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2014 Minerals Yearbook

OHIO [ADVANCE RELEASE]

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U.S. Geological Survey

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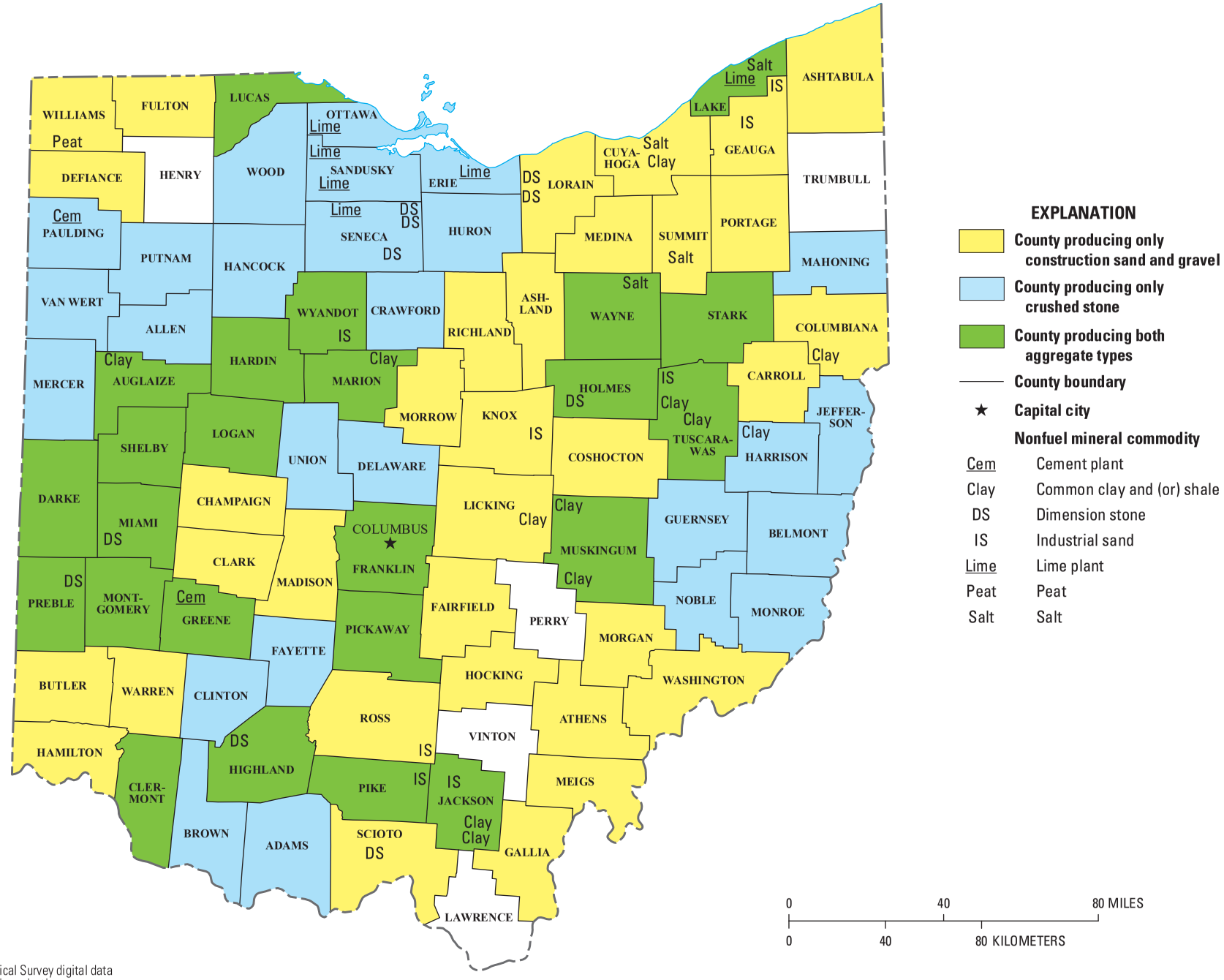

Base from U.S. Geological Survey digital data
Albers Equal-Area Conic projection

Figure 1. Map showing major nonfuel-mineral-producing areas in Ohio in 2014. Sources: Ohio Geological Survey and U.S. Geological Survey.

The Mineral Industry of Ohio

By Robert M. Callaghan

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 2014, the partial value of nonfuel mineral production[1] in the State of Ohio (fig. 1) was $1.27 billion.[2] This was a 22% increase from the State's revised partial nonfuel mineral production value of $1.04 billion[2] in 2013 (table 1). The State was ranked 18th in the Nation on the basis of total nonfuel mineral production value, including that of mineral commodities for which values were withheld, which included masonry cement, peat, and salt. The leading mineral commodity in the State in both production quantity and production value was crushed stone, of which approximately 96% sold or used by producers was limestone. Ohio's limestone production supported six lime plants and two cement plants, in addition to other major end uses such as construction aggregates. Most dimension stone (88%) sold or used by producers in Ohio consisted of sandstone, however. The per capita value of mineral production in the State rose to $109 in 2014 from $90 in 2013 for the mineral commodities published in this report, and despite a decreasing number of mines, mine employment and average mining wage increased (table 2).

Events, Trends, and Issues

After the recession of 2007–09, the values of most nonfuel mineral commodities published in this report began increasing, and by 2013 the nominal value of these mineral commodities surpassed the prerecession peak of 2006 (fig. 2). In 2014, while most mineral commodities continued to increase in value at a relatively modest rate, industrial sand production more than doubled in quantity and increased about 245% in value because of increased use of industrial sand as a proppant in hydraulic fracturing. This increase in the production value of industrial sand accounted for the largest part of the increase in the State's total nonfuel mineral production value. Nationally, industrial sand production value increased by 138% from 2013.

In 2014, production of crude petroleum (15 million barrels [Mbbl]) and natural gas (14.5 million cubic meters) increased by 90% and 300%, respectively, compared with 2013 production of 8 Mbbl and 4.8 million cubic meters. Of 715 new oil and gas wells drilled in 2014, 699 began producing (Wolfe and Stucker, 2014, p. 9; Stucker, 2015, p. 9). In addition to the increased need for industrial sand, additional construction aggregates were also needed for the infrastructure supporting the oil and gas industry. Production of construction mineral commodities in general, especially crushed stone and cement, had been increasing since the end of the 2007–09 recession.

The Ohio Department of Natural Resources, Division of Geological Survey,[3] provided a summary based on their own surveys for the mineral industry of the State covering activities in 2014 from which the following totals of reported or estimated production and sales data were extracted:

- Limestone and dolomite were reported sold and (or) produced by 50 companies at 102 operations in 53 Ohio counties during 2014, totaling 53.9 million metric tons (Mt). Carbonates located in the western half of Ohio were the primary geologic units from which crushed stone was produced. In 2014, the primary use for crushed and broken limestone and dolomite was road construction and resurfacing. Since 2011, there was a major increase in the railroad transportation of aggregates and other industrial minerals in Ohio, largely to support the development of hydrocarbon resources in eastern Ohio.
- Sand and gravel were reported sold and (or) produced by 137 companies at 199 operations in 55 Ohio counties during 2014. Estimated production of sand and gravel totaled 28.1 Mt in 2014. Commercial and residential building, portland cement concrete, asphaltic concrete, and road construction and (or) resurfacing were the major uses for Ohio sand and gravel in 2014. Sand and gravel deposits in Ohio primarily are associated with 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.
- Sandstone and conglomerate were reported sold and (or) produced by 19 companies at 25 operations in 18 Ohio counties during 2014, with a total of 1.18 Mt in 2014. Conglomerate in northeastern Ohio was the most productive source mined for industrial purposes during 2014 though there were other sources of high-silica sandstone. Sandstones found in northern and southern Ohio were quarried for building stone.
- Clay was reported sold and (or) produced by 23 companies at 27 operations in 17 Ohio counties during 2014, totaling 0.51 Mt. Shale was reported sold and (or) produced by 15 companies at 19 operations in 12 Ohio counties during 2014, totaling 0.42 Mt. In 2014, Ohio clay and shale continued to be used to produce important ceramic products, though the industry was smaller than it once was.

[1]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 June 2017. 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.

[2]Partial total; excludes values that must be withheld to avoid disclosing company proprietary data.

[3]J.D. Stucker, Geologist, Ohio Department of Natural Resources, Division of Geological Survey, provided the State nonfuel mineral industry information.

Aggregates by State and End Use

A companion dataset, "Aggregates by State and End Use," replaces the discrete aggregate tables that were included in the individual State chapters prior to 2014 and is available on the State Minerals Statistics and Information web page at https://minerals.usgs.gov/minerals/pubs/state/. This dataset is updated annually.

References Cited

Stucker, J.D., comp., 2015, 2014 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, 36 p., 8 appendixes. (Accessed July 27, 2017, at https://geosurvey.ohiodnr.gov/portals/geosurvey/PDFs/Mineral_Industries_Reports/MinInd14.pdf.)

Wolfe, M.E., and Stucker, J.D., comps., 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, 38 p., 8 appendixes. (Accessed April 5, 2016, at http://geosurvey.ohiodnr.gov/portals/geosurvey/PDFs/Mineral_Industries_Reports/MinInd13.pdf.)

TABLE 1
NONFUEL MINERAL PRODUCTION IN OHIO[1, 2, 3]

(Thousand metric tons and thousand dollars)

Mineral	2012		2013		2014	
	Quantity	Value	Quantity	Value	Quantity	Value
Cement:						
Masonry	W	W	W	W	W	W
Portland	797	72,100 e	829	79,000 e	864	90,000 e
Clays, common clay	693	13,900	602 r	9,100 r	643	9,980
Gemstones, natural[e]	NA	4	NA	4	NA	4
Lime	1,650	209,000	1,780	229,000	1,800	234,000
Peat	W	W	W	W	W	W
Salt	W	W	W	W	W	W
Sand and gravel:						
Construction	29,300 r	232,000 r	28,700 r	224,000 r	31,000	232,000
Industrial	1,160	34,500	1,230	61,100	2,850	211,000
Stone:						
Crushed	54,600 r	442,000 r	52,900 r	433,000 r	54,800	485,000
Dimension	25	5,700	27	6,610	21	5,150
Total	XX	1,010,000	XX	1,040,000 r	XX	1,270,000

[e]Estimated. [r]Revised. NA Not available. W Withheld to avoid disclosing company proprietary data; excluded from "Total." XX Not applicable.
[1]Includes data available through June 2017.
[2]Production as measured by mine shipments, sales, or marketable production (including consumption by producers).
[3]Data are rounded to no more than three significant digits; may not add to totals shown.

TABLE 2
MINING ACTIVITY IN OHIO

Mining activity		2012	2013	2014
State rank[1]		19	17	18
Employment, number:[2]				
Nonfuel mineral mines		1,991	1,933	1,981
Mills and plants		1,073	1,099	1,107
Number of nonfuel mineral mines[2]		367	354	340
Number of mills and plants[2]		106	103	98
Average annual wage, all mining[3]	dollars per year	61,740	63,855	66,601
Average annual wage, all industries[3]	do.	43,608	44,059	45,486
Per capita value[4]	dollars per person	87	90	109
National per capita value[1]	do.	241	236	252

do. Ditto.
[1]Based on the unadjusted State total value.
[2]Source: U.S. Mine Safety and Health Administration.
[3]Source: National Mining Association.
[4]Based on partial State total value to avoid disclosing company proprietary data.

TABLE 3
STRUCTURE OF THE NONFUEL MINERAL INDUSTRY IN OHIO

(Nonfuel-mineral-producing companies, not including aggregate producers)

Commodity	Company	County
Cement	CEMEX, Inc.	Greene
Do.	Lafarge North America Inc.	Paulding
Clays, common clay and (or) shale	Belden Brick Co.	Tuscarawas
Do.	Bowerston Shale Co.	Harrison, Licking, Muskingum
Do.	Glen-Gery Corp.	Marion
Do.	Hydraulic Press Brick Co.	Cuyahoga
Do.	L & M Mineral Co.	Tuscarawas
Do.	Sandkuhl Clay Works, Inc.	Auglaize
Do.	Summitville Tiles Inc.	Columbiana
Do.	Valley Clay Mining Co.	Muskingum
Do.	Waterloo Coal Co., Inc.	Jackson
Gemstones[1]	Various	Various
Lime	Carmeuse Lime & Stone	Lake, Sandusky, Seneca
Do.	Graymont, Inc.	Ottawa
Do.	Martin Marietta Minerals, Inc.	Sandusky
Do.	Mississippi Lime Co.	Erie
Peat	Lingvai Peat Co.	Williams
Salt	Cargill, Inc.	Cuyahoga and Summit
Do.	Morton International, Inc.	Lake and Wayne
Sand and gravel, industrial	Best Sand Corp.	Geauga and Pike
Do.	Jalip Ltd.	Wyandot
Do.	Ohio Basic Minerals LLC	Jackson and Ross
Do.	Premier Silica LLC	Knox
Do.	R.W. Sidley, Inc.	Ashtabula and Geauga
Do.	Regeneration Materials Co.	Tuscarawas
Stone, dimension	Briar Hill Stone Co.	Holmes, Scioto
Do.	Heitsche North Shore Stone Quarry LLC	Seneca
Do.	Cleveland Quarries Co. (IRG Operating LLC)	Erie
Do.	Johnson Stone Products Inc.	Lorain
Do.	Ohio Stone of Lynchburg, Inc.	Highland
Do.	Western Ohio Cut Stone LLC	Miami and Seneca
Do.	Wysong Stone Co.	Preble

Do. Ditto.

[1]Most natural gemstone producers in the United States are small businesses that are widely dispersed and operate independently.

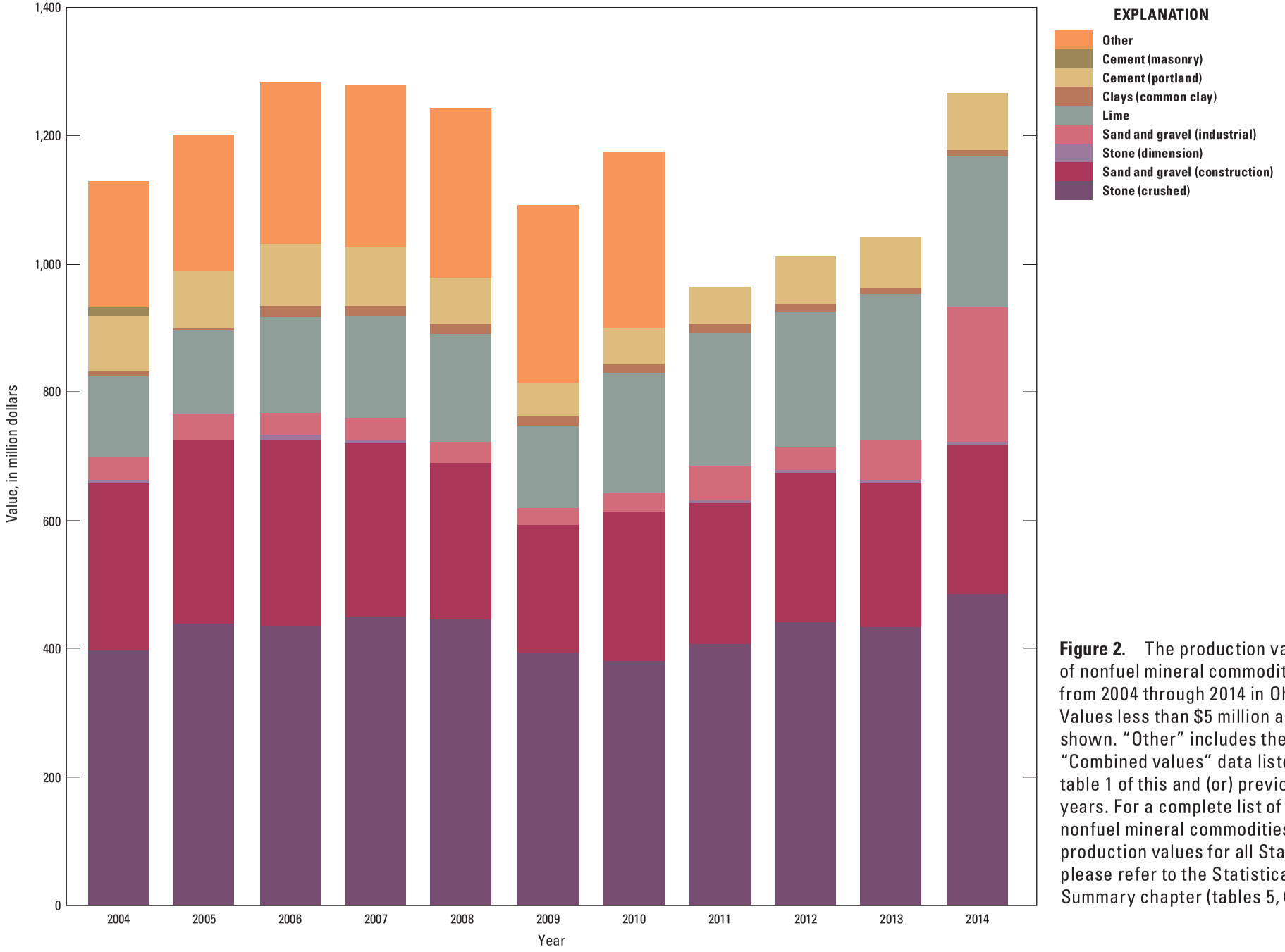

Figure 2. The production value of nonfuel mineral commodities from 2004 through 2014 in Ohio. Values less than $5 million are not shown. "Other" includes the "Combined values" data listed in table 1 of this and (or) previous years. For a complete list of nonfuel mineral commodities and production values for all States, please refer to the Statistical Summary chapter (tables 5, 6).