

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 1999, the preliminary estimated value¹ of nonfuel mineral production for Maryland was \$336 million, according to the U.S. Geological Survey (USGS). This was about a 5% decrease from that of 1998,² following a 5.1% decrease in value in 1998 from 1997. The State ranked 34th among the 50 States in 1999 in total nonfuel mineral production value, of which Maryland accounted for about 1% of the U.S. total.

In 1999, crushed stone, by value, was Maryland's leading nonfuel mineral. (This includes crushed stone that is listed in the "Combined values" section of table 1). It was followed by portland cement and construction sand and gravel. Decreases in the values of crushed stone and construction sand and gravel accounted for most of the State's drop in value in 1999. Only portland and masonry cements and dimension stone showed increases for the year, while industrial sand and gravel and gemstones remained the same. In 1998, a \$19 million decrease in crushed stone value and a nearly \$5 million drop in construction sand and gravel value were responsible for most of the State's decrease in value from 1997. Only cement, especially portland cement with an \$8 million increase, had a significant rise in value for the year.

All nonfuel minerals mined in Maryland were industrial minerals. While Maryland remained 10th in the production of masonry cement, the State continued to produce substantial

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 1999 USGS mineral production data published in this chapter are preliminary estimates as of May 2000 and are expected to change. For some mineral commodities (for example, 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 for the specialists may be retrieved over the Internet at <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 <http://minerals.usgs.gov/minerals>; facsimile copies may be obtained from MINES FaxBack.

²Values, percentage calculations, and rankings for 1998 may vary from the Minerals Yearbook, Area Reports: Domestic 1998, Volume II, owing to the revision of preliminary 1998 to final 1998 data. Data for 1999 are preliminary and are expected to change, while related rankings may also be subject to change.

quantities of crushed stone, portland cement, and dimension stone. All metal production, in particular primary aluminum and raw steel, was processed from materials received from foreign and other domestic sources.

The Maryland Department of the Environment (MDE) provided the following narrative information.³ The MDE issued a permit for a new limestone quarry in Carroll County. The 51.4-hectare permit issued to The Arundel Corp. had been under review for several years. Several agency permits were required for the site, including a Water Appropriation Permit and a Non-Tidal Wetlands and Waterways Permit for relocation of an on-site stream. The company will maintain a historic house on the property.

Mike Davidson Sand and Gravel, LLC commenced an innovative education program at its Salisbury pit in Caroline County. A large shed was built to house fish tanks, a classroom, and a work area. Students from local high schools will participate in a program to raise fish in the tanks and outside in a small pond and in pens in the large lake that was created by the mining operation. The growth and mortality rates of the fish will be compared. The students will be responsible for all aspects of the operation from feeding and caring for the fish to harvesting and marketing them.

The MDE worked with Chaney Enterprises Limited Partnership on an innovative reclamation plan at the Mardis pit in Anne Arundel County. The site will be reclaimed as an 18-hole golf course. The golf course will enhance and maintain on-site nontidal wetlands and preserve most of the mature trees. Each hole will replicate a famous hole at an existing golf course. Mining and wash-plant activities had been ongoing at the site for about 50 years.

The MDE participated in a pilot study program to assess the impacts from sand and gravel mining on agricultural land. The study program resulted from legislation supported by farmers who want to put their land into a funded agricultural trust program and who also want to be able to have sand and gravel mined on their property. Current restrictions in the Agricultural Preservation Program prohibit mining on trust lands. The work group will consist of representatives from the mining industry, agricultural community, regulatory agencies, and soil scientists.

³C. Edmond 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	1997		1998		1999 p/	
	Quantity	Value	Quantity	Value	Quantity	Value
Cement: Portland	1,790	115,000 e/	1,760	123,000 e/	1,800	126,000 e/
Clays: Common	287	1,010	339	1,380	342	1,350
Gemstones	NA	1	NA	1	NA	1
Sand and gravel: Construction	10,100	65,400	10,400	60,500	9,350	55,600
Stone:						
Crushed 3/	24,700 r/	161,000 r/	24,300	141,000	21,300	126,000
Dimension metric tons	21,500	2,440	23,100	2,730	24,400	3,000
Combined values of cement (masonry), sand and gravel (industrial), stone [crushed marble and traprock (1997-98); crushed marble, shell, traprock (1999)]	XX	26,800 r/	XX	23,700	XX	24,100
Total	XX	371,000	XX	352,000	XX	336,000

e/ Estimated. p/ Preliminary. r/ Revised. 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.

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

Kind	1997				1998			
	Number of quarries	Quantity (thousand metric tons)	Value (thousands)	Unit value	Number of quarries	Quantity (thousand metric tons)	Value (thousands)	Unit value
Limestone	19	18,300	\$122,000	\$6.67	21	18,300	\$102,000	\$5.55
Granite	3	6,020	36,100	6.00	3	5,880	38,100	6.49
Marble	1	W	W	W	1	W	W	W
Sandstone	3	172	1,580	9.14	3	137	798	5.79
Shell	1	(2)	(2)	(2)	1	W	W	W
Traprock	1	W	W	W	1	W	W	W
Total or average	XX	24,700 r/	161,000 r/	6.52	XX	24,300	141,000	5.78

r/ Revised. W Withheld 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.

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

TABLE 3
MARYLAND: CRUSHED STONE SOLD OR USED BY PRODUCERS IN 1998, BY USE 1/ 2/

Use	Quantity (thousand metric tons)	Value (thousands)	Unit value
Coarse aggregate (+1 1/2 inch):			
Riprap and jetty stone	W	W	\$9.03
Filter stone	W	W	6.22
Other coarse aggregate	W	W	2.76
Total or average	1,110	\$5,330	4.79
Coarse aggregate, graded:			
Concrete aggregate, coarse	1,510	11,700	7.75
Bituminous aggregate, coarse	401	2,980	7.44
Bituminous surface-treatment aggregate	W	W	7.67
Railroad ballast	W	W	11.23
Total or average	2,130	16,400	7.70
Fine aggregate (-3/8 inch):			
Stone sand, concrete	78	429	5.50
Stone sand, bituminous mix or seal	W	W	5.85
Screening, undesignated	36	270	7.50
Other fine aggregate	W	W	6.67
Total or average	747	4,540	6.08
Coarse and fine aggregates:			
Graded road base or subbase	1,670	11,100	6.63
Crusher run or fill or waste	W	W	4.07
Other coarse and fine aggregates	W	W	4.41
Total or average	2,570	15,000	5.82
Chemical and metallurgical: Cement manufacture	(3/)	(3/)	3.31
Other miscellaneous uses: Other specified uses not listed	(3/)	(3/)	4.81
Unspecified: 4/			
Actual	14,900	90,000	6.03
Estimated	407	2,480	6.08
Total or average	15,300	92,500	6.03
Grand total or average	24,300	141,000	5.78

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

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

2/ Includes granite, limestone, 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 1998,
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 aggregates:						
Coarse aggregate (+1 1/2 inch) 3/	W	W	W	W	W	W
Coarse aggregate, graded 4/	W	W	W	W	W	W
Fine aggregate (-3/8 inch) 5/	W	W	(6/)	(6/)	W	W
Coarse and fine aggregate 7/	903	4,160	554	4,020	1,110	6,880
Other construction materials	305	2,110	2,400	14,500	1,390	10,700
Chemical and metallurgical 8/	(9/)	(9/)	(9/)	(9/)	--	--
Other miscellaneous uses	--	--	(9/)	(9/)	--	--
Unspecified: 10/						
Actual	(9/)	(9/)	(9/)	(9/)	--	--
Estimated	407	2,480	--	--	(6/)	(6/)
Total	3,760	18,900	18,100	104,000	2,500	17,600

W Withheld to avoid disclosing company proprietary data; included with "Other construction materials." -- 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 filter stone, riprap and jetty stone, and other coarse aggregate.

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

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

6/ Excluded to avoid disclosing company proprietary data.

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

8/ Includes cement manufacture.

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

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

TABLE 5
MARYLAND: CONSTRUCTION SAND AND GRAVEL SOLD OR USED IN 1998,
BY MAJOR USE CATEGORY 1/

Use	Quantity	Value (thousands)	Unit value
	(thousand metric tons)		
Concrete aggregate 2/	4,020	\$22,200	\$5.51
Concrete products (blocks, bricks, pipe, decorative, etc.)	5	28	5.60
Asphaltic concrete aggregates and other bituminous mixtures	167	439	2.63
Road base and coverings 3/	135	279	2.07
Other miscellaneous uses 4/	426	1,010	2.36
Unspecified: 5/			
Actual	3,160	24,200	7.67
Estimated	2,450	12,400	5.04
Total or average	10,400	60,500	5.83

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

2/ Includes plaster and gunite sands.

3/ Includes road stabilization (lime).

4/ Includes fill, filtration, and snow and ice control.

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

TABLE 6
 MARYLAND: CONSTRUCTION SAND AND GRAVEL SOLD OR USED IN 1998,
 BY USE AND DISTRICT 1/

(Thousand metric tons and thousand dollars)

Use	District 1		District 2		District 3	
	Quantity	Value	Quantity	Value	Quantity	Value
Concrete aggregate and concrete products 2/	--	--	W	W	W	W
Asphaltic concrete aggregate and road base materials 3/	--	--	W	W	W	W
Other miscellaneous uses 4/	38	400	289	412	99	193
Unspecified: 5/						
Actual	--	--	3,150	24,200	10	83
Estimated	23	206	1,270	3,750	1,160	8,400
Total	61	606	8,290	46,700	2,020	13,200

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 plaster and gunite sands.

3/ Includes road and other stabilization (cement).

4/ Includes fill, filtration, and snow and ice control.

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