

The Mineral Industry of Mississippi

This chapter has been prepared under a Memorandum of Understanding between the Bureau of Mines, U.S. Department of the Interior, and the Bureau of Geology and Energy Resources, Mississippi Department of Natural Resources, for collecting information on all nonfuel minerals.

By James R. Boyle¹ and Alvin R. Bicker²

The value of Mississippi's nonfuel mineral production in 1978 and 1979 was \$96.8 million and \$107.7 million, respectively. In 1978, significant increases in production and value were recorded in most construction materials. Production in 1979 remained

about the same as in 1978, with some unit value increases. In 1978, Mississippi ranked second in the production of bentonite and recovered sulfur; third in ball clay and fuller's earth; and fifth in the recovery of magnesium compounds from seawater.

Table 1.—Nonfuel mineral production in Mississippi¹

Mineral	1977		1978		1979	
	Quantity	Value (thousands)	Quantity	Value (thousands)	Quantity	Value (thousands)
Clays----- thousand short tons--	21,483	\$38,841	1,960	\$19,623	1,820	\$21,841
Lime----- do-----	49	1,079	49	1,108	70	1,571
Sand and gravel ³ ----- do-----	13,353	25,375	15,950	33,520	16,940	37,797
Stone (crushed)----- do-----	2,176	3,933	2,409	5,176	W	W
Combined value of cement, clays (ball clay and fuller's earth, 1977), magnesium compounds, sand and gravel (industrial), and values indicated by symbol W-----	XX	38,240	XX	37,397	XX	46,480
Total-----	XX	77,468	XX	96,824	XX	107,689

W Withheld to avoid disclosing company proprietary data; value included in "Combined value" figure. XX Not applicable.

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

²Excludes ball clay and fuller's earth; value included in "Combined value" figure.

³Excludes industrial sand; value included in "Combined value" figure.

Table 2.—Value of nonfuel mineral production in Mississippi, by county¹

(Thousands)

County	1977	1978	Minerals produced in 1978 in order of value
Adams	—	W	Sand and gravel.
Benton	W	W	Clays.
Bolivar	\$263	\$230	Sand and gravel.
Carroll	W	W	Sand and gravel, clays.
Chickasaw	264	73	Stone.
Clay	W	W	Stone, sand and gravel.
Copiah	4,264	5,407	Sand and gravel.
DeSoto	263	1,826	Do.
Forrest	W	W	Do.
George	36	61	Do.
Grenada	—	W	Do.
Hancock	374	569	Do.
Harrison	W	180	Do.
Hinds	W	W	Clays.
Holmes	2,077	2,305	Sand and gravel.
Itawamba	W	W	Clays, sand and gravel.
Jackson	W	W	Magnesium compounds, lime.
Jefferson Davis	101	40	Sand and gravel.
Jones	W	W	Clays.
Kemper	W	W	Do.
Lauderdale	W	W	Do.
Lee	W	W	Sand and gravel.
Lincoln	125	W	Clays, sand and gravel.
Lowndes	20,133	22,614	Cement, sand and gravel, stone, clays.
Marion	611	579	Sand and gravel.
Marshall	W	W	Clays.
Monroe	W	W	Clays, sand and gravel.
Newton	—	W	Sand and gravel.
Noxubee	W	W	Clays, stone.
Panola	W	W	Clays, sand and gravel.
Perry	W	498	Sand and gravel.
Pike	875	875	Do.
Prentiss	W	W	Clays.
Quitman	W	W	Do.
Rankin	W	W	Cement, stone, clays.
Smith	W	W	Clays.
Stone	815	805	Sand and gravel.
Sunflower	14	17	Clays.
Tate	285	W	Sand and gravel.
Tippah	W	W	Clays.
Tishomingo	W	W	Stone, sand and gravel.
Walthall	200	10	Sand and gravel.
Warren	1,660	W	Do.
Washington	W	W	Do.
Wayne	—	343	Stone.
Winston	W	W	Clays.
Yalobusha	W	794	Sand and gravel.
Yazoo	1,623	3,133	Do.
Undistributed ²	43,485	56,460	
Total	³ 77,468	96,824	

W Withheld to avoid disclosing company proprietary data; included with "Undistributed."

¹The following counties were not listed because no nonfuel mineral production was reported: Alcorn, Amite, Attala, Calhoun, Choctaw, Claiborne, Clarke, Coahoma, Covington, Franklin, Greene, Humphreys, Issaquena, Jasper, Jefferson, Lafayette, Lamar, Lawrence, Leake, Leflore, Madison, Montgomery, Neshoba, Oktibbeha, Pearl River, Pontotoc, Scott, Sharkey, Simpson, Tallahatchie, Tunica, Union, Webster, and Wilkinson.²Includes nonfuel mineral production that cannot be assigned to specific counties and values indicated by symbol W.³Data do not add to total shown because of independent rounding.

Table 3.—Indicators of Mississippi business activity

	1977	1978	1979 ^P	1978-79 percent change
Employment and labor force, annual average:				
Total civilian labor force	961.0	969.0	987.0	+1.9
Unemployment	71.0	68.0	57.0	-16.2
Employment (nonagricultural):				
Mining	7.6	8.6	9.4	+9.3
Manufacturing	230.1	235.3	235.2	—
Contract construction	41.0	44.9	46.9	+4.5
Transportation and public utilities	36.1	38.5	41.2	+7.0

See footnotes at end of table.

Table 3.—Indicators of Mississippi business activity —Continued

	1977	1978	1979 ^P	1978-79 percent change
Employment and labor force, annual average —Continued				
Employment (nonagricultural) —Continued				
Wholesale and retail trade ----- thousands	149.7	159.4	163.0	+2.3
Finance, insurance, real estate ----- do	29.7	31.4	32.7	+4.1
Services ----- do	107.9	113.9	117.8	+3.4
Government ----- do	163.9	181.8	192.4	+5.8
Total nonagricultural employment ¹ ----- do	765.9	² 813.7	838.6	+3.1
Personal income:				
Total ----- millions	\$11,955	\$13,411	\$14,979	+11.6
Per capita ----- do	\$5,011	\$5,582	\$6,167	+10.5
Construction activity:				
Number of private and public residential units authorized	8,231	³ 10,748	8,501	-20.9
Value of nonresidential construction ----- millions	\$143.3	\$109.6	\$113.8	+3.8
Value of State road contract awards ----- do	\$125.0	NA	\$108.0	--
Shipments of portland and masonry cement to and within the State ----- thousand short tons	1,020	1,106	1,023	-7.5
Nonfuel mineral production value:				
Total crude mineral value ----- millions	\$77.5	\$96.8	\$107.7	+11.2
Value per capita, resident population ----- do	\$32	\$40	\$44	+10.0
Value per square mile ----- do	\$1,624	\$2,029	\$2,257	+11.2

^PPreliminary. NA Not available.

¹Includes oil and gas extraction.

²Data do not add to total shown because of independent rounding.

³Series revised in 1978; data not comparable with those of prior years.

Sources: U.S. Department of Commerce, U.S. Department of Labor, Highway and Heavy Construction Magazine, and U.S. Bureau of Mines.

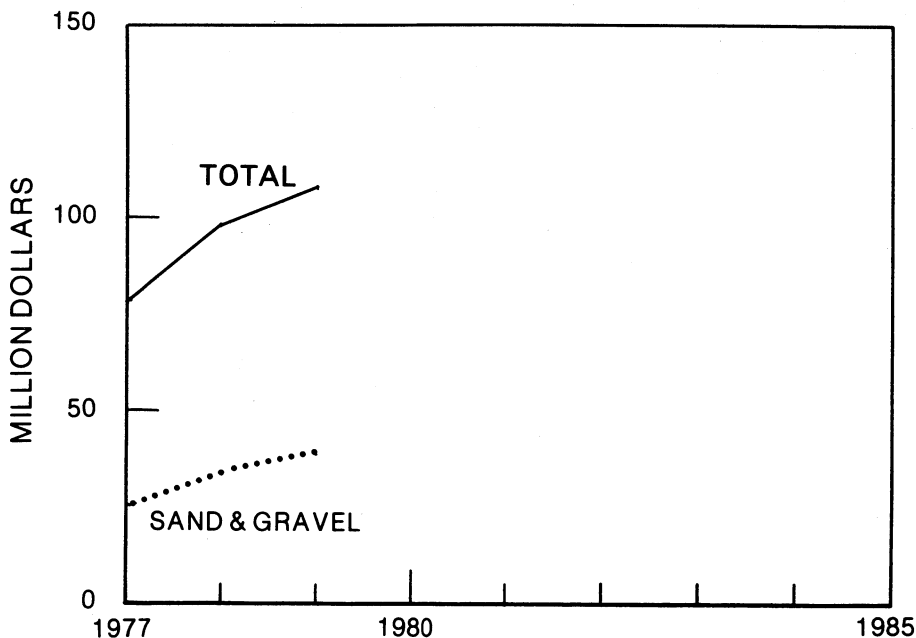


Figure 1.—Value of sand and gravel and total value of nonfuel mineral production in Mississippi.

Trends and Developments.—In 1979, the Port of Gulfport dedicated the world's first catenary continuous bulk unloader and multi-purpose Portainer crane. The crane handles containers, discharges bulk cargo with a continuous unloader, handles heavy lifts, and also handles magnet and general cargo work. The original need was for unloading ilmenite ore imported from Australia. The ilmenite is stored in a silo at Gulfport and then transported to a newly constructed pigment plant of E.I. duPont de Nemours & Co., 10 miles away. The first shipment unloaded was 21,596 long tons of ilmenite. The unloader can also handle iron ore pellets, ore concentrates, coal, and sand and gravel. The site of the new unloader at Gulfport is owned by the State and administered by the Agricultural and Industrial Board. The port, which is relatively small, handled 33,163 tons of ilmenite, 6,201 tons of fertilizers, and other commodities during the fiscal year ending October 1, 1979.

Legislation and Government Programs.—In 1978, the State legislature passed a bill which consolidated the functions of 16 State agencies into two new departments, the Department of Wildlife Conservation (DWC) and the Department of Natural Resources (DNR). The Mississippi Geological, Economic, and Topographical Survey became part of the DNR, and was renamed the Bureau of Geology and Energy Resources.

The Mississippi Surface Mining and Reclamation Act was passed by the 1977 Session and became effective April 15, 1978. The Mississippi Geological, Economic, and Topographical Survey was named to administer the act and to promulgate rules and regulations to implement the act. Exempted from the act are sand and gravel operations affecting less than 4 acres.

The U.S. Secretary of the Interior designated the University of Mississippi as a State Mining and Minerals Resources Research Institute under the Surface Mining Control and Reclamation Act of 1977. Such institutes are to establish training programs in mining and minerals extraction, and provide scholarships and fellowships. Each institute initially received a basic grant of \$110,000 plus \$160,000 for scholarships and grants.

The State Bureau of Geology and Energy Resources assessed potential environmental hazards associated with surface impoundments for the U.S. Environmental Protection Agency. The Survey continued to investigate and furnish data to the the State Board of Health concerning the geological feasibility of proposed sites for solid waste and hazardous waste storage. The Survey completed an open file report on Pennsylvanian Age coal, conducted regional structural mapping, and compiled a stratigraphic cross section of the Cretaceous Age sediments in Mississippi.

REVIEW BY NONFUEL MINERAL COMMODITIES

NONMETALS

All minerals mined in the State are classified as nonmetallic minerals.

Cement.—Marquette Cement Manufacturing Co., in Rankin County, produced portland and masonry cement, while United Cement Co., in Lowndes County, produced only portland cement. Principal consumers for portland cement include ready-mix companies, concrete products manufacturers, highway contractors, and other contractors. Raw materials used by cement producers were limestone, marl, sand, chalk, clay, gypsum, and iron ore.

Clays.—Clays mined in Mississippi included ball clay, bentonite, fuller's earth, and common clay. The State ranked second

nationally in the production of bentonite, and third in ball clay and fuller's earth.

In 1978, clays were mined by 22 companies at 29 pits in 20 counties. Leading counties, in order of decreasing tonnage, were Noxubee, Hinds, Monroe, Tippah, and Kemper Counties. Common clay was used for brick, lightweight aggregate, drain tile, and sewer pipe; the clay was mined by 16 companies at 21 pits in 14 counties. Bentonite was mined by three companies at four pits in three counties. Fuller's earth was mined by two companies at two pits in Tippah County, while ball clay was mined by one company in Panola and Quitman Counties. Industry structure and distribution were similar for 1979.

Table 4.—Mississippi: Clays sold or used by producers, by kind

(Thousand short tons and thousand dollars)

Year	Bentonite		Ball clay, fire clay, and fuller's earth		Common clay		Total ¹	
	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value
1975 -----	264	4,607	176	4,024	1,152	1,975	1,592	10,605
1976 -----	373	6,740	W	W	1,114	2,110	1,487	8,849
1977 -----	340	6,389	W	W	1,143	2,452	1,483	8,841
1978 -----	358	7,742	W	W	1,356	3,034	1,960	19,623
1979 -----	318	7,128	W	W	1,221	3,162	1,820	21,841

W Withheld to avoid disclosing company proprietary data.

¹Data may not add to totals shown because of independent rounding.

Lime.—Corchem, Inc., produced quicklime at Pascagoula in Jackson County from stone quarried in Alabama. The lime was used in the production of magnesite.

Magnesium Compounds.—Corhart Refractories Co. recovered magnesium compounds from seawater at Pascagoula. The magnesium compounds were used in the manufacture of refractories. Mississippi ranked fifth nationally in recovery of magnesium compounds from seawater.

Perlite.—Johns-Manville Corp., Natchez, and U.S. Gypsum Co., Greenville, expanded

perlite imported from out of State. The product was used in roof insulation and for formed products.

Sand and Gravel.—Sand and gravel was the leading commodity in value among the nonfuel minerals produced in Mississippi. Production of sand and gravel in 1978 was reported by 78 companies from 96 pits located in 31 counties. Leading producing counties were Copiah, Yazoo, Monroe, Holmes, and Adams. Industry output in 1979 was comparable to that of 1978.

Table 5.—Mississippi: Construction sand and gravel sold or used, by major use category

Use	1977			1978			1979		
	Quantity (thousand short tons)	Value (thousands)	Value per ton	Quantity (thousand short tons)	Value (thousands)	Value per ton	Quantity (thousand short tons)	Value (thousands)	Value per ton
Concrete aggregate -----	5,950	\$11,870	\$1.99	6,227	\$13,478	\$2.16	6,187	\$14,992	\$2.42
Plaster and gunitite sands -----	NA	NA	NA	W	W	W	W	W	W
Concrete products -----	1,338	3,194	2.39	591	1,517	2.57	467	1,345	2.88
Asphaltic concrete -----	1,941	3,479	1.79	2,761	6,602	2.39	3,780	8,872	2.35
Roadbase and coverings -----	3,134	5,457	1.74	5,618	10,783	1.92	5,472	10,772	1.97
Fill -----	890	1,154	1.30	657	973	1.48	932	1,561	1.68
Snow and ice control -----	NA	NA	NA	—	—	—	1	1	1.00
Railroad ballast -----	—	—	—	2	4	2.20	2	4	2.20
Other uses -----	99	222	2.24	95	159	1.67	100	250	2.49
Total ¹ or average -----	13,353	25,375	1.90	15,950	33,520	2.10	16,940	37,797	2.23

NA Not available. W Withheld to avoid disclosing company proprietary data; included in "Other uses."

¹Data may not add to totals shown because of independent rounding.

Table 6.—Mississippi: Sand and gravel sold or used by producers, by use

Use	1977			1978			1979		
	Quantity (thou- sand short tons)	Value (thou- sands)	Value per ton	Quantity (thou- sand short tons)	Value (thou- sands)	Value per ton	Quantity (thou- sand short tons)	Value (thou- sands)	Value per ton
Construction:									
Sand -----	4,208	\$7,045	\$1.67	5,248	\$9,755	\$1.86	5,888	\$11,066	\$1.88
Gravel -----	9,145	18,330	2.00	10,703	23,760	2.22	11,051	26,731	2.42
Total or average -----	13,353	25,375	1.90	15,950	33,520	2.10	16,940	37,797	2.23
Industrial sand -----	W	W	W	W	W	W	W	W	W
Grand total ¹ or average -----	W	W	W	W	W	W	W	W	W

W Withheld to avoid disclosing company proprietary data.

¹Data may not add to totals shown because of independent rounding.

Stone.—In 1978, six companies crushed limestone and marl at eight quarries in seven counties. Stone was used for cement manufacture, agricultural limestone, riprap, concrete aggregate, and other uses; leading producers were United Cement Co., a division of Texas Industries, Inc.; Mississippi Stone Co., Inc.; and Marquette Cement Manufacturing Co. The majority of shipments were made by truck, with a small amount by railroad. Of the eight quarries, three produced in excess of 500,000 tons per year, which accounted for nearly three-fourths of the State's total production. Leading counties were Lowndes, Tishomingo, and Rankin. Industry structure and output for 1979 was comparable to 1978.

Sulfur.—Recovery of sulfur from refinery and natural gases was reported by Shell Oil Co. in Clarke and Rankin Counties; by

Chevron, USA, Inc., in Jackson County; and by Gulf Oil Corp., in Lamar County. Sulfur sold or used in 1978 totaled 516,839 metric tons valued at \$24.9 million; in 1979, production increased to 562,800 metric tons valued at \$35.6 million. Pursue Gas Processing and Petrochemical Co. announced plans for construction of one of the largest sulfur recovery plants in the Nation. The plant, to be built near Jackson, will process about 100 million cubic feet of gas per day from the Thomasville Field near Jackson. The plant is expected to recover about 1,280 long tons of sulfur per day. Startup is scheduled for the third quarter of 1980.

¹State mineral specialist, Bureau of Mines, Tuscaloosa, Ala.

²State geologist, Bureau of Geology and Energy Resources, Jackson, Miss.

Table 7.—Principal producers

Commodity and company	Address	Type of activity	County
Cement:			
Marquette Cement Manufacturing Co. ---	20 North Wacker Dr. Chicago, IL 60606	Plant -----	Rankin.
United Cement Co. -----	Box 185 Artesia, MS 39736	--- do -----	Lowndes.
Clays:			
Delta-Macon Brick and Tile Co., Inc. ---	RFD 3, Box 2 Macon, MS 39341	Mine and plant --	Neshubee.
International Minerals & Chemical Corp. -	Box 346A Aberdeen, MS 39730	Mine -----	Monroe.
Jackson Ready Mix Concrete, a division of Delta Industries, Inc. -----	Box 1292 Jackson, MS 39205	--- do -----	Hinds.
Oil-Dri Production Co. -----	Box 476 Ripley, MS 38663	Mine and plant --	Tippah.
Tri-State Brick and Tile Co., Inc. -----	Box 9787 Jackson, MS 39206	--- do -----	Hinds.
Lime:			
Corchem, Inc. -----	Box 1707 Pascagoula, MS 39567	Plant -----	Jackson.
Magnesium compounds:			
Corhart Refractories Co. -----	1600 West Lee St. Louisville, KY 40212	--- do -----	Do.

Table 7.—Principal producers —Continued

Commodity and company	Address	Type of activity	County
Sand and gravel:			
American Sand & Gravel Co -----	Box 272 Hattiesburg, MS 39401	Stationary plant	Forrest.
Blain Gravel Co -----	Box 268 Crystal Springs, MS 39059	----do-----	Copiah.
Green Bros. Gravel Co., Inc.-----	Route 4, Box 17 Franklinton, LA 70438	----do-----	Do.
Hammett Gravel Co -----	Box 207 Lexington, MS 39095	Mine and plant	Holmes.
Warren Brothers Co. (Ashland-One, Inc. - Div. of Ashland Oil, Inc.)	Tower Pl. 3340 Peachtree Rd. Atlanta, GA 30326	Mines and plants	Hinds, Lowndes, Yazoo.
Stone:			
Marquette Cement Manufacturing Co ---	20 North Wacker Dr. Chicago, IL 60606	Quarry	Rankin.
Mississippi Stone Products -----	Box 338 Iuka, MS 38852	----do-----	Tishomingo.
State Dept. of Agriculture and Commerce _	Box 352 West Point, MS 39773	----do-----	Clay, Noxubee, Wayne.
United Cement -----	Box 185 Artesia, MS 39736	----do-----	Lowndes.

