

# THE MINERAL INDUSTRY OF NEW JERSEY

**This chapter has been prepared under a Memorandum of Understanding between the U.S. Bureau of Mines, U.S. Department of the Interior, and the New Jersey Geological Survey, New Jersey Department of Environmental Protection & Energy, Division of Science and Research, for collecting information on all nonfuel minerals.**

In 1996, New Jersey ranked 38th among the 50 States in total nonfuel mineral production value,<sup>1</sup> according to the U.S. Geological Survey (USGS). The State was 37th in 1995. The estimated value for 1996 was \$222 million, an 8.7% decrease from that of 1995. This followed a nearly 16% decrease from 1994 to 1995 (based on final 1995 data). The State accounted for a little 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. These two commodities accounted for all of the decrease in the State's nonfuel mineral value in 1996. Industrial sand and gravel, greensand marl, and peat all increased in value. The data for the latter two were withheld from table 1 to avoid disclosing company proprietary data. The changes in value from 1995 to 1996 were similar to those from 1994 to 1995 except that the decreases for crushed stone and construction sand and gravel were significantly higher (*see table 1*) and greensand marl and peat dropped some in value in 1995.

Based on USGS estimates of the quantities produced in the 50 States in 1996, New Jersey remained the only producer of greensand marl and third in the production of industrial sand. Greensand is used in the manufacture of some fertilizers as an organic conditioner for soils and less often as a water softening, filtration medium to remove soluble iron and manganese from well water. In addition, 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). New Jersey mining and exploration activities continued to be limited primarily to sand and gravel and crushed stone production, as has been the case for the last several years. Activities involving clay, greensand, and peat were stable, but were of relatively minor importance.

Exploration and development interest continued to be strong in the search for beach replenishment sand in Atlantic coastal waters. The U.S. Army Corps of Engineers and the New Jersey Department of Environmental Protection are involved in several long-term projects. The Monmouth County beaches, between

Long Branch and Sandy Hook, so far have been replenished with 2.6 million cubic meters of sand, dredged from borrow sites 2 to 5 kilometers offshore. The beaches of Cape May City also have been replenished with about 230,000 cubic meters of dredged sand, from similar near shore borrow areas.

The NJGS extended a cooperative agreement it has with the U.S. Department of the Interior's Minerals Management Service (MMS) to locate and document offshore sand deposits suitable for beach replenishment. Sand resource identification was primarily focused on Federal waters beyond the 4.8-kilometer limit of State jurisdiction.

In May, the MMS released a Request for Information and Interest in the Federal Registry, concerning mining lease sales of federally controlled sand and gravel deposits off New Jersey. Public hearings and meetings were held on the commercial aspects of this type of mining.

The only significant offshore mining was done by Amboy Aggregates Joint Venture Co., of South Amboy, NJ. The company has been actively involved in commercial dredging of sand and gravel in New Jersey waters since 1985. Amboy is currently under contract with the U.S. Army Corps of Engineers to perform maintenance dredging in the Ambrose and Sandy Hook shipping channels in Raritan Bay. The dredging of this area, which began in December 1996 in the Sandy Hook Channel, will result in the removal of 1.1 million cubic meters of material over the next 10 years. Dredged sands and gravels are sized in their South Amboy plant and shipped by barge or truck to customers throughout the region.

Large-scale capital projects continue to be important contributors to the health of the New Jersey construction sector. Spending levels during the year in the public and commercial sector were approximately \$6.3 billion, an increase of 17% over last year. Voter approval in November of a \$350 million Dredging Bond Issue and a \$600 million Transportation Trust Fund Renewal Bond Issue helps to insure continued strong growth in this sector.

Work continued in Atlantic City on major construction projects, including the new Convention Center and

extensive casino construction and expansion projects. The design phase of the \$300 million Mirage Casino Tunnel Project was completed, with construction slated to begin in 1997. Another major project undergoing work is the Hudson-Bergen Light Rail Project between Secaucus and North Bergen, NJ. This is a public-private partnership.

Merger activity in the mining sector during the year included Unimin Corp.'s take over of The Morie Company, Inc. A major transaction occurred between two British-owned industrial corporations. Tarmac PLC traded its private sector housing division, principally operating in the United Kingdom, with George Wimpey PLC for that company's minerals and construction businesses. In New Jersey, this affected a stone quarry in Lake Hopatcong, four asphalt plants in Lake Hopatcong, Kearny, Rockaway, and Roseland, and a contracting business and four aggregate depots in Upper Deerfield Township, Camden, Pleasantville, and Winslow.

Heavy mineral placer mining activity remained inactive during the year. No new land-based mining operations of any type started up during 1996.

<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 1996 USGS mineral production data published in this chapter are estimates as of February 1997. Construction sand and gravel and crushed stone 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>

<sup>2</sup>Lloyd Mullikin authored the text of New Jersey mineral industry information used in the writing of this manuscript.

TABLE 1  
NONFUEL RAW MINERAL PRODUCTION IN NEW JERSEY 1/ 2/  
(Thousand metric tons and thousand dollars unless otherwise specified)

Mineral	1994		1995		1996 p/	
	Quantity	Value	Quantity	Value	Quantity	Value
Clays	W	W	82	135	82	135
Gemstones	NA	1	NA	1	NA	1
Sand and gravel:						
Construction	16,100	100,000	14,000	80,300	12,000	67,200
Industrial	1,690	30,600	1,760	31,000	1,810	31,900
Stone (crushed)	19,800	154,000	21,000	132,000	19,300	123,000
Combined value of other industrial	XX	4,460	XX	(3/)	XX	(3/)
Total	XX	289,000	XX	243,000 4/	XX	222,000 4/

p/ Preliminary. NA Not available. 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 1/ SOLD OR USED BY PRODUCERS  
IN 1995, BY USE 2/

Use	Quantity (thousand metric tons)	Value (thousands)	Unit value
Coarse aggregate (+1 1/2 inch):			
Riprap and jetty stone	191	\$1,730	\$9.06
Filter stone	149	1,230	8.23
Other coarse aggregate 3/	257	1,300	5.05
Coarse aggregate, graded:			
Concrete aggregate, coarse	1,450	7,450	5.13
Bituminous aggregate, coarse	2,170	17,600	8.09
Bituminous surface-treatment aggregate	1,590	15,100	9.54
Railroad ballast	478	2,020	4.23
Other graded coarse aggregate	W	W	7.81
Fine aggregate (-3/8 inch):			
Stone sand, bituminous mix or seal	181	1,120	7.72
Screening, undesignated	983	6,640	6.75
Other fine aggregate 4/	913	8,660	9.49
Coarse and fine aggregates:			
Graded road base or subbase	1,320	10,500	7.96
Unpaved road surfacing	54	422	7.81
Terrazzo and exposed aggregate	W	W	12.10
Crusher run or fill or waste	132	485	3.67
Other coarse and fine aggregates 5/	3,760	26,400	7.02
Agricultural:			
Agricultural limestone	(6/)	(6/)	20.91
Poultry grit and mineral food	(6/)	(6/)	33.07
Chemical and metallurgical: Flux stone	(6/)	(6/)	18.00
Special:			
Asphalt fillers or extenders	(6/)	(6/)	13.90
Other fillers or extenders	(6/)	(6/)	19.28
Unspecified: 7/			
Actual	2,040	8,240	4.03
Estimated	5,240	21,000	4.01
Total	21,000	132,000	6.28

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 macadam.

4/ Includes stone sand (concrete).

5/ Includes roofing granules.

6/ Withheld to avoid disclosing company proprietary data; included in "Total."

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

TABLE 3  
NEW JERSEY: CRUSHED STONE SOLD OR USED, BY KIND 1/

Kind	1994				1995			
	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	\$13.27	1	W	W	\$12.02
Granite	9	7,460	\$58,200	7.81	9	8,690	\$67,800	7.80
Traprock	9	10,600	78,600	7.39	9	9,950	48,900	4.92
Sandstone	1	W	W	10.03	1	W	W	8.43
Miscellaneous stone	1	W	W	8.79	1	W	W	4.04
Total	XX	19,800	154,000	7.80	XX	21,000	132,000	6.28

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

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

TABLE 4  
NEW JERSEY: CRUSHED STONE 1/ SOLD OR USED BY  
PRODUCERS IN 1995, BY USE AND DISTRICT 2/

(Thousand metric tons and thousand dollars)

Use	District 1	
	Quantity	Value
Construction aggregates:		
Coarse aggregate (+1 1/2 inch) 3/	597	4,260
Coarse aggregate, graded 4/	5,690	42,200
Fine aggregate (-3/8 inch) 5/	2,080	16,400
Coarse and fine aggregate 6/	5,260	37,700
Agricultural 7/	(8/)	(8/)
Chemical and metallurgical 9/	(8/)	(8/)
Special 10/	(8/)	(8/)
Unspecified 11/		
Actual	2,040	8,240
Estimated	5,240	21,000
Total	21,000	132,000

1/ No crushed stone was produced in District 2 and 3.

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

3/ Includes filter stone, macadam, riprap and jetty stone, and other coarse aggregate.

4/ Includes concrete aggregate (coarse), bituminous aggregate (coarse), bituminous surface-treatment aggregate, and railroad ballast.

5/ Includes stone sand (concrete), stone sand (bituminous mix or seal), screening (undesignated), and other fine aggregate.

6/ Includes graded road base or subbase, terrazzo and exposed aggregate, unpaved road surfacing, crusher run (select material or fill), other coarse and fine aggregates, other graded coarse aggregate, and roofing granules.

7/ Includes agricultural limestone and poultry grit and mineral food.

8/ Withheld to avoid disclosing company proprietary data; included in "Total."

9/ Includes flux stone.

10/ Includes asphalt fillers or extenders and other fillers or extenders.

11/ 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 1995,  
BY MAJOR USE CATEGORY 1/

Use	Quantity (thousand metric tons)	Value	
		(thousands)	per ton
Concrete aggregate (including concrete sand)	4,740	\$29,200	\$6.16
Plaster and gunit sands	253	1,420	5.61
Concrete products (blocks, bricks, pipe, decorative, etc.)	443	2,010	4.53
Asphaltic concrete aggregates and other bituminous mixtures	1,680	9,670	5.77
Road base and coverings 2/	407	2,390	5.88
Fill	1,100	4,320	3.94
Snow and ice control	139	745	5.36
Other 3/	187	1,390	7.43
Unspecified: 4/			
Actual	3,050	16,600	5.44
Estimated	2,000	12,500	6.29
Total or average	14,000	80,300	5.74

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.