

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 1998, the preliminary estimated value¹ of nonfuel mineral production for Maryland was \$358 million, according to the U.S. Geological Survey (USGS). This was about a 3% decrease from that of 1997,² following an 11.8% increase from 1996 to 1997. The State remained 34th among the 50 States in 1998 in total nonfuel mineral production value, of which Maryland accounted for about 1% of the U.S. total.

By value, crushed stone continued as Maryland's leading nonfuel mineral, followed by portland cement and construction sand and gravel. Whereas nearly all nonfuel minerals increased in value in 1998, crushed stone and industrial sand and gravel dropped in value and gemstones remained the same. This emulated 1997 trends, except that the value of crushed stone then had increased by almost 13%.

All nonfuel minerals mined in Maryland were industrial minerals; the State continued to produce substantial quantities of crushed stone, construction sand and gravel, dimension stone, and portland and masonry cement. All metals

¹The terms "nonfuel mineral production" and related "values" encompass variations in meaning, depending on 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 1998 USGS mineral production data published in this chapter are preliminary estimates as of February 1999 and are expected to change. For some 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> or by way of MINES FaxBack.

²Values, percentage calculations, and rankings for 1997 may vary from the *Minerals Yearbook, Area Reports: Domestic 1997, Volume II*, owing to the revision of preliminary 1997 to final 1997 data. Data for 1998 are preliminary and expected to change, while related rankings may also be subject to change.

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 has approved a closeout plan for the Arundel Corp.'s Greenspring Quarry in Baltimore County. Extraction activities are scheduled to cease on December 31, 1999, based on agreements made by the company with surrounding residential communities. The reclamation plan is divided into three phases. The quarry first will be filled with water, after which the surrounding area and then the remainder of the property will be graded to facilitate development. In the final phase, development, consisting of residential and commercial buildings, will take place.

In conjunction with the Maryland State Department of Education and the coal and noncoal mineral industries, the MDE is working to put together teaching segments for high school teachers regarding minerals, mining, and reclamation. The segments will satisfy both science and social studies criteria. A team of teachers, MDE, Maryland State Department of Education, and industry representatives will work together in the summer of 1999 to complete the segments, which will be "field tested" by the teachers on the team during the 1999-2000 school year. If the segments are successful, a yearly conference will be started to provide up-to-date information and related teaching aids to teachers across the State.

Additionally, the MDE is working in conjunction with the aggregates industry to produce a video entitled "Environmentally Sound Practices in the Aggregates Industry." The video will be used to teach mining company employees the importance of sound mining and reclamation practices (including all required permits) and projecting a positive image.

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	1996		1997		1998 p/	
	Quantity	Value	Quantity	Value	Quantity	Value
Cement: Portland	1,610	99,400 e/	1,790	115,000 e/	1,850	121,000
Clays: Common	304	874	287	1,010	292	1,030
Gemstones	NA	1	NA	1	NA	1
Sand and gravel: Construction	9,700	61,400	10,100	65,400	11,700	78,200
Stone:						
Crushed 3/ Dimension metric tons	22,400	142,000	24,500	160,000	21,000	126,000
Combined values of cement (masonry), sand and gravel (industrial), stone (crushed marble and traprock)	19,800	2,210	21,500	2,440	21,400	2,480
Total	XX	26,000	XX	28,200	XX	29,000
Total	XX	332,000	XX	371,000	XX	358,000

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 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	1996				1997			
	Number of quarries	Quantity (thousand metric tons)	Value (thousands)	Unit value	Number of quarries	Quantity (thousand metric tons)	Value (thousands)	Unit value
Limestone	21	17,400	\$111,000	\$6.42	19	18,300	\$122,000	\$6.67
Granite	3	4,880	29,500	6.04	3	6,020	36,100	6.00
Traprock	1	(2/)	(2/)	(2/)	1	(2/)	(2/)	(2/)
Marble	1	(2/)	(2/)	(2/)	1	(2/)	(2/)	(2/)
Shell	--	--	--	--	1	(2/)	(2/)	(2/)
Sandstone	3	196	1,110	5.64	3	172	1,580	9.16
Total	XX	22,400	142,000	6.33	XX	24,500	160,000	6.52

XX Not applicable.

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

2/ Excluded from State total to avoid disclosing company proprietary data.

TABLE 3
MARYLAND: CRUSHED STONE SOLD OR USED BY PRODUCERS IN 1997, BY USE 1/ 2/

Use	Quantity (thousand metric tons)	Value (thousands)	Unit value
Coarse aggregate (+1 1/2 inch):			
Riprap and jetty stone	441	\$3,530	\$8.00
Other coarse aggregate	195	1,340	6.87
Coarse aggregate, graded:			
Concrete aggregate, coarse	999	7,350	7.36
Bituminous aggregate, coarse	1,020	6,910	6.75
Bituminous surface-treatment aggregate	266	2,020	7.58
Other graded coarse aggregate 3/	5,740	40,900	7.12
Fine aggregate (-3/8 inch):			
Stone sand, concrete	450	3,930	8.74
Other fine aggregate 4/	1,310	8,230	6.30
Coarse and fine aggregates:			
Graded road base or subbase	1,760	11,900	6.73
Crusher run or fill or waste	763	4,140	5.42
Other coarse and fine aggregates 5/	766	3,450	4.51
Agricultural: Agricultural limestone	W	W	7.45
Chemical and metallurgical: Cement manufacture	2,660	6,080	2.28
Special:			
Whiting or whiting substitute	W	W	W
Other fillers or extenders	W	W	33.33
Roofing granules	W	W	31.25
Unspecified: Actual: 6/	7,860	40,100	5.10
Total	24,500	160,000	6.52

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

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

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

3/ Includes railroad ballast.

4/ Stone sand (bituminous mix or seal) and screening (undesigned).

5/ Includes unpaved road surfacing.

6/ Includes actual production without a breakdown by end use.

TABLE 4
MARYLAND: CRUSHED STONE SOLD OR USED BY PRODUCERS IN 1997,
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	W	W	W	W
Coarse and fine aggregate 6/	1.270	6.610	W	W	W	W
Agricultural 7/	W	W	W	W	W	W
Chemical and metallurgical 8/	W	W	W	W	--	--
Special 9/	--	--	W	W	--	--
Other miscellaneous use	--	--	--	--	W	W
Unspecified: Actual 10/	W	W	W	W	--	--
Total	3,650	16,700	18,200	125,000	2,680	18,400

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

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

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

3/ Includes riprap and jetty stone.

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

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

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

7/ Includes agricultural limestone and other agricultural uses.

8/ Includes cement manufacture.

9/ Includes other special uses.

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

TABLE 5
MARYLAND: CONSTRUCTION SAND AND GRAVEL SOLD OR USED IN 1997,
BY MAJOR USE CATEGORY 1/ 2/

Use	Quantity (thousand metric tons)	Value (thousands)	Value per ton
Concrete aggregate (including concrete sand) 3/	4,030	\$28,100	\$6.98
Concrete products (blocks, bricks, pipe, decorative, etc.)	4	23	5.75
Asphaltic concrete aggregates and other bituminous mixtures	367	2,830	7.70
Road base and coverings 4/	236	1,360	5.78
Fill	173	349	2.02
Other miscellaneous uses 5/	180	1,130	6.25
Unspecified: 6/			
Actual	2,680	19,300	7.23
Estimated	2,400	12,300	5.12
Total or average	10,100	65,400	6.50

1/ To avoid disclosing company proprietary data, no district tables were produced for 1997.

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

3/ Includes plaster and gunite sands.

4/ Includes road stabilization (lime).

5/ Includes filtration, railroad ballast, and snow and ice control.

6/ Includes reported and estimated production without a breakdown by end use.