUCTION SAND AND GRAVEL SOLD OR USED IN 2005,
BY MAJOR USE CATEGORY[1]

Use	Quantity (thousand metric tons)	Value (thousands)	Unit value
Concrete aggregate (including concrete sand)	5,240	$31,300	$5.97
Concrete products (blocks, bricks, pipe, decorative, etc.)[2]	103	724	7.02
Asphaltic concrete aggregates and other bituminous mixtures	2,310	15,600	6.76
Road base and coverings[3]	881	4,190	4.76
Fill	300	465	1.55
Other miscellaneous uses	2	63	27.56
Unspecified:[4]			
Reported	2,320	13,800	5.97
Estimated	3,220	19,000	5.90
Total or average	14,400	85,200	5.93

[1]Data are rounded to no more than three significant digits, except unit value; may not add to totals shown.
[2]Includes plaster and gunite sands.
[3]Includes road and other stabilization (lime).
[4]Reported and estimated production without a breakdown by end use.

TABLE 6

MISSISSIPPI: CONSTRUCTION SAND AND GRAVEL SOLD OR USED IN 2005, 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]	2,380	13,500	2,180	14,400	625	3,100
Asphaltic concrete aggregates and road base materials[3]	1,440	8,030	1,380	9,390	154	1,020
Fill	110	189	13	21	157	203
Other miscellaneous uses	--	--	--	--	2	63
Unspecified:[4]						
Reported	1,520	9,100	603	3,600	195	1,130
Estimated	838	4,940	1,500	8,820	881	5,200
Total	6,290	35,800	5,670	36,300	2,010	10,700

Use	Unspecified districts	
	Quantity	Value
Concrete aggregate and concrete products[2]	162	968
Asphaltic concrete aggregates and road base materials[3]	221	1,370
Fill	21	51
Other miscellaneous uses	--	--
Unspecified:[4]		
Reported	--	--
Estimated	--	--
Total	404	2,390

-- 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]Reported and estimated production without a breakdown by end use.