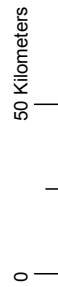
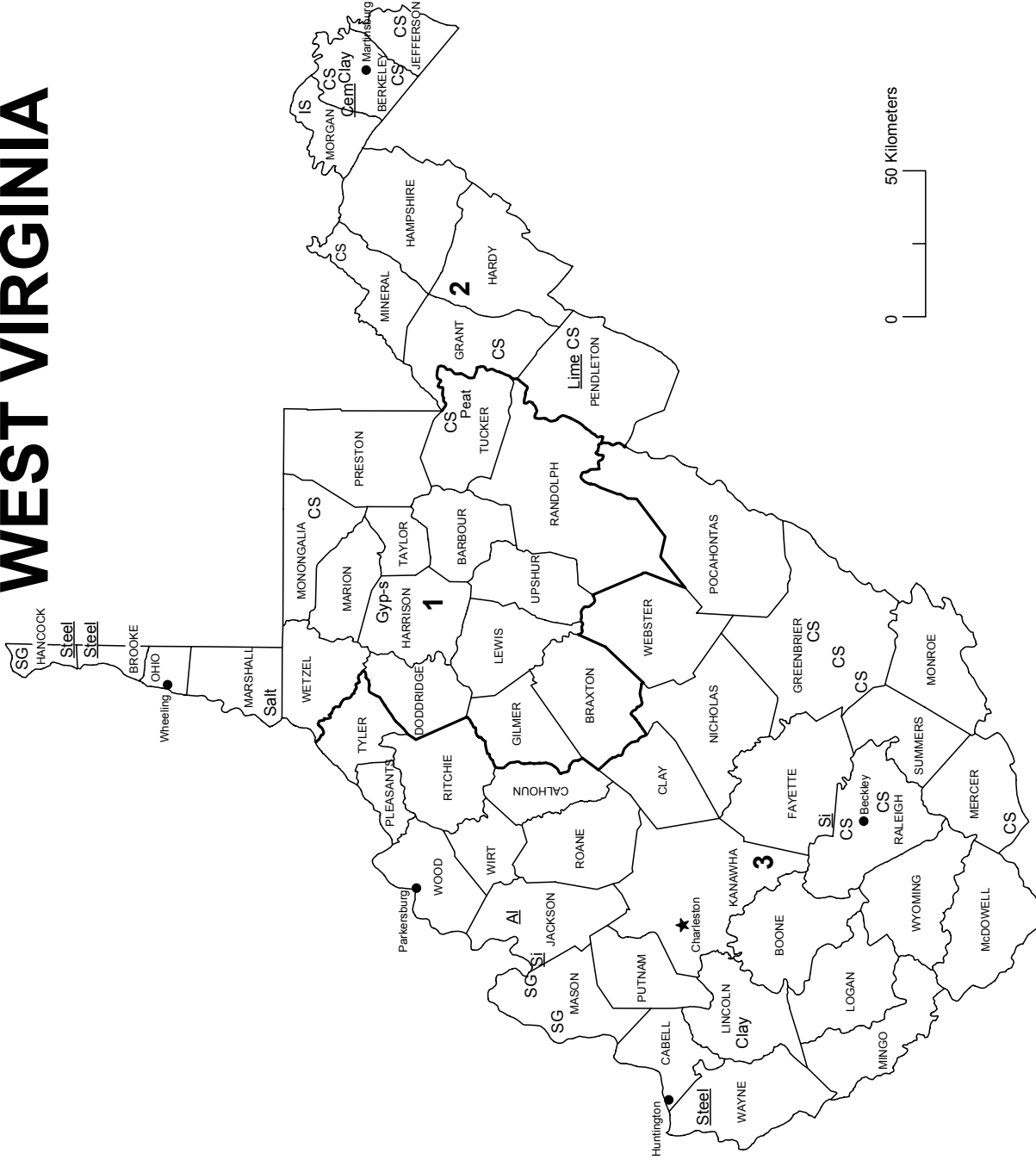


WEST VIRGINIA



LEGEND

- County boundary
- ★ Capital
- City
- 1 — Crushed stone/sand and gravel districts

MINERAL SYMBOLS (Major producing areas)

- Al Aluminum plant
- Cem Cement plant
- Clay Common clay
- CS Crushed stone
- Gyp-s Synthetic gypsum
- IS Industrial sand
- Lime Lime plant
- Peat Peat
- Salt Salt
- SG Construction sand and gravel
- Si Silicon metal plant
- Steel Steel plant

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 2002, the estimated value¹ of nonfuel mineral production for West Virginia was \$173 million, based upon preliminary U.S. Geological Survey (USGS) data. This was about a 2% decrease from that of 2001² and followed a 1.1% decrease from 2000 to 2001. In 2002, crushed stone continued to be West Virginia's leading nonfuel mineral by value, representing approximately 39% of the State's total nonfuel mineral

production value. Cement (portland and masonry), industrial sand and gravel, lime, and salt followed. These five mineral commodities accounted for about 94% of the State's total nonfuel mineral value.

In 2002, increases in the values of lime and crushed stone, up about \$3 million and \$1 million, respectively, amounted to less than the decreases in cement, down about \$7 million, plus smaller decreases in construction sand and gravel and common clays. In 2001, crushed stone, followed by cement, had West Virginia's largest increases in nonfuel mineral value, rising nearly \$6 million and about \$3 million, respectively. Decreases in crushed dolomite (closed quarry), industrial sand and gravel, and salt (descending order of change) totaled more than \$11 million, resulting in a net decrease for the year. All other mineral commodities decreased less than \$1 million or were unchanged (table 1).

Based upon USGS estimates of the quantities of minerals produced in the 50 States in 2002, West Virginia remained 10th in the production of salt; the State also produced significant quantities of crushed stone and industrial sand and gravel. West Virginia mines produced only industrial minerals and coal; no metals were mined. 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 2002, West Virginia, for the third consecutive year, was 10th in the Nation in the production of primary aluminum.

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 2002 USGS mineral production data published in this chapter are preliminary estimates as of July 2003 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. Specialist contact information may be retrieved over the Internet at URL <http://minerals.usgs.gov/minerals/contacts/comdir.html>; alternatively, specialists' names and telephone numbers may be obtained by calling USGS information at (703) 648-4000 or by calling the USGS Earth Science Information Center at 1-888-ASK-USGS (275-8747). All Mineral Industry Surveys—mineral commodity, State, and country—also may be retrieved over the Internet at URL <http://minerals.usgs.gov/minerals>.

²Values, percentage calculations, and rankings for 2001 may differ from the Minerals Yearbook, Area Reports: Domestic 2001, Volume II, owing to the revision of preliminary 2001 to final 2001 data. Data for 2002 are preliminary and are expected to change; related rankings may also change.

TABLE 1
NONFUEL RAW MINERAL PRODUCTION IN WEST VIRGINIA^{1,2}

(Thousand metric tons and thousand dollars)

Mineral	2000		2001		2002 ^p	
	Quantity	Value	Quantity	Value	Quantity	Value
Clays, common	199	560	167	462	150	409
Gemstones	NA	1	NA	1	NA	1
Sand and gravel, construction	1,980	9,800	1,820	9,260	1,700	8,800
Stone, crushed	14,100 ^{r,3}	60,000 ^{r,3}	15,300	65,700	15,300	67,000
Combined values of cement, lime, peat, salt, sand and gravel (industrial), stone [crushed dolomite (2000), dimension sandstone]	XX	109,000	XX	102,000	XX	96,400
Total	XX	179,000 ^r	XX	177,000	XX	173,000

^pPreliminary. NA Not available. XX Not applicable.

¹Production as measured by mine shipments, sales, or marketable production (including consumption by producers).

²Data are rounded to no more than three significant digits; may not add to totals shown.

³Excludes certain stones; kind and value included with "Combined values" data.

TABLE 2
WEST VIRGINIA: CRUSHED STONE SOLD OR USED, BY KIND¹

Kind	2000				2001			
	Number of quarries	Quantity (thousand metric tons)	Value (thousands)	Unit value	Number of quarries	Quantity (thousand metric tons)	Value (thousands)	Unit value
Limestone	30 ^r	12,800 ^r	\$54,200 ^r	\$4.22 ^r	31	13,900	\$59,100	\$4.26
Dolomite	1 ^r	W	W	W	--	--	--	--
Sandstone	9	1,210	5,810	4.79	8	1,450	6,670	4.61
Total or average	XX	14,100 ^r	60,000 ^r	4.27 ^r	XX	15,300	65,700	4.29

¹Revised. W Withheld from total to avoid disclosing company proprietary data. XX Not applicable. --Zero.

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

TABLE 3
WEST VIRGINIA: CRUSHED STONE SOLD OR USED BY PRODUCERS IN 2001, BY USE¹

Use	Quantity (thousand metric tons)	Value (thousands)	Unit value
Construction:			
Coarse aggregate (+1 1/2 inch):			
Riprap and jetty stone	W	W	\$10.03
Filter stone	W	W	10.99
Other coarse aggregates	437	\$1,750	3.99
Coarse aggregate, graded:			
Concrete aggregate, coarse	W	W	4.17
Bituminous aggregate, coarse	W	W	4.08
Bituminous surface-treatment aggregate	W	W	5.51
Railroad ballast	W	W	5.51
Other graded coarse aggregates	2,820	12,200	4.32
Fine aggregate (-3/8 inch):			
Stone sand, concrete	W	W	8.87
Stone sand, bituminous mix or seal	W	W	5.51
Screening, undesignated	W	W	5.42
Other fine aggregates	603	2,650	4.39
Coarse and fine aggregate:			
Graded road base or subbase	641	2,940	4.59
Unpaved road surfacing	322	1,430	4.45
Crusher run or fill or waste	379	1,380	3.63
Other coarse and fine aggregates	1,200	4,310	3.59
Chemical and metallurgical:			
Cement manufacture	(2)	(2)	3.65
Sulfur oxide removal	(2)	(2)	3.58
Special:			
Mine dusting or acid water treatment	(2)	(2)	3.58
Other fillers or extenders	(2)	(2)	5.90
Unspecified:³			
Reported	6,250	29,000	4.64
Estimated	1,300	5,000	3.91
Total or average	15,300	65,700	4.29

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

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

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

³Reported and estimated production without a breakdown by end use.

TABLE 4
WEST VIRGINIA: CRUSHED STONE SOLD OR USED BY PRODUCERS IN 2001, BY USE AND DISTRICT¹

(Thousand metric tons and thousand dollars)

Use	District 1		District 2		District 3	
	Quantity	Value	Quantity	Value	Quantity	Value
Construction:						
Coarse aggregate (+1 1/2 inch) ²	96	345	40	186	301	1,210
Coarse aggregate, graded ³	W	W	W	W	506	2,840
Fine aggregate (-3/8 inch) ⁴	281	1,340	69	379	253	926
Coarse and fine aggregate ⁵	88	552	1,190	4,700	1,270	4,810
Chemical and metallurgical ⁶	--	--	W	W	--	--
Special ⁷	W	W	--	--	--	--
Unspecified: ⁸						
Reported	4,190	19,400	287	1,330	1,770	8,210
Estimated	400	1,600	250	1,100	630	2,400
Total	5,430	24,700	5,170	20,700	4,730	20,400

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

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

²Includes filter stone, riprap and jetty stone, and other coarse aggregates.

³Includes bituminous aggregate (coarse), bituminous surface-treatment aggregate, concrete aggregate (coarse), railroad ballast, and other graded coarse aggregates.

⁴Includes screening (undesignated), stone sand bituminous mix or seal, stone sand (concrete), and other fine aggregates.

⁵Includes crusher run (select material or fill), graded road base or subbase, unpaved road surfacing, and other coarse and fine aggregates.

⁶Includes cement manufacture and sulfur oxide removal.

⁷Includes mine dusting or acid water treatment and other fillers or extenders.

⁸Reported and estimated production without a breakdown by end use.

TABLE 5
WEST VIRGINIA: CONSTRUCTION SAND AND GRAVEL SOLD OR USED IN 2001, BY MAJOR USE CATEGORY^{1,2}

Use	Quantity	Value	Unit value
	(thousand metric tons)		
Concrete aggregates and concrete products	W	W	\$2.33
Fill	W	W	4.48
Other miscellaneous uses	283	\$1,690	3.27
Unspecified: ³			
Reported	1,540	7,570	4.93
Total or average	1,820	9,260	5.09

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

¹To avoid disclosing company proprietary data, no district tables were produced for 2001.

²Data are rounded to no more than three significant digits, except unit value; may not add to totals shown.

³Reported and estimated production without a breakdown by end use.