

THE MINERAL INDUSTRY OF OKLAHOMA

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 Oklahoma Geological Survey for collecting information on all nonfuel minerals.

Oklahoma ranked 34th in the Nation in total nonfuel mineral production value¹ in 1995, climbing from 35th in 1994, according to the U.S. Geological Survey (USGS). The estimated value for 1995 was \$374 million, a 10% increase from that of 1994. This increase followed a 14% increase from 1993 to 1994 (based on final data). The State accounted for 1% of the U.S. total nonfuel mineral production value.

In 1995, crushed stone continued as Oklahoma's leading nonfuel mineral commodity, accounting for about 39% of the State's total nonfuel mineral value. The combined values of construction materials—crushed stone, portland cement, construction sand and gravel, and gypsum—accounted for 79% of the same total value. The increase in mineral value in 1995 mostly resulted from the increase in crushed stone and a smaller yet substantial increase in iodine. In 1994, portland cement and crushed stone provided 85% of the year's total increase, while most other nonfuel mineral commodities also rose in value. Compared with 1994, all nonfuel minerals increased in value in 1995 except for those of masonry cement, tripoli, and feldspar, which had small decreases.

Oklahoma's mines exclusively produced industrial

minerals; no metals were mined in the State. Based on USGS estimates of the quantities produced in the 50 States during 1995, Oklahoma remained first in iodine and crude gypsum; second of four States that produce tripoli; third in feldspar; and ninth in industrial sand and gravel. In addition, significant quantities of crushed stone, portland cement, construction sand and gravel, masonry cement, and common clays were produced in the State.

The Oklahoma Geological Survey² reported that industrial mineral activity in the State improved moderately during 1995. Production increased for most construction materials, especially crushed stone, construction sand and gravel, and portland cement. Construction activities that held steady or increased somewhat during 1995 were home building (mainly in metropolitan areas), highway construction, and commercial and apartment building. Fluctuations in building activity were, in part, a result of weather conditions; heavy rains and some flooding during April and May slowed work on a number of projects.

Oklahoma remained the sole domestic producer of iodine. Iodine prices rose slightly during the year, and production by the three operating companies increased. Deepwater Iodides, Inc., which in 1994 opened a plant in

TABLE 1
NONFUEL RAW MINERAL PRODUCTION IN OKLAHOMA^{1 2}

Mineral	1993		1994		1995 [†]	
	Quantity	Value (thousands)	Quantity	Value (thousands)	Quantity	Value (thousands)
Cement:						
Masonry metric tons	85,300	\$6,720	91,000	\$7,410	78,000	\$6,370
Portland do.	1,700,000	77,600	1,680,000	102,000	1,700,000	103,000
Clays thousand metric tons	613	2,940	771	3,910	740	4,640
Gypsum (crude) do.	2,650	15,400	2,890	17,000	2,750	17,500
Iodine (crude) metric tons	1,940	15,400	1,630	12,800	1,830	19,600
Sand and gravel:						
Construction thousand metric tons	°9,700	°27,300	8,480	27,200	8,600	29,200
Industrial metric tons	1,210,000	23,200	1,230,000	24,000	1,230,000	24,000
Stone:						
Crushed thousand metric tons	27,100	114,000	29,900	125,000	33,100	146,000
Dimension ³ metric tons	2,350	838	3,980	1,250	16,300	2,100
Combined value of feldspar, gemstones, lime, salt, stone [dimension limestone and sandstone (1993), dimension sandstone (1994)], and tripoli						
Total	XX	298,000	XX	†19,400	XX	21,300
				†340,000		374,000

[†]Estimated. [‡]Preliminary. [°]Revised. XX Not applicable.

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

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

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

Woodward, Woodward County, to manufacture a broad line of inorganic and organic iodine compounds, declared Chapter 11 bankruptcy during 1995. However, later in the year, Tomen America, Inc., purchased Deepwater and continued operation under a new name, Deepwater Chemicals, Inc.

Other principal industries, including gypsum, silica sand, and portland cement, reported fairly stable markets during the year, but with no new operations, expansions, or notable technological gains. Dimension stone demand increased during the year in response to more housing construction in Oklahoma and surrounding States.

The number of mining permits in Oklahoma has also been relatively steady during the past several years. In 1995, the Oklahoma Department of Mines (ODM) issued 332 renewals and 97 new permits covering a total of 15,137 hectares (37,404 acres) of land. During 1994, there were 351 renewals and 94 new permits covering a total of

11,741 hectares (29,012 acres) of land. ODM reported that the State enacted a law in 1994 calling for Life-Expectancy Permits for mining activity. Previous rules had required that a company's mining permit be reviewed every 5 years. Under the new law, a company must submit a mining plan only once to cover the mine's life expectancy. ODM noted that Oklahoma is one of only a few States with such a permit system.

¹The 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 1995 USGS mineral production data are estimates, as of Dec. 1995. For some commodities, especially 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 No. 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.

²This report includes information provided by the Oklahoma Geological Survey.

TABLE 2
OKLAHOMA: CRUSHED STONE¹ SOLD OR USED BY PRODUCERS IN 1994, BY USE²

Use	Quantity (thousand metric tons)	Value (thousands)	Unit value
Coarse aggregate (+1 1/2 inch):			
Riprap and jetty stone	646	\$4,090	\$6.33
Filter stone	255	1,250	4.90
Other coarse aggregate	541	2,470	4.57
Coarse aggregate, graded:			
Concrete aggregate, coarse	8,010	37,700	4.71
Bituminous aggregate, coarse	1,390	7,380	5.30
Bituminous surface-treatment aggregate	664	3,960	5.97
Railroad ballast	1,020	5,240	5.14
Other graded coarse aggregate	W	W	5.43
Fine aggregate (-3/8 inch):			
Stone sand, concrete	487	1,690	3.47
Stone sand, bituminous mix or seal	252	883	3.50
Screening, undesignated	4,040	12,700	3.15
Other fine aggregate	W	W	5.10
Coarse and fine aggregates:			
Graded road base or subbase	2,220	8,300	3.74
Unpaved road surfacing	111	439	3.95
Terrazzo and exposed aggregate	W	W	3.46
Crusher run or fill or waste	3,020	10,500	3.48
Other coarse and fine aggregates	W	W	4.79
Other construction materials ³	990	5,180	5.23
Agricultural: Agricultural limestone ⁴	223	1,240	5.55
Chemical and metallurgical: Flux stone ⁵	1,960	6,310	3.21
Unspecified:⁶			
Actual	3,070	11,500	3.74
Estimated	987	4,150	4.20
Total	29,900	125,000	4.18

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

¹Includes dolomite, granite, limestone, miscellaneous stone, sandstone, slate, and traprock.

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

³Includes roofing granules.

⁴Includes poultry grit and mineral food and other agricultural uses.

⁵Includes cement manufacture and chemical stone for alkali works.

⁶Includes production reported without a breakdown by end use and estimates for nonrespondents.

TABLE 3
OKLAHOMA: CRUSHED STONE SOLD OR USED, BY KIND¹

Kind	1993				1994			
	Number of quarries	Quantity (thousand metric tons)	Value (thousands)	Unit value	Number of quarries	Quantity (thousand metric tons)	Value (thousands)	Unit value
Limestone	44	21,000	\$86,400	\$4.12	44	22,600	\$91,200	\$4.04
Dolomite	3	1,350	6,630	4.91	3	1,820	7,550	4.16
Granite	3	W	W	5.29	2	W	W	5.29
Traprock	1	W	W	3.97	1	W	W	4.18
Sandstone	6	1,640	7,570	4.62	5	2,170	10,400	4.81
Slate	1	30	128	4.27	1	W	W	1.08
Miscellaneous stone	—	—	—	—	1	23	99	4.30
Total	XX	27,100	114,000	4.21	XX	29,900	125,000	4.18

¹Revised. W Withheld to avoid disclosing company proprietary data; included in "Total." XX Not applicable.

²Data are rounded to three significant digits.

TABLE 4
OKLAHOMA: CRUSHED STONE¹ SOLD OR USED BY PRODUCERS IN 1994, BY USE AND DISTRICT²

(Thousand metric tons and thousand dollars)

Use	District 2		District 3		District 4		District 5	
	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value
Construction aggregates:								
Coarse aggregate (+1 1/2 inch) ³	102	611	W	W	W	W	81	507
Coarse aggregate, graded ⁴	1,540	8,460	993	4,200	6,830	32,300	2,410	13,000
Fine aggregate (-3/8 inch) ⁵	386	1,070	W	W	W	W	380	1,110
Coarse and fine aggregate ⁶	1,480	5,880	383	1,350	1,980	6,510	1,580	5,850
Other construction materials ⁷	—	—	408	1,670	5,110	19,300	—	—
Agricultural ⁸	(⁹)	(⁹)	(⁹)	(⁹)	—	—	(⁹)	(⁹)
Chemical and metallurgical ¹⁰	(⁹)	(⁹)	(⁹)	(⁹)	800	3,280	(⁹)	(⁹)
Unspecified:¹¹								
Actual	2,010	9,310	1,060	2,170	—	—	—	—
Estimated	319	1,060	119	501	54	192	495	2,400
Total	6,790	28,300	3,070	10,800	14,800	61,600	5,280	24,300

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

¹No crushed stone was produced in District 1.

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

³Includes filter stone, riprap and jetty stone, and other coarse aggregate.

⁴Includes concrete aggregate (coarse), bituminous aggregate (coarse), bituminous surface-treatment aggregate, railroad ballast, and other graded coarse aggregate.

⁵Includes stone sand (concrete), stone sand (bituminous mix or seal), screening (undesignated), and other fine aggregate.

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

⁷Includes roofing granules.

⁸Includes agricultural limestone, poultry grit and mineral food, and other agricultural uses.

⁹Withheld to avoid disclosing company proprietary data; included in "Total."

¹⁰Includes cement manufacture, chemical stone for alkali works, and flux stone.

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

TABLE 5
OKLAHOMA: CONSTRUCTION SAND AND GRAVEL SOLD OR USED IN 1994, BY MAJOR USE CATEGORY¹

Use	Quantity (thousand metric tons)	Value (thousands)	Value per ton
Concrete aggregate (including concrete sand)	3,820	\$12,600	\$3.30
Plaster and gunite sands	73	213	2.92
Concrete products (blocks, brick, pipe, decorative, etc.)	65	180	2.77
Asphaltic concrete aggregates and other bituminous mixtures	524	1,280	2.44
Road base and coverings ²	235	541	2.30
Fill	1,040	2,000	1.92
Other ³	76	359	4.72
Unspecified:⁴			
Actual	1,120	4,640	4.14
Estimated	1,530	5,400	3.53
Total or average	8,480	27,200	2.91

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

²Includes snow and ice control.

³Includes filtration, railroad ballast, and roofing granules.

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

TABLE 6
OKLAHOMA: CONSTRUCTION SAND AND GRAVEL¹ SOLD OR USED IN 1994, BY USE AND DISTRICT²

(Thousand metric tons and thousand dollars)

Use	District 1		District 2		District 3		District 4	
	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value
Concrete aggregate and concrete products ³	924	3,480	1,370	3,840	465	1,130	1,200	4,540
Asphaltic concrete aggregates and road base materials ⁴	408	900	895	1,930	127	346	368	645
Other miscellaneous uses ⁵	—	—	13	119	15	51	48	189
Unspecified: ⁶								
Actual	—	—	—	—	—	—	1,120	4,640
Estimated	125	697	472	1,330	46	188	886	3,180
Total	1,460	5,080	2,750	7,210	652	1,710	3,620	13,200

¹Production reported in District 5 was included with "District 4" to avoid disclosing company proprietary data.

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

³Includes plaster and gunite sands.

⁴Includes fill and snow and ice control.

⁵Includes filtration, railroad ballast, and roofing granules.

⁶Includes production reported without a breakdown by end use and estimates for nonrespondents.



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