

2006 Minerals Yearbook

SAND AND GRAVEL, CONSTRUCTION

SAND AND GRAVEL, CONSTRUCTION

By Wallace P. Bolen

Domestic survey data and tables were prepared by Cheryl J. Crawford and Marc A. Angulo, statistical assistants.

Construction sand and gravel is one of the most accessible and widely used natural resources. The construction sand and gravel industry is a major contributor to the economic well-being of the Nation and produces a large volume of mineral products with a low unit value. Sand and gravel and crushed stone combined are defined as construction aggregate. The crushed stone industry is reviewed in a separate chapter of the U.S. Geological Survey (USGS) Minerals Yearbook; both of these mineral commodities are usually included in reviews of national, State, or local aggregates industries.

A total of 1.32 billion metric tons (Gt) of construction sand and gravel was produced in the United States in 2006. This record-high production was an increase of about 40 million metric tons (Mt), or 3.1%, compared with that of 2005. After a decrease in production in 1991, sand and gravel production increased each year for the following 15 years. All percentages in this report were computed using unrounded data. Total construction activity in the United States increased by 4.8% in 2006, following gains of about 10% in both 2005 and 2004. According to the U.S. Commerce Department, construction gains were recorded in nonresidential building, which gained 13.3%, but total residential construction fell 1.7% following a year-on-year drop in demand for single family homes (Aggregates Manager, 2007b). For 2006, housing starts were down about 13%, new single-family home sales were down 17%, and existing home sales were down 10% compared with those of 2005 (Aggregates Manager, 2007a).

Each year, hundreds of sand and gravel operations are idled, closed, or abandoned, and hundreds more are reactivated or opened. The changing location of construction and highway projects is the major stimulus in decisions to open, idle, or close operations.

In 2006, 6,294 construction sand and gravel operations were active, 620 operations were idle, and 116 operations either were reported to be closed or were assumed to be permanently shut down. Of the 6,294 active operations, 61 were classified as sales or distribution yards only; a sales yard is defined as a fixed location that receives sand and gravel from a distant source and sells it at the yard. In addition, 48 operations reported that they were either an open pit or a dredge combined with a sales yard that supplemented local production with material from a remote location. A small number of the idle sand and gravel operations reported recycling of asphalt and portland cement concrete, but no sand and gravel mining. In 2006, of the 6,294 active operations surveyed, 3,252, or 51.7%, responded to the USGS canvass. Their total production represented 58.2% of the 1.32 Gt produced in 2006. The 6,294 operations with 8,189 active sand and gravel pits were owned by 3,974 companies or government agencies operating in all 50 States. A review of the data provided by the U.S. Mine Safety and Health Administration

revealed 511 previously unaccounted for sand and gravel locations that reported at least 2,000 employee hours of activity within the year. Information was gathered from these "new" operations and they were included in this report.

Foreign trade of construction sand and gravel declined from the record levels seen in 2005. According to the U.S. Census Bureau, exports decreased slightly to 515,000 metric tons (t), and the value decreased by 15% to \$24.1 million compared with the 2005 results (tables 1, 16). Imports decreased by about 31% to 4.96 Mt, but the value increased by about 8% to \$94.1 million (tables 1, 17). Imports are becoming a significant source for sand and gravel in some areas of the country.

Because imports and exports were small compared with total production, domestic apparent consumption of construction sand and gravel, which is defined as production for consumption (sold or used) plus total imports minus total exports, was essentially equal to the U.S. production of 1.32 Gt.

Production

Of the four major geographic regions, the West again led the Nation in the production of construction sand and gravel with 541 Mt, or 41% of the U.S. total (table 2). It was followed by the Midwest with 339 Mt, or 26%; the South with 313 Mt, or 24%; and the Northeast with 129 Mt, or 10%. Compared with that of 2005, production decreased only in the Midwest and increased in the other three regions in 2006.

Of the nine geographic divisions, the Mountain led the Nation in the production of construction sand and gravel with 302 Mt, or 22.8% of the U.S. total, and was followed by the Pacific with 239 Mt, or 18.1%, and the East North Central with 198 Mt, or 15.0% (table 2). Production increased in seven of the nine divisions compared with that of 2005—West South Central, 22.4%; East South Central, 20.3%; Mountain, 8.5%; Middle Atlantic, 7.0%; South Atlantic, 5.0%; New England, 4.7%; and West North Central, 4.3%. Production decreased in the two remaining divisions—East North Central, 12.1% and Pacific, 3.8%.

A review of the production of construction sand and gravel for consumption by size of operation indicates that about 37% of the total production came from 2,355 operations that reported between 100,000 and 499,999 metric tons per year (t/yr); 31% came from 249 operations that reported 1 million metric tons per year (Mt/yr) production or more; and 23% of the construction sand and gravel produced came from 490 operations that reported between 500,000 and 999,999 t/yr. The largest number of operations (3,200, or 51% of total operations) produced less than 100,000 t/yr (9% of the total production) (table 8A).

The estimated production for consumption by quarter for 2005 indicates that 30% of the construction sand and gravel in

the United States was produced in the third quarter followed by the second and the fourth quarters (table 3). Estimated production data for each quarter also were available for most States (table 4).

In 2006, construction sand and gravel was produced in every State (table 5). The leading States were, in descending order of tonnage, California, Texas, Arizona, Michigan, Minnesota, Washington, Colorado, Ohio, Nevada, and Florida. The combined production of these 10 States represented about 51% of the national total. Production increased in 31 States and decreased in 19 States compared with that of 2005. Production increases of greater than 20% were reported in 11 States—Wyoming (47.1%), Missouri (39.5%), West Virginia (34.9%), Mississippi (34.0%), Idaho (29.6%), South Dakota (28.1%), Alabama (27.5%), Oklahoma (27.4%), Louisiana (24.9%), North Dakota (24.4%), and Texas (23.3%). Production decreases of greater than 10% were recorded in 7 States—Michigan (22.0%), Illinois (13.3%), Nevada (12.9%), Alaska (12.2%), Iowa (12.0%), Hawaii (11.8%), and Ohio (10.4%).

In 2006, the leading domestic commercial producers of construction sand and gravel were, in descending order of production, Oldcastle, Inc./Materials Group; Hanson Building Materials America, Inc.; Rinker Materials Corp.; Vulcan Materials Co.; MDU Resources Group, Inc./Knife River Corporation; Holcim/Aggregates Industries; CEMEX, Inc.; Martin Marietta Aggregates; Lafarge North America, Inc.; and Granite Construction Co., Inc.

Some information about the production of construction sand and gravel in foreign countries can be found in the U.S. Geological Survey Minerals Yearbook, volume III, Area reports—International. For nonreporting countries, estimates of sand and gravel and crushed stone production can be based on indirect indicators, such as the levels of asphalt and cement consumption.

Mergers and acquisitions activity in the construction sand and gravel industry slowed in 2006 compared with that of recent years. There were indications that this "slow" period was a precursor to increased activity in 2007. Some of the more significant changes in ownership in the sand and gravel industry are listed below.

In May, U.S. Concrete, Inc. acquired Kurtz Gravel Co. in Michigan. U.S. Concrete has predominantly been involved in concrete related businesses in several regions of the United States but is in the process of becoming increasingly an aggregates company as well. Kurtz Gravel reported more than 5 Mt of reserves with annual production of nearly 300,000 tons a year (Rock Products, 2006d). Also in May, U.S. Concrete announced its intention to purchase Alberta Investments, Inc. and its subsidiary Ingram Enterprises LP, the 15th ranked producer of sand and gravel in Texas in 2005 (Aggregates Manager, 2006a). U.S. Concrete made its next move in October when it acquired Pinnacle Materials, Inc., the 10th ranked producer of sand and gravel in New Jersey in 2005 (Aggregates Manager, 2006d). And finally, the company moved again in Texas by adding Breckenridge Ready-Mix, Inc. to their just acquired Ingram Enterprises operations (Rock Products, 2006e).

In June, Hanson, the second ranked producer of sand and gravel in the United States, purchased Material Service Corp.

(a division of General Dynamics Corp.) and the 44th ranked U.S. producer. The purchase included several sand and gravel operations in the Chicago, IL, area and represents Hanson's first sand and gravel operations in Illinois, where Material Service was the third ranked producer in 2005 (Rock Products, 2006a).

Also in June, Aggregates Industries (a wholly owned subsidiary of Holcim, Ltd.) purchased Meyer Material Co. with six operations in Illinois and Wisconsin (Aggregates Manager, 2006b). In 2005, Meyer was the second ranked producer in Illinois and the 29th ranked producer in the United States. Prior to this purchase, Aggregates Industries, the 6th ranked producer of sand and gravel in the United States in 2006 (7th in 2005), did not have any sand and gravel operations in Illinois.

Oldcastle (a subsidiary of CRH plc) made the highest value acquisition of 2006 when, in August, the company finalized the purchase of Ashland Paving and Construction, Inc., often referred to simply as APAC, from Ashland Inc., the 21st ranked producer of sand and gravel in the United States. The \$1.3 billion purchase included 93 aggregate-producing facilities in the South and Midwest (Rock Products, 2006c). Oldcastle also moved in Oregon by acquiring Egge Sand and Gravel LLC, the 30th ranked producer in the State (Aggregates Manager, 2007c). Oldcastle has been the leading producer of sand and gravel in the United States for many years, and these acquisitions further solidify its number one ranking.

Lafarge, the 9th ranked sand and gravel producer in the United States in 2005 and 2006, made several acquisitions in the second part of the year. In September, Lafarge purchased Sun State Rock & Materials Corp., the 12th ranked producer in Arizona in 2005. These are the first sand and gravel operations for Lafarge in Arizona (Aggregates Manager, 2006c). In October, Lafarge purchased two sand and gravel operations in Illinois. The purchase of Western Sand and Gravel Co., the 10th ranked producer in the State in 2005, marked Lafarge's first sand and gravel operations in Illinois (Rock Products, 2006b).

Production of construction sand and gravel reported by producers to the USGS was material that was sold or used by the companies. Stockpiled production is not reported until it is sold or consumed by the producer. Because no consumption surveys are conducted by the USGS for sand and gravel, the sold or used tonnage is assumed to represent the amount produced for domestic consumption and export. Because some of the construction sand and gravel producers did not report a breakdown by end use, their total production was reported under "Unspecified uses, reported." The estimated production of nonrespondents was reported under "Unspecified uses, estimated."

Of the 1.32 Gt of construction sand and gravel produced in 2006, 56.5% was for unspecified uses (table 6). Of the remaining 574 Mt, 45.9% was used as concrete aggregate; 22.3%, for road base and coverings and road stabilization; 13.7%, for construction fill; 11.5%, for asphaltic concrete aggregate and other bituminous mixtures; 1.7%, for plaster and gunite sands; 1.3%, for concrete products, such as blocks, bricks, and pipes; and the remainder for filtration, railroad ballast, roofing granules, snow and ice control, and other miscellaneous uses.

To provide a more accurate estimate of the consumption patterns for construction sand and gravel, the unspecified uses are not included in the above percentages. In any marketing or use-pattern analysis, the total quantities included in "Unspecified uses" may be distributed among the reported use categories by applying the above percentages. Compared with specific uses in 2005, about 7.7% less of the sand and gravel production was reported for specific uses in 2006, and this must be taken into account when analyzing changes in market consumption in light of the total increase in U.S. production of 3.1%

Additional information regarding production and/or consumption of construction sand and gravel by major uses in each State and State district can be found in the U.S. Geological Survey Minerals Yearbook, volume II, Area reports—Domestic.

Recycling

The aggregates industry has been involved with recycling for several decades. Recycling has become more important to aggregates producers, and the number of aggregatesproducing companies that are recycling has generally been increasing. Recycling in this industry generally refers to the crushing, screening, and reuse of asphalt and cement concretes. Aggregates companies and related asphalt and ready-mix companies are often involved in construction projects during which they collect and reuse the materials at the site. Sometimes construction companies haul their materials to a recycling location where the asphalt or concrete is processed for reuse. The annual survey of construction sand and gravel producers collects information only on recycling of asphalt and cement concrete by sand-and-gravel-producing companies. These amounts represent a small percentage of the total recycled asphalt and cement concretes because the recycling of these materials is done mostly by the construction or demolition companies, and those companies are not surveyed by the USGS.

Asphalt Concrete.—In 2006, 6.17 Mt of asphalt concrete valued at \$45.1 million was recycled by 203 sand and gravel companies in 38 States; this quantity represented a 64% increase compared with that of 2005 (tables 12-13). The leading States were, in descending order of tonnage recycled, California, Minnesota, and Utah. The leading companies were, in descending order of tonnage produced, Granite Construction, All American Aggregates Co., MDU Resources, Vulcan Materials, and Midwest Asphalt Corp.

Cement Concrete.—In 2006, about 4.7 Mt of cement concrete valued at \$32 million was recycled by 188 companies in 40 States; this tonnage represented a slight increase compared with that of 2005 (tables 14-15). The leading States were, in descending order of tonnage recycled, California, Minnesota, and Michigan. The leading companies were, in descending order of quantity produced, Vulcan Materials; Midwest Asphalt Corp.; Kalin Construction Co.; Matabon, Inc.; and R.E. Pierson Materials Corp.

Transportation

Information regarding the method of transportation of construction sand and gravel from the pit or processing plant

to the first point of sale or use is available for each geographic division and the total United States. Reports regarding the method of transportation were provided by the producers for 457 Mt, or 35% of the total U.S. production of construction sand and gravel. Of this total, 80.6% was transported by truck; 3.0%, by waterway; and 0.8%, by rail (table 9). A significant amount of construction sand and gravel produced (about 14.1%) was not transported and was used at or near the production site, probably for asphalt or cement concrete production. Because most producers neither keep records of nor report shipping distances or cost per metric ton per mile, transportation cost data are not available.

Prices

Prices in this chapter are free on board (f.o.b.) plant, usually the first point of sale or captive use. This value does not include transportation from the plant or yard to the consumer. It does include all costs of mining, processing, in-plant transportation, overhead, and profit.

The 2006 average unit price increased by about 10.2% to \$6.46 per metric ton compared with that of 2005 (table 6). By use, the unit prices varied from a high of \$11.30 per ton for roofing granules to a low of \$4.26 per ton for fill. The largest increases were recorded for cement type road stabilization (35.3%), filtration (24.8%), and roofing granules (15.1%). The largest decreases were for railroad ballast (34.9%), concrete products (18.9%), and road base and covering (12.7%).

Foreign Trade

The widespread distribution of domestic sand and gravel deposits and the high cost of transportation limit foreign trade to mostly local transactions across international boundaries. U.S. imports and exports represented less than 1% of domestic consumption.

According to the U.S. Census Bureau, exports of construction sand decreased by about 17.5% to 113,000 t compared with that of 2005, and the value decreased by about 16.0% to \$19.7 million (table 16). Canada, which was the leading destination, received about 50% of the total sand, followed by Taiwan with 18% and Mexico with 9%. Exports of construction gravel increased by 5% to 402,000 t compared with those of 2005, but the value decreased by about 8.2% to \$4.4 million. Canada, which was the leading destination, received about 92% of the total gravel. The average value of the sand and gravel exports in 2006 was \$46.73 per ton; this was down from \$54.27 per ton in 2005. These high values may be because of some higher grade sand and gravel being misclassified as construction sand and gravel.

Imports decreased by about 31% to 4.96 Mt, but the value increased by about 8% to \$94.1 million (table 17). Canada was the leading source of imported construction sand and gravel with 75% of the total. Mexico supplied about 15% of the imports. The average value of the sand and gravel imports was \$18.98 per ton, up from \$12.12 per ton in 2005.

Outlook

Consumption of construction sand and gravel in 2007 is expected to decrease almost 10% compared with that of 2006. Data from the USGS quarterly survey of aggregates producers indicate about a 15% decrease in sales of sand and gravel compared with those of the first three quarters of 2006, based on a limited sample of sand and gravel producers in the United States. Most regions of the United States also will probably have decreased sales in the second half of 2007, and demand will likely slip compared with 2006 levels in response to decreases in the housing market and lower revenues to local and State governments.

After increases of about 10% as recorded in 2005 and again in 2006, construction sand and gravel f.o.b. prices were expected to continue to increase for the full 12 months of 2007. Slumping sales in the housing market could have a negative effect on sand and gravel prices, but the continuing rise in fuel cost, especially in the second half of 2007, is expected to have a positive effect on prices. Upward pressure on prices is expected to be more noticeable in and near metropolitan areas because, as nearby resources are used up, more aggregates will be transported from distant sources with the accompanying extra fuel cost.

For 2007, the construction sand and gravel industry is expected to continue to consolidate. Resistance to mining, especially at the local level, will push production to more rural areas and increase transportation costs. The cost to acquire existing companies will increase because of the difficulty of starting a new "greenfield" operation. The length of time that is needed to put a new operation into production has been estimated to be from 5 to 10 years. This includes the time required to develop reserves, to acquire zoning and permit approvals, and to deliver and install the necessary production equipment. Also, throughout the process, the possibility exists that the project may have to be abandoned owing to local opposition and permit or zoning denial. Many companies prefer to buy permitted, active operations with reserves rather than face the cost and uncertainties involved with a greenfield operation.

References Cited

Aggregates Manager, 2006a, Mergers & Acquisitions: Aggregates Manager, v. 11, no. 8, August, p. 17.

Aggregates Manager, 2006b, Mergers & Acquisitions: Aggregates Manager, v. 11, no. 9, September, p. 11.

Aggregates Manager, 2006c, Mergers & Acquisitions: Aggregates Manager, v. 11, no. 11, November, p. 11.

Aggregates Manager, 2006d, Mergers & Acquisitions: Aggregates Manager, v. 11, no. 12, December, p. 14.

Aggregates Manager, 2007a, Aggman outlook: Aggregates Manager, v. 12, no. 2, February, p. 20-21.

Aggregates Manager, 2007b, Aggman outlook: Aggregates Manager, v. 12, no. 3, March, p. 18-19.

Aggregates Manager, 2007c, Mergers & Acquisitions: Aggregates Manager, v. 12, no. 1, January, p. 9.

Rock Products, 2006a, Hanson completes Material Service deal: Rock Products, v. 109, no. 7, July, p. 4.

Rock Products, 2006b, Lafarge seals Arizona, Chicago deals: Rock Products, v. 109, no. 10, October, p. 16.

Rock Products, 2006c, Oldcastle buys APAC, partners with cement company: Rock Products, v. 109, no. 9, September, p. 14.

Rock Products, 2006d, U.S. Concrete buys Detroit quarry: Rock Products, v. 109, no. 5, May, p. 6.

Rock Products, 2006e, U.S. Concrete buys in Texas: Rock Products, v. 109, no. 12, December, p. 13.

GENERAL SOURCES OF INFORMATION

U.S. Geological Survey Publications

Crushed Stone and Sand and Gravel. Mineral Industry Surveys, quarterly.

Directory of Principal Crushed Stone Producers. Mineral Industry Surveys, annual.

Directory of Principal Sand and Gravel Producers. Mineral Industry Surveys, annual.

Directory of State Publications Listing Crushed Stone. Sand and Gravel Producers, Mineral Industry Surveys, periodic.

Natural Aggregate—Building Americas Future. Circular 1110, 1990

Natural Aggregates of the Conterminous United States. Bulletin 1594, 1988.

Natural Aggregates—Foundation of America's Future. Fact Sheet FS 144-97, 1997.

Sand and Gravel. Ch. in United States Mineral Resources, Professional Paper 820, 1973.

Sand and Gravel, Construction. Ch. in Mineral Commodity Summaries, annual.

Stone, Crushed. Ch. in Mineral Commodity Summaries, annual. Stone, Crushed. Ch. in Minerals Yearbook, annual.

Other

Aggregates Handbook. National Stone Association, 1991. Aggregates Manager.

Aggregates—Sand, Gravel, & Crushed Rock Aggregates for Construction Purposes. The Geological Society [United Kingdom], 1985.

Bates, R.L., and Harben, P.W., 1984, Geology of Nonmetallics: London, United Kingdom, Metal Bulletin Inc., 357 p. Canadian Aggregates.

Concrete Manual—A Water Resources Publication. U.S. Department of the Interior, Bureau of Reclamation, 1975.

Earth Manual—A Water Resources Publication, U.S.

Department of the Interior, Bureau of Reclamation, 1974.

Handbook of Concrete Aggregates. Dolar-Mantuani, L. Noyes Publications, 1983.

Industrial Minerals.

Pit&Quarry.

Quarry Management.

Rock Products.

Sand and Gravel. Ch. in Industrial Minerals and Rocks (7th ed.), Society for Mining, Metallurgy, and Exploration, Inc., 2006. Stone, Sand & Gravel Review.

 ${\bf TABLE~1} \\ {\bf SALIENT~U.S.~CONSTRUCTION~SAND~AND~GRAVEL~STATISTICS}^{I} \\$

(Thousand metric tons and thousand dollars)

	2002	2003	2004	2005	2006
Sold or used by producers: ²					
Quantity	1,130,000	1,160,000	1,240,000	1,280,000 r	1,320,000
Value	5,750,000	5,990,000	6,600,000	7,500,000 ^r	8,540,000
Exports, value	23,400	24,900	32,100	28,200	24,100
Imports, value	53,900	57,700	56,900	86,800	94,100

rRevised.

 ${\it TABLE~2}\\ {\it CONSTRUCTION~SAND~AND~GRAVEL~SOLD~OR~USED~BY~PRODUCERS~IN~THE~UNITED~STATES,~BY~GEOGRAPHIC~DIVISION^1}\\$

		20	05		2006			
	Quantity				Quantity			
	(thousand	Percentage	Value	Percentage	(thousand	Percentage	Value	Percentage
Region/division	metric tons)	of total	(thousands)	of total	metric tons)	of total	(thousands)	of total
Northeast:	_							
New England	52,100	4.1	\$341,000	4.6	54,600	4.1	\$396,000	4.6
Middle Atlantic	69,500	5.4	460,000	6.1	74,300	5.6	554,000	6.5
Midwest:	_							
East North Central	225,000	17.6	1,070,000	14.2	198,000	15.0	1,020,000	11.9
West North Central	135,000	10.5	585,000	7.8	140,000	10.6	634,000	7.4
South:	_							
South Atlantic	99,000	7.7	584,000	7.8	104,000	7.9	691,000	8.1
East South Central	48,200	3.8	262,000	3.5	57,900	4.4	341,000	4.0
West South Central	123,000	9.6	712,000	9.5	151,000	11.4	957,000	11.2
West:								
Mountain	278,000	21.7	1,520,000	20.2	302,000	22.8	1,860,000	21.7
Pacific	249,000 ^r	19.5	1,970,000 ^r	26.3	239,000	18.1	2,100,000	24.6
Total	1,280,000 ^r	100	7,500,000 ^r	100	1,320,000	100	8,540,000	100

rRevised.

TABLE 3 SAND AND GRAVEL SOLD OR USED BY PRODUCERS IN THE UNITED STATES IN 2006, BY QUARTER AND GEOGRAPHIC DIVISION $^{\rm I}$

	Quantity,		Quantity,		Quantity,		Quantity,		To	otal ³
	1st quarter		2d quarter		3d quarter		4th quarter		Quantity	_
	(thousand	Percentage	(thousand	Percentage	(thousand	Percentage	(thousand	Percentage	(thousand	Value
Region/division	metric tons)	change ²	metric tons)	(thousands)						
Northeast:										
New England	3,960	-1.5	9,620	-32.2	14,900	-23.7	8,470	-40.9	37,000	\$274,000
Middle Atlantic	10,800	22.4	20,300	-1.3	20,700	-6.7	18,400	2.5	70,100	506,000
Midwest:										
East North Central	29,000	14.2	65,000	-4.0	71,500	-7.0	49,800	-10.3	215,000	1,090,000
West North Central	11,000	4.9	36,900	9.7	42,600	-24.5	27,000	-20.6	118,000	530,000
South:										
South Atlantic	24,600	9.6	26,100	-0.3	24,600	-7.2	20,600	-13.8	95,900	607,000
East South Central	9,880	-8.9	13,600	14.5	13,700	-1.7	10,600	-7.7	47,800	281,000
West South Central	29,700	-0.2	30,200	-10.3	28,800	-8.6	24,600	-13.5	113,000	722,000
West:										
Mountain	59,300	14.8	80,200	-0.7	77,500	-2.3	63,200	-4.8	280,000	1,670,000
Pacific ⁴	44,600	8.7	59,900	2.1	66,700	-4.5	59,300	-5.8	230,000	1,980,000
Total ³	223,000	9.0	342,000	-1.6	361,000	-8.9	282,000	-10.5	1,210,000 5	7,680,000 5

As published in the "Crushed Stone and Sand and Gravel in the Fourth Quarter of 2006" Mineral Industry Surveys.

¹Data are rounded to no more than three significant digits.

²Puerto Rico is excluded from all sand and gravel statistics.

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

²All percentage changes are calculated using unrounded totals. Percentage changes are based on the corresponding quarter of the previous year.

³Data may not add to totals shown because of independent rounding and differences between projected totals by States and regions.

⁴Does not include Alaska and Hawaii.

⁵Includes Alaska and Hawaii.

TABLE 4 SAND AND GRAVEL SOLD OR USED BY PRODUCERS IN THE UNITED STATES IN 2006, BY QUARTER AND STATE $^{\rm l}$

	Quantity		Quantity		Quantity		Quantity			tal ³
	1st quarter		2d quarter		3d quarter		4th quarter		Quantity	
	(thousand	Percentage	(thousand	Percentage	(thousand	Percentage	(thousand	Percentage	(thousand	Value
State	metric tons)	change ²	metric tons)	(thousands)						
Alabama	3,810	-14.8	4,200	-7.5	4,130	18.5	3,620	11.5	15,800	\$76,400
Alaska	(4)	(4)	(4)	(4)	(4)	(4)	(4)	(4)	(4)	(4)
Arizona	21,300	20.2	23,600	-2.2	20,200	-6.8	18,700	-12.7	83,700	550,000
Arkansas	1,960	-15.6	2,170	-22.4	2,300	-18.4	1,740	-34.5	8,170	51,600
California	31,700	16.2	41,100	-3.2	46,200	-6.8	40,800	-7.1	160,000	1,530,000
Colorado	7,010	-9.9	12,700	-5.0	12,600	-6.6	9,240	-8.5	41,500	281,000
Connecticut	502	56.5	1,180	-52.3	1,920	-40.2	1,340	-43.8	4,940	40,800
Delaware	(5)	(5)	(5)	(5)	(5)	(5)	(5)	(5)	(5)	(5)
Florida	9,720	8.2	9,740	0.4	8,800	-9.2	7,510	-17.4	35,800	217,000
Georgia	2,910	17.3	3,340	15.1	3,410	13.1	2,570	-6.4	12,200	80,900
Hawaii	(4)	(4)	(4)	(4)	(4)	(4)	(4)	(4)	(4)	(4)
Idaho	3,870	34.7	8,450	46.7	10,700	44.6	9,040	89.8	32,000	156,000
Illinois	4,590	15.9	11,100	-0.9	12,900	1.2	7,650	-19.6	36,200	219,000
Indiana	4,560	12.1	8,630	3.9	8,840	3.4	6,170	-17.7	28,200	145,000
Iowa	1,930	18.5	5,350	6.5	5,060	-37.9	3,850	-24.1	16,200	82,100
Kansas	1,840	18.9	3,030	2.0	3,180	2.0	2,180	-10.0	10,200	40,300
Kentucky	1,810	-5.3	2,830	-7.2	2,870	-3.4	2,530	-0.4	10,000	56,700
Louisiana	5,350	21.1	5,220	5.4	4,190	-17.4	3,670	-13.0	18,400	121,000
Maine	585	12.2	2,760	9.0	5,240	9.0	3,040	-7.4	11,600	64,600
Maryland	2,280	-1.8	3,060	-15.6	3,220	-6.8	2,760	-6.3	11,300	88,500
Massachusetts	2,370	-3.1	3,960	-24.2	4,190	-2.7	3,710	-17.4	14,200	109,000
Michigan	5,440	24.3	19,600	7.2	25,000	-6.0	14,600	-6.5	64,600	262,000
Minnesota	2,010	-25.1	14,600	22.1	19,200	-24.1	10,900	-23.4	46,700	236,000
Mississippi	2,970	-5.6	3,690	19.7	3,850	-14.7	3,090	-14.9	13,600	87,100
Missouri	2,000	14.6	3,550	-3.6	3,700	-6.9	2,270	-18.1	11,500	62,800
Montana	1,390	18.6	3,920	-3.9	4,910	-11.7	3,030	-4.7	13,200	85,100
Nebraska	1,680	8.7	3,540	-25.6	5,050	6.6	3,500	8.0	13,800	62,900
Nevada	9,770	57.4	14,800	-1.7	14,100	-23.8	9,000	-28.0	47,700	227,000
New Hampshire	503	-29.9	1,370	-36.7	1,950	-36.7	621	-74.6	4,440	27,000
New Jersey	3,720	19.0	5,900	0	5,550	-4.3	6,280	-1.6	21,500	159,000
New Mexico	4,010	11.2	4,620	4.5	4,580	6.0	3,470	-5.5	16,700	126,000
New York	4,510	16.9	8,810	-4.2	9,380	-15.6	7,180	0.9	29,900	210,000
North Carolina	2,450	-9.7	3,110	-10.7	3,060	-2.5	2,710	2.6	11,300	65,200
North Dakota	(4)	(4)	(4)	(4)	(4)	(4)	(4)	(4)	(4)	(4)
Ohio	6,900	13.3	14,300	-9.3	14,900	-13.7	11,900	-5.0	48,000	289,000
Oklahoma	1,890	-45.2	2,180	-41.4	2,030	-39.6	1,450	-48.6	7,540	39,700
Oregon	4,150	3.4	6,630	29.9	7,890	15.8	6,490	7.0	25,200	180,000
Pennsylvania	2,260	56.0	5,930	2.1	6,470	11.9	4,690	19.4	19,400	137,000
Rhode Island	(5)	(5)	(5)	(5)	(5)	(5)	(5)	(5)	(5)	(5)
South Carolina	2,840	17.9	3,100	10.6	2,800	-11.7	2,550	-7.3	11,300	49,500
South Dakota	1,060	40.4	3,780	-2.9	4,060	-22.3	3,040	2.4	11,900	45,600
Tennessee	1,430	-9.7	2,650	40.4	2,530	10.3	1,600	-11.8	8,210	60,300
Texas	20,700	4.7	20,800	-6.9	20,800	4.5	18,500	-1.0	80,800	510,000
Utah	6,820	17.4	10,500	-18.3	10,800	20.9	7,740	24.7	35,900	171,000
Vermont	267	-18.7	1,040	16.3	2,890	-11.6	780	3.6	4,970	32,800
Virginia	2,910	12.0	3,000	-9.9	2,960	-8.8	2,290	-19.9	11,200	86,200
Washington	8,120	-30.4	12,100	19.4	10,800	-12.0	11,700	-10.8	42,700	275,000
West Virginia	(5)	(5)	(5)	(5)	(5)	(5)	(5)	(5)	(5)	(5)
Wisconsin	5,950	3.9	11,100	-27.9	11,600	-15.2	8,700	4.5	37,400	178,000
Wyoming	2,300	81.7	3,620	5.4	5,510	34.6	3,910	35.7	15,300	74,200
Total	XX	XX	XX	XX	XX	XX	XX	XX	1,210,000	7,680,000

¹As published in the "Crushed Stone and Sand and Gravel in the Fourth Quarter of 2006" Mineral Industry Surveys.

²All percentage changes are calculated using unrounded totals. Percentage changes are based on the corresponding quarter of the previous year.

³Data may not add to totals shown because of independent rounding and differences between projected totals by States and regions.

⁴State not included in quarterly survey.

⁵Owing to a low number of reporting companies, no production estimates by quarters were generated.

TABLE 5 CONSTRUCTION SAND AND GRAVEL SOLD OR USED BY PRODUCERS IN THE UNITED STATES, BY STATE $^{\rm I}$

		2005			2006	
	Quantity			Quantity		
	(thousand	Value	Unit	(thousand	Value	Unit
State	metric tons)	(thousands)	value	metric tons)	(thousands)	value
Alabama	15,700	\$70,500	\$4.48	20,100	\$96,000	\$4.78
Alaska	15,100 ^r	80,600 ^r	5.56 ^r	13,200	68,400	5.18
Arizona	84,900	516,000	6.08	94,000	662,000	7.05
Arkansas	10,600	62,000	5.85	11,100	73,600	6.61
California	163,000	1,440,000	8.84	153,000	1,520,000	9.96
Colorado	44,700	280,000	6.26	48,000	327,000	6.81
Connecticut	8,400	64,200	7.64	8,780	75,600	8.61
Delaware	2,640	20,000	7.59	2,790	22,400	8.02
Florida	37,500	210,000	5.60	40,000	266,000	6.64
Georgia	11,100	68,300	6.14	10,900	71,000	6.53
Hawaii	1,390	17,500	12.54	1,230	15,900	12.90
Idaho	20,800	93,800	4.52	26,900	133,000	4.93
Illinois	37,400	210,000	5.60	32,500	176,000	5.42
Indiana	28,400	135,000	4.76	29,300	153,000	5.24
Iowa	19,900	93,100	4.69	17,500	86,700	4.97
Kansas	10,100	36,900	3.66	12,100	50,000	4.15
Kentucky	10,500	55,000	5.25	10,100	54,400	5.39
Louisiana	18,600	113,000	6.07	23,300	188,000	8.07
Maine	11,100	57,400	5.16	10,400	62,400	5.98
Maryland	12,300	89,500	7.25	11,900	96,700	8.15
Massachusetts	16,500	117,000	7.12	17,600	134,000	7.58
Michigan	64,800	243,000	3.75	50,500	215,000	4.25
Minnesota	54,100	253,000	4.68	50,300	240,000	4.77
Mississippi	14,400	85,200	5.93	19,300	133,000	6.88
Missouri	12,200	61,600	5.06	17,000	92,100	5.43
Montana	14,000	83,600	5.97	13,700	95,300	6.95
Nebraska	14,300	60,200	4.22	13,100	62,000	4.74
Nevada	52,300	230,000	4.41	45,500	224,000	4.93
New Hampshire	8,400	47,400	5.64	9,500	61,600	6.48
New Jersey	21,200	145,000	6.85	20,900	192,000	9.17
New Mexico	16,000	112,000	7.01	18,400	157,000	8.51
New York	31,300	204,000	6.50	35,000	236,000	6.75
North Carolina	12,000	63,900	5.34	12,900	70,000	5.42
North Dakota	11,300	34,500	3.06	14,000	43,700	3.12
Ohio	51,700	288,000	5.58	46,300	289,000	6.24
Oklahoma	13,300	65,000	4.88	17,000	91,900	5.41
Oregon	22,000	146,000	6.63	23,800	175,000	7.36
Pennsylvania	17,000	111,000	6.55	18,400	126,000	6.84
Rhode Island	2,510	23,000	9.16	2,430	25,800	10.59
South Carolina	11,100	45,200	4.06	10,900	51,100	4.68
South Dakota	12,800	45,500	3.55	16,400	59,800	3.64
Tennessee	7,570	51,500	6.80	8,500	57,900	6.82
Texas	80,700	472,000	5.84	99,500	603,000	6.06
Utah	33,900	149,000	4.42	38,000	183,000	4.82
Vermont	5,240	32,000	6.11	5,810	37,300	6.42
Virginia	12,000	85,800	7.13	14,200	110,000	7.79
Washington	47,200	282,000	5.97	48,400	315,000	6.50
West Virginia	318	1,630	5.12	429	3,470	8.10
Wisconsin	43,200	191,000	4.41	39,600	182,000	4.60
Wyoming	11,700	52,400	4.49	17,200	74,600	4.35
Total or average	1,280,000 ^r	7,500,000 ^r	5.86 ^r	1,320,000	8,540,000	6.46

rRevised.

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

TABLE 6 CONSTRUCTION SAND AND GRAVEL SOLD OR USED IN THE UNITED STATES IN 2006, BY MAJOR USE $^{\rm I}$

	Quantity		
	(thousand	Value	Unit
Use	metric tons)	(thousands)	value
Concrete aggregates (including concrete sand)	264,000	\$1,920,000	\$7.27
Plaster and gunite sands	9,700	86,200	8.89
Concrete products (blocks, bricks, pipe, decorative, etc.)	7,390	52,800	7.15
Asphaltic concrete aggregates and other bituminous mixtures	66,300	551,000	8.31
Road base and coverings	128,000	716,000	5.59
Road stabilization, cement	2,940	18,500	6.28
Road stabilization, lime	1,330	6,810	5.13
Fill	78,800	335,000	4.26
Snow and ice control	4,760	29,100	6.12
Railroad ballast	1,030	6,940	6.75
Roofing granules	91	1,030	11.30
Filtration	1,640	13,600	8.31
Golf course maintenance sand	157	1,420	9.02
Other miscellaneous uses	8,380	69,500	8.29
Unspecified: ²			
Actual	295,000	1,930,000	6.55
Estimated	452,000	2,810,000	6.20
Total or average	1,320,000	8,540,000	6.46

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 7 CONSTRUCTION SAND AND GRAVEL SOLD OR USED BY PRODUCERS IN THE UNITED STATES IN 2006, BY GEOGRAPHIC DIVISION AND MAJOR USE $^{\rm I}$

(Thousand metric tons and thousand dollars)

	Concrete a		Plaste gunite		Concrete j (blocks, bridecorativ	icks, pipe	aggregate	c concrete s and other us mixtures	Road b	
Region/division	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value
Northeast:										
New England	6,780	60,000	51	479	119	1,010	1,330	13,500	4,640	31,100
Middle Atlantic	12,500	105,000	507	4,980	430	5,100	5,880	51,300	7,210	41,800
Midwest:										
East North Central	37,700	190,000	454	2,780	1,530	6,990	11,600	63,700	20,200	107,000
West North Central	16,900	90,600	489	2,600	1,880	7,990	8,190	46,400	27,400	92,300
South:										
South Atlantic	36,000	265,000	2,320	15,500	1,740	15,200	2,600	17,300	2,690	19,600
East South Central	21,000	118,000	475	3,630	445	3,400	2,980	21,700	1,210	5,720
West South Central	44,400	302,000	1,240	8,100	126	758	2,370	18,000	7,530	55,100
West:										
Mountain	34,100	255,000	1,200	11,400	718	5,170	13,600	126,000	41,000	225,000
Pacific	54,500	530,000	2,960	36,700	409	7,260	17,700	194,000	20,600	165,000
Total	263,752	1,916,591	9,695	86,157	7,391	52,825	66,322	551,357	132,338	741,648
	Fi	11	Snow and	ice control	Railroad ballast		Othe	er uses ³	Γ	otal
	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value
Northeast:										
New England	3,770	16,100	1,070	7,590	16	137	36,800	266,000	54,600	396,000
Middle Atlantic	5,660	28,100	1,320	7,110	95	891	40,800	309,000	74,300	554,000
Midwest:										
East North Central	17,100	67,000	1,180	5,140			108,000	573,000	198,000	1,020,000
West North Central	6,110	19,000	364	1,570	598	3,410	78,400	371,000	140,000	634,000
South:										
South Atlantic	10,100	39,000	63	665			48,400	318,000	104,000	691,000
East South Central	1,870	5,390	12	78	W	W	29,900	182,000	57,900	341,000
West South Central	8,360	26,200	22	115	W	W	86,800	546,000	151,000	957,000
West:										
Mountain	12,000	52,200	376	4,220	54	374	199,000	1,180,000	302,000	1,860,000
Pacific	13,900	82,500	352	2,620	124	1,100	129,000	1,080,000	239,000	2,100,000
Total	78,800	335,000	4,760	29,100	1,030	6,940	757,000	4,820,000	1,320,000	8,540,000

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

 $^{^{1}\}mathrm{Data}$ are rounded to no more than three significant digits; may not add to totals shown.

²Includes road and other stabilization (cement and lime).

³Includes reported and estimated production without a breakdown by end use.

TABLE 8A CONSTRUCTION SAND AND GRAVEL PRODUCTION IN THE UNITED STATES IN 2006, BY REGION AND SIZE OF OPERATION

		U.S.	total	
			Quantity ¹	
Size range	Number of	Percentage	(thousand	Percentage
(metric tons)	operations	of total	metric tons)	of total
Less than 25,000	1,150	18.3	10,900	0.8
25,000 to 49,999	827	13.1	27,700	2.1
50,000 to 99,999	1,220	19.4	80,200	6.1
100,000 to 199,999	1,150	18.2	149,000	11.3
200,000 to 299,999	634	10.1	141,000	10.6
300,000 to 399,999	353	5.6	111,000	8.4
400,000 to 499,999	223	3.5	90,200	6.8
500,000 to 599,999	164	2.6	81,100	6.1
600,000 to 699,999	118	1.9	69,000	5.2
700,000 to 799,999	93	1.5	63,200	4.8
800,000 to 899,999		1.3	60,500	4.6
900,000 to 999,999	36	0.6	30,800	2.3
1,000,000 to 1,499,999	130	2.1	143,000	10.8
1,500,000 to 1,999,999		0.9	87,000	6.6
2,000,000 to 2,499,999	24	0.4	48,500	3.7
2,500,000 and more		0.6	129,000	9.7
Total	6,290	100	1,320,000	100

¹Data are rounded to no more than three significant digits.

 ${\it TABLE~8B}$ CONSTRUCTION SAND AND GRAVEL PRODUCTION IN THE UNITED STATES IN 2006, BY REGION AND SIZE OF OPERATION

		Nort	heast			Mid	west	_	
			Quantity ¹			Quantity ¹			
Size range	Number of	Percentage	(thousand	Percentage	Number of	Percentage	(thousand	Percentage	
(metric tons)	operations	of total	metric tons)	of total	operations	of total	metric tons)	of total	
Less than 25,000	240	23.9	2,260	1.7	408	18.7	4,010	1.2	
25,000 to 49,999	152	15.1	5,190	4.0	352	16.2	11,700	3.5	
50,000 to 99,999	213	21.2	14,200	11.0	447	20.5	29,200	8.6	
100,000 to 199,999	189	18.8	25,000	19.4	433	19.9	55,800	16.5	
200,000 to 299,999	86	8.6	19,000	14.8	207	9.5	45,800	13.5	
300,000 to 399,999	46	4.6	14,100	10.9	99	4.5	31,700	9.4	
400,000 to 499,999		2.7	10,800	8.4	62	2.8	25,300	7.5	
500,000 to 599,999	14	1.4	6,740	5.2	50	2.3	24,600	7.3	
600,000 to 699,999	12	1.2	6,980	5.4	33	1.5	19,400	5.7	
700,000 to 799,999	10	1.0	6,720	5.2	24	1.1	16,100	4.8	
800,000 to 899,999		0.3	2,360	1.8	25	1.1	19,200	5.7	
900,000 to 999,999	3	0.3	2,510	1.9	5	0.2	4,320	1.3	
1,000,000 to 1,499,999	6	0.6	6,980	5.4	16	0.7	17,200	5.1	
1,500,000 to 1,999,999	_ 2	0.2	3,180	2.5	8	0.4	12,700	3.7	
2,000,000 to 2,499,999					3	0.1	5,860	1.7	
2,500,000 and more	1	0.1	2,860	2.2	5	0.2	15,400	4.5	
Total	1,000	100	129,000	100	2,180	100	339,000	100	
		So	uth		West				

	30	uui		West				
		Quantity ¹				Quantity ¹		
Number of	Percentage	(thousand	Percentage	Number of	Percentage	(thousand	Percentage	
operations	of total	metric tons)	of total	operations	of total	metric tons)	of total	
143	12.9	1,420	0.5	363	18.1	3,260	0.6	
97	8.8	3,230	1.0	226	11.3	7,530	1.4	
191	17.3	12,600	4.0	368	18.3	24,200	4.5	
198	17.9	26,200	8.4	325	16.2	41,900	7.7	
130	11.8	28,700	9.2	211	10.5	47,000	8.7	
82	7.4	25,800	8.2	126	6.3	39,000	7.2	
48	4.3	19,300	6.2	86	4.3	34,800	6.4	
50	4.5	24,600	7.9	50	2.5	25,200	4.7	
33	3.0	19,400	6.2	40	2.0	23,300	4.3	
29	2.6	19,600	6.3	30	1.5	20,600	3.8	
19	1.7	14,500	4.6	32	1.6	24,500	4.5	
11	1.0	9,420	3.0	17	0.8	14,500	2.7	
45	4.1	49,400	15.8	63	3.1	69,700	12.9	
17	1.5	26,200	8.4	29	1.4	44,900	8.3	
4	0.4	8,150	2.6	17	0.8	34,500	6.4	
9	0.8	24,300	7.8	24	1.1	86,400	15.9	
1,110	100	313,000	100	2,010	100	541,000	100	
	operations 143 97 191 198 130 82 48 50 333 29 19 11 45 17 4	Number of operations Percentage of total 143 12.9 97 8.8 191 17.3 198 17.9 130 11.8 82 7.4 48 4.3 50 4.5 33 3.0 29 2.6 19 1.7 11 1.0 45 4.1 17 1.5 4 0.4 9 0.8	Number of operations Percentage of total metric tons) 143 12.9 1,420 97 8.8 3,230 191 17.3 12,600 198 17.9 26,200 130 11.8 28,700 82 7.4 25,800 48 4.3 19,300 50 4.5 24,600 33 3.0 19,400 29 2.6 19,600 19 1.7 14,500 11 1.0 9,420 45 4.1 49,400 17 1.5 26,200 4 0.4 8,150 9 0.8 24,300	Number of operations Percentage of total of total Quantity (thousand metric tons) Percentage of total of total 143 12.9 1,420 0.5 97 8.8 3,230 1.0 191 17.3 12,600 4.0 198 17.9 26,200 8.4 130 11.8 28,700 9.2 82 7.4 25,800 8.2 48 4.3 19,300 6.2 50 4.5 24,600 7.9 33 3.0 19,400 6.2 29 2.6 19,600 6.3 19 1.7 14,500 4.6 11 1.0 9,420 3.0 45 4.1 49,400 15.8 17 1.5 26,200 8.4 4 0.4 8,150 2.6 9 0.8 24,300 7.8	Number of operations Percentage of total Quantity (thousand metric tons) Percentage of total Number of operations 143 12.9 1,420 0.5 363 97 8.8 3,230 1.0 226 191 17.3 12,600 4.0 368 198 17.9 26,200 8.4 325 130 11.8 28,700 9.2 211 82 7.4 25,800 8.2 126 48 4.3 19,300 6.2 86 50 4.5 24,600 7.9 50 33 3.0 19,400 6.2 40 29 2.6 19,600 6.3 30 19 1.7 14,500 4.6 32 11 1.0 9,420 3.0 17 45 4.1 49,400 15.8 63 17 1.5 26,200 8.4 29 4 0.4 8,1	Number of operations Percentage of total of total Quantity¹ (thousand metric tons) Percentage of total of total operations Number of operations of total operations Percentage operations of total operations 143 12.9 1,420 0.5 363 18.1 97 8.8 3,230 1.0 226 11.3 191 17.3 12,600 4.0 368 18.3 198 17.9 26,200 8.4 325 16.2 130 11.8 28,700 9.2 211 10.5 82 7.4 25,800 8.2 126 6.3 48 4.3 19,300 6.2 86 4.3 50 4.5 24,600 7.9 50 2.5 33 3.0 19,400 6.2 40 2.0 29 2.6 19,600 6.3 30 1.5 19 1.7 14,500 4.6 32 1.6 11 1.0 9,420 3.0	Number of operations Percentage of total operations Quantity¹ (thousand metric tons) (thousand metric tons) Percentage of total operations Number of operations operations operations Percentage of total metric tons) 143 12.9 1,420 0.5 363 18.1 3,260 97 8.8 3,230 1.0 226 11.3 7,530 191 17.3 12,600 4.0 368 18.3 24,200 198 17.9 26,200 8.4 325 16.2 41,900 130 11.8 28,700 9.2 211 10.5 47,000 82 7.4 25,800 8.2 126 6.3 39,000 48 4.3 19,300 6.2 86 4.3 34,800 50 4.5 24,600 7.9 50 2.5 25,200 33 3.0 19,400 6.2 40 2.0 23,300 29 2.6 19,600 6.3 30 1.5 20,600	

⁻⁻ Zero.

¹Data are rounded to no more than three significant digits.

TABLE 9 CONSTRUCTION SAND AND GRAVEL SOLD OR USED BY PRODUCERS IN THE UNITED STATES IN 2006, BY GEOGRAPHIC DIVISION AND METHOD OF TRANSPORTATION $^{\rm 1}$

(Thousand metric tons)

					Not	Not	
Region/division	Truck	Rail	Water	Other	transported	specified	Total
Northeast:	_						
New England	13,100			1,870	1,060	38,600	54,600
Middle Atlantic	17,600	13			2,350	54,300	74,300
Midwest:							
East North Central	58,300	151	3,860	746	8,190	127,000	198,000
West North Central	37,700	7	1,410	151	4,580	96,500	140,000
South:							
South Atlantic	34,300	223	573		2,640	66,200	104,000
East South Central	16,100	547	4,100		3,380	33,800	57,900
West South Central	38,600	1,120	26	1,050	12,500	97,700	151,000
West:							
Mountain	67,900	1,550		899	14,300	217,000	302,000
Pacific	84,600	2	3,510	2,260	15,300	134,000	239,000
Total	368,000	3,610	13,500	6,980	64,300	865,000	1,320,000
7							

⁻⁻ Zero.

TABLE 10

NUMBER OF CONSTRUCTION SAND AND GRAVEL OPERATIONS AND PROCESSING PLANTS
IN THE UNITED STATES IN 2006, BY GEOGRAPHIC DIVISION

		Mining op	erations on land			
			Stationary	No plants or	Dredging	Total active
Region/division	Stationary	Portable	and portable	unspecified	operations	operations
Northeast:						
New England	199	210	45	33	2	489
Middle Atlantic	205	190	40	43	37	515
Midwest:						
East North Central	485	427	85	78	102	1,180
West North Central	259	422	28	58	233	1,000
South:						
South Atlantic	130	49	16	50	104	349
East South Central	129	27	7	16	50	229
West South Central	237	91	26	54	120	528
West:						
Mountain	474	610	89	99	19	1,290
Pacific ¹	370	205	69	48	24	716
Total	2,490	2,230	405	479	691	6,290

¹An undetermined number of operations leased from the Bureau of Land Management in Alaska are counted as one operation.

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

TABLE 11 NUMBER OF CONSTRUCTION SAND AND GRAVEL OPERATIONS AND PROCESSING PLANTS IN THE UNITED STATES IN 2006, BY STATE

		Mining op	erations on land		D4 '	T-4-1 .*
G	Cr. r.	D (11	Stationary	No plants or	Dredging	Total active
State	Stationary	Portable	and portable	unspecified	operations	operations
Alabama	50	8	1	7	12	78
Alaska ¹	18	17	3	6	4	48
Arizona	111	81	24	12	4	232
Arkansas	35	8	3	8	8	62
California	211	73	35	18	11	348
Colorado	73	127	18	17	8	243
Connecticut	32	22	10	3		67
Delaware	5	1		1	3	10
Florida	19	4		2	34	59
Georgia	15	2	2		23	42
Hawaii	2	4				6
Idaho	44	93	4	14	4	159
Illinois	54	22	8	3	37	124
Indiana	86	20	17	8	19	150
Iowa	40	53	4	4	35	136
Kansas	19	29	1	12	51	112
Kentucky	11		2	1	9	23
Louisiana	26	14	1	8	50	99
Maine	57	65	8	14	2	146
Maryland	21	2	2	10	3	38
Massachusetts	54	28	8	1		91
Michigan	131	167	33	34	11	376
Minnesota	94	155	15	19	7	290
Mississippi	46	10	1	7	17	81
Missouri	32	8	4		31	75
Montana	62	71	7	12	1	153
Nebraska	12	17		7	108	144
Nevada	50	45	11	9		115
New Hampshire	26	43	9	4		82
New Jersey	28	6	4	3	18	59
New Mexico	44	47	5	10		106
New York	110	166	24	27	10	337
North Carolina	30	18	7	19	16	90
North Dakota	29	79	1	1		110
Ohio	107	44	11	11	33	206
Oklahoma	26	12	3	12	37	90
Oregon	48	34	7	11	4	104
Pennsylvania	67	18	12	13	9	119
Rhode Island	8	6	2	1		17
South Carolina	14	11		5	16	46
South Dakota	33	81	3	15	1	133
Tennessee	22	9	3	1	12	47
Texas	150	57	19	26	25	277
Utah	58	72	13	11		154
Vermont	22	46	8	10		86
Virginia	24	10	5	13	8	60
Washington	91	77	24	13	5	210
West Virginia	2	1			1	210
Wisconsin	107	174	16	22	2	321
Wyoming	32	74	7	14	2	129
Total	2,490	2,230	405	479	691	6,290
Zero.	2,490	۷,۷۵0	403	4/9	091	0,290

¹An undetermined number of operations leased from the Bureau of Land Management in Alaska are counted as one operation.

TABLE 12 RECYCLED ASPHALT CONCRETE SOLD OR USED BY PRODUCERS IN THE UNITED STATES, BY GEOGRAPHIC DIVISION $^{\rm I}$

		2005			2006			
	Quantity			Quantity				
	(thousand	Value	Unit	(thousand	Value	Unit		
Region/division	metric tons)	(thousands)	value	metric tons)	(thousands)	value		
Northeast:								
New England	225	\$1,870	\$8.30	432	\$4,070	\$9.41		
Middle Atlantic	76	370	4.87	126	806	6.40		
Midwest:								
East North Central	233	1,110	4.76	450	2,760	6.13		
West North Central	820	5,240	6.40	1,570	11,200	7.18		
South:								
South Atlantic	404	2,140	5.31	294	1,910	6.50		
East South Central	27	180	6.67	125	525	4.20		
West South Central	5	35	7.00	2	30	15.00		
West:	_							
Mountain	416	1,920	4.62	1,070	6,360	5.93		
Pacific ²	1,550	10,900	7.02	2,100	17,400	8.32		
Total or average	3,750	23,700	6.33	6,170	45,100	7.32		

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

²Includes Alaska.

TABLE 13 RECYCLED ASPHALT CONCRETE SOLD OR USED BY PRODUCERS IN THE UNITED STATES, BY ${\rm STATE}^1$

		2005		2006			
	Quantity			Quantity			
	(thousand	Value	Unit	(thousand	Value	Unit	
State	metric tons)	(thousands)	value	metric tons)	(thousands)	value	
Alabama	W	W	\$6.67	W	W	\$6.6	
Alaska	W	W	9.40	W	W	7.02	
Arizona	W	W	7.00	199	\$1,490	7.48	
California	1,220	\$8,460	6.91	1,740	15,000	8.59	
Colorado	87	521	5.99	242	1,470	6.05	
Connecticut	7	49	7.00	87	275	3.10	
Idaho	16	69	4.31	90	843	9.37	
Illinois	38	166	4.37	18	98	5.44	
Indiana	27	147	5.44	W	W	6.03	
Iowa	25	165	6.60	51	269	5.27	
Kansas	9	99	11.00	56	632	11.29	
Louisiana	W	W	7.72	W	W	11.03	
Maine	88	697	7.92	99	1,040	10.49	
Maryland	W	W	4.99	W	W	4.96	
Massachusetts	16	164	10.25	112	2,110	18.86	
Michigan	126	618	4.90	263	1,020	3.86	
Minnesota	733	4,800	6.55	1,350	9,940	7.38	
Mississippi				W	W	3.31	
Montana	21	78	3.71	27	135	5.00	
Nebraska	10	40	4.00	15	146	9.73	
Nevada	W	W	5.37	86	306	3.56	
New Hampshire	36	151	4.19	70	434	6.20	
New Jersey				86	547	6.36	
New Mexico	W	W	6.16	73	674	9.23	
New York	76	370	4.87	41	259	6.32	
North Carolina	197	924	4.69	30	233	7.77	
North Dakota	W	W	4.08	W	W	3.68	
Ohio				W	W	1.76	
Oregon	155	1,330	8.61	202	1,590	7.88	
Rhode Island	W	W	11.08	W	W	2.20	
South Carolina	111	662	5.96	18	131	7.28	
South Dakota	28	82	2.93	110	382	3.47	
Utah	W	W	3.41	352	1,420	4.03	
Vermont		62	6.20	20	107	5.35	
Virginia	W	W	10.12	96	795	8.28	
Washington	128	699	5.46	134	746	5.5	
Wisconsin	41	176	4.29	149	1,540	10.32	
Wyoming		183	11.44	3	29	9.6	
Total or average	3,750	23,700	6.33	6,170	45,100	7.32	

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

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

TABLE 14 RECYCLED CEMENT CONCRETE SOLD OR USED BY PRODUCERSIN THE UNITED STATES, BY GEOGRAPHIC DIVISION $^{\rm I}$

	2005			2006			
	Quantity			Quantity			
	(thousand	Value	Unit	(thousand	Value	Unit	
Region/division	metric tons)	(thousands)	value	metric tons)	(thousands)	value	
Northeast:							
New England	108	\$752	\$6.96	290	\$1,820	\$6.27	
Middle Atlantic	106	585	5.52	310	2,130	6.88	
Midwest:	-						
East North Central	1,300	7,180	5.53	937	5,720	6.10	
West North Central	1,040	5,280	5.05	893	6,200	6.94	
South:	-						
South Atlantic	156	1,150	7.39	329	2,940	8.93	
East South Central	1	2	2.00	4	53	13.25	
West South Central	22	148	6.73	220	1,600	7.26	
West:	_						
Mountain	548	2,390	4.36	558	3,100	5.56	
Pacific ²	1,320	9,580	7.24	1,140	8,660	7.61	
Total or average	4,610	27,100	5.87	4,680	32,200	6.88	

Data are rounded to no more than three significant digits, except unit value; may not add to totals shown.

²Includes Alaska.

TABLE 15 RECYCLED CEMENT CONCRETE SOLD OR USED BY PRODUCERS IN THE UNITED STATES, BY ${\rm STATE}^1$

		2005	2006				
	Quantity	Quantity			Quantity		
	(thousand	Value	Unit	(thousand	Value	Unit	
State	metric tons)	(thousands)	value	metric tons)	(thousands)	value	
Alabama				4	\$52	\$13.00	
Alaska	W	W	\$5.65	W	W	12.25	
Arizona	98	\$274	2.80	21	146	6.01	
California	1,070	8,040	7.49	954	7,370	7.73	
Colorado	200	1,240	6.22	237	1,410	5.97	
Connecticut	3	25	8.33	20	160	8.00	
Florida				2	54	27.00	
Hawaii	W	W	6.80				
Idaho	(2)	(2)	2.22	50	285	5.70	
Illinois	354	2,050	5.80	192	1,490	7.74	
Indiana	91	485	5.33	73	390	5.34	
Iowa		435	7.50	66	658	9.97	
Kansas	W	W	9.56	W	W	11.31	
Louisiana				W	W	16.34	
Maine	W	W	5.63	5	21	4.20	
Maryland	W	W	5.47	152	914	6.01	
Massachusetts		568	7.38	252	1,560	6.18	
Michigan	688	3,880	5.64	515	2,880	5.60	
Minnesota	970	4,690	4.84	791	5,320	6.72	
Mississippi	1	2	2.00	(2)	(2)	1.10	
Missouri		14	7.00	3	21	7.00	
Montana	35	117	3.34	W	W	5.58	
Nebraska	4	35	8.75	W	W	14.36	
Nevada	W	W	2.17	50	124	2.48	
New Hampshire	<u>"</u>		2.17	2	16	8.00	
New Jersey				168	1.230	7.32	
New Mexico	W	W	5.23	W	W W	6.85	
New York	106	585	5.52	142	906	6.38	
North Carolina	W	W	10.00	57	691	12.12	
North Dakota	W	W	8.00		091	12.12	
Ohio		159	6.36	59	442	7.49	
Oklahoma	23		0.50	W	W	8.82	
	40	258	6.45	16	111	6.94	
Oregon South Carolina	W	236 W	10.60	W	W	11.52	
South Dakota	vv		10.00	W	W	3.49	
	22	148	6.73	w 151	978	6.48	
Texas							
Utah	1 20	3 115	3.00 5.75	50 W	159 W	3.18 5.79	
Vermont							
Virginia	W	W	8.50	W	W	9.10	
Washington	182	1,120	6.13	161	1,130	7.04	
Wisconsin	139	598	4.30	98	517	5.28	
Wyoming	W	W 27.100	6.13	W	W 22.200	4.96	
Total or average	4,610	27,100	5.87	4,680	32,200	6.88	

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

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

²Less than ½ unit.

TABLE 16 U.S. EXPORTS OF CONSTRUCTION SAND AND GRAVEL IN 2006, BY COUNTRY $^{\rm I}$

(Thousand metric tons and thousand dollars)

	Sand		Grav	vel
		Value,		Value,
Country or Territory	Quantity	f.a.s. ²	Quantity	f.a.s. ²
North America:				
Canada	57	3,760	368	3,410
Dominican Republic	1	156	(3)	6
Guatemala	(3)	157		
Mexico	10	2,290	(3)	28
Other ⁴	7	905	18	539
Total	76	7,260	387	3,980
South America:				
Brazil	2	1,350		
Colombia	1	224		
Peru	(3)	4	(3)	6
Venezuela	(3)	222		
Other ⁵	4	1,620		
Total	7	3,410	(3)	6
Europe:	_			
Belgium	(3)	112	(3)	9
Denmark	1	927		
Finland			2	61
France	(3)	20		
Germany	1	334	(3)	17
Norway	(3)	6		
Sweden	(3)	32		
United Kingdom	1	611	1	79
Other ⁶	(3)	737	10	46
Total	5	2,780	14	212
Asia:				
China	2	662		
Japan	(3)	115	1	69
Korea, Republic of	(3)	61	(3)	5
Taiwan	20	3,630	(3)	4
Other ⁷	1	271	(3)	5
Total	22	4,740	1	84
Oceania ⁸	(3)	80	(3)	92
Middle East ⁹	1	255	(3)	35
Africa ¹⁰	2	1,130		
Grand total	113	19,700	402	4,410

⁻⁻ Zero.

Source: U.S. Census Bureau.

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

²Free alongside ship. Value of material at U.S. port of export; based on transaction price, including all charges incurred in placing material alongside ship.

Less than ½ unit.

⁴Includes Anguilla, Antigua, Aruba, The Bahamas, Barbados, Bermuda, British Virgin Islands, Cayman Islands, Costa Rica, El Salvador, Jamaica, Martinique, the Netherlands Antilles, Nicaragua, Panama, St. Christopher, St. Lucia, St. Vincent, Trinidad and Tobago, and Turks and Caicos Islands.

⁵Includes Argentina, Chile, Ecuador, and Guyana.

⁶Includes Cyprus, Greece, Ireland, Italy, Lativa, Luxembourg, the Netherlands, Poland, Portugal, Romania, Russia, Slovenia, Spain, Switzerland, the Czech Republic, and Ukraine.

⁷Includes Bangladesh, Hong Kong, India, Indonesia, Malaysia, the Philippines, Singapore, and Thailand.

⁸Includes Australia and New Zealand.

⁹Includes Israel, Qatar, Saudi Arabia, and the United Arab Emirates.

¹⁰Includes Algeria, Angola, Egypt, Guinea, Kenya, Libya, Nigeria, and the Republic of South Africa.

TABLE 17 $\mbox{U.S. IMPORTS FOR CONSUMPTION OF CONSTRUCTION SAND } \mbox{AND GRAVEL, BY COUNTRY}^1$

(Thousand metric tons and thousand dollars)

	200	5	200)6
		Value,		Value,
Country or Territory	Quantity	c.i.f. ²	Quantity	c.i.f. ²
Antigua and Barbuda	19	268	8	119
Australia	17	1,270	43	3,460
Bahamas, The	213	3,570	249	5,160
Canada	4,310	50,200	3,740	55,300
China	84	10,400	77	14,900
Dominican Republic		599	20	569
Japan		468	1	449
Mexico	2,460	14,000	762	6,190
Philippines	(3)	118	1	269
United Kingdom	6	1,180	10	1,550
Other ⁴	32	4,660	45	6,180
Total	7,160	86,800	4,960	94,100

Data are rounded to no more than three significant digits; may not add to totals shown.
²Cost, insurance, and freight. Value of material at U.S. port of entry; based on purchase price and includes all charges (except U.S. import duties) in bringing material from foreign country to alongside carrier.

⁴Includes Belgium, the Republic of Congo (2006), Dominica (2005), Faroe Islands, Germany, Greenland (2006), Haiti, India, Indonesia, the Republic of Korea, Malaysia, Montserrat (2005), the Netherlands Antilles (2005), New Zealand, Norway, Peru, Poland, and Sweden.

Source: U.S. Census Bureau.

³Less than ½ unit.