

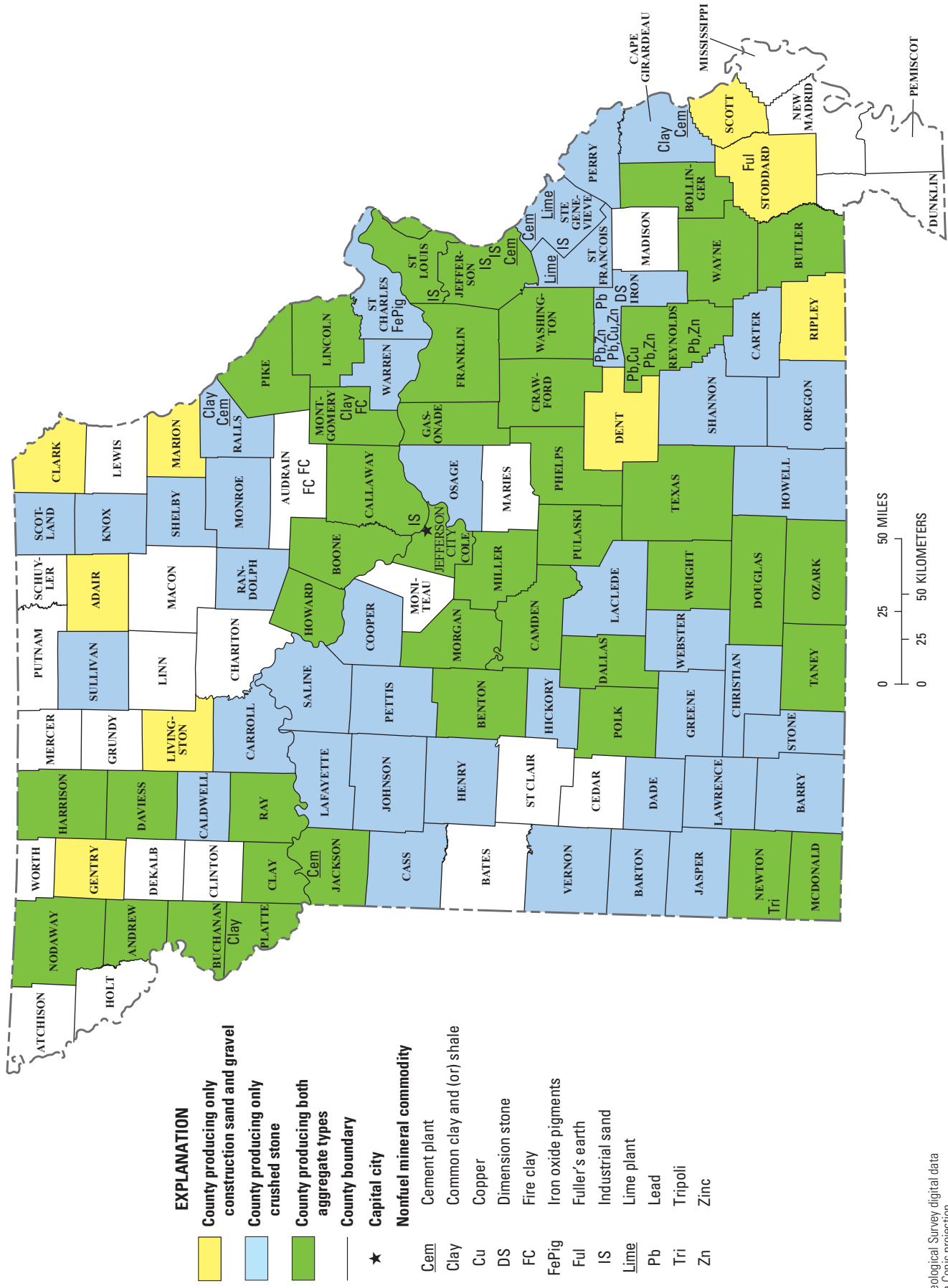


# 2014 Minerals Yearbook

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**MISSOURI [ADVANCE RELEASE]**

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**EXPLANATION**

- County producing only construction sand and gravel
- County producing only crushed stone
- County producing both aggregate types
- County boundary
- Capital city
- ★ Nonfuel mineral commodity**

- Cem Cement plant
- Clay Common clay and (or) shale
- Cu Copper
- DS Dimension stone
- FC Fire clay
- FePig Iron oxide pigments
- Ful Fuller's earth
- IS Industrial sand
- Lime Lime plant
- Pb Lead
- Tri Tripoli
- Zn Zinc

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

**Figure 1.** Map showing major nonfuel-mineral-producing areas in Missouri in 2014. Sources: Missouri Department of Natural Resources, Division of Geology and Land Survey, and U.S. Geological Survey.

# THE MINERAL INDUSTRY OF MISSOURI

By Madan M. Singh

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

In 2014, the value of the nonfuel mineral production<sup>1</sup> in the State of Missouri was \$2.65 billion. This was a 13.7% increase from the State's revised nonfuel mineral production value of \$2.33 billion in 2013 (table 1). Nonfuel mineral production in the State surpassed \$2 billion in value since 2006 and only dropped below that figure in 2009 (fig. 1). Missouri accounted for approximately 3.3% of the total U.S. production value in 2014, which ranked it 10th among the 50 States. On a per capita basis, the value of nonfuel mineral production was \$438 compared with the national average of \$252 (table 2).

In 2014, the leading four minerals produced with published values in the State, in alphabetical order, were crushed stone, lead, lime, and portland cement. Missouri is the leading producer of lead in the country, but the figures are withheld to avoid disclosing company proprietary data. Lead was produced by The Doe Run Co. from six mines in the Viburnum Trend in the southeastern part of the State (table 3). The company closed its smelter in Herculanum, MO, at yearend 2013, but continued to operate its refinery, strip mill, and alloying and casting operations at the site. Doe Run operated a secondary lead refinery in Boss, MO, which produced refined lead primarily from scrapped lead-acid batteries (Doe Run Co., The, undated).

Most of the crushed stone mined in Missouri was limestone and dolomite, but granite and traprock were also produced. Specialty Granules, Inc. (Hagerstown, MD; formerly ISP Minerals Inc.) and CertainTeed Corp. (Valley Forge, PA) produced crushed rhyolite-trachyte roofing granules from their mines and processing facilities in Iron and Wayne Counties, respectively. Graniteville Quarry LLC (Ironton, MO) produced crushed granite in Iron County. Dillon Llewellyn LLC and Iron Mountain Trap Rock Co. (Maryland Heights, MO; a subsidiary of Fred Weber, Inc.) produced a dark-colored, crushed rhyolite in Iron and St. Francois Counties, respectively (U.S. Geological Survey, 2016, p. 27.1).

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<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 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>.

## Events, Trends, and Issues

Lead is primarily used in lead-acid batteries; its use in paint and pipes is decreasing because of health effects and environmental concerns. Crushed stone and construction sand and gravel are mainly used in construction. In 2014, the production quantity of construction sand and gravel in Missouri decreased by 6.1% and crushed stone remained essentially unchanged from the previous year.

## 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

- Doe Run Co., The, [undated], Lead recycling, what we do: Boss, MO, The Doe Run Co. (Accessed May 1, 2018, at <http://www.doerun.com/what-we-do/lead-recycling>.)
- U.S. Geological Survey, 2016, The mineral industry of Missouri [advance release], in *Area reports—Domestic: U.S. Geological Survey Minerals Yearbook 2012–2013*, v. II, p. 27.1–27.8. (Accessed June 27, 2018, at [https://minerals.usgs.gov/minerals/pubs/state/2012\\_13/myb2-2012\\_13-mo.pdf](https://minerals.usgs.gov/minerals/pubs/state/2012_13/myb2-2012_13-mo.pdf).)

TABLE 1  
NONFUEL MINERAL PRODUCTION IN MISSOURI<sup>1,2,3</sup>

(Thousand metric tons and thousand dollars)

Mineral	2012		2013		2014	
	Quantity	Value	Quantity	Value	Quantity	Value
Cement, portland	7,950	635,000 <sup>e</sup>	8,220	703,000 <sup>e</sup>	8,780	844,000 <sup>e</sup>
Clays, common clay	409	3,190	W	W	W	W
Sand and gravel:						
Construction	10,500 <sup>r</sup>	69,600 <sup>r</sup>	11,200 <sup>r</sup>	78,200 <sup>r</sup>	10,500	66,900
Industrial	1,390	76,000	1,990	127,000	4,290	289,000
Stone, crushed	68,100 <sup>r</sup>	570,000 <sup>r</sup>	68,800 <sup>r</sup>	527,000 <sup>r</sup>	68,800	550,000
Combined values of cement (masonry), clays (fire clay and fuller's earth), copper, gemstones (natural), lead, lime, silver, stone (dimension), tripoli, zinc, and values indicated by symbol W	XX	913,000	XX	898,000 <sup>r</sup>	XX	903,000
Total	XX	2,270,000 <sup>r</sup>	XX	2,330,000 <sup>r</sup>	XX	2,650,000

<sup>e</sup>Estimated. <sup>r</sup>Revised. W Withheld to avoid disclosing company proprietary data; included in "Combined values" data. XX Not applicable.

<sup>1</sup>Includes data available through June 2017.

<sup>2</sup>Production as measured by mine shipments, sales, or marketable production (including consumption by producers).

<sup>3</sup>Data are rounded to no more than three significant digits; may not add to totals shown.

TABLE 2  
MINING ACTIVITY IN MISSOURI

Mining activity	2012	2013	2014
State rank <sup>1</sup>	11	10	10
Employment, number: <sup>2</sup>			
Nonfuel mineral mines	2,613	2,560	2,559
Mills and plants	2,358	2,657	2,546
Number of nonfuel mineral mines <sup>2</sup>	341	329	338
Number of mills and plants <sup>2</sup>	158	166	174
Average annual wage, all mining <sup>3</sup>	dollars per year	69,210	66,810
Average annual wage, all industries <sup>3</sup>	do.	43,134	43,441
Per capita value <sup>1</sup>	dollars per person	376	386
National per capita value <sup>1</sup>	do.	241	236
do. Ditto.			

<sup>1</sup>Based on unadjusted State total value.

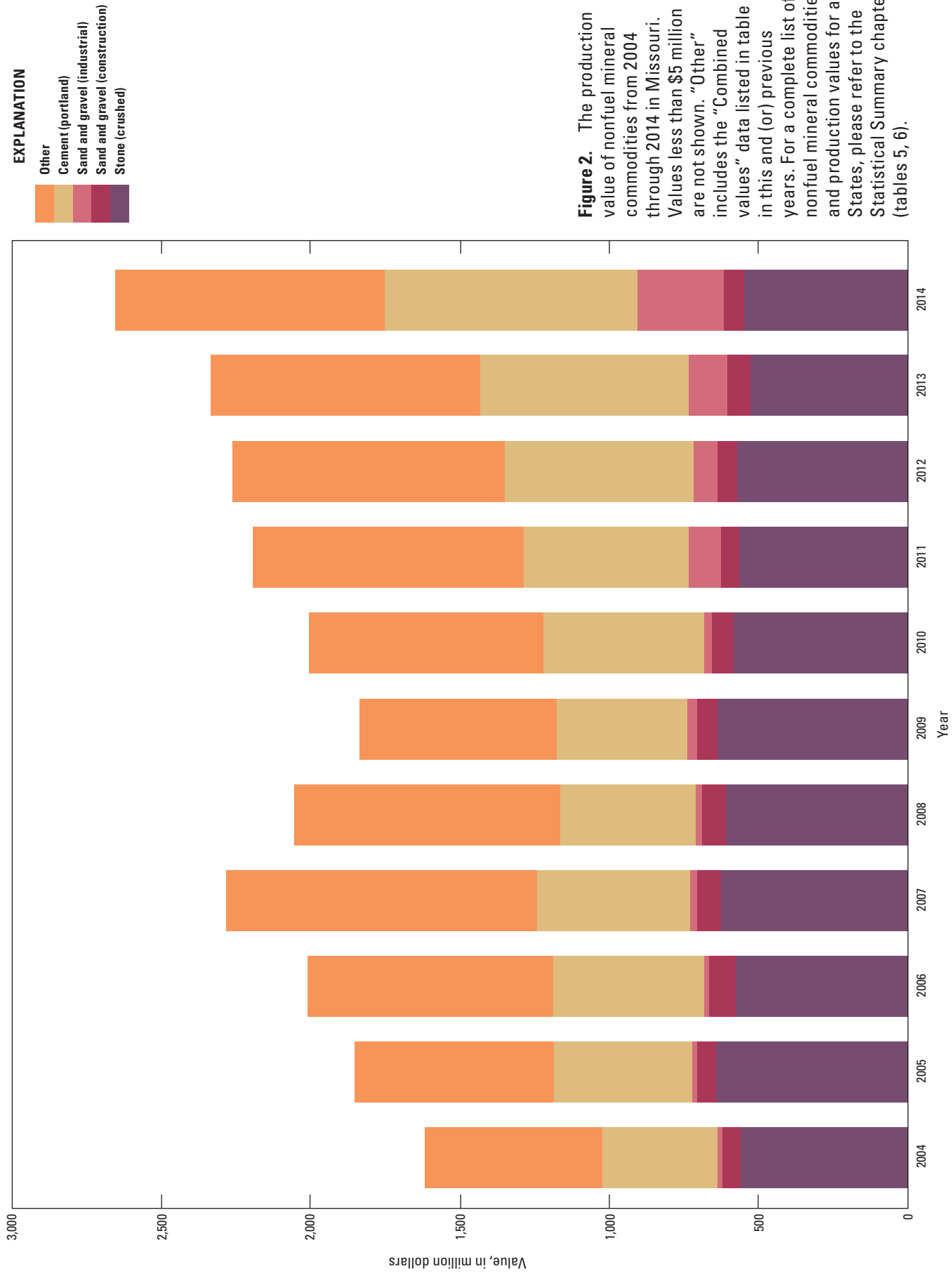
<sup>2</sup>Source: U.S. Mine Safety and Health Administration.

<sup>3</sup>Source: National Mining Association.

TABLE 3  
STRUCTURE OF THE NONFUEL MINERAL INDUSTRY IN MISSOURI

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

Commodity	Company	County
Cement	Buzzi Unicem USA Inc. (Cape Girardeau Plant)	Cape Girardeau
Do.	Buzzi Unicem USA Inc. (Festus/Selma/River Cement Plant)	Jefferson
Do.	Central Plains/Eagle Materials Inc. (Sugar Creek Plant)	Jackson
Do.	Continental/Summit Materials LLC (Hannibal Plant)	Ralls
Do.	Holcim (US) Inc. (Ste. Genevieve Plant)	Ste. Genevieve
Clays:		
Common clay	Buildex Inc.	Platte
Do.	Christy Minerals Co.	Montgomery
Do.	Continental Cement LLC	Ralls
Do.	Kasten Clay Products Inc.	Cape Girardeau
Fire clay and refractory clay	AP Green Industries Inc. & North American Refractories Co.	Gasconade
Do.	Christy Minerals Co.	Montgomery
Do.	Missouri Minerals/Christy Minerals Co.	Audrain
Fuller's earth, montmorillonite	Nestle Purina Petcare Co.	Stoddard
Iron oxide pigments	Huntsman P & A Americas LLC	St. Charles
Lead	The Doe Run Co. (Renco Group)—Buick Mine	Iron
Lead and copper	The Doe Run Co. (Renco Group)—Brushy Creek Mine	Reynolds
Lead and zinc	The Doe Run Co. (Renco Group)—Fletcher Mine	Do.
Do.	The Doe Run Co. (Renco Group)—Sweetwater Mine	Do.
Do.	The Doe Run Co. (Renco Group)—Viburnum No. 29 Mine	Iron
Lead, copper, zinc	The Doe Run Co. (Renco Group)—Viburnum No. 35 (Casteel) Mine	Washington
Lime	Lhoist North America Co.	Ste. Genevieve
Do.	Mississippi Lime Co.	Do.
Do.	Valley Minerals LLC	St. Francois
Sand and gravel, industrial	Capital Sand Co. Inc.	Callaway
Do.	Summit Proppants Inc.	Ste. Genevieve
Do.	Unimin Corp	Jefferson
Do.	U.S. Silica Corp.	St. Louis
Do.	Mississippi Sand LLC	Jefferson
Silica, tripoli	American Tripoli Inc.	Newton
Stone, dimension	Missouri Red Quarry Inc.	Iron
Do. Ditto.		



**Figure 2.** The production value of nonfuel mineral commodities from 2004 through 2014 in Missouri. Values less than \$5 million are not shown. "Other" includes the "Combined values" data listed in table 1 in 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).