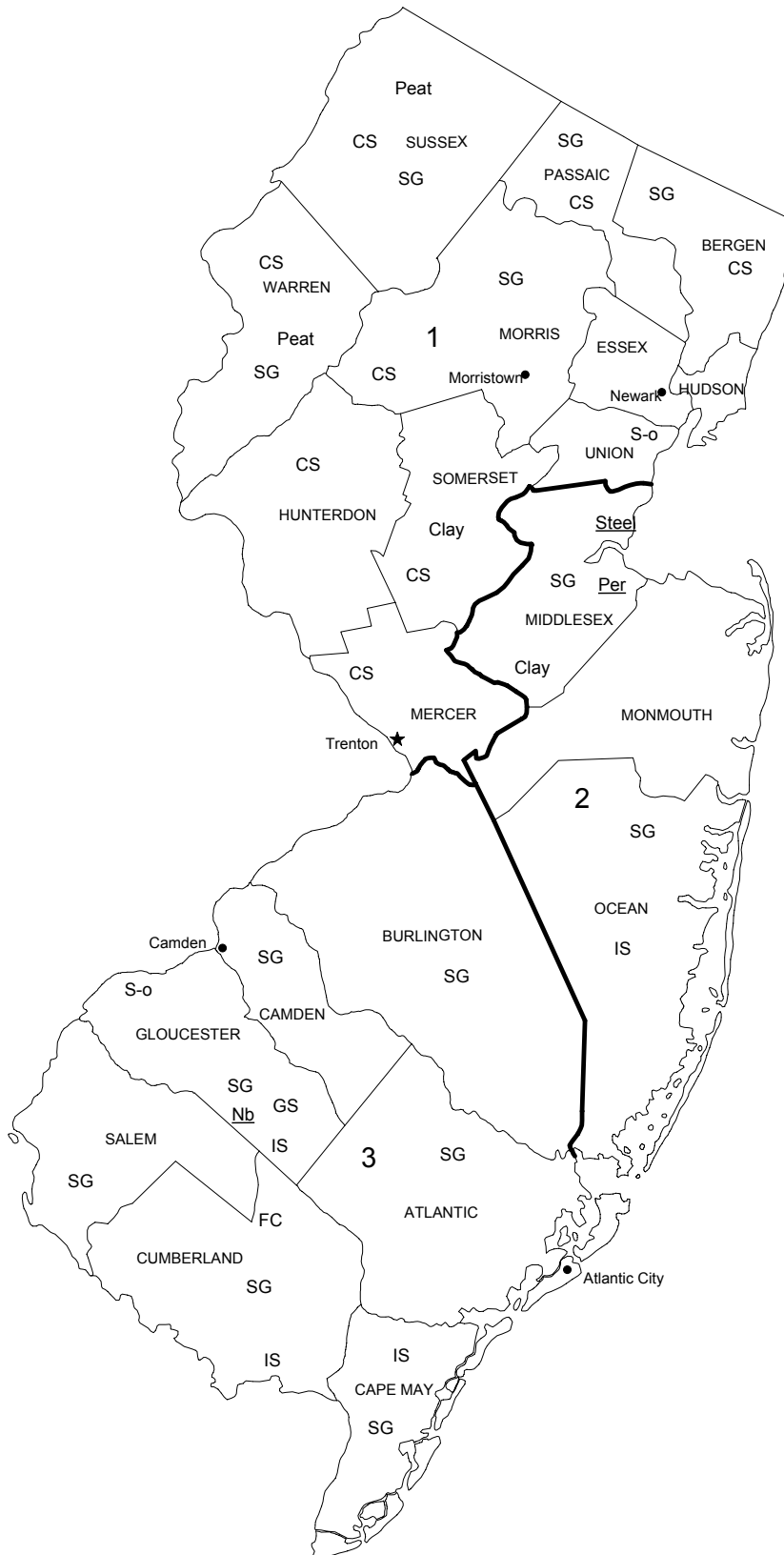


NEW JERSEY



LEGEND

- County boundary
- ★ Capital
- City
- 1** — Crushed stone/sand and gravel districts

MINERAL SYMBOLS (Major producing areas)

- Clay Common clay
- CS Crushed stone
- FC Fire clay
- GS Greensand
- IS Industrial sand
- Nb Columbium (niobium) plant
- Peat Peat
- Per Perlite plant
- S-o Sulfur (oil)
- SG Construction sand and gravel
- Steel Steel plant



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 Survey for collecting information on all nonfuel minerals.

In 2001, the estimated value¹ of nonfuel mineral production for New Jersey was \$348 million, based upon preliminary U.S. Geological Survey (USGS) data. This was up nearly 20% from that of 2000² and followed a 1.4% increase from 1999 to 2000.

Crushed stone and construction sand and gravel, by value, were New Jersey's leading nonfuel mineral commodities. In 2001, increases in the values of crushed stone, construction sand and gravel, and greensand marl led the State's rise in nonfuel raw mineral production value (descending order of change) (table 1). All other changes were small and had little effect on the State's overall gain. In 2000, a \$10 million increase in crushed stone and a \$3.6 million rise in industrial sand and gravel more than offset decreases in construction sand and gravel and greensand marl, resulting in the State's increase for the year.

Based upon USGS estimates of the quantities of minerals produced in the United States in 2001, New Jersey continued to be the only State to produce greensand marl and was sixth in the production of industrial sand and gravel. Greensand marl is used directly as an organic conditioner and fertilizer for soils and as a water filtration medium to remove soluble iron and manganese from well water. Additionally, significant quantities of construction sand and gravel and crushed stone were produced in the State.

The following narrative information was provided by the New Jersey Geological Survey³ (NJGS). Most of New Jersey's nonfuel mineral mining activities continued to center around the production of crushed stone, construction sand and gravel, and industrial sand and gravel, and to a lesser extent, clay, greensand marl, and peat. Gemstones also were mined, but these were mainly collected on a small scale by hobbyists. Although some interest continued to be expressed in heavy-mineral placer mining in 2001, no mining activity, onshore or offshore, of any

¹The terms "nonfuel mineral production" and related "values" encompass variations in meaning, depending upon 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 2001 USGS mineral production data published in this chapter are preliminary estimates as of August 2002 and are expected to change. For some mineral commodities, such as 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. Specialist contact information may be retrieved over the Internet at URL <http://minerals.usgs.gov/minerals/contacts/comdir.html>; alternatively, specialists' names and telephone numbers may be obtained by calling USGS information at (703) 648-4000 or by calling the USGS Earth Science Information Center at 1-888-ASK-USGS (275-8747). All Mineral Industry Surveys—mineral commodity, State, and country—also may be retrieved over the Internet at URL <http://minerals.usgs.gov/minerals>.

²Values, percentage calculations, and rankings for 2000 may differ from the Minerals Yearbook, Area Reports: Domestic 2000, Volume II, owing to the revision of preliminary 2000 to final 2000 data. Data for 2001 are preliminary and are expected to change; related rankings may also change.

³Lloyd Mullikin, Supervising Geologist, authored the text of New Jersey mineral industry information submitted by that agency.

significance was reported during the year.

Some merger and takeover activity took place during 2001. The Hamburg Quarry, owned by Lafarge, Inc., was purchased by Eastern Concrete, a subsidiary of U.S. Concrete. Cemex, Inc. purchased the Southdown, Inc. Mine in Sparta, NJ. The Mount Hope Mine was purchased by Tilcon NY/NJ, Inc. of Millington, NJ. And lastly, Stavola Construction Materials, Inc. of Red Bank, NJ, purchased the Oldwick Quarry.

Various large-scale capital projects and strong private-sector activity during the year continued to contribute to the State's active construction sector. Major road widening and realignment projects, light rail line construction, and continued rapid growth associated with Atlantic City and its casino gambling industry also fueled the demand for industrial minerals. Work on the 4-kilometer (km), \$330 million Atlantic City-Brigantine Connector Tunnel and Roadway Project was completed in 2001, opening up the Atlantic City's Marina District to increased casino growth. The connector includes 11 bridges and a 640-meter tunnel moving traffic through a residential area, under U.S. Route 30, and overall linking the Atlantic City Expressway with the city's Marina District. This project alone used about 612,000 cubic meters of specified structural fill (sand and gravel containing minimal amounts of fine grains), almost 22,000 linear meters of permanent pilings, 116,000 cubic yards of structural concrete, and more than 67,000 metric tons of asphalt pavement.

The Route 29 tunnel project in Trenton, the State capital, was also completed during the year, requiring 57,400 cubic meters of concrete.

Exploration and Government Activities

Sand and gravel exploration and development continued to be an area of particular interest in the State. Most new exploration interest has centered on the offshore area along New Jersey's Atlantic Coast. The U.S. Department of the Interior's Minerals Management Service (MMS) proposed its first sand and gravel sale (1999) from an approximately 175-square-kilometer site, about 5 to 19 km off the New Jersey coast in Federal Government waters of the Atlantic Ocean. The site, located east of Monmouth County from slightly north of Long Branch south to slightly south of Belmar, continued to be under evaluation during 2001. Development of these offshore sand and gravel resources remained a topic of much interest and discussion during the year. Mining industry representatives offered to help pay for beach restoration and for capping of the Historic Area Remediation Site (HARS) in exchange for permission to mine sand from the ocean floor off Monmouth County. No decisions have yet been made concerning the development of these resources. Currently offshore mining remains limited to the sand derived from the maintenance dredging of the Ambrose Shipping Channel and to limited evaluation dredging in the Sandy Hook Shipping Channel in Raritan Bay.

The U.S. Army Corps of Engineers and the New Jersey Department of Environmental Protection (NJDEP) commitment to long-term beach replenishment projects along the Atlantic Coast continued. The New Jersey Geological Survey, an agency of the NJDEP, in cooperation with the MMS continued to locate and document offshore sand occurrences by conducting geophysical surveys and by collecting vibra-core samples about 3 to 10 kilometers off shore in both State and Federal waters.

Local ordinances restricting mining activity have resulted in

the effective loss of mining reserves. Owing to the increasing demand for, juxtaposed with increasing difficulties experienced in developing new mining properties, older active and inactive mining properties are being revisited in order to determine their potential for reopening or increasing development. No new land-based mining operations of any significance started up during 2001.

TABLE 1

NONFUEL RAW MINERAL PRODUCTION IN NEW JERSEY 1/ 2/

(Thousand metric tons and thousand dollars)

Mineral	1999		2000		2001 p/	
	Quantity	Value	Quantity	Value	Quantity	Value
Clays, common	W	W	W	130	W	130
Gemstones	NA	1	NA	1	NA	1
Sand and gravel:						
Construction	16,500	91,500	16,300	85,000	17,900	94,800
Industrial	1,580	32,100	1,690	35,700	1,690	35,500
Stone, crushed	24,500	160,000	24,900	170,000	31,000	218,000
Combined values of greensand marl, peat, and value indicated by symbol W	XX	3,200	XX	(3/)	XX	(3/)
Total	XX	287,000	XX	291,000	XX	348,000

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

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

Kind	1999				2000			
	Number of quarries	Quantity (thousand metric tons)	Value (thousands)	Unit value	Number of quarries	Quantity (thousand metric tons)	Value (thousands)	Unit value
Limestone	2 r/	W	W	W	1	W	W	W
Granite	11	10,500	\$58,200	\$5.54	11	10,000	\$59,700	\$5.97
Traprock	12	13,600	97,100	7.15	12	14,200	102,000	7.19
Miscellaneous stone	1	W	W	W	1	W	W	W
Total or average	XX	24,500	160,000	6.54	XX	24,900	170,000	6.82

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

1/ Data are rounded to no more than three significant digits; may not add to totals shown.

TABLE 3
NEW JERSEY: CRUSHED STONE SOLD OR USED BY PRODUCERS IN 2000, BY USE 1/ 2/

Use	Quantity (thousand metric tons)	Value (thousands)	Unit value
Construction:			
Coarse aggregate (+1 1/2 inch):			
Riprap and jetty stone	61	\$457	\$7.49
Other coarse aggregate	98	332	3.39
Total or average	159	789	4.96
Coarse aggregate, graded:			
Concrete aggregate, coarse	610	3,110	5.10
Bituminous aggregate, coarse	W	W	3.79
Other graded coarse aggregate	1,490	11,900	7.95
Total or average	2,100	15,000	7.12
Fine aggregate (-3/8 inch):			
Stone sand, concrete	237	1,490	6.30
Stone sand, bituminous mix or seal	W	W	3.79
Screening, undesignated	1,120	7,940	7.06
Other fine aggregate	92	642	6.98
Total or average	1,450	10,100	6.93
Coarse and fine aggregates:			
Graded road base or subbase	566	3,340	5.91
Terrazzo and exposed aggregate	109	1,000	9.17
Crusher run or fill or waste	W	W	7.73
Roofing granules	W	W	21.99
Other coarse and fine aggregates	4,810	40,700	8.48
Total or average	5,480	45,100	8.22
Other construction materials	3,570	24,400	6.85
Agricultural:			
Agricultural limestone	(3/)	(3/)	33.33
Poultry grit and mineral food	(3/)	(3/)	33.00
Chemical and metallurgical, flux stone	(4/)	(4/)	(4/)
Special:			
Mine dusting or acid water treatment	(3/)	(3/)	8.00
Asphalt fillers or extenders	(3/)	(3/)	8.00
Whiting or whiting substitute	(3/)	(3/)	14.29
Other fillers or extenders	(3/)	(3/)	12.50
Unspecified: 5/			
Reported	5,780	32,700	5.66
Estimated	6,300	40,000	6.30
Total or average	12,100	72,200	5.99
Grand total or average	24,900	170,000	6.82

W Withheld to avoid disclosing company proprietary data; included with "Other."

1/ Data are rounded to no more than three significant digits, except unit value; may not add to totals shown.

2/ Includes granite, limestone, miscellaneous stone, and traprock.

3/ Withheld to avoid disclosing company proprietary data; included in "Grand total."

4/ Less than 1/2 unit.

5/ Reported and estimated production without a breakdown by end use.

TABLE 4
NEW JERSEY: CRUSHED STONE SOLD OR USED BY PRODUCERS IN 2000,
BY USE AND DISTRICT 1/ 2/

(Thousand metric tons and thousand dollars)

Use	District 1		District 3	
	Quantity	Value	Quantity	Value
Construction:				
Coarse aggregate (+1 1/2 inch) 3/	158	789	--	--
Coarse aggregate, graded 4/	2,100	15,000	--	--
Fine aggregate (-3/8 inch) 5/	1,450	10,100	--	--
Coarse and fine aggregate 6/	5,480	45,100	--	--
Other construction materials	3,570	24,400	--	--
Agricultural 7/	W	W	--	--
Chemical and metallurgical 8/	(9/)	(9/)	--	--
Special 10/	W	W	--	--
Unspecified: 11/				
Reported	5,710	32,200	73	461
Estimated	6,300	40,000	--	--
Total	24,800	169,000	73	461

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/ No production reported for District 2.

3/ Includes riprap and jetty stone and other coarse aggregate.

4/ Includes bituminous aggregate (coarse), concrete aggregate (coarse), and other graded coarse aggregate.

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

6/ Includes crusher run (select or material use), graded roadbase or subbase, roofing granules, terrazzo and exposed aggregate, and other coarse and fine aggregates.

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

8/ Includes flux stone.

9/ Less than 1/2 unit.

10/ Includes asphalt fillers or extenders, mine dusting or acid water treatment, whitening or whitening substitute, and other fillers or extenders.

11/ Reported and estimated production without a breakdown by end use.

TABLE 5
NEW JERSEY: CONSTRUCTION SAND AND GRAVEL SOLD OR USED IN 2000,
BY MAJOR USE CATEGORY 1/

Use	Quantity	Value	Unit
	(thousand metric tons)	(thousands)	value
Concrete aggregate (including concrete sand)	4,640	\$21,200	\$4.56
Plaster and gunite sands	157	1,010	6.43
Concrete products (blocks, bricks, pipe, decorative, etc.)	749	4,930	6.58
Asphaltic concrete aggregates and other bituminous mixtures	1,590	10,200	6.47
Road base and coverings	702	2,080	2.96
Fill	522	1,780	3.41
Snow and ice control	107	525	4.91
Other miscellaneous uses 2/	169	1,550	9.15
Unspecified: 3/			
Reported	3,410	20,500	6.03
Estimated	4,300	21,000	4.98
Total or average	16,300	85,000	5.22

1/ Data are rounded to no more than three significant digits; may not add to totals shown.

2/ Includes filtration and railroad ballast.

3/ Reported and estimated production without a breakdown by end use.

TABLE 6
NEW JERSEY: CONSTRUCTION SAND AND GRAVEL SOLD OR USED IN 2000, 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 aggregate (including concrete sand)	902	5,280	2,220	9,280	1,520	6,600
Concrete products (blocks, bricks, pipe, decorative, etc.) 2/	169	1,480	630	3,800	108	663
Asphaltic concrete aggregates and road base materials	1,150	6,870	996	5,000	138	454
Fill	158	726	W	W	W	W
Other miscellaneous uses 3/	207	1,410	118	340	314	1,370
Unspecified: 4/						
Reported	48	274	1,860	11,500	1,500	8,800
Estimated	1,000	5,900	1,000	4,900	2,200	10,000
Total	3,640	22,000	6,830	34,800	5,820	28,300

W Withheld to avoid disclosing company proprietary data; included with "Other miscellaneous uses."

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 and railroad ballast and snow and ice control.

4/ Reported and estimated production without a breakdown by end use.