

# 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 1997, for the third consecutive year, West Virginia ranked 40th among the 50 States in total nonfuel mineral production value,<sup>1</sup> according to the U.S. Geological Survey (USGS). The estimated value for 1997 was \$190 million, about a 3% increase from that of 1996. This followed a 2.2% increase from 1995 to 1996 (based on final 1996 data). The State accounted for 0.5% of the U.S. total nonfuel mineral production value.

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<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 1997 USGS mineral production data published in this chapter are estimates as of January 1998. 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. Call MINES FaxBack at (703) 648-4999 from a fax machine with a touch-tone handset, and request Document # 1000 for a telephone listing of all mineral commodity specialists, or call USGS information at (703) 648-4000 for the specialist's name and number. This telephone listing may also be retrieved over the Internet at <http://minerals.er.usgs.gov/minerals/contacts/comdir.html>. All Mineral Industry Surveys—mineral commodity, State, and country—also may be retrieved by way of MINES FaxBack or over the Internet at <http://minerals.er.usgs.gov/minerals/>.

Crushed stone and portland cement were West Virginia's two leading nonfuel minerals. The rise in the State's nonfuel mineral value in 1997 resulted from increases in crushed stone (including crushed dolomite), portland cement, and construction sand and gravel, in descending order of relative increase (*table 1*). All other nonfuel minerals showed small increases in value except for small decreases that occurred in common clays and peat; industrial sand and gravel and gemstones remained unchanged.

In 1996, increases in the values of lime, crushed limestone, masonry cement, and crushed dolomite (descending order of relative increase) more than compensated for a 17% drop in the value of portland cement, resulting in the State's net increase.

Based on USGS estimates of the quantities of minerals produced in the 50 States in 1997, West Virginia remained 9th in salt. 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. West Virginia was 12th in the Nation in primary aluminum production in 1997.

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

(Thousand metric tons and thousand dollars unless otherwise specified)

Mineral	1995		1996		1997 p/	
	Quantity	Value	Quantity	Value	Quantity	Value
Clays, common	184	365	199	369	169	338
Gemstones	NA	1	NA	1	NA	1
Sand and gravel, construction	1,800	7,650	1,730	7,710	1,830	8,330
Stone, crushed 3/	11,800	75,000	12,700	78,400	12,600	79,000
Combined value of cement, lime, peat, salt, sand and gravel (industrial), stone [crushed dolomite, dimension sandstone]	XX	97,700	XX	98,600	XX	102,000
Total	XX	181,000	XX	185,000	XX	190,000

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 value" data.

TABLE 2  
CRUSHED STONE SOLD OR USED BY PRODUCERS IN WEST VIRGINIA, BY KIND 1/ 2/

Kind	1995				1996			
	Number of quarries	Quantity (thousand metric tons)	Value (thousands)	Unit value	Number of quarries	Quantity (thousand metric tons)	Value (thousands)	Unit value
Limestone	38	10,800	\$68,800	\$6.36	36	11,900	\$72,400	\$6.10
Sandstone	10	934	6,170	6.61	9	851	5,970	7.02
Total	XX	11,800	75,000	6.38	XX	12,700	78,400	6.16

XX Not applicable.

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

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

TABLE 3  
WEST VIRGINIA: CRUSHED STONE SOLD OR USED BY PRODUCERS  
IN 1996, BY USE 1/ 2/

Use	Quantity (thousand metric tons)	Value (thousands)	Unit value
<b>Coarse aggregate (+1 1/2 inch):</b>			
Macadam	52	\$514	\$9.88
Riprap and jetty stone	418	2,250	5.38
Filter stone	169	985	5.83
Other coarse aggregate	59	364	6.17
<b>Coarse aggregate, graded:</b>			
Concrete aggregate, coarse	550	3,340	6.07
Bituminous aggregate, coarse	609	3,220	5.28
Bituminous surface-treatment aggregate	311	1,950	6.27
Railroad ballast	62	380	6.13
Other graded coarse aggregate	1,170	7,070	6.02
<b>Fine aggregate (-3/8 inch):</b>			
Stone sand, concrete	135	783	5.80
Stone sand, bituminous mix or seal	315	1,760	5.58
Screening, undesignated	51	296	5.80
<b>Coarse and fine aggregates:</b>			
Graded road base or subbase	467	2,570	5.51
Unpaved road surfacing	146	956	6.55
Crusher run or fill or waste	1,120	5,510	4.90
Other construction materials 3/	71	360	5.07
Agricultural limestone	8	67	8.38
<b>Chemical and metallurgical:</b>			
Cement manufacture	1,120	1,530	1.37
Sulfur oxide removal	13	68	5.23
Special, mine dusting or acid water treatment	86	2,090	24.30
<b>Unspecified: 4/</b>			
Actual	5,150	38,400	7.45
Estimated	1,790	11,000	6.11
Total	12,700	78,400	6.16

1/ Includes limestone and sandstone, 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 other graded coarse aggregate.

4/ Includes production reported without a breakdown by end use and with estimates for nonrespondents.

TABLE 4  
WEST VIRGINIA: CRUSHED STONE SOLD OR USED BY PRODUCERS IN 1996,  
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/	223	769	243	1,910	234	1,440
Coarse aggregate, graded 4/	336	1,900	W	W	W	W
Fine aggregate (-3/8 inch) 5/	72	504	W	W	W	W
Coarse and fine aggregate 6/	498	2,420	510	2,930	729	3,690
Other construction materials	--	--	571	3,710	1,130	5,970
Agricultural 7/	5	39	(8/)	(8/)	(8/)	(8/)
Chemical and metallurgical 9/	--	--	1,130	1,600	--	--
Special 10/	86	2,090	--	--	--	--
Unspecified: 11/						
Actual	3,600	26,300	462	4,810	1,090	7,290
Estimated	662	4,660	(8/)	(8/)	(8/)	(8/)
Total	5,480	38,700	3,540	18,600	3,690	21,100

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

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, railroad ballast, and other graded coarse aggregate.

5/ Includes stone sand (concrete), stone sand (bituminous mix or seal), and screening (undesigned).

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

7/ Includes agricultural limestone.

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

9/ Includes cement manufacture and sulfur oxide removal.

10/ Includes mine dusting or acid water treatment.

11/ Includes production reported without a breakdown by end use and with estimates for nonrespondents.

TABLE 5  
WEST VIRGINIA: CONSTRUCTION SAND AND GRAVEL SOLD OR USED IN 1996,  
BY MAJOR USE CATEGORY 1/ 2/

Use	Quantity (thousand metric tons)	Value (thousands)	Value per ton
Concrete aggregate and concrete products 3/	527	\$2,450	\$4.64
Asphaltic concrete aggregates and other roadbase material 4/	315	1,190	3.77
Unspecified, actual 5/	892	4,070	4.57
Total or average	1,730	7,710	4.44

1/ To avoid disclosing company proprietary data, no district tables were produced for 1996.

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

3/ Includes plaster and gunite sands.

4/ Includes fill.

5/ Production reported without a breakdown by end use.