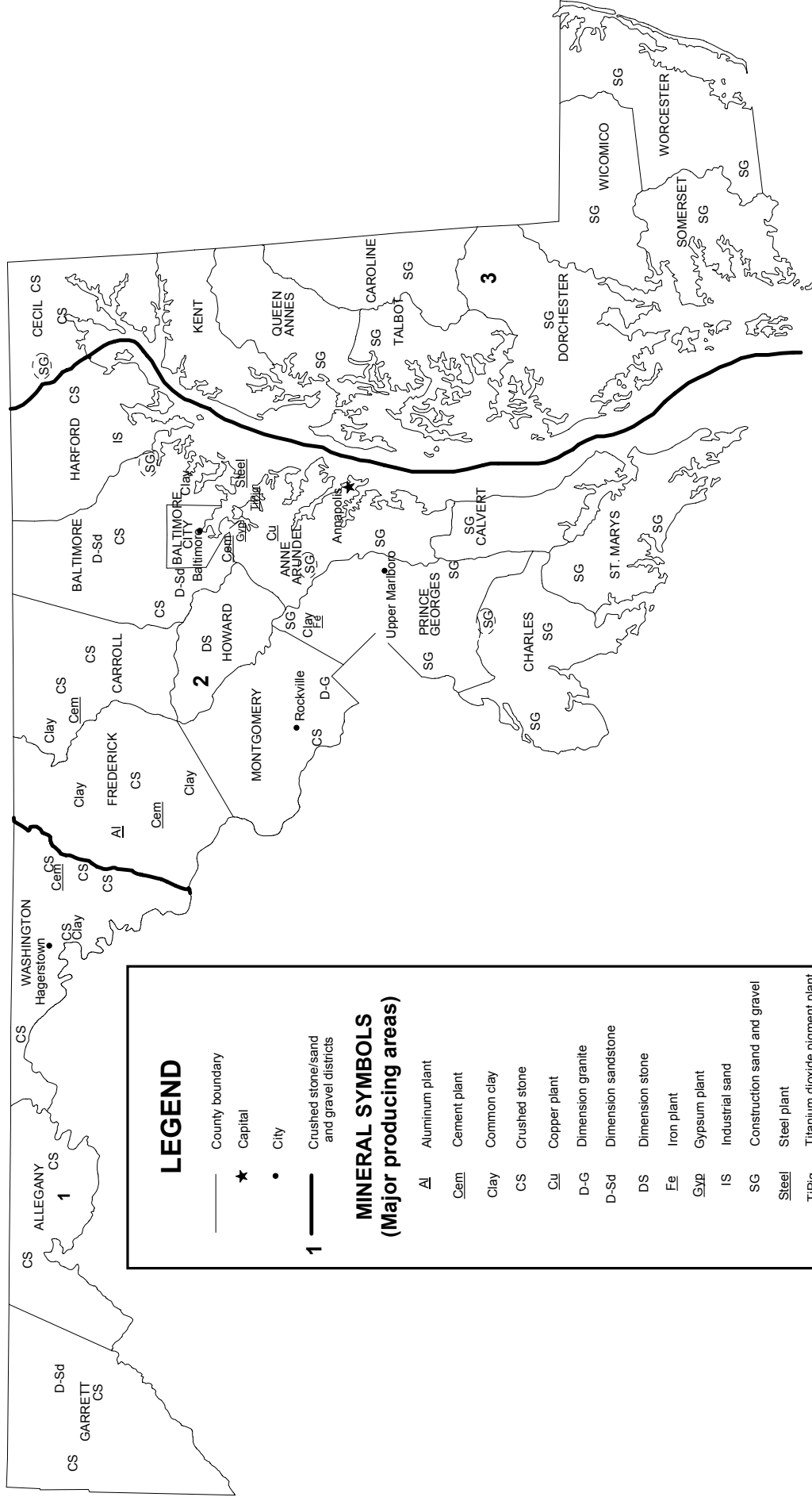


MARYLAND



LEGEND

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

**MINERAL SYMBOLS
(Major producing areas)**

- Al Aluminum plant
- Cem Cement plant
- Clay Common clay
- CS Crushed stone
- Cu Copper plant
- D-G Dimension granite
- D-Sd Dimension sandstone
- DS Dimension stone
- Fe Iron plant
- Gyp Gypsum plant
- IS Industrial sand
- SG Construction sand and gravel
- Steel Steel plant
- TiPig Titanium dioxide pigment plant
- Concentration of mineral operations



Source: Maryland Department of the Environment/U.S. Geological Survey (2001)

THE MINERAL INDUSTRY OF MARYLAND

This chapter has been prepared under a Memorandum of Understanding between the U.S. Geological Survey and the Maryland Department of the Environment, Minerals, Oil, and Gas Division for collecting information on all nonfuel minerals.

In 2001, the estimated value¹ of nonfuel mineral production for Maryland was \$356 million, based upon preliminary U.S. Geological Survey (USGS) data. This was a marginal decrease from that of 2000² and followed a 13.2% increase in value in 2000 from 1999. The State ranked 33d (34th in 2000) among the 50 States in total nonfuel raw mineral production value, of which Maryland accounted for almost 1% of the U.S. total. Because data for crushed marble, shell, and traprock and industrial sand and gravel have been withheld to protect

company proprietary data, the actual total values for 1999-2001 are (moderately) higher than those reported in table 1.

In 2001, crushed stone, by value, was Maryland's leading nonfuel mineral, followed by cement (portland and masonry) and construction sand and gravel. These three mineral commodities accounted for nearly 99% of the State's total value (table 1). All commodities' production and value remained relatively steady and close to 2000 levels, unlike most of the nonfuel minerals from 1999 to 2000 (table 1). In 2000, most of the State's rise in value resulted from increases in construction sand and gravel, up \$28.2 million, and crushed stone, up \$16 million. A substantial increase in production and value also occurred in the crushed stone category of marble, shell, and traprock. The values of portland cement and dimension stone also were up, although in lesser amounts (descending order of change). Decreases occurred in masonry cement, common clays, and industrial sand and gravel (table 1).

All nonfuel minerals mined in Maryland were industrial minerals. Compared with USGS estimates of the quantities of minerals produced in the other 49 States during 2001, the State was a significant producer of all of its major nonfuel raw mineral commodities—crushed stone, cement (portland and masonry), construction sand and gravel, and dimension stone (descending order of value). All metal production, in particular primary aluminum and raw steel, was processed from materials received from and other domestic and foreign sources. Based upon USGS data, the State rose to 9th from 11th among 13 States in the production of primary aluminum.

¹The terms "nonfuel mineral production" and related "values" encompass variations in meaning, depending upon the minerals or mineral products. Production may be measured by mine shipments, mineral commodity sales, or marketable production (including consumption by producers) as is applicable to the individual mineral commodity.

All 2001 USGS mineral production data published in this chapter are preliminary estimates as of August 2002 and are expected to change. For some mineral commodities, such as construction sand and gravel, crushed stone, and portland cement, estimates are updated periodically. To obtain the most current information, please contact the appropriate USGS mineral commodity specialist. Specialist contact information may be retrieved over the Internet at URL <http://minerals.usgs.gov/minerals/contacts/comdir.html>; alternatively, specialists' names and telephone numbers may be obtained by calling USGS information at (703) 648-4000 or by calling the USGS Earth Science Information Center at 1-888-ASK-USGS (275-8747). All Mineral Industry Surveys—mineral commodity, State, and country—also may be retrieved over the Internet at URL <http://minerals.usgs.gov/minerals>.

²Values, percentage calculations, and rankings for 2000 may differ from the Minerals Yearbook, Area Reports: Domestic 2000, Volume II, owing to the revision of preliminary 2000 to final 2000 data. Data for 2001 are preliminary and are expected to change; related rankings may also change.

TABLE 1
NONFUEL RAW MINERAL PRODUCTION IN MARYLAND 1/ 2/

(Thousand metric tons and thousand dollars unless otherwise specified)

| Mineral | 1999 | | 2000 | | 2001 p/ | |
|---|----------|------------|----------|------------|----------|------------|
| | Quantity | Value | Quantity | Value | Quantity | Value |
| Cement: | | | | | | |
| Masonry | 110 | 10,000 e/ | 78 | 7,140 e/ | 70 e/ | 6,600 e/ |
| Portland | 1,730 | 124,000 e/ | 1,760 | 125,000 e/ | 1,730 e/ | 123,000 e/ |
| Clays, common | 335 | 1,380 | 271 | 982 | 271 | 982 |
| Gemstones | NA | 1 | NA | 1 | NA | 1 |
| Sand and gravel, construction | 8,970 | 56,500 | 13,100 | 84,700 | 12,700 | 83,500 |
| Stone: | | | | | | |
| Crushed 3/ | 22,200 | 121,000 | 24,500 | 137,000 | 24,000 | 139,000 |
| Dimension metric tons | 26,000 | 3,160 | 28,700 | 3,560 | 28,000 | 3,500 |
| Combined values of sand and gravel (industrial) and stone (crushed marble, shell, traprock) | XX | (4/) | XX | (4/) | XX | (4/) |
| Total | XX | 316,000 | XX | 358,000 | XX | 356,000 |

e/ Estimated. p/ Preliminary. NA Not available. XX Not applicable.

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

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

3/ Excludes certain stones; kind and value included with "Combined values" data.

4/ Value excluded to avoid disclosing company proprietary data.

TABLE 2
MARYLAND: CRUSHED STONE SOLD OR USED, BY KIND 1/

| Kind | 1999 | | | | 2000 | | | |
|---------------------|--------------------|---------------------------------|-------------------|------------|--------------------|---------------------------------|-------------------|------------|
| | Number of quarries | Quantity (thousand metric tons) | Value (thousands) | Unit value | Number of quarries | Quantity (thousand metric tons) | Value (thousands) | Unit value |
| Limestone | 20 r/ | 16,300 r/ | \$86,800 r/ | \$5.31 r/ | 18 | 18,400 | \$93,400 | \$5.06 |
| Granite | 3 | 4,180 | 27,600 | 6.60 | 3 | 4,070 | 28,600 | 7.02 |
| Marble | 1 | W | W | W | 1 | W | W | W |
| Sandstone | 3 | 112 | 731 | 6.53 | 3 | 115 | 948 | 8.24 |
| Shell | 1 | W | W | W | 1 | W | W | W |
| Traprock | 1 | W | W | W | 2 | W | W | W |
| Miscellaneous Stone | 1 | 1,520 | 6,060 | 3.98 | 2 | 1,840 | 14,300 | 7.76 |
| Total or average | XX | 22,200 | 121,000 | 5.47 | XX | 24,500 | 137,000 | 5.61 |

r/ Revised. W Withheld from total to avoid disclosing company proprietary data. XX Not applicable.

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

TABLE 3
MARYLAND: CRUSHED STONE SOLD OR USED BY PRODUCERS IN 2000, BY USE 1/ 2/

| Use | Quantity (thousand metric tons) | Value (thousands) | Unit value |
|--|---------------------------------|-------------------|------------|
| Construction: | | | |
| Coarse aggregate (+1 1/2 inch): | | | |
| Macadam | W | W | \$5.83 |
| Riprap and jetty stone | 372 | \$3,880 | 10.44 |
| Filter stone | 54 | 460 | 8.52 |
| Other coarse aggregate | 31 | 203 | 6.55 |
| Total or average | 457 | 4,550 | 9.95 |
| Coarse aggregate, graded: | | | |
| Concrete aggregate, coarse | 631 | 5,740 | 9.10 |
| Bituminous aggregate, coarse | 238 | 2,140 | 8.97 |
| Bituminous surface-treatment aggregate | 771 | 5,980 | 7.76 |
| Railroad ballast | W | W | 6.17 |
| Other graded coarse aggregate | 2,910 | 19,200 | 6.59 |
| Total or average | 4,550 | 33,000 | 7.26 |
| Fine aggregate (-3/8 inch): | | | |
| Stone sand, concrete | W | W | 8.34 |
| Stone sand, bituminous mix or seal | 645 | 4,380 | 6.79 |
| Screening, undesignated | 41 | 270 | 6.59 |
| Other fine aggregate | 129 | 1,050 | 8.11 |
| Total or average | 815 | 5,700 | 6.99 |
| Coarse and fine aggregates: | | | |
| Graded road base or subbase | 1,260 | 9,340 | 7.40 |
| Unpaved road surfacing | W | W | 6.03 |
| Crusher run or fill or waste | 577 | 2,710 | 4.70 |
| Other coarse and fine aggregates | 4,600 | 21,100 | 4.59 |
| Total or average | 6,440 | 33,100 | 5.15 |
| Chemical and metallurgical: | | | |
| Cement manufacture | 2,560 | 8,360 | 3.27 |
| Sulfur oxide removal | (3/) | (3/) | 6.59 |
| Unspecified: 4/ | | | |
| Reported | 9,350 | 50,600 | 5.41 |
| Estimated | 200 | 1,100 | 5.51 |
| Total or average | 9,550 | 51,700 | 5.41 |
| Grand total or average | 24,500 | 137,000 | 5.61 |

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

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

2/ Includes granite, limestone, miscellaneous stone, and sandstone; excludes marble, shell, and traprock to avoid disclosing company proprietary data.

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

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

TABLE 4
MARYLAND: CRUSHED STONE SOLD OR USED BY PRODUCERS IN 2000, BY USE AND DISTRICT 1/ 2/

(Thousand metric tons and thousand dollars)

| Use | District 1 | | District 2 | | District 3 | |
|-----------------------------------|------------|--------|------------|--------|------------|--------|
| | Quantity | Value | Quantity | Value | Quantity | Value |
| Construction: | | | | | | |
| Coarse aggregate (+1 1/2 inch) 3/ | 35 | 240 | W | W | W | W |
| Coarse aggregate, graded 4/ | W | W | W | W | W | W |
| Fine aggregate (-3/8 inch) 5/ | 152 | 1,190 | W | W | W | W |
| Coarse and fine aggregate 6/ | W | W | 4,010 | 18,800 | W | W |
| Chemical and metallurgical 7/ | W | W | W | W | -- | -- |
| Unspecified: 8/ | | | | | | |
| Reported | 1,470 | 8,110 | 7,880 | 42,500 | -- | -- |
| Estimated | -- | -- | 200 | 1,000 | -- | -- |
| Total | 3,740 | 19,300 | 17,900 | 93,700 | 2,860 | 24,200 |

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 granite, limestone, miscellaneous stone, and sandstone; excludes marble, shell, and traprock from total to avoid disclosing company proprietary data.

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

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

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

6/ Includes crusher run (select material or fill), graded road base or subbase, unpaved road surfacing, and other coarse and fine aggregates.

7/ Includes cement manufacture, and sulfur oxide removal.

8/ Reported production without a breakdown by end use.

TABLE 5
MARYLAND: CONSTRUCTION SAND AND GRAVEL SOLD OR USED IN 2000, BY MAJOR USE CATEGORY 1/

| Use | Quantity (thousand metric tons) | Value (thousands) | Unit value |
|---|---------------------------------------|----------------------|---------------|
| Concrete aggregate (including concrete sand) | 4,090 | \$28,300 | \$6.92 |
| Concrete products (blocks, bricks, pipe, decorative, etc.) | 4 | 27 | 6.75 |
| Asphaltic concrete aggregates and other bituminous mixtures | 339 | 1,680 | 4.94 |
| Road base and coverings | 41 | 70 | 1.71 |
| Fill 2/ | 394 | 1,540 | 3.90 |
| Unspecified: 3/ | | | |
| Reported | 5,550 | 40,400 | 7.28 |
| Estimated | 2,700 | 13,000 | 4.78 |
| Total or average | 13,100 | 84,700 | 6.48 |

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

2/ Includes filtration.

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

TABLE 6
MARYLAND: CONSTRUCTION SAND AND GRAVEL SOLD OR USED IN 2000, BY USE AND DISTRICT 1/

(Thousand metric tons and thousand dollars)

| Use | Districts 1 and 2 | | District 3 | |
|---|-------------------|--------|------------|--------|
| | Quantity | Value | Quantity | Value |
| Concrete aggregate and concrete products | 2,450 | 17,400 | 1,640 | 10,800 |
| Asphaltic concrete aggregates and road base materials | W | W | W | W |
| Fill | W | W | W | W |
| Other miscellaneous uses 2/ | 432 | 1,610 | 343 | 1,670 |
| Unspecified: 3/ | | | | |
| Reported | 5,550 | 40,400 | -- | -- |
| Estimated | 1,800 | 7,200 | 860 | 5,500 |
| Total | 10,200 | 66,700 | 2,840 | 18,000 |

W Withheld to avoid disclosing company proprietary data, included with "Other miscellaneous uses." -- Zero.

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

2/ Includes filtration.