

THE MINERAL INDUSTRY OF KENTUCKY

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

In 1999, the preliminary estimated value¹ of nonfuel mineral production for Kentucky was \$510 million, according to the U.S. Geological Survey (USGS). This was about a 2% increase from that of 1998,² and followed 2 years with the same value of \$498 million. Kentucky remained 29th among the 50 States in total nonfuel mineral production value, of which the State accounted for more than 1% of the U.S. total.

Crushed stone continued as Kentucky's leading nonfuel mineral commodity in 1999, accounting for about 58% of the State's nonfuel mineral production value. Lime was second and portland cement was third. Kentucky's increase in nonfuel mineral value in 1999 resulted mostly from \$4 million, \$3 million, and \$2.6 million increases, respectively, in the values of lime, crushed stone, and construction sand and gravel. Most of the State's mineral commodities increased in value except for common clays, which showed a small decrease, and gemstones, which was unchanged. In 1998, increases in the values of lime and construction sand and gravel balanced out decreases in the values of gemstones, portland cement, and crushed stone (table 1).

Compared with USGS estimates of the quantities produced in the other 49 States during 1999, Kentucky remained 2d in lime, 3d in ball clay, 5th in fire clay, and in a virtual tie with Colorado for 10th in gemstones. Additionally, the State produced significant quantities of crushed stone and common clays. Primary aluminum and raw steel were produced from materials obtained from other domestic and foreign sources. Based upon preliminary estimates, Kentucky remained the Nation's second leading producer 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 1999 USGS mineral production data published in this chapter are preliminary estimates as of May 2000, 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.

²Values, percentage calculations, and rankings for 1998 may vary from the Minerals Yearbook, Area Reports: Domestic 1998, Volume II, owing to the revision of preliminary 1998 to final 1998 data. Data for 1999 are preliminary and are expected to change, while related rankings may also be subject to change.

In recent years, Kentucky has been entirely an industrial mineral-producing State. Ivernia West plc. completed a lease agreement on about 4,000 hectares in the Paducah area of western Kentucky to begin exploring (spring 2000) what the company thinks is a massive zinc sulfide area (Plachy, 2000). The last year in which any metal was mined was 1990, when small quantities of zinc and fluorspar were recovered from surface ore at the Lafayette Mine in Crittenden County.

The following narrative information was provided by the Kentucky Geological Survey (KGS).³ Crushed stone and brick producers visited by the KGS during 1999 reported a large demand for construction materials. Anticipating continuing strong demand for construction stone, several companies conducted exploratory development drilling in central and eastern Kentucky. Sterling Materials Co. completed its first full year of operation at its mine in Gallatin County. Sterling Materials produced crushed stone for the northern Kentucky market from limestone mined from the High Bridge Group (Ordovician) at a depth of about 150 meters. Production in 1999 was about one-half of the operation's designed capacity (Drake, 2000). Hanson Building Materials America acquired the North American Brick Group of Jannock Limited. The purchase included brick plants in Boyd and Powell Counties (Drake, 1999).

Lafarge Corp. broke ground for a new wallboard manufacturing plant at Silver Grove on the Ohio River in Campbell County. With annual production of about 83 million square meters of wallboard, the plant will be the largest single-line wallboard production facility in the United States. The facility will use synthetic gypsum, a byproduct from the Zimmer powerplant in Moscow, OH (North American Quarry News, 1999). Louisville Gas and Electric Co. started providing synthetic gypsum to U.S. Gypsum Co. The gypsum is a byproduct of the limestone-based flue-gas desulfurization system at the utility's Mill Creek powerplant in Jefferson County.

References Cited

- Plachy, Jozef, 2000, Zinc in March 2000: U.S. Geological Survey Mineral Industry Surveys, May, 7 p.
- Drake, Bob, ed., 1999, Monthly merger and acquisition activity: Rock Products, v. 102, no. 6, p. 7.
- , 2000, Monthly merger and acquisition activity: Rock Products, v. 103, no. 1, p. 22-26.
- North American Quarry News, 1999, North American Quarry News, Palatine Bridge, NY, August, v. 1, p. 22.

³Garland Dever, Jr., Geologist, submitted the text of information provided by the Kentucky Geological Survey.

TABLE 1
NONFUEL RAW MINERAL PRODUCTION IN KENTUCKY 1/ 2/

(Thousand metric tons and thousand dollars)

Mineral	1997		1998		1999 p/	
	Quantity	Value	Quantity	Value	Quantity	Value
Clays: Common	865	3,910	872	3,930	877	3,840
Gemstones	NA	3,520	NA	263	NA	263
Sand and gravel: Construction	8,140	26,600	8,100	27,500	8,700	30,100
Stone: Crushed 3/	63,200 r/	294,000 r/	59,500	291,000	60,500	294,000
Combined values of cement, clays (ball, fire), lime, stone [crushed sandstone (1997-98) crushed miscellaneous (1999)]	XX	172,000	XX	175,000	XX	181,000
Total	XX	500,000 r/	XX	498,000	XX	510,000

p/ Preliminary. r/ Revised. 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 no more than three significant digits; may not add to totals shown.

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

TABLE 2
KENTUCKY: CRUSHED STONE SOLD OR USED BY PRODUCERS, BY KIND 1/

Kind	1997				1998			
	Number of quarries	Quantity (thousand metric tons)	Value (thousands)	Unit value	Number of quarries	Quantity (thousand metric tons)	Value (thousands)	Unit value
Limestone	92 r/	63,200 r/	\$294,000 r/	\$4.65	92	59,500	\$291,000	\$4.88
Sandstone	1	W	W	W	--	--	--	--
Miscellaneous stone	--	--	--	--	1	W	W	W
Total or average	XX	63,200 r/	294,000 r/	4.65	XX	59,500	291,000	4.88

r/ Revised. W Withheld to avoid disclosing company proprietary data. XX Not applicable. -- Zero.

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

TABLE 3
KENTUCKY: CRUSHED STONE SOLD OR USED BY PRODUCERS IN 1998,
BY USE 1/ 2/

Use	Quantity (thousand metric tons)	Value (thousands)	Unit value
Coarse aggregate (+1 1/2 inch):			
Macadam	71	\$523	\$7.37
Riprap and jetty stone	456	3,150	6.90
Filter stone	486	2,720	5.59
Other coarse aggregate	1,240	6,050	4.87
Coarse aggregate, graded:			
Concrete aggregate, coarse	1,980	11,600	5.86
Bituminous aggregate, coarse	3,130	20,600	6.57
Bituminous surface-treatment aggregate	948	5,810	6.12
Railroad ballast	179	1,040	5.79
Other graded coarse aggregate	2,520	16,300	6.48
Fine aggregate (-3/8 inch):			
Stone sand, concrete	152	876	5.76
Stone sand, bituminous mix or seal	775	4,500	5.81
Screening, undesignated	735	3,800	5.17
Other fine aggregate	1,120	6,100	5.46
Coarse and fine aggregate:			
Graded road base or subbase	3,080	17,600	5.72
Unpaved road surfacing	435	2,280	5.25
Crusher run or fill or waste	677	2,770	4.09
Other coarse and fine aggregates	1,750	9,670	5.52
Agricultural limestone	333	1,860	5.60
Chemical and metallurgical:			
Cement manufacture	W	W	3.09
Lime manufacture	W	W	3.31
Flux stone	W	W	4.50
Sulfur oxide removal	W	W	14.33
Special: Mine dusting or acid water treatment	W	W	13.45
Other miscellaneous uses:			
Pipe bedding	3	24	7.92
Other specified uses not listed	W	W	W
Unspecified: 3/			
Actual	21,800	104,000	4.77
Estimated	11,600	48,200	4.15
Total or average	59,500	291,000	4.88

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

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

2/ Includes limestone; excludes miscellaneous stone from total to avoid disclosing company proprietary data.

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

TABLE 4
KENTUCKY: CRUSHED STONE SOLD OR USED BY PRODUCERS IN 1998, BY USE AND DISTRICT 1/ 2/

(Thousand metric tons and thousand dollars)

Use	District 1		District 2		District 3		District 4	
	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value
Construction aggregates:								
Coarse aggregate (+1 1/2 inch) 3/	W	W	W	W	762	4,880	509	2,700
Coarse aggregate, graded 4/	W	W	W	W	3,280	22,100	1,860	9,890
Fine aggregate (-3/8 inch) 5/	W	W	W	W	1,010	5,310	463	2,360
Coarse and fine aggregate 6/	W	W	W	W	3,050	17,300	1,010	4,890
Other construction materials	5,030	29,300	1,300	16,600	3	24	--	--
Agricultural 7/	--	--	(8/)	(8/)	150	979	52	229
Chemical and metallurgical 9/	--	--	(8/)	(8/)	(8/)	(8/)	--	--
Special 10/	--	--	--	--	(8/)	(8/)	--	--
Other miscellaneous uses 11/	--	--	--	--	1	2	--	--
Unspecified: 12/								
Actual	13,800	67,200	1,660	7,670	4,960	22,600	1,420	6,560
Estimated	191	842	3,720	14,500	3,840	15,900	3,870	17,000
Total	19,000	97,400	9,570	43,700	21,800	106,000	9,200	43,600

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

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

2/ Excludes miscellaneous stone from total to avoid disclosing company proprietary data.

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), screening (undesignated), and other fine aggregate.

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

7/ Includes agricultural limestone.

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

9/ Includes cement manufacture, lime manufacture, flux stone, and sulfur oxide removal.

10/ Includes mine dusting or acid water treatment.

11/ Includes other specified uses not listed.

12/ Reported and estimated production without a breakdown by end use.

TABLE 5
KENTUCKY: CONSTRUCTION SAND AND GRAVEL SOLD OR USED IN 1998,
BY MAJOR USE CATEGORY 1/ 2/

Use	Quantity (thousand metric tons)	Value (thousands)	Unit value
Concrete aggregate and concrete products	1,090	\$3,840	\$3.52
Asphaltic concrete aggregates and other bituminous mixtures	141	449	3.18
Road base and coverings	78	223	2.86
Fill 3/	259	1,750	6.76
Unspecified: 4/			
Actual	1,090	2,850	2.60
Estimated	5,440	18,400	3.38
Total or average	8,100	27,500	3.39

1/ To avoid disclosing company proprietary data, no district tables were produced for 1998.

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

3/ Includes snow and ice control.

4/ Reported and estimated production without a breakdown by end use.