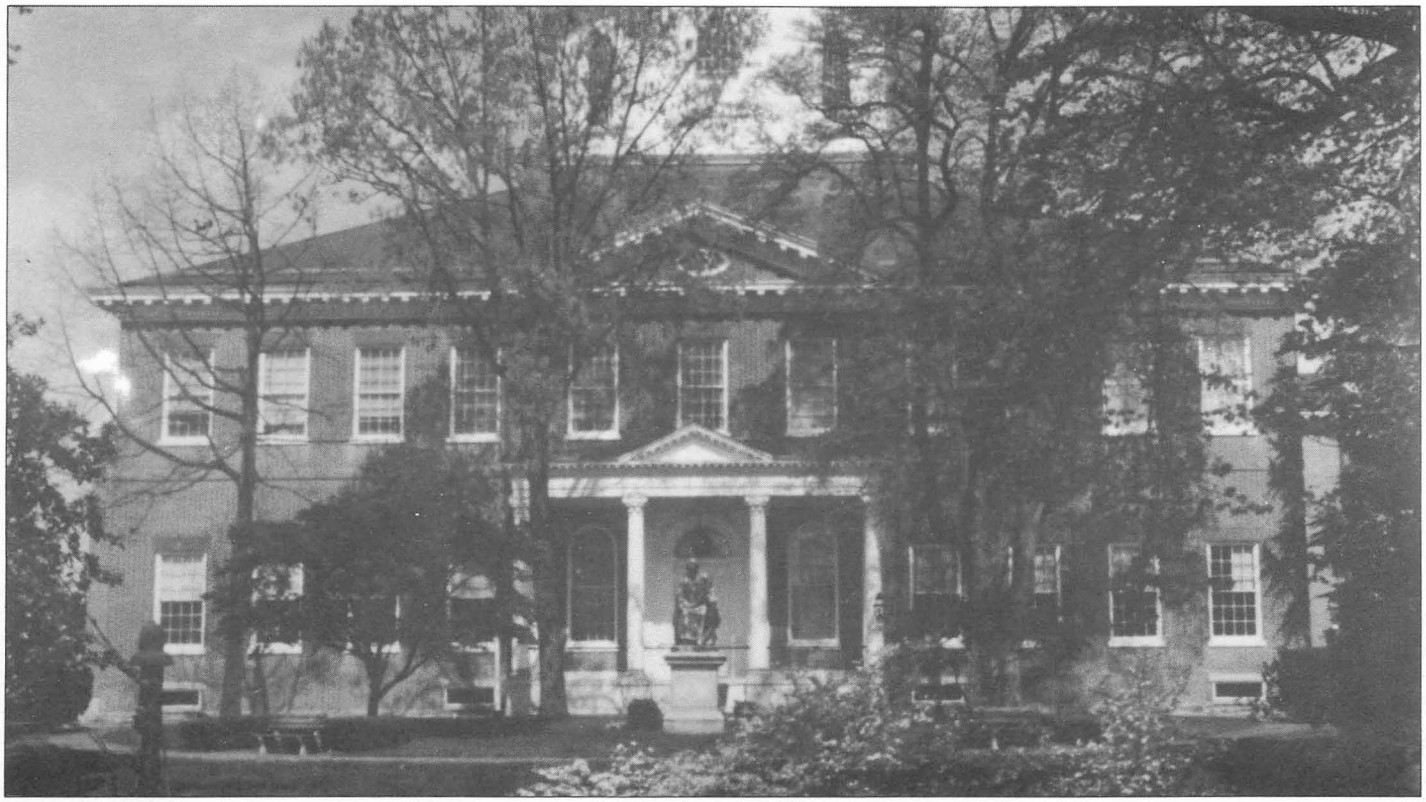
ANNUAL REPORT



MARYLAND

By L. J. Prosser, Jr.

1991

U.S. DEPARTMENT OF THE INTERIOR

BUREAU OF MINES

MARYLAND

U.S.
DEPARTMENT
OF THE
INTERIOR

Bruce Babbitt
Secretary

BUREAU
OF
MINES

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State Map

COVER PHOTO:
The Maryland Capitol Building in Annapolis symbolizes the cooperative working relationship between the U.S. Bureau of Mines and the mineral agencies of the State.

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THE MINERAL INDUSTRY OF MARYLAND

This chapter has been prepared under a Memorandum of Understanding between the U.S. Bureau of Mines, U.S. Department of the Interior, and the Maryland Geological Survey for collecting information on all nonfuel minerals.

By L. J. Prosser, Jr.[1]

The value of nonfuel mineral production in Maryland in 1991 was about $348 million. Production dropped for all the nonfuel minerals produced in the State. Maryland's value of output decreased by only $20 million primarily because of a significant increase in the price of crushed stone.

TRENDS AND DEVELOPMENTS

Since the mid-1980's, Maryland's nonfuel minerals industry had reported increased production and value almost every year until 1991. For the first time since 1985, crushed stone output fell below 26 million short tons. Production of 13 million tons of construction sand and gravel was the lowest since 10.6 million tons was reported in 1983. During the 1980's, these two commodities accounted for approximately 70% of the State's total value of nonfuel mineral production of almost $2.6 billion.

In 1991, demand from the construction industry, the major consumer of crushed stone and sand and gravel, weakened. As a result, the combined output of these commodities dropped by about 20% or more than 10 million tons. The decline in construction also affected the State's other nonfuel minerals as output decreased for portland cement by 12%, for clays by 24%, and for dimension stone by 50%.

Mineral commodities shipped into Maryland through the Port of Baltimore also showed a significant decline in 1991. Total import trade declined from 12.8 million short tons to about 9.4 million tons. Imports of industrial minerals that dropped in 1991 included gypsum by 12%, sand by 28%, and salt by 56%. Cement imports were at a low point of 277 tons, down from about 162,000 tons in 1990 and 420,000 tons in 1989.[2] This reduction in imports improved the Nation's trade balance, but nonetheless, was indicative of the weaker demand for minerals in Maryland.

LEGISLATION AND GOVERNMENT PROGRAMS

The Maryland General Assembly passed two bills that increased regulation of the State's mining industry. Senate bill 115 required the Department of Natural Resources (DNR) to conduct public information meetings for new mines in excess of 5 acres or expansion of mines of more than 20 acres; it became effective July 1, 1991. House bill 499 required the DNR to establish a "zone of influence" (area affected by quarrying) at limestone quarries during dewatering operations and for replacement of lost water. Rulemaking for this legislation was expected to be developed during 1992.

The Maryland Department of the Environment (MDE) published a guide to

TABLE 1
NONFUEL MINERAL PRODUCTION IN MARYLAND[1]

Mineral		1989		1990		1991	
		Quantity	Value (thousands)	Quantity	Value (thousands)	Quantity	Value (thousands)
Cement (portland)	thousand short tons	1,871	$94,002	1,798	$91,172	e1,580	e$80,580
Clays	metric tons	351,464	1,882	338,775	1,712	e258,760	e1,141
Gemstones		NA	3	NA	3	NA	3
Peat	metric tons	3	W	3	W	—	—
Sand and gravel (construction)	thousand short tons	e16,900	e84,500	18,271	104,023	e13,000	e72,800
Stone:							
Crushed	do.	30,841	153,375	e30,500	e163,900	25,545	188,001
Dimension	short tons	27,529	2,072	e24,102	e1,751	12,090	967
Combined value of other industrial minerals and values indicated by symbol W		XX	6,216	XX	6,053	XX	4,720
Total		XX	342,050	XX	368,614	XX	348,212

e Estimated. 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).

TABLE 2
MARYLAND: CRUSHED STONE[1] SOLD OR USED BY PRODUCERS IN 1991, BY USE

(Thousand short tons and thousand dollars)

Use	Quantity	Value	Unit value
Coarse aggregate (+1 inch):			
Macadam	133	834	$6.27
Riprap and jetty stone	197	1,479	7.51
Filter stone	W	W	2.68
Coarse aggregate, graded:			
Concrete aggregate, coarse	771	4,181	5.42
Bituminous aggregate, coarse	1,015	5,797	5.71
Bituminous surface-treatment aggregate	W	W	5.02
Railroad ballast	52	298	5.73
Fine aggregate (-3/8 inch):			
Stone sand, concrete	72	462	6.42
Stone sand, bituminous mix or seal	W	W	5.61
Screening, undesignated	345	1,730	5.01
Coarse and fine aggregates:			
Graded road base or subbase	2,071	11,392	5.50
Unpaved road surfacing	W	W	5.17
Crusher run or fill or waste	618	2,492	4.03
Other construction materials[2]	358	1,510	4.22
Chemical and metallurgical: Cement manufacture	2,451	4,991	2.04
Unspecified:[3]			
Actual	17,333	151,708	8.75
Estimated	128	1,126	8.80
Total[4]	25,545	188,001	7.36

W Withheld to avoid disclosing company proprietary data; included with "Other construction materials."
[1]Includes granite, limestone, miscellaneous stone, quartzite, sandstone, and traprock.
[2]Includes withheld amounts for coarse aggregate (+1 inch), coarse aggregate, graded, fine aggregate (-3/8 inch), and coarse and fine aggregates.
[3]Includes production reported without a breakdown by use and estimates for nonrespondents.
[4]Data may not add to totals shown because of independent rounding.

permits entitled, "Environmental Regulation."[3] In the guide, requirements of 36 permits under 6 different MDE agencies were listed.

The Maryland Geological Survey (MGS) was the primary State agency responsible for geologic and mineral resource studies. In 1991, the MGS, in cooperation with the Maryland Water Resources Administration and the U.S. Geological Survey (USGS), published a study on water withdrawal and use in the State.[4]

Hydrology studies by the MGS were of interest to the mining sector because of the possible impact on water resources resulting from quarrying. The MGS also investigated ground water resources in Somerset County in a joint effort with county officials and the USGS.[5] Also in 1991, another joint local, State, and Federal government cooperative water resources report was published for the Waldorf area of Charles County.[6]

REVIEW BY NONFUEL MINERAL COMMODITIES

Industrial Minerals

The decline in construction slowed the activity in the opening and expanding of mining operations during the year. Most companies considering new or expanded development delayed plans as producers were able to meet demand with existing capacity.

Cement.—Production of portland cement dropped below the 1.8-million-short-ton level for the first time in 5 years. The decline in output to slightly less than 1.6 million tons reflected the downturn in construction.

Peat.—After 30 consecutive years, no peat mining was reported from Maryland in 1991. In 1961, peat had been produced near Betterton, Kent County, by the Maryland Peat Humus Co. In 1990, peat was mined near Accident, Garrett County, by Garrett County Peat Products.

Peat bogs in six States reportedly closed in 1991 as U.S. production dropped by 9%. Environmental and wetland regulations were in part factors that affected the peat industry.

Sand and Gravel (Construction).—Construction sand and gravel production is surveyed by the U.S. Bureau of Mines for even-numbered years only; data for odd-numbered years are based on annual company estimates. This chapter contains estimates for 1989 and 1991 and actual data for 1990.

Estimated output for 1991 dropped to about 13 million short tons. The decline in production was about 5.3 million tons compared to that reported in 1990.

Stone (Crushed).—Crushed stone production is surveyed by the U.S. Bureau of Mines for odd-numbered years only; data for even-numbered years are based on annual company estimates. This chapter contains actual data for 1989 and 1991 and estimates for 1990.

Maryland crushed stone statistics are compiled by geographical districts as depicted in the State map. Table 3 presents end-use statistics for Maryland's three districts.

Despite a 5-million-short-ton drop in production, the value of crushed stone in Maryland increased by about $24 million. One operation in the State reported a significant increase in production of a higher-than-average-priced stone. The increase in output at this one operation offset the declines in value as were reported by most of the State's industry

TABLE 3

MARYLAND: CRUSHED STONE SOLD OR USED BY PRODUCERS IN 1991, BY DISTRICT AND USE

(Thousand short tons and thousand dollars)

Use	District 1		District 2		District 3	
	Quantity	Value	Quantity	Value	Quantity	Value
Construction aggregates:						
Coarse aggregates (+1 1/2 inch)[1]	41	232	110	318	274	2,017
Coarse aggregates, graded[2]	257	1,251	607	2,777	1,021	6,480
Fine aggregates (-3/8 inch)[3]	214	1,199	161	680	90	585
Coarse and fine aggregates[4]	784	3,366	515	1,831	1,468	9,090
Other construction materials	728	1,796	1,814	3,546	—	—
Chemical and metallurgical[5]	W	W	W	W	—	—
Unspecified:[6]						
Actual	1,379	5,957	15,954	145,750	—	—
Estimated	—	—	128	1,126	—	—
Total[7]	3,404	13,802	19,288	156,028	2,853	18,171

W Withheld to avoid disclosing company proprietary data; included with "Other construction materials."
[1]Includes macadam, riprap, and jetty stone.
[2]Includes concrete aggregate (coarse), bituminous aggregate (coarse), bituminous surface-treatment aggregate, and railroad ballast.
[3]Includes stone sand (concrete), stone sand (bituminous mix or seal), screening (undesignated).
[4]Includes graded road base or subbase, unpaved road surfacing, and crusher run (select material or fill).
[5]Includes cement manufacture.
[6]Includes production reported without a breakdown by end use and estimates for nonrespondents.
[7]Data may not add to totals shown because of independent rounding.

TABLE 4

MARYLAND: CRUSHED STONE SOLD OR USED, BY KIND

Kind	1989				1991			
	Number of quarries	Quantity (thousand short tons)	Value (thousands)	Unit value	Number of quarries	Quantity (thousand short tons)	Value (thousands)	Unit value
Limestone	19	19,554	$94,436	$4.83	19	16,236	$130,700	$8.05
Shell	1	W	W	8.01	—	—	—	—
Granite	3	3,399	20,741	6.10	3	5,633	33,155	5.89
Traprock	3	3,401	12,657	3.72	1	W	W	8.80
Sandstone and quartzite	3	W	W	6.18	2	W	W	5.49
Miscellaneous stone	2	W	W	5.47	2	W	W	6.53
Total	XX	30,841	153,375	4.97	XX	25,545	188,001	7.36

W Withheld to avoid disclosing company proprietary data, included in "Total." XX Not applicable.
[1]Data do not add to total shown because of independent rounding.

as a whole.

In 1991, producers indicated that demand had dropped because of a slowdown in the economy. Maryland's crushed stone industry had reported steady growth beginning in 1983 when output totaled about 19 million tons. That growth reached a peak in 1988 when a State record of 32.7 million tons of stone was produced. In addition to generally weaker markets for stone as a result of economic conditions, the completion of a portion of Interstate Highway 68 in western Maryland also accounted for the lower output in 1991.

Metals

Metals discussed in this section were processed from materials received from both foreign and domestic sources. No metallic ores were mined in Maryland. Production and value data for these processed metals, which are not included in table 1, are given if available.

Metals were imported into Maryland primarily through the Port of Baltimore. The port received lower quantities of most metals in 1991. Iron ore imports dropped from 3.9 million short tons in 1990 to about 2.9 million tons in 1991. Shipments from overseas of ferroalloys dropped from about 177,000 tons to 146,000 tons.[7] Imports of industrial minerals at the port are discussed in Trends and Developments.

Aluminum.—Eastalco Aluminum Co., a subsidiary of Alumax Inc., continued to produce aluminum at its smelter near Frederick.

Copper.—Cox Creek Refining Co. shut down its copper anode casting operation and rod mill in Baltimore. The company termed the shutdown as temporary.

Iron and Steel.—Bethlehem Steel Corp., the State's major producer of steel, shut down coke batteries at its Sparrows Point facility. The firm announced plans late in the year to idle 210 coke ovens for 2 years while developing a program for air pollution compliance. Bethlehem produced about 750,000 short tons of coke at the operation; about 50% of the quantity was used in the firm's steelmaking operations at Sparrows Point.[8] The action was taken in response to enactment of amendments to the Federal Clean Air Act in 1990, which called for lower emissions from industrial sources by 1995, as well as changing market conditions for coke.

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[1]State Mineral Officer, U.S. Bureau of Mines, Pittsburgh, PA. He has 18 years of mineral-related industry and government experience and has covered the mineral activities in Maryland for 7 years. Assistance in the preparation of the chapter was given by Sally J. Stephenson, editorial assistant.

[2]Maryland Port Administration. Foreign Commerce Statistical Report 1991, July 1992, 250 pp.

[3]Maryland Department of the Environment. Environmental Regulation: A Business Guide to the Maryland Dept. of the Environment's Permitting Process. July 1991, 52 pp.

[4]Wheeler, J. C. Water Withdrawal and Use in Maryland 1987. U.S. Geol. Surv. Open File Rep. 90-572, 1991, 28 pp. (Available from USGS, Books and Open File Reports Section, Denver Federal Center, Box 25425, Denver, CO 80225).

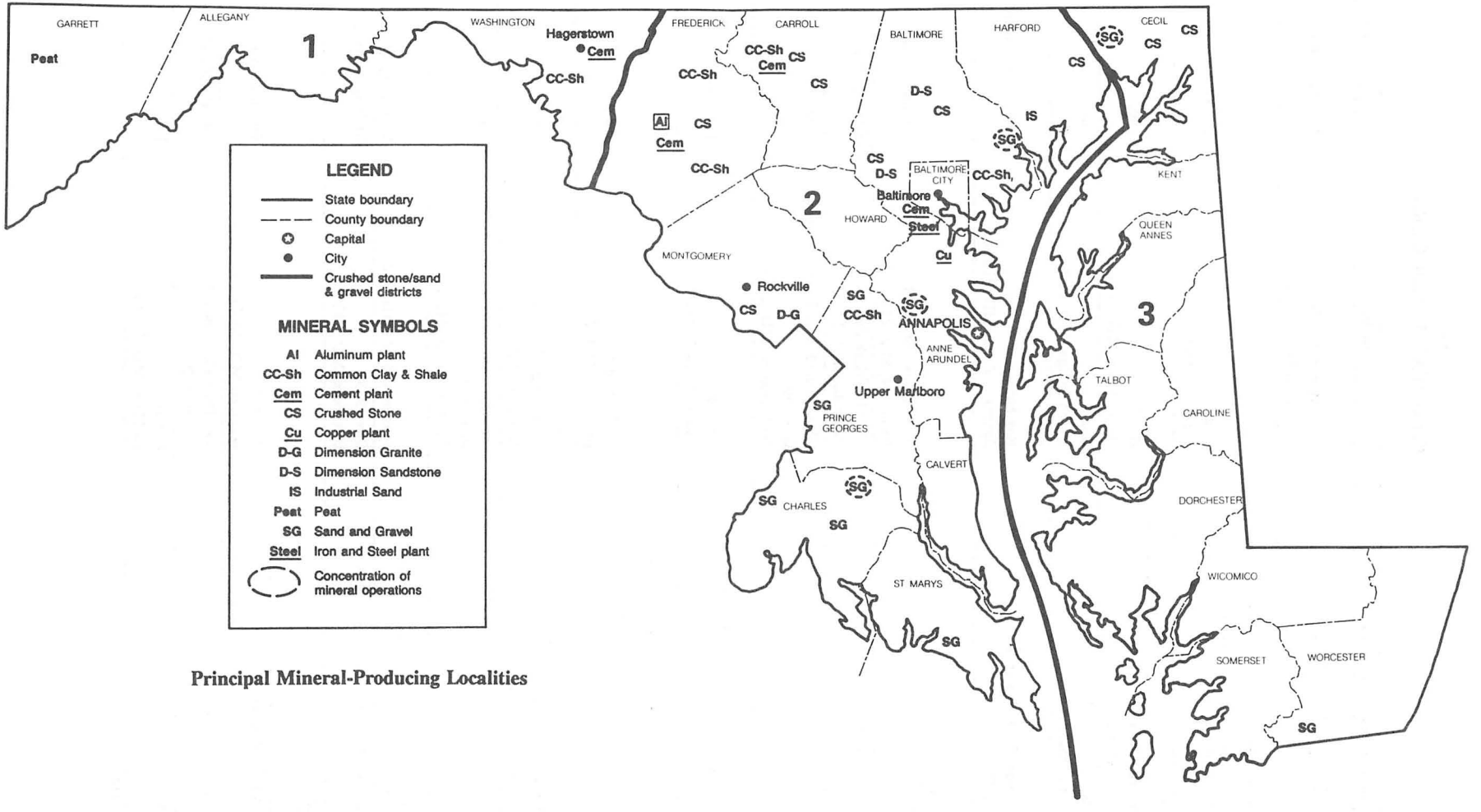
[5]Weakheiser, W. H. Hydrology and Ground Water Resources of Somerset County. MD Geol. Surv. Bull. 35, 1990, 156 pp.

[6]Wilson, J. M., and W. B. Fleck. Geology and Hydrologic Assessment of Coastal Plain Aquifers in the Waldorf Area, Charles County, MD. MD Geol. Surv. RI No. 53, 1991, 138 pp.

[7]Maryland Port Administration. Foreign Commerce Statistical Report 1991, July 1992, 250 pp.

[8]American Metal Market. Bethlehem Steel To Idle Coke Unit. V. 99, No. 178, p. 1.

MARYLAND



Principal Mineral-Producing Localities

TABLE 5
PRINCIPAL PRODUCERS

Commodity and company	Address	Type of activity	County
Aluminum:			
Eastalco Aluminum Co. (Alumax Inc.)	5601 Manor Woods Rd. Frederick, MD 21701	Reduction plant	Frederick.
Cement:			
Portland:			
Essroc Materials Inc.[1]	Box D Frederick, MD 21701	Quarry and plant	Do.
Portland and masonry:			
Independent Cement Corp.[1] (St. Lawrence Cement Inc.	Box 650 Hagerstown, MD 21740	do.	Washington.
Lehigh Portland Cement Co.[1 2] (Heidelberger Zement AG)	Box L Union Bridge, MD 21791	do.	Carroll.
Slag:			
Blue Circle—Atlantic (Blue Circle Industries PLC)	Box 6687 Sparrows Point, MD 21219	Plant (slag cement)	Harford.
Clays:			
Common clay and shale:			
Baltimore Brick Co.	9009 Yellow Brick Rd. Baltimore, MD 21237	Pit and plants	Frederick.
Cherokee Sanford Group Inc.	7100 Muirkirk Rd. Beltsville, MD 20705	Pit and plant	Prince Georges.
Cushwa Brick Inc.	Clearspring Rd. and Route 68N Box 160 Williamsport, MD 21795	do.	Washington.
Copper:			
Cox Creek Refining Co.	Box 3407 Baltimore, MD 21226	Refinery	Anne Arundel.
Gypsum:			
Byproduct:			
SCM Chemicals Inc.[3]	3901 Glidden Rd. Baltimore, MD 21226	Plant	Baltimore.
Calcined:			
National Gypsum Co., Gold Bond Building Products Div.	2301 South Newkirk St. Baltimore, MD 21224	do.	Do.
USG Corp.	500 Quarantine Rd. Box 3472 Baltimore, MD 21226	do.	Do.
Iron and steel:			
Bethlehem Steel Corp.	Sparrows Point, MD 21219	Mill (integrated)	Do.
Eastern Stainless Corp. (subsidiary of Cyclops Industries Inc.)	Box 1975 Baltimore, MD 21203	Melting furnace	Do.
Sand and gravel:			
Construction:			
Charles County Sand & Gravel Co.	Box 322 Waldorf, MD 20601	Pits and plant	Anne Arundel, Charles, St. Marys.
Laurel Sand & Gravel Inc.[1]	Van Dusen Rd., Box 719 Laurel, MD 20707	Pits and plants	Anne Arundel and Prince Georges.
Seven Star Aggregates Inc.	Box 1668 La Plata, MD 20646	Pit	Charles.

See footnotes at end of table.

TABLE 5—Continued

PRINCIPAL PRODUCERS

Commodity and company	Address	Type of activity	County
Sand and gravel—Continued:			
Construction—Continued:			
Silver Hill Aggregates & Concrete Co.	4714 Barnabas Rd. Temple Hills, MD 20748	Pits and plant	Prince Georges.
Southern Maryland Sand & Gravel Corp.	8700 Ashwood Dr. Capital Heights, MD 20743	Pit	Charles.
York Building Products Co. Inc.	Box 1708 York, PA 17405	Pits and plant	Cecil.
Industrial:			
Harford Sands Inc.	Box 25 40 Fort Hoyle Rd. Joppa, MD 21085	Pits	Harford.
Stone:			
Crushed:			
The Arundel Corp.[4]	110 West Rd. Baltimore, MD 21204	Quarries and plants	Baltimore, Frederick, Harford.
Genstar Stone Products Co.[4]	Executive Plaza 4 11350 McCormick Rd. Hunt Valley, MD 21031	do.	Baltimore, Carroll, Frederick.
Martin Marietta Aggregates Corp.[3]	Box 30013 Raleigh, NC 27612	Quarries	Washington.
Maryland Materials Inc.	Box W North East, MD 21901	Quarry and plant	Cecil.
H. B. Mellott Inc.	Box 188 McConnelsburg, MD 17233	Quarries and plant	Washington.
Phoenix Inc.	Box 676 Frederick, MD 21701	Quarry	Frederick.
Rockville Crushed Stone Inc. (Evered Bardon PLC)	Box 407 133900 Piney Meetinghouse Rd. Rockville, MD 20850	do.	Montgomery.
D. M. Stoltzfus & Son Inc.	Box 11 Talmage, PA 17580	do.	Cecil.
Dimension:			
Piccirilli Quarries Inc.	Marriottsville Rd. Marriottsville, MD 21104	do.	Baltimore.
Stoneyhurst Quarries	15215 Shady Grove Rd. Rockville, MD 20850	do.	Montgomery.
Vinci Stone Products Inc.	10920 Marriottsville Rd. Marriottsville, MD 21104	do.	Baltimore.
Vermiculite (exfoliated):			
W. R. Grace & Co., Construction Products Div.	12340 Conway Rd. Beltsville, MD 20705	Plant	Prince Georges.

[1]Also crushed stone.
[2]Also clays.
[3]Also titanium dioxide (pigments).
[4]Also sand and gravel.

MINERAL-RELATED GOVERNMENT AGENCIES

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