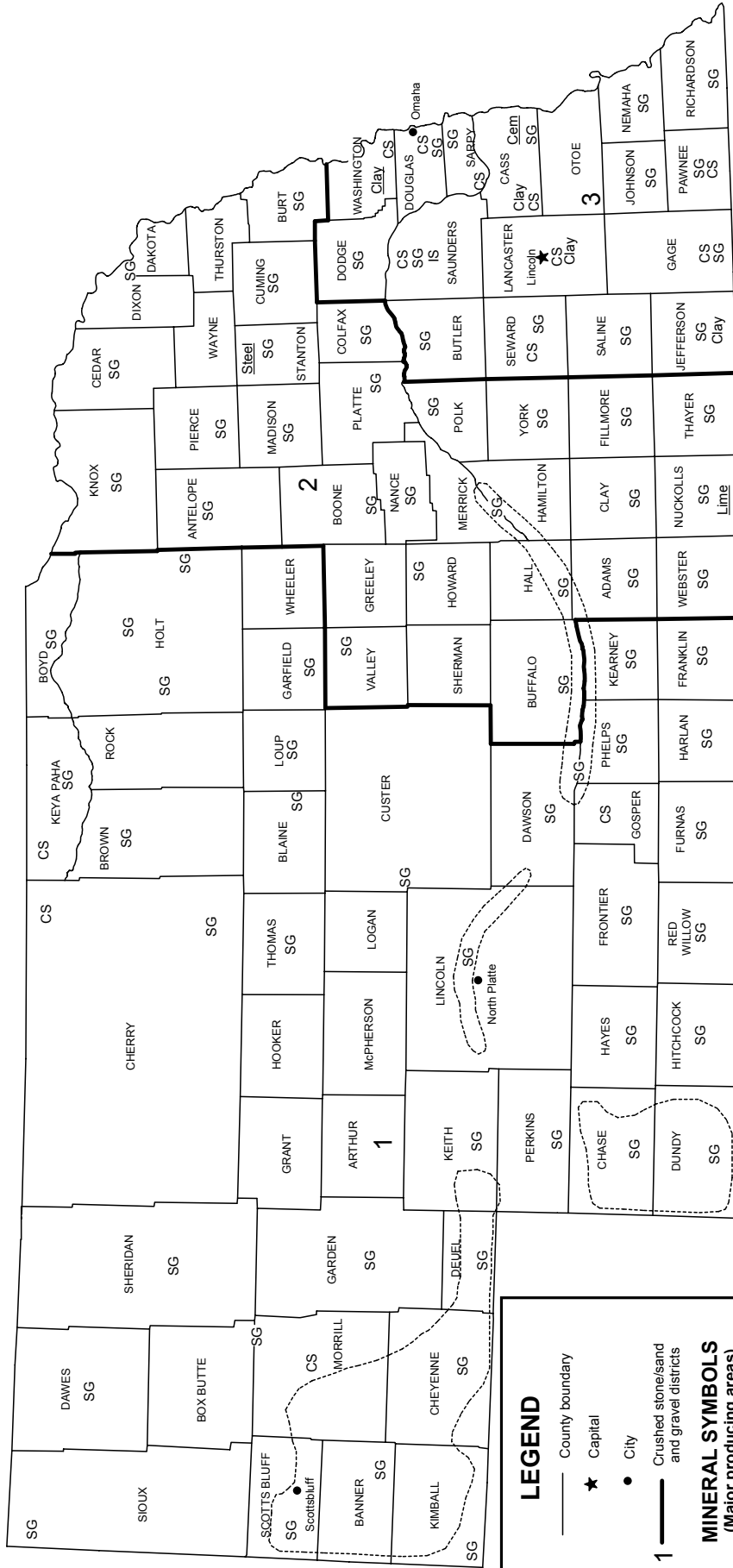


# NEBRASKA



## LEGEND

- County boundary
- ★ Capital
- City

1 — Crushed stone/sand and gravel districts

### MINERAL SYMBOLS (Major producing areas)

- Cem Cement plant
- Clay Common clay
- Clay Clay plant
- CS Crushed stone
- IS Industrial sand
- Lime Lime plant
- SG Construction sand and gravel
- Steel Steel plant
- Concentration of mineral operations



Source: University of Nebraska-Lincoln, Nebraska Geological Survey/U.S. Geological Survey (2002)

# 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 2002, the estimated value<sup>1</sup> of nonfuel mineral production for Nebraska was \$88.6 million, based upon preliminary U.S. Geological Survey (USGS) data. This was about a 2% decrease from that of 2001<sup>2</sup> and followed a 8% increase from 2000 to 2001. Because specific production data for industrial sand and gravel and masonry and portland cements were withheld to protect company proprietary data, the actual total values for 2000-2002 are substantially higher than those reported in table 1.

In 2002, Nebraska's leading nonfuel minerals, in descending order of value, were cement (portland and masonry), crushed stone, and construction sand and gravel, as has been true for the past several years. All three had small decreases in production and value. Conversely, in 2001, the values of all three increased, leading to the State's rise in value. Portland cement was up about \$15 million, crushed stone, up more than \$3 million, and construction sand and gravel, up almost \$4 million. Only lime had a small decrease for the year (table 1).

Compared with USGS estimates of the quantities of minerals produced in the 50 States during 2002, Nebraska was a significant producer of construction sand and gravel. Metals produced in the State, mostly that of raw steel, were processed from materials acquired from other domestic and foreign sources.

The following narrative information was provided by the Nebraska Geological Survey<sup>3</sup> (NGS). A few developments affected the nonfuel minerals industry in Nebraska in 2002.

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<sup>1</sup>The 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 2002 USGS mineral production data published in this chapter are preliminary estimates as of July 2003 and are expected to change. For some mineral commodities, such as 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. Specialist contact information may be retrieved over the Internet at URL <http://minerals.usgs.gov/minerals/contacts/comdir.html>; alternatively, specialists' names and telephone numbers may be obtained by calling USGS information at (703) 648-4000 or by calling the USGS Earth Science Information Center at 1-888-ASK-USGS (275-8747). All Mineral Industry Surveys—mineral commodity, State, and country—also may be retrieved over the Internet at URL <http://minerals.usgs.gov/minerals>.

<sup>2</sup>Values, percentage calculations, and rankings for 2001 may differ from the Minerals Yearbook, Area Reports: Domestic 2001, Volume II, owing to the revision of preliminary 2001 to final 2001 data. Data for 2002 are preliminary and are expected to change; related rankings may also change.

<sup>3</sup>Matthew Joeckel, Research Geologist with the University of Nebraska-Lincoln and the Nebraska Geological Survey (NGS), authored the text of the State mineral industry information provided by the NGS.

## Commodity Review

### *Industrial Minerals*

**Aggregates.**—Kiewit Materials, Inc., formerly a division of Peter Kiewit Sons Inc. headquartered in Omaha, was sold for an estimated \$540 million to Rinker Materials Corp (subsidiary of CSR, Ltd., an Australian company). At the time of the purchase, Rinker Materials Corp. (West Palm Beach, FL) owned Kiewit Materials and the recently absorbed Ft. Calhoun (Nebraska) Stone Co., a crushed-limestone producer located north of Omaha.

In Sarpy County, residents in the southern suburban fringe of the Omaha metropolitan area sought to block a proposed expansion of the operations of the former City Wide Quarry, now owned by Martin Marietta Materials Inc. Blasting and equipment noise were given as complaints. Nonetheless, in July 2002, the Sarpy County Board of Commissioners approved Martin Marietta's permit for expansion. However, the Commission required that the buffer setback around neighboring residences be increased, that a program of blast monitoring by seismic equipment be carried out for 1 year, and that the hours of quarry operation be limited. This decision may set a precedent for the near future, when the Lincoln-Omaha population continues to expand rapidly, but aggregate sources are not available.

**Brick and Tile.**—The brick and tile industry in Nebraska had continued success in widespread markets, including recent customers as distant as New York City. In addition to the two major brick and tile plants now operating in the State (Endicott Clay Products at Endicott and Yankee Hill Brick and Tile at Lincoln), smaller craft industries in Nebraska also used local clays as raw materials. Wilson Custom Design (Omaha) used Cretaceous Dakota Group clays from the Lincoln area to produce a variety of decorative tiles, statues, fireplaces, and large public structures. In 2002 alone, Wilson sold finished ceramic products made from local clays valued at about \$60,000. Omaha Clay Works (Omaha) also used Dakota Group clays in the production of ceramic art, and, with the assistance of the Conservation and Survey Division, began investigating other local sources of raw materials, particularly Pennsylvanian shales and underclays formerly used for brick and tile production.

Late in 2002, the potential abandonment of a Burlington Northern Santa Fe rail line between Endicott and Reynolds, Nebraska, was announced. This rail line currently (2002) transports about 25% of the bricks produced by Endicott Clay Products, the remaining 75% is transported by truck. State legislators had expressed concern about the issue and requested a 6-month moratorium on the abandonment proposal, extending a decision well into 2003.

**Fly Ash.**—Two companies in Nebraska sold fly ash produced by local coal-fired powerplants. Nebraska Ash Co. (Lincoln) received ash from plants at Nebraska City and Sutherland and sold material for concrete manufacturing and soil stabilization. Flatland Fly Ash (Grand Island) sold fly ash from plants in Grand Island and Hastings. The University of Nebraska Center for Infrastructure Research investigated the potential high-volume use of locally produced fly ash in controlled low-strength materials, structural fills, subgrade and base stabilization/construction, flowable mortar, and lightweight aggregates.

## Government Programs

In 2002, the directory of pits, quarries, and mines in Nebraska was updated and it is now available online at URL <http://csd.unl.edu/csd/specials/gisdata.html> as a downloadable file (PQM\_Directory\_xls). With the assistance of Conservation and Survey Division staff members and the State's Natural Resource Districts, over 3,900 pits, quarries, and mines, active, inactive, and abandoned, were cataloged and mapped.

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

(Thousand metric tons and thousand dollars)

Mineral	2000		2001		2002 <sup>p</sup>	
	Quantity	Value	Quantity	Value	Quantity	Value
Cement:						
Masonry	W	(3)	W	(3)	W	(3)
Portland	W	(3)	W	(3)	W	(3)
Clays, common <sup>c</sup>	133	338	133	338	133	338
Gemstones	NA	3	NA	3	NA	4
Lime	20	1,690	15	1,330	15	960
Sand and gravel:						
Construction	11,700	39,200	13,000	43,000	12,600	42,600
Industrial	W	(3)	W	(3)	W	(3)
Stone, crushed	6,590	42,400	6,360	45,800	6,100	44,700
Total	XX	83,700	XX	90,400	XX	88,600

<sup>p</sup>Preliminary. NA Not available. W Withheld to avoid disclosing company proprietary data. 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.

<sup>3</sup>Value excluded to avoid disclosing company proprietary data.

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

Kind	2000				2001			
	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	\$42,400	\$6.43	11	6,360	\$45,800	\$7.19
Total	XX	6,590	42,400	6.43	XX	6,360	45,800	7.19

XX Not applicable.

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

TABLE 3  
NEBRASKA: CRUSHED STONE SOLD OR USED BY PRODUCERS IN 2001, BY USE<sup>1</sup>

Use	Quantity (thousand metric tons)	Value (thousands)	Unit value
<b>Construction:</b>			
Coarse aggregate (+1 1/2 inch):			
Riprap and jetty stone	97	\$1,000	\$10.35
Other coarse aggregates	21	193	9.19
Total or average	118	1,200	10.14
Coarse aggregate, graded:			
Concrete aggregate, coarse	W	W	9.08
Bituminous aggregate, coarse	W	W	9.13
Fine aggregate (-3/8 inch), screening, undesignated	W	W	4.20
Coarse and fine aggregates:			
Graded road base or subbase	W	W	7.55
Unpaved road surfacing	596	5,000	8.38
Crusher run or fill or waste	461	3,690	8.00
Other construction materials <sup>2</sup>	W	W	3.31
<b>Agricultural:</b>			
Limestone	126	966	7.67
Poultry grit and mineral food	(3)	(3)	16.11
Other agricultural uses	470	4,690	9.97
Total or average	596	5,650	9.48
Chemical and metallurgical, cement manufacture	W	W	4.86
Other miscellaneous uses and specified uses not listed	W	W	7.25
<b>Unspecified:<sup>4</sup></b>			
Reported	2,360	14,700	6.21
Estimated	150	770	5.29
Total or average	2,510	15,400	6.15
Grand total or average	6,360	45,800	7.19

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

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

<sup>2</sup>Includes waste material.

<sup>3</sup>Withheld to avoid disclosing company proprietary data, included with "Other."

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

TABLE 4  
NEBRASKA: CRUSHED STONE SOLD OR USED BY PRODUCERS IN 2001, BY USE AND DISTRICT<sup>1,2</sup>

(Thousand metric tons and thousand dollars)

Use	District 3	
	Quantity	Value
Construction:		
Coarse aggregate (+1 1/2 inch) <sup>3</sup>	118	1,200
Coarse aggregate, graded <sup>4</sup>	W	W
Fine aggregate (-3/8 inch) <sup>5</sup>	W	W
Coarse and fine aggregate <sup>6</sup>	W	W
Other construction materials	W	W
Agricultural <sup>7</sup>	596	5,650
Chemical and metallurgical <sup>8</sup>	W	W
Other miscellaneous uses <sup>9</sup>	W	W
Unspecified: <sup>10</sup>		
Reported	2,360	14,700
Estimated	150	770
Total	6,360	45,800

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

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

<sup>2</sup>No production reported in Districts 1 and 2.

<sup>3</sup>Includes riprap and jetty stone and other coarse aggregates.

<sup>4</sup>Includes bituminous aggregate (coarse) and concrete aggregate (coarse).

<sup>5</sup>Includes screening (undesigned).

<sup>6</sup>Includes crusher run (select material or fill), graded road base or subbase, and unpaved road surfacing.

<sup>7</sup>Includes waste material.

<sup>8</sup>Includes agricultural limestone, poultry grit and mineral food, and other agricultural uses.

<sup>9</sup>Includes cement manufacture.

<sup>10</sup>Reported and estimated production without a breakdown by end use.

TABLE 5  
NEBRASKA: CONSTRUCTION SAND AND GRAVEL SOLD OR USED IN 2001, BY MAJOR USE CATEGORY<sup>1</sup>

Use	Quantity	Value	Unit
	(thousand metric tons)	(thousands)	value
Concrete aggregates and concrete products	1,550	\$5,560	\$3.59
Plaster and gunitite sands	68	192	2.82
Concrete products (blocks, bricks, pipe, decorative, etc.)	100	494	4.94
Asphalt concrete aggregates and other bituminous mixtures	788	2,610	3.31
Road base and coverings <sup>2</sup>	2,170	7,220	3.32
Fill	914	1,560	1.71
Snow and ice control	115	337	2.93
Roofing granules	15	64	4.27
Other miscellaneous uses	25	270	10.80
Unspecified: <sup>3</sup>			
Reported	932	3,350	3.59
Estimated	6,300	21,000	3.39
Total or average	13,000	43,000	3.31

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

<sup>2</sup>Includes road and other stabilization (lime).

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

TABLE 6  
NEBRASKA: CONSTRUCTION SAND AND GRAVEL SOLD OR USED IN 2001, BY USE AND DISTRICT<sup>1</sup>

(Thousand metric tons and thousand dollars)

Use	District 1		District 2	
	Quantity	Value	Quantity	Value
Concrete aggregates and concrete products <sup>2</sup>	355	1,150	W	W
Asphaltic concrete aggregates and road base materials <sup>3</sup>	1,190	3,440	W	W
Fill	80	174	427	714
Snow and ice control	46	146	60	147
Other miscellaneous uses <sup>4</sup>	35	272	2,200	7,910
Unspecified: <sup>5</sup>				
Reported	--	--	6	53
Estimated	790	2,500	3,000	10,000
Total	2,500	7,720	5,710	18,900
	District 3		Unspecified districts	
	Quantity	Value	Quantity	Value
Concrete aggregates and concrete products <sup>2</sup>	W	W	--	--
Asphaltic concrete aggregates and road base materials <sup>3</sup>	W	W	--	--
Fill	406	673	--	--
Snow and ice control	10	43	--	--
Other miscellaneous uses <sup>4</sup>	941	3,630	--	--
Unspecified: <sup>5</sup>				
Reported	925	3,300	--	--
Estimated	2,500	8,700	7	26
Total	4,750	16,300	7	26

W Withheld to avoid disclosing company proprietary data; included in "Other miscellaneous uses." -- Zero.

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

<sup>2</sup>Includes plaster and gunitite sands.

<sup>3</sup>Includes road and other stabilization (lime).

<sup>4</sup>Includes roofing granules.

<sup>5</sup>Reported and estimated production without a breakdown by end use.