

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

THE MINERAL INDUSTRY
of
MARYLAND
in
1969
by
CURTIS D. EDGERTON



Information Circular 10

Prepared in Cooperation with U.S. Bureau of Mines

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 except fuels.

By Curtis D. Edgerton ¹

Maryland's mineral production reached an alltime high of \$83.5 million. Nearly \$8.0 million of the \$11.6 million gain over the 1968 value was due to increased production of stone and sand and gravel. Stone remained the leading revenue producer among mineral commodities and accounted for 37 percent of the total value of all minerals produced. Sand and gravel represented one-fourth of the total value of minerals. The increased demand for construction materials was attributed largely to building activity in Prince Georges County (now the State's most populous) and Baltimore County, and to the construction of Interstate Highway 95 between Washington and Baltimore. Large tonnages of construction materials were also used at

the new City of Columbia (Howard County) and at Baltimore Gas and Electric Co.'s Calvert Cliffs nuclear plant (Calvert County). Baltimore, Carroll, Frederick, Prince Georges, and Washington Counties maintained their positions as leading mineral-producing counties in the State.

The Maryland Geological Survey continued its program of geologic mapping and environmental studies in Baltimore and Frederick Counties. Topographic maps of Charles, Prince Georges, and Kent Counties were revised. The Survey cooperated with the U.S. Geological Survey in the geologic mapping of Cecil County and aeromagnetic mapping of Frederick County.

¹ Geologist, Bureau of Mines, Pittsburgh, Pa.

Table 1.—Mineral production in Maryland ¹

Mineral	1968		1969	
	Quantity	Value (thousands)	Quantity	Value (thousands)
Clays ²thousand short tons.....	1,078	\$1,252	1,152	\$1,369
Coal (bituminous)do.....	1,447	5,318	1,368	5,261
Gem stonesdo.....	NA	3	NA	3
Natural gasmillion cubic feet.....	864	221	978	248
Peatshort tons.....	5,554	94	4,481	78
Sand and gravelthousand short tons.....	11,719	17,157	14,230	21,226
Stonedo.....	13,344	26,606	15,067	30,504
Value of items that cannot be disclosed: Ball and fire clay, cement (portland and masonry), diatomite (1969), greensand marl, lime, potassium salts, and talc and soapstone.....	XX	21,193	XX	24,794
Total	XX	71,844	XX	83,483
Total 1967 constant dollars	XX	71,182	XX	80,967

^p Preliminary. NA Not available. XX Not applicable.

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

² Excludes ball and fire clay; included with "Value of items that cannot be disclosed."

Table 2.—Value of mineral production in Maryland, by counties ¹

(Thousands)

County	1968	1969	Minerals produced in 1969 in order of value
Allegany -----	\$2,727	\$2,520	Coal, sand and gravel, stone.
Anne Arundel ---	2,675	2,595	Sand and gravel.
Baltimore -----	12,880	W	Stone, sand and gravel, clays.
Calvert -----	W	W	Greensand marl, sand and gravel, diatomite.
Caroline -----	W	W	Sand and gravel.
Carroll -----	W	W	Cement, stone, clays.
Cecil -----	3,401	6,333	Stone, sand and gravel.
Charles -----	W	W	Sand and gravel.
Dorchester -----	73	91	Do.
Frederick -----	8,256	9,867	Cement, stone, clays, lime, sand and gravel.
Garrett -----	4,538	4,589	Coal, stone, natural gas, sand and gravel, peat.
Harford -----	1,479	1,489	Stone, sand and gravel, clays, talc.
Howard -----	W	W	Stone.
Kent -----	W	63	Peat, clays.
Montgomery -----	W	W	Stone.
Prince Georges --	6,720	8,477	Sand and gravel, clays.
St. Marys -----	W	W	Sand and gravel.
Somerset -----	-----	W	Do.
Talbot -----	W	31	Do.
Washington -----	W	W	Cement, stone, clays, potassium salts.
Wicomico -----	W	W	Sand and gravel.
Worcester -----	W	6	Do.
Undistributed ² --	29,097	47,422	
Total -----	³ 71,844	83,483	

W Withheld to avoid disclosing individual company confidential data.

¹ Queen Annes County is not listed because no production was reported.² Includes some sand and gravel that cannot be assigned to specific counties, gem stones, and values indicated by symbol W.³ Data do not add to total shown because of independent rounding.

Table 3.—Indicators of Maryland business activity

	1968	1969 ^D	Change, percent
Employment and labor force, annual average: ¹			
Total labor force -----thousands-----	r 1,416.0	1,467.3	+ 3.6
Unemployment -----percent of labor force-----	3.2	3.0	- 6.2
Employment:			
Manufacturing -----thousands-----	r 280.6	281.3	+ .2
Durable goods -----do-----	r 154.0	154.5	+ .3
Nondurable goods -----do-----	126.6	126.8	+ .2
Nonmanufacturing -----do-----	r 946.4	996.1	+ 5.3
Mining -----do-----	1.8	1.8	.0
Contract construction -----do-----	r 80.3	84.7	+ 5.5
Payroll—average weekly earnings: ¹			
Manufacturing -----	\$122.61	\$131.38	+ 7.2
Durable goods -----	\$135.96	\$146.14	+ 7.5
Nondurable goods -----	\$105.87	\$112.92	+ 6.7
Personal income: ²			
Total -----millions-----	r \$14,048	\$15,416	+ 9.7
Per capita -----	\$3,780	\$4,095	+ 8.3
Construction activity:			
Portland cement shipments to and within Maryland -----thousand 376-pound barrels-----	r 6,438	7,230	+12.3
Mineral production -----thousands-----	\$71,844	\$83,483	+16.2

^D Preliminary. r Revised.¹ Department of Employment Security, Maryland.² Survey of Current Business.

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	Non-fatal	Frequency	Severity
1968:								
Coal and peat -----	336	212	71	571	-----	6	10.50	954
Nonmetal -----	153	256	39	313	-----	16	51.04	1,215
Sand and gravel -----	680	264	179	1,570	-----	37	23.56	331
Stone -----	1,076	277	298	2,461	-----	59	23.97	481
Total ¹ -----	2,245	262	588	4,916	-----	118	24.00	535
1969: ^p								
Coal and peat -----	345	216	75	600	-----	6	10.00	910
Nonmetal -----	185	249	47	372	-----	17	45.67	768
Sand and gravel -----	775	253	196	1,750	-----	30	17.14	679
Stone -----	1,280	279	358	2,976	1	52	17.81	3,046
Total ¹ -----	2,590	260	675	5,698	1	105	18.60	1,945

^p Preliminary.¹ Data may not add to totals shown because of independent rounding.

REVIEW BY MINERAL COMMODITIES

NONMETALS

Cement.—Production and shipments of portland cement increased significantly during 1969, but declines marked production and shipments of masonry cement. The unit value of both portland and masonry cements declined. Cement plants were located in Carroll, Frederick, and Washington Counties.

Clays.—Clays were mined in seven counties. Production and value increased over those of 1968. Clays classed as miscellaneous and used in the manufacture of structural clay products, aggregate, and cement accounted for virtually all of the State's total output. United Sierra Division of Cyprus Mines Corp. mined ball clay in Baltimore County. Fire clay was mined in Harford County by Maryland Clay (William D. Bowman).

Diatomite.—Kaylorite Corp. produced some diatomite, supplemented with additional stockpile material, for sale for experimental purposes. The operation is located at Dunkirk, Calvert County.

Gem Stones.—A small quantity of gem stones, worth a few thousand dollars was collected by dealers and amateur collectors.

Lime.—Lime was produced by S. W. Barrick & Sons, Inc., LeGore Lime Co., and

Everett V. Moser, all operating in Frederick County. Nearly all of the production was quicklime, which was marketed for agricultural purposes. A small amount of hydrated lime was also produced and sold, mainly for agricultural purposes.

Marl, Greensand.—Kaylorite Corp. mined greensand marl in Calvert County. The product was sold for agricultural use.

Perlite.—National Gypsum Co. (Baltimore County), Atlantic Perlite Co. (Prince Georges County), and Zonolite Division of W. R. Grace & Co. (Prince Georges County) reported production of expanded perlite. The product was sold for use in plaster and concrete aggregate, for insulation, as a filtering aid, and for horticultural purposes.

Potassium Salts.—Byproduct potassium salts, sold for agricultural purposes, were produced at Marquette Cement Manufacturing Co.'s plant in Washington County.

Sand and Gravel.—Production of sand and gravel increased 2.5 million tons to 14.2 million tons, reflecting the increase in the State's construction activity. Commercial sand and gravel production accounted for 98 percent of total output. The average unit value of the commercial product was \$1.51 per ton, \$0.02 more than in 1968. Eighty-five percent of commercial sand and gravel went into building and

highway construction; the remainder was used for fill and miscellaneous purposes. Commercial producers, using 49 stationary plants, 11 portable plants, and one dredge, carried on operations at 66 sites. Five Government-and-contractor operations utilized one stationary plant to produce noncommercial sand and gravel; the remainder of this production was bank run. Counties leading in value of sand and gravel production (not in order of rank) were Anne Arundel, Baltimore, Cecil, Charles, and Prince Georges.

Stone.—Total value of stone produced in Maryland increased \$3.9 million to \$30.5 million. Crushed and broken stone was produced at 38 quarries; 10 quarries yielded dimension stone. Production of stone was confined to the eight counties in the northern tier and Montgomery, Howard, and Baltimore City Counties. Four counties accounted for about two-thirds of the State's output of stone. Sixty-five percent of this was limestone, 30 percent was traprock, and the remaining 5 percent was granite, oystershell, sandstone, marble, and miscellaneous stone. Of the total crushed

and broken stone produced, 82 percent was used in various aggregates, 13 percent went into the manufacture of cement, and 5 percent was used for other purposes.

Talc and Soapstone.—Harford Talc Co. produced talc in Harford County. The product was used in ceramics, foundry facings, and toilet preparations.

Vermiculite (Exfoliated).—Zonolite Division of W.R. Grace & Co. processed vermiculite at a plant in Prince Georges County and sold the product for aggregates, loose-fill insulation, agricultural, and other purposes.

MINERAL FUELS

Coal (Bituminous).—Bituminous coal was mined in Allegany and Garrett Counties, where 20 underground mines, 31 strip mines, and seven auger mines produced 1,368,000 tons—79,000 tons less than in 1968. Strip mines produced 70 percent, underground mines produced 24 percent, and auger mines accounted for the remainder. The average value for coal mined from underground mines and from strip mines was \$3.77 and \$4 per ton, respectively.

Table 5.—Sand and gravel sold or used by producers, by classes of operations and uses

(Thousand short tons and thousand dollars)

Class of operation and use	1968		1969	
	Quantity	Value	Quantity	Value
Commercial operations:				
Sand:				
Structural -----	4,459	\$6,443	5,705	\$8,014
Paving -----	1,273	1,967	1,403	2,285
Other ¹ -----	402	838	410	834
Total -----	6,134	9,248	7,518	11,133
Gravel:				
Structural -----	2,587	4,522	3,588	6,170
Paving -----	1,302	1,996	1,240	2,295
Other ² -----	1,332	1,193	1,640	1,542
Total -----	5,221	7,711	6,468	³ 10,008
Total sand and gravel -----	11,355	16,959	13,986	21,141
Government-and-contractor operations:				
Sand -----	182	105	91	32
Gravel -----	182	93	153	54
Total sand and gravel -----	364	198	244	86
All operations:				
Sand -----	6,316	9,353	7,609	11,165
Gravel -----	5,403	7,804	6,621	³ 10,061
Total -----	11,719	17,157	14,230	21,226

¹ Includes sand for glass, grinding and polishing, blast (1969), foundry (1969), fill, and other uses.

² Includes miscellaneous gravel, fill, and other uses (1969).

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

Coke and Coal Chemicals.—Bethlehem Steel Corp. produced coke and coal chemicals at Sparrows Point. Coproducts and by-products included coke breeze, coke oven gas, ammonium sulfate, soft tar pitch, crude tar, crude chemical oil, crude light oil and derivatives, and naphthalene.

Natural Gas and Petroleum.—Natural gas was produced in Garrett County, where 13 wells in the Mountain Lake Park and Negro Mountain fields produced 978 million cubic feet with a marketed value of \$196,000. No crude petroleum was produced in the State, but American Oil Co. and Chevron Asphalt Co. operated refineries near Baltimore. Daily throughput capacities were 12,000 and 7,400 barrels, respectively.

Peat.—Garrett County Processing & Packaging Corp. harvested reed-sedge peat and humus peat from a bog in Garrett

County; Maryland Peat and Humus Co. harvested peat from a bog in Kent County. The processed material from the bogs was sold in bulk or packaged for general soil improvement.

METALS

Copper.—American Smelting & Refining Co., Inc., and Kennecott Copper Corp. refined copper at plants in Baltimore from anodes shipped in from out of State. Gold and silver were produced as byproducts.

Iron and Steel.—Basic and off-grade pig iron, steel ingot, and semifabricated products were produced by Bethlehem Steel Corp. at its Sparrows Point (Baltimore County) plant.

Lead.—Baltimore Lead Burning Corp. produced lead and other alloys and products from lead remelt, primary metals, and scrap.

Table 6.—Principal producers

Commodity and company	Address	Type of activity	County
Cement:			
Portland:			
Alpha Portland Cement Co. ¹	15 South Third St. Easton, Pa. 18042	Plant -----	Frederick.
Lehigh Portland Cement Co. ²	718 Hamilton St. Allentown, Pa. 18101	--do-----	Carroll.
Marquette Cement Mfg. Co. ³	20 North Wacker Dr. Chicago, Ill. 60606	--do-----	Washington.
Masonry:			
M. J. Grove Lime Co., Division of the Flintkote Co.	Lime Kiln, Md. 21763	--do-----	Frederick.
Clays:			
Ball:			
United Sierra Division, Cyprus Mines Corp.	P.O. Box 1201 Trenton, N.J. 08606	Pit -----	Baltimore.
Fire:			
Maryland Clay and/or William D. Bowman.	R.F.D. 2, Box 303 Aberdeen, Md. 21001	Pit -----	Harford.
Miscellaneous clay and shale:			
Baltimore Brick Co -----	501 St. Paul Place Baltimore, Md. 21202	Pit -----	Baltimore.
Do -----	do -----	Pit -----	Frederick.
Chestertown Brick Co -----	Chestertown, Md. 21620	Pit -----	Kent.
Victor Cushwa & Sons, Inc	201 West Potomac St. Williamsport, Md. 21795	Pit -----	Washington.
Lehigh Portland Cement Co. ⁴	718 Hamilton St. Allentown, Pa. 18101	Pit -----	Frederick.
Structural Components Corp.	7600 Pulaski Highway Baltimore, Md. 21237	Pit -----	Baltimore.
United Brick Corp -----	2801 New York Ave., NE. Washington, D.C. 20002	Pit -----	Prince Georges.
The Washington Brick Division, Thos. Somerville Co.	6th & Decatur, NE. Washington, D.C. 20002	Pit -----	Do.
West Brothers Brick Co ----	6600 Sheriff Road, NE. Washington, D.C. 20027	Pit -----	Do.
Coal:			
Buffalo Coal Co -----	P.O. Box 275 Bayard, W. Va. 26707	Strip -----	Alleghany.
Do -----	do -----	5 strip mines	Garrett.
Do -----	do -----	Underground	Do.
Franklin & Polce Coal Co -----	Route 1 Masontown, W. Va. 26542	--do-----	Do.
G & S Coal Co. for W. R. Nethken & Co., Inc.	Keyser, W. Va. 26726	Strip -----	Do.

Table 6.—Principal producers—Continued

Commodity and company	Address	Type of activity	County
COAL—Continued			
Ginniman & Ware Coal Co -----	P.O. Box 182 Barton, Md. 21521	Strip -----	Allegheny.
Do.-----do.....do.....	Garrett.
Moran Coal Co., Inc -----	Drawer E Westernport, Md. 21562	3 strip mines ---	Do.
Smeltzer Augering Coal Co -----	Bloomington, Md. 21523	4 auger mines ---	Do.
W. & W. Coal Co -----	P.O. Box 221 Westernport, Md. 21562	Underground ---	Allegheny.
Winner Brothers Coal Co -----	243 Upper Consol Road Frostburg, Md. 21532	Strip -----	Do.
Greensand marl:			
Kaylorite Corp. ⁵ -----	Dunkirk, Md. 20754	Pit -----	Calvert.
Gypsum (calcined):			
National Gypsum Co. ⁶ -----	325 Delaware Ave. Buffalo, N.Y. 14202	Plant -----	Baltimore.
United States Gypsum Co -----	101 South Wacker Dr. Chicago, Ill. 60606	..do-----	Do.
Finished iron oxide pigments (natural and manufactured):			
Mineral Pigments Corp -----	Washington Blvd. Muirkirk, Md. 20705	Plant -----	Prince Georges.
Lime:			
S. W. Barrick & Sons, Inc -----	Woodsboro, Md. 21798	..do-----	Frederick.
LeGore Lime Co -----	Le Gore, Md. 21761	..do-----	Do.
Everett V. Moser -----	R.F.D. 1 Middletown, Md. 21769	..do-----	Do.
Peat:			
Garrett County Processing & Packaging Corp. -----	R.F.D. 1 Accident, Md. 21520	Bog -----	Garrett.
Maryland Peat & Humus Co ---	90 Cricket Ave. Ardmore, Pa. 19003	Bog -----	Kent.
Perlite (expanded):			
Atlantic Perlite Co -----	7950 New Hampshire Ave. Suite 6 Langley Park, Md. 20787	Plant -----	Prince Georges.
Petroleum refineries:			
American Oil Co -----	Baltimore, Md. 21200	Refinery -----	Baltimore.
Chevron Asphalt Co -----do.....	..do-----	Do.
Sand and gravel:			
Annapolis Sand & Gravel Co., Inc	P.O. Box 322 Waldorf, Md. 20601	Pit -----	Anne Arundel.
Arundel Corp -----	501 St. Paul Place Baltimore, Md. 21202	Pit -----	Do.
Buffalo Sand & Gravel Co., Inc -	Auth Road, Camp Springs Washington, D.C. 20023	Pit -----	Charles.
Do.-----do.....	2 pits -----	Prince Georges.
Campbell Sand Co., Inc -----	4911 Calvert Rd. College Park, Md. 20740	Pit -----	Do.
Harry T. Campbell Sons' Corp --	Towson Baltimore, Md. 21204	2 pits -----	Baltimore.
Charles County Sand & Gravel Co., Inc. -----	P.O. Box 322 Waldorf, Md. 20601	Pit -----	Charles.
Contee Sand & Gravel Co., Inc --	Laurel, Md. 20810	Pit -----	Prince Georges.
Inland Materials, Inc -----	5401 Kirby Road Clinton, Md. 20735	Pit -----	Do.
Manley Sand Division, Martin Marietta Corp. -----	P.O. Box 1341 Cumberland, Md. 21502	Pit -----	Allegheny.
Nottingham Properties, Inc -----	Register Ave. & Overbrook Rd. Baltimore, Md. 21212	Pit -----	Baltimore.
Potomac Sand & Gravel Co -----	3020 K St., NW. Washington, D.C. 20007	Dredge and 3 pits	Charles.
Silver Hill Sand & Gravel Co ---	4600 St. Barnabas Rd., SE. Washington, D.C. 20031	Pit -----	Prince Georges.
A. H. Smith Co -----	Branchville, Md. 20721	Pit -----	Do.
Stancill's, Inc -----	P.O. Box 236 Aberdeen, Md. 21001	Pit -----	Harford.
York Building Products Co., Inc -	P.O. Box 1708 York, Pa. 17405	3 pits -----	Cecil.
Smelters:			
American Smelting & Refining Co	120 Broadway New York, N.Y. 10005	Plant -----	Baltimore.
Kennecott Refining Corp -----	161 East 42d St. New York, N.Y. 10017	Refinery -----	Anne Arundel.

Table 6.—Principal producers—Continued

Commodity and company	Address	Type of activity	County
Stone:			
Granite, crushed:			
Maryland Materials, Inc ----	P.O. Box 159 Elkton, Md. 21921	Quarry -----	Cecil.
Limestone, crushed and broken:			
Appalachian Stone Division, Martin Marietta Corp.	Box 120 Mercersburg, Pa. 17236	4 quarries -----	Washington.
The Arundel Corp -----	501 St. Paul Place Baltimore, Md. 21202	Quarry -----	Baltimore.
Harry T. Campbell Sons' Corp., Div. of the Flintkote Co.	Towson Baltimore, Md. 21204	Underground mine and 2 quarries.	Do.
Cumberland Cement & Supply Co.	Rear 419 North Centre St. Cumberland, Md. 21501	Quarry -----	Allegheny.
M. J. Grove Lime Co., Division of the Flintkote Co.	Lime Kiln, Md. 21763 ---	..do-----	Frederick.
Howard-Montgomery Crushed Stone Co., Div. Contee Sand & Gravel Co., Inc.	Brighton Dam Rd. Clarksville, Md. 21029	..do-----	Howard.
LeGore Lime Co -----	Le Gore, Md. 21761 ----	..do-----	Frederick.
Superior Concrete, Inc -----	Frederick, Md. 21701 ---	..do-----	Do.
Teeter Stone, Division Harry T. Campbell Sons' Corp.	Towson Baltimore, Md. 21204	..do-----	Carroll.
Marble, crushed:			
The Maryland Green Marble Corp.	Box 1198 Roanoke, Va. 24006	..do-----	Harford.
Miscellaneous (crushed and broken):			
The Arundel Corp -----	501 St. Paul Place Baltimore, Md. 21202	..do-----	Baltimore.
Miscellaneous (dimension):			
Stoneyhurst Quarries ⁷ -----	7501 Persimmon Tree Lane Bethesda, Md. 20034	3 quarries -----	Montgomery.
Oystershell, crushed:			
Oyster Shell Products, a division of Radcliff Materials, Inc.	607 Keyser Bldg. Baltimore, Md. 21202	Plant -----	Baltimore
Quartzite (crushed):			
Harbison Walker Refractories Co., Div. of Dresser Industries.	2 Gateway Center Pittsburgh, Pa. 15222	Quarry -----	Cecil.
Quartzite (dimension):			
Piccirilli Quarries -----	Marriottsville Rd. & Driver Rd. Marriottsville, Md. 21104	..do-----	Howard.
The Weaver Stone Co -----	Box 96 Reisterstown, Md. 21136	..do-----	Baltimore.
Sandstone (dimension):			
M & S Stone Quarries -----	Grantsville, Md. 21536 --	..do-----	Garrett.
Trap rock (basalt), crushed and broken:			
The Arundel Corporation ---	501 St. Paul Place Baltimore, Md. 21202	..do-----	Baltimore.
Do-----	-----do-----	..do-----	Harford.
Do-----	-----do-----	..do-----	Howard.
Gatch Crushed Stone Co., Inc	P.O. Box 70-A Bel Air, Md. 21014	..do-----	Harford.
Rockville Crushed Stone, Inc.	P.O. Box 407 Rockville, Md. 20850	..do-----	Montgomery.
D. M. Stoltzfus & Son, Inc -	Talmage, Pa. 17580 ----	..do-----	Cecil.
Do-----	-----do-----	..do-----	Harford.
Talc:			
Harford Talc Co -----	Box 527 Bel Air, Md. 21014	Pit -----	Do.
Vermiculite (exfoliated):			
W. R. Grace & Co. Zonolite Division ⁶	62 Whittemore Ave. Cambridge, Mass. 02140	Plant -----	Prince Georges.

¹ Also masonry cement, sand, and limestone.² Also limestone, sandstone, and shale.³ Also masonry cement, limestone, and potassium salts.⁴ Lightweight aggregate manufacture.⁵ Also diatomite.⁶ Also expanded perlite.⁷ Also crushed and broken.

