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The Mineral Industry of Nebraska

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Keyes, William F. and Burchett, Raymond R., "The Mineral Industry of Nebraska" (1975). Conservation and Survey Division. 422. http://digitalcommons.unl.edu/conservationsurvey/422

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CONSERVATION & SURVEY DIVISION
The University of Nabraska
Lincoln, Nebr. 68508
Reprint Series NOV - 1975

Preprint from the 1973

BUREAU OF MINES MINERALS YEARBOOK

The Mineral Industry of Nebraska

By

WILLIAM F. KEYES AND RAYMOND R. BURCHETT



Prepared under a cooperative agreement between the Bureau of Mines, U.S. Department of the Interior, and the Conservation and Survey Division of the University of Nebraska, (Nebraska Geological Survey).

Preprint from the 1973 BUREAU OF MINES MINERALS YEARBOOK

The Mineral Industry of Nebraska





ITED STATES DEPARTMENT OF THE INTERIOR • Rogers C. B. Morton, Secretary

BUREAU OF MINES Thomas V. Falkie, Director

This publication is a chapter from the current Bureau of Mines Minerals Yearbook, comprising Volume I, Metals, Minerals, and Fuels; Volume II, Area Reports: Domestic: Volume III, Area Reports: International. Individual chapters from all volumes and the separate volumes of the Yearbook are sold by the Superintendent of Documents, Washington. D.C. 20402.

For sale by the Superintendent of Documents, U.S. Government Printing Office Washington, D.C. 20402 - Price

The Mineral Industry of Nebraska

This chapter has been prepared under a cooperative agreement between the Bureau of Mines, U.S. Department of the Interior, and the Conservation and Survey Division of the University of Nebraska, Nebraska Geological Survey, for collecting information on all minerals except fuels.

By William F. Keyes and Raymond R. Burchett 2

The value of mineral production in Nebraska in 1973 was \$80.8 million, an increase of 10% over that of 1972. The increase was due to greater production and higher unit values for sand and gravel and stone, which are, along with cement, the most important minerals produced in Nebraska. Production of petroleum, the State's most important mineral product, declined 17%, and value of production declined 5%.

Legislation and Government Programs.— A mineral resource map of Nebraska on a scale of 1:1,000,000 was published by the Nebraska Geological Survey.3 Locations of active pits or quarries of sand and gravel, sandstone, silt or siltstone, clay or shale, volcanic ash, and limestone are shown, along with the locations of oilfields and gasfields. Also included is a series of 14 small maps showing general areas of mineral occurrence in Nebraska. These include (1) the occurrence at or near the surface of sand and gravel, quartzite, limestone, uraniumbearing rocks, clay or shale, volcanic ash, gypsum, and bentonite; (2) the reported occurrences of diatomaceous earth and sodium and potassium salts; and (3) the potential for metallic minerals, availability of groundwater, and underground gas storage sites. The maps also show Precambrian configurations.

The Nebraska Geological Survey, in cooperation with the U.S. Geological Survey, also completed a geologic map of southcentral Nebraska at a scale of 1:250,000,000 or approximately one-quarter inch to the mile.4 Through the use of a combination of patterns and colors, consolidated bedrock exposed bedrock, and the thickness of unconsolidated mantlerock are shown on the same map.

A user-oriented Remote Sensing Center was established within the Conservation and Survey Div. of the University of Nebraska at Lincoln to interpret natural resources features within Nebraska. Aircraft and satellite imagery are the primary sources of this information. During 1973, information was obtained from satellite imagery to compile a general land-use map of Nebraska that was to be published in 1974.

Activity continued on the circular magnetic and gravimetric anomaly near the Johnson-Pawnee County line because of the current interest in rare-earth elements.

The Nebraska Geological Survey also continued a mineral resource inventory program in cooperation with the U.S. Soil Conservation Service and the Nebraska Department of Roads to obtain information on active and abandoned quarries, pits, and mines. An attempt was to be made to determine the number of acres mined and reclaimed for each operation.

and Kansas. Nebr. Geol. Survey, 1973.

¹ Physical scientist, Division of Nonmetallic Mineralls—Mineral Supply.

Research geologist, Nebraska Geological Sur-

vey.

³ Burchett, R. R. Mineral Resource Map of

[&]quot;Burchett, R. R. Mineral Resource Map of Nebraska. Neb. Geol. Survey, 1973.

⁴ Dreeszen, V. H., E. C. Reed, and R. R. Burchett, with G. E. Prichard. Bedrock Geologic Map Showing Thickness of Overlying Quatern-ary Deposits, Grand Island Quadrangle, Nebraska and Kansas, Nebr. Geol. Survey, 1979.

Table 1.-Mineral production in Nebraska 1

	1972		1973	
Mineral	Quantity	Value (thou- sands)	Quantity	Value (thou- sands)
Claysthousand short tons	115	\$143	158	\$286
Gem stones	NA	11	NA	11
Limethousand short tons	34	685	31	651
Natural gasmillion cubic feet	3.478	619	3.836	698
Petroleum (crude)thousand 42-gallon barrels_	8,705	29,423	7.240	28.035
Sand and gravelthousand short tons	13,720	15.063	15.906	18,366
Stonedo Value of items that cannot be disclosed:	4,251	7,645	5,368	10,958
Cement, natural gas liquids, and pumice (1972)	XX	20,086	XX	21,816
Total	XX	73,675	XX	80,821
Total 1967 constant dollars	XX	60,789	XX	P 59,339

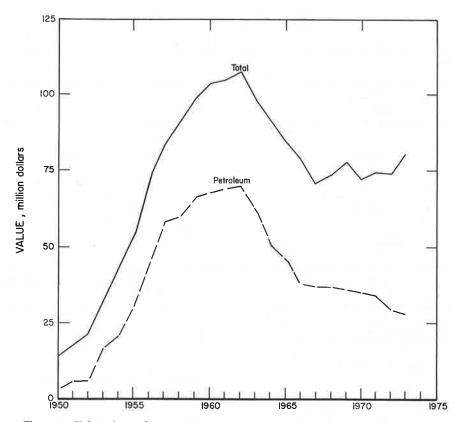


Figure 1.-Value of petroleum and total value of mineral production in Nebraska.

Table 2.-Value of mineral production in Nebraska, by county 12

County	1972	1973	Minerals produced in 1973 in order of value
Adams	w	***	
Antelope	\$105	\$108	Sand and gravel.
ArthurBanner	w	#105	Do.
Banner	3,594	$\tilde{\mathbf{w}}$	Detuctions and and according to
Boone	w	**	Petroleum, sand and gravel, natural gas.
Brown	ŵ	w	Sand and gravel.
Buffalo	297	586	Do.
Durt	W		20.
Sutler	W	w	Sand and gravel,
Cass	20,122	21,540	Cement, stone, sand and gravel, clays.
Cedar	192	238	Sand and gravel.
Chase	_ 2	W	Do.
hovenne	W	w	Do.
Cheyenne	7,322	7,988	Petroleum, natural gas liquids, natural gas sand and gravel.
lay	204	w	Sand and gravel.
Colfax	105	128	Do.
luming	w	w	Do.
Ouster	w	128	Do.
Nawson	368	467	Do.
Jeuel	w	w	Natural gas, sand and gravel.
DixonDixon	W	W	
Jouglas	2 P07	987	Sand and gravel,
Oundy	2,897 W	W	Sand and gravei, clays.
illmore	VV	$\frac{11}{152}$	Sand and gravel. Sand and gravel, clays. Petroleum, sand and gravel. Sand and gravel.
Fillmore	55	124	Do.
rontier	w	w	Potvolenm natural res
urnas	37	59	Petroleum, natural gas, Sand and gravel, petroleum.
lage	w	w	Stone, sand and gravel.
larden	w	w	Petroleum, sand and gravel.
Barfield		w	Sand and gravel.
Hall	270	614	Do.
Hamilton	w	23	Do.
Iarlan	w	w	Petroleum, sand and gravel.
Inyes	W	W	Sand and gravel.
Hitchcock	W	678	Petroleum, sand and gravel.
Holt	163	190	Sand and gravel.
Ioward lefferson	w	W	Do.
Johnson	w	W	Sand and gravel, clays.
Cearney	35	38	Sand and gravel,
Ceith	w	w	Do.
Keya Paha	3	3	Do.
Cimball	6,361	5,897	Petroleum, natural gas liquids, natural gas sand and gravel.
Cnox	140	203	Sand and gravel.
Lancaster	115	w	Sand and gravel. Sand and gravel, clays, stone.
Lincoln	39	132	Sand and gravel, clays, stone.
200p		w	Do.
AcPherson	w	w	Do.
Madison	w	291	Do.
Merrick	W	W	Do.
Morrill	1,722	\mathbf{w}	Petroleum, sand and gravel, lime, natural ga
Nance	W	w	Sand and gravel.
Nemaha	w	W	Stone.
Nuckolls	W	W	Cement, stone.
Otoe	w	W	Lime, stone, clays.
Pawnee	w	W	Stone. Sand and gravel.
Phelps	W	W	Do.
Pierce	144	159	Do.
Platte	1,012	1,049	Do.
Polk	w	w	Do.
Red Willow	10,175	8,887	
tienardson	w	w	Petroleum, sand and gravel. Petroleum, stone, sand and gravel.
Rock	1	2	Sand and gravel.
Saline	107	w	Do.
Sarpy	w	1,519	Stone, sand and gravel, clays.
Saunders	1,395	w	Sand and gravel.
Scotts Bluff	W	W	Petroleum, lime, sand and gravel, natural ga
seward	w	w	Stone.
Sheridan	221	16	Sand and gravel.
Stanton	W	W	Do.
Chayer	W	371	Sand and gravel, stone.
Thomas	W	52 W	Sand and gravel.
		VV	20.

See footnotes at end of table.

P Preliminary. NA Not available. XX Not applicable. ¹ Production as measured by mine shipments, sales, or marketable production (including consumption by producers).

Table 2.-Value of mineral production in Nebraska, by county 12-Continued (Thousands)

County	1972	1973	Minerals produced in 1973 in order of		
Webster Wheeler York Undistributed 3	\$156 W 169 16,147	W W \$33 28,147	Sand and gravel, Do. Do. Do.		
Total 4	73,675	80,821			

W Withheld to avoid disclosing individual company confidential data; included with "Undistributed."

1 The following counties are not listed because no production was reported: Blaine, Box Butte, Boyd, Dakota, Dawes, Gosper, Grant, Greeley, Hooker, Logan, Sherman, Sioux, Thurston, and Wayne.

2 Value of petroleum is based on an average price per barrel for the State.

2 Value of petroleum is based on an average price per barrel for the State.

³ Includes some sand and gravel which cannot be assigned to specific counties, gem stones, and values indicated by symbol W.

4 Data may not add to totals shown because of independent rounding.

Table 3.-Indicators of Nebraska business activity

	1972	1973 Р	Change, percent
Employment and labor force, annual average:			
Total labor forcethousands	666.3	688.9	+3.4
Unemploymentdo	22.5	22.7	+.9
Nonagricultural employment:			
Miningdo	1.6	1.7	+6.2
Constructiondodo	27.5	29.5	+7.3
Manufacturing	86.4	90.2	+4.4
Governmentdo	108.8	111.2	+2.2
Other nonagricultural employmentdo	290.3	303.1	+4.4
Personal income:		****	1
Totalmillions_	\$6,642	\$7,444	12.1
Per capita	\$4,355	\$4,827	+10.8
Construction activity:	4 2,000	4.,02.	1 20.0
Value of nonresidential constructionmillions_	\$87.2	\$101.8	+16.7
Number of new housing units	13,556	9,611	-29.1
Cement shipments to and within the State	20,000	0,011	
thousand short tons	969	1.207	-1-24.6
Farm marketing cash receiptsmillions_	\$3,054.2	\$4,172.0	+36.6
Mineral production value	\$73.7	\$80.8	+9.6

P Preliminary.

Sources: Survey of Current Business; Employment and Earnings; Construction Review; Area Trends in Employment and Unemployment; and U.S. Bureau of Mines.

REVIEW BY MINERAL COMMODITIES

NONMETALS

Cement.—Cement was produced by Ash Grove Cement Co. at its plant near Louisville in Cass County, and by Ideal Cement Co. near Superior in Nuckolls County, The chief raw materials used were limestone, clay, and gypsum. Disposition of output was 61% to ready-mix companies, 20% to highway contractors, 9% to concrete-product manufacturers, 7% to building materials dealers, and 3% to other contractors. Apparent consumption of portland cement increased 25% to 1,192,000 tons, and apparent consumption of masonry cement increased 7% to 14,253 tons.

Clays.—Five firms produced clay in 1973. Clay production increased 37% over that of 1972, and the value of production increased 100%.

Ash Grove Cement Co. produced clay for cement manufacture near Louisville, Cass County. Omaha Brick Works produced clay for face and common brick near Ralston in Douglas County and in Sarpy County. Endicott Clay Products Co. produced clay to make face brick at Endicott in Jefferson County; a new brick plant was completed. Yankee Hill Brick Manufacturing Co. near Lincoln in Lancaster County, produced clay for common and face brick. Western Brick

& Aggregate Co., in Otoe County east of Nebraska City, produced clay for lightweight aggregate; new lifters in the company's rotary kiln increased production substantially.

Fertilizer Materials.—Three of the four ammonia producers in Nebraska also had urea and ammonium nitrate production facilities. These were Allied Chemical Co. at La Platte, Sarpy County; CF Industries Inc., at Fremont, Dodge County; and Phillips Chemical Co. at Beatrice, Gage County. Farmland Industries Inc. produced ammonia at a plant at Hastings in Adams County. In addition, Cominco-American Inc., produced ammonium nitrate at a plant at Beatrice.5

There was no production of phosphate rock or potash in Nebraska.

Lime.—Great Western Sugar Co. and Western Aggregates produced lime in Morrill, Scotts Bluff, and Otoe Counties for sugar refining and water purification. Output decreased 9% and was 12% below the record high of 1969. Total consumption was 57,490 tons.

Perlite.-No perlite is produced in Nebraska, but one manufacturer, the Zonolite Div. of W. R. Grace & Co., received perlite from outside the State and expanded it in a plant near Omaha. The expanded product was used as aggregate for plaster and concrete, for horticultural purposes, and as a filler material.

Pumice.—The LaRue Axtell Pumice Co.. sole producer of pumice during 1972 at its mine in Lincoln County, was inactive during 1973. No other pumice production was reported.

Sand and Gravel.—Total production of sand and gravel in Nebraska increased 16%; value of production increased 22%. The average value increased from \$1.10 per ton in 1972 to \$1.15 per ton in 1973.

Among the largest producers were Central Sand & Gravel Co. in Butler, Madison. Pierce, and Platte Counties: Hartford Sand & Gravel Co. in Douglas, and Dodge Counties; Lyman-Richey Sand & Gravel Corp. in Cass, Dodge, Douglas, Morill, Platte, Sarpy, and Saunders Counties; and Western Sand & Gravel Co. in Cass and Saunders Counties. Leading in production of sand and gravel were Douglas and Saunders Counties.

Commercial operations accounted for 95% of the sand and 87% of the gravel produced in Nebraska in 1973. Governmentand-contractor operations produced the remainder. About 65% of the sand produced commercially was used in building operations, and another 24% was used in paving. About 69% of the commercially produced gravel was used in paving, and 17% was used for building purposes.

Stone.—Sales of crushed and broken limestone in Nebraska increased 26% in quantity and 43% in value. Unit value increased from \$1.80 per ton in 1972 to \$2.04 per ton in 1973. Principal producers were Ash Grove Cement Co., Fort Calhoun Stone Co., Hopper Bros. Quarries, and Kerford Limestone Co.

Crushed and broken stone was used for concrete and concrete aggregate, road base, riprap, and agricultural purposes.

Talc.—The only producer of ground talc in Nebraska continued to be Cyprus Mines Corp., United Sierra Div., at its plant near Grand Island in Hall County. The unground talc was obtained from outside the State. The product was used in paper, ceramics, paint, rubber, insecticides, textiles and toilet articles.

Vermiculite.--W. R. Grace & Co., Construction Products Div., was the only producer of exfoliated vermioulite in 1973. Crude vermiculite was obtained from Montana, Principal uses of the expanded product were as loose-fill insulation, fire proofing, and concrete aggregate; some was used in horticulture.

MINERAL FUELS

The Nebraska Oil and Gas Conservation Commission issued 228 permits to drill for oil and gas in 1973. Of these, 110 were for exploratory wells, 71 were for development wells, and 44 were for stratigraphic tests. Drilling permits for exploratory and development wells were issued largely for Cheyenne (59), Kimball (31), Red Willow (15), and Morrill (14) Counties, Stratigraphic test permits were for Red Willow (18), Furnas (18), and Cheyenne (8) Counties. The largest number of development and exploratory wells were completed in Cheyenne County, followed by Kimball, Banner, Morrill, and Red Willow Counties. Both the number of wells and total footage drilled declined over 40%.

⁵ Tennessee Valley Authority, 1973 Fertilizer Trends, Nat. Fertilizer Development Center Bull. Y-77, Muscle Shoals, Ala. June 1974, pp.

Natural Gas.-Marketed production of natural gas in 1973 increased 10% to 3.8 billion standard cubic feet and value of production increased 13%. Major production was in Cheyenne County.

Natural Gas Liquids.—Natural gasoline and cycle products, and liquid petroleum gases and ethane were produced in Cheyenne and Kimball Counties.

Petroleum.-Production of crude petroleum declined about 17% to 7.2 million barrels. The number of active wells decreased from 1.114 to 1.107, and the number of capped wells decreased from 645 to 550. Major production was centered in Red Willow, Cheyenne, and Kimball Counties.

METALS

No metallic minerals were mined in Nebraska in 1973. The Omaha refinery of American Smelting and Refining Co. (ASARCO) recovered antimony, bismuth, gold, lead, and silver from out-of-State smelter products.

Table 4.-Nebraska: Sand and gravel sold or used by producers, by county (Thousand short tons and thousand dollars)

		1972			1973	
County	Number of Mines	Quantity	Value	Number of Mines	Quantity	Value
Antelope	4	113	105	3	107	108
Banner	1	w	w	2	57	w
Buffalo	8	413	297	9	633	586
Butler	3	w	w	3	261	W
Cass	9	w	w	3	500	662
	e	171	192	5	225	238
Cedar		w	2	3	46	w
Chase					w	136
Cheyenne		w	79	2 2 5		
Clay	3	215	204	2	w	w
Colfax	3	109	105		114	128
Cuming	3	w	W	3	645	w
Custer	4	176	143	4	121	128
Dawson	5	433	368	5	527	467
Dodge	8	W	W	8	625	987
Douglas	11	2.586	2.893	10	2,909	3,439
Dundy	1	w	w	1	2	2
	-	**		î	98	152
Fillmore	3	54	55	ô	126	124
Franklin				2	44	49
Furnas	3	29	27			
Gage	4	w	w	4	45	47
Hall	5	316	270	6	702	614
Hamilton	2	w	W	1	46	23
Hitchcock	2	w	W	4	59	48
Holt	7	255	163	7	284	190
Jefferson	5	302	w	4	w	w
Kearney	43	48	35	1	51	38
Keya Paha	7	27	3	1	3	3
	1	32	Ä	6	61	57
Kimball	2	118	140	5	187	203
Knox				ž	176	132
Lincoln	3	59	36	-		291
Madison	6	w	w	ь	242	-
Phelps	1	160	w	1	234	w
Pierce	4	111	144	4	146	159
Platte	4	672	1,012	8	652	1,049
Red Willow	7	135	130	5	135	w
Rock	1	1	1	1	2	2
Saline	3	85	107	3	80	w
Sarpy	8	614	w	4	655	w
	4	1.243	1.395	3	1,271	w
Saunders	- 2	218	185	Ä	338	295
Scotts Bluff	1	w	221	1	14	16
Sheridan			203	4	336	370
Thayer	3	w		4		52
Thomas	2	w	w	1	47	W
Webster	4	178	156	3	w	
York	3	149	169	1	15	_ 33
Undistributed 1	r 36	4,699	6,220	44	3,087	7,539
	197	13,720	15,063	214	15,906	18,366

FRevised. WWithheld to avoid disclosing individual company confidential data; included with "Undistributed." "Includes Adams, Arthur (1972), Boone (1972), Brown, Burt (1972), Cherry, Deuel, Dixon, Frontier (1972), Garden, Garfield (1973), Harlan, Hayes, Howard, Keith, Lancaster, Loup (1973), McPherson, Merrick, Morrill, Nance, Perkins, Polk, Richardson (1973), Stanton, Valley, and Wheeler Counties, and some sand and gravel that cannot be assigned to specific counties.

3 Data may not add to totals shown because of independent rounding.

Table 5.-Nebraska: Sand and gravel sold or used by producers, by class of operations and use

(Thousand short tons and thousand dollars)

Class of operations and use	1972		1973	
Olass of operations and use	Quantity	Value	Quantity	Value
Commercial operations:				
- Sand:				
Building	3,599	3,482	4,005	4,301
Fill	568	407	689	498
Paving	965	1,165	1,485	1,681
Other uses 1	21	24	20	21
Total 2	5,152	5,078	6,200	6,497
Gravel:				
Building	1.122	1,315	1.356	1.582
Fill	w	w	70	61
Paving	5.172	6,142	5,665	7,241
Railroad ballast	w	· w	237	254
Miscellaneous	447	382	630	629
Other uses	423	458	240	229
Total 2	7,164	8,298	8,196	9,996
Government-and-contractor operations:				
Sand:				
Paving	269	308	315	370
Other uses			1	1
Total	269	308	316	371
Gravel:				
Building	78	8	37	30
Fill	10	U	187	363
Paving	717	823	591	484
Other uses	339	549	379	625
Total 2	1,134	1,380	1,193	1,502
Total sand and gravel 2	13,720	15,063	15,906	18,366

W Withheld to avoid disclosing individual company confidential data; included with "Other uses." Includes railroad ballast (1973) and other unground sand.

Table 6.-Nebraska: Limestone sold or used by producers, by use (Thousand short tons and thousand dollars)

Use	1972		1973		
O Be	Quantity	Value	Quantity	Value	
Dimension stone total	(1)	3	(1)	5	
Crushed and broken stone: Dense graded road base stone Surface treatment aggregate Agricultural limestone Poultry grit and mineral food Riprap and jetty stone Other uses 2	346 238 318 59 W 3,289	569 532 W W W 6,542	632 992 133 53 747 2,810	1,277 2,227 W W 1,674 5,775	
Total crushed and broken stone 3	4,251	7,642	5,368	10,953	
Grand total 3	4,251	7,645	5,368	10,958	

W Withheld to avoid disclosing individual company confidential data; included with "Other uses." 1 Less than 1/2 unit.

² Data may not add to totals shown because of independent rounding.

² Includes stone used in concrete aggregate, bituminous aggregate, unspecified construction aggregate (1973), cement manufacture, asphalt and other fillers (1973), and uses not specified (1973). 3 Data may not add to totals shown because of independent rounding.

Table 7.-Nebraska: Oil and gas well drilling completions, by county

County _	Proved field wells 1			Exploratory wells			Total	
	Oil	Gas	Dry	Oil	Gas	Dry	Number of wells	Foot- age
Banner	1		6	2		13	22	132,525
Burt						1	1	1,430
Cheyenne	6		10	2		$2\overline{4}$	42	213,016
Dawes						1	1	5,123
Deuel						2	2	7,292
Furnas						1	1	3.442
Hayes						3	3	14,103
Hitchcock	-6		2			ī	9	39,931
Kimball	1		10	-2		14	27	171,410
Morrill	-		4	ī		17	22	101,403
	11		2	1			19	68,158
	11		Z			9	19	
Richardson	1					Ţ	z	4,992
Scotts Bluff			1			3	4	24,092
Sioux						8	8	42,398
Total	26		35	7		95	163	829,315

¹ Development wells as defined by American Petroleum Institute.

Source: American Petroleum Institute.

Table 8.—Nebraska: Number of active and capped oil and dry gas wells at yearend

Q I	Oil	wells	Dry gas wells		
County	Active	Capped	Active	Capped	
Banner	169	111			
Cheyenne	226	50	16	3	
Deuel	-~		10	1	
Dundy		1			
Frontier	9	2			
urnas	1	2			
arden	2				
Iarlan	8	1			
litchcock	32	18			
Kimball	282	164	1		
Lincoln		3			
Morrill	57	19			
Red Willow	276	153			
Richardson	14	21			
Scotts Bluff	31	5			
Total	1,107	550	27	4	

Source: Nebraska Oil and Gas Conservation Commission.

Table 9.-Nebraska: Crude petroleum production, by county

(Thousand 42-gallon barrels)

County	1972	1973	Principal fields
Banner	1,056	909	Singleton, Stage Hill, Johnson.
Cheyenne	1,854	1,696	Jormar, Margate, Southwest Sidney, West Engelland, Filon.
Dundy	1	2	East Indian Creek, Rock Canyon.
Frontier	63	55	Bed Canvon, ²
Furnas	3	3	Southwest Wilsonville.
Garden	9	9	Richards and McCord.
Harlan	23	23	South Alma.
Hitchcock	131	163	Reiher.
Kimball	1.688	1.356	Sloss, Enders, Axial, Bertramson,
Lincoln	1	0	Red Willow Creek.
Morrill	436	428	Bridgeport.
Red Willow	2,972	2,250	Sleepy Hollow, Ackman, Danbury, Bed Canyon.2
Richardson	48	43	Dawson, Falls City, Barada,
Scotts Bluff	420	303	Cedar Valley, Stage Hill, Minatare.
Total	8,705	7,240	

Table 10.-Nebraska: Crude oil production in the 25 largest fields in 1973 (42-gallon barrels)

Field	County	Annual output	Average daily output	
Sleepy Hollow	Red Willow	1,579,112	4.326	
Jormar	Cheyenne	215,650	591	
Ackman	Red Willow	188,031	515	
Silver Creek	do	180.915	496	
Margate	Cheyenne	144,377	396	
Cedar Valley	Scotts Bluff	143,974	394	
Southwest Sidney	Cheyenne	137,414	376	
Singleton	Banner	133,866	367	
Bridgeport	Morrill	121,624	333	
Stage Hill	Banner and Scotts Bluff	116,241	318	
Pecos	Cheyenne	107.933	296	
Danbury	Red Willow	96,031	263	
Sloss	Kimball	87.521	240	
Middle Creek	Cheyenne and Morrill	77,190	211	
Johnson	Banner	74,531	204	
West Engelland	Cheyenne	70.523	193	
Enders	Kimball	69,966	192	
Reiher	Hitchcock	66,641	183	
Minatare	Scotts Bluff	64,422	176	
Axial	Kimball	62,036	170	
Bed Canyon	Frontier and Red Willow	61,448	168	
Filon	Cheyenne	58,766	161	
Bush Creek	Hitchcock	57.347	157	
Midway	Red Willow	53,292	146	
Bertramson	Kimball	50.124	137	

Source: Nebraska Oil and Gas Conservation Commission.

¹ Partly in Banner and Scotts Bluff Counties. ² Partly in Frontier and Red Willow Counties.

Table 11.-Principal producers

Commodity and company	Address	Type of activity	County
Cement: Ash Grove Cement Co Ideal Cement Co., a divi-	1000 Tenmain Center Kansas City, Mo. 64105 420 Ideal Cement Bldg. Denver, Colo. 80202	Wet process, 6- rotary kiln plant. Wet process, 2- rotary kiln plant.	Cass.
sion of Ideal Basic In- dustries, Inc.	Denver, Colo. 80202	rotary kin plant.	
Clays: Ash Grove Cement Co	1000 Tenmain Center Kansas City, Mo. 64105	Open pit mine and plant.	
Endicott Clay Products Co.	Endicott, Nebr. 68350	do	Jefferson.
Western Brick & Aggregate Co.	Box 1141 Nebraska City, Nebr. 68410	do	Otoe.
Yankee Hill Brick Manu- facturing Co.	Route 1 Lincoln, Nebr. 68502	do	Lancaster.
Lime: Great Western Sugar Co., a subsidiary of Great	Box 5308 Denver, Colo. 80217	Pot kiln at beet sugar plant.	Morrill.
Western United Corp.		5 pot kilns at beet sugar plants.	
	Nebraska City, Nebr. 68410	Pot kiln at beet sugar plant.	Otoe.
Natural gas and petroleum 1 Sand and gravel (commer- cial):			
Central Sand & Gravel Co.	Box 626 Columbus, Nebr. 68601	Dredging operation	Butler. Hall. Pierce.
		2 dredging opera- tions.	Madison.
		3 dredging opera- tions.	Platte.
Hank Stalp Gravel Co	Box 6 West Point, Nebr. 68788	do	Cuming.
Hartford Sand & Gravel Co.	Box 571 Valley, Nebr. 68064	2 dredging opera- tions.	Douglas.
Hooker Brothers, Inc	429 Wyandotte	Pits and plant	Dodge. Hall.
Lyman-Richey Sand & Gravel Corp.	Grand Island, Nebr. 68801 4315 Cuming St. Omaha, Nebr. 68131	Pit and plant 2 pits and plants do Pit and plant	Cass. Dodge. Douglas. Morrill.
		2 pits and plants Pit and plant	Platte. Sarpy. Saunders.
McCann Sand & Gravel Co.	Valley, Nebr. 68064	2 dredging opera- tions.	Douglas.
Nichols Construction Co Sawyer Sand and Gravel Co.	Geneva, Nebr. 68361 Holdredge, Nebr. 68949	Pit and plant Pit	Thayer. Buffalo.
Western Sand & Gravel	Lincoln, Nebr. 68501 Lincoln, Nebr. 68501	3 dredging opera- tions.	Saunders.
Wolf Sand and Gravel Co-	Morse Bluff, Nebr. 68648	Pits and plants	Do.
Stone: Ash Grove Cement Co	1000 Tenmain Center Kansas City, Mo. 64105	Quarry and plant_	Cass.
City Wide Rock & Exca- vation Co.	38th & Mason Streets Omaha, Nebr. 68105	3 quarries and plant.	Sarpy.
Fort Calhoun Stone Co	1255 South St. Blair, Nebr. 68008 Weeping Water, Nebr. 68463	Quarry and plant _ do 3 quarries and	Thurston, Washington, Cass.
Hopper Bros. Quarries	weeping water, wenr. 0040022	plant. Quarry and plant _	Nemaha.
		do	Saunders.
Ideal Cement Co., Div. of Ideal Basic Industries, Inc.	420 Ideal Cement Bldg. Denver, Colo. 80202	Quarry	Nuckolls.
Kerford Limestone Co	Box 434 Weeping Water, Nebr. 68643	Quarry and plant _	Cass.
United Rock Construction, Inc.	1117 Woodman of the World Bldg.	do	Do.

 $^{^1\,\}mathrm{Most}$ of the major oil and gas companies and many smaller companies operate in Nebraska, and several commercial directories contain complete lists of them.