STONE, CRUSHED

By Valentin V. Tepordei

Domestic survey data and tables were prepared by Susan M. Copeland and John G. Durand, statistical assistants.

Crushed stone, one of the most accessible natural resources, is a major basic raw material used by construction, agriculture, and other industries that use complex chemical and metallurgical processes. Despite the low value of its basic products, the crushed stone industry is a major contributor to and an indicator of the economic well-being of the Nation.

A total of 1.56 billion metric tons (Gt) of crushed stone was produced for consumption in the United States in 2000, a 30-million-metric-ton (Mt) or 2.0% increase compared with the total production of 1999. This tonnage represents the highest production level ever recorded in the United States, indicating a continued increase in the demand for construction aggregates (table 1).

About 70% of crushed stone production continued to be limestone and dolomite, followed, in descending order of tonnage, by granite, traprock, sandstone and quartzite, miscellaneous stone, marble, slate, calcareous marl, shell, and volcanic cinder and scoria (table 2).

Foreign trade of crushed stone continued to remain small. Exports decreased by 2.4% to 4 Mt, and their value decreased by 3.6% to \$29.7 million compared with that of 1999 (table 25).

Imports of crushed stone, including calcium carbonate, increased by 5.7% to 13 Mt, but the value decreased by 0.5% to \$105 million (table 26). Domestic apparent consumption of crushed stone, which is defined as production for consumption (sold or used) plus imports minus exports, was 1.57 Gt (tables 1, 25, 26).

Legislation and Government Programs

The Aviation Investment and Reform Act for the 21st

Century (Public Law 106-181) was signed by the President on April 5, 2000. The law is a 3-year reauthorization of Federal Aviation Administration (FAA) programs and releases an estimated \$1.9 billion in fiscal year 2000 for the Airport Improvement Program (AIP). In the following 3 years, the AIP funding will increase as follows: to \$3.2 billion in fiscal year 2001, \$3.3 billion in fiscal year 2002, and \$3.4 billion in fiscal year 2003. In addition to the AIP, funds are also included for air traffic control improvements, airport security, noise abatement programs, and environmental streamlining programs. The law restructures and reauthorizes programs of the FAA and ensures that the taxes travelers pay on airline tickets are used to maintain the aviation system as originally intended.

On September 13, 2000, the Mine Safety and Health Administration (MSHA) regulation named "Health Standards for Occupational Noise Exposure—30 CFR Parts 56, 57, 62, 70, and 71" became effective. This final comprehensive rule replaced MSHA's previous standards for occupational noise exposure in coal mines and metal and nonmetal mines. The final rule established uniform requirements to protect the Nation's miners from occupational noise-induced hearing loss. The rule is derived in part from existing MSHA noise standards and from the Department of Labor's existing occupational noise exposure standard for general industry promulgated by the Occupational Safety and Health Administration. As a result of the ongoing review of its safety and health standards, the MSHA determined that its noise standards, which were more than 20 years old, did not adequately protect miners from occupational noise-induced hearing loss.

On October 2, 2000, the MSHA final rule titled "Training and Retraining of Miners Engaged in Shell Dredging or Employed

Crushed Stone in the 20th Century

At the beginning of the 20th century, the production of crushed stone in the United States was relatively small, and the uses of this resource were limited. At that time, records of stone production were kept on the basis of value, without recording the tonnages produced and without making a distinction between crushed and dimension stone. The value of all stone produced in the United States in 1900 was \$43.8 million. In 1916, the U.S. Geological Survey reported for the first time quantities as well as values of domestic crushed stone production—77 million metric tons worth \$50 million. In 1900, stone was used for construction purposes, mainly roads and buildings, for cement and lime manufacturing, for agricultural purposes as a soil treatment agent, and as flux stone in steel manufacturing. Stone production was reported in all 45 States. Leading States, in order of total value of production, were Pennsylvania, Vermont, Ohio, New York, and Maine. Vermont and Maine were among the top 5 States, probably because a significant amount of dimension stone, which was always more valuable than crushed stone, was being produced in those States.

In 2000, a total of 1.56 billion metric tons of crushed stone valued at \$8.4 billion was produced in the United States for consumption, the highest production level ever recorded, indicating a continued increase in the demand for construction aggregates. About 70% of the crushed stone produced was limestone and dolomite, followed, in descending order of tonnage, by granite, traprock, sandstone and quartzite, miscellaneous stone, marble, slate, calcareous marl, shell, and volcanic cinder and scoria. About 84% of the total crushed stone produced by 1,500 companies operating 3,800 active quarries in 49 States was used as construction aggregates, mostly for highway and road construction and maintenance; 13%, for chemical and metallurgical uses, including cement and lime manufacture; 2%, for agricultural uses; and 1%, for special uses and products. Leading States, in order of production, were Texas, Florida, Pennsylvania, Illinois, Georgia, Missouri, Ohio, North Carolina, Virginia, and Tennessee, together accounting for 51% of the total output. Foreign trade in crushed stone was very small throughout the century, compared to the total U.S. production.

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at Sand, Gravel, Surface Stone, Surface Clay, Colloidal Phosphate, or Surface Limestone Mines—30 CFR Parts 46 and 48" became effective. This final rule amends MSHA's existing health and safety training regulations by establishing new training requirements for shell dredging, sand, gravel, surface stone, surface clay, colloidal phosphate, and surface limestone mines. This final rule implements the training requirements of section 115 of the Federal Mine Safety and Health Act of 1997 and provides for effective miner training at the affected mines. At the same time, the final rule allows mine operators the flexibility to tailor their training programs to the specific needs of their miners and operations.

Production

Domestic production data for crushed stone are derived by the U.S. Geological Survey (USGS) from voluntary surveys of U.S. producers. Of the 4,432 crushed stone operations on the mailing list, 3,453 operations with 3,577 quarries owned by 1,367 companies were active. Of the 3,453 active operations, 2,705 operations with 2,791 quarries, representing 78.3% of the total number of active operations, reported to the USGS. Their total production represented 85.3% of the total U.S. crushed stone output. It should be noted that a total of 146 sales yards were active in 2000 in 24 States (table 24). Of the 2,705 reporting operations with 2,791 quarries, 921 operations with 863 guarries and 58 sales yards owned by 139 companies did not report a breakdown by end use. Their production represented 29.6% of the U.S. total and is included in table 13 under "Unspecified, reported" uses. The nonrespondents' production was estimated by using employment data and/or adjusted production reports from prior years. The estimated production from 748 nonresponding operations with 786 quarries owned by 537 companies represented 14.7% of the U.S. total and is included in table 13 under "Unspecified, estimated" uses. Information regarding the number of active operations, active quarries, type of processing plants, and number of sales yards by State is provided in table 24.

A total of 77 underground mines that are included in the total number of active operations produced 48.2 Mt of crushed stone in 2000. Active underground mines were in 15 States. The five leading States, in descending order of tonnage, were Kentucky, Nebraska, Illinois, Iowa, and Indiana. Their production represented 21.7% of the total U.S. crushed stone produced underground.

A total of 933 quarries were either idle or presumed to have been idle in 2000 because no information was available to estimate their production. Since the 1999 survey, 64 operations were closed down. Most of the idle or closed operations were small, temporary quarries, some of them operated by State or local governments. Operations in U.S. territories are not included in the above count.

Of the total 1.56 Gt of crushed stone produced for consumption in the United States in 2000, 1.1 Gt, or 70.4%, was limestone and dolomite; 246 Mt, or 15.8%, was granite; and 114 Mt, or 7.3%, was traprock. The remaining 111 Mt, or 6.5%, was shared, in descending order of quantity, by sandstone and quartzite, miscellaneous stone, marble, calcareous marl, slate, shell, and volcanic cinder and scoria (table 2).

A comparison of the four geographic regions of the United States indicates that, in 2000, the South continued to lead the Nation in the production of crushed stone with 745 Mt, or 47.8% of the total; followed by the Midwest with 444 Mt, or 28.5%; and the Northeast with 207.7 Mt, or 13.3%. About 76%

of the total U.S. crushed stone output was produced in the South and the Midwest (table 3).

Of the nine geographic divisions, as shown in figure 1, the South Atlantic led the Nation in the production of crushed stone with 385 Mt, or 24.7% of the U.S. total. It was followed by the East North Central division with 281 Mt, or 18.0%; and the West South Central division with 191 Mt, or 12.2%.

Crushed stone was produced in every State except Delaware. The 10 leading producing States, in descending order of tonnage, were Texas, Pennsylvania, Florida, Georgia, Illinois, Missouri, Ohio, North Carolina, Virginia, and Tennessee. Their combined production represented 52.2% of the national total.

Leading U.S. producing companies, in descending order of tonnage, were Vulcan Materials Co.; Martin Marietta Aggregates; Hanson Building Materials America; Oldcastle, Inc./Materials Group; CSR America, Inc.; Lafarge Corp.; Rogers Group, Inc.; Florida Rock Industries, Inc.; CEMEX, Inc.; and Oglebay Norton Co.

A review of production by size of operation at the national level indicates that in 2000, 846.6 Mt, or 54.3% of total crushed stone, was produced by 477 operations reporting more than 1 million metric tons per year; 384.6 Mt, or 24.6%, was produced by 588 operations reporting between 500,000 and 999,999 metric tons per year (t/yr); and 325.7 Mt, or 20.9%, was produced by operations reporting less than 500,000 t/yr (table 7).

In 2000, consolidation in the aggregates industry continued but at a slower pace. Most of the acquisitions were made by the major producers of aggregates, most of which were publicly owned. These companies tried to expand their base of operations in new areas of the country or acquired operations or companies with significant amounts of reserves. Stricter environmental and permitting regulations make it more difficult to start a new operation than to acquire an existing one. Some of the acquired companies continue to operate as semi-independent organizations but with the benefit of financial and managerial support provided by the larger new owner.

Effective January 1, 2000, Seattle-based Lone Star Northwest changed its name to Glacier Northwest because the company is no longer part of Lone Star Industries, Inc., and did not own the rights to use the Lone Star name (Rock Products, 2000a).

In January, Vulcan Materials Co. of Birmingham, AL, announced the purchase of Garves W. Yates & Sons Co. located in Abilene, TX. The purchase included six quarry sites and four portable aggregates plants. Kiewit Materials Co. of Omaha, NE, acquired Solano Concrete Co., Inc. The company operates a quarry and an aggregates producing plant located in northern California (Rock Products, 2000j).

Also in January, Aggregates Industries, Inc., announced that all its U.S. divisions will now be operating under the Aggregates Industries name. The name change symbolizes the evolution of Aggregates Industries into a unified U.S. company. The divisions affected by the name change include: U.S. Bardon Trimount of Saugus, MA; Bardon Mid-Atlantic of Greenbelt, MD; CAMAS Colorado of Denver, CO; CAMAS Minnesota of Minneapolis, MN; CAMAS Minndak of Fargo, ND; and Bill Smith Sand and Gravel Co. of Otsego, MI. The name change will also be applied to all Aggregates Industries operating businesses in the United Kingdom (Rock Products, 2000b).

In February, Oldcastle Materials Group of Washington, DC, announced the acquisition of The Shelly Co. of Thornville, OH, which operates 3 quarries and 10 sand and gravel pits and supplies markets in southern Ohio and in West Virginia.

Shelly's aggregates reserves are estimated to be more than 200 Mt (Rock Products, 2000c). Martin Marietta Materials, Inc., of Raleigh, NC, announced the acquisition of the Pernry Stone Co., which operates a limestone quarry north of Columbus, OH, and another limestone quarry at Philippi, WV (Rock Products, 2000h). Aggregates Industries, Inc., of Bethesda, MD, acquired Holst Excavating Co., which operates five limestone quarries and two sand and gravel pits southeast of Minneapolis/St. Paul, MN. Permitted reserves of Holst Excavating Co. are estimated to be more than 200 Mt (Rock Products, 2000a).

On February 14, Graniterock Co. of Watsonville, CA, celebrated its 100th year in business as a family-owned crushed stone producer. In 1993, Graniterock received the Baldridge Award that was created by the U.S. Congress to raise awareness about quality management practices. For the 3 consecutive years between 1997 and 1999, Graniterock Co. was named by Fortune Magazine one of the 100 best companies to work for (Rock Products 2000e).

In June, CSR America of West Palm Beach, FL, announced the acquisition of American Limestone Co. and of Florida Crushed Stone Co. These two acquisitions increased CSR America's production capacity by about 50%, as well as its aggregates reserves (Rock Products, 2000d).

In July, Martin Marietta Materials, Inc., announced that it acquired from A.B. Long Quarries a limestone quarry located near Knoxville, TN, and also signed a long-term contract to process aggregates and assume all responsibility for an operation at Chemical Lime Co.'s New Braunfels, TX, facility. The company also announced that it purchased the Texarkana Asphalt operation, which has a rail-served aggregates distribution yard in Texarkana, TX, and a rail-distribution yard near Wilmington, NC (Rock Products, 2000i). Lafarge Corp. of Hearndon, VA, announced the purchase from Presque Isle Corp. of a limestone quarry located in Presque Isle, MI, about 20 miles (about 34 kilometers) north of Alpena on the shore of Lake Huron, where Lafarge already operates a large quarry and a cement manufacturing plant (Rock Products, 2000f).

In August, Titan Cement S.A. agreed to purchase Tarmac-America, Inc., and subsequently sold all Tarmac America's non-Florida aggregates operations to Vulcan Materials. These operations included four quarries in South Carolina, the Hanover Quarry in Pennsylvania, three quarries and three sand and gravel pits in Virginia, and distribution and marine operations in Maryland and Virginia (Rock Products, 2000k).

U.S. Aggregates announced that it expanded the distribution of aggregates products with a startup of a major sales yard in Memphis, TN, three new yards in Mississippi, and two new yards in the Florida panhandle (Rock Products, 2000l).

In September, Martin Marietta Materials, Inc., announced that under the terms of the October 1998 investment agreement between the two companies, it would buy the remaining part of Meridian Aggregates Co. that it did not already own (Pit & Quarry, 2000b).

In October, CEMEX S.A. de C.V. and Southdown announced that the two companies entered into a definitive merger agreement under which CEMEX would acquire all of the outstanding stock of Southdown. Later that month, it was announced that the merger was completed successfully (Pit & Quarry, 2000a). Global Stone Corp. of Roswell, GA, a wholly owned subsidiary of Oglebay Norton Co., has acquired the assets of the J.M. Huber Corp. limestone processing facility located near Portage, IN. The facility will be known as Global Stone Portage LLC and will use high-quality limestone from their Michigan limestone quarries (Pit & Quarry, 2000c).

After receiving approval votes from most of their member companies, effective September 30, 2000, the National Aggregates Association and the National Stone Association merged to form the National Stone, Sand & Gravel Association. The new association will be the sole organization representing the crushed stone and sand and gravel producing companies at the national level.

Limestone.—The 2000 output of crushed limestone, including some dolomite, increased by 2.6% to 998 Mt valued at \$5.0 billion compared with the revised 1999 totals (table 2).

Limestone was produced by 767 companies at 1,965 operations with 1,955 quarries in 47 States. In addition, 38 companies with 50 operations and 52 quarries reported producing limestone and dolomite from the same quarries. Their production of 35.4 Mt is included with the limestone listed in table 2. The limestone totals listed in this chapter, therefore, include an undetermined amount of dolomite in addition to the dolomite reported separately.

The leading producing States, in descending order of tonnage, were Texas, Florida, Missouri, Ohio, and Pennsylvania; these five States accounted for 40% of the total U.S. output (table 8). The leading producers of limestone, in descending order of tonnage, were Martin Marietta Aggregates, Inc.; Vulcan Materials Co; Hanson Building Materials America; Lafarge Corp.; and CSR America.

Dolomite.—Production of dolomite decreased by 1.9% to 101 Mt valued at \$533 million compared with the revised 1999 totals (table 2). Crushed dolomite was reportedly produced by 96 companies at 174 operations with 191 quarries in 29 States. An additional undetermined amount of dolomite is included in the total crushed limestone, as explained above.

The leading producing States, in descending order of tonnage, were Illinois, Pennsylvania, Indiana, Ohio, and New York; these five States accounted for 57.1% of the total U.S. output (table 8). The leading producers, in descending order of tonnage, were Oldcastle, Inc./Materials Group; General Dynamics Group; S.E. Johnson Companies, Inc.; Vulcan Materials Co.; and Hanson Building Materials America.

Marble.—Production of crushed marble increased by 6.8% to 11 Mt valued at \$64.8 million, compared with the revised figure for 1999 (table 2). Crushed marble was produced by 14 companies with 23 operations and 28 quarries in 11 States (table 9). The leading producers of crushed marble, in descending order of tonnage, were Imerys Marble, Inc.; Florida Rock Industries, Inc.; Pluess Staufer, Inc.; Geogia Marble Stone Corp.; and Vulcan Materials Co.

Calcareous Marl.—Output of marl increased by 3.9% to 3.7 Mt valued at \$16.6 million, compared with the 1999 totals (table 2). Marl was produced by seven companies with seven operations and seven quarries in five States (table 9). The leading producers, in descending order of tonnage, were Holderbank/Holman, Inc.; Capitol Aggregates LTD; and Giant Group Ltd.

Shell.—Shell is derived mainly from fossil reefs or oyster shell banks. The output of crushed shell decreased by 1.7% to 1.8 Mt valued at \$8.6 million compared with the revised 1999 totals (table 2). Crushed shell was produced by 11 companies with 11 operations in 7 States. The leading producers, in descending order of tonnage, were Caloosa Shell Corp.; Schroeder Manatee, Inc.; and F&W Mines, Inc.

Granite.—The output of crushed granite increased by only 0.8% to 246 Mt valued at \$1.6 billion, compared with the revised 1999 totals (table 2). Crushed granite was produced by 139 companies at 375 operations with 369 quarries and 6 sales

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vards in 34 States.

The leading States, in descending order of tonnage, were Georgia, North Carolina, Virginia, South Carolina, and California; these five States accounted for 72.5% of the U.S. output (table 10). The leading producers, in descending order of tonnage, were Vulcan Materials Co., Martin Marietta Aggregates, Hanson Building Materials America, Meridian Aggregates Co., and Florida Rock Industries, Inc.

Traprock.—Production of crushed traprock increased by 1.8% to 114 Mt valued at \$724 million, compared with the revised 1999 total (table 2). Traprock was produced by 226 companies at 349 operations with 445 quarries in 24 States.

The leading producing States, in descending order of tonnage, were Oregon, New Jersey, Virginia, Washington, and California; these five States accounted for 61.1% of U.S. output (table 10). Leading producers, in descending order of tonnage, were Oldcastle, Inc./Materials Group; Vulcan Materials Co.; Luck Stone Corp.; Stavola, Inc.; and Eucon Co.

Sandstone and Quartzite.—The combined output of crushed sandstone and quartzite increased by 4.8% to 43.6 Mt, valued at \$255 million compared with the revised 1999 totals (table 2). Crushed sandstone was produced by 118 companies at 153 operations with 151 quarries in 24 States, and crushed quartzite was produced by 37 companies at 45 operations with 49 quarries in 17 States.

The leading producing States, in descending order of tonnage of sandstone and quartzite, were Pennsylvania, Arkansas, California, Oklahoma, and South Dakota; their combined production accounted for 56.6% of the U.S. output (table 10). The leading producers of sandstone, in descending order of tonnage, were Lafarge Corp.; Ashland Oil, Inc./APAC, Inc.; and Martin Marietta Aggregates. The leading producers of quartzite were Martin Marietta Aggregates; County Line Quarry, Inc.; and Salem Stone Corp.

Slate.—The output of crushed slate decreased by 18.3% to 2.8 Mt valued at \$19.1 million compared with the revised 1999 totals (table 2). Crushed slate was produced by 13 companies at 14 operations with 18 quarries in 10 States.

Most of the crushed slate was produced in North Carolina. The leading producers, in descending order of tonnage, were Martin Marietta Aggregates; McCartney Construction Co., Inc., and NAPA Development Corp., Inc.

Volcanic Cinder and Scoria.—Production of volcanic cinder and scoria decreased by 14.6% to 1.8 Mt valued at \$13.2 million compared with the 1999 totals (table 2). Volcanic cinder and scoria were produced by 22 companies from 38 operations with 39 quarries in 12 States.

The leading producing States, in descending order of tonnage, were California, Washington, and Texas (table 11). Leading producers, in descending order of tonnage, were Martin Marietta Aggregates; Peter Kiewit Sons', Inc.; and Bishop Red Rock, Inc.

Miscellaneous Stone.—Output of other kinds of crushed stone decreased by 0.6% to 32.5 Mt valued at \$191 million compared with the revised 1999 totals (table 2). Miscellaneous stone was produced by 124 companies at 250 operations with 265 quarries in 28 States.

The leading producing States, in descending order of tonnage, were Pennsylvania, California, and Texas; their combined production accounted for 41.1% of the total U.S. output. Leading producers, in descending order of tonnage, were the U.S. Department of Agriculture's Forest Service; the U.S. Department of the Interior's Bureau of Land Management; U.S. Silica Co.; Aggregates Industries, Inc.; and RMC Group.

Consumption

Crushed stone production reported to the USGS is actually material that was either sold or used by producers. Production that was stockpiled is not included in the reported quantities. The "sold or used" tonnage, therefore, represents the amount of production released for domestic consumption or export in a given year. Because some of the crushed stone producers did not report a breakdown by end use, their total production is included in "Unspecified, reported" use. The estimated production of nonrespondents is included in the "Unspecified, estimated" use.

In 2000, U.S. consumption of crushed stone was 1.56 Gt, a 2.0% increase compared with the revised consumption of 1999. This total is slightly different from the "apparent consumption" of crushed stone that is defined as "U.S. production plus imports minus exports." Of the 1.56 Gt of crushed stone consumed, 691 Mt, or 44.3% of the total, was "Unspecified, reported and estimated" uses. Of the remaining 869 Mt, reported by uses, about 82.3% was used as construction aggregates, mostly for highway and road construction and maintenance; 14.6%, for chemical and metallurgical uses, including cement and lime manufacture; 1.5%, for agricultural uses; and 0.7%, for special uses and products (table 13). To provide a more accurate estimation of the consumption patterns for crushed stone, the "Unspecified" uses are not included in the above percentages. In any use pattern study or marketing analysis, the quantities included in the "Unspecified" uses should be distributed among the reported uses by applying the above percentages to the total of the "Unspecified" uses.

Limestone.—Of the 998 Mt of crushed limestone consumed, 445 Mt, or 44.6%, was in "Unspecified, reported and estimated" uses. Of the remaining 553 Mt of crushed limestone, reported by uses, 75.8% was used as construction aggregates; 21.5%, for chemical and metallurgical applications including cement and lime manufacturing; 2%, for agricultural uses; and 0.8%, for special uses and products (table 14).

Dolomite.—Of the 101 Mt of crushed dolomite consumed, 45.1 Mt, or 44.7%, was in "Unspecified, reported and estimated" uses. Of the remaining 55.9 Mt of crushed dolomite, reported by uses, 91.2% was used as construction aggregates; 3.9%, for chemical and metallurgical applications; and 3.8%, for agricultural uses. An additional undefined amount of dolomite consumed in a variety of uses, mostly construction aggregates, is reported with the limestone (table 14).

Marble.—Of the 11 Mt of crushed marble consumed, 9.2 Mt, or 83.7%, was reported as "Unspecified, reported and estimated" uses. The remaining 1.8 Mt of crushed marble, reported by uses, was used as construction aggregates and for special and miscellaneous uses, including fillers and extenders (table 16).

Calcareous Marl.—Of the 3.7 Mt of crushed calcareous marl consumed, 3.6 Mt, or 97.3%, was used for cement manufacturing.

Shell.—Of the 1.8 Mt of crushed shell consumed, 199,000 metric tons (t), or 11%, was reported as "Unspecified, reported and estimated" uses. Most of the remaining 1.78 Mt was used as construction aggregates.

Granite.—Of the 246 Mt of crushed granite consumed, 99 Mt, or 40.2%, was reported as "Unspecified, reported and estimated" uses. Of the remaining 147 Mt, most was used as construction aggregates (table 17).

Traprock.—Of the 114 Mt of crushed traprock consumed, 55.1 Mt, or 48.3%, was reported as "Unspecified, reported and

estimated" uses. Of the remaining 58.9 Mt, most was used as construction aggregates (table 17).

Sandstone and Quartzite.—Of the 33 Mt of crushed sandstone consumed, 16 Mt, or 48.5%, was reported as "Unspecified, reported and estimated" uses. Of the remaining 17 Mt of crushed sandstone reported by uses, 15.4 Mt, or 90.6%, was used as construction aggregates (table 18).

Of the 10.6 Mt of crushed quartzite consumed, 3.7 Mt, or 34.9%, was reported as "Unspecified, reported and estimated" uses. Of the remaining 6.9 Mt of crushed quartzite, reported by uses, 5.7 Mt, or 83.3%, was used as construction aggregates (table 18).

Volcanic Cinder and Scoria.—Of the 1.8 Mt of volcanic cinder and scoria consumed, 677,000 t, or 38.5%, was reported as "Unspecified, reported and estimated" uses. Most of the remaining 1.1 Mt of crushed volcanic cinder and scoria was used as construction aggregates (table 19).

Miscellaneous Stone.—Of the 35.3 Mt of miscellaneous crushed stone consumed, 22.2 Mt, or 62.9%, was reported as "Unspecified, reported and estimated" uses. Of the remaining 13.1 Mt reported by uses, 12 Mt, or 91.9%, was used as construction aggregates.

Additional information regarding production and consumption of crushed stone by type of rock and major uses in each State and the State districts may be found in the USGS Minerals Yearbook, volume II, Area Reports: Domestic.

Recycling

As the recycling of most waste materials increases, aggregates producers are recycling more cement concrete and asphalt concrete materials recovered from construction projects to produce concrete aggregates and asphalt aggregates. The annual survey of crushed stone producers now collects information on recycling of cement and asphalt concretes produced by the crushed stone producers only. Information on recycling of these materials by construction or demolition companies is not collected by the USGS.

Asphalt Concrete.—A total of 1.3 Mt of asphalt concrete valued at \$7.3 million was recycled by 56 companies in 23 States. This volume represents a 12.4% decrease compared with that of 1999 (tables 20, 21). The leading recycling States, in descending order of tonnage, were California, Wisconsin, and Pennsylvania. The leading recycling companies, in descending order of tonnage produced, were Holmes Construction Co., Inc.; Raisch Products; and Stone Industries, Inc.

Cement Concrete.—A total of 2.3 Mt of cement concrete valued at \$13.9 million was recycled by 51 companies in 25 States. This tonnage represents a 34.1% increase compared with that of 1999 (tables 20-22). The leading recycling States, in descending order of tonnage, were Illinois, California, New Jersey, and Florida. The leading companies, in descending order of tonnage produced, were Vulcan Materials Co.; Stone Industries, Inc.; and Dolomite Products.

Prices

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

The average unit price per ton of crushed stone increased

slightly by 0.6% to \$5.39 compared with that of 1999. The average unit prices, by kind of stone, increased between 0.7% for limestone and 18.8% for volcanic cinder and scoria and decreased by 0.4% for calcareous marl (table 2).

Transportation

For 722 Mt, or 46.3%, of the 1.56 Gt of crushed stone produced for consumption in 2000, no means of transportation was reported by the producers. Of the remaining 838 Mt of crushed stone, 639 Mt, or 76.3%, was reported as being transported by truck from the processing plant or quarry to the first point of sale or use; 56.7 Mt, or 6.8%, by rail; and 38.6 Mt, or 4.6%, by waterway. About 9% of the specified production was reported as not having been transported and, therefore, is assumed to have been used onsite. Information regarding means of transportation used by the producers to ship crushed stone in each geographic region is provided in table 23.

Foreign Trade

The widespread distribution of domestic deposits of stone suitable for mining as crushed stone and the high cost of transportation limits foreign trade to mostly local transactions across international boundaries. U.S. imports and exports are small, representing less than 1% of domestic consumption. Shipments of crushed stone by water from Canada and especially Mexico, however, continue to increase.

Exports.—Exports of crushed stone decreased by 2.4% to 4 Mt compared with those of 1999, and the value decreased by 3.6% to \$29.7 million. About 97% of the exported crushed stone was limestone for cement manufacturing. Canada was the major destination with 99.7% of the total crushed stone (table 25).

Imports.—Imports of crushed stone, including calcium carbonate fines, increased by 5.7% to 13 Mt compared with those of 1999, and the value decreased by 0.9% to \$105 million. About 88% of the imported crushed stone was limestone. Imports of natural calcium carbonate fines remained unchanged from the previous year at 1,000 t, while the value increased by 111% to \$698,000 (table 26).

Shipments of crushed stone from The Bahamas, Canada, and Mexico into the United States continued in 2000. The imported crushed stone was used mostly as construction aggregates or for cement manufacturing. This trend is expected to continue, and the volume of imports, especially from Mexico, is expected to increase.

Outlook

The demand for crushed stone in 2001 is expected to be about 1.6 Gt, a 2.5% increase compared with 2000. Gradual increases in demand for construction aggregates are anticipated after 2000 as well, based on the expected volume of work on the infrastructure that will be financed by the new Transportation Equity Act for the 21st Century, the Aviation Investment and Reform Act for the 21st Century, and the U.S. economy in general. The projected increases will be influenced by the construction activity in the public and private construction sectors, as well as by the new construction work related to security measures being implemented around the Nation. Crushed stone f.o.b. prices are not expected to increase significantly. The delivered prices of crushed stone, however, are expected to increase, especially in and near metropolitan

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areas, mainly because more aggregates are transported from distant sources.

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- ——2000h, Martin Marietta adds 3.3 million capacity: Rock Products, v. 103, no. 3, March, p. 8.
- ——2000i, Martin Marietta expands in Tennessee, North Carolina, and Texas: Rock Products, v. 103, no. 8, August, p. 7.
- ——2000j, Vulcan adds to Texas reserves: Rock Products, v. 103, no. 2, February, p. 8.
- ——2000k, Tarmac America sold to Titan Cement and Vulcan Materials: Rock Products, v. 103, no. 9, September, p. 5.
- ——2000l, U. S. Aggregates expands distribution in the Southwest: Rock Products, v. 103, no. 9, September, p. 5.

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TABLE 1 SALIENT CRUSHED STONE STATISTICS 1/

(Thousand metric tons and thousand dollars)

	1996	1997	1998	1999	2000
Sold or used by producers: 2/					
Quantity	1,330,000	1,410,000	1,510,000	1,530,000 r/	1,560,000
Value	7,180,000	7,970,000	8,130,000	8,180,000 r/	8,390,000
Exports, value	36,300	42,700	41,500	30,800	29,700
Imports, value 3/	91,800	106,000	116,000	106,000	105,000

r/ Revised.

- 1/ Data are rounded to no more than three significant digits.
- 2/ Does not include American Samoa, Guam, Puerto Rico, and the U.S. Virgin Islands.
- 3/ Excludes precipitated calcium carbonate.

 ${\rm TABLE~2}$ CRUSHED STONE SOLD OR USED IN THE UNITED STATES, BY KIND 1/2/

		1999				200	00	
		Quantity				Quantity		
	Number	(thousand	Value	Unit	Number	(thousand	Value	Unit
Kind	of quarries	metric tons)	(thousands)	value	of quarries	metric tons)	(thousands)	value
Limestone 3/	2,083 r/	973,000 r/	\$4,820,000 r/	\$4.95 r/	2,007	998,000	\$4,980,000	\$4.99
Dolomite	189 r/	103,000 r/	531,000 r/	5.13 r/	191	101,000	533,000	5.27
Marble	40 r/	10,300 r/	138,000 r/	13.36 r/	28	11,000	64,800	5.90
Calcareous marl	8	3,580	16,000	4.46	7	3,720	16,600	4.45
Shell	12 r/	1,780 r/	8,250 r/	4.63 r/	11	1,750	8,620	4.93
Granite	402	244,000 r/	1,510,000	6.18 r/	369	246,000	1,580,000	6.41
Traprock	490 r/	112,000 r/	706,000 r/	6.30 r/	445	114,000	724,000	6.35
Sandstone and quartzite 4/	203 r/	41,600 r/	238,000 r/	5.72 r/	200	43,600	255,000	5.85
Slate	19 r/	3,450 r/	22,800 r/	6.60 r/	18	2,820	19,100	6.75
Volcanic cinder and scoria	39 r/	2,060	13,000 r/	6.32 r/	39	1,760	13,200	7.51
Miscellaneous stone	252 r/	32,700 r/	179,000 r/	5.48 r/	265	32,500	191,000	5.88
Total	XX	1,530,000 r/	8,180,000 r/	5.35	XX	1,560,000	8,390,000	5.39

r/ Revised. XX Not applicable.

- 1/ Data are rounded to no more than three significant digits, except unit value; may not add to totals shown.
- 2/ Does not include American Samoa, Guam, Puerto Rico, and the U.S. Virgin Islands.
- 3/ Includes limestone-dolomite reported with no distinction between the two.
- 4/ Includes sandstone-quartzite.

TABLE 3 CRUSHED STONE SOLD OR USED IN THE UNITED STATES, BY REGION 1/ 2/

	199	9	20	000
Region/division	Quantity	Value r/	Quantity	Value
Northeast:				
New England	34,200 r/	224,000	35,700	237,000
Middle Atlantic	162,000 r/	911,000	172,000	994,000
Midwest:				
East North Central	284,000 r/	1,260,000	281,000	1,260,000
West North Central	163,000 r/	799,000	163,000	857,000
South:				
South Atlantic	368,000 r/	2,170,000	385,000	2,280,000
East South Central	174,000 r/	1,060,000	169,000	991,000
West South Central	177,000	755,000	191,000	822,000
West:				
Mountain	56,100 r/	293,000	53,700	285,000
Pacific	110,000 r/	706,000	106,578	659,185
Total	1,530,000 r/	8,180,000	1,560,000	8,390,000
/ D · 1				

r/ Revised.

- 1/ Data are rounded to no more than three significant digits; may not add to totals shown.
- 2/ Does not include American Samoa, Guam, Puerto Rico, and the U.S. Virgin Islands.

 ${\it TABLE~4}$ CRUSHED STONE SOLD OR USED BY PRODUCERS IN THE UNITED STATES IN 2000, BY QUARTER AND DIVISION 1/ 2/

	Quantity		Quantity		Quantity		Quantity			
	1st quarter		2d quarter		3d quarter		4th quarter		Total 3/	
	(thousand	Percentage	(thousand	Percentage	(thousand	Percentage	(thousand	Percentage	(thousand	Value 3/
Region/division	metric tons)	change 4/	metric tons)	(thousands)						
Northeast:										
New England	3,300	9.3	10,800	3.1	12,200	5.3	9,500	1.4	35,900	\$241,000
Middle Atlantic	21,700	6.4	46,900	(2.0)	53,400	(0.9)	40,700	(1.9)	163,000	937,000
Midwest:										
East North Central	38,100	9.2	82,400	1.3	93,100	2.7	75,400	(5.2)	289,000	1,310,000
West North Central	30,300	10.3	47,900	10.2	48,800	(5.3)	33,200	(23.2)	160,000	809,000
South:										
South Atlantic	81,500	6.1	102,000	5.0	100,000	2.4	91,600	(0.9)	375,000	2,260,000
East South Central	35,100	9.6	45,000	(4.7)	47,600	(6.4)	40,200	(10.1)	168,000	1,070,000
West South Central	46,100	8.9	49,500	10.8	52,600	12.6	43,700	3.4	192,000	831,000
West:										
Mountain	12,100	1.8	15,700	5.4	14,700	(10.2)	11,700	(11.6)	54,200	295,000
Pacific 5/	20,500	(0.5)	27,200	1.7	30,400	7.9	27,500	(2.3)	106,000	673,000
Total 3/	289,000	7.1	428,000	3.3	453,000	1.2	374,000	(5.3)	1,560,000 6/	8,550,000 6/

- 1/ As published in the "Crushed Stone and Sand and Gravel in the Fourth Quarter of 2000" chapter of the Mineral Industry Surveys.
- 2/ Quarterly totals shown are estimates based on a sample survey. Estimated quantities for prior quarters have been recalculated.
- 3/ Data may not add to totals shown because of independent rounding and differences between projected totals by States and regions.
- 4/ All percentage changes are calculated by using unrounded totals. Percentage changes are based on the corresponding quarter of the previous year.
- 5/ Does not include Alaska and Hawaii.
- 6/ Includes Alaska, Hawaii, and "Other;" see table 6.

TABLE 5 CRUSHED STONE SOLD OR USED BY PRODUCERS IN THE UNITED STATES, BY STATE 1/ 2/

		1999			2000	
	Quantity			Quantity		
	(thousand	Value	Unit	(thousand	Value	Unit
State	metric tons)	(thousands)	value	metric tons)	(thousands)	value
Alabama	49,100 r/	\$354,000 r/	\$7.22 r/	49,100	\$300,000	\$6.11
Alaska 3/	1,800 4/5/6/	9,900 4/5/6/	5.51	1,400	7,110	5.08
Arizona	8,970 r/	53,900 r/	6.01 r/	8,030	48,200	6.01
Arkansas	30,700	145,000	4.73	28,300	137,000	4.84
California	59,400 r/	384,000 r/	6.46 r/	59,700	373,000	6.26
Colorado	13,200	75,500	5.71	13,000	81,900	6.31
Connecticut	7,170	57,400	8.01	7,740	65,300	8.44
Florida	91,700 r/	466,000 r/	5.08	93,000	495,000	5.33
Georgia	74,200 7/	448,000 7/	6.03	76,500 7/	452,000 7/	5.91
Hawaii	5,870	55,500	9.45	5,770	58,100	10.08
Idaho	4,090 r/	18,500 r/	4.52 r/	3,500	14,800	4.21
Illinois	76,900 r/ 8/	388,000 r/8/	5.05	76,000 8/	394,000 8/	5.19
Indiana	58,800 r/	270,000 r/	4.59	55,400	253,000	4.57
Iowa	40,200 r/	203,000 r/	5.05 r/	40,200	209,000	5.20
Kansas	23,700 r/	116,000	4.92	23,300	113,000	4.85
Kentucky	59,800 r/	308,000 r/	5.14 r/	55,600	296,000	5.33
Louisiana 9/	W 8/10/	W 8/10/	W	W 8/10/	W 8/10/	W
Maine	3,550 r/	21,200 r/	5.98	3,650	21,100	5.78
Maryland	22,600 r/6/7/11/	121,000 6/7/11/	5.36 r/	24,500 6/7/11/	137,000 6/7/11/	5.61
Massachusetts	11,600	89,900	7.73	13,400	103,000	7.69
Michigan	41,200 r/ 12/ 13/	140,000 r/ 12/ 13/	3.40 r/	42,200 12/13/	148,000 12/13/	3.52
Minnesota	13,100 r/	62,700 r/	4.80 r/	12,400	68,100	5.50
Mississippi 9/	1,760 12/	15,900 12/	9.00	2,530 12/	23,700 12/	9.37
Missouri	72,600 r/	346,000 r/	4.77 r/	75,500	399,000	5.28
Montana	3,480 r/	13,400 r/	3.86 r/	3,070	12,600	4.12
Nebraska	7,090	44,500	6.28	6,590	42,400	6.43
Nevada	7,090	37,900	5.34	7,640	37,300	4.88
New Hampshire	4,290 8/	19,700 8/	4.59	3,740 8/	15,700 8/	4.19
New Jersey	24,500	160,000	6.54	24,900	170,000	6.82
New Mexico	3,710 r/	22,200	5.98	3,690	22,400	6.07
New York	46,200 r/	266,000 r/	5.75	48,800	304,000	6.22
North Carolina	67,000	459,000	6.85	69,500	478,000	6.88

TABLE 5--Continued CRUSHED STONE SOLD OR USED BY PRODUCERS IN THE UNITED STATES, BY STATE 1/2/

		1999			2000		
	Quantity			Quantity			
	(thousand	Value	Unit	(thousand	Value	Ţ	Unit
State	metric tons)	(thousands)	value	metric tons)	(thousands)	v	value
North Dakota	W 10/13/14/	W 10/ 13/ 14/	W	W	10/ 13/ 14/ W	10/ 13/ 14/	W
Ohio	73,200	\$328,000	\$4.47	73,600	\$327,000		\$4.44
Oklahoma	36,200 r/	145,000	4.00	39,300	168,000		4.28
Oregon	23,300 r/	111,000 r/	4.75 r/	20,800	98,900		4.75
Pennsylvania	91,300 r/	485,000 r/	5.31 r/	97,900	520,000		5.32
Rhode Island	2,070	12,200	5.90	1,860	10,600		5.69
South Carolina	28,600 r/	189,000 r/	6.62 r/	29,400	189,000		6.42
South Dakota	6,020	26,500	4.40	5,460	25,500		4.67
Tennessee	63,100	382,000	6.05	62,100	371,000		5.97
Texas	108,000 r/	447,000 r/	4.13	121,000	496,000		4.10
Utah	8,550 r/	44,400 r/	5.19 r/	8,520	42,100		4.94
Vermont	5,400	22,800	4.23	5,210	21,500		4.12
Virginia	66,400	389,000	5.86	68,800	424,000		6.16
Washington	19,300 r/	146,000	7.55 r/	18,900	122,000		6.43
West Virginia	12,500 r/ 15/	56,500 r/ 15/	4.54 r/	12,100	15/ 52,800	15/	4.38
Wisconsin	33,800 r/	135,000 r/	3.98	33,700	137,000		4.07
Wyoming	6,970	27,600	3.96	6,250	26,100		4.18
Other	7,420 r/	59,900 r/	8.07 r/	13,700	74,600		5.43
Total	1,530,000 r/	8,180,000 r/	5.35	1,560,000	8,390,000		5.39

- r/ Revised. W Withheld to avoid disclosing company proprietary data; included with "Other."
- 1/ Data are rounded to no more than three significant digits; may not add to totals shown.
- 2/ To avoid disclosing company proprietary data, certain State totals do not include all kinds of stone produced within the State; the portion not shown has been included with "Other."
- 3/ Data derived, in part, from Alaska Division of Geological and Geophysical Surveys information.
- 4/ Excludes limestone-dolomite.
- 5/ Excludes slate.
- 6/ Excludes shell.
- 7/ Excludes marble.
- 8/ Excludes sandstone.
- 9/ A significant amount of sold or used material was shipped in from other States.
- 10/ Excludes limestone.
- 11/ Excludes traprock.
- 12/ Excludes calcareous marl.
- 13/ Excludes miscellaneous stone.
- 14/ Excludes volcanic cinder and scoria.
- 15/ Excludes dolomite.

TABLE 6 CRUSHED STONE SOLD OR USED BY PRODUCERS IN THE UNITED STATES IN 2000, BY QUARTER AND STATE 1/ 2/

	Quantity,		Quantity,		Quantity,		Quantity,		Tota	al 3/
	1st quarter		2d quarter		3d quarter		4th quarter		Quantity	
	(thousand	Percentage	(thousand	Percentage	(thousand	Percentage	(thousand	Percentage	(thousand	Value
State	metric tons)	change 4/	metric tons)	(thousands)						
Alabama	12,100	12.1	13,200	4.1	13,400	(2.4)	11,100	(8.6)	49,800	\$370,000
Alaska 5/6/									1,800	10,200
Arizona 7/									9,160	56,300
Arkansas	6,800	9.0	7,800	(2.3)	9,400	8.5	7,300	(6.6)	31,300	152,000
California	11,800	5.7	15,900	3.9	17,500	4.5	16,600	(2.5)	61,900	409,000
Colorado	2,800	1.3	4,400	15.4	3,700	(1.0)	2,700	(3.5)	13,700	80,100
Connecticut	500	37.0	2,400	(10.5)	2,600	4.0	2,200	36.2	7,700	63,200
Delaware 5/										
Florida 6/	23,000	1.0	26,200	13.5	24,200	6.1	23,400	(0.7)	96,900	505,000
Georgia 6/	18,100	8.0	20,000	2.4	19,200	(4.7)	17,300	(2.0)	74,700	462,000
Hawaii 5/									6,000	58,100
Idaho 6/	800	1.9	800	(8.6)	1,000	(29.9)	1,100	(3.1)	3,710	17,100
Illinois	11,200	12.8	21,000	1.0	24,100	1.5	19,300	(13.5)	75,500	391,000
Indiana 6/	9,100	8.1	16,400	(1.8)	19,400	1.5	14,700	(4.0)	59,600	280,000
Iowa	5,900	16.1	12,800	5.8	13,200	(6.2)	8,700	(19.4)	40,700	210,000
Kansas	5,200	0.0	6,400	10.6	6,500	1.2	4,100	(33.5)	22,200	112,000

TABLE 6--Continued CRUSHED STONE SOLD OR USED BY PRODUCERS IN THE UNITED STATES IN 2000, BY QUARTER AND STATE 1/2/2

	Quantity,		Quantity,		Quantity,		Quantity,			al 3/
	1st quarter	D 4	2d quarter	D 4	3d quarter	D 4	4th quarter	D (Quantity (thousand	Value
State	(thousand metric tons)	Percentage change 4/	metric tons)							
Kentucky 6/	10,600	(4.0)	14,800	(10.1)	15,500	(13.5)	13,400	(11.4)	54,200	(thousands) \$286,000
Louisiana 6/7/		(4.0)		` /				` /	· · · · · · · · · · · · · · · · · · ·	\$280,000
Maine	500	(5.8)	1,300	3.7	1,400	1.0	900	2.8	4,040	24,800
Maryland 6/	4,200	18.7	6,800	12.9	6,900	10.1	6,100	(4.6)	24,000	134,000
Massachusetts 6/	1,300	14.7	3,600	5.2	4,100	8.4	3,200	(3.8)	12,100	96,100
Michigan 6/	3,400	8.7	13,600	3.2 4.6	13,500	0.2	11,600	(10.0)	42,100	148,000
	900	24.8	4,100	10.3	4,500			` /		61,500
Minnesota Mississippi 6/7/	900	24.8	4,100	10.3	4,500	(15.1)	2,800	(24.8)	12,200 3,850	35,600
Missouri						(4.4)				
	16,100	12.0	21,100	18.8	20,700	(4.4)	15,200	(22.5)	73,100	357,000
Montana 7/	1 400	(1.2)	1 000	(2.2)	1 200	(0.5)	1.600	(7.7)	2,810	11,200
Nebraska	1,400	(1.2)	1,900	(3.2)	1,800	(8.5)	1,600	(7.7)	6,710	43,100
Nevada	1,800	57.9	2,300	22.1	2,200	0.2	2,200	16.5	8,480	46,400
New Hampshire 6/	300	(8.1)	1,300	10.6	1,500	3.5	1,200	(7.8)	4,330	20,400
New Jersey	3,600	(0.2)	6,400	(8.3)	7,800	10.4	6,600	(3.9)	24,400	164,000
New Mexico 6/	700	(16.9)	700	(46.6)	700	(30.3)	600	17.7	2,760	16,900
New York	4,100	13.9	13,700	(1.7)	17,400	(3.2)	11,900	6.7	47,200	278,000
North Carolina	14,200	4.2	18,800	2.7	19,100	5.5	17,300	2.3	69,400	487,000
North Dakota 5/										
Ohio	10,700	7.1	22,700	6.1	25,000	11.3	20,000	3.6	78,400	360,000
Oklahoma 6/	8,200	(10.2)	9,700	4.3	9,900	7.8	7,700	(10.9)	35,600	146,000
Oregon	4,000	6.1	6,800	7.4	7,300	3.6	6,300	(3.5)	24,500	119,000
Pennsylvania	13,800	6.1	26,700	(0.7)	28,500	(2.1)	22,300	(5.0)	91,300	495,000
Rhode Island 5/									2,070	12,500
South Carolina	6,800	4.2	7,900	2.0	7,100	(9.0)	6,500	(8.5)	28,300	191,000
South Dakota	900	35.2	1,700	(9.1)	2,000	0.1	1,000	(29.7)	5,660	25,500
Tennessee	11,600	18.3	16,300	(7.7)	17,900	(4.3)	15,200	(10.3)	61,000	379,000
Texas	31,500	16.7	32,000	16.7	33,400	15.4	28,900	12.7	126,000	533,000
Utah	1,700	1.9	2,100	0.5	2,400	(12.2)	2,000	(17.4)	8,080	42,600
Vermont 7/									5,610	24,300
Virginia	12,900	7.2	18,500	(0.7)	19,600	9.6	18,200	1.7	69,100	416,000
Washington	4,800	(22.6)	4,400	(15.7)	5,600	37.9	4,100	1.2	18,900	145,000
West Virginia 6/	2,300	27.6	4,200	9.8	3,900	(8.6)	3,200	0.4	13,500	62,400
Wisconsin	3,300	7.0	8,200	(12.3)	11,000	(9.7)	10,400	4.9	32,900	135,000
Wyoming	1,600	(9.1)	1,900	11.0	1,500	(19.0)	900	(40.0)	6,020	24,400
Other									8,000	55,800
Total	XX	XX	XX	XX	XX	XX	XX	XX	1,560,000	8,550,000
VV Not applicable		·-		·-		·-			, , - * *	-,,

XX Not applicable. -- Zero.

^{1/} As published in the "Crushed Stone and Sand and Gravel in the Fourth Quarter of 2000" chapter of the Mineral Industry Surveys.

^{2/} Quarterly totals shown are estimates based on a sample survey. Estimated quantities for prior quarters have been recalculated.

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

^{4/} All percentage changes are calculated by using unrounded totals. Percentage changes are based on the corresponding quarter of the previous year.

^{5/} State not included in quarterly survey.

^{6/} To avoid disclosing proprietary data, some State totals do not include all types of stone produced within the State; portion not shown has been included with "Other."

^{7/} Owing to the low number of companies, no production estimates by quarter were generated.

 ${\it TABLE~7}$ CRUSHED STONE SOLD OR USED IN THE UNITED STATES IN 2000, BY REGION AND SIZE OF OPERATION 1/

		Nor	theast			Mi	dwest			Se	outh	
			Quantity				Quantity				Quantity	
Size range	Number of	Percentage	(thousand	Percentage	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	operations	of total	metric tons)	of total
Less than 25,000	46	10.2	385	0.2	167	15.0	1,590	0.4	80	6.9	616	0.1
25,000 to 49,999	18	4.0	630	0.3	98	8.8	3,310	0.7	50	4.3	1,720	0.2
50,000 to 99,999	38	8.4	2,630	1.3	157	14.1	10,700	2.4	99	8.6	6,710	0.9
100,000 to 199,999	65	14.4	9,010	4.4	149	13.3	19,900	4.5	146	12.6	19,800	2.7
200,000 to 299,999	48	10.7	11,000	5.3	107	9.6	23,900	5.4	99	8.6	22,200	3.0
300,000 to 399,999	47	10.4	14,900	7.2	79	7.1	25,200	5.7	95	8.2	30,100	4.0
400,000 to 499,999	33	7.3	13,600	6.6	50	4.5	20,100	4.5	84	7.3	34,500	4.6
500,000 to 599,999	22	4.9	10,900	5.3	52	4.7	26,200	5.9	60	5.2	30,000	4.0
600,000 to 699,999	21	4.7	12,500	6.0	51	4.6	29,700	6.7	56	4.8	33,200	4.5
700,000 to 799,999	16	3.6	10,900	5.3	35	3.1	23,700	5.3	46	4.0	31,300	4.2
800,000 to 899,999	19	4.2	14,900	7.2	30	2.7	23,100	5.2	45	3.9	34,600	4.6
900,000 to 999,999	13	2.9	11,200	5.4	21	1.9	18,300	4.1	44	3.8	38,000	5.1
1,000,000 to 1,499,999	40	8.9	43,800	21.2	59	5.3	63,200	14.2	129	11.1	145,000	19.5
1,500,000 to 1,999,999	13	2.9	20,400	9.9	35	3.1	56,500	12.7	54	4.7	83,900	11.3
2,000,000 to 2,499,999	4	0.9	7,910	3.8	7	0.6	13,500	3.0	23	2.0	47,300	6.3
2,500,000 to 4,999,999	7	1.6	22,700	11.0	13	1.2	41,900	9.4	35	3.0	105,000	14.1
5,000,000 or more					7	0.6	43,600	9.8	12	1.0	81,400	10.9
Total	450	100.0	207,000	100.0	1,117	100.0	444,000	100.0	1,157	100.0	745,000	100.0

10111	450	100.0	207,000	100.0	1,117	100.0	777,000	100.0
		V	Vest			U.S	. total	
			Quantity				Quantity	
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	244	33.5	1,390	0.9	537	15.6	3,980	0.3
25,000 to 49,999	82	11.2	2,690	1.7	248	7.2	8,350	0.5
50,000 to 99,999	111	15.2	7,370	4.6	405	11.7	27,400	1.8
100,000 to 199,999	99	13.6	12,700	7.9	459	13.3	61,400	3.9
200,000 to 299,999	44	6.0	9,970	6.2	298	8.6	67,100	4.3
300,000 to 399,999	30	4.1	9,660	6.0	251	7.3	79,900	5.1
400,000 to 499,999	23	3.2	9,460	5.9	190	5.5	77,600	5.0
500,000 to 599,999	22	3.0	10,900	6.8	156	4.5	78,000	5.0
600,000 to 699,999	8	1.1	4,620	2.9	136	3.9	80,000	5.1
700,000 to 799,999	12	1.6	8,110	5.1	109	3.2	74,000	4.7
800,000 to 899,999	5	0.7	3,880	2.4	99	2.9	76,400	4.9
900,000 to 999,999	10	1.4	8,730	5.5	88	2.5	76,200	4.9
1,000,000 to 1,499,999	21	2.9	23,400	14.6	249	7.2	275,000	17.6
1,500,000 to 1,999,999	6	0.8	10,100	6.3	108	3.1	171,000	11.0
2,000,000 to 2,499,999	2	0.3	3,960	2.5	36	1.0	72,600	4.7
2,500,000 to 4,999,999	10	1.4	33,300	20.8	65	1.9	203,000	13.0
5,000,000 or more					19	0.6	125,000	8.0
Total	729	100.0	160,000	100.0	3,453	100.0	1,560,000	100.0

⁻⁻ Zero.

^{1/} Data are rounded to no more than three significant digits, except "number of operations;" may not add to totals shown.

TABLE 8 CRUSHED LIMESTONE AND DOLOMITE SOLD OR USED BY PRODUCERS IN THE UNITED STATES IN 2000, BY STATE 1/

	Limest	tone	Dolomite		
State	Quantity	Value	Quantity	Value	
Alabama	39,500	237,000	W	W	
Arizona	4,280	21,700			
Arkansas	8,660	37,800	W	W	
California	29,200	149,000	256	2,060	
Colorado	3,050	17,600	W	W	
Connecticut	W	W	W	W	
Florida	89,200 2/	472,000 2/	2,280	15,900	
Georgia	8,890	54,200	W	W	
Hawaii	248	2,150			
Idaho	607	1,920			
Illinois	58,600 2/	307,000 2/	17,400	87,600	
Indiana	44,300 2/	205,000 2/	11,000	47,800	
Iowa	40,100 2/	209,000 2/	W	W	
Kansas	22,600 2/	110,000 2/			
Kentucky	54,000	291,000	W	W	
Louisiana 3/	W	W			
Maine	1,300	7,260			
Maryland	18,400 2/	93,400 2/			
Massachusetts	W	W	W	W	
Michigan	34,400 2/	118,000 2/	7,770	30,300	
Minnesota	6,400	30,300	W	W	
Mississippi 3/	2,530	23,700			
Missouri	70,200 2/	337,000 2/	3,880	18,700	
Montana	2,300	9,650	5,000	10,700	
Nebraska	6,590	42,400			
Nevada	4,800	18,900	W	W	
New Jersey	569	7,210			
New Mexico	2,200	9,320			
New York	29,500 2/	165,000 2/	8,380	60,800	
North Carolina	25,300 2/ W	W	325	2,170	
North Dakota	W	W	323	2,170	
Ohio	64,000 2/	284,000 2/	9,130	40,300	
Oklahoma	31,200	134,000	9,130 W	40,500 W	
Oregon	31,200 W	134,000 W		vv	
Pennsylvania	60,300 2/	319,000 2/	11,800	63,800	
Rhode Island	00,300 2/ W	319,000 2/ W	11,800	03,800	
South Carolina	W	W			
South Dakota		12,600			
Tennessee	2,980 57,300	341,000	W	W	
	,	,		W	
Texas	115,000 2/	468,000 2/	W		
Utah	4,840 2/	23,600 2/	W W	W W	
Vermont	2,210	8,780		• • •	
Virginia	21,300 2/	118,000 2/	3,850	23,300	
Washington	2,040 2/	29,300 2/	W	W	
West Virginia	10,900	47,000	W	W	
Wisconsin	27,000 2/	111,000 2/	1,780	7,300	
Wyoming	2,130 2/	9,840 2/			
Other	14,300 2/	98,700 2/	23,400	133,000	
Total	998,000	4,980,000	101,000	533,000	

W Withheld to avoid disclosing company proprietary data; included with "Other." -- Zero.

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

^{2/} Includes limestone-dolomite reported with no distinction between the two kinds of stone.

^{3/} A significant amount of sold or used material was shipped in from other States.

TABLE 9 CRUSHED CALCAREOUS MARL AND MARBLE SOLD OR USED BY PRODUCERS IN THE UNITED STATES IN 2000, BY STATE 1/

	Calcareou	ıs marl	Marble		
State	Quantity	Value	Quantity	Value	
Alabama			W	W	
California			18	127	
Pennsylvania			W	W	
Oregon	100	338			
Vermont			W	W	
Other	3,620 2/	16,200 2/	11,000 3/	64,600 3/	
Total	3,720	16,600	11,000	64,800	

- W Withheld to avoid disclosing company propreitary data, included in "Other." -- Zero.
- 1/ Data are rounded to no more than three significant digits; may not add to totals shown.
- 2/ Includes data for Michigan, Mississippi, South Carolina, and Texas.
- 3/ Includes data for Arizona, Georgia, Maryland, New York, South Carolina, Texas, and Wyoming.

TABLE 10 CRUSHED GRANITE, TRAPROCK, AND SANDSTONE AND QUARTZITE SOLD OR USED BY PRODUCERS IN THE UNITED STATES IN 2000, BY STATE 1/

(Thousand metric tons and thousand dollars)

	Grar	nite	Trapi	ock	Sandstone and quatzite 2/	
State	Quantity	Value	Quantity	Value	Quantity	Value
Alabama	W	W			2,310	15,500
Alaska 3/	W	W	W	W		
Arizona	1,870	14,400	208	2,400	W	W
Arkansas	10,200	53,400			7,270	35,100
California	10,400	75,100	10,800	79,000	3,400	29,300
Colorado	4,450	33,100	W	W	W	W
Connecticut	324	2,460	5,810	41,400		
Georgia	66,100	388,000			W	W
Hawaii			5,010	51,300		
Idaho	240	975	1,990	8,960	W	W
Illinois					W	W
Kansas					W	W
Louisiana 4/					W	W
Maine	1,320	7,150	46	409	W	W
Maryland	4,070	28,600	W	W	W	W
Massachusetts	5,210	37,500	6,700	48,600		
Michigan	´	·	·	·	12	195
Minnesota	W	W			W	W
Missouri	W	W	W	W		
Montana	— 161	620	W	W	W	W
Nevada	W	W	93	419		
New Hampshire	1,820	7,200	W	W	W	W
New Jersey	10,000	59,700	14,200	102,000		
New Mexico	W	W			W	W
New York	W	W	W	W	1,550	10,700
North Carolina	53,200	365,000	5,330	39,600	W	W
Ohio					W	W
Oklahoma	W	W			2,510	14,400
Oregon	W	W	17,500	82,800		
Pennsylvania	4,700	24,300	4,630	23,400	9,130	49,600
Rhode Island	1,370	7,730	W	W		
South Carolina	22,000	147,000				
South Dakota	W	W			2,350	12,400
Tennessee	W	W			W	W
Texas	W	W	W	W	1,080	6,110
Utah					767	5,680
Vermont	268	1,930			W	W
Virginia	26,700	183,000	13,900	85,000	1,950	8,590
Washington	2,000	10,900	13,200	71,000	W	W
West Virginia	·		·	·	1,210	5,810

TABLE 10--Continued

CRUSHED GRANITE, TRAPROCK, AND SANDSTONE AND QUARTZITE SOLD OR USED BY PRODUCERS IN THE UNITED STATES IN 2000, BY STATE 1/

(Thousand metric tons and thousand dollars)

	Gra	nite	Traprock Sandstone ar		and quatzite 2/	
State	Quantity	Value	Quantity	Value	Quantity	Value
Wisconsin	1,800	6,800	W	W	W	W
Wyoming	W	W				
Other	18,100	123,000	14,500	87,300	10,100	61,700
Total	246,000	1,580,000	114,000	724,000	43,600	255,000

- W Withheld to avoid disclosing company proprietary data; included with "Other." -- Zero.
- 1/ Data are rounded to no more than three significant digits; may not add to totals shown.
- 2/ Includes sandstone-quartzite.
- 3/ Data derived, in part, from Alaska Division of Geological and Geophysical Surveys information.
- 4/ A significant amount of sold or used material was shipped in from other States.

TABLE 11
CRUSHED VOLCANIC CINDER AND SCORIA AND CRUSHED MISCELLANEOUS STONE SOLD OR USED BY PRODUCERS IN THE UNITED STATES IN 2000, BY STATE 1/

	Volcanic cind	ler and scoria	Miscellaneous stone 2/		
State	Quantity	Value	Quantity	Value	
Alabama			W	W	
Alaska 3/			W	W	
Arizona	113	464	1,530	8,990	
Arkansas			611	3,140	
California	185	2,000	5,400	36,100	
Colorado	W	W	2,080	12,800	
Connecticut			1	5	
Hawaii			W	W	
Idaho			156	773	
Indiana			W	W	
Maine			488	3,240	
Maryland			1,840	14,300	
Massachusetts			446	3,540	
Michigan			W	W	
Montana			59	229	
Nevada	W	W	W	W	
New Jersey			W	W	
New Mexico	W	W	637	3,830	
New York			898	5,050	
North Carolina	W	W	3,800	23,800	
North Dakota	W	W	W	W	
Oklahoma			W	W	
Oregon	W	W	1,680	7,730	
Pennsylvania			6,700	35,800	
Texas	W	W	2,400	10,400	
Utah	W	W	527	4,110	
Vermont			W	W	
Virginia			1,050	6,250	
Washington	165	980	576	2,520	
Wyoming	W	W	788	3,040	
Other	1,300	9,770	3,620	24,100	
Total	1,760	13,200	35,300	210,000	

W Withheld to avoid disclosing company proprietary data; included with "Other." -- Zero.

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

^{2/} Includes slate.

^{3/} Data derived, in part, from Alaska Division of Geological and Geophysical Surveys information.

 ${\it TABLE~12} \\ {\it KIND~OF~CRUSHED~STONE~PRODUCED~AND/OR~DISTRIBUTED~IN~THE~UNITED~STATES~IN~2000,~BY~STATE} \\$

	Lime-	Dolo-		Calcareous			Trap-	Sand-			Volcanic cinder	
State	stone	mite	Marble	marl	Shell	Granite	rock	stone	Quartzite	Slate	and scoria	neous
Alabama	X	X	X			X		X		X		X
Alaska 1/						X	X					X
Arizona	X		X			X	X	X			X	X
Arkansas	X	X				X		X	X			X
California	X	X	X		X	X	X	X	X	X	X	X
Colorado	X	X				X	X	X	X		X	X
Connecticut	X	X				X	X					X
Florida	X	X			X							
Georgia	X	X	X			X			X			X
Hawaii	X						X					X
Idaho	X				X	X	X		X			X
Illinois	X	X						X				X
Indiana	X	X								X		
Iowa	X	X										
Kansas	X							X	X			X
Kentucky	X	X										
Louisiana	X							X				X
Maine	X					X	X		X	X		X
Maryland	X		X		X	X	X	X				X
Massachusetts	X	X				X	X					X
Michigan	X	X		X				X				X
Minnesota	X	X				X			X			
Mississippi	X			X								
Missouri	X	X				X	X					
Montana	X					X	X	X	X			X
Nebraska	X											
Nevada	X	X				X	X				X	X
New Hampshire						X	X	X				
New Jersey	X					X	X					X
New Mexico	X					X	21	X			X	X
New York	X	X	X			X	X	X		X	Λ	X
North Carolina	X	X	Λ			X	X	Λ	X	X	X	X
North Dakota	X	Λ				Λ	Λ		Λ	Λ	X	X
Ohio	X	X						X			Λ	Λ
Oklahoma	X	X			X	X		X				X
	X	Λ		X	X	X	v	Λ			X	
Oregon	X	X	v	Λ	Λ	X	X	X	X	v	Λ	X
Pennsylvania		Λ	X					Λ	Α	X		Α
Rhode Island	X		37	37		X	X					
South Carolina	X		X	X		X						
South Dakota	X					X			X			
Tennessee	X	X				X		X				
Texas	X	X	X	X	X	X	X	X	X		X	X
Utah	X	X						X	X		X	X
Vermont	X	X	X			X			X	X		
Virginia	X	X				X	X	X	X	X		X
Washington	X	X				X	X	X		X	X	X
West Virginia	X	X						X				
Wisconsin	X	X				X	X	X	X			
Wyoming	X		X			X					X	X

^{1/} Data derived, in part, from Alaska Division of Geological and Geophysical Surveys information.

TABLE 13 CRUSHED STONE SOLD OR USED BY PRODUCERS IN THE UNITED STATES IN 2000, BY USE $1 \slash$

	Quantity (thousand	Value (the august de)	Unit
Use Construction:	metric tons)	(thousands)	value
Coarse aggregate (+1½ inch):	-		
Macadam	8,130	\$46,200	\$5.68
	17,100	125,000	7.33
Riprap and jetty stone Filter stone	6,140	41,100	6.70
	11,100	61,500	5.51
Other coarse aggregate	- 11,100	01,300	3.31
Coarse aggregate, graded:	- 02.000	612,000	6.58
Concrete aggregate, coarse	93,000 75,000	612,000 518,000	6.90
Bituminous aggregate, coarse Bituminous surface-treatment aggregate	- ′		
Railroad ballast	15,600	107,000	6.87
	10,800	59,500	5.50
Other graded coarse agggregate	79,600	482,000	6.06
Fine aggregate (-3/8 inch):	- 21 000	124.000	C 10
Stone sand, concrete	21,900	134,000	6.10
Stone sand, bituminous mix or seal	16,200	97,700	6.01
Screening, undesignated	22,100	117,000	5.28
Other fine aggregate	31,300	159,000	5.08
Coarse and fine aggregates:	-		
Graded road base or subbase	136,000	689,000	5.06
Unpaved road surfacing	22,500	109,000	4.86
Terrazzo and exposed aggregate	1,660	16,400	9.89
Crusher run or fill or waste	35,100	171,000	4.86
Roofing granules	5,730	75,800	13.22
Other coarse and fine aggregates	92,800	461,000	4.97
Other construction materials 2/	13,400	81,100	6.06
Agricultural:	-		
Agricultural limestone	10,900	61,900	5.68
Poultry grit and mineral food	1,380	11,600	8.46
Other agricultural uses	1,010	8,450	8.35
Chemical and metallurgical:	=		
Cement manufacture	102,000	408,000	4.01
Lime manufacture	18,300	110,000	6.01
Dead-burned dolomite manufacture	658	3,200	4.87
Flux stone	4,010	19,600	4.87
Chemical stone	W	W	4.89
Glass manufacture	W	W	18.74
Sulfur oxide removal	2,250	10,200	4.54
Special:			
Mine dusting or acid water treatment	211	3,960	18.79
Asphalt fillers or extenders	1,450	13,200	9.10
Whiting or whiting substitute	1,030	22,200	21.51
Other fillers or extenders	2,990	43,700	14.63
Other miscellaneous uses:	=		
Abrasives	W	W	3.59
Flour (slate)	W	W	49.60
Sugar refining	W	W	12.97
Other specified uses not listed	2,250	12,600	5.60
Unspecified: 3/	- *	*	
Reported	461,000	2,340,000	5.08
Estimated	230,000	1,100,000	4.94
Total	1,560,000	8,390,000	5.39

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

^{1/} Data are rounded to no more than three significant digits, except unit values; may not add to totals shown.

^{2/} Includes acid neutralization, building products, drain fields, lightweight aggregate (slate), pipe bedding, and refractory stone. 3/ Reported and estimated production without a breakdown by end use.

TABLE 14 CRUSHED LIMESTONE AND DOLOMITE SOLD OR USED BY PRODUCERS IN THE UNITED STATES IN 2000, BY USE

Riprap and jetty stone		Limes	tone 2/	Dolomite		
Coarse aggregate (+1½ inch): Macadam 3,080 17,500 366 2,200 Riprap and jetty stone 10,400 64,000 755 5,30 Filter stone 3,480 19,900 139 88 Other coarse aggregate 7,200 39,700 238 1,600 Coarse aggregate, coarse 54,300 321,000 7,790 51,800 Bituminous aggregate, coarse 54,300 321,000 7,790 51,800 Bituminous surface-treatment aggregate 7,890 45,700 2,060 13,500 Railroad ballast 1,420 7,530 423 2,340 Other garded coarse aggregate 54,400 314,000 2,120 14,500 Fine aggregate (-3½ inch): 12,000 71,000 1,700 12,400 Stone sand, concrete 12,900 71,000 1,700 12,400 Stone sand, bituminous mix or seal 8,690 50,400 951 6,070 Szreening, undesignated 12,000 60,700 1,270 7,360 Coarse and fine aggregate 21,800 106,000 995 5,600 Coarse and fine aggregate 732 4,670 31 220 Crusher run or fill or waste 19,500 84,600 1,300 6,670 Other for coarse and fine aggregates 49,900 239,000 11,500 49,400 Roofing granules 352 2,750 W W W W W W W W W	Use	Quantity	Value	Quantity	Value	
Macadam	Construction:	•				
Macadam	Coarse aggregate (+1½ inch):					
Filter stone 3,480 19,900 139 88 Other coarse aggregate 7,200 39,700 238 1,60 Coarse aggregate, graded:	Macadam	3,080	17,500	366	2,200	
Other coarse aggregate		10,400	64,000	755	5,300	
Coarse aggregate, graded: Concrete aggregate, coarse	Filter stone	3,480	19,900	139	882	
Concrete aggregate, coarse 54,300 321,000 7,790 51,800 Bituminous surface-treatment aggregate 7,890 45,700 2,060 13,500 Railroad ballast 1,420 7,530 423 2,344 Other graded coarse aggregate 54,400 314,000 2,120 14,500 Fine aggregate (-3/8 inch): Stone sand, concrete 12,900 71,000 1,700 12,400 Stone sand, concrete 12,900 71,000 1,700 12,400 Stone sand, bituminous mix or seal 8,690 50,400 951 6,070 6,0700 1,270 7,366 Other fine aggregate 21,800 106,000 995 5,960 Other fine aggregates: Graded road base or subbase 84,900 399,000 11,500 58,800 Unpaved road surfacing 16,200 80,000 2,690 11,300 Terrazzo and exposed aggregate 732 4,670 31 22 22 22 22 23,800 23,900 11,200 49,400 Roofing granules 352 2,750 W W W W W W W W W	Other coarse aggregate	7,200	39,700	238	1,600	
Bituminous aggregate, coarse 44,100 284,000 4,960 32,10 Bituminous surface-treatment aggregate 7,890 45,700 2,060 13,50 Railroad ballast 1,420 7,530 423 2,344 Other graded coarse aggregate 54,400 314,000 2,120 14,500 Fine aggregate (-3/8 inch): 12,900 71,000 1,700 12,40 Stone sand, obituminous mix or seal 8,690 50,400 951 6,07 Screening, undesignated 12,000 60,700 1,270 7,36 Other fine aggregate 21,800 106,000 955 5,96 Coarse and fine aggregates: 34,900 399,000 11,500 58,80 Unpaved road surfacing 16,200 80,000 2,690 11,300 Terrazzo and exposed aggregate 732 4,670 31 22 Crusher run or fill or waste 19,500 84,600 1,300 6,67 Other coarse and fine aggregates 49,900 239,000 11,200 49,40	Coarse aggregate, graded:					
Bituminous aggregate, coarse 44,100 284,000 4,960 32,10 Bituminous surface-treatment aggregate 7,890 45,700 2,060 13,50 Railroad ballast 1,420 7,530 423 2,344 Other graded coarse aggregate 54,400 314,000 2,120 14,500 Fine aggregate (-3/8 inch): 12,900 71,000 1,700 12,40 Stone sand, bituminous mix or seal 8,690 50,400 951 6,07 Screening, undesignated 12,000 60,700 1,270 7,36 Other fine aggregate 21,800 106,000 955 5,96 Coarse and fine aggregates: 34,900 399,000 11,500 58,80 Unpaved road surfacing 16,200 80,000 2,690 11,300 Terrazzo and exposed aggregate 732 4,670 31 22 Crusher run or fill or waste 19,500 84,600 1,300 6,67 Other coarse and fine aggregates 49,900 239,000 11,200 49,40		54,300	321,000	7,790	51,800	
Bituminous surface-treatment aggregate 7,890 45,700 2,060 13,50 Railroad ballast 1,420 7,530 423 2,34 Other graded coarse aggregate 54,400 314,000 2,120 14,50 Fine aggregate (-3/8 inch): 12,900 71,000 1,700 12,40 Stone sand, concrete 12,900 60,700 1,270 7,36 Stone sand, bituminous mix or seal 8,690 50,400 951 6,67 Screening, undesignated 12,000 60,700 1,270 7,36 Other fine aggregate 21,800 106,000 955 5,96 Carse and fine aggregates: 84,900 399,000 11,500 58,80 Unpaved road surfacing 16,200 80,000 2,690 11,30 Terrazzo and exposed aggregate 732 4,670 31 222 Cusher run or fill or waste 19,500 84,600 1,30 6,67 Other coarse and fine aggregates 49,900 239,000 11,200 49,40		44,100	284,000	4,960	32,100	
Railroad ballast		7,890			13,500	
Other graded coarse aggregate 54,400 314,000 2,120 14,500 Fine aggregate (-3/8 inch): 314,000 2,120 14,500 Stone sand, concrete 12,900 71,000 1,700 12,400 Stone sand, bituminous mix or seal 8,690 50,400 951 6,070 Screening, undesignated 12,000 60,700 1,270 7,36 Other fine aggregate 21,800 106,000 995 5,96 Coarse and fine aggregates: 56,700 30,000 299 5,96 Coarse and fine aggregates: 84,900 399,000 11,500 58,80 Unpaved road surfacing 16,200 80,000 2,690 11,30 Terrazzo and exposed aggregate 732 4,670 31 222 Crusher run or fill or waste 19,500 84,600 1,300 6,67 Other coarse and fine aggregates 49,900 239,000 11,200 49,40 Roofing granules 352 2,750 W W Other agricultural imestone <td>Railroad ballast</td> <td></td> <td></td> <td></td> <td>2,340</td>	Railroad ballast				2,340	
Fine aggregate (-3/8 inch): Stone sand, concrete	Other graded coarse aggregate			2.120	14,500	
Stone sand, concrete 12,900 71,000 1,700 12,40 Stone sand, bituminous mix or seal 8,690 50,400 951 6,07 Screening, undesignated 12,000 60,700 1,270 7,36 Other fine aggregate 21,800 106,000 995 5,96 Coarse and fine aggregates: 84,900 399,000 11,500 58,80 Unpaved road surfacing 16,200 80,000 2,690 11,300 Terrazzo and exposed aggregate 732 4,670 31 22 Crusher run or fill or waste 19,500 84,600 1,300 6,67 Other coarse and fine aggregates 49,900 239,000 11,200 49,40 Roofing granules 352 2,750 W W Quericultural: 8,790 28,100 2,110 13,800 Agricultural limestone 8,790 48,100 2,110 13,800 Poultry grit and mineral food 1,330 11,000 Other agricultural uses			,	,	,	
Stone sand, bituminous mix or seal 8,690 50,400 951 6,070 Screening, undesignated 12,000 60,700 1,270 7,360 Other fine aggregate 21,800 106,000 995 5,961 Coarse and fine aggregates: Graded road base or subbase 84,900 399,000 11,500 58,80 Unpaved road surfacing 16,200 80,000 2,690 11,300 Terrazzo and exposed aggregate 732 46,700 31 22 Crusher run or fill or waste 19,500 84,600 1,300 6,67 Other coarse and fine aggregates 49,900 239,000 11,200 49,40 Roofing granules 352 2,750 W W Other coarse and fine aggregates 49,900 239,000 11,200 49,40 Roofing granules 352 2,750 W W Other coarse and fine aggregates 89,900 <td></td> <td>12.900</td> <td>71.000</td> <td>1.700</td> <td>12,400</td>		12.900	71.000	1.700	12,400	
Screening, undesignated 12,000 60,700 1,270 7,360 Other fine aggregate 21,800 106,000 995 5,96 Coarse and fine aggregates: 21,800 399,000 11,500 58,800 Unpaved road surfacing 16,200 80,000 2,690 11,300 Terrazzo and exposed aggregate 732 4,670 31 22 Crusher run or fill or waste 19,500 84,600 1,300 6,670 Other coarse and fine aggregates 49,900 239,000 11,200 49,400 Roofing granules 352 2,750 W W Other construction materials 3/ 6,150 33,500 474 2,910 Agricultural: Agricultural limestone 8,790 48,100 2,110 13,800 Poultry grit and mineral food 1,330 11,000 Other agricultural uses 896 7,580 34 33 Chemical and metallurgical: Cement manufacture 96,900 383,000			,		6,070	
Other fine aggregate 21,800 106,000 995 5,96t Coarse and fine aggregates: 6 84,900 399,000 11,500 58,80t Unpaved road base or subbase 84,900 399,000 2,690 11,300 Unpaved road surfacing 16,200 80,000 2,690 11,300 Terrazzo and exposed aggregate 732 4,670 31 22c Crusher run or fill or waste 19,500 84,600 1,300 6,676 Other coarse and fine aggregates 49,900 239,000 11,200 49,40 Roofing granules 352 2,750 W W Other construction materials 3/ 6,150 33,500 474 2,91t Agricultural: Agricultural limestone 8,790 48,100 2,110 13,80 Poultry grit and mineral food 1,330 11,000 Other agricultural uses 896 7,580 34 33 Chemical and metallurgical: 2 17,300 106,000			,		7,360	
Coarse and fine aggregates: 84,900 399,000 11,500 58,800 Unpaved road base or subbase 84,900 399,000 11,500 58,800 Unpaved road surfacing 16,200 80,000 2,690 11,300 Terrazzo and exposed aggregate 732 4,670 31 22 Crusher run or fill or waste 19,500 84,600 1,300 6,670 Other coarse and fine aggregates 49,900 239,000 11,200 49,40 Roofing granules 352 2,750 W W Other construction materials 3/ 6,150 33,500 474 2,910 Agricultural: Agricultural limestone 8,790 48,100 2,110 13,800 Poultry grit and mineral food 1,330 11,000 Other agricultural uses 896 7,580 34 33 Chemical and metallurgical: Cement manufacture 96,900 383,000 55 18 Lime manufacture 17,300 106,000			,	,		
Graded road base or subbase 84,900 399,000 11,500 58,80 Unpaved road surfacing 16,200 80,000 2,690 11,30 Terrazzo and exposed aggregate 732 4,670 31 22 Crusher run or fill or waste 19,500 84,600 1,300 6,670 Other coarse and fine aggregates 49,900 239,000 11,200 49,400 Roofing granules 352 2,750 W W Other construction materials 3/ 6,150 33,500 474 2,910 Agricultural: Agricultural limestone Poultry grit and mineral food 1,330 11,000 Other agricultural uses 896 7,580 34 33 Chemical and metallurgical: Cement manufacture 96,900 383,000 55 18 Lime manufacture 17,300 106,000 960 3,600 Dead-burned dolomite manufacture 284 1,350 W W Flux stone 2,300			100,000	,,,,	3,700	
Unpaved road surfacing 16,200		84 900	399,000	11 500	58 800	
Terrazzo and exposed aggregate						
Crusher run or fill or waste 19,500 84,600 1,300 6,670 Other coarse and fine aggregates 49,900 239,000 11,200 49,400 Roofing granules 352 2,750 W W Other construction materials 3/ 6,150 33,500 474 2,910 Agricultural: Agricultural limestone 8,790 48,100 2,110 13,800 Poultry grit and mineral food 1,330 11,000 Other agricultural uses 896 7,580 34 33* Chemical and metallurgical: Cement manufacture 96,900 383,000 55 18* Lime manufacture 96,900 383,000 55 18* Lime manufacture 284 1,350 W W Flux stone 2,300 11,600 1,180 4,76 Chemical stone W W Glass manufacture W W				,		
Other coarse and fine aggregates 49,900 239,000 11,200 49,400 Roofing granules 352 2,750 W W Other construction materials 3/ 6,150 33,500 474 2,910 Agricultural: Agricultural limestone 8,790 48,100 2,110 13,800 Poultry grit and mineral food 1,330 11,000 Other agricultural uses 896 7,580 34 33 Chemical and metallurgical: Cement manufacture 96,900 383,000 55 18 Lime manufacture 17,300 106,000 960 3,600 Dead-burned dolomite manufacture 284 1,350 W W Flux stone 2,300 11,600 1,180 4,760 Chemical stone W W W Glass manufacture W W Sulfur oxide removal 2,250 10,200 Special:						
Roofing granules 352 2,750 W W Other construction materials 3/ 6,150 33,500 474 2,910 Agricultural: Agricultural limestone 8,790 48,100 2,110 13,80 Poultry grit and mineral food 1,330 11,000 Other agricultural uses 896 7,580 34 33 Chemical and metallurgical: Cement manufacture 96,900 383,000 55 18 Lime manufacture 96,900 383,000 55 18 Lime manufacture 284 1,350 W W Flux stone 2,300 11,600 1,180 4,760 Chemical stone W W W Glass manufacture W W W Sulfur oxide removal 2,250 10,200 Special:			,		,	
Other construction materials 3/ 6,150 33,500 474 2,910 Agricultural: 8,790 48,100 2,110 13,800 Poultry grit and mineral food 1,330 11,000 Other agricultural uses 896 7,580 34 33° Chemical and metallurgical: Cement manufacture 96,900 383,000 55 18° Lime manufacture 17,300 106,000 960 3,600 Dead-burned dolomite manufacture 284 1,350 W W Flux stone 2,300 11,600 1,180 4,760 Chemical stone W W Glass manufacture W W Sulfur oxide removal 2,250 10,200 Special: Mine dusting or acid water treatment 211 3,960 Asphalt fillers or extenders 1,240 11,500 W </td <td></td> <td></td> <td></td> <td></td> <td></td>						
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Poultry grit and mineral food 1,330 11,000		9 700	49 100	2 110	12 900	
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Chemical and metallurgical: 96,900 383,000 55 18 Lime manufacture 17,300 106,000 960 3,600 Dead-burned dolomite manufacture 284 1,350 W W Flux stone 2,300 11,600 1,180 4,760 Chemical stone W W Glass manufacture W W Sulfur oxide removal 2,250 10,200 Special: Mine dusting or acid water treatment 211 3,960 Asphalt fillers or extenders 1,240 11,500 W W Whitting or whiting substitute 662 12,100 W W Other fillers or extenders 2,380 37,800 129 2,380 Other miscellaneous uses: Refractory stone (including ganister) W W				24	227	
Cement manufacture 96,900 383,000 55 18 Lime manufacture 17,300 106,000 960 3,600 Dead-burned dolomite manufacture 284 1,350 W W Flux stone 2,300 11,600 1,180 4,760 Chemical stone W W Glass manufacture W W Sulfur oxide removal 2,250 10,200 Special: Mine dusting or acid water treatment 211 3,960 Asphalt fillers or extenders 1,240 11,500 W W Whitting or whiting substitute 662 12,100 W W Other fillers or extenders 2,380 37,800 129 2,380 Other miscellaneous uses: Refractory stone (including ganister) W W		890	7,580	34	33/	
Lime manufacture 17,300 106,000 960 3,600 Dead-burned dolomite manufacture 284 1,350 W W Flux stone 2,300 11,600 1,180 4,760 Chemical stone W W Glass manufacture W W Sulfur oxide removal 2,250 10,200 Special: Mine dusting or acid water treatment 211 3,960 Asphalt fillers or extenders 1,240 11,500 W W Whitting or whiting substitute 662 12,100 W W Other fillers or extenders 2,380 37,800 129 2,380 Other miscellaneous uses: Refractory stone (including ganister) W W		06,000	202.000	5.5	100	
Dead-burned dolomite manufacture 284 1,350 W W Flux stone 2,300 11,600 1,180 4,760 Chemical stone W W W Glass manufacture W W W Sulfur oxide removal 2,250 10,200 Special: Mine dusting or acid water treatment 211 3,960 Asphalt fillers or extenders 1,240 11,500 W W W Whiting or whiting substitute 662 12,100 W W W Other fillers or extenders 2,380 37,800 129 2,380 Other miscellaneous uses: W W Refractory stone (including ganister) W W						
Flux stone 2,300 11,600 1,180 4,76 Chemical stone W W W Glass manufacture W W W Sulfur oxide removal 2,250 10,200 Special:						
Chemical stone W W W Glass manufacture W W W Sulfur oxide removal 2,250 10,200 Special: 211 3,960 Asphalt fillers or extenders 1,240 11,500 W W Whiting or whiting substitute 662 12,100 W W Other fillers or extenders 2,380 37,800 129 2,380 Other miscellaneous uses: W W Refractory stone (including ganister) W W						
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Sulfur oxide removal 2,250 10,200 Special: — — — — Mine dusting or acid water treatment 211 3,960 — — Asphalt fillers or extenders 1,240 11,500 W W Whiting or whiting substitute 662 12,100 W W Other fillers or extenders 2,380 37,800 129 2,380 Other miscellaneous uses: — — — — Refractory stone (including ganister) W W — —						
Mine dusting or acid water treatment 211 3,960 Asphalt fillers or extenders 1,240 11,500 W W Whiting or whiting substitute 662 12,100 W W Other fillers or extenders 2,380 37,800 129 2,380 Other miscellaneous uses: W W Refractory stone (including ganister) W W						
Mine dusting or acid water treatment 211 3,960 Asphalt fillers or extenders 1,240 11,500 W W Whiting or whiting substitute 662 12,100 W W Other fillers or extenders 2,380 37,800 129 2,380 Other miscellaneous uses: W W Refractory stone (including ganister) W W		2,250	10,200			
Asphalt fillers or extenders 1,240 11,500 W W Whiting or whiting substitute 662 12,100 W W Other fillers or extenders 2,380 37,800 129 2,380 Other miscellaneous uses: W W Refractory stone (including ganister) W W						
Whiting or whiting substitute66212,100WWOther fillers or extenders2,38037,8001292,380Other miscellaneous uses:WW						
Other fillers or extenders 2,380 37,800 129 2,380 Other miscellaneous uses: Refractory stone (including ganister) W W					W	
Other miscellaneous uses: Refractory stone (including ganister) W W					W	
Refractory stone (including ganister) W W		2,380	37,800	129	2,380	
	, , , , , , , , , , , , , , , , , , , ,					
Acid neutralization W W						
<u>Sugar refining</u> 216 2,800						
		1,540	7,730	46	407	
Unspecified: 4/						
Reported 285,000 1,340,000 36,200 170,000	Reported	285,000	1,340,000	36,200	170,000	
			740,000		39,000	
Total 998,000 4,980,000 101,000 533,000	Total	998,000	4,980,000	101,000	533,000	

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

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

^{2/} Includes a minor amount of limestone-dolomite reported without a distinction between the two.

^{3/} Includes drain fields and pipe bedding.

^{4/} Reported and estimated production without a breakdown by end use.

 ${\it TABLE~15}$ CRUSHED LIMESTONE AND DOLOMITE SOLD OR USED BY PRODUCERS IN 2000, BY STATE AND USE 1/

		aggregate	Bituminu	Bituminus aggregate		Roadstone and coverings		nilroad ballast	Other construction uses	
State	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value
Alabama	3,480	18,400	8,220	52,600	1,540	9,310	W	W	5,660	36,000
Arizona	W	W								
Arkansas	520	2,440	1,280	7,470	1,370	6,100	135	676	787	3,500
California	1,110	6,120	359	1,770	432	2,440	W	\mathbf{W}	506	2,270
Colorado			W	W	W	W	W	\mathbf{W}	W	W
Connecticut			W	W						
Florida	26,300	157,000	19,000	128,000	11,100	45,400	350	2,750	10,700	49,300
Georgia	1,520	9,210	1,980	13,700	967	5,150	50	535	959	5,440
Hawaii	W	W	W	W	W	W			W	W
Idaho										
Illinois	7,190	45,300	6,710	44,600	14,800	71,500	674	5,500	3,840	18,100
Indiana	4,330	21,500	6,470	32,000	5,600	27,200	W	W	5,800	25,300
Iowa	1,070	8,390	582	4,290	5,050	31,900	108	827	922	6,340
Kansas	892	4,740	1,580	8,130	1,330	6,330	135	1,410	2,000	10,100
Kentucky	4,560	24,400	10,600	59,700	7,600	38,100	W	3,060	5,050	24,300
Louisiana 2/	W	W	W	W	W	W			W	W
Maine	146	653								
Maryland	W	W	2,820	16,800	265	1,640	W	W	2,940	12,900
Massachusetts			´	´					W	W
Michigan	3,340	13,700	1,400	6,790	1,650	7,500	W	W	1,410	5,730
Minnesota	148	841	958	6,900	1,300	6,550	55	616	1,250	6,520
Mississippi 2/	W	W	W	W	W	W			W	W
Missouri	3,670	20,700	5,860	35,500	8,830	41,700	2,940	13,900	5,370	25,100
Montana	6	23			W	W	6	44	16	58
Nebraska	955	7,990	650	5,050	334	2,720	183	1,820	613	4,530
Nevada	W	W			W	W				
New Jersey	78	800	69	1,140	36	200			311	2,800
New Mexico	W	W	W	W	95	416	4	20	194	1,040
New York	4,630	34,600	6,900	49,800	4,310	29,200	197	1,420	5,420	29,000
North Carolina	210	1,720	W	W	82	522	W	W	306	2,180
North Dakota			W	W	W	W	W	W		<u>-,100</u>
Ohio	4,340	20,900	5,370	27,900	15,000	64,000	2,750	14,500	14,400	58,600
Oklahoma	1,690	9,440	8,290	35,700	2,000	9,850	2,730 W	W	7,560	31,700
Oregon		,, i i o			2,000 W	W	W	W	W	W
Pennsylvania	4,350	26,500	9,760	60,600	6,470	35,100	w	W	8,190	40,900
Rhode Island									W	W
South Carolina					W	W				
South Dakota	W	W	W	W	W	W	W	W	W	W
Fennessee	4,740	30,000	14,800	98,500	12,800	71,900	1,350	8,380	6,850	39,000
Texas	14,200	72,000	7,290	39,800	12,100	44,700	W	W	5,220	18,600
Utah	W	72,000 W	64	242	669	2,260	83	471	104	357
Vermont	W	W	W	W	W	2,200 W	W	W	W	W
Virginia	2,040	12,800	2,290	13,700	1,570	9,660	216	1,510	3,870	17,200
Washington		12,800	2,290 W	13,700 W	1,370 W	9,000 W	W	1,310 W	3,870 W	17,200 W
West Virginia	 477	1,880	770	3,160	673	3,070	w 22	w 171	2,490	9,330
Wisconsin	1,990						W	171 W		
Wyoming Wyoming	1,990 W	9,200 W	527 W	2,920 W	6,320 W	25,600 W	W W	W W	2,290 W	10,900 W
						600,000				
Total	98,100	561,000	125,000	757,000	124,000	,	12,600	77,100	105,000	497,000
Total withheld	1,390	7,270	1,880	15,700	1,790	9,630	346	2,080	1,490	15,700
Grand total	99,400	568,000	126,000	773,000	126,000	610,000	13,000	79,200	107,000	513,000

${\it TABLE~15--Continued}$ CRUSHED LIMESTONE AND DOLOMITE SOLD OR USED BY PRODUCERS IN 2000, BY STATE AND USE 1/

-	Cement m	anufacture	Agricult	ural uses	Lime ma	anufacture	Othe	r uses	Total by	State
State	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value
Alabama	1,810	5,180	266	1,510	W	W	19,500	123,000	(3/)	(3/)
Arizona	W	W			W	W	331	1,770	4,280	21,700
Arkansas	W	W	251	1,120	W	W	4,320	20,200	(3/)	(3/)
California	14,600	65,900	156	2,240	W	W	12,200	70,000	29,400	151,000
Colorado	1,480	5,780	W	W			1,300	6,740	(3/)	(3/)
Connecticut			W	W			1,490	20,000	(3/)	(3/)
Florida	5,700	20,400	681	4,050			17,700	81,100	91,500 4/	488,000 4/
Georgia	W	W	W	W			2,770	18,300	(3/)	(3/)
Hawaii			W	W			W	W	248	2,150
Idaho	W	W	51	174			180	711	607	1,920
Illinois	2,430	19,200	1,630	6,440	W	W	38,300	182,000	76,000 4/	394,000 4/
Indiana	3,580	14,600	1,330	6,490	W	W	27,300	120,000	55,300 4/	253,000 4/
Iowa	W	W	997	3,950	W	W	28,800	144,000	(3/) 4/	(3/) 4/
Kansas	2,720	11,100	101	500	3	18	13,900	68,100	22,600 4/	110,000 4/
Kentucky	W	5,610	723	3,100	3,960	34,500	21,000	103,000	(3/)	(3/)
Louisiana 2/							W	W	(3/)	(3/)
Maine	W	W			W	W	598	3,540	1,300	7,260
Maryland	2,560	8,360					9,650	52,400	18,400 4/	93,400 4/
Massachusetts			W	W	W	W	258	6,510	(3/)	(2/)
Michigan	6,490	13,400	71	592	W	W	26,400	93,600	42,200 4/	148,000 4/
Minnesota			313	1,630			5,740	27,700	(2/)	(3/)
Mississippi 2/	W	W	W	W			394	3,470	2,530	23,700
Missouri	4,360	14,300	993	4,250	1,600	7,290	40,500	193,000	74,100 4/	355,000 4/
Montana	W	W	8	142	W	W	1,200	4,360	2,300	9,650
Nebraska	W	W	333	3,410			W	W	6,590	42,400
Nevada	W	W	W	W	W	W	3,070	12,000	(3/)	(3/)
New Jersey			64	2,130			10	141	569	7,210
New Mexico			W	W			1,400	6,010	2,200	9,320
New York	4,440	15,700	155	1,400			11,800	65,000	37,900 4/	226,000 4/
North Carolina			9	52			W	W	(3/)	(3/)
North Dakota							W	W	(3/)	(3/)
Ohio	1,460	6,150	649	2,880	W	W	28,800	128,000	73,100 4/	324,000 4/
Oklahoma	W	W	161	559			10,900	40,800	(3/)	(3/)
Oregon	1,020	3,740					216	2,800	(3/)	(3/)
Pennsylvania	6,960	33,100	563	5,520	W	W	33,200	166,000	72,100 4/	383,000 4/
Rhode Island			W	W			W	W	(3/)	(3/)
South Carolina	W	W					W	W	(3/)	(3/)
South Dakota	W	W			W	W	W	W	2,980	12,600
Tennessee	W	W	1,590	6,340	W	W	17,700	101,000	(3/)	(3/)
Texas	12,000	43,600	190	1,680	W	W	63,700	246,000	(3/) 4/	(3/) 4/
Utah	_ W	W	53	875	W	W	2,960	11,700	(3/) 4/	(3/) 4/
Vermont							2,070	8,440	(3/)	(3/)
Virginia	W	W	1,160	10,200	1,390	9,280	11,100	61,700	25,200 4/	141,000 4/
Washington	796	4,740	W	W	W	W	1,520	26,300	(3/) 4/	(3/) 4/
West Virginia	W	W	W	W			7,430	33,200	(3/)	(3/)
Wisconsin			286	2,450	W	W	17,100	66,000	28,800 4/	118,000 4/
Wyoming	W	W					W	W	2,130 4/	9,840 4/
Total	72,400	291,000	12,800	74,100	6,950	51,100	487,000	2,320,000	XX	XX
Total withheld	23,400	92,700	354	6,720	12,000	62,000	12,300	76,100	XX	XX
Grand total	95,800	384,000	13,200	80,800	18,900	113,000	499,000	2,400,000	1,100,000	5,520,000

W Withheld to avoid disclosing company proprietary data; included in "Total withheld" and "Total by State." XX Not applicable. -- Zero.

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

^{2/} A significant amount of sold or used material was shipped in from other States.

^{3/} Withheld to avoid disclosing company proprietary data; included in "Grand total."

^{4/} Includes limestone-dolomite reported with no distinction between the two kinds of stone.

TABLE 16 CRUSHED MARBLE SOLD OR USED BY PRODUCERS IN THE UNITED STATES IN 2000, BY USE

Use	Quantity	Value
Construction:		
Coarse aggregate (+1½ inch):		
Macadam	W	W
Riprap and jetty stone	W	W
Filter stone	W	W
Other coarse aggregate	3	22
Coarse aggregate, graded:		
Concrete aggregate, coarse	(2/)	(2/)
Bituminous aggregate, coarse	(2/)	(2/)
Bituminous surface-treatment aggregate	(2/)	(2/)
Other graded coarse aggregate	554	4,720
Fine aggregate (-3/8 inch):		
Screening, undesignated	(3/)	(3/)
Other fine aggregate	31	201
Coarse and fine aggregates:		
Graded road base or subbase	(4/)	(4/)
Terrazzo and exposed aggregate	(4/)	(4/)
Crusher run (select material or fill)	(4/)	(4/)
Other coarse and fine aggregates	456	2,510
Special, other fillers or extenders	W	W
Unspecified: 5/		
Reported	4,110	22,800
Estimated	5,100	29,000
Total	11,000	64,800

TABLE 17 CRUSHED GRANITE AND TRAPROCK SOLD OR USED BY PRODUCERS IN THE UNITED STATES IN 2000, BY USE 1/

(Thousand metric tons and thousand dollars)

	Grai	nite	Trapi	rock
Use	Quantity	Value	Quantity	Value
Construction:	-			
Coarse aggregate (+1½ inch):				
Macadam	3,830	21,500	489	2,650
Riprap and jetty stone	2,370	24,800	1,500	13,500
Filter stone	1,300	12,300	824	5,400
Other coarse aggregate	1,880	9,190	852	5,100
Coarse aggregate, graded:				
Concrete aggregate, coarse	21,400	158,000	6,290	54,000
Bituminous aggregate, coarse	15,600	124,000	7,280	56,600
Bituminous surface-treatment aggregate	2,760	24,400	1,720	13,600
Railroad ballast	6,590	35,300	1,690	9,170
Other graded coarse aggregate	17,600	109,000	1,650	15,400
Fine aggregate (-3/8 inch):				
Stone sand, concrete	4,710	29,300	1,260	12,500
Stone sand, bituminous mix or seal	3,690	23,800	1,360	8,910
Screening, undesignated	5,480	28,600	1,960	13,000
Other fine aggregate	5,490	26,300	681	5,960
Coarse and fine aggregates:				
Graded road base or subbase	20,000	122,000	12,700	74,100
Unpaved road surfacing	712	4,190	1,840	8,960
Terrazzo and exposed aggregate	486	6,470	W	W
Crusher run or fill or waste	10,300	60,700	2,590	12,600
Other coarse and fine aggregates	17,700	94,300	10,000	55,600
Roofing granules	3,620	58,500	620	9,520

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

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

^{2/} Included with "Other graded coarse aggregate."

^{3/} Included with "Other fine aggregate."

^{4/} Included with "Other coarse and fine aggregates."

^{5/} Reported and estimated production without a breakdown by end use.

 ${\it TABLE~17--Continued}$ CRUSHED GRANITE AND TRAPROCK SOLD OR USED BY PRODUCERS IN THE UNITED STATES IN 2000, BY USE 1/

	Gra	nite	Traprock	
Use	Quantity	Value	Trapro Quantity 3,120 W W 5 29,100 26,000 114,000	Value
ConstructionContinued:				
Other construction materials	1,590	10,400	3,120	22,200
Agricultural, other agricultural uses	W	W	W	W
Chemical and metallurgical, lime manufacture	W	W		
Special:				
Asphalt fillers or extenders	W	W	W	W
Other fillers or extenders	W	W		
Other miscellaneous uses and specified uses not listed	55	329	5	90
Unspecified: 2/				
Reported	79,000	488,000	29,100	175,000
Estimated	20,000	110,000	26,000	150,000
Total	246,000	1,580,000	114,000	724,000

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

TABLE 18 CRUSHED SANDSTONE AND QUARTZITE SOLD OR USED BY PRODUCERS IN THE UNITED STATES IN 2000, BY USE 1/ 2/

(Thousand metric tons and thousand dollars)

	Sand	stone	Quartzite		
Use	Quantity	Value	Quantity	Value	
Construction:					
Coarse aggregate (+1½ inch):					
Macadam	W	W			
Riprap and jetty stone	801	8,550	67	502	
Filter stone	95	666	68	353	
Other coarse aggregate	121	875	147	633	
Coarse aggregate, graded:					
Concrete aggregate, coarse	1,310	8,740	275	1,780	
Bituminous aggregate, coarse	1,900	12,700	405	2,980	
Bituminous surface-treatment aggregate	609	6,520	110	1,110	
Railroad ballast	54	344	389	2,650	
Other graded coarse aggregate	1,210	10,200	798	4,880	
Fine aggregate (-3/8 inch):					
Stone sand, concrete	991	6,670	W	W	
Stone sand, bituminous mix or seal	742	4,230	213	1,570	
Screening, undesignated	778	4,300	362	1,940	
Other fine aggregate	1,050	6,660	935	5,320	
Coarse and fine aggregates:	•	,			
Graded road base or subbase	2,780	14,800	558	3,310	
Unpaved road surfaces	383	2,060	W	W	
Terrazzo and exposed aggregate	W	W	W	W	
Crusher run or fill or waste	548	2,490	273	1,450	
Other coarse and fine aggregates	1,830	10,300	772	2,900	
Roofing granules	W	W	W	W	
Other construction materials 3/	198	3,200	376	1,720	
Agricultural, poultry grit and mineral food			W	W	
Chemical and metallurgical:					
Cement manufacture	345	1,870	251	1,980	
Flux stone	W	W	W	W	
Special:					
Asphalt fillers or extenders	W	W			
Other fillers or extenders	W	W			
Other miscellaneous uses:					
Refractory stone (including ganister)	W	W			
Abvasives	W	W			
Other uses not listed	W	W	W	W	
See footnotes at and of table	**	**	**	**	

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

^{2/} Reported and esitmated production without a breakdown by end use.

TABLE 18--Continued CRUSHED SANDSTONE AND QUARTZITE SOLD OR USED BY PRODUCERS IN THE UNITED STATES IN 2000, BY USE 1/2/

(Thousand metric tons and thousand dollars)

	Sand	Sandstone		tzite
Use	Quantity	Value	Quantity	Value
Unspecified: 4/				
Reported	10,300	55,300	2,820	12,500
Estimated	5,700	31,000	883	4,500
Total	33,000	197,000	10,600	58,200

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

TABLE 19
CRUSHED VOLCANIC CINDER AND SCORIA AND CRUSHED MISCELLANEOUS STONE SOLD OR USED BY PRODUCERS IN THE UNITED STATES IN 2000, BY USE 1/

	Volcanio		Miscellaneous stone 2/		
Use	Quantity	Value	Quantity	Value	
Construction:			. ,		
Coarse aggregate (+1½ inch):	-				
Macadam	- 		W	W	
Riprap and jetty stone	8	42	1,160	8,190	
Filter stone	W	W	153	876	
Other coarse aggregate			679	4,150	
Coarse aggregate, graded:	-				
Concrete aggregate, coarse	W	W	1,500	15,800	
Bituminous aggregate, coarse			517	3,810	
Bituminous surface-treatment aggregate			407	1,920	
Railroad ballast			229	2,180	
Other graded coarse aggregate	43	169	1,690	12,600	
Fine aggregate (-3/8 inch):	-				
Stone sand, concrete			266	1,440	
Stone sand, bituminous mix or seal			595	2,700	
Screening, undesignated	72	280	137	583	
Other fine aggregate	9	104	342	2,440	
Coarse and fine aggregates:					
Graded road base or subbase	239	1,220	1,680	7,300	
Unpaved road surfacing	6	26	691	2,780	
Terrazzo and exposed aggregate	258	4,020	W	W	
Crusher run or fill or waste	37	137	414	1,610	
Other coarse and fine aggregates			1,390	9,350	
Roofing granules	W	W	W	W	
Other construction materials	107	1,060	185	1,130	
Agricultural, other agricultural uses			W	W	
Chemical and metallurgical, cement manufacture			715	4,570	
Other miscellaneous uses:					
Light weight aggregate (slate)			W	W	
Flour (slate)			W	W	
Other specified uses not listed	W	W	43	210	
Unspecified: 3/	_				
Reported	548	3,540	14,200	79,400	
Estimated	129	541	8,000	44,000	
Total	1,760	13,200	35,300	210,000	

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

^{1/} Includes sandstone-quartzite.

^{2/} Data are rounded to no more than three significant digits; may not add to totals shown.

^{3/} Includes building products.

^{4/} Reported and estimated production without a breakdown by end use.

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

^{2/} Includes slate.

^{3/} Reported and estimated production without a breakdown by end use.

TABLE 20 RECYCLED ASPHALT AND CONCRETE SOLD OR USED BY PRODUCERS IN THE UNITED STATES, BY REGION 1/

	Recycled asphalt				Recycled concrete							
	1999 2000				1999	2000						
	Quantity (thousand			Quantity (thousand			Quantity (thousand			Quantity (thousand		
	metric	Value	Unit	metric	Value	Unit	metric	Value	Unit	metric	Value	Unit
Region/division	tons)	(thousands)	value	tons)	(thousands)	value	tons)	(thousands)	value	tons)	(thousands)	value
Northeast:												
New England	128	\$610	\$4.77	70	\$323	\$4.61	84	\$570	\$6.79	39	\$280	\$7.18
Middle Atlantic	829	4,110	4.96	235	1,360	5.78	727	3,660	5.03	395	2,130	5.39
Midwest:												
East North Central	69	557	8.07	342	1,730	5.06	236	1,350	5.71	696	3,850	5.53
West North Central	W	W	W	W	W	W	W	W	W	W	W	W
South:												
South Atlantic	W	W	W	W	W	W	247 r/	1,850 r/	7.51 r/	566	4,150	7.34
East South Central				W	W	W	W	W	W	W	W	W
West South Central				W	W	W				W	W	W
West:												
Mountain	97	900	9.28	38	179	4.71	15	58	3.87	41	89	2.17
Pacific	250	1,120	4.50	383	2,820	7.36	340	1,730	5.09	507	3,060	6.03
Total	1,450	7,700	5.32	1,270	7,260	5.73	1,730 r/	9,570 r/	5.54 r/	2,320	13,900	6.01

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

 ${\it TABLE~21}$ RECYCLED ASPHALT SOLD OR USED BY PRODUCERS IN THE UNITED STATES, BY STATE 1/

		1999		2000				
	Quantity			Quantity				
	(thousand	Value	Unit	(thousand	Value	Unit		
State	metric tons)	(thousands)	value	metric tons)	(thousands)	value		
Alaska 2/	1	\$26	\$26.00					
Arizona				23	\$91	\$3.96		
California	211	933	4.42	354	2,210	6.24		
Colorado	W	W	9.65	W	W	6.86		
Connecticut	W	W	4.46	W	W	4.43		
Florida	W	W	5.56	W	W	5.48		
Hawaii	W	W	3.60					
Idaho		72	6.55	7	38	5.43		
Illinois		132	4.89	14	73	5.21		
Indiana	_ W	W	10.84	W	W	9.51		
Kansas				W	W	1.67		
Maine		155	7.05					
Massachusetts	4	24	6.00					
New Hampshire	- 62	253	4.08	W	W	4.38		
New Jersey	718	3,530	4.92	W	W	6.07		
New Mexico		36	7.20	W	W	W		
New York	_ W	W	5.50	19	77	4.05		
North Dakota	W	W	W	W	W	W		
Ohio	W	W	W	W	W	W		
Oregon		147	4.45	W	W	W		
Pennsylvania	105	546	5.20	114	657	5.76		
South Dakota		W	5.26	W	W	2.23		
Tennessee				9	40	4.44		
Texas				W	W	4.40		
Vermont	4	13	3.25	W	W	5.90		
Washington				14	50	3.57		
Wisconsin	_ 3	15	5.00	240	868	3.62		
Total	1,450	7,700	5.32	1,270	7,260	5.73		

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

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

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

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

TABLE 22
RECYCLED CONCRETE SOLD OR USED BY PRODUCERS IN THE UNITED STATES, BY STATE 1/

		1999			2000	
	Quantity			Quantity		
	(thousand	Value	Unit	(thousand	Value	Unit
State	metric tons)	(thousands)	value	metric tons)	(thousands)	value
Alabama	W	W	\$4.13	W	W	\$6.24
Alaska 2/	_ 2	\$16	8.00			
California	318	1,620	5.08	500	\$3,020	6.04
Colorado	W	W	W	W	W	5.50
Connecticut	54	421	7.80	39	278	7.13
Florida	105	879	8.37	142	1,220	8.58
Georgia				W	W	5.31
Hawaii	W	W	6.00	W	W	6.20
Idaho				3	21	7.00
Illinois	W	W	5.99	645	3,740	5.80
Indiana	W	W	3.33	W	W	W
Louisiana				W	W	8.88
Maine		88	4.40			
Massachusetts	9	55	6.11			
Mississippi	W	W	15.00	W	W	11.00
New Hampshire	_ 2	6	3.00	W	W	W
New Jersey	589	3,190	5.42	218	1,330	6.10
New Mexico	15	58	3.87	W	W	1.58
New York	W	W	3.32	W	W	4.47
North Carolina	W	W	11.44	24	199	8.29
North Dakota	2	14	7.00	W	W	W
Ohio	W	W	3.09	W	W	1.43
Oregon	W	W	4.40	W	W	3.50
Pennsylvania	15	60	4.00	25	122	4.88
South Dakota	W	W	4.90	W	W	2.19
Texas				W	W	4.44
Virginia	W	W	6.56	W	W	7.84
Wisconsin				W	W	2.50
Total	1,730 r/	9,570 r/	5.54 r	/ 2,320	13,900	6.01

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

TABLE 23 CRUSHED STONE SOLD OR USED BY PRODUCERS IN THE UNITED STATES IN 2000, BY REGION AND METHOD OF TRANSPORTATION 1/

(Thousand metric tons)

-					Not	Not	
Region/division	Truck	Rail	Water	Other	transported	specified	Total
Northeast:							
New England	6,130	W		W	5,010	24,300	35,700
Middle Atlantic	80,200	W	W	3,530	7,220	74,300	172,000
Midwest:	-						
East North Central	106,000	W	13,200	W	9,250	146,000	281,000
West North Central	53,200	W	W	W	2,910	96,200	163,000
South:	-						
South Atlantic	191,000	24,000	5,170	5,340	16,900	143,000	385,000
East South Central	80,200	W	W	W	14,900	65,200	169,000
West South Central	64,500	14,000		4,470	8,380	99,600	191,000
West:	-						
Mountain	24,200	W		W	2,520	20,200	53,700
Pacific	34,500	3,270	2,920	5,050	8,070	52,700	107,000
Total	639,000	56,700	38,600	25,400	75,200	722,000	1,560,000

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

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

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

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

 ${\it TABLE~24}$ CRUSHED AND BROKEN STONE OPERATIONS IN THE UNITED STATES IN 2000, BY STATE

-				Processing plants					
	Active	Active	Dredging			Stationary	None or	Sales	
State	operations	quarries	operations	Stationary	Portable	and portable	unspecified	yards	
Alabama	75	67		55	8	1	2	9	
Alaska 1/	12	12		1	8	2	1		
Arizona	51	55		15	31	1	4		
Arkansas	70	68		32	26	3	7	2	
California	150	153	1	69	53	11	14	3	
Colorado	39	49		16	14	6	4		
Connecticut	22	21		17	3	1		1	
Florida	95	95	1	39	30	11	5	9	
Georgia	85	81		78	2		1	4	
Hawaii	21	23		11	7	3			
Idaho	54	60		9	34	4	7		
Illinois	143	137		77	46	11	1	8	
Indiana	90	84		67	4	12		7	
Iowa	205	206		33	165	1	3	3	
Kansas	100	115		25	62	3	10		
Kentucky	- 98	96		83	4	7	2	2	
Louisiana	-	1				, 	9	10	
	- 11			9	1				
Maine	. 19	21			8	1		2	
Maryland	30	30	1	24	3	1	1		
Massachusetts	. 37	36		22	8	4	1	2	
Michigan	33	31		17	7	2	5	2	
Minnesota	. 52	62		5	40	1	6		
Mississippi	. 17	6		3	1	1		12	
Missouri	201	207		102	83	10	6		
Montana	_ 25	28		8	14	1	2		
Nebraska	. 11	11		8	2	1			
Nevada	_ 14	29		9	3	1	1		
New Hampshire	. 14	18		8	3	1	2		
New Jersey	25	25		13	1	10	1		
New Mexico	_ 40	42		13	22	2	3		
New York	101	101		74	10	13	4		
North Carolina	110	103		91	8	1	3	7	
North Dakota	_ 5	6			1		4		
Ohio	114	112	1	87	14	9	1	2	
Oklahoma	60	59		43	5	8	3	1	
Oregon	154	214	2	32	103	5	12		
Pennsylvania	205	210	1	144	23	16	20	1	
Rhode Island	9	9		7	2				
South Carolina	41	33		27	2	2	2	8	
South Dakota	11	15		9	2				
Tennessee	123	124		109	7	3	2	2	
Texas	172	166		94	46	12	2	18	
Utah	38	40		14	23		1		
Vermont	17	17		9	4	2	2		
Virginia	122	104		87	3	9	2	21	
Washington	116	164		33	51	9	23		
West Virginia	48	40		28	8	1	1	10	
Wisconsin	152	174		26	113	5	8		
Wyoming	16	17		5	10		1		
Total	3,453	3,577	7	1,787	1,128	207	189	146	
7	נטד,נ	2,211		1,707	1,120	207	107		

⁻⁻ Zero.

^{1/} Data derived, in part, from Alaska Division of Geological and Geophysical Surveys.

${\small \mbox{TABLE 25}} \\ {\small \mbox{U.S. EXPORTS OF CRUSHED STONE IN 2000, BY DESTINATION 1/2000} \\ \label{eq:table_25}$

(Metric tons, unless otherwise specified)

	Limestone				
B (1) (1)	for cement	0.1	Chalk,	Granules,	T . 1
Destination	manufacturing	Other	crude	chippings	Total
North America: Anguilla		51			51
Bahamas, The	2,720	J1 	1	307	3,030
Barbados	2,720			42	42
Canada	3,870,000	1,690	2,200	87,200	3,960,000
Costa Rica			-,	179	179
Dominican Republic	180				180
Granada			1		1
Guatemala			1	4	5
Mexico	318	20	26	2,920	3,290
Nicaragua		78			78
Panama	13			20	33
St. Lucia			1	26	1
Trinidad and Tobago	2 000 000	1.040	2 220	36	36
Total	3,880,000	1,840	2,230	90,700	3,970,000
South America: Argentina			1	1,440	1,440
Bolivia			1	1,440	1,440
Brazil			34	198	232
Colombia			1		1
Ecuador			125	154	279
Guyana				2	2
Venezuela		5	18	449	472
Total		5	180	2,240	2,430
Europe:					
Austria				31	31
Belgium		113	11		124
Denmark		1	1		2
France		41		900	941
Germany	97	2,520		59	2,680
Ireland		1 81	3	10 443	11 527
Litaly 	16		2	443	18
Netherlands		10	11	102	123
Norway				286	286
Spain	398				398
Switzerland		295	1		296
Turkey			7		7
United Kingdom		79	6	169	254
Total	511	3,140	42	2,000	5,690
Asia:					
China	16	57		251	324
Hong Kong	90			116	206
Indonesia	19	101	1.0		19
Japan L. C.		191	18	40	249
Korea, Republic of	490	1,300	363	537	2,320 410
Malaysia Philippines	47 287		303		288
Singapore		210	36	2	248
Taiwan	19	7	1	618	645
Thailand				5	5
Total	968	1,760	419	1,570	4,720
Oceania, Australia	5,700		16	26,400	32,100
Middle East:					
Israel			16	24	40
Saudi Arabia	4			16	20
Total	4		16	40	60
Africa:					
Malawi			18		18
South Africa			10	11	11
Total	_ 		18	11	29

$\label{eq:table 25--Continued}$ U.S. EXPORTS OF CRUSHED STONE IN 2000, BY DESTINATION 1/

(Metric tons, unless otherwise specified)

	Limestone				
	for cement		Chalk,	Granules,	
Destination	manufacturing	Other	crude	chippings	Total
Grand total	3,880,000	6,740	2,920	123,000	4,020,000
Total value thousands	\$11,700	\$7,830	\$1	\$10,100	\$29,700

⁻⁻ Zero.

Source: U.S. Census Bureau.

 ${\it TABLE~26} \\ {\it U.S.~IMPORTS~OF~CRUSHED~STONE~AND~CALCIUM~CARBONATE~FINES,~BY~TYPE~1/}}$

		1999		2000		
	Quantity			Quantity		
	(thousand	C.i.f. value	Unit	(thousand	C.i.f. value	Unit
Type	metric tons)	(thousands)	value	metric tons)	(thousands)	value
Crushed stone and chips:						
Limestone	6,720	\$62,200	\$9	7,210	\$60,100	\$8
Limestone for flux or cement manufacturing	3,540	25,000	7	4,190	28,200	7
Quartzite	1	395	395	1	470	470
Other	2,060	17,600	9	1,620	15,900	10
Total	12,300	105,000	XX	13,000	105,000	XX
Calcium carbonate fines: 2/	-					
Natural chalk	(3/) r/	(3/) r/		(3/)	51	
Calcium carbonates other chalk	1	330	330	1	647	647
Total	1	330	XX	1	698	XX
Grand total	12,300	106,000	XX	13,000	105,000	XX

r/ Revised. XX Not applicable. -- Zero.

Source: U.S. Census Bureau.

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

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

^{2/} Excludes precipitated calcium carbonates.

^{3/} Less than 1/2 unit.

FIGURE 1
PRODUCTION OF CRUSHED STONE IN THE UNITED STATES IN 2000, BY GEOGRAPHIC DIVISION

