

# 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 2000, the estimated value<sup>1</sup> of nonfuel mineral production for Maryland was \$357 million, based upon preliminary U.S. Geological Survey (USGS) data. This was about a 13% increase from that of 1999<sup>2</sup> and followed a 10.2% decrease in value in 1999 from 1998. The State ranked 34th among the 50 States in total nonfuel mineral production value, of which Maryland accounted for almost 1% of the U.S. total.

In 2000, crushed stone, by value, was Maryland's leading nonfuel mineral, followed by portland cement and construction sand and gravel. Increases in the values of construction sand and gravel, crushed stone, and portland cement (in descending magnitude of change) accounted for the State's rise in value in 2000. Only masonry cement showed a small decrease for the year, while common clay, dimension stone, gemstones, and industrial sand and gravel remained the same or virtually unchanged (table 1). In 1999, most of the State's drop in value resulted from decreases in those of crushed stone and construction sand and gravel. Small increases occurred in portland cement and dimension stone.

All nonfuel minerals mined in Maryland were industrial minerals. The State continued to produce substantial quantities of cement (portland and masonry), crushed stone, and dimension stone. All metal production, in particular primary aluminum and raw steel, was processed from materials received from foreign and other domestic sources.

<sup>1</sup>The 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 2000 USGS mineral production data published in this chapter are preliminary estimates as of July 2001 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. A telephone listing of the specialists may be retrieved over the Internet at URL <http://minerals.usgs.gov/minerals/contacts/comdir.html>, by using MINES FaxBack at (703) 648-4999 from a fax machine with a touch-tone handset (request Document #1000 for a telephone listing of all mineral commodity specialists), or by calling USGS information at (703) 648-4000 for the specialist's name and number. All Mineral Industry Surveys—mineral commodity, State, and country—also may be retrieved over the Internet at URL <http://minerals.usgs.gov/minerals>; facsimile copies may be obtained from MINES FaxBack.

<sup>2</sup>Values, percentage calculations, and rankings for 1999 may vary from the Minerals Yearbook, Area Reports: Domestic 1999, Volume II, owing to the revision of preliminary 1999 to final 1999 data. Data for 2000 are preliminary and are expected to change; related rankings may also change.

Based upon USGS data, the State continued to be 11th among 14 States in the production of primary aluminum.

The Maryland Department of the Environment (MDE) provided the following narrative information.<sup>3</sup> Maryland Rock Industries, Inc., a subsidiary of Florida Rock Industries, Inc., was in the process of obtaining zoning approval for a sand and gravel mine on the Potomac River that was larger than 320 hectares (ha). The project, at a site known locally as Douglas Point, near Nanjemoy, Charles County, would involve the construction of a wash plant. Following processing, the finished product would be transported by barge about 60 kilometers upriver for use in the Washington, DC, area. According to the MDE, the proposal was very controversial and would likely be litigated before Maryland Rock could obtain a State surface mine permit.

Likewise regarding zoning approval, H.B. Mellott Co. was in the midst of a court proceeding in efforts to obtain approval for a 28-ha expansion of its limestone quarry at Beaver Creek, southeast of Hagerstown, Washington County.

The MDE promulgated regulations to support the zone of influence requirements in the State's surface mine law. A zone of influence is an area where, if private property damage is sustained, the person suffering the loss must be reimbursed for damages by the quarry operating within the zone's boundaries. The zones are based upon topography and historical data, on geologic and hydrogeologic factors, and potential effects to the areas wells. The quarry is initially presumed responsible in order to facilitate an immediate solution for the victim. The new regulations regarding zone of influence affects quarries in karst areas by making the quarry operator responsible for water supply replacement and the reporting of and management of sinkholes that develop. The regulations specify procedures for providing a temporary water supply, sinkhole investigation procedure, and proper reporting procedures.

MDE's Mining Program began a study to measure the impacts from several mining sites on adjacent wetlands, water table, and streams. Monitoring wells were installed and stream gauging and wetlands identification were done to provide baseline and background information. The wells are monitored twice monthly, and the effects on vegetation are also monitored. The study was expected to last a minimum of 2 years.

<sup>3</sup>C. Edmon Larrimore, Chief, Minerals, Oil and Gas Division, authored the narrative information that was submitted by the Maryland Department of the Environment.

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

(Thousand metric tons and thousand dollars unless otherwise specified)

Mineral	1998		1999		2000 p/	
	Quantity	Value	Quantity	Value	Quantity	Value
Cement:						
Masonry	W	W	110	10,000 e/	95	8,600 e/
Portland	1,760	123,000 e/	1,730	124,000 e/	1,800	128,000 e/
Clays, common	339	1,380	335	1,380	335	1,380
Gemstones	NA	1	NA	1	NA	1
Sand and gravel, construction	10,400	60,500	8,970	56,500	11,800	76,000
Stone:						
Crushed 3/	24,300	141,000	22,200	121,000	25,000	140,000
Dimension metric tons	23,100	2,730	26,000	3,160	26,800	3,130
Combined values of sand and gravel (industrial), stone [crushed marble and traprock (1998), crushed marble, shell, traprock (1999-2000)], and value indicated by symbol W	XX	23,700	XX	(4/)	XX	(4/)
Total	XX	352,000	XX	316,000 5/	XX	357,000 5/

e/ Estimated. p/ Preliminary. NA Not available. W Withheld to avoid disclosing company proprietary data; value included with "Combined values" data. 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.

5/ Partial total, excludes values withheld to avoid disclosing company proprietary data.

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

Kind	1998				1999			
	Number of quarries	Quantity (thousand metric tons)	Value (thousands)	Unit value	Number of quarries	Quantity (thousand metric tons)	Value (thousands)	Unit value
Limestone	21	18,300	\$102,000	\$5.55	21	17,900	\$92,900	\$5.20
Granite	3	5,880	38,100	6.49	3	4,180	27,600	6.60
Marble	1	W	W	W	1	W	W	W
Sandstone	3	138 r/	798	5.78 r/	3	112	731	6.53
Shell	1	W	W	W	1	W	W	W
Traprock	1	W	W	W	1	W	W	W
Total or average	XX	24,300	141,000	5.78	XX	22,200	121,000	5.47

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 1999, BY USE 1/ 2/

Use	Quantity		
	(thousand metric tons)	Value (thousands)	Unit value
<b>Construction:</b>			
<b>Coarse aggregate (+1 1/2 inch):</b>			
Riprap and jetty stone	376	\$2,780	\$7.40
Other coarse aggregate	9	54	6.00
Total or average	385	2,840	7.37
<b>Coarse aggregate, graded:</b>			
Concrete aggregate, coarse	1,100	7,390	6.70
Bituminous aggregate, coarse	1,180	6,520	5.53
Bituminous surface-treatment aggregate	W	W	W
Railroad ballast	W	W	W
Other graded coarse aggregate	1,580	6,510	4.12
Total or average	4,150	22,500	5.42
<b>Fine aggregate (-3/8 inch):</b>			
Stone sand, concrete	W	W	W
Stone sand, bituminous mix or seal	W	W	W
Screening, undesignated	237	950	4.01
Total or average	610	3,220	5.28
<b>Coarse and fine aggregates:</b>			
Graded road base or subbase	2,250	11,500	5.11
Unpaved road surfacing	W	W	W
Crusher run or fill or waste	493	2,480	5.04
Other coarse and fine aggregates	W	W	W
Total or average	3,390	17,000	5.03
Chemical and metallurgical, cement manufacture	(3/)	(3/)	(3/)
Unspecified, reported 4/	(3/)	(3/)	(3/)
Grand total or average	22,200	121,000	5.47

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

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

4/ Reported production without a breakdown by end use.

TABLE 4  
MARYLAND: CRUSHED STONE SOLD OR USED BY PRODUCERS IN 1999,  
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
<b>Construction:</b>						
Coarse aggregate (+1 1/2 inch) 3/	W	W	125	638	W	W
Coarse aggregate, graded 4/	W	W	3,130	14,700	W	W
Fine aggregate (-3/8 inch) 5/	123	816	191	650	295	1,760
Coarse and fine aggregate 6/	830	3,900	1,340	5,630	1,210	7,500
Chemical and metallurgical 7/	W	W	1,870	7,030	--	--
Unspecified, reported 8/	1,740	9,740	9,250	56,000	--	--
Total	3,570	18,200	15,900	84,600	2,660	18,400

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 and sandstone; excludes marble, shell, and traprock to avoid disclosing company proprietary data.

3/ Includes 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), and stone sand (concrete).

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

7/ Includes cement manufacture.

8/ Reported production without a breakdown by end use.

TABLE 5  
MARYLAND: CONSTRUCTION SAND AND GRAVEL SOLD OR USED IN 1999,  
BY MAJOR USE CATEGORY 1/

Use	Quantity (thousand metric tons)	Value (thousands)	Unit value
Concrete aggregate (including concrete sand) 2/	3,770	\$23,700	\$6.29
Concrete products (blocks, bricks, decorative, pipe, etc.)	5	36	7.20
Asphaltic concrete aggregates and other bituminous mixtures	171	557	3.26
Road base and coverings	31	90	2.90
Fill	W	W	1.62
Other miscellaneous uses 3/	393	1,040	2.65
Unspecified: 4/			
Reported	2,610	20,900	7.99
Estimated	2,000	10,000	5.00
Total or average	8,970	56,500	6.29

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

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

2/ Includes gunite sands and plaster.

3/ Includes filtration and ice and snow control.

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

TABLE 6  
MARYLAND: CONSTRUCTION SAND AND GRAVEL SOLD OR USED IN 1999,  
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/	3,150	19,800	625	3,980
Asphaltic concrete aggregates and road base materials	132	451	70	196
Fill	W	W	W	W
Other miscellaneous uses 3/	32	358	16	122
Unspecified: 4/				
Reported	2,610	20,900	--	--
Estimated	870	2,000	1,100	8,200
Total	7,040	43,800	1,930	12,700

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 gunite sands and plaster.

3/ Includes filtration and ice and snow control.

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