

# THE MINERAL INDUSTRY OF NEBRASKA

**This chapter has been prepared under a Memorandum of Understanding between the U.S. Geological Survey and the University of Nebraska-Lincoln, Nebraska Geological Survey, for collecting information on all nonfuel minerals.**

In 1997, for the 4th consecutive year, Nebraska ranked 41st among the 50 States in total nonfuel mineral production value,<sup>1</sup> according to the U.S. Geological Survey (USGS). The estimated value for 1997 was \$161 million, a 9% increase from that of 1996. This followed a 1.4% increase from 1995 to 1996 (based on final 1996 data). The State accounted for a little less than 0.5% of the U.S. total nonfuel mineral production value.

The State's leading nonfuel minerals by value were crushed stone, construction sand and gravel, and portland cement. In 1997, Nebraska's increase in value was mostly accounted for by increases in construction sand and gravel, crushed stone (*table 1*), and portland cement. All other nonfuel minerals had small increases except industrial sand and gravel, which remained virtually the same. Common clays showed a small decrease relative to the changes in the leading commodities. Compared to that of 1997, the less vibrant increase in the State's nonfuel mineral value from 1995 to 1996 was mainly attributable to the small decreases in construction sand and gravel and crushed stone (*table 1*), mitigating an overall larger increase in portland cement. Metals produced in the State, mostly raw steel, were processed from materials acquired from other domestic and foreign sources. Uranium was in situ leach mined at one location in northwestern Nebraska but is not included in USGS statistics because it is a fuel mineral.

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<sup>1</sup>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 1997 USGS mineral production data published in this chapter are estimates as of January 1998. For some commodities (e.g., 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 # 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>. All Mineral Industry Surveys—mineral commodity, State, and country—also may be retrieved by way of MINES FaxBack or over the Internet at <http://minerals.er.usgs.gov/minerals/>.

The following narrative information was provided by the Nebraska Geological Survey<sup>2</sup> (NGS). Geologists from 10 States and the U.S. Geological Survey continued investigative studies of the Missouri River Basin regarding 3 main areas of concern: the urban-rural corridor from Omaha to Kansas City, MO; issues related to mining; and the effect of agriculture. The project brings together geologists from State Geological Surveys in Colorado, Iowa, Kansas, Minnesota, Missouri, Montana, Nebraska, North Dakota, South Dakota, Wyoming, and the U.S. Geological Survey. The effort will produce a large data-base with maps and references for finding various kinds of information about the basin including details about geology and mineral resources.

ASARCO Incorporated completed the shutdown of its Omaha lead refinery. The last lead production took place in mid-1996, although a small quantity of bismuth was produced in early 1997. The Omaha plant began operations in 1899, refining lead bullion produced by the company's facility in East Helena, MT.

Interest in reopening an old chalk mine in the central part of the State as a tourist attraction continued during the year. Mining operations dated from 1869 to the early 1950's. The mine was left open for picknickers and tourists until 1978 when the entrance collapsed.

The NGS produced several mining-related publications which were published by Nebraska's Conservation and Survey Division, including a 1997 update of *Mineral Facts for Nebraska*, *Industrial Mineral Resources of Nebraska* (included in *Proceedings of the 32nd Annual Industrial Minerals Forum*), and water and mineral test-hole log books for holes drilled in Franklin, Washington, and Webster Counties. Information concerning these and other State geologic publications is available from the NGS.

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<sup>2</sup>Raymond R. Burchett authored the text of mineral industry information submitted by the Nebraska Geological Survey. Another contact is Perry Wigley, Director, Nebraska Geological Survey.

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

(Thousand metric tons and thousand dollars unless otherwise specified)

Mineral	1995		1996		1997 p/	
	Quantity	Value	Quantity	Value	Quantity	Value
Clays, Common	232	1,130	277	1,140	189	601
Gemstones	NA	W	NA	3	NA	3
Lime	20	803	13	553	13	565
Sand and gravel, Construction	13,700	47,100	12,900	44,300	14,300	50,500
Stone, Crushed	6,590	41,800	6,370	39,800	7,000	45,000
Combined value of cement, gemstones, sand and gravel (industrial), and value indicated by symbol W	XX	55,500	XX	62,100	XX	64,500
Total	XX	146,000	XX	148,000	XX	161,000

p/ Preliminary. NA Not available. W Withheld to avoid disclosing company proprietary data; value included with "Combined value" data. 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.

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

(Thousand metric tons)

Kind	1995				1996			
	Number of quarries	Quantity (thousand metric tons)	Value (thousands)	Unit value	Number of quarries	Quantity (thousand metric tons)	Value (thousands)	Unit value
Limestone	11	6,590	\$41,800	\$6.34	11	6,370	\$39,800	\$6.25

1/ Data are rounded to three significant digits.

TABLE 3  
NEBRASKA: CRUSHED STONE SOLD OR USED BY PRODUCERS  
IN 1996, BY USE 1/ 2/

Use	Quantity (thousand metric tons)	Value (thousands)	Unit value
<b>Coarse aggregate (+1 1/2 inch):</b>			
Riprap and jetty stone	135	\$1,280	\$9.51
Coarse aggregate, graded, concrete aggregate, coarse	838	6,120	7.30
<b>Fine aggregate (-3/8 inch):</b>			
Other fine aggregate	4	12	3.00
<b>Coarse and fine aggregates:</b>			
Upaved road surfacing	292	2,360	8.07
Crusher run or fill or waste	457	3,240	7.08
Other coarse and fine aggregates 3/	616	3,510	5.69
Agricultural; agricultural limestone 4/	316	2,740	8.67
<b>Chemical and metallurgical:</b>			
Cement manufacture	(5/)	(5/)	4.15
Flux stone	(5/)	(5/)	6.00
Special; asphalt fillers or extenders	(5/)	(5/)	17.50
Unspecified; actual 6/	2,150	14,000	6.53
<b>Total</b>	<b>6,370</b>	<b>39,800</b>	<b>6.25</b>

1/ Includes limestone.

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

3/ Includes bituminous aggregate (coarse), macadam, other coarse aggregate, pipe bedding, and stone sand (bituminous mix or seal).

4/ Includes other agricultural uses.

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

6/ Includes production reported without a breakdown by end use.

TABLE 4  
NEBRASKA: CRUSHED STONE SOLD OR USED BY  
PRODUCERS IN 1996, BY USE AND DISTRICT 1/ 2/

(Thousand metric tons and thousand dollars)

Use	District 3	
	Quantity	Value
<b>Construction aggregates:</b>		
Coarse aggregate (+1 1/2 inch) 3/	W	W
Coarse aggregate, graded 4/	W	W
Fine aggregate (-3/8 inch) 5/	W	W
Coarse and fine aggregate 6/	2,340	16,500
Agricultural 7/	316	2,740
Chemical and metallurgical 8/	(9/)	(9/)
Special 10/	(9/)	(9/)
Unspecified: Actual 11/	2,150	14,000
<b>Total</b>	<b>6,370</b>	<b>39,800</b>

W Withheld to avoid disclosing company proprietary data; included with "Coarse and fine aggregate."

1/ No crushed stone was produced in District 1 and 2.

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

3/ Includes macadam, other coarse aggregate and riprap and jetty stone.

4/ Includes concrete aggregate (coarse) and bituminous aggregate (coarse).

5/ Includes other fine aggregate and stone sand (bituminous mix or seal).

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

7/ Includes agricultural limestone and other agricultural uses.

8/ Includes cement manufacture and flux stone.

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

10/ Includes asphalt fillers or extenders.

11/ Includes production reported without a breakdown by end use.

TABLE 5  
NEBRASKA: CONSTRUCTION SAND AND GRAVEL SOLD OR USED IN 1996,  
BY MAJOR USE CATEGORY 1/

Use	Quantity (thousand metric tons)	Value (thousands)	Value per ton
Concrete aggregate (including concrete sand)	1,830	\$6,120	\$3.35
Plaster and gunite sands	70	342	4.89
Concrete products (blocks, bricks, pipe, decorative, etc.)	143	681	4.76
Asphaltic concrete aggregates and other bituminous mixtures	858	2,610	3.04
Road base and coverings 2/	1,730	5,400	3.12
Fill	568	1,060	1.87
Snow and ice control	77	239	3.10
Other miscellaneous uses 3/	54	252	4.67
Unspecified: 4/			
Actual	814	3,010	3.70
Estimated	6,770	24,600	3.64
Total or average	12,900	44,300	3.44

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

2/ Includes road and other stabilization (cement).

3/ Includes filtration and roofing granules.

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

TABLE 6  
NEBRASKA: CONSTRUCTION SAND AND GRAVEL SOLD OR USED IN 1996,  
BY USE AND DISTRICT 1/ 2/

(Thousand metric tons and thousand dollars)

Use	District 1		District 2	
	Quantity	Value	Quantity	Value
Concrete aggregate and concrete products 3/	386	1,290	1,660	5,860
Asphaltic-bituminous mixtures	377	1,090	480	1,520
Road base and coverings 4/	635	1,580	1,090	3,820
Fill	121	322	447	738
Snow and ice control	24	68	53	172
Other miscellaneous uses 5/	44	191	10	60
Unspecified: 6/				
Actual	112	242	701	2,770
Estimated	643	1,990	6,120 7/	22,600 7/
Total	2,340	6,760	10,600 7/	37,600 7/

1/ Production reported in District 3 was included with "District 2" to avoid disclosing company proprietary data.

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

3/ Includes plaster and gunite sands.

4/ Includes road and other stabilization (cement).

5/ Includes filtration and roofing granules.

6/ Includes production reported without a breakdown by end use and estimates for nonrespondents. 7/

Includes data from unspecified district.