

# THE MINERAL INDUSTRY OF WEST VIRGINIA

This chapter has been prepared under a Memorandum of Understanding between the U.S. Geological Survey and the West Virginia Geological and Economic Survey for collecting information on all nonfuel minerals.

In 1998, the preliminary estimated value<sup>1</sup> of nonfuel mineral production for West Virginia was \$182 million, according to the U.S. Geological Survey (USGS). This was about an 11% decrease from that of 1997,<sup>2</sup> and followed a 10.8% increase in 1997 from that of 1996.

<sup>1</sup>The 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 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.

<sup>2</sup>Values, 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.

Crushed stone was West Virginia's leading nonfuel mineral by value and represented about 43% of the State total. Portland cement, industrial sand and gravel, lime, and salt, in descending order of value, followed. These top five mineral commodities accounted for 92% of the State's total nonfuel mineral production value. The majority of the decrease in value in 1998 resulted from a decrease in the production of crushed stone, which is not shown in table 1. The data were withheld to protect company proprietary data. In 1997, crushed dolomite and portland cement accounted for most of the State's increase in value.

Based on USGS estimates of the quantities of minerals produced in the 50 States in 1998, West Virginia decreased to 10th<sup>2</sup> from 9th in salt; the State also produced significant quantities of cement and crushed stone. West Virginia mines produced only industrial minerals and coal; no metals were mined in the State. Primary aluminum and raw steel were produced in West Virginia, but both metals were processed from materials acquired from foreign and other domestic sources. In 1998, West Virginia, as well as Montana, ranked 11th in the Nation in the production of primary aluminum.

TABLE 1  
NONFUEL RAW MINERAL PRODUCTION IN WEST VIRGINIA 1/ 2/

(Thousand metric tons and thousand dollars unless otherwise specified)

Mineral	1996		1997		1998 p/	
	Quantity	Value	Quantity	Value	Quantity	Value
Clays: Common	199	369	151	323	154	329
Gemstones	NA	1	NA	1	NA	1
Sand and gravel: Construction	1,730	7,710	1,670	8,010	1,600	7,860
Stone: Crushed	12,700 3/	78,400 3/	12,900 3/	76,700 3/	13,000	78,000
Combined values of cement, peat, salt, sand and gravel (industrial), stone [crushed dolomite (1996-97), dimension sandstone]	XX	98,600	XX	120,000	XX	96,200
Total	XX	185,000	XX	205,000	XX	182,000

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

1/ Production as measured by mine shipments, 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  
WEST VIRGINIA: CRUSHED STONE SOLD OR USED BY PRODUCERS, 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	36	11,900	\$72,400	\$6.10	38	12,000	\$70,500	\$5.86
Dolomite	1	(2/)	(2/)	(2/)	1	(2/)	(2/)	(2/)
Sandstone	9	851	5,970	7.02	8	856	6,180	7.22
Total	XX	12,700	78,400	6.16	XX	12,900	76,700	5.95

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  
WEST VIRGINIA: CRUSHED STONE SOLD OR USED BY PRODUCERS  
IN 1997, BY USE 1/ 2/

Use	Quantity (thousand metric tons)	Value (thousands)	Unit value
<b>Coarse aggregate (+1 1/2 inch):</b>			
Macadam	18	\$111	\$6.17
Riprap and jetty stone	304	1,990	6.54
Filter stone	147	828	5.63
Other coarse aggregate	80	399	4.99
<b>Coarse aggregate, graded:</b>			
Concrete aggregate, coarse	795	4,330	5.45
Bituminous aggregate, coarse	713	3,700	5.19
Bituminous surface-treatment aggregate	373	2,100	5.62
Railroad ballast	55	314	5.71
<b>Fine aggregate (-3/8 inch):</b>			
Stone sand, concrete	186	1,170	6.31
Stone sand, bituminous mix or seal	313	1,700	5.44
Screening, undesignated	26	185	7.12
<b>Coarse and fine aggregates:</b>			
Graded road base or subbase	366	2,100	5.73
Unpaved road surfacing	30	215	7.17
Crusher run or fill or waste	1,160	6,050	5.21
Other construction materials	172	924	5.37
Agricultural limestone	34	202	5.94
Chemical and metallurgical: Cement manufacture	W	W	1.51
<b>Special:</b>			
Mine dusting or acid water treatment	W	W	24.78
Other fillers or extenders	W	W	24.45
<b>Unspecified: 3/</b>			
Actual	5,130	36,000	7.01
Estimated	1,690	10,700	6.36
Total	12,900	76,700	5.95

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

1/ Includes limestone, and sandstone; excludes dolomite from State total to avoid disclosing company proprietary data.

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

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

TABLE 4  
WEST VIRGINIA: 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
<b>Construction aggregates:</b>						
Coarse aggregate (+1 1/2 inch) 3/	222	1,220	113	712	215	1,400
Coarse aggregate, graded 4/	668	3,380	380	2,480	W	W
Fine aggregate (-3/8 inch) 5/	96	645	W	W	372	2,130
Coarse and fine aggregate 6/	643	3,390	279	1,690	634	3,280
Other construction materials	172	924	--	--	--	--
Agricultural 7/	W	W	W	W	W	W
Chemical and metallurgical 8/	--	--	W	W	--	--
Special 9/	W	W	--	--	--	--
<b>Unspecified: 10/</b>						
Actual	3,310	23,500	293	2,940	1,530	9,500
Estimated	640	4,720	692	4,170	358	1,860
<b>Total</b>	<b>5,850</b>	<b>39,800</b>	<b>3,050</b>	<b>14,200</b>	<b>3,990</b>	<b>22,700</b>

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

1/ Excludes dolomite from State total to avoid disclosing company proprietary data.

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

3/ Includes filter stone, macadam, 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), and screening (undesignated).

6/ Includes graded road base or subbase, unpaved road surfacing, and cursher run (select material or fill).

7/ Includes agricultural limestone.

8/ Includes cement manufacture.

9/ Includes mine dusting or acid water treatment and other fillers or extenders.

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

TABLE 5  
WEST VIRGINIA: 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/	179	\$1,250	\$6.99
Concrete products (blocks, bricks, pipe, decorative, etc.)	82	\$420	5.12
Asphaltic concrete aggregates and other roadbase material	171	782	4.57
Fill	132	560	4.24
Snow and ice control	36	110	3.06
Other miscellaneous uses	9	46	5.11
Unspecified: Actual 4/	1,060	4,840	4.55
<b>Total or average</b>	<b>1,670</b>	<b>8,010</b>	<b>4.79</b>

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 reported and estimated production without a breakdown by end use.