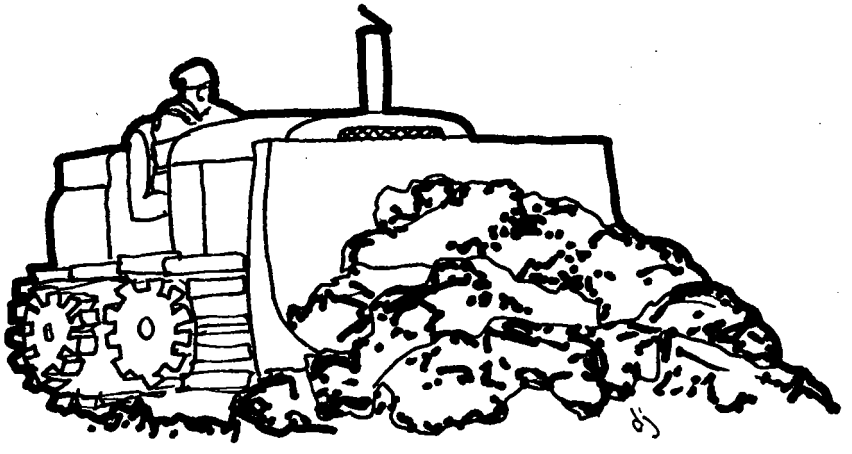
MINERALS REPORT 19

THE MINERAL INDUSTRY OF SOUTH DAKOTA IN 1974



by J. M. West

SOUTH DAKOTA GEOLOGICAL SURVEY
DEPARTMENT OF NATIONAL RESOURCE DEVELOPMENT
VERMILLION, SOUTH DAKOTA

The Mineral Industry of South Dakota

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

By J. M. West [1]

The value of mineral production in South Dakota rose to an alltime high of $65.2 million in 1972, 3.5% more than in 1971. Metals, principally gold, accounted for more than one-third of the value and nonmetals for most of the balance. Petroleum accounted for less than 1% of the total. The value for metals was $25.2 million, up 8.7% compared with that in 1971, largely because of an increase in the average price of gold to $58.60 per ounce. The value for nonmetals was $39.4 million, up only slightly from that in 1971. Fuels, consisting solely of petroleum, were valued at $0.57 million, 5% lower than in 1971.

Gold accounted for 95% of South Dakota's total metal output value. The State fell to second in the Nation behind Nevada in gold production, with the famous Homestake mine at Lead, S. Dak., reporting a sharp drop in production to 407,430 troy ounces of gold valued at nearly $24 million. Although the value of gold rose 13% in 1972 owing to price increases, the quantity of gold produced in the State fell 21% owing principally to a strike at the Homestake mine.

One of the most disastrous floods in South Dakota's history struck the State on June 9, 1972, causing severe damage to some mining communities such as Keystone and interrupting rail service throughout the area. The greatest damage was done in Rapid City when a dam on Rapid Creek collapsed. Progress on a pollution control project for Whitewood Creek was delayed by legal proceedings of landowners in Centennial Valley where the Lead-Deadwood Sanitary District planned to secure 600 acres as a site for a tailings

[1] Physical scientist, Division of Nonferrous Metals.

Table 1.—Mineral production in South Dakota [1]

Mineral	1971 Quantity	1971 Value (thousands)	1972 Quantity	1972 Value (thousands)
Clays [2]—thousand short tons	150	$128	185	$156
Feldspar—short tons	r 24,640	539	11,227	150
Gem stones	NA	40	NA	42
Gold (recoverable content of ores, etc.)—troy ounces	513,427	21,179	407,430	23,875
Gypsum—thousand short tons	21	83	24	43
Petroleum (crude)—thousand 42-gallon barrels	233	604	219	574
Sand and gravel—thousand short tons	16,727	18,392	12,748	14,793
Silver (recoverable content of ores, etc.)—thousand troy ounces	107	165	100	168
Stone—thousand short tons	2,199	8,874	2,665	10,864
Value of items that cannot be disclosed: Beryllium concentrate, cement, clay (bentonite), lime, mica (scrap), uranium, vanadium (1972)	XX	12,984	XX	14,535
Total	XX	62,988	XX	65,200
Total 1967 constant dollar	XX	53,558	XX	p 54,247

p Preliminary. r Revised NA Not available. XX Not applicable.

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

[2] Excludes bentonite; included with "Value of items that cannot be disclosed."

Table 2.—Value of mineral production in South Dakota, by county [1]

(Thousands)

County	1971	1972	Minerals produced in 1972 in order of value
Aurora	W	$39	Sand and gravel.
Beadle	W	106	Do.
Bon Homme	$42	29	Do.
Brookings	779	W	Sand and gravel, stone.
Brown	181	W	Sand and gravel.
Brule	W	W	Do.
Buffalo	W	W	Do.
Butte	W	W	Clays, sand and gravel.
Campbell	303	W	Sand and gravel.
Charles Mix	140	9	Do.
Clark	155	W	Do.
Clay	W	14	Do.
Codington	840	W	Do.
Corson	W	W	Do.
Custer	685	255	Sand and gravel, feldspar, lime, petroleum, stone.
Davison	W	W	Sand and gravel.
Day	W	W	Do.
Deuel	W	13	Do.
Dewey	W	W	Do.
Douglas	W	115	Do.
Edmunds	318	--	
Fall River	W	W	Uranium, sand and gravel, vanadium, stone.
Faulk	140	23	Sand and gravel.
Grant	W	W	Stone, sand and gravel.
Gregory	154	W	Sand and gravel.
Haakon	--	W	Do.
Hamlin	260	70	Do.
Hand	524	74	Do.
Hanson	W	W	Stone, sand and gravel.
Harding	605	W	Petroleum, sand and gravel.
Hughes	W	W	Sand and gravel.
Hutchinson	W	W	Do.
Hyde	(2)	W	Do.
Jerauld	48	38	Do.
Kingsbury	22	16	Do.
Lake	W	W	Do.
Lawrence	21,558	24,566	Gold, sand and gravel, silver, stone.
Lincoln	W	55	Sand and gravel.
Lyman	W	78	Do.
McCook	W	W	Do.
McPherson	W	W	Do.
Marshall	433	W	Do.
Meade	363	W	Sand and gravel, gypsum.
Mellette	W	--	
Miner	7	--	
Minnehaha	W	W	Stone, sand and gravel.
Moody	157	W	Sand and gravel.
Pennington	12,313	$14,762	Cement, stone, sand and gravel, lime, clays, feldspar, mica, beryllium.
Perkins	294	87	Sand and gravel.
Potter	W	36	Do.
Roberts	257	W	Do.
Sanborn	4	41	Do.
Shannon	35	W	Do.
Spink	W	27	Do.
Stanley	W	--	
Sully	W	W	Sand and gravel.
Todd	69	--	
Tripp	138	39	Stone.
Turner	W	W	Sand and gravel.
Union	134	21	Do.
Walworth	W	--	
Washabaugh	W	W	Sand and gravel.
Yankton	W	179	Do.
Ziebach	55	W	Do.
Undistributed [3]	21,982	24,492	
Total [4]	62,988	65,200	

W Withheld to avoid disclosing individual company confidential data; included with "Undistributed."
[1] Bennett, Jackson, and Jones Counties are not listed because no production was reported.
[2] Less than ½ unit.
[3] Includes gem stones, some sand and gravel that cannot be assigned to specific counties, and values indicated by symbol W.
[4] Data may not add to totals shown because of independent rounding.

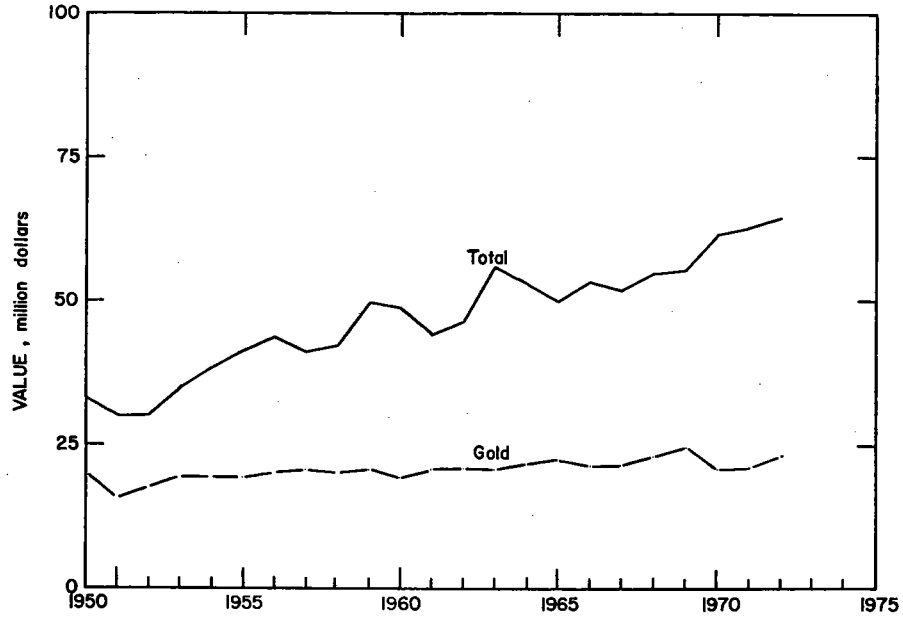


Figure 1.—Value of mine production of gold, and total value of mineral production in South Dakota

Table 3.—Indicators of South Dakota business activity

(Thousands)

		1971	1972 [p]	Change, percent
Employment and labor force, annual average:				
Total labor force	thousands	278.8	286.8	+2.9
Employment	do	268.9	276.4	+2.8
Unemployment	do	9.9	10.4	+5.0
Nonagricultural employment	do	182.3	189.4	+3.9
Mining	do	2.3	2.1	−8.7
Construction	do	7.8	8.4	+7.7
Manufacturing	do	16.5	18.0	+9.1
Government	do	56.4	57.6	+2.1
Other nonagricultural employment	do	99.3	103.3	+4.0
Personal income:				
Total	millions	$2,321	$2,523	+8.7
Per capita		$3,441	$3,716	+8.0
Construction activity:				
Highway construction contracts awarded	thousands	$50,471	[e] $47,500	−5.9
Cement shipments to and within South Dakota	thousand short tons	329	326	−0.9
Number of authorized residential units		2,729	3,297	+20.8
Value of nonresidential construction	millions	$12.7	$36.0	+183.5
Mineral production value	thousands	$62,988	$65,200	+3.5

[e] Estimate. [p] Preliminary.

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

pond. The pond was part of a $6 million sewage and tailings disposal project that would handle Homestake milling wastes as well as town sewage. Exploration and permeability testing were conducted at the site of the pond in late 1972.

The experimental coal gasification pilot plant at Rapid City, for testing Consolidation Coal Co.'s CO_2 acceptor process of manufacturing gas from lignite, was dedicated in mid-August, and preliminary tests were run. A breakdown of furnace linings and other problems delayed production runs on the process until early 1973.

Work was conducted at the South Dakota School of Mines and Technology, under a Federal Bureau of Mines grant, on establishing fish tolerance to organic flotation reagents used in milling metal ores. The project was continued in 1973.

Among U.S. Geological Survey publications dealing with South Dakota in 1972 were several maps showing general geological features in the Nemo district of the Black Hills and in an area near Rapid City.[2]

Employment and Injuries.—Employment and injuries in the mineral industry, exclusive of the petroleum industry, is shown in table 4.

[2] Bayley, R. W. Preliminary Geologic Map of the Nemo District, Black Hills, S. Dak. U.S. Geol. Survey Map I–712, 1972.
Cattermole, J. M. Geologic Map of the Rapid City East Quadrangle, Pennington County, S. Dak. U.S. Geol. Survey Map GQ–986, 1972.

Table 4.—Worktime and injury experience in the mineral industries

Year and industry	Average men working daily	Days active	Man-days worked (thousands)	Man-hours worked (thousands)	Number of injuries		Injury rates per million man-hours	
					Fatal	Nonfatal	Frequency	Severity
1971:								
Metal	1,680	310	520	4,167	1	91	22.08	2,712
Nonmetal	156	170	26	215	1	11	55.71	28,362
Sand and gravel	822	166	137	1,340	1	34	26.12	5,058
Stone	540	260	140	1,160	--	32	27.58	804
Total [1]	3,198	258	824	6,883	3	168	24.85	3,650
1972: [2]								
Metal	1,540	267	411	3,290	6	92	29.79	13,563
Nonmetal	85	194	16	138	--	14	101.17	2,710
Sand and gravel	315	141	44	413	--	7	16.93	428
Stone	380	300	114	964	--	17	17.64	195
Total [1]	2,320	253	586	4,806	6	130	28.30	9,440

[1] Data may not add to totals shown because of independent rounding.
[2] In 1971 and earlier years, estimates were made of injury and employment data for those active operators who did not file reports; however, no estimates were made for active operators who did not report in 1972. Tabulations were made from data in file as of July 1, 1973 and are preliminary.

REVIEW BY MINERAL COMMODITIES

NONMETALS

Cement.—Production and shipments of cement exceeded those of 1971 by about 16%. Record sales of 502,000 short tons of portland cement compared with 414,000 short tons in 1971 were reported. Net profits were reported at a record high of $5.0 million compared with $3.6 million in 1971. All production was from the State-owned plant operated by the South Dakota Cement Commission at Rapid City, Pennington County. The commission also maintained distribution terminals in Chamberlain and Aberdeen, S. Dak., and Bismarck, N. Dak., as well as in Rapid City. Construction of a four-silo, 3,800-ton-capacity distribution terminal at Sioux Falls was underway in 1972. Most cement was used in the building industry, and the remainder, in highway construction. Nearly 80% of the total shipments were within the State, and most of the balance went to North Dakota and Wyoming. Raw materials consumed in cement production were as follows, in thousand tons: Limestone, 389; shale, 134; sand, 24; gypsum, 24; and iron ore, 7.

Clays.—Production of clays rose sharply in 1972. Bentonite for use in oil well drilling and for growing usage in foundry clay and taconite processing, accounted for about half of the quantity and the bulk of the value. The balance consisted of other types of clays used for cement, lightweight aggregate, and bricks. The American Colloid Co. continued to operate the State's only bentonite-processing plant using crude materials from South Dakota and Wyoming. Black Hills Clay Products, Inc., with operations at Belle Fourche, was sold in December to a group of South Dakota investors. The firm was the State's only brick manufacturer; its products were sold in eight other States.

Feldspar.—Feldspar production was about half the quantity produced in 1971, and value was sharply lower in 1972. The June 9, 1972, flood was a factor in the drop because of its destruction of railroad siding and loading facilities at the Keystone operations of the Northwest Feldspar Co. Nearly all of the 11,200 tons produced came from Custer County. The bulk was sold to and processed by the International Minerals and Chemical Corp., which operated a grinding plant at Custer. Products were shipped nationwide. Late in the year, the Pacer Corp. purchased the Custer mill and Black Hills properties of International Minerals and Chemical Corp. Two mines were active in Custer County, and two mines were active in Pennington County.

Gypsum.—The South Dakota Cement Commission operated a small surface mine in Meade County to supply its needs for gypsum as a cement ingredient. Production totaled about 24,000 tons valued at $43,000.

Lime.—The production of lime, by two operators, Pete Lien & Sons, Rapid City, and the Black Hills Lime Co., Pringle, increased 2% in 1972 to a record level. The bulk of the output was hydrated lime, but some was quicklime. Consumption in South Dakota was 26,280 tons. Lime was also shipped to Colorado, North Dakota, and other States.

Mica.—A small tonnage of scrap and

Table 5.—South Dakota: Sand and gravel sold or used by producers, by county
(Thousand short tons and thousand dollars)

County	1971			1972		
	Number of mines	Quantity	Value	Number of mines	Quantity	Value
Aurora	1	W	W	1	60	39
Beadle	2	W	W	3	W	106
Bon Homme	1	149	42	1	W	29
Brookings	5	552	773	8	521	571
Brown	3	163	181	3	139	W
Campbell	4	263	249	3	W	W
Charles Mix	2	121	140	3	W	9
Clark	1	108	155	1	W	W
Clay	3	W	W	2	W	14
Codington	8	753	840	7	485	W
Deuel	1	W	W	1	27	13
Douglas	6	120	W	3	100	115
Edmunds	1	W	318	--	--	--
Fall River	2	136	W	4	254	220
Faulk	--	97	140	1	23	23
Gregory	3	192	154	2	W	W
Hamlin	4	270	260	3	91	70
Hand	6	524	524	5	136	74
Harding	1	60	26	2	W	W
Hyde	1	41	[1]	1	W	W
Jerauld	1	40	48	1	52	38
Kingsbury	5	180	22	3	W	16
Lawrence	4	W	W	6	486	496
Lincoln	3	W	W	3	75	55
Lyman	2	W	W	2	105	78
Marshall	3	367	433	5	W	W
Meade	1	186	280	2	W	W
Miner	1	67	7	--	--	--
Minnehaha	15	1,741	1,734	14	912	912
Moody	4	238	157	4	153	W
Pennington	10	1,124	1,393	8	823	1,114
Perkins	4	231	294	5	104	87
Potter	2	W	W	1	W	36
Roberts	3	249	257	2	W	W
Sanborn	1	37	4	1	W	41
Shannon	2	47	35	1	W	W
Spink	1	W	W	1	73	27
Todd	1	61	69	--	--	--
Tripp	1	54	86	--	--	--
Union	1	102	134	1	30	21
Yankton	4	W	W	3	162	179
Ziebach	--	31	55	1	W	W
Undistributed [2]	r 61	8,423	9,585	49	7,938	10,411
Total [3]	185	16,727	18,392	167	12,748	14,793

r Revised. W Withheld to avoid disclosing individual company confidential data; included with "Undistributed."
[1] Less than ½ unit.
[2] Includes Brule, Buffalo, Butte, Corson, Custer, Davison, Day, Dewey, Grant, Haakon (1972), Hanson; Hughes, Hutchinson, Lake, McCook, McPherson, Mellette (1971), Stanley (1971), Sully, Turner, Walworth (1971), and Washabaugh 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 6.—South Dakota: Sand and gravel sold or used by producers, by class of operation and use

(Thousand short tons and thousand dollars)

Class of operation and use	1971		1972	
	Quantity	Value	Quantity	Value
Commercial operations:				
Sand:				
Building	793	983	604	765
Fill	140	65	96	45
Paving	564	807	382	399
Other uses [1]	9	2	21	28
Total [2]	1,506	1,856	1,104	1,238
Gravel:				
Building	329	461	340	506
Fill	459	252	195	112
Paving	5,031	5,102	3,760	3,994
Miscellaneous	W	W	334	399
Other uses [1]	793	546	39	175
Total [2]	6,611	6,362	4,668	5,186
Government-and-contractor operations:				
Sand:				
Fill	1	(3)	--	--
Paving	178	185	104	124
Other uses	--	--	35	25
Total [2]	179	185	139	148
Gravel:				
Building	26	24	26	18
Fill	62	8	18	5
Paving	8,220	9,834	6,675	8,080
Other uses	122	122	118	118
Total [2]	8,430	9,989	6,837	8,221
Total sand and gravel [2]	16,727	18,392	12,748	14,793

W Withheld to avoid disclosing individual company confidential data; included with "Other uses."
[1] Includes railroad ballast and other uses.
[2] Data may not add to totals shown because of independent rounding.
[3] Less than ½ unit.

flake mica was produced by one mine in Pennington County.

Sand and Gravel.—Sand and gravel was produced in all but 10 counties. Of the total output of 12.7 million tons, 7.0 million (55%) was produced for government agencies. A total of 167 mines operated in 1972 compared with 185 in 1971. Production included 1.2 million tons of sand and 11.5 million tons of gravel. Counties leading in output were Minnehaha, Pennington, and Brookings which collectively supplied 2.3 million tons, 18% of the total. A silica sand plant located at Pringle was dismantled during the year.

Stone.—Production of stone was higher in both tonnage and value in 1972. Granite, quartzite, limestone, quartz, and miscellaneous stone were mined or quarried. Granite, mostly prepared for monumental or architectural stone, was valued at $7.0 million, which was 65% of the total value of stone produced. The granite all came from Grant County, near Milbank, in the northeast corner of the State, and was supplied by five companies. Late in the year, the Milbank granite quarry of the Delano Granite Works, Inc. was sold to Minneapolis-based Rembrandt Enterprises, Inc. The State's limestone and quartzite production was valued at a total of $3.3 million.

METALS

Gold and Silver.—The Homestake gold mine at Lead processed 1.47 million tons of ore from which about 407,400 ounces of gold and 100,000 ounces of silver were recovered. The Homestake mine accounted for all of the State's production of gold and silver. Output was lower than that in 1971 because of a 6-week strike and continuing shortage of skilled miners. Sinking and equipping of the No. 6 winze (Ross extension) were almost completed from the collar on the 4550 level to the bottom of the shaft and mine at the 7216 level. Excavation of new deep level ventilation raises and drifts was 80% complete by yearend. New friction-drive hoisting equipment was installed. Measured ore reserves at yearend in the Homestake mine were estimated at 7.3 million tons averaging 0.299 ounce of gold per ton. Reserves were nearly 1.2 million tons more than that of a year earlier owing mainly to use of a lower cutoff grade in estimating. Indicated and inferred reserves totaled an additional 6.3 million tons. Metallurgical recovery was about 93.1% compared with 93.0% in 1971. Construction of a new char-in-pulp gold recovery system utilizing activated charcoal in the leaching circuits was virtually complete with startup scheduled for early 1973. At least a 2% overall improvement in metallurgical recovery was expected from the unit.

Three miles below Deadwood on Whitewood Creek, the New Era Mining Co. remodeled equipment (two large concentrating tables and thirty-six 8-foot Humphrey spiral classifiers) mounted on a steel boat and prepared to begin recovery of placer gold and mercury from old mill wastes. The company owned about 55 acres extending for 1 mile along the creek.

Table 7.—South Dakota: Stone sold or used by producers, by kind

(Thousand short tons and thousand dollars)

Kind of stone	1971		1972	
	Quantity	Value	Quantity	Value
Dimension stone total [1]	36	5,654	37	7,017
Crushed and broken:				
Limestone	1,426	1,621	1,685	1,945
Quartz	W	65	W	W
Quartzite	701	1,476	W	W
Traprock	3	6	--	--
Other stone	34	54	944	1,905
Total [2]	2,199	8,874	2,665	10,864

W Withheld to avoid disclosing individual company confidential data; included with "Other stone."
[1] Data include granite, quartz (1972).
[2] Data may not add to totals shown because of independent rounding.

Table 8.—South Dakota: Stone sold or used by producers, by use

(Thousand short tons and thousand dollars, unless otherwise specified)

Use	1971		1972	
	Quantity	Value	Quantity	Value
Dimension stone:				
Rough construction and architectural work	W	W	W	W
Dressed architectural thousand cubic feet	255	W	[1] 239	W
Rough monumental do.	--	--	--	--
Dressed monumental do.	112	2,874	178	4,290
Total (thousand short tons)	36	5,654	37	7,017
Crushed and broken stone:				
Bituminous aggregate	203	310	339	584
Concrete aggregate	506	856	781	1,360
Dense graded road base stone	(2)	(2)	(3)	(3)
Macadam aggregate	1	3	1	1
Surface treatment aggregate	60	124	51	75
Unspecified construction aggregate and roadstone	634	1,091	(3)	(3)
Cement manufacture	419	273	600	391
Railroad ballast	173	(3)	(3)	(3)
Riprap and jetty stone	42	70	58	108
Other uses [4]	125	494	799	1,329
Total [5]	2,164	3,220	2,628	3,847
Grand total [5]	2,199	8,874	2,665	10,864

W Withheld to avoid disclosing individual company confidential data; included in "Total."
[1] Data includes a minor amount of stone used in structural and sanitary purposes.
[2] Data combined with "Unspecified construction aggregate and roadstone," to avoid disclosing individual company confidential data.
[3] Withheld to avoid disclosing individual company confidential data; included with "Other uses."
[4] Includes stone used for agricultural lime, lime manufacture, other fillers and uses not specified. 1972 data also include stone used for terrazzo.
[5] Data may not add to totals shown because of independent rounding.

Table 9.—South Dakota: Mine production (recoverable) of gold and silver

	1970	1971	1972
Mines producing: Lode	2	1	1
Material sold or treated: Gold ore thousand short tons	1,954	1,800	1,467
Production (recoverable):			
Quantity:			
Gold troy ounces	578,716	513,427	407,430
Silver do	119,766	106,785	99,992
Value:			
Gold thousands	$21,059	$21,179	$23,875
Silver do	212	165	168
Total do	21,271	21,344	24,043

Table 10.—South Dakota: Homestake mine ore milled and receipts for bullion

Year	Ore milled (thousand short tons)	Receipts for bullion products	
		Total (thousands)	Per ton
1968	1,922	$22,064	$11.48
1969	1,935	24,570	12.70
1970	1,954	21,059	10.78
1971	1,800	21,179	11.77
1972	1,467	23,875	16.27

Source: Homestake Mining Co. Annual Reports.

Uranium.—Uranium production dropped 42% in quantity, and sales were valued 41% below the figure for 1971. Mines Development, Inc., owned by Susquehanna Corp., operated a mill at Edgemont, southwest of Custer. All production came from three open pit mines of Susquehanna Corp. in Fall River County. Ores contained about 2 pounds of U_3O_8 per ton of ore and included recoverable vanadium values. Reserves were reported to have been expanded significantly during the year as a result of further development work.

MINERAL FUELS

Coal (Lignite).—A proposal was prepared by the State Geologist to investigate coal resources in the Isabel area, Dewey County. Consolidation Coal Co., subsidiary of Continental Oil Corp., completed construction of a pilot plant for lignite gasification at Rapid City. The plant was dedicated in August and had several startup problems that delayed gasification tests until February 1973. Input capacity of the pilot plant, which used the CO_2 acceptor process, was about 40 tons of low-grade coal per day. The plant was built with funds provided by the U.S. Department of the Interior's Office of Coal Research and the American Gas Association.

Petroleum.—Output of petroleum declined 6% in quantity and nearly 5% in value. At yearend the State had 31 producing oil wells. Through November, production from about 25 wells in the Buffalo field, northwest of Buffalo, Harding County, was 130,633 barrels compared with 142,618 barrels for all of 1971 and included about 8 million cubic feet of natural gas used for repressuring. A single well of Depco, Inc., in the Yellow Hair field produced 63,924 barrels through November 1972. Four wells in the Barker Dome field, in Custer County, north of Edgemont, produced about 6,200 barrels of oil in 1972. Phillips Petroleum Co. brought an 8,778-foot well into production in August at about 40 barrels per day in the South Cave Hills area of Harding County.

Exploration drilling increased nearly 30% in footage, although the number of holes drilled was about the same as in 1971. Only four of 36 holes were successful in striking oil, and these were in proven fields. Depths ranged from about 950 to 9,340 feet and averaged about 3,700 feet. Quadrant Oil Co. reported a discovery of oil at a depth of about 9,340 feet in northern Harding County, about 25 miles north of Buffalo, and was casing the hole in December.

In November, the State reported the lease of over 10,000 acres of State and school lands for oil exploration in five western counties. The highest bid was $6.55 per acre for a tract in Dewey County.

Table 11.—South Dakota: Oil and gas well drilling completions, by county

County	Proved field wells [1]			Exploratory wells			Total	
	Oil	Gas	Dry	Oil	Gas	Dry	Wells	Footage
Custer	--	--	--	--	--	1	1	4,125
Dewey	3	--	6	--	--	6	15	77,296
Fall River	--	--	--	--	--	4	4	7,468
Harding	1	--	--	--	--	10	11	57,417
Pennington	--	--	--	--	--	1	1	2,300
Perkins	--	--	--	--	--	2	2	9,970
Shannon	--	--	--	--	--	1	1	1,755
Tripp	--	--	--	--	--	1	1	1,568
Total	4	--	6	--	--	26	36	161,899

[1] Development wells as defined by American Petroleum Institute.

Source: American Petroleum Institute.

Table 12.—Principal producers

Commodity and company	Address	Type of activity	County
Cement:			
South Dakota Cement Commission.	Drawer 351 Rapid City, S. Dak. 57701	Wet-process, 3-rotary-kiln plant.	Pennington.
Clays:			
American Colloid Co	5100 Suffield Ct. Skokie, Ill. 60076	Open pit mine and plant.	Butte.
Light Aggregates, Inc	Box 1922 Rapid City, S. Dak. 57701	----do----	Pennington.
South Dakota Cement Commission.	Drawer 351 Rapid City, S. Dak. 57701	Open pit mine	Do.
Feldspar:			
George Bland	Custer, S. Dak. 57730	2 open pit mines	Custer.
Pacer Corp	Box 311 Custer, S. Dak. 57730	Open pit mines and dry-grinding plant.	Do.
Gold:			
Homestake Mining Co	Lead, S. Dak. 57754	Underground mine, cyanidation mill, and refinery.	Lawrence.
Gypsum:			
South Dakota Cement Commission.	Drawer 351 Rapid City, S. Dak. 57701	Open pit mine	Meade.
Lime:			
Pete Lien & Sons	Box 3124, P.O. Annex Rapid City, S. Dak. 57703	1-rotary-kiln, 1-vertical-kiln, continuous-hydrator plant.	Pennington.
Mica (scrap):			
L. W. Judson	Hermosa, S. Dak. 57744	Open pit mine	Do.
Petroleum:			
The Ozark Corp	Box 2491 Casper, Wyo. 82601	Crude oil wells	Custer (Barker Dome field).
Pennzoil United, Inc	900 Southwest Tower Houston, Tex. 77002	----do----	Harding (Buffalo field).
Phillips Petroleum Co	Frank Phillips Bldg. Bartlesville, Okla. 74003	----do----	Do.
Sand and gravel (commercial):			
Aggregates, Inc	Selby, S. Dak. 57472	Pit and plant	Lawrence.
Highway Construction Co	Box 511 Rapid City, S. Dak. 57701	2 plants	Pennington.
J. L. Healy Construction Co	Box 512 Sioux Falls, S. Dak. 57102	4 plants	Lyman, Minnehaha.
Mannerud Inc	612 13th Avenue Brookings, S. Dak. 57006	1 plant	Brookings.
Moeckly & Olson	Britton S. Dak. 57430	Pit	Marshall.
Northwestern Engineer Co	P.O. Box 16249 Stockyard Stratton Denver, Colo. 80216	1 pit	Fall River.
Tennefos Construction Co., Inc	2504 Fifth Avenue S Fargo, N. Dak. 58101	2 plants	Various.
Silver:			
Homestake Mining Co	Lead, S. Dak. 57754	*See* Gold	Lawrence.
Stone:			
Cold Spring Granite Co	Cold Spring, Minn. 56320	2 quarries	Grant.
Concrete Materials Co	3000 West Madison Street Sioux Falls, S. Dak. 57104	Quarry and plant	Minnehaha.
Dakota Granite Co	Box 269 Milbank, S. Dak. 57252	2 quarries	Grant.

Table 12.—Principal producers—Continued

Commodity and company	Address	Type of activity	County
Stone—Continued			
Delano Granite Works, Inc	Delano, Minn. 55328	Quarry	Grant.
Hills Materials Co	Box 1392 Rapid City, S. Dak. 57701	Quarry and plant	Pennington.
L. G. Everist, Inc	302 Paulton Bldg. Sioux Falls, S. Dak. 57102	----do ----do	Minnehaha. Pennington.
Pete Lien & Sons	Box 3124, P.O. Annex Rapid City, S. Dak. 57703	----do	Do.
Robert Hunter Granite Co., Inc	Milbank, S. Dak. 57252	Quarry	Grant.
South Dakota Cement Commission.	Drawer 351 Rapid City, S. Dak. 57701	Quarry and plant	Pennington.
Spencer Quarries, Inc	Spencer, S. Dak. 57374	Quarry	Hanson.
Steiner-Rausch Granite Co., Inc	Ortonville, Minn. 56278	----do	Grant.
Uranium:			
Susquehanna-Western, Inc	Edgemont, S. Dak. 57735	Underground mine.	Fall River.

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