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2012–2013 Minerals Yearbook

NEW JERSEY

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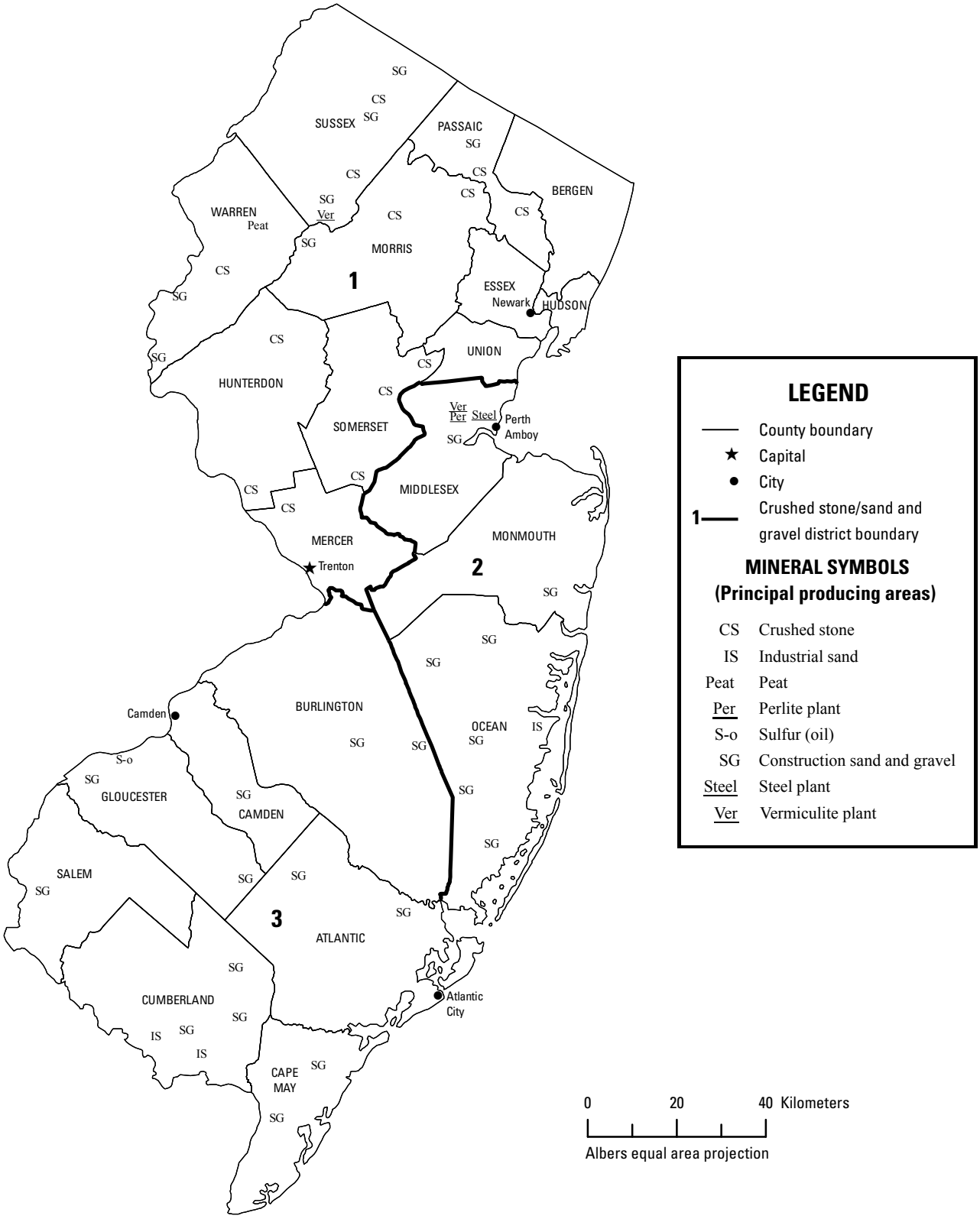
NEW JERSEY



Source: New Jersey Geological and Water Survey/U.S. Geological Survey (2012–13).

The Mineral Industry of New Jersey

This chapter has been prepared under a Memorandum of Understanding between the U.S. Geological Survey and the New Jersey Geological and Water Survey for collecting information on all nonfuel minerals.

In 2013, the value of the nonfuel mineral production[1] in the State of New Jersey increased to $284 million, 0.38% of the total U.S. nonfuel mineral production, ranking it 41st in the Nation. In 2012, the corresponding value was $254 million,[2] 0.36% of the U.S. total nonfuel mineral production, ranking it 40th among the 50 States. In 2013, on a per capita basis, nonfuel mineral production in New Jersey had a value of $32 compared with the national average of $238. In 2012, the per capita value was $30 compared with the national average of $241.

The value of nonfuel mineral production in New Jersey for the years 2006 through 2013 was as follows (in millions of dollars): $404 (2006), $343 (2007), $339[2] (2008), $270[2] (2009), $259[2] (2010), $275 (2011), $254 (2012), and $284 (2013).

In 2013, there were 707 employees in nonfuel mineral mines in New Jersey and 181 in mills and preparation plants. In 2012, the corresponding numbers were 684 in nonfuel mineral mines and 207 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 New Jersey for all mining was $70,279 compared with $58,998 for all industries. In 2012, the corresponding figures were $70,423 and $58,064, respectively (National Mining Association, unpub. data, February 4, 2016).

Commodity Review

In 2012 and 2013, crushed stone was the leading nonfuel mineral commodity mined in New Jersey, followed by construction sand and gravel (table 1). Crushed stone, primarily granite and traprock (table 2), was produced in the Piedmont, Highlands, and Valley and Ridge Provinces in the northwest portion of the State, while construction sand and gravel was produced throughout the State, particularly in the coastal plain. Production of both types of aggregates increased in 2013 from that in 2012. While most data by end use were concealed because of the limited number of producing companies, riprap and jetty stone, used for storm water control to slow erosion, was one end-use category that could be published in 2013 (table 3). The increase in this type of end use could be attributed to Hurricane Sandy, which made landfall in New Jersey in October 2012 and caused significant damage along the coastline.

A stronger construction industry also contributed to increased need for aggregates. Of companies reporting end use, a 60% increase in the amount of construction sand and gravel reported for asphalt suggested an increase in road resurfacing also took place in 2013 from 2012. A 70% increase in the value of recycled asphalt in New Jersey in 2013 from 2012 (Willett, 2015, p. 71.20) also suggested increased demand for roadbuilding materials. The results of a research project for the New Jersey Department of Transportation (NJDOT) were published, which recommended that NJDOT start allowing the use of recycled concrete for use as aggregate in nonstructural or roadway concrete, lessening the reliance on natural aggregate and associated transportation costs in areas of low availability such as southern New Jersey, and reduce the quantity of debris that would otherwise be disposed of at a landfill (Cleary, 2013, p. 55–56). An estimated 262,000 metric tons of portland cement concrete was already being recycled in New Jersey in 2013, a decrease of 12% from 2012 (Willett, 2015, p. 71.21).

In previous years, New Jersey was the only State producing greensand marl, a glauconite sand mined and processed at a site in Gloucester County and primarily used in water filtration applications. However, there was an ongoing shift toward use of a synthetic substitute, and corresponding reductions of mine output began in 2007 (Inversand Company, 2007). In 2012, with the production of greensand marl becoming uneconomical, Mantua Township and other local stakeholders were looking into ways to preserve the site as a fossil park (Driscoll, 2012). After 2012, about 100,000 gallons of water per day continued to be removed from the pit to keep it from filling (Beeler, 2015).

Other commodities produced included gemstones, industrial sand, and peat. Downstream operations included a steel plant that consumed primarily recycled scrap as a raw material, a sulfur operation that recovered sulfur from a petroleum refinery, a perlite-expanding plant, and two vermiculite-exfoliating plants that used material mined outside the State as raw materials.

[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 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.

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

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TABLE 1
NONFUEL MINERAL PRODUCTION IN NEW JERSEY[1, 2]

(Thousand metric tons and thousand dollars unless otherwise specified)

Mineral	2011		2012		2013	
	Quantity	Value	Quantity	Value	Quantity	Value
Gemstones, natural	NA	1	NA	1	NA	1
Peat	W	(3)	W	(3)	W	(3)
Sand and gravel:						
Construction	11,800	108,000	11,100	97,600	13,600	113,000
Industrial	974	34,400	773	32,100	882	28,200
Stone, crushed	13,800	132,000	14,800	124,000	17,200	144,000
Total	XX	275,000	XX	254,000	XX	284,000

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

TABLE 2
NEW JERSEY: CRUSHED STONE SOLD OR USED IN THE UNITED STATES, BY TYPE[1]

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[2]	1	252	$2,390	$9.50	1	315	$2,780	$8.82
Granite	8	6,060	54,800	9.04	7	7,600	71,100	9.35
Traprock	9	8,450	66,500	7.87	8	9,250	69,700	7.54
Miscellaneous stone	1	29	277	9.59	--	--	--	--
Total or average	XX	14,800	124,000	8.38	XX	17,200	144,000	8.37

XX Not applicable. -- Zero.
[1]Data are rounded to no more than three significant digits, except unit value; may not add to totals shown.
[2]Includes limestone-dolomite reported with no distinction between the two kinds of stone.

TABLE 3
NEW JERSEY: CRUSHED STONE SOLD OR USED BY PRODUCERS, BY USE[1]

Use	2012			2013		
	Quantity (thousand metric tons)	Value (thousands)	Unit value	Quantity (thousand metric tons)	Value (thousands)	Unit value
Construction:						
Coarse aggregate (+1½ inch):						
Macadam	--	--	--	W	W	W
Riprap and jetty stone	W	W	W	257	$2,050	$7.98
Filter stone	W	W	W	W	W	W
Unspecified coarse aggregate	W	W	W	W	W	W
Coarse aggregate, graded:						
Concrete aggregate, coarse	W	W	W	W	W	W
Bituminous aggregate, coarse	--	--	--	W	W	W
Railroad ballast	W	W	W	W	W	W
Unspecified graded coarse aggregate	W	W	W	W	W	W
Fine aggregate (-⅜ inch):						
Stone sand, concrete	70	$597	$8.52	W	W	W
Stone sand, bituminous mix or seal	--	--	--	W	W	W
Screening, undesignated	W	W	W	1,230	8,330	6.78
Unspecified fine aggregate	W	W	W	W	W	W
Coarse and fine aggregates:						
Graded road base or subbase	W	W	W	349	2,230	6.38
Crusher run or fill or waste	63	418	6.63	W	W	W
Unspecified coarse and fine aggregates	--	--	--	W	W	W
Other miscellaneous uses and specified uses not listed						
Unspecified:[2]						
Reported	5,070	46,500	9.18	6,180	58,600	9.49
Estimated	5,980	41,900	7.02	2,880	25,400	8.82
Total or average	14,800	124,000	8.38	17,200	144,000	8.37

W Withheld to avoid disclosing company proprietary data; included in "Total." -- Zero.
[1]Data are rounded to no more than three significant digits, except unit value; may not add to totals shown.
[2]Reported and estimated production without a breakdown by end use.

TABLE 4
NEW JERSEY: CRUSHED STONE SOLD OR USED BY PRODUCERS IN 2012, BY USE AND DISTRICT[1]

(Thousand metric tons and thousand dollars)

Use	District 1		District 2		District 3	
	Quantity	Value	Quantity	Value	Quantity	Value
Construction:						
Coarse aggregate (+1½ inch)[2]	W	W	--	--	--	--
Coarse aggregate, graded[3]	W	W	--	--	--	--
Fine aggregate (-⅜ inch)[4]	W	W	--	--	--	--
Coarse and fine aggregates[5]	W	W				
Agricultural	--	--	--	--	--	--
Chemical and metallurgical	--	--	--	--	--	--
Special	--	--	--	--	--	--
Other miscellaneous uses and specified uses not listed	--	--	--	--	--	--
Unspecified:[6]						
Reported	5,070	46,500	--	--	--	--
Estimated	5,980	41,900	--	--	--	--
Total	14,800	124,000	--	--	--	--

W Withheld to avoid disclosing company proprietary data; included in "Total." -- Zero.
[1]Data are rounded to no more than three significant digits; may not add to totals shown.
[2]Includes macadam, riprap and jetty stone, filter stone, and unspecified coarse aggregate.
[3]Includes concrete aggregate (coarse), bituminous aggregate (coarse), bituminous surface-treatment aggregate, railroad ballast, and unspecified graded coarse aggregate.
[4]Includes stone sand (concrete), stone sand (bituminous mix or seal), screening (undesignated), and unspecified fine aggregate.
[5]Includes graded road base or subbase, unpaved road surface, terrazzo and exposed aggregate, crusher run, roofing granules, and unspecified coarse and fine aggregates.
[6]Reported and estimated production without a breakdown by end use.

TABLE 5
NEW JERSEY: CRUSHED STONE SOLD OR USED BY PRODUCERS IN 2013, BY USE AND DISTRICT[1]

(Thousand metric tons and thousand dollars)

Use	District 1		District 2		District 3	
	Quantity	Value	Quantity	Value	Quantity	Value
Construction:						
Coarse aggregate (+1½ inch)[2]	602	5,330	--	--	--	--
Coarse aggregate, graded[3]	4,000	26,700	--	--	--	--
Fine aggregate (-⅜ inch)[4]	W	W	--	--	--	--
Coarse and fine aggregates[5]	W	W				
Agricultural	--	--	--	--	--	--
Chemical and metallurgical	--	--	--	--	--	--
Special	--	--	--	--	--	--
Other miscellaneous uses and specified uses not listed	--	--	--	--	--	--
Unspecified:[6]						
Reported	6,180	58,600	--	--	--	--
Estimated	2,880	25,400	--	--	--	--
Total	17,200	144,000	--	--	--	--

W Withheld to avoid disclosing company proprietary data; included in "Total." -- Zero.
[1]Data are rounded to no more than three significant digits; may not add to totals shown.
[2]Includes macadam, riprap and jetty stone, filter stone, and unspecified coarse aggregate.
[3]Includes concrete aggregate (coarse), bituminous aggregate (coarse), bituminous surface-treatment aggregate, railroad ballast, and unspecified graded coarse aggregate.
[4]Includes stone sand (concrete), stone sand (bituminous mix or seal), screening (undesignated), and unspecified fine aggregate.
[5]Includes graded road base or subbase, unpaved road surface, terrazzo and exposed aggregate, crusher run, roofing granules, and unspecified coarse and fine aggregates.
[6]Reported and estimated production without a breakdown by end use.

TABLE 6
NEW JERSEY: CONSTRUCTION SAND AND GRAVEL SOLD OR USED IN 2012,
BY MAJOR USE CATEGORY[1]

Use	Quantity (thousand metric tons)	Value (thousands)	Unit value
Concrete aggregate (including concrete sand)	2,410	$23,400	$9.71
Concrete products (blocks, bricks, pipe, decorative, and so forth)[2]	53	955	18.02
Asphaltic concrete aggregates and other bituminous mixtures	761	5,490	7.21
Road base and coverings	161	4,170	25.90
Fill	328	1,720	5.24
Snow and ice control	12	148	12.33
Other miscellaneous uses[3]	118	1,590	13.47
Unspecified:[4]			
Reported	1,120	9,240	8.25
Estimated	6,090	50,900	8.36
Total or average	11,100	97,600	8.79

[1]Data are rounded to no more than three significant digits, except unit value; may not add to totals shown.
[2]Includes plaster and gunite sands.
[3]Includes filtration and railroad ballast.
[4]Reported and estimated production without a breakdown by end use.

TABLE 7
NEW JERSEY: CONSTRUCTION SAND AND GRAVEL SOLD OR USED IN 2013,
BY MAJOR USE CATEGORY[1]

Use	Quantity (thousand metric tons)	Value (thousands)	Unit value
Concrete aggregate (including concrete sand)	3,030	$25,800	$8.52
Concrete products (blocks, bricks, pipe, decorative, and so forth)[2]	63	945	15.00
Asphaltic concrete aggregates and other bituminous mixtures	1,220	8,850	7.27
Road base and coverings	37	414	11.19
Fill	817	3,580	4.39
Snow and ice control	76	726	9.55
Other miscellaneous uses[3]	329	2,890	8.77
Unspecified:[4]			
Reported	954	7,890	8.27
Estimated	7,060	61,400	8.70
Total or average	13,600	113,000	8.28

[1]Data are rounded to no more than three significant digits, except unit value; may not add to totals shown.
[2]Includes plaster and gunite sands.
[3]Includes filtration and railroad ballast.
[4]Reported and estimated production without a breakdown by end use.

TABLE 8
NEW JERSEY: CONSTRUCTION SAND AND GRAVEL SOLD OR USED IN 2012, BY USE AND DISTRICT[1]

(Thousand metric tons and thousand dollars)

Use	District 1		District 2		District 3	
	Quantity	Value	Quantity	Value	Quantity	Value
Concrete aggregates and concrete products[2]	W	W	W	W	W	W
Asphaltic concrete aggregates and road base materials	W	W	W	W	W	W
Fill	89	891	161	576	78	248
Other miscellaneous uses[3]	130	1,730	1	5	(4)	(4)
Unspecified:[5]						
Reported	93	765	1	6	1,030	8,470
Estimated	1,160	9,500	3,830	32,300	1,110	9,050
Total	2,700	29,200	5,020	43,500	3,330	24,800

W Withheld to avoid disclosing company proprietary data; included in "Total."
[1]Data are rounded to no more than three significant digits; may not add to totals shown.
[2]Includes plaster and gunite sands.
[3]Includes filtration, railroad ballast, and snow and ice control.
[4]Less than ½ unit.
[5]Reported and estimated production without a breakdown by end use.

TABLE 9
NEW JERSEY: CONSTRUCTION SAND AND GRAVEL SOLD OR USED IN 2013, BY USE AND DISTRICT[1]

(Thousand metric tons and thousand dollars)

Use	District 1		District 2		District 3	
	Quantity	Value	Quantity	Value	Quantity	Value
Concrete aggregates and concrete products[2]	W	W	W	W	1,050	10,400
Asphaltic concrete aggregates and road base materials	W	W	W	W	39	409
Fill	77	606	739	2,970	1	5
Other miscellaneous uses[3]	208	2,050	197	1,560	--	--
Unspecified:[4]						
Reported	(5)	2	--	--	954	7,890
Estimated	2,370	24,600	585	7,560	4,110	29,300
Total	2,790	28,900	4,650	35,700	6,150	47,900

W Withheld to avoid disclosing company proprietary data; included in "Total." -- Zero.
[1]Data are rounded to no more than three significant digits; may not add to totals shown.
[2]Includes plaster and gunite sands.
[3]Includes filtration, railroad ballast, and snow and ice control.
[4]Reported and estimated production without a breakdown by end use.
[5]Less than ½ unit.