

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 1998, the preliminary estimated value¹ of nonfuel mineral production for Nebraska was \$174 million, according to the U.S. Geological Survey (USGS). This was more than a 5% increase from that of 1997,² following an 11.5% increase from 1996 to 1997. Nebraska's leading nonfuel minerals by value were portland cement, construction sand and gravel, and crushed stone, in descending order of value.

Nonfuel minerals that increased in value in 1998 included portland and masonry cement, lime, construction and industrial sand and gravel, and crushed stone. Only common clay showed a decrease and gemstones remained unchanged. 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 it is not included in USGS statistics because it is an energy mineral.

The Nebraska Geological Survey³ (NGS) provided the following narrative information. As reported to the NGS, Ash Grove Cement Co. reached a significant milestone in its 69-year history when, in 1998, the company shipped 907 million metric tons (1 million short tons) of portland cement from its Louisville, NE plant.

Kerford Limestone Co. started stripping a new area northwest of Weeping Water, NE. A new underground mine

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 1998 USGS mineral production data published in this chapter are preliminary estimates as of February 1999 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 1997 may vary from the *Minerals Yearbook, Area Reports: Domestic 1997, Volume II*, owing to the revision of preliminary 1997 to final 1997 data. Data for 1998 are preliminary and expected to change, while related rankings may also be subject to change.

³Raymond R. Burchett, Professor/Research Geologist with the University of Nebraska-Lincoln and the Nebraska Geological Survey (NGS), authored the text of mineral industry information submitted by the NGS.

entrance will be developed at this site to extract limestone for crushing. Crow Butte Resources expanded its uranium mining facility near Crawford in northwestern Nebraska. Mining unit 1 started in April 1991, with first production in May 1991, and it is now in restoration. Unit 2 is also in restoration. Units 3, 4, 5, and 6 are currently in production.

A grand reopening of an old chalk mine as a tourist attraction took place July 5 in the central part of the State. Mining operations were dated from 1869 to the early 1950's. The mine was left open for picnickers and tourists until 1978 when the entrance collapsed.

Geologic mapping continued in the Omaha area as a part of the Missouri River Basin corridor project. Geologists from 10 States and the USGS continued exploring the Missouri River Basin because of three main areas of concern: the urban-rural corridor from Omaha to Kansas City, MO; issues related to mining; and the effects of agriculture. The project brings together geologists from State geological surveys in Colorado, Iowa, Kansas, Minnesota, Missouri, Montana, Nebraska, North Dakota, South Dakota, and Wyoming and the USGS. The effort will produce a large database with maps and references for finding various kinds of information about the basin, including details about geology and mineral resources.

The NGS also entered into another cooperative project with the USGS to study the geologic evolution of the Platte River. A series of test wells has been drilled and sampled by the NGS, and data from these wells will be used to illustrate the lithology, thickness, and distribution of the sediments through the use of cross-sections and thickness maps. A configuration map on top of the underlying bedrock will be used to interpret the surface of previous episodes of river drainage in this area using the same test wells.

The NGS produced several mining-related publications that were published by Nebraska's Conservation and Survey Division including 1998 updates of *Mineral Facts for Nebraska*, *Crow Oil and Gas Facts for Nebraska* and *Butte Uranium Deposit* (Nebraska Geonotes series), and 1998 revisions to water and mineral test-hole log books for holes drilled in Butler, Colfax, Dodge, and Washington Counties. New water and mineral test-hole log books were published for holes drilled in Harlan and Platte Counties. Information concerning these and other State geologic publications is available from the NGS.

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

(Thousand metric tons and thousand dollars unless otherwise specified)

Mineral	1996		1997		1998 p/	
	Quantity	Value	Quantity	Value	Quantity	Value
Clays: Common	277	1,140	279	1,090	193	689
Gemstones	NA	3	NA	3	NA	3
Lime	13	1,060	17	1,360	18	1,370
Sand and gravel: Construction	12,900	44,300	13,700	46,700	14,400	50,600
Stone: Crushed	6,370	39,800	6,900	46,000	7,000	46,900
Combined values of other industrial minerals	XX	62,100	XX	70,100	XX	74,300
Total	XX	148,000	XX	165,000	XX	174,000

p/ Preliminary. 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 three significant digits; may not add to totals shown.

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

(Thousand metric tons)

Kind	1996				1997			
	Number of quarries	Quantity (thousand metric tons)	Value (thousands)	Unit value	Number of quarries	Quantity (thousand metric tons)	Value (thousands)	Unit value
Limestone	11	6,370	\$39,800	\$6.25	11	6,900	\$46,000	\$6.67

1/ Data are rounded to three significant digits.

TABLE 3
NEBRASKA: CRUSHED STONE SOLD OR USED BY PRODUCERS IN 1997,
BY USE 1/ 2/

Use	Quantity (thousand metric tons)	Value (thousands)	Unit value
Coarse aggregate (+1 1/2 inch):			
Riprap and jetty stone	184	\$1,980	\$10.77
Other coarse aggregate 3/	56	357	6.38
Coarse aggregate, graded:			
Concrete aggregate, coarse	843	6,330	7.51
Other coarse aggregate 4/	259	1,890	7.31
Fine aggregate (-3/8 inch): Screening, undesignated	163	489	3.00
Coarse and fine aggregates:			
Graded road base or subbase	295	2,220	7.52
Unpaved road surfacing	292	2,360	8.07
Crusher run or fill or waste	457	3,240	7.08
Other coarse and fine aggregates	W	W	6.06
Other construction materials 5/	6	14	2.33
Agricultural:			
Agricultural limestone	316	2,740	8.67
Other agricultural uses	277	2,860	10.31
Other agricultural uses	(6/)	(6/)	4.52
Chemical and metallurgical:			
Cement manufacture	(6/)	(6/)	4.79
Flux stone	(6/)	(6/)	1.00
Special: Asphalt fillers or extenders	(6/)	(6/)	17.67
Other miscellaneous uses: Pipe bedding	65	391	6.02
Unspecified: Actual 7/	2,170	14,500	6.70
Total	6,900	46,000	6.67

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

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

2/ Includes limestone.

3/ Includes macadam.

4/ Includes bituminous aggregate (coarse) and railroad ballast.

5/ Includes other coarse and fine aggregates.

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

7/ Reported production without a breakdown by end use.

TABLE 4
NEBRASKA: CRUSHED STONE SOLD OR USED BY
PRODUCERS IN 1997, BY USE AND DISTRICT 1/ 2/

(Thousand metric tons and thousand dollars)

Use	District 3	
	Quantity	Value
Construction aggregates:		
Coarse aggregate (+1 1/2 inch) 3/	239	2,340
Coarse aggregate, graded	W	W
Fine aggregate (-3/8 inch)	W	W
Coarse and fine aggregate 4/	1,210	9,170
Other construction materials 5/	1,340	9,120
Agricultural 6/	367	3,270
Chemical and metallurgical 7/	(8/)	(8/)
Special 9/	(8/)	(8/)
Unspecified: Actual 10/	(8/)	(8/)
Total	6,900	46,000

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

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

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

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

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

5/ Includes bituminous aggregate (coarse), concrete aggregate (coarse), railroad ballast, and screening (undesignated).

6/ Includes agricultural limestone and other agricultural uses.

7/ Includes cement manufacture and flux stone.

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

9/ Includes asphalt fillers or extenders and pipe bedding.

10/ Reported production without a breakdown by end use.

TABLE 5
NEBRASKA: CONSTRUCTION SAND AND GRAVEL SOLD OR USED IN 1997,
BY MAJOR USE CATEGORY 1/

Use	Quantity (thousand metric tons)	Value (thousands)	Value per ton
Concrete aggregate (including concrete sand)	2,060	\$6,420	\$3.12
Plaster and gunite sands	151	464	3.07
Concrete products (blocks, bricks, pipe, decorative, etc.)	108	417	3.86
Asphaltic concrete aggregates and other bituminous	787	2,360	3.00
Road base and coverings 2/	1,980	5,960	3.01
Fill	668	1,120	1.68
Snow and ice control	64	245	3.83
Roofing granules	23	148	6.43
Other miscellaneous uses 3/	153	501	3.27
Unspecified: 4/			
Actual	1,470	5,220	3.55
Estimated	6,210	23,900	3.84
Total or average	13,700	46,700	3.42

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 railroad ballast.

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

TABLE 6
NEBRASKA: CONSTRUCTION SAND AND GRAVEL SOLD OR USED IN 1997,
BY USE AND DISTRICT 1/

(Thousand metric tons and thousand dollars)

Use	District 1		District 2		District 3		Unspecified districts	
	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value
Concrete aggregate and concrete products 2/	478	1,250	603	1,840	1,230	4,210	--	--
Asphaltic concrete aggregates and road base materials 3/	1,070	2,590	1,280	3,750	423	1,990	--	--
Fill	116	176	269	497	283	449	--	--
Other miscellaneous uses 4/	42	127	169	524	28	242	--	--
Unspecified 5/	871	2,750	2,660	9,490	4,000	16,300	149	526
Total	2,580	6,900	4,980	16,100	5,970	23,200	149	526

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

2/ Includes plaster and gunite sands.

3/ Includes road and other stabilization (cement).

4/ Includes filtration, railroad ballast, roofing granules, and snow and ice control.

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