



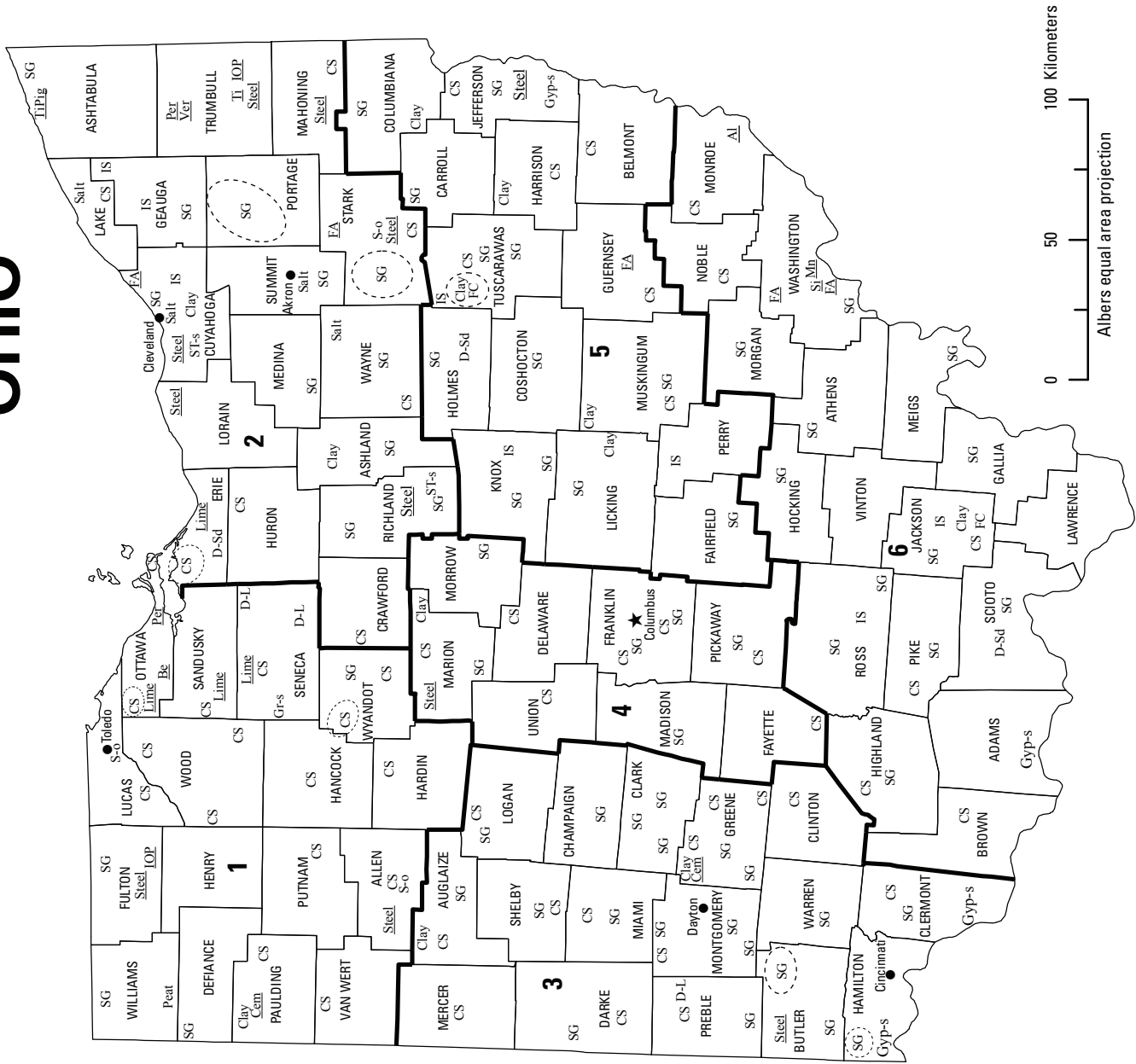
# 2012–2013 Minerals Yearbook

---

OHIO [ADVANCE RELEASE]

---

# OHIO



## LEGEND

- County boundary
- ★ Capital
- City
- Crushed stone/sand and gravel district boundary

## MINERAL SYMBOLS (Principal producing areas)

- Al Aluminum plant
- Be Beryllium plant
- Cem Cement plant and quarry
- Clay Common clay
- CS Crushed stone
- D-L Dimension limestone
- D-Sd Dimension sandstone
- EA Ferroalloys plant
- FC Fire clay
- Gr-s Synthetic graphite
- Gyp-s Synthetic gypsum
- IS Industrial sand
- IOP Iron oxide pigments
- Lime Lime plant and quarry
- Mn Manganese plant
- Peat Peat
- Per Perlite
- Salt Salt
- S-o Sulfur (oil)
- SG Construction sand and gravel
- Si Silicon metal plant
- Steel Steel plant
- ST-s Steel plant - stainless
- Ti Titanium metal plant
- TiPig Titanium pigment plant
- Ver Vermiculite plant
- (dashed circle) Concentration of mineral operations

# THE MINERAL INDUSTRY OF OHIO

This chapter has been prepared under a Memorandum of Understanding between the U.S. Geological Survey and the Ohio Department of Natural Resources, Division of Geological Survey, for collecting information on all nonfuel minerals.

In 2013, the value of the nonfuel mineral production<sup>1</sup> in the State of Ohio increased to \$1.05 billion,<sup>2</sup> 1.4% of the total U.S. nonfuel mineral production, ranking it 18th in the Nation. In 2012, the corresponding value was \$1.01 billion,<sup>2</sup> 1.3% of the U.S. total nonfuel mineral production, ranking it 22d among the 50 States. In 2013, on a per capita basis, nonfuel mineral production in Ohio had a value of \$90 compared with the national average of \$238. In 2012, the per capita value was \$88 compared with the national average of \$241.

The value of nonfuel mineral production in Ohio for the years 2006 through 2013 was as follows (in billions of dollars): \$1.28 (2006), \$1.28 (2007), \$1.25 (2008), \$1.10 (2009), \$1.18 (2010), \$ 0.96<sup>2</sup> (2011), \$1.01<sup>2</sup> (2012), and \$1.05<sup>2</sup> (2013).

In 2013, there were 1,933 employees in nonfuel mineral mines in Ohio and 1,099 in mills and preparation plants. In 2012, the corresponding numbers were 1,991 in nonfuel mineral mines and 1,073 in mills and preparation plants (U.S. Mine Safety and Health Administration, 2013, p. 12; 2014, p. 12). In 2013, the average annual wage in Ohio for all mining was \$63,855 compared with \$44,059 for all industries. In 2012, the corresponding figures were \$61,740 and \$43,608, respectively (National Mining Association, unpub. data, February 4, 2016).

In 2013, the leading publishable mineral commodities based on production value in Ohio were construction sand and gravel, crushed stone, and lime. On the basis of quantity, Ohio ranked fourth in the production of lime out of 33 producing States and fourth in the production of salt out of 16 producing States. Cement, clays, dimension stone, gemstones, industrial sand and gravel, and peat were also produced in the State (table 1). Statistics for salt and masonry cement were aggregated to regional and national levels to avoid revealing proprietary company data. In 2013, the total quantity of salt sold or used by producers nationally increased about 24%. In 2013, production quantity of masonry cement at six cement plants in Indiana and Ohio decreased about 5% in 2012, while nationally, masonry cement production increased about 10%.

Only industrial minerals were mined in Ohio, but metals were produced at numerous plants from other domestic and foreign sources. Ohio's steel industry consumed 6.55 million

---

<sup>1</sup>The terms "nonfuel mineral production" and related "values" encompass variations in meaning, depending upon the mineral products. Production may be measured by mine shipments, mineral commodity sales, or marketable production (including consumption by producers) as is applicable to the individual mineral commodity.

All USGS mineral production data published in this chapter are those available as of February 2016. Data in this report are rounded to three significant digits and percentages are calculated from unrounded data. All USGS Mineral Industry Surveys and USGS Minerals Yearbook chapters—mineral commodity, State, and country—can be retrieved over the Internet at <http://minerals.usgs.gov/minerals>.

<sup>2</sup>Partial total; excludes values that must be withheld to avoid disclosing company proprietary data.

metric tons (Mt) of scrap and 5.35 Mt of pig iron in 2013, a 14% decrease from 6.80 Mt of scrap and 6.77 Mt of pig iron in 2012 (Fenton, 2014, 2015). The total of scrap and pig iron was about 27% of that consumed in the United States steel industry in 2013. Aluminum, ferromanganese, ferrosilicon, ferrotitanium, ferrovanadium, silicomanganese, and stainless steel were also produced in Ohio. In 2013, however, the aluminum plant closed owing to market conditions. The plant had a capacity of 271,000 metric tons per year (Bray, 2015).

## Commodity Review

The Ohio Department of Natural Resources, Division of Geological Survey<sup>3</sup> provided reports on selected mineral commodities, except where otherwise noted, based upon the agency's own surveys and mine inquiries, company annual reports, and data and information derived from other State government agency sources (Wolfe, 2013; Wolfe and Stucker, 2014) from which the following data have been extracted. These data may differ from U.S. Geological Survey (USGS) data, which are based on company responses to USGS surveys and estimation for nonrespondents. The USGS withheld some data to avoid disclosing company proprietary data.

## Industrial Minerals

In 2013, industrial minerals were produced in a total of 81 Ohio counties and 329 companies held valid permits for 559 industrial-mineral-mining operations. Industrial minerals were reported as produced or sold by 272 companies from 347 active operations. The combined value of all industrial minerals produced was \$893,425,812.

In 2012, industrial minerals were produced in a total of 87 Ohio counties and 329 companies held valid permits for 523 industrial-mineral mining operations. Industrial minerals were reported as produced or sold by 225 companies from 337 active operations. The total value of all industrial minerals was \$870,367,049.

**Clay and Shale.**— Clay and shale mined in Ohio was used largely for captive use in the production of common clay products such as building bricks, in the construction industry, and to produce lightweight aggregate.

In 2013 and 2012, clay was reported sold and (or) produced as follows:

- In 2013, clay was reported sold and (or) produced by 20 companies at 29 operations in 14 Ohio counties. Reported production of clay was 353,635 t. Shale was reported sold and (or) produced by 17 companies at 24 operations in 14 Ohio counties during 2013. Reported production of shale in 2013 was 804,540 t.

---

<sup>3</sup>J.D. Stucker, Geologist, Ohio Department of Natural Resources Division of Geological Survey, provided the State nonfuel mineral industry information.

- In 2012, clay was reported sold and (or) produced by 20 companies at 24 operations in 15 Ohio counties. Reported production of clay was 262,469 t. Shale was reported sold and (or) produced by 12 companies at 16 operations in 11 Ohio counties during 2012. Reported production of shale in 2012 was 382,064 t.

**Sand and Gravel, Construction.**—Commercial and residential building, portland cement concrete, asphaltic concrete, and road construction and road resurfacing were the major uses for Ohio sand and gravel. Sand and gravel deposits in Ohio primarily are associated with Wisconsinan-age glacial outwash and kame terraces in the valleys and tributaries of the Great Miami, Scioto, and Muskingum Rivers located in the southwestern, central, and eastern portions of the State, respectively.

In 2013 and 2012, sand and gravel was reported sold and (or) produced as follows:

- In 2013, sand and gravel was reported sold and (or) produced by 150 companies at 217 operations in 59 Ohio counties. Estimated production of sand and gravel totaled 26,043,988 t in 2013.
- In 2012, sand and gravel was reported sold and (or) produced by 148 companies at 213 operations in 57 Ohio counties. Estimated production of sand and gravel totaled 27,650,975 t in 2012.
- In 2012, one major sand-and-gravel operation in central Ohio was converting a portion of the property to a limestone quarry and processing plant.

**Stone, Crushed and Dimension (Sandstone and Conglomerate).**—Pennsylvanian-age Sharon conglomerate in northeastern Ohio was the most productive sandstone mined for industrial purposes. The Pennsylvanian-age Massillon Sandstone and the Mississippian-age Black Hand Sandstone also were important sources of high-silica sandstone. The Massillon Sandstone and the Devonian-age Berea Sandstone of northern Ohio, as well as the Mississippian-age Buena Vista Sandstone in southern Ohio, were the primary geologic units quarried for building stone.

In 2013 and 2012, sandstone and conglomerate was reported sold and (or) produced as follows:

- In 2013, sandstone and conglomerate was reported sold and (or) produced by 21 companies at 27 operations in 17 Ohio counties. Reported production of sandstone and conglomerate was 1,218,989 t in 2013.
- In 2012, sandstone and conglomerate was reported sold and (or) produced by 21 companies at 27 operations in 18 Ohio counties. Reported production of sandstone and conglomerate was 1,550,340 t in 2012.

**Stone, Crushed (Limestone and Dolomite).**—Devonian-age and Silurian-age carbonates located in the western half of Ohio are the primary geologic units from which crushed stone was produced. The primary use for crushed and broken limestone and dolomite was road construction and road resurfacing. Other major uses for various forms of limestone and dolomite included stone for asphaltic concrete and portland cement concrete, commercial building construction, and the production of lime. Since 2011, there has been a significant increase in the railroad transportation of aggregates and other industrial minerals in Ohio, largely to support the development of hydrocarbons in eastern Ohio.

In 2013 and 2012, limestone and dolomite was reported sold and (or) produced as follows:

- In 2013, limestone and dolomite was reported sold and (or) produced by 57 companies at 107 operations in 50 Ohio counties during 2013. Reported production totaled 52,219,905 t.
- In 2012, limestone and dolomite was reported sold and (or) produced by 56 companies at 103 operations in 50 Ohio counties. Reported production totaled 52,893,865 t.

## References Cited

- Bray, E.L., 2015, Aluminum [advance release], *in* Metals and minerals: U.S. Geological Survey Minerals Yearbook 2013, v. I, p. 5.1–5.19. (Accessed March 18, 2016, at <http://minerals.usgs.gov/minerals/pubs/commodity/aluminum/myb1-2013-alumi.pdf>.)
- Fenton, M.D., 2014, Iron and steel scrap [advance release], *in* Metals and minerals: U.S. Geological Survey Minerals Yearbook 2012, v. I, p. 38.1–38.22. (Accessed March 18, 2016, at [http://minerals.usgs.gov/minerals/pubs/commodity/iron\\_&\\_steel\\_scrap/myb1-2012-fescr.pdf](http://minerals.usgs.gov/minerals/pubs/commodity/iron_&_steel_scrap/myb1-2012-fescr.pdf).)
- Fenton, M.D., 2015, Iron and steel scrap [advance release], *in* Metals and minerals: U.S. Geological Survey Minerals Yearbook 2013, v. I, p. 38.1–38.23. (Accessed March 18, 2016, at [http://minerals.usgs.gov/minerals/pubs/commodity/iron\\_&\\_steel\\_scrap/myb1-2013-fescr.pdf](http://minerals.usgs.gov/minerals/pubs/commodity/iron_&_steel_scrap/myb1-2013-fescr.pdf).)
- U.S. Mine Safety and Health Administration, [2013], Mine injury and worktime, quarterly, January–December 2012, Final, Closeout edition, 33 p. (Accessed February 8, 2016, at [http://arlweb.msha.gov/Stats/Part50/WQ/MasterFiles/MIWQ%20Master\\_20125.pdf](http://arlweb.msha.gov/Stats/Part50/WQ/MasterFiles/MIWQ%20Master_20125.pdf).)
- U.S. Mine Safety and Health Administration, [2014], Mine injury and worktime, quarterly, January–December 2013, Final, Closeout edition, 34 p. (Accessed February 8, 2016, at [http://arlweb.msha.gov/Stats/Part50/WQ/MasterFiles/MIWQ%20Master\\_20135.pdf](http://arlweb.msha.gov/Stats/Part50/WQ/MasterFiles/MIWQ%20Master_20135.pdf).)
- Wolfe, M.E., 2013, 2012 report on Ohio mineral industries—An annual summary of the State's economic geology: Columbus, OH, Ohio Department of Natural Resources, Division of Geological Survey, 110 p. (Accessed April 5, 2016, at [http://geosurvey.ohiodnr.gov/portals/geosurvey/PDFs/Mineral\\_Industries\\_Reports/MinInd12.pdf](http://geosurvey.ohiodnr.gov/portals/geosurvey/PDFs/Mineral_Industries_Reports/MinInd12.pdf).)
- Wolfe, M.E., and Stucker, J.D., 2014, 2013 report on Ohio mineral industries—An annual summary of the State's economic geology: Columbus, OH, Ohio Department of Natural Resources, Division of Geological Survey, 116 p. (Accessed April 5, 2016, at [http://geosurvey.ohiodnr.gov/portals/geosurvey/PDFs/Mineral\\_Industries\\_Reports/MinInd13.pdf](http://geosurvey.ohiodnr.gov/portals/geosurvey/PDFs/Mineral_Industries_Reports/MinInd13.pdf).)

TABLE 1  
NONFUEL MINERAL PRODUCTION IN OHIO<sup>1,2</sup>

(Thousand metric tons and thousand dollars)

Mineral	2011		2012		2013	
	Quantity	Value	Quantity	Value	Quantity	Value
Cement:						
Masonry	W	W	W	W	W	W
Portland	636	56,100 <sup>e</sup>	797	72,100 <sup>e</sup>	829	79,000 <sup>e</sup>
Clays, common	632 <sup>r</sup>	13,300	693	13,900	518	10,500
Gemstones, natural	NA	4	NA	4	NA	4
Lime	1,730	208,000	1,650	209,000	1,780	229,000
Peat	(3)	(3)	(3)	(3)	(3)	(3)
Salt	W	W	W	W	W	W
Sand and gravel:						
Construction	27,400	219,000	29,500	234,000	29,300	234,000
Industrial	1,100	54,000	1,160	34,500	1,230	61,100
Stone:						
Crushed	49,900 <sup>r</sup>	407,000 <sup>r</sup>	54,500	441,000	52,000	425,000
Dimension	25	5,100	25	5,700	27	6,610
Total	XX	963,000 <sup>r</sup>	XX	1,010,000	XX	1,050,000

<sup>e</sup>Estimated. <sup>r</sup>Revised. NA Not available. W Withheld to avoid disclosing company proprietary data; excluded from "Total." XX Not applicable.

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

<sup>2</sup>Data are rounded to no more than three significant digits; may not add to totals shown.

<sup>3</sup>Less than ½ unit.

TABLE 2  
OHIO: CRUSHED STONE SOLD OR USED IN THE UNITED STATES, BY TYPE<sup>1</sup>

Type	2012				2013			
	Number of quarries	Quantity (thousand metric tons)	Value (thousands)	Unit value	Number of quarries	Quantity (thousand metric tons)	Value (thousands)	Unit value
Limestone <sup>2</sup>	92	52,600	\$425,000	\$8.08	90	50,000	\$408,000	\$8.16
Dolomite	4	1,350	11,100	8.23	4	1,660	13,900	8.37
Sandstone and quartzite <sup>3</sup>	5	288	2,400	8.32	6	250	2,110	8.42
Miscellaneous stone	5	227	2,640	11.67	5	95	1,540	16.13
Total or average	XX	54,500	441,000	8.10	XX	52,000	425,000	8.19

XX Not applicable.

<sup>1</sup>Data are rounded to no more than three significant digits, except unit value; may not add to totals shown.

<sup>2</sup>Includes limestone-dolomite reported with no distinction between the two kinds of stone.

<sup>3</sup>Includes sandstone-quartzite reported with no distinction between the two kinds of stone.

TABLE 3  
OHIO: CRUSHED STONE SOLD OR USED BY PRODUCERS BY USE<sup>1</sup>

Use	2012			2013		
	Quantity (thousand metric tons)	Value (thousands)	Unit value	Quantity (thousand metric tons)	Value (thousands)	Unit value
<b>Construction:</b>						
Coarse aggregate (+1½ inch):						
Macadam	1	\$12	\$12.38	2	\$36	\$15.15
Riprap and jetty stone	460	4,220	9.17	134	1,490	11.08
Filter stone	W	W	W	W	W	W
Unspecified coarse aggregate	563	5,740	10.20	485	4,980	10.27
Coarse aggregate, graded:						
Concrete aggregate, coarse	3,400	27,800	8.17	675	4,620	6.85
Bituminous aggregate, coarse	2,480	20,900	8.43	698	7,440	10.66
Bituminous surface-treatment aggregate	52	681	13.11	186	1,400	7.53
Railroad ballast	167	1,470	8.82	W	W	W
Unspecified graded coarse aggregate	2,840	29,100	10.24	3,140	31,000	9.87
Fine aggregate (-¾ inch):						
Stone sand, concrete	53	267	5.03	44	197	4.50
Stone sand, bituminous mix or seal	430	2,730	6.36	264	3,020	11.44
Screening, undesignated	223	1,010	4.55	179	496	2.77
Unspecified fine aggregate	755	7,020	9.30	983	8,600	8.75
Coarse and fine aggregates:						
Graded road base or subbase	8,570	67,000	7.82	3,630	24,900	6.86
Unpaved road surface	291	2,300	7.90	390	3,260	8.36
Terrazzo and exposed aggregate	W	W	W	W	W	W
Crusher run or fill or waste	363	3,080	8.47	314	2,080	6.64
Unspecified coarse and fine aggregates	15,200	119,000	7.80	12,400	97,100	7.83
Unspecified and other construction materials	590	5,200	8.81	501	3,270	6.53
Agricultural:						
Agricultural Limestone	759	7,230	9.53	343	3,790	11.05
Unspecified and other agricultural uses	W	W	W	--	--	--
Chemical and metallurgical:						
Cement manufacture	138	1,090	7.89	W	W	W
Lime manufacture	W	W	W	W	W	W
Flux stone	W	W	W	--	--	--
Glass manufacture	W	W	W	--	--	--
Special:						
Other fillers or extenders	W	W	W	--	--	--
Other miscellaneous uses and specified uses not listed	13	279	21.44	36	292	8.16
Unspecified: <sup>2</sup>						
Reported	13,400	107,000	7.95	16,000	132,000	8.23
Estimated	3,130	24,600	7.84	9,690	80,100	8.26
Total or average	54,500	441,000	8.10	52,000	425,000	8.19

W Withheld to avoid disclosing company proprietary data; included in "Total." -- Zero.

<sup>1</sup>Data are rounded to no more than three significant digits, except unit value; may not add to totals shown.

<sup>2</sup>Reported and estimated production without a breakdown by end use.

TABLE 4  
OHIO: CRUSHED STONE SOLD OR USED BY PRODUCERS IN 2012, BY USE AND DISTRICT<sup>1</sup>

(Thousand metric tons and thousand dollars)

Use	District 1		District 2		District 3	
	Quantity	Value	Quantity	Value	Quantity	Value
Construction:						
Coarse aggregate (+1½ inch) <sup>2</sup>	161	1,470	W	W	164	1,570
Coarse aggregate, graded <sup>3</sup>	2,960	23,900	3,090	30,600	W	W
Fine aggregate (-¾ inch) <sup>4</sup>	520	2,950	514	5,110	W	W
Coarse and fine aggregates <sup>5</sup>	8,940	63,200	2,680	22,900	2,750	23,700
Other construction materials	73	647	28	243	--	--
Agricultural <sup>6</sup>	W	W	W	W	W	W
Chemical and metallurgical <sup>7</sup>	W	W	7	71	W	W
Special <sup>8</sup>	W	W	W	W	--	--
Other miscellaneous uses and specified uses not listed <sup>9</sup>	--	--	--	--	--	--
Unspecified: <sup>10</sup>						
Reported	7,170	57,600	--	--	1,860	13,600
Estimated	1,460	11,900	1,150	9,340	159	1,360
Total	22,000	167,000	8,180	74,900	6,380	51,900
Use	District 4		District 5		District 6	
	Quantity	Value	Quantity	Value	Quantity	Value
Construction:						
Coarse aggregate (+1½ inch) <sup>2</sup>	W	W	25	236	275	2,890
Coarse aggregate, graded <sup>3</sup>	W	W	W	W	688	6,180
Fine aggregate (-¾ inch) <sup>4</sup>	W	W	W	W	192	1,490
Coarse and fine aggregates <sup>5</sup>	W	W	1,070	9,310	1,640	11,800
Other construction materials	46	407	396	3,490	W	W
Agricultural <sup>6</sup>	W	W	7	68	W	W
Chemical and metallurgical <sup>7</sup>	--	--	--	--	--	--
Special <sup>8</sup>	--	--	--	--	--	--
Other miscellaneous uses and specified uses not listed <sup>9</sup>	--	--	8	159	5	12
Unspecified: <sup>10</sup>						
Reported	W	W	2,240	18,000	968	7,860
Estimated	--	--	358	2,000	--	--
Total	9,850	81,600	4,140	33,800	3,930	32,300

W Withheld to avoid disclosing company proprietary data; included in "Total." -- Zero.

<sup>1</sup>Data are rounded to no more than three significant digits; may not add to totals shown.

<sup>2</sup>Includes macadam, riprap and jetty stone, filter stone, and unspecified coarse aggregate.

<sup>3</sup>Includes concrete aggregate (coarse), bituminous aggregate (coarse), bituminous surface-treatment aggregate, railroad ballast, and unspecified other graded coarse aggregate.

<sup>4</sup>Includes stone sand (concrete), stone sand (bituminous mix or seal), screening (undesigned), and unspecified other fine aggregate.

<sup>5</sup>Includes graded road base or subbase, unpaved road surface, terrazzo and exposed aggregate, crusher run, and unspecified other coarse and fine aggregates.

<sup>6</sup>Includes agricultural limestone and other agricultural uses.

<sup>7</sup>Includes cement manufacture, lime manufacture, flux stone, and glass manufacture.

<sup>8</sup>Includes other fillers or extenders.

<sup>9</sup>Includes drain fields, waste material, lightweight aggregate (slate), pipe bedding, refractory stone (including ganister), and other miscellaneous uses.

<sup>10</sup>Reported and estimated production without a breakdown by end use.

TABLE 5  
OHIO: CRUSHED STONE SOLD OR USED BY PRODUCERS IN 2013, BY USE AND DISTRICT<sup>1</sup>

(Thousand metric tons and thousand dollars)

Use	District 1		District 2		District 3	
	Quantity	Value	Quantity	Value	Quantity	Value
Construction:						
Coarse aggregate (+1½ inch) <sup>2</sup>	182	1,750	W	W	133	1,250
Coarse aggregate, graded <sup>3</sup>	1,240	10,100	W	W	W	W
Fine aggregate (-¾ inch) <sup>4</sup>	454	2,230	W	W	305	2,760
Coarse and fine aggregates <sup>5</sup>	W	W	1,450	11,700	2,410	16,700
Other construction materials	W	W	2	15	--	--
Agricultural <sup>6</sup>	40	356	W	W	W	W
Chemical and metallurgical <sup>7</sup>	1,100	9,210	--	--	718	5,870
Special	--	--	--	--	--	--
Other miscellaneous uses and specified uses not listed <sup>8</sup>	--	--	--	--	36	292
Unspecified: <sup>9</sup>						
Reported	7,210	54,800	2,580	23,400	421	3,350
Estimated	5,740	46,400	126	1,030	1,340	12,400
Total	21,100	164,000	6,380	59,000	6,830	55,700
Use	District 4		District 5		District 6	
	Quantity	Value	Quantity	Value	Quantity	Value
Construction:						
Coarse aggregate (+1½ inch) <sup>2</sup>	W	W	W	W	161	1,870
Coarse aggregate, graded <sup>3</sup>	W	W	--	--	722	7,940
Fine aggregate (-¾ inch) <sup>4</sup>	W	W	W	W	140	1,420
Coarse and fine aggregates <sup>5</sup>	W	W	1,480	11,500	1,370	10,500
Other construction materials	43	281	309	2,020	48	316
Agricultural <sup>6</sup>	--	--	--	--	W	W
Chemical and metallurgical <sup>7</sup>	--	--	--	--	--	--
Special	--	--	--	--	--	--
Other miscellaneous uses and specified uses not listed <sup>8</sup>	--	--	--	--	--	--
Unspecified: <sup>9</sup>						
Reported	W	W	55	1,210	1,080	8,780
Estimated	--	--	2,310	19,600	171	583
Total	9,780	79,600	4,160	34,500	3,770	32,400

W Withheld to avoid disclosing company proprietary data; included in "Total." -- Zero.

<sup>1</sup>Data are rounded to no more than three significant digits; may not add to totals shown.

<sup>2</sup>Includes macadam, riprap and jetty stone, filter stone, and unspecified coarse aggregate.

<sup>3</sup>Includes concrete aggregate (coarse), bituminous aggregate (coarse), bituminous surface-treatment aggregate, railroad ballast, and unspecified graded coarse aggregate.

<sup>4</sup>Includes stone sand (concrete), stone sand (bituminous mix or seal), screening (undesignated), and unspecified fine aggregate.

<sup>5</sup>Includes graded road base or subbase, unpaved road surface, terrazzo and exposed aggregate, crusher run, and unspecified coarse and fine aggregates.

<sup>6</sup>Includes agricultural limestone and other agricultural uses.

<sup>7</sup>Includes cement manufacture, lime manufacture, flux stone, and glass manufacture.

<sup>8</sup>Includes drain fields, waste material, lightweight aggregate (slate), pipe bedding, refractory stone (including ganister), and other miscellaneous uses.

<sup>9</sup>Reported and estimated production without a breakdown by end use.



TABLE 6  
OHIO: CONSTRUCTION SAND AND GRAVEL SOLD OR USED IN 2012,  
BY MAJOR USE CATEGORY<sup>1</sup>

Use	Quantity (thousand metric tons)	Value (thousands)	Unit value
Concrete aggregate (including concrete sand)	3,620	\$21,800	\$6.02
Plaster and gunitite sands	16	275	17.19
Concrete products (blocks, bricks, pipe, decorative, and so forth)	63	783	12.43
Asphaltic concrete aggregates and other bituminous mixtures	1,490	8,850	5.94
Road base and coverings <sup>2</sup>	1,950	17,100	8.77
Fill	1,550	9,140	5.90
Snow and ice control	108	522	4.83
Roofing granules	24	203	8.46
Filtration	118	3,320	28.14
Other miscellaneous uses	1,710	15,900	9.30
Unspecified: <sup>3</sup>			
Reported	18,000	149,000	8.28
Estimated	869	7,940	9.14
Total or average	29,500	234,000	7.93

<sup>1</sup>Data are rounded to no more than three significant digits, except unit value; may not add to totals shown.

<sup>2</sup>Includes road and other stabilization (cement and lime).

<sup>3</sup>Reported and estimated production without a breakdown by end use.

TABLE 7  
OHIO: CONSTRUCTION SAND AND GRAVEL SOLD OR USED IN 2013,  
BY MAJOR USE CATEGORY<sup>1</sup>

Use	Quantity (thousand metric tons)	Value (thousands)	Unit value
Concrete aggregate (including concrete sand)	5,160	\$36,100	\$7.00
Plaster and gunitite sands	20	314	15.70
Concrete products (blocks, bricks, pipe, decorative, and so forth)	117	969	8.28
Asphaltic concrete aggregates and other bituminous mixtures	2,210	15,500	7.01
Road base and coverings	1,460	12,400	8.49
Road and other stabilization (cement)	166	2,170	13.07
Road and other stabilization (lime)	36	314	8.72
Fill	1,450	11,900	8.21
Snow and ice control	80	485	6.06
Roofing granules	32	284	8.88
Filtration	67	1,020	15.22
Golf course	19	258	13.58
Other miscellaneous uses	308	2,080	6.75
Unspecified: <sup>2</sup>			
Reported	16,600	139,000	8.37
Estimated	1,590	10,600	6.67
Total or average	29,300	234,000	7.99

<sup>1</sup>Data are rounded to no more than three significant digits, except unit value; may not add to totals shown.

<sup>2</sup>Reported and estimated production without a breakdown by end use.

TABLE 8  
OHIO: CONSTRUCTION SAND AND GRAVEL SOLD OR USED IN 2012,  
BY USE AND DISTRICT<sup>1</sup>

(Thousand metric tons and thousand dollars)

Use	District 1		District 2		District 3	
	Quantity	Value	Quantity	Value	Quantity	Value
Concrete aggregates and concrete products <sup>2</sup>	W	W	442	2,520	1,210	8,830
Asphaltic concrete aggregates and road base materials <sup>3</sup>	W	W	1,250	9,310	703	5,540
Fill	15	87	472	2,880	583	2,660
Snow and ice control	--	--	12	64	23	131
Other miscellaneous uses <sup>4</sup>	131	1,100	116	2,820	74	706
Unspecified: <sup>5</sup>						
Reported	445	2,040	5,550	44,800	6,110	52,100
Estimated	--	--	394	3,120	--	--
Total	721	4,190	8,230	65,500	8,710	69,900
Use	District 4		District 5		District 6	
	Quantity	Value	Quantity	Value	Quantity	Value
Concrete aggregates and concrete products <sup>2</sup>	W	W	646	3,230	1,110	6,090
Asphaltic concrete aggregates and road base materials <sup>3</sup>	W	W	884	7,140	241	1,420
Fill	200	1,320	238	1,950	47	247
Snow and ice control	7	32	55	222	10	73
Other miscellaneous uses <sup>4</sup>	2	16	599	5,650	907	8,410
Unspecified: <sup>5</sup>						
Reported	1,970	17,200	2,700	21,900	1,220	10,600
Estimated	--	--	48	300	428	4,520
Total	2,730	23,100	5,170	40,400	3,960	31,400

W Withheld to avoid disclosing company proprietary data; included in "Total." -- Zero.

<sup>1</sup>Data are rounded to no more than three significant digits; may not add to totals shown.

<sup>2</sup>Includes plaster and gunite sands.

<sup>3</sup>Includes road and other stabilization (cement and lime).

<sup>4</sup>Includes filtration and roofing granules.

<sup>5</sup>Reported and estimated production without a breakdown by end use.

TABLE 9  
OHIO: CONSTRUCTION SAND AND GRAVEL SOLD OR USED IN 2013,  
BY USE AND DISTRICT<sup>1</sup>

(Thousand metric tons and thousand dollars)

Use	District 1		District 2		District 3	
	Quantity	Value	Quantity	Value	Quantity	Value
Concrete aggregates and concrete products <sup>2</sup>	W	W	906	6,760	1,130	9,450
Asphaltic concrete aggregates and road base materials <sup>3</sup>	W	W	1,860	14,400	577	4,700
Fill	11	91	528	4,490	320	2,410
Snow and ice control	--	--	11	107	5	27
Other miscellaneous uses <sup>4</sup>	80	283	30	390	76	800
Unspecified: <sup>5</sup>						
Reported	205	1,190	3,190	26,500	6,400	54,100
Estimated	--	--	576	3,700	100	368
Total	451	2,650	7,110	56,400	8,600	71,900
Use	District 4		District 5		District 6	
	Quantity	Value	Quantity	Value	Quantity	Value
Concrete aggregates and concrete products <sup>2</sup>	W	W	1,100	6,530	1,750	11,500
Asphaltic concrete aggregates and road base materials <sup>3</sup>	W	W	923	7,760	245	1,430
Fill	117	1,050	460	3,780	14	79
Snow and ice control	--	--	60	305	5	46
Other miscellaneous uses <sup>4</sup>	36	583	198	1,560	7	21
Unspecified: <sup>5</sup>						
Reported	2,250	18,200	2,930	24,900	1,600	14,300
Estimated	--	--	153	924	761	5,590
Total	2,930	24,000	5,820	45,800	4,380	32,900

W Withheld to avoid disclosing company proprietary data; included in "Total." -- Zero.

<sup>1</sup>Data are rounded to no more than three significant digits; may not add to totals shown.

<sup>2</sup>Includes plaster and gunite sands.

<sup>3</sup>Includes road and other stabilization (cement and lime).

<sup>4</sup>Includes filtration, golf course, and roofing granules.

<sup>5</sup>Reported and estimated production without a breakdown by end use.