

CONSTRUCTION SAND AND GRAVEL

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Construction sand and gravel is one of the most accessible natural resources and a major basic raw material used mostly by the construction industry. Despite the low value of its basic products, the construction sand and gravel industry is a major contributor to and an indicator of the economic well-being of the Nation.

A total of 914 million metric tons of construction sand and gravel was produced in the United States in 1996; this was a slight increase compared with that of 1995. After a decrease in production in 1991, sand and gravel production increased for the following 5 consecutive years, an indication of the continuous strong demand for construction aggregates in the United States. (*See table 1.*)

Sand and gravel production increased during 1996 owing to continued growth in construction activity. Total construction activity advanced by 6% to \$324.5 billion. This follows a 3% increase in 1995 and represents the fifth straight year of moderate increases for the construction industry (Rock Products, 1997). The construction industry is by far the largest consumer of sand and gravel.

The U.S. Geological Survey (USGS) surveyed 7,233 construction sand and gravel operations in the United States. Of these, 5,562 were active, 1,489 were idle, and 182 were either reported as or assumed to be permanently shut down. Of the 7,233 operations surveyed in 1996, 3,988, or 55.1%, responded to the USGS. The 3,988 respondents contributed 78% of the 914 million tons produced in 1996. The 5,562 operations were run by 3,838 companies with 8,109 active sand and gravel pits.

Foreign trade of construction sand and gravel remained minor in 1996. Exports increased nearly 18% to 1.5 million tons, but the value decreased by about 6% to \$23.3 million, compared with those of 1995.

Imports increased about 13% to 1.26 million tons, and the value increased almost 32% to \$15.8 million. Because imports and exports are small, domestic apparent consumption¹ of construction sand and gravel is essentially equal to U.S. production of 914 million tons.

Legislation

The Department of Transportation and Related Agencies Appropriation Act of 1997 (Public Law 104-205) was signed by the President on October 1, 1996. The Act appropriated a record highway funding of \$20.3 billion, an increase of \$313

million over that of fiscal year 1996. The Act also appropriated \$1.46 billion for the Airport Improvement Program, an increase of \$10 million over that of fiscal year 1996.

On December 13, 1996, the International Agency for Research on Cancer (IARC) upgraded crystalline silica inhaled in the form of quartz or cristobalite from occupational sources from Group 2A (probably carcinogenic to humans) to Group 1 (carcinogenic to humans). The IARC working group voted 10 to 7 in favor of the change. The group concluded that on the basis on a large number of epidemiological studies, evidence was sufficient in humans for the carcinogenicity of inhaled crystalline silica. The Occupational Safety and Health Administration (OSHA) and the Mine Safety and Health Administration use IARC reports to determine whether a substance should be covered by the Hazard Communication Standard. Products containing quartz or cristobalite will have to include a Material Safety Data Sheet stating the new Group 1 classification (Engineering and Mining Journal, 1997).

Other major issues of concern to the construction sand and gravel industry are the implementation of the Clean Air Act Amendments of 1990 and its complex legal and technical provisions; the amended Federal Water Pollution Control Act of 1977; the Clean Water Act, Section 404, dealing with "wetlands" and the associated "no net loss of wetlands" policy; the Storm Water Pollution Prevention Program; and the provisions of the Federal Endangered Species Act.

Production

U.S. production of construction sand and gravel was 914 million tons in 1996. Of the four major geographic regions, the West again led the Nation in the production of construction sand and gravel with 327 million tons, or 36% of the U.S. total. It was followed by the Midwest with 289 million tons, or 32%, the South with 202 million tons, or 22%; and the Northeast with 97 million tons, or 11%. Compared with that of 1995, production increased in all the major geographic regions except the Midwest, where production was virtually unchanged. (*See table 2.*)

Of the nine geographic divisions, the East North Central led the Nation in the production of construction sand and gravel with 192 million tons, or 21% of the U.S. total. It was followed by the Pacific with 169 million tons, or 18.4%, and the Mountain with 158 million tons, or 17.3%. (*See table 2 and figure 1.*) Compared with that of 1995, production increased in the following divisions: the New England, 7.1%; the East South Central, 5.9%; and the Pacific, 3%. The divisions with decreases were the Middle Atlantic, 3.4%, and the West South

¹Apparent consumption is defined as production for consumption (sold or used) plus total imports minus total exports.

Central, the West North Central, and the South Atlantic, slight. Production in the East North Central and the Mountain regions were unchanged from 1995.

A review of the production by size of operation indicates that 40.5% of the construction sand and gravel produced in 1996 came from 1,788 operations reporting between 100,000 and 499,999 tons per year, 25% came from 371 operations reporting between 500,000 and 999,999 tons per year, and 23.3% came from 151 operations reporting more than 1,000,000 tons per year. A total of 5,562 operations were active. At least 3.2%, or 182, of the operations active in 1995 were idled or shut down during 1996. (*See table 8.*)

The estimated production by quarters for 1996 indicates that most of the construction sand and gravel in the United States was produced in the third quarter and was followed by the second and the fourth quarters. (*See table 3.*) Estimated production by each quarter was also available for the majority of the States. (*See table 5.*)

Construction sand and gravel was produced in 1996 in every State. The 10 leading States were, in descending order of tonnage, California, Texas, Michigan, Ohio, Arizona, Washington, Illinois, Wisconsin, Minnesota, and Colorado. Their combined production represented 52% of the national total. Compared with that of 1995, production increased in 18 States, decreased in 14, and stayed about the same in 18. Of the top 10 States, production were virtually unchanged in 5, increased in 3, decreased in 2. (*See table 4.*)

In New Jersey, Amboy Aggregates Inc., South Amboy, has applied to the Minerals Management Service (MMS) for permission to mine sand in an area 3 to 45 nautical miles off the New Jersey coast. The application was made because of the shortage of available sand in the densely populated State. Some environmental groups and fisheries have responded negatively to the application. The MMS was set to begin the decisionmaking process in October after the comment period was closed (*Engineering News Record, 1996d*).

Limited information about the production of construction sand and gravel in foreign countries may be found in the USGS "Minerals Yearbook, Volume III, Area Reports: International." For nonreporting countries, estimates of sand and gravel and crushed stone outputs can be based on such indirect sources as the level of cement consumption.

In an industry with thousands of operating companies, status and ownership changes are many. Although it is not possible to review them all, a few noteworthy events follow.

Mineral Borex began production of gold and construction sand and gravel at its Crescent Valley Gold Placer Mine in north-central Nevada. A wash plant, separator, and gold concentrator are expected to process 1,000 cubic yards per 10-hr shift of sand and gravel (*Rock Products, 1996d*).

Rogers Group has purchased the assets of Robinson Block Co. and Martinsville Sand and Gravel. Robinson Block's operations are in Bedford, IN, and Martinsville Sand and Gravel is in Morgan County, IN (*Rock Products, 1996g*).

Luck Stone, a producer of crushed stone, entered the sand and gravel business by acquiring Mechanicsville Sand and

Gravel Co. from Powhatan Ready-Mix. Renamed Luck Sand and Gravel, the company expects to double production at the operation northeast of Richmond, VA (*Rock Products, 1996e*).

Denver-based Western Mobile purchased the ready-mix, concrete, sand, and gravel operations of Gosney and Sons Ready Mix Division of Bayfield, CO. Western Mobile's parent company, Redland Aggregates Ltd., Groby, Leicester, England, also plans to acquire additional aggregate operations in the United States (*Rock Products, 1996k*).

Bardon Group, United Kingdom, expanded its presence in the U.S. aggregates industry with the acquisition of E.L. Gardner's three ready-mix concrete plants and about 9 million tons of sand and gravel reserves in eastern Maryland (*Rock Products, 1996b*).

Irish-based CRH added to its holdings in the Northeastern United States by acquiring Tilcon from the British conglomerate BTR. Tilcon has 60 operations in Connecticut, Delaware, Maine, Massachusetts, New Hampshire, New Jersey, New York, Rhode Island, and Vermont (*Rock Products, 1996f*).

Titan Resources announced it has acquired a commercial quarry located in southeastern Houston, TX. The new quarry marks Titan's entry into the commercial sand and gravel industry (*Rock Products, 1996j*).

Texas Industries added to its sand and gravel holdings by purchasing T.L. James and Co.'s Honey Island operation. Near Slidell, LA, the operation produces sand, gravel, clay, soil conditioners, and golf course materials (*Rock Products, 1996i*).

CAMAS Inc., the U.S. subsidiary of the British-based construction materials group, CAMAS plc, purchased Model Stone Co. Model Stone, based in Minneapolis/St. Paul, MN, has high-quality sand and gravel reserves and operations, a concrete block plant, and four ready-mix plants (*Pit and Quarry, 1996*).

Consumption

Construction sand and gravel reported by producers to the USGS is actually material that was "sold or used" by the companies and is defined as such. Stockpiled production is not reported until it is sold to a user or consumed by the producer. Because no consumption surveys are conducted by the USGS, 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 is reported under "Unspecified uses, actual." The estimated production of nonrespondents is reported under "Unspecified uses, estimated."

Of the 914 million tons of construction sand and gravel produced in 1996, 377 million tons, or 41.2% of the total, was unspecified uses. Of the remaining 537 million tons, 43.2% was used as concrete aggregates; 23.4%, for road base and coverings and road stabilization; 13.2%, as asphaltic concrete aggregates and other bituminous mixtures; 11.9%, as construction fill; 1.8%, for concrete products, such as blocks, bricks, pipes, etc.; 1.4%, for plaster and gunite sands; and the remainder, for snow and ice control, railroad ballast, roofing granules, filtration, and

other miscellaneous uses. (*See table 6.*)

To provide a more-accurate estimation of the consumption patterns for construction sand and gravel, the "Unspecified uses" are not included in the aforementioned percentages. It is recommended that in any marketing or use pattern analysis, the quantities included in "Unspecified uses" be distributed among the reported uses by applying the previous percentages.

A review of consumption by major geographic regions indicates that most of the sand and gravel for concrete aggregates, including concrete sand, was used in the West, 36.4%; the South, 28.9%; and the Midwest, 25.5%; these regions have high levels of construction activity. Of the sand and gravel used for road base and coverings and for asphaltic concrete aggregates and other bituminous mixtures, 45.3% and 46.1%, respectively, were consumed in the West and 35.8% and 28.4%, respectively, in the Midwest. (*See table 7.*)

Additional information regarding production and/or consumption of construction sand and gravel by major uses in each State and the State districts is published in the USGS "Minerals Yearbook, Volume II, Area Reports: Domestic."

Recycling

The aggregates industry has been involved with recycling for several decades. Recently, recycling has become more important to aggregate producers, and the number of aggregate companies that are recycling has been increasing. Recycling in this industry generally refers to the crushing, screening, and reuse of cement and asphalt concretes. Aggregate and related asphalt and ready-mix companies are often involved at construction projects where they collect and reuse the materials at the site. Others collect materials from construction companies that haul the material to the recycler. The annual survey of construction sand and gravel producers now collects information on recycling of cement and asphalt concrete by sand and gravel companies. No information on recycling of these materials by the construction or demolition companies is collected by the USGS.

Asphalt Concrete.—A total of 3.74 million tons of asphalt concrete valued at \$14.3 million was recycled by 160 companies in 37 States. This volume represents a 6.6% increase compared with that of 1995. (*See tables 14 and 15.*) Leading States were, in descending order of tonnage recycled, California, Washington, North Carolina, and Minnesota. Leading companies were, in order of volume produced, J.A. Jones Co., Granite Construction Co., CSR America, Inc., Lehman Brothers Co., and Aman Brothers, Inc.

Cement Concrete.—A total of 4.03 million tons of cement concrete valued at \$15.1 million was recycled by 142 companies in 29 States. This volume represents a 12% increase compared with that of 1995. (*See tables 14 and 16.*) Leading States were, in descending order of tonnage recycled, Minnesota, California, and New York. Leading companies were, in order of volume produced, Premier Aggregates, Inc., Aman Brothers, Inc., Broad Hollow Estates, Inc., Danner, Inc.,

and CSR America, Inc.

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 region, as well as for the total United States. (*See table 11.*) Reports regarding the method of transportation were provided by the producers for 512 million tons, or 56% of the total U.S. production of construction sand and gravel. Of this total, 78% was transported by truck; 3.4%, by waterway; and 1.8%, by rail. A significant amount of construction sand and gravel produced, about 16.1%, was not transported, but was used at the production site. Because most producers did not either keep records or report shipping distances or cost per ton per mile, no transportation cost data were available.

Prices

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

Compared with that of 1995, the 1996 average unit price increased nearly 2.1% to \$4.38 per ton. By use, the unit prices varied from a high of \$5.77 for roofing granules to a low of \$2.91 for fill. The largest increases were recorded for road stabilization (lime), 40.1%; road stabilization (concrete), 9.3%; and fill, 7.8%. Average unit prices declined for roofing granules, 21.2%; railroad ballast, 8%; and concrete products, 5.1%. (*See table 6.*)

Foreign Trade

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

Exports of construction sand increased by 37% to 1.16 million tons compared with that of 1995, but the value decreased by 5.5% to \$18.1 million. Mexico was the major destination, receiving about 58% of the total, and was followed by Canada with 22%. Exports of construction gravel declined 19% to 368,000 tons, and the value decreased 7% to \$5.16 million. Canada was the major destination, receiving about 85% of the total. (*See table 12.*)

Imports increased by about 13% to 1.26 million tons, and the value increased by about 32% to \$15.8 million. Canada was the major source of imported construction sand and gravel with 76.5% of the total, and was followed by The Bahamas with 12.6%. (*See table 13.*)

Current Research and Technology

The market for sand for winter road maintenance is being challenged by a new specially processed lightweight aggregate product developed and marketed by Western Aggregates near Denver, CO. The expanded shale product, called Realite Plus, is saturated with calcium or magnesium chloride and then coated with an asphaltic resin. The product is said to decrease significantly the amount of dust generated in spring cleanup and, owing to its weight, reduces transportation cost (Rock Products, 1996h).

A trial run for a new driverless highway is slated for 1997. The goal of the project is to show that off-the-shelf computers and sensors can be used to take highway driving out of the hands of motorists. The demonstration on a California freeway represents the second phase of a 7-year, \$210 million program that aims to put a prototype automated highway into operation by 2010 (Engineering News Record, 1996b).

The U.S. Army Corps of Engineers (USACE) and the Federal Aviation Administration (FAA) are each developing new machines to simulate years of wear on highway and runway surfaces in just weeks or months. The testing allows researchers to try new asphalt, concrete, and various other mixes that are being considered for road and runway paving. Known generally as mobile automated loading machines, the machines can run for 24 hours a day, 7 days a week. Both agencies will spend millions of dollars designing, building, and operating the new machines and test facilities. The FAA and the California Department of Transportation are each already using mobile automated loading machines (Engineering News Record, 1996c).

Outlook

The demand for construction sand and gravel in 1997 is expected to be about 940 million tons, or about 2.8% more than that of 1996. The projected increases will be influenced by construction activity primarily in the public construction sector. Compared with that of fiscal year 1996, Federal spending for construction related programs were slated to increase in fiscal year 1997. Increases include USACE, 34%; transit, 8.8%; highways, 1.7%; airport grants, 1%; and Department of Energy cleanup, 1% (Engineering News Record, 1996e). The construction industry is expected to continue to grow in 1997 but at a slower rate. The rate of growth was predicted to drop to 3.5% in 1997 compared with 6% in 1996 (Engineering News Record, 1996f). Another forecaster predicted continued growth in sand and gravel production through 1999, with production reaching 1.04 billion tons in 1999 (Rock Products, 1996a).

The Great Basin Unified Air Pollution Control District in Bishop, CA, is likely to be a large consumer of gravel if plans for Owens Lake are approved. The lake dried as a result of water diversion to Los Angeles, and now the lake bed is adding to air-quality problems in California. The plans call for 14 square miles to be planted with vegetation, 13 square miles to be irrigated, and 8 square miles to be covered with about 37

million tons of gravel (Engineering News Record, 1997).

Construction sand and gravel f.o.b. prices are expected to increase only marginally, owing to a decrease in demand growth compared with the past several years. The delivered prices of construction sand and gravel are, however, expected to increase, especially in and near metropolitan areas, mainly because more aggregates are transported from distant sources. One estimate predicted that aggregate production and price would each increase by 2.7%. The report also estimated that prices will increase by 2.1% in 1998 and 2.5% in 1999 (Engineering News Record, 1996a).

For 1997, the industry is expected to continue to consolidate. Resistance to mining at the local level will push production to more rural areas and increase transportation cost. Acquisition cost will escalate because of the difficulty of starting a greenfield operation, which will allow resourceholders to demand higher prices for already permitted operations (Rock Products, 1996c).

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TABLE 1
SALIENT CONSTRUCTION SAND AND GRAVEL STATISTICS 1/

		1992	1993	1994	1995	1996
Sold or used by producers:						
Quantity 2/	thousand metric tons	834,000 3/	869,000 e/ 3/	891,000	907,000 r/	914,000 3/
Value 2/	thousands	\$3,340,000 3/	\$3,530,000 e/ 3/	\$3,740,000	\$3,900,000 r/	\$4,000,000 3/
Exports	value, thousands	\$18,000	\$15,600	\$20,300	\$24,700	\$23,300
Imports	do.	\$15,500	\$15,400	\$14,800	\$12,000	\$15,800

e/ Estimated. r/ Revised.

1/ Data are rounded to three significant digits.

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

3/ Excludes Hawaii.

TABLE 2
CONSTRUCTION SAND AND GRAVEL SOLD OR USED BY
PRODUCERS IN THE UNITED STATES, BY GEOGRAPHIC DIVISION 1/

Region/Division	1995				1996			
	Quantity (thousand metric tons)	Percentage of total	Value (thousands)	Percentage of total	Quantity (thousand metric tons)	Percentage of total	Value (thousands)	Percentage of total
Northeast:								
New England	37,800	4.2	\$199,000	5.1	40,500	4.4	\$202,000	5.0
Middle Atlantic	58,400	6.4	308,000	7.9	56,400	6.2	301,000	7.5
Midwest:								
East North Central	192,000	21.2	717,000	18.4	192,000	21.0	761,000	19.0
West North Central	97,000	10.7	315,000	8.1	96,500	10.5	324,000	8.1
South:								
South Atlantic	68,000	7.5	292,000	7.5	67,400	7.4	295,000	7.4
East South Central	40,400	4.5	171,000	4.4	42,800	4.7	182,000	4.5
West South Central	91,800	10.1	394,000 r/	10.1	91,700	10.0	402,000	10.0
West:								
Mountain	158,000 r/	17.4	681,000 r/	17.5	158,000	17.3	670,000	16.7
Pacific	164,000 r/	18.0	820,000 r/	21.0	169,000 2/	18.4	867,000 2/	21.7
Total	907,000 r/	100	3,900,000 r/	100	914,000	100	4,000,000	100

r/ Revised.

1/ Data are rounded to three significant digits; may not add to totals shown.

2/ Excludes Hawaii.

TABLE 3
SAND AND GRAVEL SOLD OR USED BY PRODUCERS IN THE UNITED STATES, BY QUARTER AND DIVISION 1/

Region/Division	Quantity 1st qtr.		Quantity 2d qtr.		Quantity 3d qtr.		Quantity 4th qtr.		Total 3/ (thousand metric tons)	Value total 3/ (thousands)
	(thousand metric tons)	Percentage change 2/	(thousand metric tons)	Percentage change 2/	(thousand metric tons)	Percentage change 2/	(thousand metric tons)	Percentage change 2/		
Northeast:										
New England	4,800	4.8	11,400	7.4	14,500	9.1	10,700	15.7	41,400	232,000
Middle Atlantic	6,900	-10.7	15,900	-12.6	19,200	-2.7	14,700	14.5	56,600	305,000
Midwest:										
East North Central	18,300	-9.7	53,900	-1.2	71,300	7.8	54,200	6.2	198,000	745,000
West North Central	11,200	4.5	31,200	25.4	40,600	7.3	24,900	6.0	108,000	347,000
South:										
South Atlantic	14,400	-0.6	19,800	5.9	20,100	13.0	17,800	5.1	72,100	313,000
East South Central	7,700	7.0	12,900	18.8	13,100	4.5	10,500	6.0	44,100	185,000
West South Central	22,900	19.3	27,600	17.9	24,800	-1.6	22,500	-6.1	97,800	432,000
West:										
Mountain	33,300	3.3	44,300	8.4	44,300	3.0	39,800	-2.0	162,000	710,000
Pacific 4/	29,800	13.6	45,700	11.5	52,100	12.8	41,700	2.0	169,000	862,000
Total 3/	149,300	4.7	262,700	8.1	300,000	6.5	236,800	3.5	963,000 5/	4,190,000 5/

1/ As published in the "Crushed Stone and Sand and Gravel in the Fourth Quarter of 1996" Mineral Industry Survey.

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

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

4/ Does not include Alaska and Hawaii.

5/ Includes Alaska.

TABLE 4
CONSTRUCTION SAND AND GRAVEL SOLD OR USED BY
PRODUCERS IN THE UNITED STATES, BY STATE 1/

State	1995			1996		
	Quantity (thousand metric tons)	Value (thousands)	Unit value	Quantity (thousand metric tons)	Value (thousands)	Unit value
Alabama	12,000 r/	\$49,700 r/	\$4.16 r/	13,800	\$60,600	\$4.40
Alaska 2/	8,920 r/	33,800 r/	3.80 r/	9,380	35,900	3.83
Arizona	40,100	201,000	5.00	41,900	199,000	4.75
Arkansas	11,600	48,300	4.18	11,000	43,500	3.97
California	98,400	542,000	5.51	103,000	583,000	5.65
Colorado	35,000 r/	144,000 r/	4.11 r/	31,600	133,000	4.19
Connecticut	6,410	37,500	5.85	6,380	26,900	4.21
Delaware	2,680	8,740	3.26	2,370	6,820	2.88
Florida	19,300	69,300	3.58	18,500	68,800	3.72
Georgia	5,780	23,100	4.00	6,520	24,500	3.75
Hawaii	405	4,030	9.95	W	W	W
Idaho	13,200	43,500	3.30	14,700	46,100	3.14
Illinois	36,100	147,000	4.07	34,600	144,000	4.17
Indiana	24,900	93,900	3.78	24,800	100,000	4.03
Iowa	14,300	57,000	4.00	13,300	54,600	4.11
Kansas	11,100	29,400	2.65	11,500	31,300	2.72
Kentucky	8,710	31,700	3.63	7,310	25,600	3.50
Louisiana	11,300	50,200	4.43	11,500	53,200	4.62
Maine	6,420	26,900	4.18	6,440	27,500	4.27
Maryland	9,700	61,700	6.36	9,700	61,400	6.33
Massachusetts	11,700	67,500	5.76	14,200	82,500	5.79
Michigan	53,500	178,000	3.34	53,800	197,000	3.66
Minnesota	31,900	99,400	3.11	31,800	107,000	3.36
Mississippi	11,800	53,000	4.51	13,400	60,600	4.54
Missouri	8,840	32,400	3.66	9,820	35,600	3.62
Montana	8,870	34,900	3.93	9,260	35,800	3.87
Nebraska	13,700	47,100	3.43	12,900	44,300	3.44
Nevada	22,500	110,000	4.87	22,400	113,000	5.02
New Hampshire	7,190	34,300	4.77	7,620	36,500	4.79
New Jersey	14,000	80,300	5.74	13,200	70,400	5.33
New Mexico	10,400	50,700	4.88	9,880	48,500	4.91
New York	27,300	134,000	4.92	28,100	145,000	5.17
North Carolina	10,100	50,100	4.96	10,000	50,500	5.03
North Dakota	8,420	23,900	2.83	8,320	23,800	2.86
Ohio	45,300	196,000	4.33	46,600	215,000	4.60
Oklahoma	7,800	25,100	3.22	7,910	27,700	3.50
Oregon	18,200	85,000	4.66	18,300	86,800	4.75
Pennsylvania	17,100	93,100	5.44	15,100	85,600	5.68
Rhode Island	2,790	21,500	7.71	1,990	13,300	6.68
South Carolina	8,880	29,000	3.27	8,780	29,000	3.31
South Dakota	8,730	26,200	3.00	8,750	27,700	3.16
Tennessee	8,020	36,700	4.58	8,380	35,300	4.21
Texas	61,100	271,000	4.43	61,300	278,000	4.53
Utah	23,800	80,200	3.38	24,700	80,500	3.26
Vermont	3,220	11,000	3.43	3,870	15,200	3.93
Virginia	9,710	42,300	4.36	9,780	45,800	4.68
Washington	37,700	155,000	4.10	37,900	162,000	4.27
West Virginia	1,800	7,650	4.25	1,730	7,710	4.44
Wisconsin	32,200	102,000	3.16	32,600	105,000	3.23
Wyoming	3,860	17,500	4.55	3,420	14,700	4.28
Total	907,000 r/	3,900,000 r/	4.30 r/	914,000	4,000,000	4.38

r/ Revised.

1/ Data are rounded to three significant digits; may not add to totals shown.

2/ Data derived, in part, from Alaska Division of Geological and Geophysical Surveys information.

TABLE 5
SAND AND GRAVEL SOLD OR USED BY PRODUCERS IN THE UNITED STATES, BY QUARTER AND STATE 1/

State	Quantity 1st qtr.		Quantity 2d qtr.		Quantity 3d qtr.		Quantity 4th qtr.		Total 3/ (thousand metric tons)	Value total 3/ (thousands)
	(thousand metric tons)	Percentage change 2/	(thousand metric tons)	Percentage change 2/	(thousand metric tons)	Percentage change 2/	(thousand metric tons)	Percentage change 2/		
Alabama	3,100	28.3	4,000	31.8	3,800	15.7	3,400	10.6	14,400	60,500
Alaska 4/	--	--	--	--	--	--	--	--	13,900	50,000
Arizona	9,800	6.8	11,100	4.4	10,400	2.8	9,700	-4.0	41,100	207,000
Arkansas	2,500	9.0	2,900	2.4	2,900	-14.8	2,400	-20.4	10,700	45,100
California	18,900	18.6	29,500	11.8	33,000	14.0	27,100	-0.3	108,000	602,000
Colorado	5,400	8.7	10,600	31.8	11,500	-0.5	8,600	-9.7	36,100	150,000
Connecticut	800	-19.9	2,200	13.3	2,600	25.9	1,800	25.6	7,380	43,600
Delaware	500	-20.0	1,100	52.1	1,100	82.9	900	34.6	3,660	12,100
Florida	4,800	(5/)	5,400	8.8	5,100	9.2	4,900	1.1	20,200	72,800
Georgia	1,400	7.2	1,900	18.5	1,800	14.7	1,600	18.0	6,630	26,900
Hawaii 4/	--	--	--	--	--	--	--	--	400	4,000
Idaho	1,400	-10.1	3,600	-28.3	4,500	21.8	5,100	73.7	14,600	48,900
Illinois	3,300	-12.7	10,500	-2.5	12,300	1.3	9,900	4.6	36,000	147,000
Indiana	2,900	-12.7	7,400	8.2	9,700	14.1	6,500	1.9	26,400	100,000
Iowa	1,100	-9.7	4,500	14.9	6,400	12.9	2,800	-17.3	14,900	60,400
Kansas	2,000	60.5	5,500	73.2	4,200	0.4	3,200	30.9	15,000	40,400
Kentucky	1,000	8.4	2,000	-13.9	2,200	-37.3	1,800	-8.5	7,010	25,700
Louisiana	2,800	8.9	3,300	0.2	2,900	0.7	2,800	6.6	11,700	52,200
Maine	700	20.2	2,000	-5.4	2,600	27.0	1,600	-10.1	6,790	28,500
Maryland	1,700	2.1	2,600	-9.7	3,300	18.9	2,600	10.2	10,200	65,400
Massachusetts	2,200	73.3	3,900	10.2	4,900	11.0	4,100	63.2	15,000	87,200
Michigan	4,200	-3.2	13,900	-11.1	21,200	13.4	15,400	3.6	54,700	186,000
Minnesota	3,600	9.9	8,400	-0.4	12,500	1.9	8,600	7.7	33,000	104,000
Mississippi	2,200	0.3	3,800	22.4	4,000	11.8	3,000	3.1	13,000	59,300
Missouri	1,400	-3.2	3,100	91.6	3,600	10.6	2,500	-0.3	10,600	39,200
Montana 6/	--	--	--	--	--	--	--	--	8,210	32,800
Nebraska	900	-32.4	3,800	0.2	6,300	10.5	3,400	13.7	14,300	49,300
Nevada	5,500	6.9	5,400	-7.6	4,900	-12.9	5,200	-10.2	21,100	103,000
New Hampshire	600	-39.7	1,600	-4.6	2,300	-10.6	1,700	-15.4	6,130	29,400
New Jersey	1,700	-34.5	3,900	-8.2	3,200	-20.5	4,000	25.5	12,700	73,900
New Mexico	2,600	9.5	2,900	1.7	2,800	3.9	2,700	8.2	11,000	53,800
New York	3,300	3.9	8,300	-5.7	10,800	14.6	7,300	24.1	29,700	147,000
North Carolina	2,000	-3.4	2,800	9.7	2,900	29.5	2,700	-18.0	10,300	51,600
North Dakota 6/	--	--	--	--	--	--	--	--	8,500	24,200
Ohio	4,700	-10.6	12,700	3.8	16,400	3.2	13,400	11.6	47,100	205,000
Oklahoma	1,700	10.6	2,400	24.5	2,100	-10.2	1,900	-3.1	8,140	26,400
Oregon	2,800	-3.2	4,600	4.3	6,300	-4.9	5,300	24.4	19,000	89,300
Pennsylvania	1,900	-2.4	4,200	-21.3	5,600	-9.3	3,700	-0.2	15,300	84,400
Rhode Island 6/	--	--	--	--	--	--	--	--	3,000	23,300
South Carolina	2,100	8.3	2,900	5.1	2,700	8.5	2,300	31.6	9,950	32,800
South Dakota	500	-34.1	2,600	6.5	4,500	20.5	2,000	8.7	9,530	29,100
Tennessee	1,000	-24.8	2,700	16.1	2,900	14.3	2,100	14.7	8,680	39,900
Texas	16,600	28.5	19,700	30.4	17,300	4.8	15,700	-5.2	69,300	308,000
Utah	3,200	-39.8	8,700	76.7	10,600	55.4	7,800	13.7	30,200	103,000
Vermont	600	52.4	1,700	125.4	2,000	57.0	1,500	82.6	5,770	19,900
Virginia	1,900	-4.9	2,900	5.0	2,900	8.4	2,600	10.2	10,200	44,900
Washington	8,000	2.7	11,200	12.4	13,000	15.7	9,100	4.7	41,300	171,000
West Virginia	200	-10.2	500	-8.5	500	-10.1	400	-15.9	1,600	6,890
Wisconsin	3,200	-10.0	9,500	2.9	11,600	5.1	9,300	9.9	33,500	107,000
Wyoming	500	-45.0	900	-24.0	500	-45.4	600	-35.4	2,450	11,300
Total	XX	XX	XX	XX	XX	XX	XX	XX	963,000	4,190,000

XX Not applicable.

1/As published in the "Crushed Stone and Sand and Gravel in the Fourth Quarter of 1996" Mineral Industry Survey.

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

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

4/ State not included in quarterly survey.

5/Less than 1/2 unit.

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

TABLE 6
CONSTRUCTION SAND AND GRAVEL SOLD OR USED IN THE UNITED STATES IN 1996,
BY MAJOR USE 1/

Use	Quantity (thousand metric tons)	Value (thousands)	Unit value
Concrete aggregates (including concrete sand)	232,000	\$1,130,000	\$4.89
Plaster and gunitite sands	7,450	39,600	5.31
Concrete products (blocks, bricks, pipe, decorative, etc.)	9,770	51,200	5.23
Asphaltic concrete aggregates and other bituminous mixtures	70,800	353,000	4.98
Road base and coverings	119,000	463,000	3.88
Road stabilization:			
Cement	4,700	16,700	3.54
Lime	1,760	9,480	5.37
Fill	63,900	186,000	2.91
Snow and ice control	6,800	27,700	4.07
Railroad ballast	974	4,800	4.93
Roofing granules	515	2,970	5.77
Filtration	1,120	6,230	5.54
Other miscellaneous uses	18,000	97,600	5.41
Unspecified: 2/			
Actual	174,000	776,000	4.46
Estimated	203,000	836,000	4.12
Total	914,000	4,000,000	4.38

1/ Data are rounded to three significant digits; may not add to totals shown.

2/ Includes production reported without a breakdown by end use and estimates for nonrespondents.

TABLE 7
CONSTRUCTION SAND AND GRAVEL SOLD OR USED BY PRODUCERS IN THE UNITED STATES IN 1996,
BY GEOGRAPHIC DIVISION AND MAJOR USE 1/

(Thousand metric tons and thousand dollars)

Region/Division	Concrete aggregates (including concrete sand)		Plaster and gunitite sands		Concrete products (blocks, bricks, pipe decorative, etc.)		Asphaltic concrete aggregates and other bituminous mixtures		Road base and coverings 2/	
	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value
Northeast:										
New England	6,250	\$37,700	105	1,010	140	\$930	2,280	\$13,800	5,890	\$26,600
Middle Atlantic	15,200	96,300	515	3,480	715	5,180	6,910	35,200	7,740	36,100
Midwest:										
East North Central	39,800	162,000	671	2,960	3,050	14,900	13,300	55,800	24,300	95,300
West North Central	19,400	80,000	384	1,940	648	4,100	6,850	25,400	20,800	51,800
South:										
South Atlantic	22,400	96,500	1,440	5,370	2,190	9,290	2,220	9,120	2,510	13,900
East South Central	9,950	43,900	329	2,460	620	3,730	3,540	15,900	3,480	12,300
West South Central	34,800	169,000	292	1,670	477	1,350	3,130	16,000	4,170	14,500
West:										
Mountain	32,600	164,000	1,690	7,150	1,090	5,200	15,400	77,400	35,600	135,000
Pacific	51,800	285,000	2,030	13,500	848	6,460	17,200	104,000	21,400	103,000
Total	232,000	1,130,000	7,450	39,600	9,770	51,200	70,800	353,000	126,000	489,000
Region/Division	Fill		Snow and ice control		Railroad ballast		Other uses		Total	
	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value
Northeast:										
New England	4,110	\$13,900	2,430	\$9,030	181	\$994	19,200	\$97,900	40,500	\$202,000
Middle Atlantic	4,260	12,400	1,820	7,840	35	217	19,200	105,000	56,400	301,000
Midwest:										
East North Central	15,700	54,200	1,110	3,780	44	278	94,400	371,000	192,000	761,000
West North Central	5,050	10,100	571	2,010	316	819	42,400	148,000	96,500	324,000
South:										
South Atlantic	7,110	19,600	81	409	123	882	29,400	140,000	67,400	295,000
East South Central	951	3,090	W	W	W	W	23,900	101,000	42,800	182,000
West South Central	6,360	13,200	W	W	W	W	42,500	186,000	91,700	402,000
West:										
Mountain	10,200	26,000	447	2,880	61	306	60,800	252,000	158,000	670,000
Pacific	10,200	33,800	294	1,480	211	1,300	64,600	318,000	169,000	867,000
Total	63,900	186,000	6,800	27,700	974	4,800	396,000	1,720,000	914,000	4,000,000

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

1/ Data are rounded to three significant digits; may not add to totals shown.

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

TABLE 8
CONSTRUCTION SAND AND GRAVEL PRODUCTION IN THE UNITED STATES IN 1996,
BY REGION AND SIZE OF OPERATION 1/

Size range (metric tons)	Northeast				Midwest				South			
	Number of operations	Percentage of total	Quantity (thousand metric tons)	Percentage of total	Number of operations	Percentage of total	Quantity (thousand metric tons)	Percentage of total	Number of operations	Percentage of total	Quantity (thousand metric tons)	Percentage of total
Less than 25,000	378	37.4	3,060	3.2	523	25.7	5,270	1.8	207	20.3	1,880	0.9
25,000 to 49,999	162	16.0	5,220	5.4	310	15.2	10,200	3.5	126	12.4	4,250	2.1
50,000 to 99,999	166	16.4	11,000	11.3	397	19.5	25,900	9.0	175	17.2	11,200	5.5
100,000 to 199,999	140	13.8	17,800	18.4	319	15.7	41,000	14.2	177	17.4	22,900	11.3
200,000 to 299,999	87	8.6	19,100	19.7	180	8.8	39,300	13.6	106	10.4	23,300	11.6
300,000 to 399,999	28	2.8	8,860	9.1	94	4.6	29,300	10.2	66	6.5	20,000	9.9
400,000 to 499,999	18	1.8	7,330	7.6	57	2.8	22,900	7.9	34	3.3	14,000	7.0
500,000 to 599,999	9	.9	4,590	4.7	52	2.6	25,700	8.9	34	3.3	17,100	8.4
600,000 to 699,999	8	.8	4,520	4.7	31	1.5	18,100	6.3	23	2.3	13,400	6.6
700,000 to 799,999	4	.4	2,750	2.8	23	1.1	15,600	5.4	14	1.4	9,430	4.7
800,000 to 899,999	2	.2	1,540	1.6	16	.8	12,400	4.3	11	1.1	8,330	4.1
900,000 to 999,999	1	.1	898	.9	5	.2	4,290	1.5	10	1.0	8,590	4.3
1,000,000 to 1,499,999	7	.7	7,360	7.6	16	.8	17,400	6.0	28	2.7	30,500	15.1
1,500,000 to 1,999,999	--	--	--	--	9	.4	13,300	4.6	4	.4	6,290	3.1
2,000,000 to 2,499,999	--	--	--	--	3	.1	5,760	2.0	4	.4	8,030	4.0
2,500,000 to 4,999,999	1	.1	2,900	3.0	1	(2/)	2,370	.8	1	.1	2,700	1.3
5,000,000 and more	--	--	--	--	--	--	--	--	--	--	--	--
Total	1,011	97	96,900	100	2,036	100	289,000	100	1,020	100	202,000	100
	West				U.S. total							
Size range (metric tons)	Number of operations	Percentage of total	Quantity (thousand metric tons)	Percentage of total	Number of operations	Percentage of total	Quantity (thousand metric tons)	Percentage of total				
Less than 25,000	364	24.3	3,460	1.1	1,472	26.5	13,700	1.5				
25,000 to 49,999	184	12.3	5,920	1.8	782	14.1	25,600	2.8				
50,000 to 99,999	260	17.4	16,900	5.2	998	17.9	64,900	7.1				
100,000 to 199,999	230	15.4	29,900	9.2	866	15.6	112,000	12.3				
200,000 to 299,999	114	7.6	25,000	7.7	487	8.8	107,000	11.7				
300,000 to 399,999	78	5.2	24,400	7.5	266	4.8	82,600	9.0				
400,000 to 499,999	60	4.0	24,400	7.5	169	3.0	68,700	7.5				
500,000 to 599,999	45	3.0	22,200	6.8	140	2.5	69,600	7.6				
600,000 to 699,999	27	1.8	15,700	4.8	89	1.6	51,700	5.7				
700,000 to 799,999	26	1.7	17,500	5.4	67	1.2	45,400	5.0				
800,000 to 899,999	20	1.3	15,200	4.7	49	.9	37,400	4.1				
900,000 to 999,999	10	.7	8,600	2.6	26	.5	22,400	2.5				
1,000,000 to 1,499,999	47	3.1	50,900	15.6	98	1.8	106,000	11.6				
1,500,000 to 1,999,999	16	1.1	24,600	7.5	29	.5	44,200	4.8				
2,000,000 to 2,499,999	7	.5	14,000	4.3	14	.3	27,800	3.0				
2,500,000 to 4,999,999	6	.4	20,600	6.3	9	.2	28,600	3.1				
5,000,000 and more	1	.1	7,100	2.2	1	(2/)	7,100	0.8				
Total	1,495	98.4	326,000	100	5,562	98	914,000	100				

1/ Data are rounded to three significant digits; may not add to totals shown.

2/ Less than 1/2 unit.

TABLE 9
NUMBER OF CONSTRUCTION SAND AND GRAVEL OPERATIONS AND PROCESSING PLANTS IN THE
UNITED STATES IN 1996, BY GEOGRAPHIC DIVISION

Region/Division	Mining operations on land				Dredging operations	Total active operations
	Stationary	Portable	Stationary and portable	No plants or unspecified		
Northeast:						
New England	186	156	38	37	1	418
Middle Atlantic	196	255	51	52	39	593
Midwest:						
East North Central	377	373	102	101	91	1,044
West North Central	226	427	42	71	226	996
South:						
South Atlantic	129	49	9	69	124	380
East South Central	116	23	10	14	64	227
West South Central	194	48	15	67	89	413
West:						
Mountain	286	441	100	39	18	884
Pacific 1/	293	179	69	38	32	611
Total	2,003	1,951	436	488	684	5,562

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

2/ Hawaii excluded from all sand and gravel statistics.

TABLE 10
NUMBER OF CONSTRUCTION SAND AND GRAVEL OPERATIONS AND PROCESSING PLANTS IN THE
UNITED STATES IN 1996, BY STATE

State	Mining operations on land				Dredging operations	Total active operations
	Stationary	Portable	Stationary and portable	No plants or unspecified		
Alabama	42	10	1	10	23	86
Alaska 1/	5	6	1	3	2	17
Arizona	54	53	28	2	2	139
Arkansas	34	7	4	7	7	59
California	164	67	40	14	17	302
Colorado	53	104	26	10	11	204
Connecticut	26	17	7	2	1	53
Delaware	1	3	--	2	3	9
Florida	16	4	--	4	35	59
Georgia	10	2	--	1	29	42
Idaho	32	73	4	6	1	116
Illinois	42	36	25	11	33	147
Indiana	58	29	17	7	21	132
Iowa	46	58	5	9	31	149
Kansas	15	33	7	16	47	118
Kentucky	11	1	3	--	8	23
Louisiana	18	4	2	3	38	65
Maine	32	59	3	13	--	107
Maryland	21	3	6	14	3	47
Massachusetts	65	15	9	7	--	96
Michigan	95	131	25	43	13	307
Minnesota	74	153	19	19	1	266
Mississippi	34	4	6	4	23	71
Missouri	33	12	1	1	35	82
Montana	41	60	3	6	--	110
Nebraska	24	21	--	5	112	162
Nevada	22	29	10	9	--	70
New Hampshire	21	21	8	3	--	53
New Jersey	23	3	7	4	14	51
New Mexico	32	40	13	2	--	87
New York	110	227	31	41	9	418
North Carolina	26	20	--	30	25	101
North Dakota	13	61	4	1	--	79
Ohio	108	17	22	29	21	197

See footnote at end of table.

TABLE 10--Continued
NUMBER OF CONSTRUCTION SAND AND GRAVEL OPERATIONS AND PROCESSING PLANTS IN THE
UNITED STATES IN 1996, BY STATE

State	Mining operations on land				Dredging operations	Total active operations
	Stationary	Portable	Stationary and portable	No plants or unspecified		
Oklahoma	15	7	1	17	26	66
Oregon	46	28	6	4	4	88
Pennsylvania	63	25	13	7	16	124
Rhode Island	11	--	3	--	--	14
South Carolina	21	5	2	9	15	52
South Dakota	21	89	6	20	--	136
Tennessee	29	8	--	--	10	47
Texas	127	30	8	40	18	223
Utah	41	54	11	2	1	109
Vermont	31	44	8	12	--	95
Virginia	20	12	1	9	13	55
Washington	78	78	22	17	9	204
West Virginia	14	--	--	--	1	15
Wisconsin	74	160	13	11	3	261
Wyoming	11	28	5	2	3	49
Total	2,003	1,951	436	488	684	5,562

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

TABLE 11
CONSTRUCTION SAND AND GRAVEL SOLD OR USED BY PRODUCERS IN THE UNITED STATES
IN 1996, BY REGION AND METHOD OF TRANSPORTATION 1/

(Thousand metric tons)

Region/Division	Truck	Rail	Water	Other	Not transported	Not specified	Total
Northeast:							
New England	17,800	578	--	49	3,620	18,500	40,500
Middle Atlantic	28,900	--	1,550	143	5,360	20,400	56,400
Midwest:							
East North Central	78,400	492	3,200	716	15,100	94,500	192,000
West North Central	38,000	402	4,000	1,010	7,610	45,500	96,500
South:							
South Atlantic	32,300	1,350	193	7	3,960	29,600	67,400
East South Central	14,700	7	1,540	56	2,220	24,300	42,800
West South Central	36,800	5,030	2,020	173	6,140	41,500	91,700
West:							
Mountain	79,600	302	--	207	16,600	61,200	158,000
Pacific 2/	73,400	1,270	4,770	812	22,100	66,200	169,000
Total	400,000	9,440	17,300	3,170	82,700	402,000	914,000

1/ Data are rounded to three significant digits; may not add to totals shown.

2/ Hawaii excluded from all sand and gravel statistics.

TABLE 12
U.S. EXPORTS OF CONSTRUCTION SAND AND GRAVEL IN 1996,
BY COUNTRY 1/

(Thousand metric tons and thousand dollars)

Country or Territory	Sand		Gravel	
	Quantity	F.a.s. value 2/	Quantity	F.a.s. value 2/
North America:				
Bahamas, The	1	144	(3/)	8
British Virgin Islands	--	--	3	36
Canada	251	3,610	312	1,690
Mexico	678	5,540	18	2,090
Netherlands Antilles	(3/)	28	23	489
Trinidad and Tobago	3	157	--	--
Other 4/	3	433	2	63
Total	933	9,910	358	4,380
South America:				
Argentina	5	1,060	1	181
Ecuador	85	1,270	(3/)	5
Peru	4	490	--	--
Venezuela	41	1,510	--	--
Other 5/	4	729	3	268
Total	138	5,060	4	454
Europe:				
Belgium	6	157	--	--
Germany	5	215	3	91
Spain	1	18	--	--
Sweden	(3/)	120	--	--
United Kingdom	15	78	1	89
Other 6/	3	247	(3/)	7
Total	31	834	3	187
Asia:				
Hong Kong	1	33	(3/)	5
Japan	12	401	1	31
Korea, Republic of	2	134	1	42
Philippines	1	14	--	--
Singapore	1	147	--	--
Taiwan	(3/)	61	1	50
Thailand	2	155	--	--
Other 7/	2	884	1	7
Total	20	1,830	3	134
Oceania, other 8/	2	96	(3/)	4
Middle East, other 9/	1	228	(3/)	9
Africa:				
Equatorial Guinea	23	75	--	--
South Africa, Republic of	12	9	--	--
Other 10/	1	101	--	--
Total	36	185	--	--
Grand total	1,160	18,100	368	5,160

1/ Data are rounded to three significant digits; may not add to totals shown.

2/ F.a.s. (free alongside ship) value of material at U.S. port of export; based on transaction price including all charges incurred in placing material alongside ship.

3/ Less than 1/2 unit.

4/ Includes Aruba, Barbados, Bermuda, Cayman Islands, the Dominican Republic, El Salvador, Grenada, Guadeloupe, Guatemala, Haiti, Honduras, Jamaica, Panama, Saint Kitts and Nevis, and Saint Lucia.

5/ Includes Bolivia, Brazil, Chile, Colombia, and Uruguay.

6/ Includes Denmark, France, Ireland, Italy, Netherlands, Norway, Romania, and Switzerland.

7/ Includes China, India, Indonesia, Malaysia, and Pakistan.

8/ Includes Australia and New Zealand.

9/ Includes Israel, Kuwait, Saudi Arabia, the United Arab Emirates, and Yemen.

10/ Includes Algeria and Nigeria.

Source: Bureau of the Census.

TABLE 13
U.S. IMPORTS FOR CONSUMPTION OF CONSTRUCTION SAND AND GRAVEL,
BY COUNTRY 1/

(Thousand metric tons and thousand dollars)

Country or Territory	1995		1996	
	Quantity	C.i.f. value 2/	Quantity	C.i.f. value 2/
Australia	14 r/	1,350	7	1,080
Bahamas, The	189 r/	438	159	410
British Virgin Islands	4	69	1	8
Canada	786 r/	5,590	965	8,100
Dominica	17 r/	242	22	284
France	1	258	1	326
Germany	2 r/	664	(3/)	292
Japan	7 r/	792	2	534
Martinique	21 r/	212	--	--
Mexico	68 r/	651	51	1,260
Netherlands Antilles	(3/)	2	32	401
United Kingdom	1	668	3	882
Other 4/	5 r/	1,020 r/	22	2,250
Total	1,120	12,000	1,260	15,800

r/ Revised.

1/ Data are rounded to three significant digits; may not add to totals shown.

2/ C.i.f. (cost, insurance, 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.

3/ Less than 1/2 unit.

4/ Includes Antigua and Barbuda (1996), Bosnia-Herzegovina (1996), China, the Dominican Republic, India, Macao (1995), Namibia (1996), New Zealand, Singapore (1995), and Venezuela.

Source: Bureau of the Census.

TABLE 14
RECYCLED ASPHALT AND CONCRETE SOLD OR USED BY PRODUCERS IN THE UNITED STATES, BY REGION 1/

Region/Division	Recycled asphalt						Recycled concrete					
	1995			1996			1995			1996		
	Quantity (thousand metric tons)	Value (thousands)	Unit value	Quantity (thousand metric tons)	Value (thousands)	Unit value	Quantity (thousand metric tons)	Value (thousands)	Unit value	Quantity (thousand metric tons)	Value (thousands)	Unit value
Northeast:												
New England	193	\$739	3.83	276	\$1,020	3.69	212	\$768	3.62	165	\$794	4.81
Middle Atlantic	W	W	3.60	21	129	6.14	351	1,520	4.34	362	2,370	6.54
Midwest:												
East North Central	401	1,360	3.38	549	1,750	3.19	592	2,390	4.04	425	1,920	4.52
West North Central	582	1,860	3.20	394	1,260	3.19	1,290	2,790	2.16	1,180	3,140	2.65
South:												
South Atlantic	347	1,850	5.32	542	2,210	4.08	261	1,180	4.51	179	734	4.10
East South Central	224	966	4.31	291	889	3.05	--	--	--	--	--	--
West South Central	W	W	7.36	16	49	3.06	3	15	5.00	28	42	1.50
West:												
Mountain	1,150	5,950	5.17	463	2,010	4.35	383	1,470	3.84	419	1,570	3.76
Pacific 2/	563	3,010	5.35	1,190	4,980	3.85	501	2,120	4.23	1,270	4,530	3.58
Total	3,510	16,000	4.56	3,740	14,300	3.82	3,600	12,300	3.41	4,030	15,100	3.75

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

1/ Data are rounded to three significant digits; may not add to totals shown.

2/ Excludes Hawaii.

TABLE 15
 RECYCLED ASPHALT SOLD OR USED BY SAND AND GRAVEL PRODUCERS IN THE
 UNITED STATES, BY STATE 1/

State	1995			1996		
	Quantity (thousand metric tons)	Value (thousands)	Unit value	Quantity (thousand metric tons)	Value (thousands)	Unit value
Alabama	41	\$262	\$6.39	12	\$50	\$4.17
Alaska	W	W	5.90	W	W	4.35
Arizona	W	W	5.67	80	592	7.40
California	357	1,450	4.06	678	3,040	4.49
Colorado	135	628	4.65	43	174	4.05
Connecticut	24	39	1.63	W	W	7.60
Florida	2	14	7.00	--	--	--
Idaho	163	319	1.96	W	W	1.87
Illinois	W	W	7.50	127	214	1.69
Indiana	--	--	--	28	217	7.75
Iowa	10	33	3.30	10	50	5.00
Kansas	W	W	3.26	72	255	3.54
Louisiana	--	--	--	5	36	7.20
Maine	80	402	5.03	125	608	4.86
Maryland	W	W	3.84	--	--	--
Massachusetts	61	210	3.44	122	280	2.30
Michigan	242	919	3.80	141	584	4.14
Minnesota	487	1,470	3.01	297	868	2.92
Mississippi	177	680	3.84	177	525	2.97
Montana	57	240	4.21	132	425	3.22
Nebraska	--	--	--	5	25	5.00
Nevada	W	W	10.48	--	--	--
New Hampshire	25	76	3.04	21	79	3.76
New Jersey	W	W	3.60	10	46	4.60
New Mexico	200	827	4.14	87	422	4.85
New York	--	--	--	10	72	7.20
North Carolina	238	1,420	5.98	318	1,290	4.05
North Dakota	W	W	5.83	W	W	5.33
Ohio	W	W	1.10	15	82	5.47
Oregon	38	290	7.63	35	399	11.40
Pennsylvania	--	--	--	W	W	6.00
Rhode Island	2	5	2.50	--	--	--
South Carolina	W	W	3.85	224	924	4.13
South Dakota	60	266	4.43	W	W	6.00
Tennessee	5	24	4.80	103	314	3.05
Texas	22	W	W	W	W	1.08
Utah	143	396	2.77	W	W	3.50
Vermont	2	7	3.50	3	13	4.33
Washington	116	965	8.32	381	1,130	2.96
Wisconsin	119	380	3.19	239	656	2.74
Wyoming	W	W	6.62	35	234	6.69
Total	3,510	16,000	4.56	3,740	14,300	3.82

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

1/ Data are rounded to three significant digits; may not add to totals shown.

TABLE 16
 RECYCLED CONCRETE SOLD OR USED BY SAND AND GRAVEL PRODUCERS IN THE
 UNITED STATES, BY STATE 1/

State	1995			1996		
	Quantity (thousand metric tons)	Value (thousands)	Unit value	Quantity (thousand metric tons)	Value (thousands)	Unit value
Alaska	6	\$41	\$6.83	--	--	--
Arizona	--	--	--	9	\$10	\$1.11
California	434	1,790	4.13	1,040	3,710	3.57
Colorado	80	381	4.76	57	273	4.79
Connecticut	68	110	1.62	--	--	--
Idaho	W	W	3.33	W	W	3.00
Illinois	70	489	6.99	124	552	4.45
Indiana	W	W	3.33	W	W	4.04
Iowa	5	26	5.20	69	405	5.87
Kansas	1	2	2.00	2	5	2.50
Maine	--	--	--	11	58	5.27
Maryland	W	W	3.40	92	203	2.21
Massachusetts	132	594	4.50	153	736	4.81
Michigan	361	1,210	3.36	106	513	4.84
Minnesota	1,170	2,320	1.97	1,120	2,730	2.44
Montana	W	W	3.19	W	W	4.61
Nevada	W	W	3.23	W	W	3.32
New Hampshire	W	W	5.60	W	W	2.45
New Jersey	W	W	3.31	W	W	4.00
New Mexico	21	61	2.90	88	393	4.47
New York	234	1,130	4.84	360	2,350	6.54
North Carolina	W	W	7.19	W	W	5.60
North Dakota	W	W	4.00	--	--	--
Ohio	W	W	5.69	W	W	7.73
Oregon	W	W	2.00	65	271	4.17
Pennsylvania	W	W	5.52	W	W	5.50
Rhode Island	2	5	2.50	--	--	--
South Carolina	W	W	8.91	W	W	6.67
South Dakota	111	433	3.90	--	--	--
Texas	W	W	5.00	28	42	1.50
Utah	5	15	3.00	W	W	2.05
Vermont	5	30	6.00	--	--	--
Washington	61	283	4.64	160	547	3.42
Wisconsin	45	117	2.60	59	185	3.14
Wyoming	24	189	7.88	W	W	6.67
Total 2/	3,600	12,300	3.41	4,030	15,100	3.75

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

1/ Excludes Hawaii.

2/ Data are rounded to three significant digits; may not add to totals shown.