

STATE OF MARYLAND  
MARYLAND GEOLOGICAL SURVEY  
KENNETH N. WEAVER, Director

# THE MINERAL INDUSTRY

of

# MARYLAND

in

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by

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# The Mineral Industry of Maryland

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

By Joseph A. Sutton <sup>1</sup>

The value of mineral production in the State of Maryland in 1974 was 31% greater than that of 1973. This increase in value was primarily due to inflated prices rather than to greater mining activity. Of the major minerals, only coal showed an increase in tonnage; all others showed lower production in 1974.

Mineral production value in the State was divided as follows: Coal, 28%; stone, 28%; sand and gravel, 17%; gem stones, lime,

natural gas, peat, cement, ball clay, and talc accounted for the remainder.

The value of bituminous coal output, the leading mineral commodity, totaled \$48.6 million.

Statistics on lime production were revealed for the first time in 1974. The value of the finished lime was only 0.3% of the State's total mineral output value.

<sup>1</sup> Liaison Officer—Delaware and Maryland, State Liaison Program.

Table 1.—Mineral production in Maryland <sup>1</sup>

Mineral	1973		1974	
	Quantity	Value (thousands)	Quantity	Value (thousands)
Clays <sup>2</sup> ----- thousand short tons --	897	\$1,973	884	\$2,066
Coal (bituminous) ----- do -----	1,789	13,644	2,337	48,630
Gem stones ----- do -----	NA	8	NA	8
Lime ----- thousand short tons --	W	W	23	527
Natural gas ----- million cubic feet --	298	69	133	32
Peat ----- thousand short tons --	2	29	3	45
Sand and gravel ----- do -----	12,845	29,625	11,690	29,386
Stone ----- do -----	18,585	46,732	18,072	47,630
Value of items that cannot be disclosed:				
Cement, ball clay, and talc -----	XX	39,827	XX	44,556
<b>Total -----</b>	<b>XX</b>	<b>131,907</b>	<b>XX</b>	<b>172,880</b>
<b>Total 1967 constant dollars -----</b>	<b>XX</b>	<b>96,701</b>	<b>XX</b>	<b>P 82,671</b>

<sup>P</sup> Preliminary. NA Not available. XX Not applicable.

<sup>W</sup> Withheld to avoid disclosing individual company confidential data; included with "Value of items that cannot be disclosed."

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

<sup>2</sup> Excludes ball clay; included with "Value of items that cannot be disclosed."

Table 2.—Value of mineral production in Maryland, by county<sup>1</sup>  
(Thousands)

County	1973	1974	Minerals produced in 1974 in order of value
Allegany	\$4,440	W	Coal, stone.
Anne Arundel	2,836	\$2,819	Sand and gravel.
Baltimore <sup>2</sup>	26,528	25,125	Stone, sand and gravel, clays.
Calvert	19	--	
Caroline	W	--	
Carroll	21,991	W	Cement, stone, clays.
Cecil	7,277	8,406	Stone, sand and gravel.
Charles	W	W	Sand and gravel.
Dorchester	290	368	Do.
Frederick	17,973	19,329	Cement, stone, clays, lime, stone.
Garrett	11,554	W	Coal, stone, sand and gravel, peat.
Harford	993	W	Sand and gravel, clay, stone, talc.
Howard	W	W	Stone.
Kent	W	W	Clays.
Montgomery	W	W	Stone.
Prince Georges	13,621	13,525	Sand and gravel, clays, stone.
St. Marys	W	--	
Washington	W	W	Cement, stone, clays.
Wicomico	W	W	Sand and gravel.
Worcester	27	396	Do.
Undistributed <sup>3</sup>	24,357	102,859	
Total <sup>4</sup>	131,907	172,880	

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

<sup>1</sup> Queen Annes, Somerset, and Talbot Counties are not listed because no production was reported.

<sup>2</sup> Includes Baltimore City.

<sup>3</sup> Includes some natural gas, gem stones, and values indicated by symbol W.

<sup>4</sup> Data may not add to totals shown because of independent rounding.

Table 3.—Indicators of Maryland business activity

	1973	1974 <sup>p</sup>	Change, percent	
Employment and labor force, annual average:				
Total labor force	thousands --	1,734	NA	NA
Unemployment	do ---	60.0	NA	NA
Employment: <sup>1</sup>				
Manufacturing	do ---	256.7	255.4	-0.5
Transportation and public utilities	do ---	80.2	81.3	+1.4
Trade	do ---	345.3	346.9	+0.5
Finance, insurance, and real estate	do ---	77.7	79.3	+2.1
Mining	do ---	1.7	1.7	--
Contract construction	do ---	105.2	103.1	-2.0
Services	do ---	270.7	278.6	+2.9
Government	do ---	275.4	285.6	+3.7
Payroll-average weekly earnings: Manufacturing	do ---	\$170.91	\$184.34	+7.9
Personal income:				
Total	millions --	\$22,185	\$24,077	+8.5
Per capita	do ---	\$5,446	\$5,881	+8.0
Construction activity:				
Cement shipments to and within Maryland				
	thousand short tons --	1,654	1,490	-9.9
Mineral production value	thousands --	\$131,907	\$172,880	+31.1

<sup>p</sup> Preliminary. NA Not available.

<sup>1</sup> Excludes Federal employment in Maryland and Virginia sectors of the Washington Standard Metropolitan Statistical Area.

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

**Employment and Injuries.**—Final 1973 statistics and preliminary data for 1974 on business activity of the State are given in table 3. Data on injuries that occurred in the mineral industry in 1974 were available only for the coal mining industry.<sup>2</sup> There were no lost-time accidents during the 697,707 man-hours of exposure at coal

mines in the State, but there was one fatality, which was the result of a haulage accident that occurred at a strip mine.

**Legislation and Government Programs.**—The State of Maryland reached a \$400,000

<sup>2</sup> Maryland Bureau of Mines. Fifty-Second Annual Report Calendar Year 1974. Pp. 16-17.

out-of-court settlement with two firms that would end the strip mining of coal on State-owned park and forest land in the western part of the State. The agreement was approved by the Board of Public Works, which agreed to purchase the mineral rights under about 6,000 acres of the Savage River State Forest. The agreement also ended the possibility of deep mining of the coal reserves.

Laws enacted at the 1974 regular session of the General Assembly of Maryland were

as follows: An amendment to Section 7-510(a) of the Maryland Strip Mining Law (Annotated Code of Maryland, Natural Resources Article, Title 7, Subtitle 5) which removed the maximum limit on revegetation bonds to allow the Land Reclamation Committee to establish a bond requirement reflecting actual estimate costs of reclamation; and an amendment to Section 7-205(a) of the Natural Resources Article to increase the size of the Land Reclamation Committee, and matters relating thereto.

## REVIEW BY MINERAL COMMODITIES

### NONMETALS

**Cement.**—Production of portland and masonry cement decreased during 1974. However, the unit value of both cements increased. Cement plants were located in Carroll, Frederick, and Washington Counties.

**Clay.**—Production of clays except ball clay decreased 1.4% in tonnage. There were 9 companies operating 11 pits in 7 counties during the year. Approximately 86% of the clay production went into the manufacture of fire brick and concrete block. The remaining 14% of the clay went into the manufacture of ceramic tile, common brick, and pottery.

Frederick County produced over half of the clay of the entire State. Other major clay-producing counties were as follows, in the order of output: Prince Georges, Washington, Carroll, Baltimore, and Kent.

**Gem Stones.**—Production of semiprecious stones was limited to small quantities collected by dealers and amateur collectors. The total value of such stones was estimated at \$8,000 in 1974.

**Gypsum.**—United States Gypsum Co. and National Gypsum Co. calcined gypsum in Baltimore County. Output increased 13% but was 3% below the 1973 record.

**Lime.**—S. W. Barrick & Sons, Inc., pro-

duced 23,000 tons of lime in Frederick County for use in agriculture. The lime was used in Maryland, Virginia, Delaware, and Pennsylvania. Consumption of lime in Maryland was 481,600 tons.

**Peat.**—Production of peat in Maryland increased in 1974 to 3,000 short tons valued at \$45,000. The peat obtained was humus and reed sedge and was sold in both bulk and packaged form for soil improvement.

**Perlite.**—Relatively small amounts of perlite were expanded during 1974 at a plant located in Baltimore County. The average mill value of the perlite was \$65.32 per short ton.

**Sand and Gravel.**—Production of sand and gravel decreased 1.2 million tons to 11.7 million tons, reflecting the decrease in construction activity. Commercial sand and gravel production accounted for 76% of total output. The average unit value of the commercial product was \$2.47 per ton, 15 cents higher than in 1973. The major part of commercial sand and gravel went into building and highway construction; the remainder was used for fill and miscellaneous purposes.

The five top-ranking counties, in the order of production of sand and gravel, were Prince Georges, Cecil, Baltimore, Anne Arundel, and Charles.

Table 4.—Maryland: Construction and industrial sand and gravel sold or used by producers  
(Thousand short tons and thousand dollars)

Use	1973		1974	
	Quantity	Value	Quantity	Value <sup>1</sup>
Construction:				
Processed:				
Sand -----	12,845	29,625	6,624	16,004
Gravel -----			4,455	12,209
Unprocessed: Sand and gravel -----			611	914
Industrial:				
Sand -----	W	W	--	--
Gravel -----			--	--
Total -----	12,845	29,625	11,690	29,127

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

<sup>1</sup> Value data may not be directly comparable to that in tables 1 and 5 because unit value of construction aggregate may be higher than the individual unit values for sand or gravel.

Table 5.—Maryland: Construction aggregate and industrial sand and gravel sold or used commercially by producers  
(Thousand short tons and thousand dollars)

Use	1973		1974	
	Quantity	Value	Quantity	Value <sup>1</sup>
Construction aggregates:				
Nonresidential and residential construction -----	10,507	24,525	5,001	13,335
Other way and bridge construction -----			228	637
Other uses such as dams, waterworks, airports, etc. -----			163	405
Concrete products (cement blocks, bricks, pipe, etc.) -----			1,862	4,650
Bituminous paving (asphalt and tar paving) -----			642	1,312
Roadbase and subbase -----			806	486
Unprocessed aggregate -----			581	960
Fill -----	1,105	2,113	129	196
Other uses <sup>2</sup> -----	1,132	2,914	W	W
Industrial sand and gravel -----	W	W	--	--
Total -----	12,744	29,552	8,912	21,981

W Withheld to avoid disclosing individual company confidential data; included with "Other uses" (1973); included with "Unprocessed" (1974).

<sup>1</sup> Unit value of construction aggregate may be higher than unit value of sand or gravel.

<sup>2</sup> Includes miscellaneous (1973).

**Stone.**—Stone production, which included both crushed and dimension stone, decreased 3% in tonnage in 1974. The unit value of stone increased \$12.00, but the increase was not enough to allow stone to continue to be the leading mineral commodity in the State. In value, Baltimore County was by far the leading area for stone production, followed in order by Frederick, Montgomery, Cecil, and Washington Counties. About 95% of this stone was transported by truck to its point of usage. Over 70% of all stone produced in Maryland went to aggregates of all kinds; 14% went to cement manufacture; nearly 10% went to roadbase stone, and the remaining 6% was utilized in miscellaneous applications such as lime manufacture and riprap stone.

Dimension stone made up less than 1%

of the total stone tonnage and value. The average unit value of dimension stone was more than 11 times that of crushed stone. Of the total stone production, 74% was limestone, and the remaining 26% was divided among traprock, granite, sandstone, oystershell, quartzite, and marble.

Crushed and broken stone was produced in 11 counties. Dimension stone was produced in four counties. Nineteen of the 38 quarries produced both crushed and dimension stone.

**Talc.**—Talc was mined by one relatively small producer in Harford County, and the material was used to make electrical insulators and roofing materials.

**Vermiculite (Exfoliated).**—W. R. Grace & Co., Prince Georges County, processed vermiculite for use primarily in horticulture, loosefill insulation, and concrete aggregate.

### MINERAL FUELS

**Coal (Bituminous).**—Production of bituminous coal in 1974 increased to 2,337,000 tons, about 31% greater than that of 1973. The unit value of the coal also increased about 2.6 times to bring the total value of Maryland's coal to \$48.6 million. Of the 62 mines in the State, 28 were in Allegany County and 34 were in Garrett County. One of these mines was underground, 6 were auger-type mines, and 55 were open pit mines.

Bituminous coal was mined from five basins in the extreme western portion of Maryland. About 51% of the production came from the George's Creek Basin, 32% from the Potomac Basin, and 17% from the Casselman, and the lower and upper Youghiogheny Basins.

Production-wise, the strip mines of the State produced 93% of the coal; underground mines produced 4%; and the remaining 3% came from auger mines.

A State law passed in 1969 continued to be effective in regulating mining and in promoting the reclamation of strip-mined land. In 1974, 81% of the mined land was backfilled and 73% was replanted.

A report was issued by the Federal Bureau of Mines that defines the coal reserve base for coalbeds having a depth range compatible with economic recovery.<sup>3</sup> The coal reserve base in those States east of the Mississippi River, minable by underground methods, was estimated for coalbeds greater than 28 inches in thickness to a maximum depth of 1,000 feet, and through the application of computer techniques, the tonnages were compiled and reported by State, county, coalbed, and rank.

**Coke and Coal Chemicals.**—Bethlehem Steel Corp. produced coke for its internal use at Sparrows Point. Byproducts recovered from the distillation of coal included oven coke gas, ammonia, crude light oil, benzene, toluene, xylene, oven coke tar, and other minor components in addition to the primary product, coke.

**Natural Gas and Petroleum.**—There was a 55% decrease in the volume of natural gas produced.

There were two small petroleum refineries near Baltimore that convert crude oil into asphalt products. Most of the petroleum products sold in the State were refined on the gulf coasts of Texas and Louisiana.

A profile of the Maryland Petroleum in-

dustry was prepared by the Maryland Energy Policy Office.<sup>4</sup> The report points out how fuel oils and gasoline enter the State, how and where petroleum products are consumed, and changes that have occurred in the consumption pattern of fuel oils and gasoline.

The Baltimore Canyon, a deep elliptical trough located off the coasts of New York, New Jersey, Delaware, Maryland, Virginia, and North Carolina, was targeted for oil exploration. A proposed leasing schedule released by the Secretary of the Interior showed the Baltimore Canyon trough to be the first area on the Atlantic Outer Continental Shelf to be considered for leasing. The leasing procedure was to begin with the call for nominations in November and end with a sale proposed for December 1975. But the first phase of this process, in which oil companies were asked where they would like to drill, was stopped until the Supreme Court decides the case in which the Atlantic States are claiming ownership of offshore oil rights.

### METALS

**Aluminum.**—No bauxite or other aluminum ore was mined in Maryland, but there was a significant production of metallic aluminum at two facilities in the State, Eastalco Aluminum Co. (Howmet Corp.) in Frederick County, and Tomke Aluminum Co. in Baltimore County. At the Eastalco plant, projects to control fluoride fumes from the potline in operation were substantially completed in 1974, and construction of a second 87,000-ton-per-year potline, started early in 1974, was scheduled for completion in 1975.

**Copper.**—Two copper refineries produced metal in Maryland using raw materials obtained from outside the State, American Smelting and Refining Co. (ASARCO) in Baltimore, and Kennecott Refining Corp. at Hawkins Point, Anne Arundel County. The ASARCO plant operated at a somewhat lower level in 1974 and was to be completely phased out in 1975 as ASARCO's new 420,000-ton-per-year Amarillo plant comes onstream.

**Iron and Steel.**—There was no mining of iron ore in Maryland in 1974, but the

<sup>3</sup> U.S. Bureau of Mines. The Reserve Base of Bituminous Coal and Anthracite for Underground Mining in the Eastern United States. BuMines IC 8655, 1974, 428 pp.

<sup>4</sup> Maryland Energy Policy Office. Profile of the Maryland Petroleum Industry. Maryland Energy Policy Officer, Baltimore, Md., 1974, 72 pp.

Bethlehem Steel Corp. of Sparrows Point produced pig iron, raw steel, and semifabricated steel products from imported ore.

Construction of a 500-ton-per-day coke pellet pilot plant for producing coke pellets was substantially completed at the Sparrows Point plant. The pellets are produced by a new enclosed coking process that reduces air and water pollution. Several full-scale blast

furnace tests were conducted with the new coke pellets during the year. If tests results with the new coke pellets continue to be successful, a full-scale plant could be placed in operation by 1980.

**Lead.**—Lead, lead alloys, and other alloys and products were produced at three plants using primary metals and scrap as raw materials.

Table 6.—Principal producers

Commodity and company	Address	Type of activity	County
<b>Cement:</b>			
<b>Portland:</b>			
Alpha Portland Cement Co. <sup>1</sup>	15 South 3d St. Easton, Pa. 18042	Plant -----	Frederick.
Lehigh Portland Cement Co. <sup>2</sup>	718 Hamilton St. Allentown, Pa. 18101	---- do -----	Carroll.
Portland and masonry: Marquette Cement Manufacturing Co. <sup>1</sup>	First American Center Nashville, Tenn. 37238	---- do -----	Washington.
Masonry: M.J. Grove Lime Co. <sup>1</sup>	Frederick, Md. 21701	---- do -----	Frederick.
<b>Clays:</b>			
Baltimore Brick Co -----	501 St. Paul Pl. Baltimore, Md. 21202	Pits -----	Baltimore and Frederick.
Cyprus Industrial Materials Co.	555 South Flower St. Los Angeles, Calif. 90071	Pit -----	Baltimore.
Victor Cushwa & Sons, Inc ---	201 West Potomac St. Williamsport, Md. 21795	Pit -----	Washington.
<b>Coal:</b>			
Buffalo Coal Co -----	P.O. Box 275 Bayard, W. Va. 26707	5 Strip -----	Garrett.
Grafton Coal Co -----	P.O. Box 188 Mt. Lake Park, Md. 21550	3 Strip -----	Do.
Moran Coal Co., Inc -----	Drawer E Westernport, Md. 21562	Strip -----	Do.
Winner Brothers Coal Co., Inc.	Box 300 Frostburg, Md. 21532	5 Strip -----	Allegany.
<b>Gypsum (calcined):</b>			
National Gypsum Co -----	325 Delaware Ave. Buffalo, N.Y. 14202	Plant -----	Baltimore.
United States Gypsum Co ---	101 South Walker Dr. Chicago, Ill. 60606	---- do -----	Do.
<b>Finished iron oxide pigments (natural and manufactured):</b>			
Minerals Pigments Corp --	7011 Muirkirk Rd. Beltsville, Md. 20705	---- do -----	Prince Georges.
Lime: S. W. Barrick & Sons, Inc.	Woodsboro, Md. 21798	---- do -----	Frederick.
Peat: Garrett County Processing & Packaging Corp.	R.F.D. #1 Accident, Md. 21520	Bog -----	Garrett.
<b>Petroleum refineries:</b>			
Amoco Oil Co -----	910 South Michigan Ave. Chicago, Ill. 60680	Refinery -----	Baltimore.
Chevron Asphalt Co -----	Baltimore, Md. 21200	---- do -----	Do.
<b>Sand and gravel:</b>			
Campbell Sand and Gravel, Inc.	4911 Calvert Rd. College Park, Md. 20740	Pit -----	Prince Georges.
Charles County Sand and Gravel Co., Inc.	P.O. Box 322 Waldorf, Md. 20601	Pit -----	Charles.
Contee Sand & Gravel Co., Inc.	P.O. Box 460 Laurel, Md. 20810	Pit -----	Prince Georges.
Lone Star Industries, Inc -----	P.O. Box 277 Upper Marlboro, Md. 20870	Pit -----	Do.
Silver Hill Sand and Gravel Co.	4714 St. Barnabas Rd., S.E. Washington, D.C. 20031	Pit -----	Do.
A. H. Smith Co -----	Branchville Rd. Branchville, Md. 20721	Pit -----	Do.
York Building Products Co., Inc.	P.O. Box 1708 York, Pa. 17405	Pit -----	Cecil.

See footnotes at end of table.

Table 6.—Principal producers—Continued

Commodity and company	Address	Type of activity	County
Stone:			
Arundel Corp -----	501 St. Paul Pl. Baltimore, Md. 21202	Quarries -----	Baltimore, Har- ford, Howard.
Martin-Marietta Aggregates --	66 Long Clove Rd. Congers, N.Y. 10920	Quarry -----	Washington.
Maryland Materials, Inc -----	P.O. Box W North East, Md. 21901	---- do -----	Cecil.
Rockville Crushed Stone, Inc --	P.O. Box 407 Rockville, Md. 20850	---- do -----	Montgomery.
D. M. Stoltzfus & Sons, Inc ---	Talmage, Pa. 17580 -----	Quarries -----	Cecil and Harford.
Talc and Soapstone: Harford Talc Co.	P.O. Box 527 Bel Air, Md. 21014	Quarry -----	Harford.

<sup>1</sup> Also stone.<sup>2</sup> Also clay and stone.













