



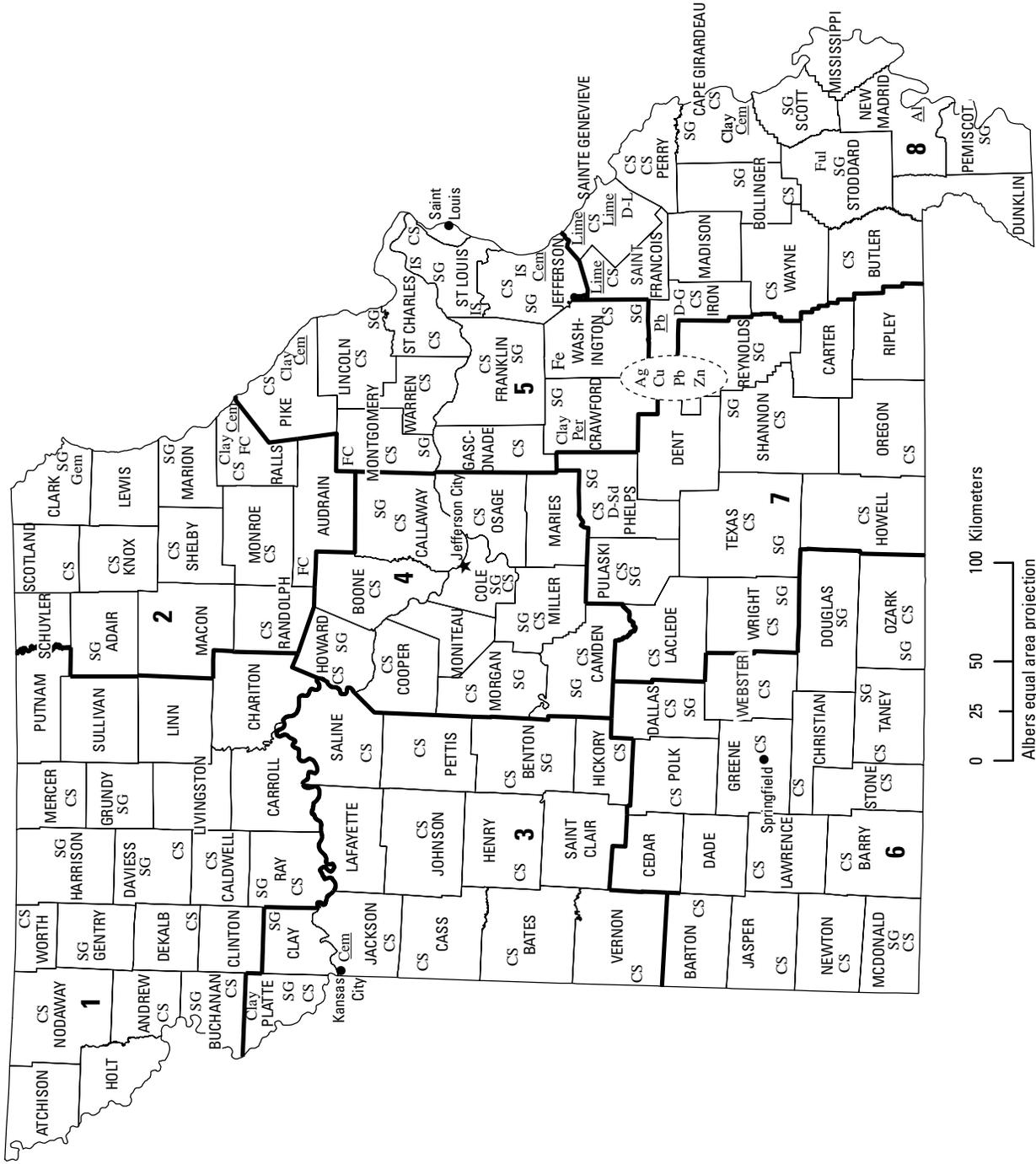
# 2007 Minerals Yearbook

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MISSOURI [ADVANCE RELEASE]

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# MISSOURI



## LEGEND

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

## MINERAL SYMBOLS (Major producing areas)

- Ag Silver
- Al Aluminum plant
- Cem Cement plant
- Clay Common clay
- CS Crushed stone
- Cu Copper
- D-G Dimension granite
- D-L Dimension limestone
- D-Sd Dimension sandstone
- FC Fire clay
- Fe Iron
- Ful Fuller's earth
- Gem Gemstones
- IS Industrial sand
- Lime Lime plant
- Pb Lead
- Pb Lead plant
- Per Perlite
- SG Construction sand and gravel
- Zn Zinc
- Concentration of mineral operations

Source: Missouri Department of Natural resources, Division of Geology and Land Survey/U.S. Geological Survey (2007).

# THE MINERAL INDUSTRY OF MISSOURI

This chapter has been prepared under a Memorandum of Understanding between the U.S. Geological Survey and the Missouri Department of Natural Resources, Division of Geology and Land Survey, for collecting information on all nonfuel minerals.

In 2007, Missouri's nonfuel raw mineral production<sup>1</sup> was valued at \$2.27 billion, based upon annual U.S. Geological Survey (USGS) data. This was a 13% increase from the State's total nonfuel mineral production value of \$2.01 billion for 2006, which followed an 8% (\$150 million) increase from 2005 to 2006. The State was ranked 9th (10th in 2006) among the 50 States in total nonfuel mineral production value and accounted for 3.3% of the U.S. total.

Crushed stone, lead, cement (portland and masonry), and lime, in descending order of value, accounted for 87% of Missouri's total nonfuel mineral production value in 2007, up from 84% in 2006. This increase resulted from an increase in the unit value of lead, the State's second leading nonfuel mineral commodity. The value of lead rose substantially; there was a significant increase in the commodity's unit value and a slight decrease in production.

Missouri continued to be the top lead-producing State in the Nation. However, by value, crushed stone remained the State's leading nonfuel mineral commodity. The combined values of crushed stone, lead, cement (portland and masonry), lime, and zinc accounted for more than 91% of the State's total nonfuel mineral production value. Lead surpassed portland cement as the State's second leading commodity in 2007.

In 2007, increases in the values of lead, crushed stone, portland cement, and lime, in descending order of change, led Missouri's increase in total nonfuel mineral production value. Crushed stone increased by \$36 million while portland cement increased by \$15 million (values withheld for lead and lime—company proprietary data). The largest decrease in production value took place in construction sand and gravel, down \$14.7 million (table 1). Significant decreases also took place in the values of zinc, copper, and masonry cement, in descending order of change (data withheld for all three commodities—company proprietary data). A slight decrease in the value of fire clay (data withheld—company proprietary data) took place as well.

In 2007, Missouri continued to rank first in the production of lead and lime and second in cadmium, fuller's earth, and zinc. Additionally, the State remained sixth in the production of copper and portland cement and ranked seventh in silver production. The State rose in rank in the quantity of crushed stone produced to fourth from fifth (of 50 producing States) and to tenth from eleventh in masonry cement of 27 producing

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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>.

States. Missouri dropped in rank from first to second in fire clay and from 13th to 20th in common clay. Additionally, Missouri was a significant producer of industrial and construction sand and gravel.

The Missouri Department of Natural Resources, Division of Geology and Land Survey<sup>2</sup> (DGLS), provided the following narrative information. Some data or information as reported by the DGLS may differ from USGS estimates and production figures.

## Overview

Nonfuel mineral production included cement, clay and shale, construction sand and gravel, copper concentrates, crushed stone (limestone, dolomite, granite, rhyolite, and trap rock), dimension stone (granite, sandstone, limestone, and dolomite), iron ore, lead concentrates, lime, silica sand, silver, and zinc concentrates. The DGLS reported production tonnages in a general manner that avoided the risk of disclosing information that may be considered proprietary by the individual companies.

## Commodity Review

### *Industrial Minerals*

**Cement.**—Production of portland cement continued to be from five plants. Buzzi Unicem USA Inc. operated both the Selma and the Cape Girardeau plants; Continental Cement Co. LLC operated the Hannibal plant; Holcim (US) Inc. operated the Clarksville plant; and Lafarge North America Inc. operated the Sugar Creek plant. The first two were along the Mississippi River south of St. Louis; the second two were along the Mississippi River north of St. Louis; and the fifth was along the Missouri River just east of Kansas City. The Cape Girardeau plant was the only one that produced masonry cement. Holcim began construction on its Lee Island cement production facility along the Mississippi River in extreme northern Ste. Genevieve County between the Selma and Cape Girardeau plants. Holcim expected that this 3.7-million-metric-ton (Mt) capacity-plant would begin production in the second half of 2009.

**Clay.**—The Missouri Land Reclamation Program (LRP) approved 88 permits for 20 companies to surface mine clay, shale or both. Clay included fire clay in east-central Missouri and fuller's earth (also called absorbent clay) in southeastern Missouri. The Division of Labor Standards (DLS) reported that 11 companies produced a combined total of 998,000 metric

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<sup>2</sup>Patrick S. Mulvany, Geologist and Chief, Industrial Minerals Unit, authored the text of the State mineral industry information provided by the Missouri Department of Natural Resources, Division of Geology and Land Survey, Geologic Resources Section.

tons (t) of clay, that the Langenberg pit remained closed, and the Alsey Refractories pit closed in the fourth quarter of 2007. Nestle Purina Petcare Co. in Stoddard County was the leading clay producer. DGLS records indicated that four companies produced a total of 0.6 Mt of shale, most of which was mined and used by Continental Cement and Holcim to make portland cement. Buildex Inc. continued to produce haydite from the Weston Shale it mined in Platte County, just northwest of Kansas City. Ceramo Co. produced shale in southeastern Missouri.

**Lime.**—Chemical Lime Co. and Mississippi Lime Co. continued to produce high-calcium quicklime and hydrated lime from lime plants located in Ste. Genevieve County in southeastern Missouri. In addition, dolomitic quicklime was produced in St. Francois County by Missouri Lime, LLC. Missouri Lime was the former Vessel Mineral Products Co. lime plant acquired by Jomico, LLC in October 2007.

**Sand and Gravel, Construction.**—The LRP approved 377 permits for 167 operators to surface mine sand and gravel. Most of these materials came from rivers, streams, and floodplains. The sand and gravel mined in the Ozarks region of the State had high chert content.

**Silica Sand.**—Buzzi Unicem, Proppant Specialists, Unimin Corp., and U.S. Silica Co. produced high-purity quartz sand from the St. Peter Sandstone in St. Louis, Jefferson, and Perry Counties. Total production for 2007, as reported to the DLS, was 0.6 Mt. The Perry County operation specialized in producing 40 to 70 and 70 to 140 size-grades that were used by the oil and gas well-servicing industry as a hydraulic fracture propping agent in shale formations, such as the Fayetteville and the Haynesville Formations.

**Stone, Crushed.**—The LRP approved six permits for five companies to surface mine granite, rhyolite, and trap rock that the companies made into crushed stone. Certainteed Corp. and ISP Minerals produced crushed rhyolite roofing granules from their mines and processing facilities in Iron and Wayne Counties. Lafarge North America produced crushed granite (true granite) in Iron County. Late in the year, Lafarge sold the operation to Graniteville Quarry LLC, which produced an additional small amount of crushed granite. In St. Francois County, Iron Mountain Trap Rock Co. produced crushed rhyolite that is dark in color. Nearby in Iron County, Dillon Llewellyn LLC produced similar crushed rhyolite rock. This dark-colored rhyolite was called “trap rock” by the industry. The LRP approved 367 permits to 167 operators for the surface mining of crushed limestone (dolomite included) during 2007. Underground mining of crushed limestone and some dolomite was conducted in Clay, Greene, Jackson, Jasper, Platte, Stone, and Taney Counties for the purpose of creating underground storage space.

**Stone, Dimension.**—Missouri Red Quarries produced true granite dimension stone in Iron County. Dimension sandstone, dolomite, and limestone were produced at several locations in the State.

## **Metals**

**Copper, Lead, Silver, and Zinc.**—All production of these metals came from The Doe Run Company underground mines

in the Viburnum Trend portion of the Southeast Missouri Lead District. Total production for 2007 was about 400,000 t of combined lead, zinc, and copper in concentrates. Doe Run’s Herculanum smelter continued to operate while the Glover smelter remained on care-and-maintenance status. An unknown amount of silver was recovered as a byproduct from the smelting of lead concentrates. The Doe Run Buick Resource Recycling Division continued to operate its lead recycling plant near the town of Boss.

**Iron Ore.**—Wings Enterprises Inc. began work at the Pea Ridge Mine in northwestern Washington County, which had been closed and abandoned since 2000. Wings processed tailings into a small amount of magnetite-hematite concentrates. The underground mine may be reopened sometime in the future.

## **Legislation, Government Programs, and Other Activities**

Missouri Revised Statutes, Chapter 293, Section 293.030, which was enacted in 1959, requires that producers of clay, coal, copper concentrates, granite, iron ore, lead, manganese, shale, silica, and zinc report their tonnages to the State Mine Inspector in the DLS on a quarterly basis and that they pay a per-ton fee to the Missouri Department of Revenue on the same quarterly basis. A 1984 revision of Section 293.030 provided for a 25% annual increase in fees during a 4-year period that ended on January 1, 1988. Fees have remained fixed since that time at the following rates: \$0.0733 per short ton of “lead concentrates or galena, zinc ore or concentrates thereof, copper concentrates, and manganese;” \$0.0367 per short ton of “lead carbonate or concentrates thereof, zinc carbonate or concentrates thereof, and zinc silicate or calamine or concentrates thereof;” \$0.0048 per short ton of “iron ore or concentrates thereof, coal, and clays;” \$0.0244 per short ton of “granite;” and \$0.00244 per short ton of “silica and shale.” The collected fees are deposited in the State Mine Inspection Fund, which provides partial support for the DLS. Producers of other kinds of mineral commodities are not and never have been required to report tonnages or pay tonnage fees to the State. Therefore, the State has limited means for keeping track of the production tonnages of these commodities, which include cement, dolomite, lime, limestone, rhyolite, sand and gravel, sandstone, silver, and trap rock. Tonnages for these commodities are available from the USGS Minerals Information Team. Surface mines in the State must be permitted by the LRP. The permits are valid for 1 year and may be renewed annually. Fees apply to first issues and to subsequent annual renewals. Permitting does not require the reporting of production tonnages to the LRP or to any other State entity.

In June 2007, the Governor signed Senate bill 54 into law: Missouri Revised Statutes, Chapter 256, Sections 256.700, 256.705, and 256.710. This legislation became effective in August 2007 and expires in December 2020. The new law, which affects both the State’s mining industry and the DGLS, requires that surface mine operators pay an annual geologic resources fee in addition to the annual permit fee that they have traditionally paid to the LRP. The geologic resources fee is comprised of 1) \$50 permit fee, 2) \$50 site fee, and 3) acreage fee of \$6.00 per acre on the first 121 hectares (ha) bonded, plus \$3.00 per bonded acre in excess of 121 ha. The

maximum geologic resources fee was set at \$3,500 per permit. Permits that are issued for mining less than 4,500 t of gravel are exempted from the fee. The fee is to be deposited in the Geologic Resources Fund and specifies that it is to be expended in order to collect, process, manage, and distribute geologic and hydrologic resource information pertaining to mineral resource potential in order to assist the mineral industry and for no other purpose. This fund was created to be utilized by DGLS within the Department of Natural Resources (DNR). DGLS was forming an Industrial Minerals Unit within its Geologic Resources Section, and it was anticipated that the Geologic Resources Fund would support two full-time geologists in the unit. The law also created a nine-member Industrial Minerals Advisory Council that would serve in an advisory capacity. The council would consist of the director of the Missouri Department of Transportation (MODOT) and eight industry representatives, including three for the limestone industry and one each for the clay, barite, granite industries, sand and gravel, and sandstone. The MODOT representative would serve indefinitely however, the industry representatives would serve 3-year terms. The director of DNR or his or her designee would serve as chair of the council.

The DGLS has been an active participant in the STATEMAP program. STATEMAP is a component of the congressionally mandated National Cooperative Geologic Mapping Program (NCGMP), through which the USGS distributes Federal funds to support geologic mapping efforts through a competitive funding process. The NCGMP has three primary components: (1) FEDMAP, which funds Federal geologic mapping projects, (2) STATEMAP, which is a matching-funds grant program with State geological surveys, and (3) EDMAP, a matching-funds grant program with universities that has a goal to train the next generation of geologic mappers.

DGLS continued to make geologic and surficial materials 7.5-minute quadrangle maps in the Fulton project area. MODOT

provided rigs and crews that drilled about two dozen core holes in surficial material, and this subsurface information added greatly to the quality of the surficial materials maps. Staff of the DNR Soil and Water Conservation Program helped describe and analyze the surficial cores and assisted in drafting the final maps.

In the second half of 2006, DGLS and the Office of Surface Mining entered into a cooperative agreement to inventory and archive 500 of the underground mine maps that reside in the State's official Mine Map Repository that is housed at the main DGLS office in Rolla. When the project ended in September, 750 maps had been scanned and 648 of those had been georeferenced. The files were organized into a digital Mine Map Repository that was accompanied by a database that contains information about the maps. The project also involved repairing any damages that the original hard copy maps had incurred during their many years of storage in the physical repository.

In January, DGLS undertook the task of making digital scans of all Missouri Geological Survey publications and assembling the portable digital format into a digital library. Virtually all publications, numbering more than 300 and dating back to the Survey's inception in 1853, had been scanned by yearend. Prior to this, over 50% of the Survey's publications were officially out of print and not available for purchase from DGLS.

In July, DGLS participated in the Missouri Minerals Education Foundation weeklong teachers' workshop that was held at Missouri State University, Springfield, Missouri. This annual event was sponsored by Missouri's mineral industries and is held at a different location in the State each year. DGLS geologists gave presentations on the origin and uses of limestone and demonstrated a student-oriented, classroom activity called "Digging Fossils Indoors." DGLS seized on several other educational outreach opportunities during the year by giving talks and demonstrations to primary and secondary school students and to youth groups.

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

(Thousand metric tons and thousand dollars)

Mineral	2005		2006		2007	
	Quantity	Value	Quantity	Value	Quantity	Value
Cement, portland	5,330	464,000 <sup>e</sup>	5,240	500,000 <sup>e</sup>	5,230	515,000 <sup>e</sup>
Clays, common	822	3,400	750	4,160	426	4,370
Sand and gravel:						
Construction	12,200	61,600	17,000	92,100	14,000	77,400
Industrial	559	14,500	595	16,400	642	19,400
Stone, crushed	87,400	647,000	90,400 <sup>r</sup>	576,000 <sup>r</sup>	81,300	612,000
Combined values of cadmium (byproduct from zinc concentrates), cement (masonry), clays (fire, fuller's earth), copper, gemstones (natural), lead, lime, silver, stone (dimension granite), zinc	XX	666,000	XX	826,000 <sup>r</sup>	XX	1,040,000
Total	XX	1,860,000	XX	2,010,000 <sup>r</sup>	XX	2,270,000

<sup>e</sup>Estimated. <sup>r</sup>Revised. 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  
MISSOURI: 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 <sup>2</sup>	189 <sup>r</sup>	84,000 <sup>r</sup>	\$473,000 <sup>r</sup>	187	76,000	\$516,000
Dolomite	16	3,590	21,300 <sup>r</sup>	15	2,760	20,200
Granite	3 <sup>r</sup>	1,390	74,200	3	1,080	65,600
Traprock	1	1,260	6,910	2	1,310	8,360
Sandstone	1	120	372	1	74	283
Miscellaneous stone	1	84 <sup>r</sup>	463 <sup>r</sup>	1	136	920
Total	XX	90,400 <sup>r</sup>	576,000 <sup>r</sup>	XX	81,300	612,000

<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.

<sup>2</sup>Includes limestone-dolomite reported with no distinction between the two.

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

(Thousand metric tons and thousand dollars)

Use	Quantity	Value
Construction:		
Coarse aggregate (+1½ inch):		
Macadam	316	958
Riprap and jetty stone	2,140	15,800
Filter stone	106	688
Other coarse aggregate	961	6,610
Coarse aggregate, graded:		
Concrete aggregate, coarse	1,860	12,200
Bituminous aggregate, coarse	597	4,080
Bituminous surface-treatment aggregate	112	939
Railroad ballast	1,340	7,720
Other graded coarse aggregate	4,640	41,300
Fine aggregate (-¾ inch):		
Stone sand, concrete	W	W
Stone sand, bituminous mix or seal	388	2,610
Screening, undesignated	753	2,280
Other fine aggregate	1,090	8,470
Coarse and fine aggregates:		
Graded road base or subbase	4,180	20,200
Unpaved road surfacing	W	W
Terrazzo and exposed aggregate	W	W
Crusher run or fill or waste	355	2,050
Roofing granules	W	W
Other coarse and fine aggregates	4,960	29,700
Other construction materials	22	184
Agricultural, limestone	W	W
Chemical and metallurgical:		
Cement manufacture	6,700	25,600
Lime manufacture	W	W
Special:		
Asphalt fillers or extenders	W	W
Other fillers or extenders	W	W
Unspecified: <sup>2</sup>		
Reported	10,000	69,400
Estimated	37,000	280,000
Total	81,300	612,000

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  
 MISSOURI: CRUSHED STONE SOLD OR USED BY PRODUCERS IN 2007, BY USE AND DISTRICT<sup>1</sup>

(Thousand metric tons and thousand dollars)

Use	Districts 1 and 3 <sup>2</sup>		Districts 2 and 5 <sup>2</sup>		Districts 4 and 7 <sup>2</sup>		District 6	
	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value
Construction:								
Coarse aggregate (+1½ inch) <sup>3</sup>	76	967	1,280	6,820	126	990	W	W
Coarse aggregate, graded <sup>4</sup>	1,130	9,770	3,500	27,900	693	5,160	1,250	11,800
Fine aggregate (-¾ inch) <sup>5</sup>	W	W	1,550	8,920	23	129	421	3,020
Coarse and fine aggregates <sup>6</sup>	444	2,780	4,640	25,300	967	5,780	1,120	7,260
Other construction materials	--	--	4	63	18	121	--	--
Agricultural <sup>7</sup>	136	770	164	662	58	252	W	W
Chemical and metallurgical <sup>8</sup>	W	W	3,930	15,000	--	--	--	--
Special <sup>9</sup>	--	--	--	--	--	--	--	--
Unspecified: <sup>10</sup>								
Reported	4,510	31,400	1,590	9,270	758	5,730	969	7,330
Estimated	6,700	51,000	5,000	38,000	3,800	29,000	8,800	67,000
Total	14,200	101,000	21,700	132,000	6,480	47,200	12,900	98,200
District 8								
	Quantity	Value						
Construction:								
Coarse aggregate (+1½ inch) <sup>3</sup>	W	W						
Coarse aggregate, graded <sup>4</sup>	1,970	11,600						
Fine aggregate (-¾ inch) <sup>5</sup>	W	W						
Coarse and fine aggregates <sup>6</sup>	3,380	76,500						
Other construction materials	--	--						
Agricultural <sup>7</sup>	W	W						
Chemical and metallurgical <sup>8</sup>	W	W						
Special <sup>9</sup>	W	W						
Unspecified: <sup>10</sup>								
Reported	2,210	15,800						
Estimated	13,000	96,000						
Total	26,100	233,000						

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>Districts 1 and 3, 2 and 5, 4 and 7 are combined to avoid disclosing company proprietary data.

<sup>3</sup>Includes filter stone, macadam, riprap and jetty stone, and other coarse aggregate.

<sup>4</sup>Includes concrete aggregate (coarse), bituminous aggregate (coarse), bituminous surface-treatment aggregate, railroad ballast, and other graded coarse aggregate.

<sup>5</sup>Includes screening (undesignated), stone sand (bituminous mix or seal), stone sand (concrete), and other fine aggregate.

<sup>6</sup>Includes crusher run or fill or waste, graded road base or subbase, roofing granules, terrazzo and exposed aggregate, unpaved road surfacing, and other coarse and fine aggregates.

<sup>7</sup>Includes agricultural limestone.

<sup>8</sup>Includes cement and lime manufacture.

<sup>9</sup>Includes asphalt fillers or extenders and other fillers or extenders.

<sup>10</sup>Reported and estimated production without a breakdown by end use.

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

Use	Quantity (thousand metric tons)	Value (thousands)	Unit value
Concrete aggregate (including concrete sand)	5,080	\$25,600	\$5.04
Plaster and gunite sands	145	690	4.76
Concrete products (blocks, bricks, pipe, decorative, etc.)	244	1,830	7.51
Asphaltic concrete aggregates and other bituminous mixtures	248	1,150	4.63
Road base and coverings	168	890	5.30
Fill	431	1,620	3.75
Other miscellaneous uses <sup>2</sup>	104	1,330	12.80
Unspecified: <sup>3</sup>			
Reported	1,750	11,000	6.28
Estimated	5,880	33,300	5.67
Total or average	14,000	77,400	5.51

<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 snow and ice control, railroad ballast, roofing granules, and golf course.

<sup>3</sup>Reported and estimated production without a breakdown by end use.

TABLE 6  
MISSOURI: CONSTRUCTION SAND AND GRAVEL SOLD OR USED IN 2007, BY USE AND DISTRICT<sup>1,2</sup>

(Thousand metric tons and thousand dollars)

Use	Districts 1 and 2		District 3		District 4	
	Quantity	Value	Quantity	Value	Quantity	Value
Concrete aggregate and concrete products <sup>3</sup>	191	1,090	--	--	665	3,590
Asphaltic concrete aggregates and road base materials	W	W	--	--	W	W
Fill	34	78	--	--	27	98
Other miscellaneous uses <sup>4</sup>	33	277	--	--	256	1,460
Unspecified: <sup>5</sup>						
Reported	188	1,170	(6)	2	1,530	9,650
Estimated	700	3,600	2,000	11,000	200	800
Total	1,110	6,230	2,040	11,000	2,630	15,600
Use	Districts 5 and 8		District 6		District 7	
	Quantity	Value	Quantity	Value	Quantity	Value
Concrete aggregate and concrete products <sup>3</sup>	4,280	21,200	W	W	190	1,390
Asphaltic concrete aggregates and road base materials	58	328	--	--	118	713
Fill	356	1,400	--	--	13	41
Other miscellaneous uses <sup>4</sup>	47	535	W	W	4	28
Unspecified: <sup>5</sup>						
Reported	3	5	24	98	12	70
Estimated	2,800	16,000	100	600	200	800
Total	7,500	40,000	137	751	485	3,050
Use	Unspecified districts					
	Quantity	Value				
Concrete aggregate and concrete products <sup>3</sup>	142	749				
Asphaltic concrete aggregates and road base materials	--	--				
Fill	--	--				
Other miscellaneous uses <sup>4</sup>	--	--				
Unspecified: <sup>5</sup>						
Reported	--	--				
Estimated	--	--				
Total	142	749				

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>Districts 1 and 2 and 5 and 8 are combined to avoid disclosing company proprietary data.

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

<sup>4</sup>Includes golf course, railroad ballast, and snow and ice control.

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

<sup>6</sup>Less than ½ unit.