THE MINERAL INDUSTRY OF KENTUCKY

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

In 1996, Kentucky rose in rank from 32d to 30th among the 50 States in total nonfuel mineral production value,[1] according to the U.S. Geological Survey (USGS). The estimated value for 1996 was $453 million, a 6.3% increase from that of 1995. This followed a slight decrease from 1994 to 1995 (based on final 1995 data). In 1996, Kentucky reached the highest nonfuel mineral value reported in the State's history. This was the fourth time in the last five years that the State surpassed the $400 million mark. The State accounted for more than 1% of the U.S. total nonfuel mineral production value.

Crushed stone continued as Kentucky's leading nonfuel mineral commodity in 1996, accounting for an estimated 58% of the State's nonfuel mineral production value. Lime was second and portland cement was third. In recent years, Kentucky has been entirely an industrial mineral-producing State. The last year in which any metal was mined in the State was 1990, when small quantities of zinc were mined. Kentucky's increase in nonfuel mineral value in 1996 resulted mostly from a $31 million, or about a 13%, increase in the value of crushed stone. Lime, gemstone, and clay values also increased. The State's overall increase was moderated by a $7 million decrease in construction sand and gravel value. Portland and masonry cements also showed small decreases in value. In 1995, a significant decrease in crushed stone value (of similar magnitude to the commodity's 1996 increase) plus a smaller decrease in gemstones were nearly balanced out by significant increases in the values of lime and portland cement together with a smaller increase in ball clay.

Compared with USGS estimates of the quantities produced in the other 49 States during 1996, Kentucky remained second in ball clays and one of the top four lime-producing States. By value, the State was seventh in gemstones. In addition, the State produced significant quantities of common clays. Primary aluminum and raw steel were produced from materials obtained from other domestic and foreign sources. Kentucky remained the Nation's second leading producer of primary aluminum with an estimated increase in production of nearly 2.5% from that of 1995.

The following narrative information was provided by the Kentucky Geological Survey (KGS).[2] Silverspar Minerals Inc. signed an option agreement with USX Corp. to purchase certain fluorspar properties in Kentucky and Illinois. The term of the option was for 2 months. Under the agreement, Silverspar/Orbex Resources ran a 2-month fluorspar production test run at the Babb-Barnes flotation mill located near Salem, KY. The mill operated during May and June, processing fluorspar purchased from the National Defense Stockpile. Silverspar's option expired and the flotation mill was shut down after the test run.

Dravo Lime Co. announced commencement of construction of its 330,000-metric-ton-per-year capacity expansion at its Maysville Division in Maysville. Fabrication and field erection stages started in mid-1996, and the new Kennedy Van Saun preheater rotary kiln was scheduled for startup during the second quarter of 1997. Sales of the flue gas desulfurization (FGD) lime from Dravo's two Kentucky lime plants were negatively impacted in 1996 by outages experienced at the General Gavin Station in Ohio and reduced usage by some of its other utility customers. The company expected its FGD sales to be only nominally up for the year.

A Lexington businessman sought a permit from the planning and zoning commission to construct an $18 million limestone mine in Wilder County. Six surface hectares of land were to be purchased for the operation from Newport Steel Corp. along with a lease for the company's underground rights.

The Rogers Group, Inc., of Louisville, KY, submitted plans to convert a former underground limestone mine, operated by the Oldham County Stone Co., into a climate-controlled business center called StrataSpace. As much as 3.25 hectares of the cavern, the size of about seven football fields, would be converted for the purpose of storing and managing computer records and paper files. Before the project can proceed, however, the company must get 4.5 hectares along one edge of the quarry rezoned from residential and agricultural to light industrial. Mining was to continue at the mine, but away from the business center.

Kentucky Solite Corp., a manufacturer of lightweight aggregate for the construction industry, closed its doors after 43 years because of a lack of business.

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[1]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 1996 USGS mineral production data published in this chapter are estimates as of February 1997. Construction sand and gravel and crushed stone 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

[2]Garland Dever, Geologist, submitted the information provided by the KGS. He may be contacted at the same address, telephone, and fax number as Dr. Haney.

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

(Thousand metric tons and thousand dollars unless otherwise specified)

	1994		1995		1996 p/	
Mineral	Quantity	Value	Quantity	Value	Quantity	Value
Clays	820 3/	3,460 3/	904	3,430 3/	897	4,000 3/
Sand and gravel (construction)	9,140	32,200	8,710	31,700	7,000	24,500
Stone (crushed)	56,300	259,000	54,700 4/	230,000 4/	60,000 4/	261,000 4/
Combined value of cement, clays lime, and stone [crushed (1995), and sandstone (1996)]	XX	134,000	XX	161,000	XX	164,000
Total	XX	428,000	XX	426,000	XX	453,000

p/ Preliminary. XX Not applicable.
1/ Production as measured by mine shipments, sales, or marketable production (including consumption by producers).
2/ Data are rounded to three significant digits; may not add to totals shown.
3/ Excludes certain clays; kind and value included with "Combined value" data.
4/ Excludes certain stones; kind and value included with "Combined value" data.

TABLE 2
KENTUCKY: CRUSHED STONE 1/ SOLD OR USED BY PRODUCERS IN 1995, BY USE 2/

Use	Quantity (thousand metric tons)	Value (thousands)	Unit value
Coarse aggregate (+1 1/2 inch):			
Macadam	256	$867	$3.39
Riprap and jetty stone	3,720	14,000	3.76
Filter stone	585	3,010	5.14
Other coarse aggregate	640	2,880	4.49
Coarse aggregate, graded:			
Concrete aggregate, coarse	3,850	18,200	4.73
Bituminous aggregate, coarse	3,400	18,300	5.37
Bituminous surface-treatment aggregate	1,580	8,560	5.41
Railroad ballast	492	2,610	5.29
Other graded coarse aggregate	1,560	7,350	4.70
Fine aggregate (-3/8 inch):			
Stone sand, concrete	W	W	5.97
Stone sand, bituminous mix or seal	1,930	8,080	4.20
Screening, undesignated	779	3,760	4.83
Other fine aggregate	386	1,600	3.87
Coarse and fine aggregate:			
Graded road base or subbase	5,340	25,700	4.81
Unpaved road surfacing	2,000	8,540	4.26
Terrazzo and exposed aggregate	W	W	5.56
Crusher run or fill or waste	821	3,620	4.41
Other coarse and fine aggregate	771	3,370	4.37
Other construction materials	361	1,700	4.72
Agricultural:			
Agricultural limestone	1,050	4,670	4.44
Poultry grit and mineral food	7	119	17.00
Other agricultural uses	3	36	12.00
Chemical and metallurgical:			
Cement manufacture	(3/)	(3/)	2.52
Lime manufacture	(3/)	(3/)	1.10
Flux stone	(3/)	(3/)	2.86
Sulfur oxide removal	(3/)	(3/)	13.10
Special:			
Mine dusting or acid water treatment	(3/)	(3/)	7.65
Other fillers or extenders	86	903	10.50
Other specified uses not listed	(3/)	(3/)	4.41
Unspecified: 4/			
Actual	12,300	52,300	4.27
Estimated	6,550	27,600	4.21
Total	54,700	230,000	4.20

W Withheld to avoid disclosing company proprietary data; included with "Other construction materials."
1/ Includes limestone.
2/ Data are rounded to three significant digits; may not add to totals shown.
3/ Withheld to avoid disclosing company proprietary data; included in "Total."
4/ Includes production reported without a breakdown by end use and estimates for norespondents.

TABLE 3
KENTUCKY: CRUSHED STONE SOLD OR USED BY PRODUCERS, BY KIND 1/

	1994				1995			
Kind	Number of quarries	Quantity (thousand metric tons)	Value (thousands)	Unit value	Number of quarries	Quantity (thousand metric tons)	Value (thousands)	Unit value
Limestone	88	53,600	$246,000	$4.58 r/	89	54,700	$230,000	$4.20
Limestone-dolomite	3	W	W	4.86	--	--	--	--
Sandstone	1	W	W	9.04	--	--	--	--
Total	XX	56,200 r/	259,000	4.61	XX	54,700	230,000	4.20

r/ Revised. W Withheld to avoid disclosing company proprietary data; included in "Total." XX Not applicable.
1/ Data are rounded to three significant digits; may not add to totals shown.

TABLE 4
KENTUCKY: CRUSHED STONE SOLD OR USED BY PRODUCERS IN 1995, BY USE AND DISTRICT 1/

(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) 2/	(3/)	(3/)	(3/)	(3/)	458	2,540	760	3,760
Coarse aggregate, graded 4/	(3/)	(3/)	(3/)	(3/)	3,280	18,900	2,970	14,200
Fine aggregate (-3/8 inch) 5/	(3/)	(3/)	(3/)	(3/)	830	4,120	824	3,720
Coarse and fine aggregate 6/	(3/)	(3/)	(3/)	(3/)	2,900	15,700	2,440	11,100
Agricultural 7/	(3/)	(3/)	(3/)	(3/)	204	1,020	123	585
Chemical and metallurgical 8/	--	--	(3/)	(3/)	(3/)	(3/)	--	--
Special 9/	(3/)	(3/)	--	--	(3/)	(3/)	--	--
Unspecified: 10/								
Actual	5,050	17,100	2,420	12,900	4,060	18,700	720	3,590
Estimated	130	555	1,960	8,350	2,190	7,840	2,280	10,800
Total	16,300	64,900	9,260	39,700	19,000	77,400	10,100	47,700

1/ Data are rounded to three significant digits; may not add to totals shown.
2/ Includes filter stone, macadam, riprap and jetty stone, and other coarse aggregate.
3/ Withheld to avoid disclosing company proprietary data; included in "Total."
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, terrazzo and exposed aggregate, unpaved road surfacing, crusher run (select material or fill), other coarse and fine aggregates and other construction materials.
7/ Includes agricultural limestone, poultry grit and material food, and other agricultural uses.
8/ Includes cement manufacture, flux stone, lime manufacture, and sulfur oxide removal.
9/ Includes mine dusting or acid water treatment, other fillers or extenders, and other specified uses not listed.
10/ Includes production reported without a breakdown by end use and estimates for nonrespondents.

TABLE 5
KENTUCKY: CONSTRUCTION SAND AND GRAVEL SOLD OR USED IN 1995,
BY MAJOR USE CATEGORY 1/

Use	Quantity (thousand metric tons)	Value (thousands)	Value per ton
Concrete aggregate (including concrete sand)	1,730	$6,060	$3.51
Concrete products (blocks, bricks, pipe, decorative, etc.)	158	523	3.31
Asphaltic concrete aggregates and other bituminous mixtures	876	3,070	3.50
Road base and coverings 2/	123	655	5.33
Fill	723	1,350	1.87
Other 3/	49	167	3.41
Unspecified: 4/			
Actual	4,410	17,000	3.86
Estimated	644	2,800	4.35
Total or average	8,710	31,700	3.63

1/ Data are rounded to three significant digits; may not add to totals shown.
2/ Includes road and other stabilization (cement).
3/ Includes snow and ice control.
4/ Includes production reported without a breakdown by end use and estimates for nonrespondents.

TABLE 6
KENTUCKY: CONSTRUCTION SAND AND GRAVEL 1/ SOLD OR USED IN 1995,
BY USE AND DISTRICT 2/

(Thousand metric tons and thousand dollars)

Use	District 1		District 2		District 3	
	Quantity	Value	Quantity	Value	Quantity	Value
Concrete aggregate and concrete products	(3/)	(3/)	529	1,950	(3/)	(3/)
Asphaltic concrete aggregates and road base materials 4/	138	473	249	1,150	1,340	3,460
Other miscellaneous uses 5/	(3/)	(3/)	--	--	(3/)	(3/)
Unspecified: 6/						
Actual	--	--	--	--	4,410	17,000
Estimated	519	1,980	--	--	125	823
Total	1,400	4,790	778	3,100	6,530	23,800

1/ Data are rounded to three significant digits; may not add to totals shown.
2/ Production reported in District 4 was included with "District 3" to avoid disclosing company proprietary data.
3/ Withheld to avoid disclosing company proprietary data; included in "Total."
4/ Includes fill, and road and other stabilization (cement).
5/ Includes snow and ice control.
6/ Includes production reported without a breakdown by end use and estimates for nonrespondents.