



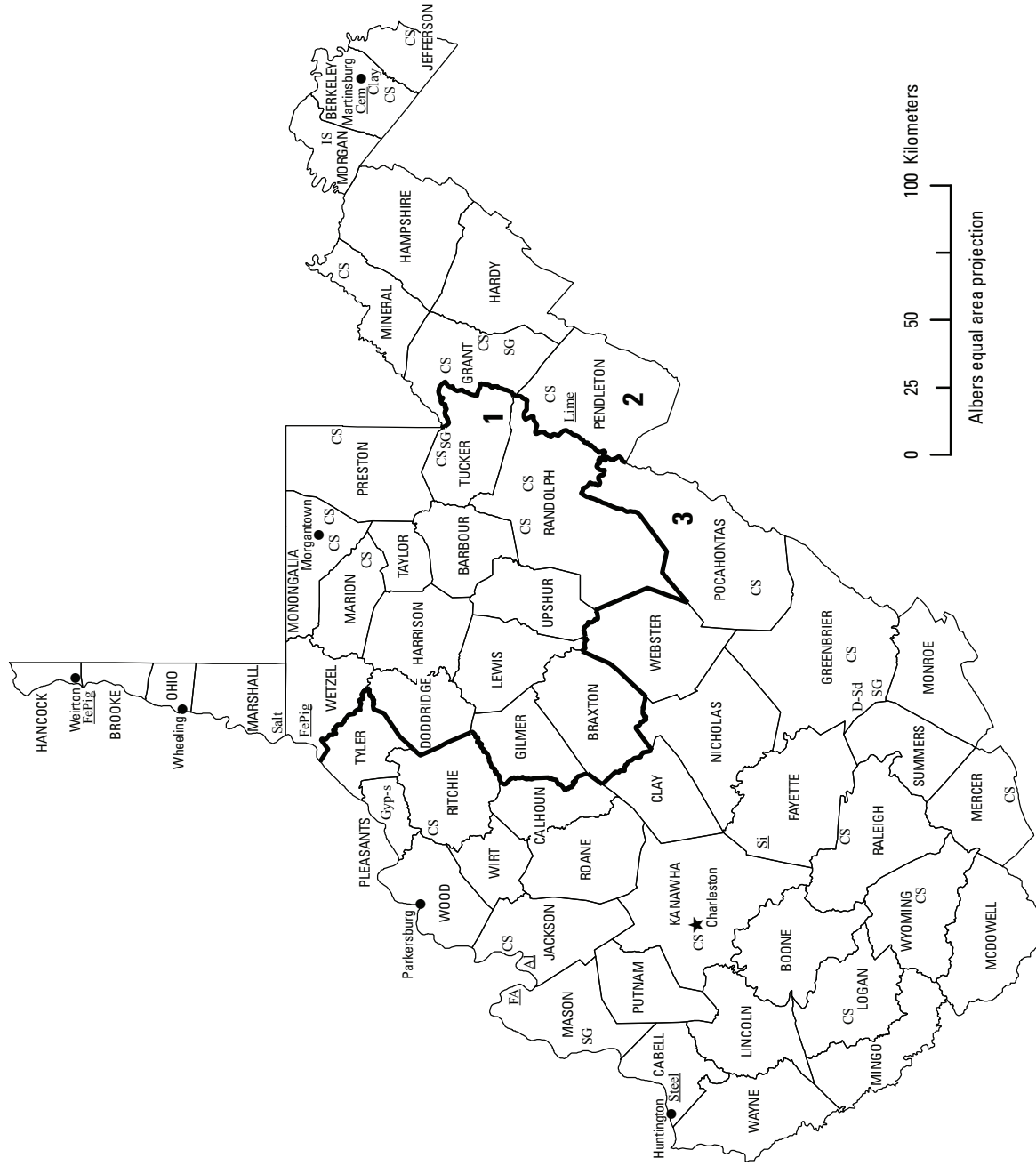
# 2009 Minerals Yearbook

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**WEST VIRGINIA [ADVANCE RELEASE]**

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# WEST VIRGINIA



## LEGEND

— County boundary

★ Capital

● City

1 — Crushed stone/sand and gravel district boundary

## MINERAL SYMBOLS

### (Principal producing areas)

Al Aluminum plant

Cem Cement plant

Clay Common clay

CS Crushed stone

D-Sd Dimension sandstone

FA Ferroalloy plant

FePig Iron oxide pigment plant

Gyp-s Synthetic gypsum

IS Industrial sand

Lime Lime plant

Salt Salt

SG Construction sand and gravel

Sj 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 2009, West Virginia's nonfuel raw mineral production<sup>1</sup> was valued at \$215 million, based upon annual U.S. Geological Survey (USGS) data. This was an \$18 million, or almost 8%, decrease from the State's total nonfuel mineral production value of \$234 million in 2008, which was an \$8 million, or 3.5%, increase from that of 2007. West Virginia ranked 40th among the 50 States for total nonfuel mineral production value, accounting for 0.37% of the United States total production value of \$59 billion in 2009.

Based upon production value, crushed stone continued to be West Virginia's leading nonfuel mineral commodity in 2009, accounting for almost 59% of the State's total nonfuel mineral production value, up from 54% in 2008. Portland cement, lime, industrial sand and gravel, and masonry cement followed and accounted for, along with crushed stone, almost 97% of the State's total value of nonfuel raw mineral production.

Excluding gemstones, for which production data are not available from 2007 to 2009, the only nonfuel mineral commodity produced in the State to increase in production value was lime (actual values withheld—company proprietary data). Lime saw an almost 13% increase in production value, although production was down 2% from 2008.

<sup>1</sup> The terms "nonfuel mineral production" and related "values" encompass variations in meaning, depending upon the 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 2009 USGS mineral production data published in this chapter are those available as of September 2011. All USGS Mineral Industry Surveys and USGS Minerals Yearbook chapters—mineral commodity, State, and country—can be retrieved over the Internet at URL <http://minerals.usgs.gov/minerals>.

The largest decrease in production value took place with portland cement, of which the production value was down 24% and production down almost 22% (actual data withheld—company proprietary data). It was followed by industrial sand and gravel, masonry cement, salt, and crushed stone. These four mineral commodities were down a combined \$8.6 million. The production value of crushed stone, which had increased by \$12 million, or 10%, from 2007 to 2008, decreased only by \$1 million in 2009. However, production was down by 2.7 million metric tons (Mt), from 15.2 Mt in 2008 to 12.5 Mt in 2009.

West Virginia continued to rank 10th among the 16 salt-producing States. The State's mines produced industrial minerals and coal; no metals were mined in West Virginia. Processing and refining of metallic products, including aluminum, iron oxide pigments, and steel, occurred along the State's Ohio River border with Ohio. Primary aluminum and raw steel were produced in the State, but both metals were processed from materials acquired from foreign and other domestic sources. In 2009, West Virginia remained 10th in the Nation in the production of primary aluminum among 10 producing States, with production centered in Jackson County. One company in Fayette County, southeast of Charleston, produced silicon metal. Steel was produced in Cabell County. Iron oxide pigments were produced near Weirton in Hancock County and in Wetzel County. Felman Production Inc.'s plant in Letart, Mason County, produced ferrosilicomanganese, a ferroalloy.

TABLE 1  
NONFUEL RAW MINERAL PRODUCTION IN WEST VIRGINIA<sup>1,2</sup>

(Thousand metric tons and thousand dollars)

Mineral	2007		2008		2009	
	Quantity	Value	Quantity	Value	Quantity	Value
Gemstones, natural	NA	1	NA	1	NA	1
Sand and gravel:						
Construction	675	5,620	426	3,840	410	3,480
Industrial	345	17,600	338	17,200	241	14,700
Stone, crushed	14,600	115,000	15,200 <sup>†</sup>	127,000 <sup>†</sup>	12,500	126,000
Combined values of cement, clays (common), lime, peat (2007), salt, stone (dimension sandstone)	XX	87,400	XX	85,300 <sup>†</sup>	XX	71,600
Total	XX	226,000	XX	234,000 <sup>†</sup>	XX	215,000

<sup>†</sup>Revised. NA Not available. XX Not applicable.

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

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

TABLE 2  
WEST VIRGINIA: CRUSHED STONE SOLD OR USED, BY TYPE<sup>1</sup>

Type	2008			2009		
	Number of quarries	Quantity (thousand metric tons)	Value (thousands)	Number of quarries	Quantity (thousand metric tons)	Value (thousands)
Limestone	27 <sup>r</sup>	13,800 <sup>r</sup>	\$114,000 <sup>r</sup>	27	11,400	\$113,000
Sandstone and quartzite	8 <sup>r</sup>	1,400 <sup>r</sup>	13,800 <sup>r</sup>	10	1,130	12,300
Miscellaneous stone	1	2	15	3	36	321
Total	XX	15,200 <sup>r</sup>	127,000 <sup>r</sup>	XX	12,500	126,000

<sup>r</sup>Revised. XX Not applicable.

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

TABLE 3  
WEST VIRGINIA: CRUSHED STONE SOLD OR USED BY PRODUCERS IN 2009,  
BY USE<sup>1</sup>

(Thousand metric tons and thousand dollars)

Use	Quantity	Value
Construction:		
Coarse aggregate (+1½ inch):		
Macadam	W	W
Riprap and jetty stone	118	1,660
Filter stone	W	W
Other coarse aggregate	143	826
Coarse aggregate, graded:		
Concrete aggregate, coarse	W	W
Bituminous aggregate, coarse	2,050	18,100
Bituminous surface-treatment aggregate	W	W
Railroad ballast	W	W
Other graded coarse aggregate	138	1,210
Fine aggregate (-¾ inch):		
Stone sand, concrete	W	W
Stone sand, bituminous mix or seal	200	1,880
Screening, undesignated	W	W
Other fine aggregate	60	492
Coarse and fine aggregate:		
Graded road base or subbase	993	20,500
Unpaved road surfacing	W	W
Crusher run or fill or waste	W	W
Other coarse and fine aggregates	110	665
Other construction materials	117	896
Agricultural, limestone	W	W
Chemical and metallurgical, cement manufacture	W	W
Unspecified: <sup>2</sup>		
Reported	6,920	63,500
Estimated	381	3,400
Total	12,500	126,000

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

<sup>1</sup>Data are rounded to no more than three significant digits.

<sup>2</sup>Reported and estimated production without a breakdown by end use.

TABLE 4  
WEST VIRGINIA: CRUSHED STONE SOLD OR USED BY PRODUCERS  
IN 2009, BY USE AND DISTRICT<sup>1</sup>

(Thousand metric tons and thousand dollars)

Use	District 1		District 2		District 3	
	Quantity	Value	Quantity	Value	Quantity	Value
Construction:						
Coarse aggregate (+1½ inch) <sup>2</sup>	W	W	W	W	W	W
Coarse aggregate, graded <sup>3</sup>	W	W	W	W	W	W
Fine aggregate (-¾ inch) <sup>4</sup>	W	W	W	W	W	W
Coarse and fine aggregate <sup>5</sup>	W	W	W	W	W	W
Other construction materials	114	887	--	--	3	9
Agricultural <sup>6</sup>	W	W	--	--	W	W
Chemical and metallurgical <sup>7</sup>	--	--	W	W	--	--
Unspecified: <sup>8</sup>						
Reported	3,860	33,900	1,230	11,300	1,830	18,300
Estimated	159	1,420	222	1,980	--	--
Total	4,540	39,200	4,470	50,300	3,530	36,300

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

<sup>1</sup>Data are rounded to no more than three significant digits.

<sup>2</sup>Includes filter stone, macadam, riprap and jetty stone, and other coarse aggregate.

<sup>3</sup>Includes bituminous aggregate (coarse), bituminous surface-treatment aggregate, concrete aggregate (coarse), railroad ballast, and other graded coarse aggregate.

<sup>4</sup>Includes screening (undesignated), stone sand (bituminous mix or seal), stone sand (concrete), and other fine aggregate.

<sup>5</sup>Includes crusher run or fill or waste, graded road base or subbase, unpaved road surfacing, and other coarse and fine aggregates.

<sup>6</sup>Includes limestone.

<sup>7</sup>Includes cement manufacture.

<sup>8</sup>Reported and estimated production without a breakdown by end use.

TABLE 5  
WEST VIRGINIA: CONSTRUCTION SAND AND GRAVEL SOLD OR USED IN 2009,  
BY MAJOR USE CATEGORY<sup>1</sup>

Use	Quantity	Value	Unit
	(thousand metric tons)	(thousands)	value
Concrete aggregate (including concrete sand)	7	\$58	\$8.29
Unspecified: <sup>2</sup>			
Reported	2	13	6.50
Estimated	402	3,410	8.48
Total or average	410	3,480	8.47

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

<sup>2</sup>Estimated and reported production without a breakdown by end use.