State of Maryland
Department of Natural Resources
MARYLAND GEOLOGICAL SURVEY
Kenneth N. Weaver, Director

# THE MINERAL INDUSTRY OF MARYLAND IN 1985

by

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# The Mineral Industry of Maryland


UNITED STATES DEPARTMENT OF THE INTERIOR


**UNITED STATES DEPARTMENT OF THE INTERIOR • Donald Paul Hodel, Secretary**

**BUREAU OF MINES • Robert C. Horton, Director**

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# The Mineral Industry of Maryland

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

By William A. Bonin[1]

Maryland's 1985 nonfuel mineral production was valued at $258.3 million. This $16.6 million increase over 1984 values was almost 30% over that of 1983, the former record-high year. The leading commodities in terms of value were stone, cement, and sand and gravel.

Water-granulated iron slag was processed for slag cement; expanded iron slag was crushed for lightweight concrete aggregate; and air-cooled iron slag and steel slag were used as substitutes for natural construction aggregate and as road base and fill material. Imported crude gypsum was calcined for manufacturing wallboard, and vermiculite shipments were exfoliated for insulation fills. Alumina and iron ore concentrate were shipped into the State for the production of metals. Titanium dioxide pigments were also manufactured.

**Table 1.—Nonfuel mineral production in Maryland[1]**

| Mineral | | 1984 Quantity | 1984 Value (thousands) | 1985 Quantity | 1985 Value (thousands) |
|---|---|---|---|---|---|
| Clays[2] | thousand short tons | 347 | $1,484 | 336 | $1,647 |
| Gem stones | | NA | 2 | NA | 2 |
| Lime | thousand short tons | 7 | 419 | 10 | 608 |
| Peat | do | 5 | W | W | W |
| Sand and gravel (construction) | do | 14,234 | 46,671 | e17,000 | e58,000 |
| Stone: | | | | | |
| Crushed | do | e22,100 | e94,000 | 24,406 | 98,584 |
| Dimension | do | e17 | e864 | 18 | 1,218 |
| Combined value of cement, clays (ball clay), sand and gravel (industrial), and values indicated by symbol W | | XX | 98,261 | XX | 98,215 |
| Total | | XX | 241,701 | XX | 258,274 |

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

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

[2]Excludes ball clay; value included with "Combined value" figure.

**Table 2.—Nonfuel minerals produced in Maryland in 1984, by county[1]**

| County | Minerals produced in order of value |
|---|---|
| Anne Arundel | Sand and gravel (construction). |
| Baltimore | Sand and gravel (construction), clays. |
| Calvert | Sand and gravel (construction). |
| Caroline | Do. |
| Carroll | Cement, clays. |
| Cecil | Sand and gravel (construction). |
| Charles | Do. |
| Dorchester | Do. |
| Frederick | Cement, clays, sand and gravel (construction), lime. |
| Garrett | Peat, sand and gravel (construction). |
| Harford | Sand and gravel (construction and industrial). |
| Kent | Clays. |
| Prince Georges | Sand and gravel (construction), clays. |
| Queen Annes | Sand and gravel (construction). |
| St. Marys | Do. |
| Somerset | Do. |
| Talbot | Do. |
| Washington | Cement, clays. |
| Wicomico | Sand and gravel (construction). |
| Worcester | Do. |
| Undistributed[2] | Stone (crushed and dimension), gem stones. |

[1]No production of nonfuel mineral commodities was reported for counties not listed.
[2]Data not available by county for minerals listed.

**Legislation and Government Programs.**—Chapter 335 of the Session Laws of 1985 was, particularly to the State's sand and gravel producers, the most important legislation signed by the Governor. The law, entitled "Mineral Resources—Local Comprehensive Plans," required a county or municipal corporation to include in its comprehensive zoning plan, a mineral resources plan element to identify land that should be maintained for mining use, and to recommend and prepare for postmining use of the land. These requirements were also made applicable in chartered home-rule counties. To assist counties and municipalities in implementing this law, the Maryland Geological Survey (MGS) had available "Land for Potential Resource Development" maps to a scale of 1:62,500 for 12 of the State's 23 counties: Allegany and Garrett, excluding coal; Anne Arundel; Baltimore County and City; Carroll; Cecil; Frederick; Harford; Howard; Montgomery; Prince Georges; and Washington. The sand and gravel resources of Calvert, Charles, and St. Marys Counties, mapped in 1985, would be published in 1986. Other than the scheduled mapping of Wicomico County for this purpose, no order of priority for mapping the Eastern Shore had been established at yearend. Also, significant to the State's extractive industries was House bill 1654, the so-called Cecil County Sand and Gravel Tax. Though specific to a single county and one mineral commodity, the implications were far reaching. The bill, which died in committee, would have permitted the governing body of Cecil County to impose a tax not to exceed 5 cents per ton on the mining of sand and gravel in Cecil County, to adapt necessary regulations, and to define certain terms relating to sand and gravel mining.

Two pieces of legislation affecting Maryland's coal industry were House bill 466/Senate bill 220, the Steep Slope Mining Bill, which was vetoed by the Governor, and House bill 1553/Senate bill 760, which was withdrawn in the House and failed to get out of committee in the Senate. The Steep Slope Mining Bill would have repealed a provision of law that prohibits the Maryland Bureau of Mines from issuing an open pit or strip mining permit on slopes of 20° or more, subject to certain conditions. Maryland was the only State among the 26 coal producing States that banned steep slope mining. House bill 1553/Senate bill 760 would have permitted development of a 357-mile-long coal slurry pipeline across the State and would have given to western Maryland coal shippers unrestricted access to the pipeline to boost Maryland's shipments.

Also, in 1985, as part of its Chesapeake Bay initiative, Maryland took over sediment control enforcement for areas in the State that had not demonstrated an acceptable program of their own. In a somewhat related matter, a bill banning the sale and use of phosphate-containing detergent was passed by the Maryland Legislature during the final hour of the 1985 session and signed by the Governor. Phosphate was a nutrient blamed for many of the problems of an overenriched Potomac River and Chesapeake Bay.

The MGS, an agency of the State's Department of Natural Resources, conducted applied research in the fields of geology, water resources, and archeology. In State fiscal year 1985, MGS expenditures were $2.5 million, an increase of about 30% over that of the prior 2 years. Mineral resource aspects of the MGS in 1985 included progress on five quadrangle geologic maps and completion of fieldwork on two others. Also, a COGEOMAP project was initiated in Charles County with the U.S. Geological Survey preparing the geologic base map and the MGS preparing mineral resources and geologic factors affecting land modification. In cooperation with the Minerals Management Service, the MGS continued framework evaluation of the State's inner Continental Shelf.

**Table 3.—Indicators of Maryland business activity**

| | | 1983[r] | 1984 | 1985[p] |
|---|---|---|---|---|
| Employment and labor force, annual average: | | | | |
| Population | thousands | 4,301 | 4,349 | 4,392 |
| Total civilian labor force | do. | 2,203 | 2,243 | 2,253 |
| Unemployment | percent | 6.9 | 5.4 | 4.6 |
| Employment (nonagricultural): | | | | |
| Mining total[1] | thousands | 1.9 | 1.7 | 1.7 |
| Coal mining[2] | do. | 1.0 | .9 | .8 |
| Manufacturing total | do. | 214.1 | 219.4 | 217.1 |
| Primary metal industries | do. | 21.0 | 18.9 | 15.8 |
| Stone, clay, and glass products | do. | 7.1 | 7.3 | 6.9 |
| Chemicals and allied products | do. | 13.1 | 12.5 | 12.8 |
| Petroleum and coal products | do. | .8 | .8 | .9 |
| Construction | do. | 101.4 | 116.0 | 129.0 |
| Transportation and public utilities | do. | 87.1 | 89.2 | 89.7 |
| Wholesale and retail trade | do. | 427.8 | 451.5 | 472.7 |
| Finance, insurance, real estate | do. | 98.8 | 103.8 | 109.6 |
| Services | do. | 413.4 | 444.5 | 472.4 |
| Government and government enterprises | do. | 379.6 | 387.9 | 392.9 |
| Total | do. | 1,724.1 | 1,814.0 | 1,885.1 |
| Personal income: | | | | |
| Total | millions | $58,614 | $64,462 | $69,680 |
| Per capita | | $13,629 | $14,821 | $15,864 |
| Hours and earnings: | | | | |
| Total average weekly hours, production workers | | 40.0 | 41.0 | 40.3 |
| Total average hourly earnings, production workers | | $9.0 | $9.4 | $9.7 |
| Earnings by industry: | | | | |
| Farm income | millions | $151 | $303 | $253 |
| Nonfarm | do. | $37,496 | $41,573 | $45,418 |
| Mining total | do. | $124 | $151 | $140 |
| Nonmetallic minerals except fuels | do. | $16 | $18 | $20 |
| Coal mining | do. | $32 | $37 | $33 |
| Manufacturing total | do. | $5,396 | $5,839 | $6,137 |
| Primary metal industries | do. | $744 | $740 | $674 |
| Stone, clay, and glass products | do. | $183 | $205 | $211 |
| Chemicals and allied products | do. | $377 | $375 | $408 |
| Petroleum and coal products | do. | $26 | $29 | $31 |
| Construction | do. | $2,560 | $3,090 | $3,533 |
| Transportation and public utilities | do. | $2,514 | $2,695 | $2,870 |
| Wholesale and retail trade | do. | $6,521 | $7,237 | $7,932 |
| Finance, insurance, real estate | do. | $2,102 | $2,358 | $2,771 |
| Services | do. | $8,893 | $10,150 | $11,389 |
| Government and government enterprises | do. | $9,221 | $9,883 | $10,453 |
| Construction activity: | | | | |
| Number of private and public residential units authorized[3] | | 39,799 | 38,551 | 42,137 |
| Value of nonresidential construction[3] | millions | $963.4 | $1,473.9 | $1,873.6 |
| Value of State road contract awards | do. | $250.1 | $331.0 | $421.0 |
| Shipments of portland and masonry cement to and within the State | thousand short tons | 1,379 | 1,480 | 1,642 |
| Nonfuel mineral production value: | | | | |
| Total crude mineral value | millions | $199.4 | $241.7 | $258.3 |
| Value per capita | | $46 | $56 | $59 |

[p]Preliminary. [r]Revised.

[1]Bureau of Labor Statistics, U.S. Department of Labor; totals may not add because of inclusion of data from other sources.

[2]Bureau of Economic Analysis, Regional Economic Measurement Division, U.S. Department of Commerce.

[3]1983 data based upon 16,000-place sample; 1984 and 1985 data based upon 17,000-place sample.

Sources: U.S. Department of Commerce, U.S. Department of Labor, Highway and Heavy Construction Magazine, and U.S. Bureau of Mines.

**Foreign Oceanborne Commerce.**—At the Port of Baltimore, fertilizer and fertilizer materials were the only nonfuel mineral commodities exported—1,028 short tons, down 49% from 1984 levels. However, import trade of nonfuel mineral commodities included iron ore (4,125,402 tons, down 21%), gypsum (691,163 tons, up 5%), alumina (384,971 tons, down 2%), fertilizer and fertilizer materials (349,525 tons, up 6%), cement (196,820 tons, up 19%), ferroalloys (121,061 tons, down 23%), clays (54,478 tons, up 34%), miscellaneous ores and concentrates including chrome ore (53,714 tons, down 64%), and manganese ore (51,871 tons, up slightly).

In late May, a record-high amount of iron ore was unloaded at the Chessie System Railroads' Curtis Bay pier in Baltimore as 92,960 short tons was moved from a ship to railroad hopper cars. It took 6 days to unload the Hong Kong-registered *M.V. Iberia,* which carried iron ore pellets from Sept Isle, Quebec, Canada, for the Iron Ore Company of Canada. The ore was loaded into 937 open-top Chessie hopper cars for transport to the Armco Steel Corp. plant at Ashland, KY. According to a Chessie spokesperson, that cargo was the largest of its kind ever unloaded at an east coast port.

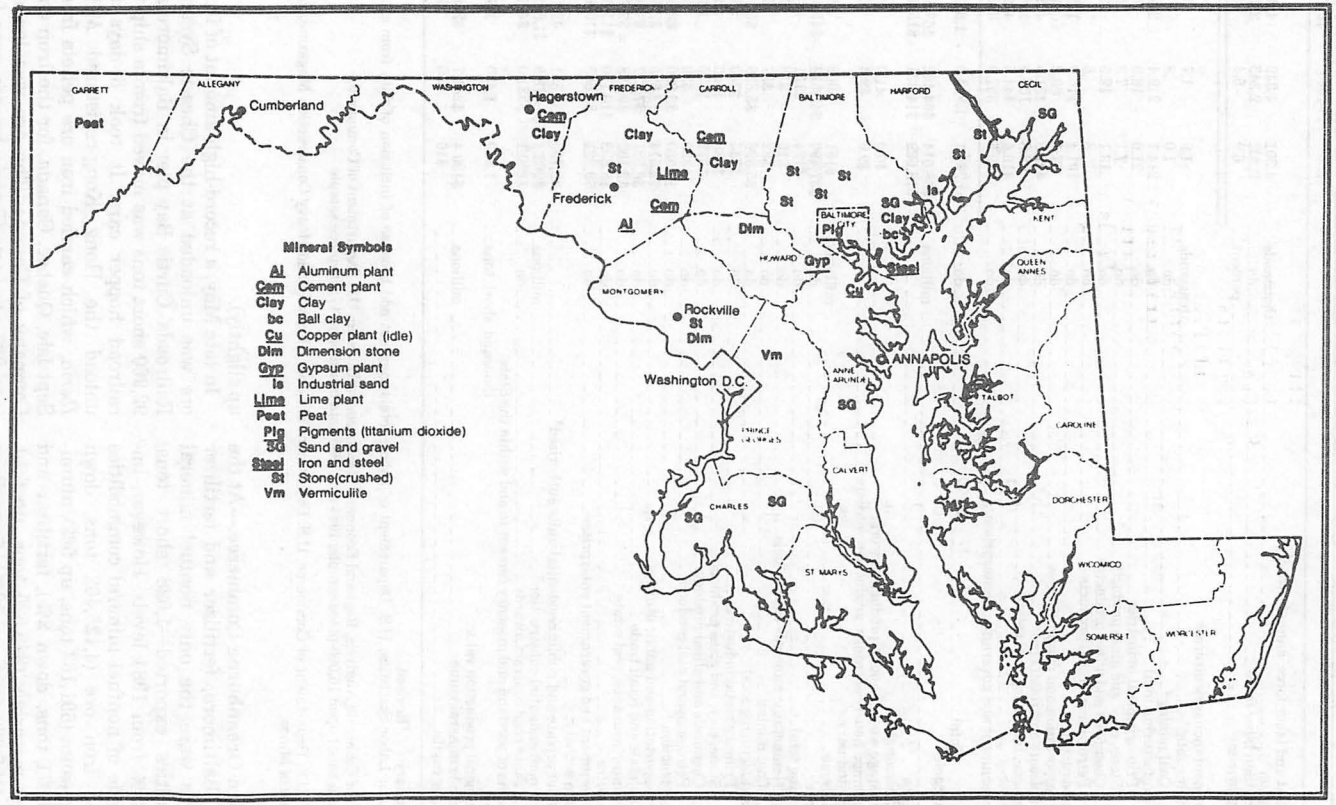


**Figure 1.—Principal mineral producing localities in Maryland.**

## REVIEW BY NONFUEL MINERAL COMMODITIES

### INDUSTRIAL MINERALS

**Cement.**—Portland cement was produced by Coplay Cement Co. at Lime Kiln in Frederick County, Independent Cement Co. (formerly Lone Star Cement Inc.) in Hagerstown in Washington County, and Lehigh Portland Cement Co. at Union Bridge in Carroll County. Independent Cement and Lehigh Portland also manufactured masonry cement.

Reflecting continued growth in the construction industry, U.S. cement demand increased for the third consecutive year. Maryland's total production and value of shipments remained essentially unchanged from the record-high levels of 1984. At Atlantic Cement Co. Inc.'s processing facility adjacent to the "L" blast furnace of Bethlehem Steel Corp. at Sparrows Point, the quantity and value of water-granulated iron slag used to manufacture slag cement increased by one-quarter and one-third, respectively.

Despite high-capacity use rates by the State's cement industry, aggressive selling prices held profits in check as inexpensive imports established themselves as an alternative for part of the U.S. supply. Imports increased 64% to 14.5 million short tons, the highest level in recorded U.S. history. Consequently, industry restructuring included a definite focus on regaining control of the import situation, as acquisition and position taking occurred during 1985.

Blue Circle Industries PLC of the United Kingdom, a worldwide producer and distributor of cement and allied products, purchased Newmont Mining Corp.'s Atlantic Cement for $145 million. The acquisition included a 1.5-million-ton-per-year portland cement plant at Ravena, NY; the 800,000-ton-per-year slag cement plant at Sparrows Point; a fleet of cement-carrying barges; and whole or partial interest in a number of distribution terminals. Atlantic Cement served a 16-State market along the eastern seaboard by means of a fleet of barges that delivered its products to coastal distribution centers. The new company was renamed Blue Circle-Atlantic.

The Canadian-based cement manufacturer, St. Lawrence Cement Inc. of Mount Royal, Quebec, purchased Lone Star Cement's quarry and plant near Hagerstown. Lone Star Cement, the largest cement manufacturer and importer in the United States, sold that operation and its Baltimore distribution terminal to St. Lawrence Cement for $63.5 million. The Maryland operations were run by Independent Cement of Albany, NY, the U.S. subsidiary of St. Lawrence Cement. Most of their shipments were to ready-mixed concrete plants. St. Lawrence Cement was a publicly owned corporation. Its largest stockholder was Holderbank Group Companies, a Swiss company that was one of the world's largest cement manufacturers. The limestone quarry and plant occupied about 200 acres. The remainder of the 870-acre site in Security, an unincorporated area 2 miles east of Hagerstown, was leased to farmers. About 65% of the cement was sold in the Baltimore-Washington area, and the remainder was marketed in western Maryland and parts of Pennsylvania, Virginia, and West Virginia. The new owner recognized the United Cement, Lime, and Gypsum Allied Workers Union as the bargaining agent for the 121 workers.

Additionally, Allentown Cement Co. Inc. of King of Prussia, PA, acquired National Gypsum Co.'s distribution terminal at Bowie. In the same corporate change, Allentown Cement acquired National Gypsum's cement plant at Evansville, PA, and a Jersey City, NJ, terminal.

**Chromium (Chemicals).**—Allied-Signal Corp. (formerly Allied Corp.), a principal U.S. producer of chromium chemical products, at midyear discontinued operations at its Baltimore chromium chemicals and compounds plant. Byproduct sodium sulfate was also produced at the facility. A total of 84 salaried and 230 hourly employees were affected by the shutdown. Allied-Signal planned to dismantle the plant, but the company's other Maryland facilities would not be affected. Chromium ore had been processed at this Allied-Signal plant and other facilities in the Baltimore area since 1845. The plant, with an annual capacity of 65,000 short tons, had operated since 1954. Major end uses for its various chromium chemicals and compounds included metal finishing, pigments, tanning, and corrosion control. The Baltimore plant had a gross payroll of more than $10.6 million in 1984.

Over the past 3 years, the company lost over $35 million in the chromium chemical business. Allied-Signal cited a continued weakening in the chromium chemicals world supply-demand balance.

**Clays.**—Common clay and shale was mined for the production of lightweight aggregate and the manufacture of brick and portland cement. Pit production, totaling 336,000 short tons, was valued at $1.6 million. From 1984 levels, quantity decreased 3% while value increased 11%. For the most part, the State's five brickmakers were operating at or near capacity to meet the demand of full order books because of an upturn in building construction. Also, Lehigh Portland, one of the State's three cement manufacturers, mined clay and shale for use in manufacturing portland cement at its Union Bridge plant in Carroll County. The value of Maryland's portland cement shipments increased 2.4% over 1984 record-high sales and accounted in part for the increased value of mined clay and shale. The company also expanded shale for use as lightweight aggregate at its Woodsboro plant in Frederick County.

Ball clay was mined by Cyprus Industrial Minerals Co. at operations 5 miles north of Baltimore on Route 40. Its production was used in ceramics, animal feed, pottery, refractories, adhesives, and sealants. Increased demand resulting from the continued recovery of the housing industry aided the impressive increase in value.

**Gypsum (Calcined).**—Crude gypsum imported from Canada was calcined by National Gypsum and USG Corp. at plants in Baltimore for manufacturing wallboard and related products. Although housing starts remained constant for the third year in a row, lower interest rates added to the increase in repair and remodeling work. Particularly significant in 1985 for Maryland's wallboard manufacturers was the large stock of older buildings that were renovated in their markets. Although the quantity of stucco produced for wallboard and plasters decreased 4.3% from that of 1984, estimated value increased by 4.3%.

Some byproduct gypsum, obtained from SCM Corp.'s SCM Pigments Div. plant in Baltimore, was mixed with natural gypsum and commercially used in the manufacture of wallboard at USG's plant. The quantity and value of byproduct gypsum shipments from the titanium dioxide pigments chemical plant increased 8.1% over 1984 levels.

**Lime.**—S. W. Barrick & Sons Inc., at its Woodsboro operations in Frederick County, produced industrial and agricultural lime and crushed limestone. Lime production totaled 10,000 short tons and was valued at $608,000. Of total lime production, 65% was hydrated and the remainder was quicklime.

**Peat.**—Garrett County Processing & Packaging Corp. mined reed-sedge and humus peat near the town of Accident in the western corner of the State. About 86% of the processed material was sold in bulk for agricultural and horticultural purposes. The remainder was packaged and sold as a soil conditioner called Free State Peat. Product lines included reed-sedge peat in bulk or bag, humus peat in bulk only, and mixed potting soil.

**Sand and Gravel.**—*Construction.*—Construction sand and gravel production is surveyed by the U.S. Bureau of Mines for even-numbered years only; therefore, this chapter contains only estimates for 1985. Data for odd-numbered years are based on annual company estimates made before yearend.

Based on these estimates, a total of 17 million short tons valued at $58 million, f.o.b. plant or pit, was produced in Maryland in 1985, an increase of 19.4% and 24.3%, respectively, over 1984 shipments. This tonnage was the highest production ever reported in Maryland. Based on 1985 census data, Maryland's per-capita production of construction sand and gravel was 3.87 tons, about 1,000 pounds above the total U.S. per-capita consumption. The State's average price per ton at $3.41 was 36 cents above the U.S. average.

Environmental regulations, zoning conflicts, and depletion of near-market deposits continued to rank among the principal problems facing the State's construction sand and gravel producers. Maryland's aggregates industry, in general, found the State enforcement of mining and reclamation regulations to be firm, fair, reasonable, and in accord with achieving valid environmental goals. However, the sand and gravel producers, in particular, found local zoning ordinances to be overly restrictive; especially in the citing of new processing plants. This caused some producers, in instances, to truck from new pits to existing plants, rather than haul processed material directly to markets.

Increased demand for construction sand and gravel, particularly concrete gravel and concrete sand for the Washington-Baltimore area, spurred modernization of existing plants in Anne Arundel and Prince Georges Counties and the development of a new mine and processing plant in Charles County.

An automatic sand classifying tank with a programmable control system was installed as a prototype at the Campbell Sand

& Gravel Co. plant near Crofton in Anne Arundel County. The programmable system could be adapted to the most complex sand and gravel plants and would be economical for the smaller operator. At Eastern Aggregates Inc.'s plant near Davidsonville, also in Anne Arundel County, a new computer-controlled sand classifier was instrumental in increasing concrete sand production. Also improved at this around-the-clock operation was product quality, since the classifier tracked the sand's fineness modulus every 6 minutes and automatically adjusted according to the program. Eastern Aggregates had three plants in Maryland—one near Davidsonville, which did all of the wet processing; one near Lothian in Anne Arundel County that had dry-screening facilities; and one near Brandywine in Prince Georges County. No mining was done at Davidsonville because the company was holding 28 acres of raw material in reserve for future use. The Lothian and Brandywine plants served as the source of raw material processed in the automated classifier. It was a 6-mile haul from the Lothian pit and 23 miles from Brandywine. Prior to 1985, Eastern Aggregates had been a division of J. E. Owens III Contracting Inc.

On October 7, 1985, the concrete aggregate processing plant of Goose Bay Aggregates near Chicamuxen in Charles County on the Potomac River, started operations. The plant, four 1-acre sediment ponds, and conveyors to the mine face occupied 60 acres in the 800-acre "greenfield" facility site. The area to be mined was expected to occupy over 500 acres, and there was 1-1/2 miles of conveyor to the barge-loading facility on the river. The product was trucked to the stack loader at the river in 1985 because the conveyor was not completed. Howat Concrete Co. Inc., parent of Goose Bay Aggregates, operated a concrete aggregates transfer facility on the Anacostia River near the South Capitol Street Bridge in Washington, DC, and four concrete plants in the Washington area. Previously, Howat Concrete purchased much of its concrete aggregate. All of Goose Bay Aggregates' production was for captive use, but Howat Concrete planned to eventually market to competitors.

Maryland's Charles County Sand & Gravel Co. Inc. was one of four National Sand & Gravel Association member companies that received safety awards from the Mine Safety and Health Administration as a result of their outstanding safety records in the "open pit" category by attaining at least 130,000 employee-hours of exposure with no lost-time injury or fatalities during 1984. The company's Charles County Waldorf Pit placed second with 137,721 employee-hours.

*Industrial.*—Harford Sands Inc., Joppa, produced industrial sands at its Magnolia operation in Harford County. Products included abrasive, filter, foundry, and specialty sands. Specialty sand was used in sand traps on golf courses, foundry sand was used for cores and molds for casting common metals, filter sand was used in treating water supplies, and abrasive sand was used for sandblasting. The quantity and value of reported production, f.o.b. plant, increased 20.5% and 46.8%, respectively, over 1984 levels.

**Slag—Iron and Steel.**—Two companies at facilities on the property of Bethlehem Steel at Sparrows Point processed iron slag. Blue Circle-Atlantic, a subsidiary of Blue Circle Industries of the United Kingdom and the new owner of Atlantic Cement, produced a finely ground, water-granulated iron slag product called Newcem, a slag cement. Also, Maryland Slag Co., a wholly owned subsidiary of The Arundel Corp., crushed air-cooled iron slag for road base material and as a substitute for natural construction aggregate at its 5,000-ton-per-day plant. Maryland Slag also began marketing steel slag for road base material owing to cutbacks in steelmaking by Bethlehem Steel, its supplier of blast furnace slag.

C. J. Langenfelder & Sons Inc., also operating under a contract with Bethlehem Steel, crushed cured steel slag from the basic oxygen and open-hearth furnaces for use as road base material. Maryland Slag acted as sales agent for the company.

Over the past 3 years, the unit value of processed water-granulated iron slag has increased significantly and has been much higher than that of steel slag. This unit-value difference, combined with the modest increase in pig iron shipments from Bethlehem Steel, has all but dried up the availability of iron slag for use as a substitute for natural construction aggregate and road base material and has also preempted its use as lightweight concrete aggregate.

Over 1984 levels, the quantity and value of iron slag sales increased 26% and 33%, respectively, and although some steel slag sales were reported in 1985, none were reported in 1983 or 1984. The quantity and value of slag shipments have been withheld to avoid disclosing company proprietary data.

**Stone.**—Stone production is surveyed by the U.S. Bureau of Mines for odd-numbered years only; the 1984 chapter gave estimates. Data for even-numbered years are based on annual company estimates made before yearend.

*Crushed.*—In 1985, there were 18 companies operating 29 quarries in 10 of Maryland's 23 counties producing crushed stone, and 1 operator, C. J. Langenfelder, crushed oyster shells dredged from Chesapeake Bay for use as driveway coverings, other unpaved road surfaces, and as poultry grit. At its Texas Quarry, 15 miles north of Baltimore, Genstar Stone Products Co., the State's largest producer of crushed stone and 1 of the top 10 in the United States, coproduced calcium carbonate fillers. The layered marble member in the mile-wide band of Cockeysville marble was mined by surface and underground methods from within the quarry and processed on-site for its very white, ultrabright, high-purity (93%) calcite. Seven product lines were marketed throughout the Eastern United States and Canada for use in paint and coatings, plastics and paper coatings, caulks and sealants, and adhesives. Also, Stoneyhurst Quarries, a dimension stone quarrier, coproduced a small quantity of crushed marble at its operations at Bethesda in Montgomery County.

Total crushed stone production, valued at $98.6 million, was 24.4 million short tons. Over 1984 levels, shipments increased 2.3 million tons (10.4%) while value increased $4.6 million (4.9%). The average unit value was $4.04 per ton, down 21 cents from that of 1984.

Based on 1985 census data, Maryland's per-capita production of crushed stone was 5.56 tons, about 750 pounds above the total U.S. per-capita consumption. Combined output from the State's two leading counties—Baltimore and Frederick—accounted for about 45% of the State total. Almost 90% of the State's shipments was by truck, 4% was by barge, and the remainder was by rail from Frederick County and other modes.

A total of 15.8 million tons (65%) of Maryland's crushed stone production was processed from carbonate rocks, for the most part, marble; 2.7 million tons (11%) was processed from granite and gneiss; and the remainder was crushed from sandstone, traprock, quartzite, other metamorphics, and oyster shells. Of the carbonate rocks, 12 million tons (76%) was used for concrete and bituminous aggregates, roadstone and coverings, riprap and railroad ballast, and other construction uses; 2.6 million tons (16%) was used for cement manufacture; 1.2 million tons (8%) was used for agricultural and other uses; and 19,000 tons was used for lime manufacture.

The year's most significant expansion belonged to Genstar in 1985. Genstar began a $9 million expansion program at its Texas Quarry. The program, to be completed in November 1986, would increase production capacity by 50% and would be, according to company officials, the most advanced crushing facility in the industry. The expansion program would include a continuous crusher system and new, state-of-the-art automation equipment for tertiary crushing that would be programmed on-site by minicomputers. The 600-acre quarry employed 500 persons at its combined operations, which included crushed stone, sand and gravel, calcium carbonate fillers, packaged cement mixes, and limestone products.

Also during 1985, The Arundel Corp., the State's second leading producer of crushed stone, made a capital investment at one of its three Maryland quarries. At the Greenspring Quarry, just north of Baltimore, the company installed an automated hoist system extending vertically up the quarry face to maximize the recovery of remaining reserves. The quarrying area at this location was confined and it became necessary to eliminate the haulroads from the quarry floor in order to extract rock. According to the company, this is the first use of such a system for a stone quarry in the United States. This project cost in excess of $3 million. At the Havre de Grace Quarry on the Susquehanna River in northern Maryland, the company reported increased demand for its riprap stone, which is used to protect shorelines and marine structures. This quarry supplied riprap to control beach erosion at Ocean City and was expected to provide the riprap for the Hampton Roads Bridge project in Virginia.

Rockville Crushed Stone Inc. was involved in the industry's largest change of ownership during the year, and less than coincidentally, was involved in the industry's most significant land-use conflict. Rockville Crushed Stone was seeking new zoning on 530 acres in Boyds, Montgomery County, to operate a 110-acre crushed stone quarry. The land was zoned rural-residential, and the company was asking for the mineral resource recovery zone designation. Boyds' residents, about 700 in all, had successfully defeated several quarry plans in the past 25 years, the last 5 years of which have been

intense. Rockville Crushed Stone, a closely held corporation, also operated a crushed stone quarry near Rockville, also in Montgomery County, and a sand and gravel facility at White Marsh, Baltimore County. In mid-April, the company was sold to London & Northern America Inc., a British-based firm, for $26.1 million with an additional $3 million due upon the successful completion of its zoning request to operate the Boyds Quarry. This land-use conflict was unresolved at yearend.

Shipment of crushed stone into and out of the State further increased during 1985. The Chessie System Railroads, a unit of CSX Corp., expanded its successful "rock runner" trains, which hauled construction aggregate on a continuous cycle into the Maryland market. The new service, called Maryland Rock Runner, operated on a three-round-trip-per-week basis from the eastern West Virginia quarry of Millville Quarry Inc. to delivery points in the Baltimore area. A total of 68 carloads of construction aggregate were picked up at the Millville, WV, quarry and delivered to the company's distribution point at Bladensburg, Fort Meade Junction, and Baltimore. Following deliveries, the same crew returned the empty cars 108 miles to the quarry at Millville later the same day. Specially designed rapid discharge cars were used in this train service.

The principal market area of Maryland Materials Inc., near North East in Cecil County at the head of Chesapeake Bay, was the entire Delmarva Peninsula where the bulk of its customers are. The company reported that delivery to the tip of the peninsula, 123 miles away, was easier than to the Baltimore area, 43 miles distant. Futhermore, there were more competitors between their quarry and the Baltimore area where there were a number of crushed stone producers. The stone being crushed was a high-silica content (70% to 75%) granite gneiss that was well suited for the 500-ton-per-hour plant designed to produce clean stone for the hot-mix asphalt overlay market. Also produced were riprap and jetty stone, railroad ballast, and gabion stone. Overall, Maryland Materials reported 1985 as one of its best years ever with sales 25% over that of 1984 because the economy was extremely good in Delaware, especially the city of Wilmington, but also in northern Maryland where they were reaping the benefits of the gasoline tax increase that went to support highway maintenance.

**Table 4.—Maryland: Crushed stone[1] sold or used by producers in 1985, by use**

(Thousand short tons and thousand dollars)

| Use | Quantity | Value |
|---|---|---|
| Coarse aggregate (+1-1/2 inch): | | |
| Macadam | 2,622 | 9,348 |
| Riprap and jetty stone | 525 | 2,744 |
| Coarse aggregate, graded: | | |
| Concrete aggregate, coarse | 3,787 | 14,714 |
| Bituminous aggregate, coarse | 2,688 | 11,798 |
| Bituminous surface-treatment aggregate | 479 | 2,199 |
| Railroad ballast | 23 | 108 |
| Fine aggregate (-3/8 inch): Stone sand, concrete | 163 | 881 |
| Combined coarse and fine aggregates: | | |
| Graded road base or subbase | 1,786 | 7,943 |
| Unpaved road surfacing | 5,075 | 25,184 |
| Crusher run or fill or waste | 2,278 | 8,992 |
| Other construction materials[2] | 1,145 | 4,305 |
| Chemical and metallurgical: | | |
| Cement manufacture | 2,619 | 5,057 |
| Lime manufacture | 19 | 78 |
| Special: | | |
| Other miscellaneous[3] | 1,197 | 5,232 |
| Other unspecified[4] | W | W |
| Total | 24,406 | [5]98,584 |

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

[1]Includes limestone, granite, sandstone, shell, and traprock.

[2]Includes stone used in agricultural limestone, filter stone, stone sand (bituminous mix or seal), fine aggregate (screen), and other construction and maintenance purposes.

[3]Includes stone used in agricultural marl and other soil conditioners, poultry grit and mineral food, flux stone, asphalt fillers or extenders, whiting or whiting substitute, and data indicated by symbol W.

[4]Includes production reported without a breakdown by end use and estimates for nonrespondents.

[5]Data do not add to total shown because of independent rounding.

*Dimension.*—In 1985, eight companies quarried dimension stone in four counties—one each in Garrett and Howard Counties, two in Montgomery County, and four in Baltimore County. In terms of both quantity and value of shipments, Montgomery and Baltimore Counties were the leading producers. Granite gneiss and quartzite were the principal rock types quarried. Irregular-shaped stone accounted for 72% of total sales, while cut stone and veneer accounted for 16%. In order of decreasing value, other products included flagstone, rough block, and monument stone.

Stoneyhurst Quarries, the State's leading producer at its Bethesda operations in Montgomery County, quarried and cut granite gneiss for building stone and flagging. The company also coproduced a small quantity of crushed stone. The State's other two leading producers were Weaver Stone Co. and Patapsco Natural Stone Quarry Inc. They quarried and cut quartzite, also for building stone and flagging.

**Titanium Dioxide (Pigments).**—The pigment plant of SCM in Baltimore produced titanium dioxide pigments for use in lacquers, paint, paper, plastics, and varnishes. Annual plant capacity was 64,000 short tons by the sulfate process and 46,000 tons by the chloride process.

SCM reportedly signed a 10-year, $200 million contract with Associated Minerals Consolidated Ltd. (AMC) to purchase synthetic rutile from a processing plant that AMC planned to build 240 miles north of Perth, Western Australia, that would be operational in early 1987. The contract was expected to supply one-third of SCM's titanium concentrate requirements for its chloride process titanium dioxide pigments plants at Baltimore, MD; Ashtabula, OH; and Stallingborough, England.

**Vermiculite (Exfoliated).**—The Construction Products Div. of W. R. Grace & Co. at Muirkirk in Prince Georges County exfoliated South Carolina-mined vermiculite. Most of the production was used in insulating fill and Monokote fireproofing.

Reflecting the 14% decline in U.S. consumption of this material for insulation, the quantity of exfoliated vermiculite sold and used at this plant decreased 4.6% from 1984 levels and its unit value fell from $185 per short ton to $119 per ton.

## METALS

**Aluminum.**—Eastalco Aluminum Co., a subsidiary of Alumax Inc., produced ingots and billets at its aluminum smelter near Buckeystown in Frederick County. Production at full capacity was 160,000 short tons annually. To offset continued declining prices and high inventory, the smelter's operating rate, which began the year at 87%, was cut to 75% in October where it remained through yearend. From 1984 levels, the quantity and value of production decreased an estimated 5.4%.

In November, Alumax requested a rehearing on the September 1 ruling by the Maryland Public Service Commission that allowed a public utility company to increase power cost for its Eastalco smelter. A rate increase from 24 mills to 24.8 mills per kilowatt hour had been granted, and an additional increase to 26.4 mills to cover charges associated with the startup of a new power station was under consideration.

**Copper.**—Kennecott closed its Baltimore rod mill for an indefinite period beginning on May 7. The producer met contractual commitments through June, but as of July 1, shipments stopped. The refinery had been shut down since mid-1983.

**Iron and Steel.**—Maryland's steelmakers continued to be impacted by worldwide overcapacity, reduced demand, and foreign imports. Bethlehem Steel, the Nation's third leading producer, operated one of its three U.S. integrated steel plants at Sparrows Point. In 1985, the company suffered a net loss of $196 million, its fourth consecutive yearly loss. Corporate losses for the last 4 years totaled more than $1.9 billion. Nevertheless, modernization of the iron-making and steelmaking facilities at the Sparrows Point plant continued. The company's $260 million continuous caster was completed and scheduled for startup in early 1986. The 3-million-short-ton-per-year capacity caster would produce both slabs and bloom. Union officials estimated that this improved efficiency of steelmaking could also reduce employment by 1,500 workers at this Baltimore County steelmaker. Previously, Bethlehem Steel did not have a continuous caster at its Sparrows Point plant. In addition, the $32 million improvement and modernization of the 160-inch plate mill was nearing completion.

Automation, decreasing demand, and new technology have been responsible for many job losses at Sparrows Point. In 1985, just 8,600 workers produced 3.5 million tons of steel. At the plant's peak, there were 30,000 workers producing 8 million tons of steel.

Following an evaluation of its market, Copperweld Steel Corp. permanently closed its American Seamless Tubing Inc. subsid-

iary in Baltimore, resulting in the company exiting the extruded tube market. The plant, using purchased billets in its extruding process, had a capacity of 40,000 tons per year. When operating at full capacity in 1981, it employed between 225 and 250 workers. The closure affected about 50 workers, 40 of whom had been on indefinite layoff since July.

*Specialty Steel.*—Armco Inc.'s Specialty Steel Div. in Baltimore began commercial operation of its $6 million, two-strand horizontal continuous caster, the first in the United States to be used by an integrated specialty steelmaker. Its annual capacity was 40,000 tons. Also, coming on-stream in late 1985, the latest unit of Armco's modernization project at the Baltimore Works that began in 1981, was its $7 million automated pickling line with the capacity to process 80 tons per turn. The total project included a 50-ton electric arc furnace, a precision rotary forge, and the new two-strand horizontal caster. The Baltimore Works produced stainless bars, rod, wire, and semifinished products.

Eastmet Corp. ended production of stainless steel sheet and strip at its Eastern Stainless Steel Co. plant in Baltimore but continued to produce plate, which was more profitable. Just before yearend, the company laid off 450 employees, almost one-half its work force. Despite a prior reduction in wages, the company's losses increased throughout the year because of continuing competition from imports.

**Reclaimed Metals and Materials.**—National Ecology Inc. operated the Baltimore County Resource Recovery Facility at Cockeysville for Maryland Environmental Services and Baltimore County. Materials recovered and marketed from the plant, which regularly processed 700 short tons per day of municipal solid waste, included nonferrous metal, ferrous metal, and glass in addition to refuse-derived fuel (RDF), by far the principal product. Typically, 300 to 500 tons of prepared RDF per day was sold to the Baltimore Gas & Electric Co.'s Crane Power Station. Nonferrous metals recovery was very small. Typically, about 1 ton per day was sold in the spot market. Approximately 25 tons of ferrous metals per day, 90% to 95% pure, was extracted using two-stage magnetic separators, after the primary shredder. The magnetic fractions were sold to a local scrap dealer for 80% of the Philadelphia No. 2 bundle price for resale to Bethlehem Steel at Sparrows Point. Glass recovery was sold principally to fiberglass manufacturers. The Cockeysville plant, claimed to be one of the most successful and reliable resource recovery operations in the United States, had processed about 2 million tons of refuse since 1976 with a total downtime of only 4 days.

[1]State Mineral Officer (retired), Bureau of Mines, Pittsburgh, PA. For information contact L. Prosser, Bureau of Mines, Pittsburgh, PA.

**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: | | | |
| Coplay Cement Co., (Société des Ciments Français). | 4120 Buckeystown Pike Lime Kiln, Box D Frederick, MD 21701 | Quarry and plant. | Do. |
| Portland and masonry: | | | |
| Independent Cement Co. (St. Lawrence Cement Inc., Quebec, Canada). | Box 650 Hagerstown, MD 21740 | ____do_____ | Washington. |
| Lehigh Portland Cement Co. (Heidelberger Zement AG). | Box L Union Bridge, MD 21791 | ____do_____ | Carroll. |
| Slag: | | | |
| Blue Circle-Atlantic (Blue Circle Industries PLC, United Kingdom). | Box 6687 Sparrows Point, MD 21219 | Plant (slag cement). | Harford. |
| Clays: | | | |
| Ball clay: | | | |
| Cyprus Industrial Minerals Co., Cyprus Mines Corp. | 9420 Pulaski Highway Baltimore, MD 21220 Box 188 White Marsh, MD 21162 | Pit and plant __ | Baltimore. |
| Common clay and shale: | | | |
| Baltimore Brick Co. (Merry Co.). | 9801 Rocky Ridge Rd. Rocky Ridge, MD 21778 | Pits and plants_ | Baltimore and Frederick. |
| Victor Cushwa & Sons Inc ___ | Clearspring Rd. & Route 68N Box 160 Williamsport, MD 21795 | Pit and plant __ | Washington. |

**Table 5.—Principal producers —Continued**

| Commodity and company | Address | Type of activity | County |
|---|---|---|---|
| Clays —Continued | | | |
| Common clay and shale —Continued | | | |
| Lehigh Portland Cement Co | Box L<br>Union Bridge, MD 21791 | Pits and plants | Carroll and Frederick. |
| Maryland Clay Products Inc. (Borden Brick & Tile Co.). | 7100 Muirkirk Rd.<br>Beltsville, MD 20705 | do | Frederick and Prince Georges. |
| Copper: | | | |
| Kennecott Refining Corp | Kenbo Rd.<br>Curtis Bay, MD 21226 | Refinery | Anne Arundel. |
| Gypsum: | | | |
| Byproduct: | | | |
| SCM Corp., SCM Pigments Div. | 3901 Glidden Rd.<br>Baltimore, MD 21226 | Plant | Baltimore. |
| Calcined: | | | |
| National Gypsum Co., Gold Bond Building Products Div. | 2301 South Newkirk St.<br>Baltimore, MD 21224 | do | Do. |
| USG Corp | 500 Quarantine Rd.<br>Box 3472<br>Baltimore, MD 21226 | do | Do. |
| Iron and steel: | | | |
| Armco Inc., Stainless Steel Div | 3501 East Biddle St.<br>Box 1697<br>Baltimore, MD 21203 | Mill | Do. |
| Bethlehem Steel Corp | Sparrows Point, MD 21219 | Mill (integrated) | Do. |
| Eastern Stainless Steel Co., a division of Eastmet Corp. | 7700 Rolling Mill Rd.<br>Dundalk, MD 21222<br>Box 1975<br>Baltimore, MD 21203 | Mill | Do. |
| Lime: | | | |
| S. W. Barrick & Sons Inc | Woodsboro, MD 21798 | Quarry and plant. | Frederick. |
| Peat: | | | |
| Garrett County Processing & Packaging Corp. | RFD 1<br>Accident, MD 21520 | Bog and plant | Garrett. |
| Sand and gravel: | | | |
| Construction: | | | |
| Charles County Sand & Gravel Co. Inc. | Waldorf Industrial Center<br>Box 548<br>Waldorf, MD 20601 | Pits and plant | Anne Arundel, Charles, St. Marys. |
| Eastern Aggregates Inc. (formerly J. E. Owens III Contracting Inc.). | 10 South River Club House Rd.<br>Harwood, MD 20776 | Pits and plants | Anne Arundel and Prince Georges. |
| Genstar Stone Products Co | Executive Plaza 4<br>11350 McCormick Rd.<br>Hunt Valley, MD 21031 | Pit and plants | Baltimore. |
| Inland Materials Inc. (formerly Silver Hill Sand and Gravel Co.). | 4714 St. Barnabus Rd.<br>Temple Hills, MD 20748 | do | Prince Georges. |
| Maryland Rock Industries (Florida Rock Industries Inc.). | Box 273<br>Leonardtown, MD 20650 | Pit and plant | St. Marys. |
| York Building Products Co. Inc., Mason Dixon Sand & Gravel Div. | Pulaski Highway<br>Perryville, MD 21403 | do | Cecil. |
| Industrial: | | | |
| Harford Sands Inc | Box 210<br>40 Fort Hoyle Rd.<br>Joppa, MD 21085 | do | Harford. |
| Slag: | | | |
| Iron: | | | |
| Blue Circle-Atlantic (Blue Circle Industries PLC, United Kingdom). | Box 6687<br>Sparrows Point, MD 21219 | Plant (slag cement). | Do. |
| Maryland Slag Co. (The Arundel Corp.). | Sparrows Point, MD 21219 | do | Do. |
| Steel: | | | |
| C. J. Langenfelder & Sons Inc | 8427 Pulaski Highway<br>Baltimore, MD 21221 | do | Do. |
| Stone: | | | |
| Crushed: | | | |
| The Arundel Corp | 110 West Rd.<br>Baltimore, MD 21204 | Quarries and plants. | Baltimore, Frederick, Harford. |
| Genstar Stone Products Co | Executive Plaza 4<br>11350 McCormick Rd.<br>Hunt Valley, MD 21031 | do | Baltimore, Carroll, Frederick, Harford. |
| Maryland Materials Inc | Box W<br>North East, MD 21901 | Quarry and plant. | Cecil. |
| Rockville Crushed Stone Inc | Box 407<br>13900 Piney Meetinghouse Rd.<br>Rockville, MD 20850 | do | Montgomery. |

**Table 5.—Principal producers —Continued**

| Commodity and company | Address | Type of activity | County |
|---|---|---|---|
| Stone —Continued | | | |
| Dimension: | | | |
| Patapsco Natural Stone Quarry Inc. | Marriottsville Rd. Marriottsville, MD 21104 | Quarry and plant | Baltimore. |
| Stoneyhurst Quarries | Box 34463 8101 River Rd. Bethesda, MD 20817 | do | Montgomery. |
| Weaver Stone Co | 15027 Falls Rd. Butler, MD 21023 | do | Baltimore. |
| Titanium dioxide (pigments): | | | |
| SCM Corp., SCM Pigments Div | 3901 Glidden Rd. Baltimore, MD 21226 | Chemical plant | Do. |
| Vermiculite (exfoliated): | | | |
| W. R. Grace & Co., Construction Products Div. | 12340 Conway Rd. Beltsville, MD 20705 | Plant | Prince Georges. |

U.S. GOVERNMENT PRINTING OFFICE:1987-181-432/41007

Table 6.—Principal producers—Continued

| Commodity and company | Address | Type of activity | County |
|---|---|---|---|
| Peat—Continued | | | |
| Premier Horticultural Peats | Mercantile Rd | Quarry and | Baltimore |
| Shamrock Co. | Sherwood Rd, Lutherville 21093 | Crush | |
| Stonemeadow Gardens | Deer Creek | do. | Montgomery |
| Tropic Moss Co. | Glen Burnie Rd, Glenburnie, MD 21061<br>Linthicum, MD 21090 | do. | Baltimore |
| Turfgrass Landscape Supply | Glen Burnie Rd, Glenburnie, MD 21061 | | |
| W. R. Grace & Co., Construction Products Div. | 7500 Grace Dr, Columbia, MD 21044 | Chemical manufacturing | Howard |
| Pyrite | | | |
| Pyrite Mining Corp. | Liberty Rd, Eldersburg, MD 21784 | Plant | Carroll |
| Salt | | | |
| Cargill, Inc. | Box 5000, Cincinnati, OH 45201 | Underground mine | Baltimore |
| Sand and gravel | | | |
| Allied Concrete & Supply Co. | 1600 Ritchie Hwy, Arnold, MD 21012 | Quarry and crush | Anne Arundel |
| Do. | Box 1, Millersville, MD 21108 | Dredge | Do. |
| Do. | Box 1, Millersville, MD 21108 | Quarry and crush | Anne Arundel |
| Do. | Box 1, Millersville, MD 21108 | Dredge | Do. |
| Do. | Box 1, Millersville, MD 21108 | Quarry and crush | Baltimore |
| Do. | Box 1, Millersville, MD 21108 | Dredge | Do. |
| Do. | Box 1, Millersville, MD 21108 | Quarry and crush | Carroll |
| Do. | Box 1, Millersville, MD 21108 | Dredge | Do. |
| Do. | Box 1, Millersville, MD 21108 | Quarry and crush | Frederick |
| Do. | Box 1, Millersville, MD 21108 | Dredge | Do. |
| Do. | Box 1, Millersville, MD 21108 | Quarry and crush | Howard |
| Do. | Box 1, Millersville, MD 21108 | Dredge | Do. |
| Do. | Box 1, Millersville, MD 21108 | Quarry and crush | Montgomery |
| Do. | Box 1, Millersville, MD 21108 | Dredge | Do. |
| Do. | Box 1, Millersville, MD 21108 | Quarry and crush | Prince George's |
| Do. | Box 1, Millersville, MD 21108 | Dredge | Do. |
| Allied Gravel Co. | 1600 Ritchie Hwy, Arnold, MD 21012 | Quarry and crush | Anne Arundel |
| Do. | Box 1, Millersville, MD 21108 | Dredge | Do. |
| Do. | Box 1, Millersville, MD 21108 | Quarry and crush | Baltimore |
| Do. | Box 1, Millersville, MD 21108 | Dredge | Do. |
| Do. | Box 1, Millersville, MD 21108 | Quarry and crush | Carroll |
| Do. | Box 1, Millersville, MD 21108 | Dredge | Do. |
| Do. | Box 1, Millersville, MD 21108 | Quarry and crush | Frederick |
| Do. | Box 1, Millersville, MD 21108 | Dredge | Do. |
| Do. | Box 1, Millersville, MD 21108 | Quarry and crush | Howard |
| Do. | Box 1, Millersville, MD 21108 | Dredge | Do. |
| Do. | Box 1, Millersville, MD 21108 | Quarry and crush | Montgomery |
| Do. | Box 1, Millersville, MD 21108 | Dredge | Do. |
| Do. | Box 1, Millersville, MD 21108 | Quarry and crush | Prince George's |
| Do. | Box 1, Millersville, MD 21108 | Dredge | Do. |
| Allied Sand & Gravel Co. | 1600 Ritchie Hwy, Arnold, MD 21012 | Quarry and crush | Anne Arundel |
| Do. | Box 1, Millersville, MD 21108 | Dredge | Do. |
| Do. | Box 1, Millersville, MD 21108 | Quarry and crush | Baltimore |
| Do. | Box 1, Millersville, MD 21108 | Dredge | Do. |
| Do. | Box 1, Millersville, MD 21108 | Quarry and crush | Carroll |
| Do. | Box 1, Millersville, MD 21108 | Dredge | Do. |
| Do. | Box 1, Millersville, MD 21108 | Quarry and crush | Frederick |
| Do. | Box 1, Millersville, MD 21108 | Dredge | Do. |
| Do. | Box 1, Millersville, MD 21108 | Quarry and crush | Howard |
| Do. | Box 1, Millersville, MD 21108 | Dredge | Do. |
| Do. | Box 1, Millersville, MD 21108 | Quarry and crush | Montgomery |
| Do. | Box 1, Millersville, MD 21108 | Dredge | Do. |
| Do. | Box 1, Millersville, MD 21108 | Quarry and crush | Prince George's |
| Do. | Box 1, Millersville, MD 21108 | Dredge | Do. |
| Allied Sand & Gravel Co. | 1600 Ritchie Hwy, Arnold, MD 21012 | Quarry and crush | Anne Arundel |
| Do. | Box 1, Millersville, MD 21108 | Dredge | Do. |
| Do. | Box 1, Millersville, MD 21108 | Quarry and crush | Baltimore |
| Do. | Box 1, Millersville, MD 21108 | Dredge | Do. |
| Do. | Box 1, Millersville, MD 21108 | Quarry and crush | Carroll |
| Do. | Box 1, Millersville, MD 21108 | Dredge | Do. |
| Do. | Box 1, Millersville, MD 21108 | Quarry and crush | Frederick |
| Do. | Box 1, Millersville, MD 21108 | Dredge | Do. |
| Do. | Box 1, Millersville, MD 21108 | Quarry and crush | Howard |
| Do. | Box 1, Millersville, MD 21108 | Dredge | Do. |
| Do. | Box 1, Millersville, MD 21108 | Quarry and crush | Montgomery |
| Do. | Box 1, Millersville, MD 21108 | Dredge | Do. |
| Do. | Box 1, Millersville, MD 21108 | Quarry and crush | Prince George's |
| Do. | Box 1, Millersville, MD 21108 | Dredge | Do. |