

# THE MINERAL INDUSTRY OF NEW JERSEY

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

In 1997, New Jersey ranked 37th among the 50 States in total nonfuel mineral production value,<sup>1</sup> according to the U.S. Geological Survey (USGS). The State was 38th in 1996. The estimated value for 1997 was \$296 million, a 20% increase from that of 1996. This followed a 1.2% increase from 1995 to 1996 (based on final 1996 data). The State accounted for more than 0.5% of the U.S. total nonfuel mineral production value.

Crushed stone and construction sand and gravel, by value, were New Jersey's leading nonfuel mineral commodities. In 1997, these two commodities increased in value by about \$18 million and \$28 million, respectively, accounting for most of the State's increase in value. Industrial sand and gravel, greensand marl, and peat also increased in value (*table 1*). In 1996, the value of crushed stone increased more than the value of construction and industrial sand and gravel decreased, resulting in the State's net gain for the year.

Based on USGS estimates of the quantities of minerals produced in the 50 States in 1997, New Jersey remained the only producer of greensand marl. Greensand is used directly as an organic conditioner/fertilizer for soils and as a water softening, filtration medium to remove soluble iron and manganese from well water. Although production of industrial sand increased slightly, the State dropped in rank to sixth from fourth. Additionally, New Jersey's quarries and pits produced significant quantities of crushed stone and construction sand and gravel.

The following narrative information was provided by the New Jersey Geological Survey<sup>2</sup> (NJGS). Most New Jersey mining and exploration activities continued to be limited to sand and gravel and crushed stone production. Some clay, greensand, and peat mining was ongoing, but was of relatively minor importance.

Sand and gravel exploration and development remained the most active area of interest in the State. Offshore exploration and development activities were ongoing in New Jersey's coastal waters, where interest in beach replenishment sand and industrial

sand and gravel continued to be strong. The U.S. Army Corps of Engineers and the New Jersey Department of Environmental Protection (NJDEP) are committed to several long-term beach replenishment projects along the Atlantic Coast. The New Jersey Geological Survey in cooperation with the U.S. Department of the Interior, Minerals Management Service, continued to locate and document offshore sand and heavy mineral occurrences. Amboy Aggregates remains the only large scale commercial producer of sand and gravel from New Jersey waters, where they have been active since 1985. Working under a U.S. Army Corps of Engineers maintenance dredging permit, the company has been engaged in mining the Ambrose shipping channel in Raritan Bay (near Middlesex County). Because of a decreasing coarse sand fraction in the areas being dredged, the company began blending in crushed stone from rock quarries in Morris, Passaic, and Somerset Counties, in order to meet customer specifications. The dredged sand and gravel and quarried crushed stone are sized and blended in their South Amboy (Middlesex County) processing plant before being shipped by barge and truck to customers throughout the region.

In July, OENJ Corp., through Walsh Remedial Construction Services L.L.C., submitted a preapplication to the NJDEP, detailing innovative uses for suitable dredged materials for construction of infrastructure. OENJ has been making use of dredged material to cap an existing landfill and provide sublevel support for vehicle access and parking in the construction of the MetroMall in Elizabeth, NJ. This project received approval from the NJDEP as a beneficial use for the disposal and containment of dredged material, as both landfill cover and suitable construction material.

Large-scale capital projects contributed to a healthy construction sector in New Jersey. Several major road widening and realignment projects started around the State, including work in Atlantic City on major road improvements. Atlantic City casinos and the Atlantic City International Airport are also involved in major construction and expansion projects. The new Atlantic City Convention Center was completed in May.

Mergers and takeovers during the year included sale of The Morie Company Inc. by South Jersey Industries Inc. to the Unimin Corp. for approximately \$55 million. Morie, headquartered in Millville, NJ, is an important sand and gravel producer in the State. Weldon Materials Inc. bought the Tarmack America Inc. Lake Hopatcong, NJ, granite quarry. Medusa Minerals Co. purchased Lime Crest Corp., an important crushed marble and agricultural limestone producer in the State.

Heavy mineral placer mining activity remained inactive during the year. No new land-based mining operations of any significance started up during 1997.

<sup>1</sup>The terms "nonfuel mineral production" and related "values" encompass variations in meaning, depending on the minerals or 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 1997 USGS mineral production data published in this chapter are estimates as of January 1998. For some commodities (for example, construction sand and gravel, crushed stone, and portland cement), estimates are updated periodically. To obtain the most current information, please contact the appropriate USGS mineral commodity specialist. Call MINES FaxBack at (703) 648-4999 from a fax machine with a touch-tone handset, and request Document # 1000 for a telephone listing of all mineral commodity specialists, or call USGS information at (703) 648-4000 for the specialist's name and number. This telephone listing may also be retrieved over the Internet at <http://minerals.er.usgs.gov/minerals/contacts/comdir.html>. All Mineral Industry Surveys—mineral commodity, State, and country—also may be retrieved by way of MINES FaxBack or over the Internet at <http://minerals.er.usgs.gov/minerals/>.

<sup>2</sup>Lloyd Mullikin, Supervising Geologist with the New Jersey Geological Survey, authored the text of New Jersey mineral industry information submitted by that agency.

TABLE 1  
NONFUEL RAW MINERAL PRODUCTION IN NEW JERSEY 1/ 2/

(Thousand metric tons and thousand dollars unless otherwise specified)

Mineral	1995		1996		1997 p/	
	Quantity	Value	Quantity	Value	Quantity	Value
Clays, common	82	135	74	125	W	W
Gemstones	NA	1	NA	1	NA	1
Sand and gravel:						
Construction	14,000	80,300	13,200	70,400	18,000	98,500
Industrial	1,760		1,680	30,300	1,720	30,500
Stone, crushed	21,000	132,000	21,400	145,000	23,800	163,000
Combined value of other industrial minerals and value indicated by symbol W	XX	(3/)	XX	(3/)	XX	4,040
Total	XX	243,000 4/	XX	246,000 4/	XX	296,000

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

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

2/ Data are rounded to three significant digits; may not add to totals shown.

3/ Value excluded to avoid disclosing company proprietary data.

4/ Partial total, excludes values which must be concealed to avoid disclosing company proprietary data.

TABLE 2  
NEW JERSEY: CRUSHED STONE SOLD OR USED, BY KIND 1/

(Thousand metric tons)

Kind	1995				1996			
	Number of quarries	Quantity (thousand metric tons)	Value (thousands)	Unit value	Number of quarries	Quantity (thousand metric tons)	Value (thousands)	Unit Value
Limestone	1	W	W	\$12.02	1	W	W	\$12.34
Granite	9	8,690	\$67,800	7.80	9	9,330	\$75,500	8.09
Traprock	9	9,950	48,900	4.92	9	9,690	56,100	5.79
Sandstone	1	W	W	8.43	1	W	W	5.29
Miscellaneous stone	1	W	W	4.04	1	W	W	4.13
Total	XX	21,000	132,000	6.28	XX	21,400	145,000	6.79

W Withheld to avoid disclosing company proprietary data; included in "Total." XX Not applicable.

1/ Data are rounded to three significant digits, except unit value; may not add to totals shown.

TABLE 3  
NEW JERSEY: CRUSHED STONE SOLD OR USED BY PRODUCERS  
IN 1996, BY USE 1/ 2/

Use	Quantity (thousand metric tons)	Value (thousands)	Unit value
<b>Coarse aggregate (+1 1/2 inch):</b>			
Riprap and jetty stone	439	\$4,100	\$9.33
Other coarse aggregate 3/	459	3,690	8.03
<b>Coarse aggregate, graded:</b>			
Concrete aggregate, coarse	795	5,800	7.30
Bituminous aggregate, coarse	965	4,080	4.22
Railroad ballast	626	5,370	8.57
Other graded coarse aggregate 4/	807	7,670	9.50
<b>Fine aggregate (-3/8 inch):</b>			
Stone sand, concrete	W	W	9.66
Stone sand, bituminous mix or seal	152	1,270	8.35
Screening, undesignated	1,420	9,730	6.84
Other fine aggregate	W	W	9.80
<b>Coarse and fine aggregates:</b>			
Graded road base or subbase	1,870	15,900	8.53
Unpaved road surfacing	W	W	7.42
Crusher run or fill or waste	1,070	10,100	9.39
Other coarse and fine aggregates 5/	4,220	37,900	8.98
<b>Unspecified: 6/</b>			
Actual	3,120	16,500	5.29
Estimated	5,480	23,300	4.25
<b>Total</b>	<b>21,400</b>	<b>145,000</b>	<b>6.79</b>

W Withheld to avoid disclosing company proprietary data; included with "Other coarse and fine aggregates."

1/ Includes granite, limestone, miscellaneous stone, sandstone, and traprock.

2/ Data are rounded to three significant digits; may not add to totals shown.

3/ Includes filter stone.

4/ Includes bituminous surface-treatment aggregate.

5/ Includes roofing granules.

non-respondents.

6/ Includes production reported without a breakdown by end use and estimates for non-respondents.

TABLE 4  
NEW JERSEY: CONSTRUCTION SAND AND GRAVEL SOLD OR USED IN 1996,  
BY MAJOR USE CATEGORY 1/

Use	Quantity (thousand metric tons)	Value (thousands)	Value per ton
Concrete aggregate (including concrete sand)	4,840	\$29,700	\$6.14
Plaster and gunite sands	224	1,520	6.79
Concrete products (blocks, bricks, pipe, decorative, etc.)	253	1,520	6.02
Asphaltic concrete aggregates and other bituminous mixtures	2,730	10,700	3.92
Road base and coverings 2/	245	1,600	6.53
Fill	478	1,380	2.89
Snow and ice control	96	546	5.69
Other miscellaneous uses 3/	131	945	7.21
<b>Unspecified: 4/</b>			
Actual	2,920	16,400	5.62
Estimated	1,280	6,010	4.68
<b>Total or average</b>	<b>13,200</b>	<b>70,400</b>	<b>5.33</b>

1/ Data are rounded to three significant digits; may not add to totals shown.

2/ Includes road and other stabilization (cement).

3/ Includes filtration.

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

TABLE 5  
 NEW JERSEY: CONSTRUCTION SAND AND GRAVEL SOLD OR USED  
 IN 1996, BY USE AND DISTRICT 1/ 2/

(Thousand metric tons and thousand dollars)

Use	District 1		District 3	
	Quantity	Value	Quantity	Value
Concrete aggregate and concrete products 3/	878	6,190	4,440	26,600
Asphaltic concrete aggregates and road base materials 4/	412	1,450	3,140	12,800
Other miscellaneous uses 5/	125	905	6	40
Unspecified: 6/				
Actual	–	--	2,920	16,400
Estimated	347	1,800	936	4,210
Total	1,760	10,300	11,400	60,000

1/ Production reported in District 2 was included with "District 3" to avoid disclosing company proprietary data.

2/ Data are rounded to three significant digits; may not add to totals shown.

3/ Includes plaster and gunite sands.

4/ Includes fill, road and other stabilization (cement), and snow and ice control.

5/ Includes filtration.

6/ Includes production reported without a breakdown by end use and estimates for nonrespondents.