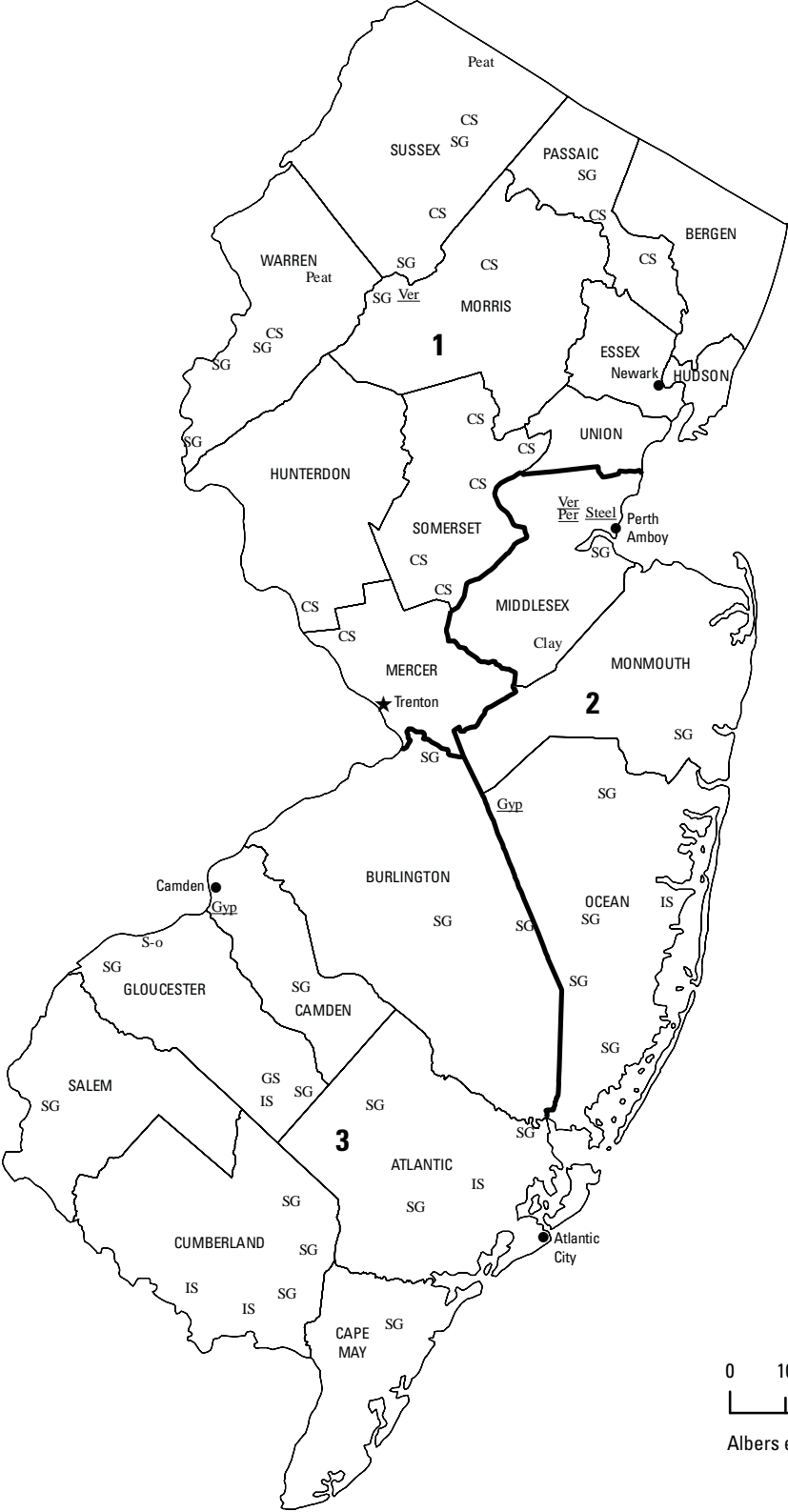




2007 Minerals Yearbook

NEW JERSEY [ADVANCE RELEASE]

NEW JERSEY

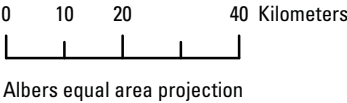


LEGEND

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

**MINERAL SYMBOLS
(Major producing areas)**

- Clay Common clay
- CS Crushed stone
- GS Greensand
- Gyp Gypsum plant
- IS Industrial sand
- Peat Peat
- Per Perlite plant
- S-o Sulfur (oil)
- SG Construction sand and gravel
- Steel Steel plant
- Ver Vermiculite plant



Source: New Jersey Geological Survey/U.S. Geological Survey (2007).

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 2007, New Jersey's nonfuel raw mineral production¹ was valued at \$342 million, based upon annual U.S. Geological Survey (USGS) data. This was a \$62 million, or more than 15%, decrease from the State's total nonfuel mineral value in 2006, which then had increased by \$48 million, or up by 13.5%, from that of 2005. Crushed stone and construction sand and gravel, by value, were New Jersey's leading nonfuel mineral commodities, followed by industrial sand and gravel and greensand marl.

In 2007, most of the State's mineral commodities decreased in production value reflecting an overall decrease in the construction industry. A 25% drop in construction sand and gravel production led to a \$47 million, or 24% decrease in the mineral commodity's value, and a 17% decrease in crushed stone production resulted in a \$7 million, or 4%, decrease in its value, although the unit value increased in crushed stone, that being up by nearly 16%. The value of industrial sand and gravel also decreased. With a 30% decrease in production, the mineral commodity's value decreased by nearly \$9 million, or by 22%. Greensand marl and gemstones remained unchanged (table 1).

New Jersey continued to be the only State to produce greensand marl and it decreased to 11th from 8th in the quantity of industrial sand produced. Greensand marl was 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, the State's aggregate operations produced significant quantities of construction sand and gravel and crushed stone as compared with those of other producing States.

The following narrative information was provided by the New Jersey Geological Survey² (NJGS).

Industry Overview

Mine Registration

The numbers of surface mining operations (sand and gravel pits and aggregate stone quarries) remained constant with 176 mine registration certificates as recorded and administered by the New Jersey Department of Labor and Workforce Development, Office of Mine Safety & Compliance. These certificates are required for all aggregate stone quarry, borrow

¹The 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 2007 USGS mineral production data published in this chapter are those available as of June 2009. All USGS Mineral Industry Surveys and USGS Minerals Yearbook chapters—mineral commodity, State, and country—can be retrieved over the Internet at URL <http://minerals.usgs.gov/minerals>.

²Donald Monteverde, a Research Scientist with the New Jersey Geological Survey authored the text of the State mineral industry information provided by that State agency.

pit, sand and gravel, and underground mine operations, as well as portable crushers that are active in the State. Of the total mine registrations, 112 represented pits, 34 quarries, and 1 a subsurface operation. Seven certificates were in inactive or in standby mode during the year, and a number of remaining registrations represented locations that processed offsite materials.

Mine Employment

Natural Resources and Mining workforce overall saw a decrease of about 100 jobs, down to about 1,600, according to the New Jersey Department of Labor and Workforce Development in 2007. The nonmetallic mineral mining and quarrying sector ended the year at just under 1,500 employees at 1,496, having reached a high of 1,556 employees in July. This included those engaged in developing mine sites or in mining or quarrying nonmetallic minerals (except fuels). Also included in these figures were certain well and brine operations, and preparation plants primarily engaged in beneficiating (crushing, grinding, washing, and concentrating nonmetallic minerals.) About 100 additional employees on average were employed in a support capacity (New Jersey Department of Labor and Workforce Development, 2007).

Commodity Review

Braen Aggregates, LLC. acquired the Franklin limestone quarry in Franklin in 2006 and began production of the crushed and graded marble stone and sand in early 2007. Greensand marl remained in production only in the Inversand pit in Sewell, Gloucester County, south of Philadelphia, which was the only locale in production within the United States (Dooley, 2006).

The sole subsurface mine working, owned by Mt. Hope Hydro Inc., remained in standby mode as the company worked on the development plans for pumped storage electrical generation at the former iron mine in Morris County. A number of small quarries closed that were of short-term duration on construction sites around the State. These sites only remained open during site construction and were closed upon completion of the development of the specific site.

Legislation and Government Programs

Amendments to the State's Mine Safety Act that involved increases to mine registration fees and monetary penalties for violations were signed into law in August. Mine registration fees increased from the previous range of \$15 to \$50 for each mining registration issued to a new 4-step level based upon annual tonnage of material mined, ranging from \$500 [under 1,800 metric tons (t) (2,000 short tons)] to \$3,000 [more than 272,000 t (300,000 short tons)]. Penalties for any violations of any

part of the Mine Safety Act were initiated into a three-stepped system, with up to \$2,500 for the initial offense; second offenses were raised to the level of not more than \$5,000; and any subsequent offense to not more than \$10,000. Any serious bodily injury incurred during a violation of any part of the Act were set to vary from \$100 to \$25,000.

The New Jersey Department of Transportation updated the Standard Specification for Road and Bridge Construction 2007, Division 900—Materials, Section—901 Aggregates. This is periodically updated and may be accessed on the Internet at <http://www.state.nj.us/transportation/eng/specs/2007/spec900.shtm#s901>.

The NJGS, which initiated participation in EarthCache in the fall of 2006, continued to establish additional Earthcache sites in 2007 at significant geologic locations in the State. EarthCache is a progressive participatory educational system that promotes earth science learning coupled with exploring and visiting geologic/natural world sites. The NJGS added the historic Edison Mines (magnetite iron ore mines) to the New Jersey EarthCache list, with explanations at the cache site of the history of the mine, which includes discussions of three different mines, as well as information about Thomas Edison's patented electromagnetic ore-separator (Groundspeak, Inc., 2010). A listing of EarthCache sites around the world is administered on the Internet by The Geological Society of America, the sites being reviewed, approved, and published by a small group of people internationally (Geological Society of America, The, 2010). The EarthCache system is an offshoot of the growing Geocache phenomena [originally having begun as a high-tech treasure (cache) hunting game] where people use global positioning system (GPS) units and known coordinates to locate hidden items across the world. EarthCache takes this idea further by bringing the searchers to locales where geologic concepts and related histories, such as those of mining, can be described and explained. They are virtual caches that teach the visitor something about the site, not just a locality, presenting some lesson on how that place formed, about why the place is

important scientifically, or how it may have been affected by the mining, processing, or other use of its natural resources.

Environmental Issues

Investigations continued at the Ringwood Mines/landfill site, a U.S. Environmental Protection Agency Superfund site, where collapse of old mine workings continued to be a problem to local residents. A microgravity study and associated drilling have outlined the extent of the mine workings in an attempt to define all possible areas that might be in potential jeopardy of subsidence or collapse. These mostly magnetite iron ore mines were opened in the mid-1700s and operated under private ownership until mining ceased in the early 1890s, largely as a result of competition from Midwestern mines located closer to the major steel mills. The Peters Mine was again worked to a limited extent during the early 1900s and closed around 1931. Although later purchased by the Federal Government and other private companies, no further mining was thought to have taken place. Parts of the Ringwood Mines area were used as landfill sites, where automobile manufacturing waste and other waste were discarded; such activities led to its Superfund National Priorities List status.

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TABLE 1
NONFUEL RAW MINERAL PRODUCTION IN NEW JERSEY^{1,2}

(Thousand metric tons and thousand dollars)

Mineral	2005		2006		2007	
	Quantity	Value	Quantity	Value	Quantity	Value
Gemstones, natural	NA	1	NA	1	NA	1
Sand and gravel:						
Construction	21,200	145,000	20,900	192,000	15,700	145,000
Industrial	1,820	34,100	1,520	40,600	1,070	31,700
Stone, crushed	24,500	172,000	24,100 ^r	169,000 ^r	20,000	162,000
Combined values of clays (common), greensand marl, peat	XX	4,110	XX	3,390	XX	3,220
Total	XX	356,000	XX	404,000 ^r	XX	342,000

^rRevised. NA Not available. XX Not applicable.

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

²Data are rounded to no more than three significant digits; may not add to totals shown.

TABLE 2
NEW JERSEY: CRUSHED STONE SOLD OR USED, BY TYPE¹

Type	2006			2007		
	Number of quarries	Quantity (thousand metric tons)	Value (thousands)	Number of quarries	Quantity (thousand metric tons)	Value (thousands)
Granite	7	8,320	\$58,000	6	6,380	\$52,400
Traprock	15	15,800 ^r	110,000 ^r	14	13,600	109,000
Miscellaneous stone	1 ^r	42	344	1	1	9
Total	XX	24,100 ^r	169,000 ^r	XX	20,000	162,000

^rRevised. XX Not applicable.

¹Data 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 2007, BY USE¹

(Thousand metric tons and thousand dollars)

Use	Quantity	Value
Construction:		
Coarse aggregate (+1½ inch):		
Riprap and jetty stone	43	455
Filter stone	W	W
Other coarse aggregate	280	2,490
Coarse aggregate, graded:		
Concrete aggregate, coarse	W	W
Bituminous aggregate coarse	W	W
Railroad ballast	W	W
Other graded coarse aggregate	65	505
Fine aggregate (-¾ inch):		
Stone sand, concrete	W	W
Screening, undesignated	1,100	8,650
Other fine aggregate	523	4,670
Coarse and fine aggregates:		
Graded road base or subbase	W	W
Unpaved road surfacing	W	W
Crusher run or fill or waste	W	W
Other coarse and fine aggregates	3,930	30,300
Unspecified: ²		
Reported	9,440	77,000
Estimated	2,300	18,000
Total	20,000	162,000

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

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

²Reported and estimated production without a breakdown by end use.

TABLE 4
NEW JERSEY: CRUSHED STONE SOLD OR USED BY PRODUCERS IN 2007, BY USE AND DISTRICT^{1,2}

(Thousand metric tons and thousand dollars)

Use	District 1		District 3	
	Quantity	Value	Quantity	Value
Construction:				
Coarse aggregate (+1½ inch) ³	W	W	--	--
Coarse aggregate, graded ⁴	W	W	--	--
Fine aggregate (-¾ inch) ⁵	W	W	--	--
Coarse and fine aggregate ⁶	W	W	--	--
Unspecified: ⁷				
Reported	9,420	76,800	20	162
Estimated	2,300	18,000	--	--
Total	20,000	161,000	20	162

W Withheld to avoid disclosing company proprietary data; included in "Total." -- Zero.

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

²No production for District 2.

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

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

⁵Includes screening (undesignated), stone sand (concrete), and other fine aggregate.

⁶Includes crusher run or fill or waste, graded road base or subbase, unpaved road surfacing, and other coarse and fine aggregates.

⁷Reported and estimated production without a breakdown by end use.

TABLE 5
NEW JERSEY: CONSTRUCTION SAND AND GRAVEL SOLD OR USED IN 2007,
BY MAJOR USE CATEGORY¹

Use	Quantity (thousand metric tons)	Value (thousands)	Unit value
Concrete aggregate (including concrete sand)	4,880	\$41,700	\$8.53
Plaster and gunite sands	213	2,460	11.57
Concrete products (blocks, bricks, pipe, decorative, etc.)	225	2,270	10.07
Asphaltic concrete aggregates and other bituminous mixtures	1,400	19,500	13.97
Road base and coverings ²	761	6,030	7.92
Fill	979	5,510	5.63
Snow and ice control	32	423	13.22
Other miscellaneous uses ³	393	5,570	14.18
Unspecified: ⁴			
Reported	29	363	12.52
Estimated	6,800	61,000	9.07
Total or average	15,700	145,000	9.26

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

²Includes road and other stabilization (lime).

³Includes filtration and golf course.

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

TABLE 6
NEW JERSEY: CONSTRUCTION SAND AND GRAVEL SOLD OR USED IN 2007, BY USE AND DISTRICT¹

(Thousand metric tons and thousand dollars)

Use	District 1		District 2		District 3	
	Quantity	Value	Quantity	Value	Quantity	Value
Concrete aggregate (including concrete sand)	1,550	17,600	849	6,920	2,490	17,200
Concrete products (blocks, bricks, pipe, decorative, etc.) ²	131	1,870	W	W	W	W
Asphaltic concrete aggregates and road base materials ³	331	3,220	1,150	16,800	678	5,540
Fill	199	2,490	715	2,640	66	381
Other miscellaneous uses ⁴	198	2,450	46	344	487	6,060
Unspecified: ⁵						
Reported	--	--	15	171	15	192
Estimated	760	6,900	3,900	36,000	2,100	19,000
Total	3,170	34,500	6,680	62,600	5,830	48,000

W Withheld to avoid disclosing company proprietary data; included in "Other miscellaneous uses." -- Zero.

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

²Includes plaster and gunite sands.

³Includes road and other stabilization (lime).

⁴Includes filtration, golf course, and snow and ice control.

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