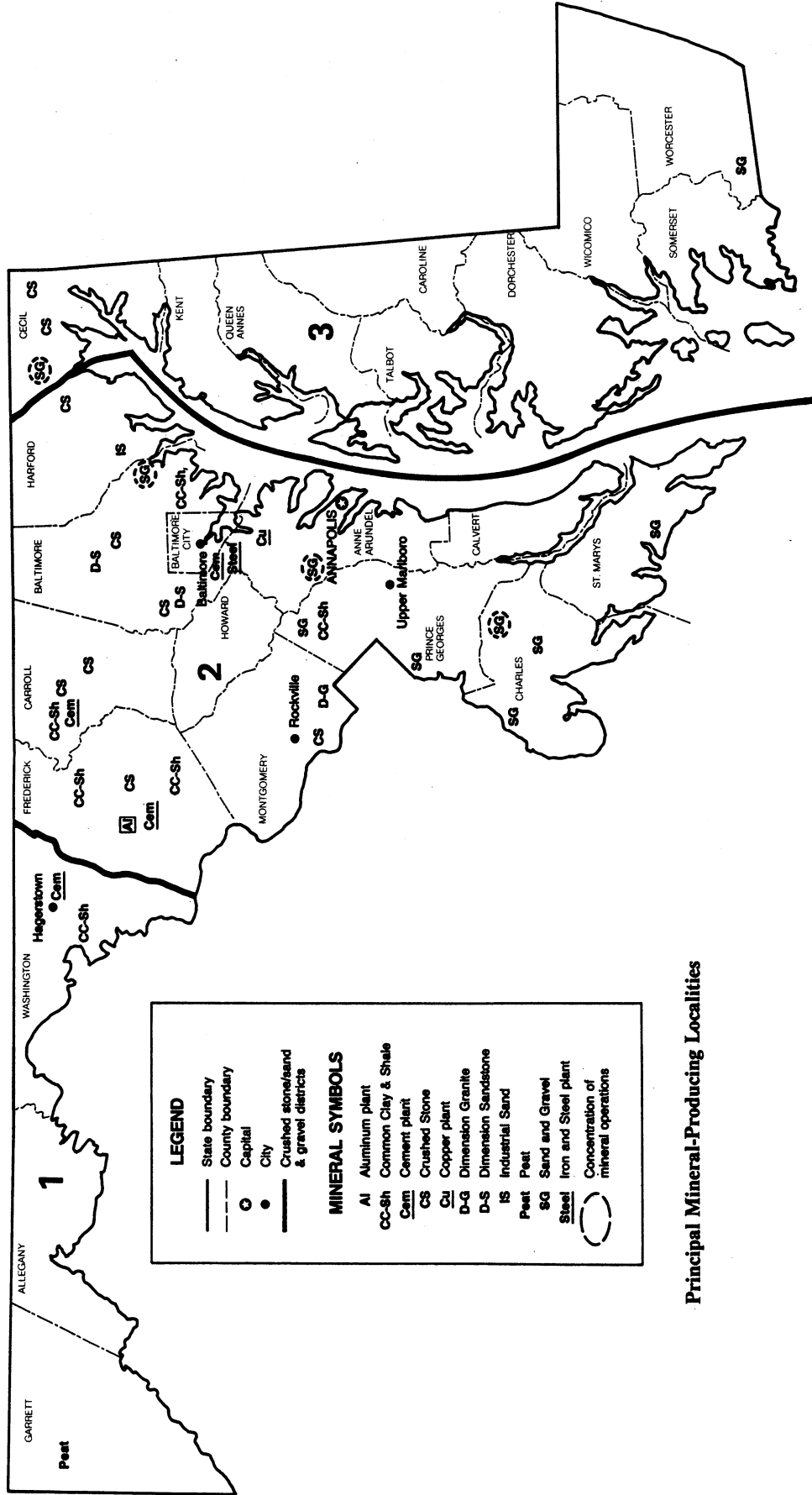


MARYLAND



LEGEND

- State boundary
- - - County boundary
- Capital
- City
- Crushed stone/sand & gravel districts

MINERAL SYMBOLS

- Al Aluminum plant
- CC-Sh Common Clay & Shale
- Cem Cement plant
- CS Crushed Stone
- Cu Copper plant
- D-G Dimension Granite
- D-S Dimension Sandstone
- IS Industrial Sand
- Peat Peat
- SG Sand and Gravel
- Steel Iron and Steel plant
- Concentration of mineral operations

Principal Mineral-Producing Localities

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 increased to a State record of about \$369 million in 1990. Demand for construction aggregates remained at near record-high levels. An increase in price and production of sand and gravel and a higher price for crushed stone contributed to the State's gain in total value.

State and local legislation to increase regulation of the mining industry was proposed with mixed results. Land use issues and decisions were expected to have a major effect on Maryland's mining industry during the 1990's.

TRENDS AND DEVELOPMENTS

Mineral consumption in Maryland began to slow down in 1990. Production of construction aggregates (sand and

gravel and crushed stone), the raw materials used in building, reached an alltime high in Maryland in 1988 at 52 million short tons. High interest and inflation rates in the early 1980's had adversely affected the home and highway construction markets. In 1982, only about 25 million tons of construction aggregates was produced Statewide. Once these rates became lower, the demand for minerals resurfaced.

In 1990, output of construction aggregates totaled about 49 million tons. However, other mineral commodities shipped into Maryland through the Port of Baltimore showed a sharper decline. Cement, iron ore, and manganese ores dropped significantly according to data compiled by the Maryland Port Administration.² Iron ore imports dropped from 6.7 million tons in 1989 to 3.9 million tons in 1990; cement declined

from 420,000 tons in 1989 to 162,000 tons in 1990; and manganese ores, from 76,000 tons to 12,000 tons.

LEGISLATION AND GOVERNMENT PROGRAMS

In 1990, State and local legislation was proposed to increase regulation of the mining industry. In the State General Assembly, House bill 1430 was proposed requiring public information meetings and hearings to be conducted by the Department of Natural Resources (DNR) on all completed applications for a surface mining permit. House bill 428 required the DNR to adopt regulations relating to permit conditions for dewatering surface mining operations. In Maryland, this bill would primarily affect stone quarry operators. This legislation would make a quarry operator liable for

TABLE 1
NONFUEL MINERAL PRODUCTION IN MARYLAND¹

Mineral	1988		1989		1990	
	Quantity	Value (thousands)	Quantity	Value (thousands)	Quantity	Value (thousands)
Cement (portland) thousand short tons	1,808	\$89,083	1,871	\$94,002	1,798	\$91,172
Clays metric tons	357,833	2,016	351,464	1,882	338,775	1,712
Gemstones	NA	5	NA	3	NA	3
Lime thousand short tons	6	329	—	—	—	—
Peat do.	7	W	3	W	3	W
Sand and gravel (construction) do.	19,266	95,169	*16,900	*84,500	18,271	104,023
Stone:						
Crushed do.	*32,700	*167,000	30,841	153,375	*30,500	*163,900
Dimension short tons	*20,729	*1,515	27,529	2,072	*24,102	*1,751
Combined value of other industrial minerals and values indicated by symbol W	XX	7,804	XX	6,216	XX	6,053
Total	XX	362,921	XX	342,050	XX	368,614

²Estimated. NA Not available. W Withheld to avoid disclosing company proprietary data; value included with "Combined value" figure. XX Not applicable.

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

"special exceptions" for mining operations. The ban prevented the opening or expanding of sand and gravel operations at least until 1991, when new regulations were expected to be adopted.

The Maryland Geological Survey (MGS) is responsible for mineral and energy resources investigations, which are directed through its facilities in Baltimore. Mineral resource maps for eight of nine counties on the State's Eastern Shore were completed during the year. These maps were prepared for use in land use planning.

The MGS also continued work with the Minerals Management Service of the Department of the Interior. In this project, cores from Maryland's inner continental shelf were logged, photographed, and split into samples for analysis of heavy minerals.

The Energy Information Administration published a State Coal Profile for Maryland.³ The State produced about 3 million short tons of coal in 1989 from 29 mines in Allegany and Garrett Counties.

REVIEW BY NONFUEL MINERAL COMMODITIES

Industrial Minerals

Portland cement, construction sand and gravel, and crushed stone accounted for \$359 million or almost 97% of Maryland's nonfuel mineral production. Land use issues involving the question of mine development versus conservation continued to be a major concern of the industries producing these mineral commodities.

Other industrial minerals produced in Maryland included masonry cement, clays, peat, dimension stone, and industrial sand. For the most part, these industries were small, long-established, and stable operations; for these commodities, land use conflicts were less significant.

Cement.—Production of portland cement remained at about the 1.8-million-short-ton level for the fourth consecutive year.

The State's three cement plants again operated at almost 90% of capacity compared with the U.S. average of about 76%. About three-fourths of the cement was used in ready-mixed concrete by the construction industry. Two of the portland cement producers also manufactured masonry cement.

Lehigh Portland Cement Co. received approval to open a new limestone quarry near New Windsor for use in cement manufacture at its Union Bridge plant. Design plans showed a 66-acre quarry to be mined to a depth of 195 feet. The State's DNR, Water Resources Administration, approved the permit.

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 actual data for 1988 and 1990 and estimates for 1989.

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

In 1990, sand and gravel production of 18.3 million tons was the third highest total reported in State history. District 2, which accounted for about three-fourths of the output, encompassed the greatest geographic area and population concentrations.

In 1990, sand and gravel was produced by 42 companies at 69 pits in 12 of Maryland's 23 counties. Charles County led the State in output, followed by Prince Georges and Anne Arundel Counties. Sand and gravel used for concrete aggregates accounted for about one-half of the total sales. Since 1988, the price of sand and gravel has increased by about 15% to \$5.69 per ton.

In Prince Georges County, Circuit Court dismissed an appeal of an exemption to county zoning regulations that allowed Southern Maryland Sand & Gravel Co. to mine a 360-acre site near Piscataway.

Genstar Stone Products Co. announced plans to donate a 120-acre mine site to

the Anne Arundel County Department of Recreation and Parks. Mining of sand and gravel at the mine in Davidsonville was projected to be completed in 3 years followed by 2 years of reclamation. The county was expected to own the land in February of 1995.

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 estimates for 1988 and 1990 and actual data for 1989.

Production of crushed stone exceeded 30 million tons for the fourth successive year. Crushed stone remained the State's leading mineral commodity, accounting for 44% of the State's value of nonfuel mineral production. Nationally, Maryland ranked 17th in crushed stone output and 15th in value.

Metals

No metallic ores were mined in Maryland. Metals discussed in this section were processed from materials received from both foreign and domestic sources. 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 in 1990.⁴ Iron ore and manganese ore shipments decreased in 1990 and are discussed under Trends and Developments. Imports of ferroalloys also dropped, from 193,000 tons to 177,000 tons. Shipments of bauxite from overseas decreased from 369,000 tons to 364,000 tons.

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

Copper.—Mitsubishi Materials America Corp., a subsidiary of Mitsubishi Metal Corp. of Japan, acquired an 80% interest in Cox Creek Refining Co. Southwire Co. of Carrollton, GA, owned the other

20% of the company. Cox Creek manufactured copper cathode and wire rod at a facility in Baltimore. In 1989, the firm produced 60,000 metric tons of copper cathode and 30,000 tons of wire rod.⁵

Iron and Steel.—Bethlehem Steel Corp. operated an integrated steel plant at a 3,500-acre complex in Sparrows Point. During 1990, the company completed relining of a large blast furnace and continued modernization of a 68-inch, hot strip mill. As a result of capital expenditures of more than \$1.1 billion in the past 10 years, the Sparrows Point plant has one of the largest blast furnaces in the Western Hemisphere and a slab caster with an annual capacity approaching 3.6 million tons.⁶

¹State Mineral Officer, U.S. Bureau of Mines, Pittsburgh, PA. He has 17 years of mineral-related industry and government experience and has covered the mineral activities in Maryland for 6 years. Assistance in the preparation of the chapter was given by Sally J. Stephenson, editorial assistant.

²Maryland Port Administration. Foreign Commerce Statistical Report 1990. July 1991, p. 279.

³Weekly Coal Production, State Coal Profile: Maryland. DOE/EIA-0218 (90-38), Sept. 15, 1990, pp. 3-5.

⁴Work cited in footnote 2.

⁵American Metal Market. Mitsubishi To Acquire Majority Share of Cox Creek. V. 98, No. 142, July 23, 1990, p. 8.

⁶Bethlehem Steel Corp. 1990 Annual Report, p. 3.

TABLE 2
MARYLAND: CONSTRUCTION SAND AND GRAVEL SOLD OR USED IN 1990, BY MAJOR USE CATEGORY

Use	Quantity (thousand short tons)	Value (thousands)	Value per ton
Concrete aggregates (including concrete sand)	\$9,144	\$53,559	\$5.86
Plaster and gunite sands	230	1,031	4.48
Concrete products (blocks, bricks, pipe, decorative, etc.)	61	228	3.74
Asphaltic concrete aggregates and other bituminous mixtures	1,134	5,939	5.24
Road base and coverings	1,638	5,187	3.17
Fill	700	1,495	2.14
Snow and ice control	W	W	5.95
Other ¹	477	2,398	5.03
Unspecified: ²			
Actual	4,887	34,186	7.00
Total or average	18,271	104,023	5.69

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

¹Includes filtration.

²Includes production reported without a breakdown by end use and estimates for nonrespondents.

TABLE 3
MARYLAND SAND & GRAVEL SOLD OR USED BY PRODUCERS IN 1990, BY DISTRICT AND USE

(Thousand short tons and thousand dollars)

Use	District 1		District 2		District 3	
	Quantity	Value	Quantity	Value	Quantity	Value
Concrete aggregates (including concrete sand)	W	W	6,179	37,698	W	W
Plaster and gunite sands	—	—	W	W	W	W
Concrete products (blocks, bricks, etc.)	—	—	—	—	61	228
Asphaltic concrete aggregates and other bituminous mixtures	—	—	1,111	5,861	24	78
Road base and coverings	W	W	1,408	3,878	W	W
Fill	—	—	351	901	349	594
Snow and ice control	—	—	W	W	W	W
Other miscellaneous ¹	38	330	144	383	3,720	19,886
Unspecified: ²						
Actual	—	—	4887	34,186	—	—
Total	38	330	14,079	82,907	4,154	20,786

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

¹Includes filtration.

²Includes production reported without a breakdown by end use and estimates for nonrespondents.

³Data do not add to total shown because of independent rounding.

TABLE 4
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:			
Coplay Cement Co., (Societe des Ciments Francais)	4120 Buckeystown Pike Lime Kiln, Box D Frederick, MD 21701	Quarry and plant	Do.
Portland and masonry:			
Independent Cement Corp. (St. Lawrence Cement Inc.)	Box 650 Hagerstown, MD 21740	do.	Washington.
Lehigh Portland Cement Co. ¹ (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.
Maryland Clay Products Inc. (Boren Brick & Tile Co.)	7100 Muirkirk Rd. Beltsville, MD 20705	Pit and plant	Prince Georges.
Victor Cushwa & Sons Inc.	Clearspring Rd. & 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. ²	3901 Glidden Rd. Baltimore, MD 21226	Plant	Baltimore.
Calcined:			
National Gypsum Co., Gold Bond Building Products Div.	2301 South Newkirk St. Baltimore, MD 21224	Plant	Baltimore.
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. (sub- sidiary of Cyclops Industries Inc.)	Box 1975 Baltimore, MD 21203	Melting furnace	Do.
Peat:			
Garrett County Peat Products	R.F.D. 1, Box 91 Accident, MD 21520	Bog and plant	Garrett.
Sand and gravel:			
Construction:			
Charles County Sand & Gravel Co.	Box 322 Waldorf, MD 20601	Pits and plant	Anne Arundel, Charles, St. Marys.

See footnotes at end of table.

TABLE 4—Continued
PRINCIPAL PRODUCERS

Commodity and company	Address	Type of activity	County
Sand and gravel—Continued			
Construction—Continued			
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.
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. ³	110 West Rd. Baltimore, MD 21204	Quarries and plants	Baltimore, Frederick, Harford.
Genstar Stone Products Co. ³	Executive Plaza 4 11350 McCormick Rd. Hunt Valley, MD 21031	do.	Baltimore, Carroll, Frederick, Harford.
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.
Phoenix Inc.	Box 676 Frederick, MD 21701	Quarry	Frederick.
Rockville Crushed Stone Inc.	Box 407 133900 Piney Meetinghouse Rd. Rockville, MD 20850	do.	Montgomery.
D. M. Stoltzfus & Son Inc.	Box 11 Talmage, PA 17580	do.	Cecil.
Dimension:			
Patapsco Natural Stone Quarry Inc.	Marriottsville Rd. Marriottsville, MD 21104	do.	Baltimore.
Stoneyhurst Quarries	Box 34463 8101 River Rd. Bethesda, MD 20817	do.	Montgomery.
Weaver Stone Co.	15027 Falls Rd. Butler, MD 21023	do.	Baltimore.
Vermiculite (exfoliated):			
W. R. Grace & Co., Construction Products Div.	12340 Conway Rd. Beltsville, MD 20705	Plant	Prince Georges.

¹Also crushed stone.

²Also titanium dioxide (pigments).

³Also sand and gravel.