



# THE MINERAL INDUSTRY OF NEW YORK

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

In 2004, New York's nonfuel raw mineral production was valued<sup>1</sup> at \$1.11 billion, based upon annual U.S. Geological Survey (USGS) data. This was an 11.2% increase from the \$998 million total value for 2003,<sup>2</sup> which was marginally up from 2002. The State, for the third consecutive year, was 14th in rank among the 50 States in total nonfuel mineral production value, of which the State accounted for more than 2.5% of the U.S. total value.

In 2004, crushed stone, by value, remained New York's leading nonfuel mineral, followed by salt, cement (portland and masonry), construction sand and gravel, and wollastonite. These five mineral commodities accounted for about 98% of the State's total nonfuel mineral production value. Salt led New York's increase in value; a 23% increase in production generated a 34%, or \$76 million increase in the commodity's value. The values of construction sand and gravel and cement were up about \$17 million each, followed by increases in wollastonite and common clays, up nearly \$5 million and nearly \$3 million, respectively. The largest decrease in value was that of crushed stone, down about \$3 million (table 1).

In 2003, increases in the production of salt and construction sand and gravel, up \$40 million and \$14 million, respectively, led to the State's increase in value (table 1). An increase in the production of talc resulted in a rise in value of nearly \$2 million. These increases were offset to a significant degree by a \$39 million drop in crushed stone and a significant decrease in portland cement. Although relatively small in comparison, the value of wollastonite showed a decrease.

In 2004, New York continued to be the only State to produce wollastonite, as well as first in the quantity of industrial garnet produced of two producing States, third in the production of salt, and fourth in talc. Additionally, New York mining and mineral processing operations produced significant quantities of, in descending order of value, crushed stone (14th in rank), portland cement (11th), construction sand and gravel (12th), masonry cement (11th), and common clays (14th). The State was ninth (eighth in 2003) in the production of dimension stone. Primary aluminum and raw steel were produced from materials obtained from other domestic and foreign sources. New York, with a decrease in primary aluminum production, was seventh in rank (sixth in 2003) among 12 producing States.

The following narrative information was provided by the New York State Geological Survey<sup>3</sup> (NYSGS) and the Division of Mineral Resources (DMR) of the New York State Department of Environmental Conservation (DEC).

## Commodity Review

### *Industrial Minerals*

**Crushed Stone.**—Record values for bluestone has spurred new activity in 2004. An operator in Delaware County installed a new computer-operated 10-foot-diameter stone saw and associated equipment costing roughly \$175,000. The new facility includes a totally enclosed building with a closed loop system to collect process water. By New York bluestone industry standards, the new saw is a very significant investment and a good sign of industry health. In addition to the higher prices, the bluestone industry has also benefited from the new Exploration Authorization process which the DEC helped tailor to the industries needs and potential environmental impacts. This has allowed more rapid exploration and enhanced environmental compliance. The current record high value of bluestone prompted mine operators to restart activity at old, previously inactive unpermitted mines where neighboring new property owners are no longer accustomed to the activity. As a result, mining complaints were significantly higher in 2004.

### *Metals*

**Zinc.**—The zinc mine in St. Lawrence County remained closed under the ownership of St. Lawrence Zinc Co. In 2004, the company became a subsidiary of Hudson Bay Mining and Smelting Co., a vertically integrated Canadian mining company and producer of copper, zinc, and precious metals from its mines and plants in Manitoba and Saskatchewan. Announced plans for the mine include more exploratory drilling and reopening of the mine when economic conditions permit.

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<sup>1</sup>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 2004 USGS mineral production data published in this chapter are those available as of December 2005. All USGS Mineral Industry Surveys and USGS Minerals Yearbook chapters—mineral commodity, State, and country—also can be retrieved over the Internet at URL <http://minerals.usgs.gov/minerals>.

<sup>2</sup>Values, percentage calculations, and rankings for 2003 may differ from the Minerals Yearbook, Area Reports: Domestic 2003, Volume II, owing to the revision of preliminary 2003 to final 2003 data. Data and rankings for 2004 are considered to be final and are not likely to change significantly.

<sup>3</sup>William Kelly, State Geologist of the New York State Geological Survey (a bureau of the New York State Museum in the State Education Department), Division of Research and Collections authored the text of the State mineral industry information provided by those State agencies.

## Environmental Issues and Mine Reclamation

Demand for minerals in New York continued to increase; however, the siting of new mines across the State remained highly controversial. Consolidation of operations and absorption of family-owned mines by large multinational companies has become the norm in the State. The main industry trend is for existing sand and gravel and hard rock quarries to expand operations. Several proposals have generated controversy based upon an expansion (often doubling) of the footprint of the mine or a change from sand and gravel extraction to mining the underlying bedrock. The majority of these operations are proposing to mine deeper within previously approved limits. The main issues associated with these operations are assessing the impacts from mining into the water table. Other issues of concern to the public continue to include noise, blasting, traffic, visual impacts, and extended life-of-mine terms. Applications for new mines in the Hudson River corridor have received much public opposition.

The number of permitted nonfuel mineral mining operations was lower in 2004 than that of 2003. Public opposition to new mining operations and the time and financial requirements of the regulatory process are the main reasons for the decline. This continues the trend of the past several years, especially in the lower Hudson Valley region and Long Island. During 2004, the DEC issued 461 mined land reclamation permits; of those issued, however, only 54 permits were for new operations. The new permits and their associated commodities were: sand and gravel (38), bluestone (5), clay (4), topsoil (3), and dolostone, limestone, peat, shale (1 each). The remaining 407 permits were either renewals or modifications.

A total of nearly 23,100 hectares (ha) of land was affected by mining at the end of 2004 out of a total life-of-mine approved area of 44,152 ha. A total of 647 ha was reclaimed in 2004, 354 of these were concurrent with mining, while 293 ha constituted final reclamation. The breakdown of mines that received final reclamation and their commodities were: sand and gravel (83), shale (2), and bluestone, clay, emery, peat (1 each). Since the Mined Land Reclamation program's inception in 1975, approximately 9,700 acres of land affected by mining have been reclaimed.

The Mined Land Reclamation Program holds roughly \$90 million in financial security to guarantee mine reclamation. However, recent experience with reclamation work contracted by DEC demonstrated that individual mine financial security amounts are too low. Based on current prices, approximately two-thirds of existing mined land reclamation permits have bonds that will not cover reclamation costs if the site is abandoned. The Mined Land Reclamation Law gives the Department the authority to set bonds at the level necessary to adequately reclaim a mine. Therefore, the Mined Land Reclamation program has started a comprehensive review of its current financial security requirements as a first step toward increasing the bonding amounts.

Mines on lands associated with the Indian Nations continued to present challenges to the Mined Land Reclamation program. In Madison County, DEC continued attempts to force reclamation of a mine site that is now owned by the Oneida Nation as part of a larger purchase of surrounding land. In Cayuga County, where an 80-acre mine site operated for many years without a permit, the consent order and reclamation settling these violations may be derailed. The Cayuga-Seneca Nation of Oklahoma has allegedly made a purchase offer for the mine site and surrounding property threatening the Department's legal jurisdiction.

In Suffolk County on Long Island, a legal challenge has arisen related to DEC's actions and discretion involved with mined land reclamation permits for mines located in the Core Preservation Area of the Central Pine Barrens, which comprises more than 900 square miles of terrestrial and marine environments. This region contains the largest remnant of a forest thought to have once encompassed more than 100,000 ha on Long Island. The Central Pine Barrens overlies one portion of Long Island's federally designated sole source aquifer for drinking water. Litigants claim that the Environmental Conservation Law provides that State approved mining permits must conform to the provisions of a land-use plan. Approximately 15 mining operations are located in the Central Pine Barrens. A review of DEC authority is underway.

## Legislation and Government Programs

The DEC Divisions of Mineral Resources and Public Affairs worked together to create a Flash presentation on the Mined Land Reclamation program for the DEC's Web site at URL <http://www.dec.state.ny.us/website/dmn/reclflash/index.html>. The Division's new presentation gives an overview of basic mine reclamation requirements, the Department's use of financial security to ensure reclamation, and the steps involved in reclaiming a mine. Visitors learn how the Department protects the environment through its permitting program and shown examples of successful mine reclamation.

The New York State Annual Mined Land Reclamation Award for 2004 was presented to the Dutchess Quarry and Supply Company for its voluntary reclamation of an abandoned sand and gravel mine in Dutchess County. The operator acquired the site and contour graded the affected land to blend in with the surrounding landscape. The site was seeded with a cool season grass/legume seed mixture for stabilization.

New York Governor Pataki participated in the July 4th dedication ceremony for the cornerstone of the new Freedom Tower that is to be erected on the former site of the World Trade Center in New York, NY. A 10 by 5 by 4 foot block of dressed stone weighing more than 18 metric tons was chosen for this memorial. The cornerstone is the ore from a garnet producer in Warren County. The company has been mining garnet in the Adirondack Mountains since the late 1800s. Garnet is the official New York State gemstone.

The NYSGS continued bedrock and surficial geologic mapping projects in several regions of the State. Mapping priority was given to areas in which expanding development of surrounding urban areas and along transportation corridors drove a need for, and understanding of, mineral resources, among other topics. The NYSGS has been an active participant in the STATEMAP program. STATEMAP is a component of the congressionally mandated National Cooperative Geological Mapping Program (NCGMP), which distributes Federal funds to support geologic mapping efforts through a competitive funding process. The NCGMP has three primary components: FEDMAP, which funds Federal geologic mapping projects, STATEMAP, which is a matching-funds grant program with State geological surveys, and EDMAP, a matching-funds grant program with universities that has a goal to train the next

generation of geologic mappers. Maps are produced at a scale of 1:24,000. In 2004, digital maps were produced of five and a half 7 ½ minute quadrangles in New York.

Mined-out cavities are a statewide problem when homes, industries, communication, and transportation systems expand into sparsely developed areas with little or no surface indication of the presence of an abandoned mine. This issue needs to be addressed before new construction can commence as collapses have occurred under structures built over mined-out areas. Mining companies were not required to provide mine maps to any governmental agency when mines were closed. The NYSGS, in cooperation with the DEC, and funded by a grant from the Mine Safety and Health Administration, located 255 abandoned underground mines and more than 1,300 related maps for properties that were excavated for commodities ranging from arsenic to zinc within the State of New York. The majority of these are iron mines that are most prolific in the Adirondack Mountains and Hudson Highlands regions. These metal mines can extend more than 2,000 feet underground. The mines with the largest aerial extent are in central and western New York where gypsum and salt mines stretch literally for miles.

TABLE 1  
NONFUEL RAW MINERAL PRODUCTION IN NEW YORK<sup>1,2</sup>

(Thousand metric tons and thousand dollars)

Mineral	2002		2003		2004	
	Quantity	Value	Quantity	Value	Quantity	Value
Clays, common	641	7,990	644	8,050	756	10,900
Gemstones	NA	65	NA	65	NA	74
Salt	4,610	185,000	5,230	225,000	6,430	301,000
Sand and gravel, construction	29,800	158,000	30,200	172,000	33,100	189,000
Stone:						
Crushed	56,500	391,000	53,700	352,000	52,700	349,000
Dimension	46	5,990	65	6,110	44	4,560
Combined values of cement, garnet (industrial), peat, sand and gravel (industrial), talc (crude), wollastonite	XX	243,000	XX	235,000	XX	256,000
Total	XX	991,000	XX	998,000	XX	1,110,000

NA Not available. XX Not applicable.

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

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

TABLE 2  
NEW YORK: CRUSHED STONE SOLD OR USED, BY KIND<sup>1</sup>

Kind	2002				2003				2004			
	Number of quarries	Quantity (thousand metric tons)	Value (thousands)	Unit value	Number of quarries	Quantity (thousand metric tons)	Value (thousands)	Unit value	Number of quarries	Quantity (thousand metric tons)	Value (thousands)	Unit value
Limestone <sup>2</sup>	56	29,100	\$174,000	\$5.99	54	30,100	\$191,000	\$6.35	58	30,500	\$194,000	\$6.38
Dolomite	13	13,600	101,000	7.43	13	11,300	78,900	6.98	13	10,700	77,100	7.23
Marble	1	W	W	4.13	1	W	W	6.30	1	W	W	5.87
Granite	8	3,630	19,600	5.39	7	3,760	20,300	5.41	7	3,870	20,800	5.37
Traprock	3	W	W	9.81	2	W	W	6.94	2	W	W	6.94
Sandstone	10	1,670	14,400	8.62	7	2,070	17,000	8.19	9	2,070	17,700	8.53
Slate	1	W	W	5.73	1	W	W	5.73	1	W	W	5.73
Miscellaneous stone	2	284	1,680	5.92	2	295	2,090	7.11	3	284	2,000	7.05
Total or average	XX	56,500	391,000	6.92	XX	53,700	352,000	6.56	XX	52,700	349,000	6.62

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

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

<sup>2</sup>Includes limestone-dolomite reported with no distinction between the two.

TABLE 3a  
NEW YORK: CRUSHED STONE SOLD OR USED BY PRODUCERS IN 2003, BY USE<sup>1</sup>

Use	Quantity (thousand metric tons)	Value (thousands)	Unit value
<b>Construction:</b>			
<b>Coarse aggregate (+1½ inch):</b>			
Macadam	W	W	\$7.99
Riprap and jetty stone	140	\$1,270	9.05
Filter stone	140	1,110	7.93
Other coarse aggregates	1,720	15,100	8.80
Total or average	2,000	17,500	8.76
<b>Coarse aggregate, graded:</b>			
Concrete aggregate, coarse	1,160	9,210	7.91
Bituminous aggregate, coarse	912	6,410	7.03
Bituminous surface-treatment aggregate	957	6,980	7.29
Railroad ballast	31	240	7.74
Other graded coarse aggregates	2,410	20,400	8.47
Total or average	5,470	43,200	7.90
<b>Fine aggregate (-¾ inch):</b>			
Stone sand, concrete	(2)	(2)	7.06
Stone sand, bituminous mix or seal	757	5,630	7.43
Screening, undesignated	286	2,060	7.19
Other fine aggregates	1,700	15,000	8.81
Total or average	2,740	22,700	8.26
<b>Coarse and fine aggregates:</b>			
Graded road base or subbase	2,510	17,600	7.02
Terrazzo and exposed aggregate	(3)	(3)	6.51
Crusher run or fill or waste	1,640	8,690	5.28
Other coarse and fine aggregate	3,220	19,700	6.11
Total or average	7,370	46,000	6.24
Other construction materials <sup>4</sup>	292	2,550	8.73
<b>Agricultural:</b>			
Agricultural limestone	934	8,240	8.82
Other agricultural uses	5	46	9.20
Total or average	939	8,290	8.83
Chemical and metallurgical, cement manufacture	(5)	(5)	3.31
Special, asphalt fillers or extenders	(5)	(5)	6.55
<b>Unspecified:<sup>6</sup></b>			
Reported	20,900	138,000	6.62
Estimated	12,000	66,000	5.66
Total or average	32,600	204,000	6.27
Grand total or average	53,700	352,000	6.56

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

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

<sup>2</sup>Withheld to avoid disclosing company proprietary data; included with "Other fine aggregates."

<sup>3</sup>Withheld to avoid disclosing company proprietary data; included with "Other coarse and fine aggregates."

<sup>4</sup>Includes drain fields.

<sup>5</sup>Withheld to avoid disclosing company proprietary data; included in "Grand total."

<sup>6</sup>Reported and estimated production without a breakdown by end use.

TABLE 3b  
NEW YORK: CRUSHED STONE SOLD OR USED BY PRODUCERS IN 2004, BY USE<sup>1</sup>

Use	Quantity (thousand metric tons)	Value (thousands)	Unit value
<b>Construction:</b>			
<b>Coarse aggregate (+1½ inch):</b>			
Macadam	146	\$1,740	\$11.92
Riprap and jetty stone	170	1,420	8.37
Filter stone	153	1,340	8.76
Other coarse aggregates	454	3,400	7.49
Total or average	923	7,900	8.56
<b>Coarse aggregate, graded:</b>			
Concrete aggregate, coarse	873	7,650	8.76
Bituminous aggregate, coarse	1,690	14,000	8.30
Bituminous surface-treatment aggregate	276	2,380	8.62
Railroad ballast	W	W	7.70
Other graded coarse aggregates	1,780	17,100	9.63
Total or average	4,620	41,200	8.92
<b>Fine aggregate (-¾ inch):</b>			
Stone sand, concrete	(2)	(2)	5.68
Stone sand, bituminous mix or seal	617	4,220	6.84
Screening, undesignated	507	3,980	7.85
Other fine aggregates	2,230	20,200	9.03
Total or average	3,360	28,400	8.45
<b>Coarse and fine aggregates:</b>			
Graded road base or subbase	2,370	16,900	7.15
Unpaved road surfacing	61	463	7.59
Crusher run or fill or waste	2,010	10,900	5.42
Roofing granules	(3)	(3)	5.30
Other coarse and fine aggregates	5,760	38,200	6.62
Total or average	10,200	66,500	6.51
Other construction materials	42	375	8.93
<b>Agricultural:</b>			
Agricultural limestone	90	673	7.48
Other agricultural uses	5	46	9.20
Total or average	95	719	7.57
Chemical and metallurgical, cement manufacture	(4)	(4)	5.21
Special, other fillers or extenders	(4)	(4)	4.00
Other miscellaneous uses and specified uses not listed	39	213	5.46
<b>Unspecified:<sup>5</sup></b>			
Reported	20,700	136,000	6.54
Estimated	8,400	46,000	5.44
Total or average	29,100	181,000	6.22
Grand total or average	52,700	349,000	6.62

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

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

<sup>2</sup>Withheld to avoid disclosing company proprietary data; included with "Other fine aggregates."

<sup>3</sup>Withheld to avoid disclosing company proprietary data; included with "Other coarse and fine aggregates."

<sup>4</sup>Withheld to avoid disclosing company proprietary data, included in "Grand total or average."

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

TABLE 4a  
NEW YORK: CRUSHED STONE SOLD OR USED BY PRODUCERS IN 2003, BY USE AND DISTRICT<sup>1,2</sup>

(Thousand metric tons and thousand dollars)

Use	District 2		District 3		District 4	
	Quantity	Value	Quantity	Value	Quantity	Value
<b>Construction:</b>						
Coarse aggregate (+1½ inch) <sup>3</sup>	W	W	W	W	--	--
Coarse aggregate, graded <sup>4</sup>	W	W	1,830	13,700	--	--
Fine aggregate (-¾ inch) <sup>5</sup>	W	W	1,060	8,660	--	--
Coarse and fine aggregate <sup>6</sup>	W	W	1,310	8,240	--	--
Other construction materials <sup>7</sup>	--	--	29	320	--	--
Agricultural <sup>8</sup>	W	W	W	W	--	--
Chemical and metallurgical <sup>9</sup>	--	--	W	W	--	--
Special <sup>10</sup>	--	--	--	--	--	--
<b>Unspecified:<sup>11</sup></b>						
Reported	12,200	84,700	1,460	10,500	--	--
Estimated	2,900	20,000	1,500	8,200	3,800	19,000
Total	17,200	126,000	11,200	71,500	3,800	19,000
Use	District 5		District 6		District 7	
	Quantity	Value	Quantity	Value	Quantity	Value
<b>Construction:</b>						
Coarse aggregate (+1½ inch) <sup>3</sup>	W	W	W	W	192	1,590
Coarse aggregate, graded <sup>4</sup>	W	W	W	W	W	W
Fine aggregate (-¾ inch) <sup>5</sup>	W	W	W	W	W	W
Coarse and fine aggregate <sup>6</sup>	W	W	W	W	W	W
Other construction materials <sup>7</sup>	--	--	--	--	69	356
Agricultural <sup>8</sup>	W	W	--	--	W	W
Chemical and metallurgical <sup>9</sup>	--	--	--	--	--	--
Special <sup>10</sup>	W	W	--	--	--	--
<b>Unspecified:<sup>11</sup></b>						
Reported	2,660	15,800	2,270	13,500	2,280	13,600
Estimated	850	4,200	1,500	8,800	820	4,800
Total	5,230	29,400	4,400	27,100	8,070	50,900
Use	District 8					
	Quantity	Value				
<b>Construction:</b>						
Coarse aggregate (+1½ inch) <sup>3</sup>	W	W				
Coarse aggregate, graded <sup>4</sup>	W	W				
Fine aggregate (-¾ inch) <sup>5</sup>	W	W				
Coarse and fine aggregate <sup>6</sup>	W	W				
Other construction materials <sup>7</sup>	194	1,870				
Agricultural <sup>8</sup>	W	W				
Chemical and metallurgical <sup>9</sup>	--	--				
Special <sup>10</sup>	--	--				
<b>Unspecified:<sup>11</sup></b>						
Reported	53	348				
Estimated	130	740				
Total	3,800	28,100				

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

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

<sup>2</sup>No crushed stone produced in District 1.

<sup>3</sup>Includes filter stone, macadam, riprap and jetty stone, and other coarse aggregates.

<sup>4</sup>Includes bituminous aggregate (coarse), bituminous surface-treatment aggregate, concrete aggregate (coarse), railroad ballast, and other graded coarse aggregates.

<sup>5</sup>Includes screening (undesignated), stone sand (concrete), stone sand bituminous mix or seal, and other fine aggregates.

<sup>6</sup>Includes crusher run (select material or fill), graded road base or subbase, terrazzo and exposed aggregate, and other coarse and fine aggregates.

<sup>7</sup>Includes drain fields.

<sup>8</sup>Includes agricultural limestone and other agricultural uses.

<sup>9</sup>Includes cement manufacture.

<sup>10</sup>Includes asphalt fillers or extenders.

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

TABLE 4b  
NEW YORK: CRUSHED STONE SOLD OR USED BY PRODUCERS IN 2004, BY USE AND DISTRICT<sup>1,2</sup>

(Thousand metric tons and thousand dollars)

Use	District 2		District 3		District 4	
	Quantity	Value	Quantity	Value	Quantity	Value
<b>Construction:</b>						
Coarse aggregate (+1½ inch) <sup>3</sup>	222	2,640	383	2,690	W	W
Coarse aggregate, graded <sup>4</sup>	1,320	15,400	1,070	8,920	W	W
Fine aggregate (-¾ inch) <sup>5</sup>	451	5,400	1,050	8,410	W	W
Coarse and fine aggregate <sup>6</sup>	677	6,880	3,020	20,200	W	W
Other construction materials	--	--	34	314	--	--
Agricultural <sup>7</sup>	--	--	W	W	W	W
Chemical and metallurgical <sup>8</sup>	--	--	W	W	W	W
Special <sup>9</sup>	--	--	--	--	--	--
Other miscellaneous uses and specified uses not listed	--	--	--	--	--	--
<b>Unspecified:<sup>10</sup></b>						
Reported	10,500	73,100	825	4,720	--	--
Estimated	2,600	15,000	1,100	6,300	2,400	12,000
Total	15,800	118,000	11,000	71,000	4,080	22,600
Use	District 5		District 6		District 7	
	Quantity	Value	Quantity	Value	Quantity	Value
<b>Construction:</b>						
Coarse aggregate (+1½ inch) <sup>3</sup>	W	W	W	W	201	1,650
Coarse aggregate, graded <sup>4</sup>	W	W	W	W	464	3,060
Fine aggregate (-¾ inch) <sup>5</sup>	W	W	W	W	613	4,410
Coarse and fine aggregate <sup>6</sup>	W	W	W	W	3,480	20,500
Other construction materials	--	--	8	61	--	--
Agricultural <sup>7</sup>	W	W	--	--	41	399
Chemical and metallurgical <sup>8</sup>	W	W	--	--	--	--
Special <sup>9</sup>	W	W	--	--	--	--
Other miscellaneous uses and specified uses not listed	39	213	--	--	--	--
<b>Unspecified:<sup>10</sup></b>						
Reported	2,700	16,000	2,310	13,700	2,930	17,100
Estimated	680	3,100	1,300	7,500	180	850
Total	5,600	30,700	4,200	25,900	7,920	48,000
Use	District 8					
	Quantity	Value				
<b>Construction:</b>						
Coarse aggregate (+1½ inch) <sup>3</sup>	--	--				
Coarse aggregate, graded <sup>4</sup>	W	W				
Fine aggregate (-¾ inch) <sup>5</sup>	W	W				
Coarse and fine aggregate <sup>6</sup>	W	W				
Other construction materials	--	--				
Agricultural <sup>7</sup>	--	--				
Chemical and metallurgical <sup>8</sup>	--	--				
Special <sup>9</sup>	--	--				
Other miscellaneous uses and specified uses not listed	--	--				
<b>Unspecified:<sup>10</sup></b>						
Reported	1,450	10,900				
Estimated	120	710				
Total	4,150	32,400				

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

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

<sup>2</sup>No crushed stone produced in District 1.

<sup>3</sup>Includes filter stone, macadam, riprap and jetty stone, and other coarse aggregates.

<sup>4</sup>Includes bituminous aggregate (coarse), bituminous surface-treatment aggregate, concrete aggregate (coarse), railroad ballast, and other graded coarse aggregates.

<sup>5</sup>Includes screening (undesignated), stone sand (concrete), stone sand bituminous mix or seal, and other fine aggregates.

<sup>6</sup>Includes crusher run or fill or waste, graded road base or subbase, unpaved road surfacing, roofing granules, and other coarse and fine aggregates.

<sup>7</sup>Includes agricultural limestone and other agricultural uses.

<sup>8</sup>Includes cement manufacture.

<sup>9</sup>Includes asphalt fillers or extenders.

<sup>10</sup>Reported and estimated production without a breakdown by end use.

TABLE 5a  
 NEW YORK: CONSTRUCTION SAND AND GRAVEL SOLD OR USED IN 2003,  
 BY MAJOR USE CATEGORY<sup>1</sup>

Use	Quantity (thousand metric tons)	Value (thousands)	Unit value
Concrete aggregate (including concrete sand)	6,110	\$48,300	\$7.91
Plaster and gunite sands	188	1,130	5.99
Concrete products (blocks, bricks, pipe, decorative, etc.)	181	1,610	8.87
Asphaltic concrete aggregates and other bituminous mixtures	2,240	12,000	5.34
Road base and coverings	3,290	15,200	4.62
Road stabilization (cement)	55	287	5.22
Road stabilization (lime)	17	58	3.41
Fill	2,280	6,830	2.99
Snow and ice control	1,010	4,930	4.87
Other miscellaneous uses <sup>2</sup>	368	2,160	5.38
Unspecified: <sup>3</sup>			
Reported	5,770	35,900	6.21
Estimated	8,700	44,000	5.03
Total or average	30,200	172,000	5.71

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

<sup>2</sup>Includes filtration and railroad ballast.

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

TABLE 5b  
 NEW YORK: CONSTRUCTION SAND AND GRAVEL SOLD OR USED IN 2004,  
 BY MAJOR USE CATEGORY<sup>1</sup>

Use	Quantity (thousand metric tons)	Value (thousands)	Unit value
Concrete aggregate (including concrete sand)	5,100	\$35,000	\$6.87
Plaster and gunite sands	250	1,580	6.31
Concrete products (blocks, bricks, pipe, decorative, etc.)	330	2,910	8.82
Asphaltic concrete aggregates and other bituminous mixtures	1,470	8,610	5.84
Road base and coverings	3,460	16,100	4.64
Road stabilization (cement and lime)	91	390	4.28
Fill	1,840	6,560	3.57
Snow and ice control	1,170	5,910	5.07
Railroad ballast	39	306	7.84
Filtration	20	141	7.20
Other miscellaneous uses	127	866	6.83
Unspecified: <sup>2</sup>			
Reported	8,610	55,300	6.42
Estimated	11,000	56,000	5.25
Total or average	33,100	189,000	5.72

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

<sup>2</sup>Reported and estimated production without a breakdown by end use.

TABLE 6a  
 NEW YORK: CONSTRUCTION SAND AND GRAVEL SOLD OR USED IN 2003,  
 BY USE AND DISTRICT<sup>1</sup>

(Thousand metric tons and thousand dollars)

Use	District 1		District 2		District 3	
	Quantity	Value	Quantity	Value	Quantity	Value
Concrete aggregate and concrete products <sup>2</sup>	1,680	20,200	680	6,590	937	5,730
Asphaltic concrete aggregates and other bituminous mixtures <sup>3</sup>	--	--	W	W	276	1,300
Road base and coverings	W	W	118	1,020	769	3,360
Fill	155	751	87	649	1,030	2,310
Snow and ice control	W	W	W	W	288	1,470
Other miscellaneous uses <sup>4</sup>	89	985	137	1,360	105	693
Unspecified: <sup>5</sup>						
Reported	1,220	10,900	617	4,340	35	210
Estimated	500	3,100	1,900	9,800	600	2,600
Total	3,690	36,000	3,520	23,700	4,040	17,700
Use	District 4		District 5		District 6	
	Quantity	Value	Quantity	Value	Quantity	Value
Concrete aggregate and concrete products <sup>2</sup>	1,280	5,430	186	1,280	877	6,310
Asphaltic concrete aggregates and other bituminous mixtures <sup>3</sup>	215	996	--	--	1,250	7,060
Road base and coverings	267	1,090	212	761	836	3,770
Fill	403	921	57	134	289	1,070
Snow and ice control	108	378	62	189	248	969
Other miscellaneous uses <sup>4</sup>	7	63	--	--	199	747
Unspecified: <sup>5</sup>						
Reported	15	84	192	1,150	331	1,240
Estimated	1,100	5,500	300	1,700	1,600	8,000
Total	3,410	14,400	1,050	5,200	5,610	29,200
Use	District 7		District 8			
	Quantity	Value	Quantity	Value		
Concrete aggregate and concrete products <sup>2</sup>	501	3,110	339	2,380		
Asphaltic concrete aggregates and other bituminous mixtures <sup>3</sup>	242	1,360	W	W		
Road base and coverings	723	2,900	W	W		
Fill	199	713	62	284		
Snow and ice control	109	454	63	249		
Other miscellaneous uses <sup>4</sup>	34	199	627	3,250		
Unspecified: <sup>5</sup>						
Reported	828	4,880	2,530	13,000		
Estimated	2,100	10,000	500	2,800		
Total	4,700	23,900	4,150	22,000		

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

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

<sup>2</sup>Includes plaster and gunite sands.

<sup>3</sup>Includes road and other stabilization (cement and lime).

<sup>4</sup>Includes filtration and railroad ballast.

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

TABLE 6b  
NEW YORK: CONSTRUCTION SAND AND GRAVEL SOLD OR USED IN 2004,  
BY USE AND DISTRICT<sup>1</sup>

(Thousand metric tons and thousand dollars)

Use	District 1		District 2		District 3	
	Quantity	Value	Quantity	Value	Quantity	Value
Concrete aggregates and concrete products <sup>2</sup>	1,040	7,800	771	6,180	872	6,180
Asphaltic concrete aggregates and other bituminous mixtures	--	--	W	W	329	2,690
Road base and coverings <sup>3</sup>	W	W	W	W	864	4,800
Fill	141	782	62	252	577	1,540
Snow and ice control	W	W	W	W	298	1,600
Other miscellaneous uses <sup>4</sup>	39	631	135	1,220	47	344
Unspecified: <sup>5</sup>						
Reported	1,360	11,500	1,180	9,170	547	3,130
Estimated	830	4,700	2,100	11,000	870	3,800
Total	3,410	25,500	4,200	28,200	4,400	24,100
Use	District 4		District 5		District 6	
	Quantity	Value	Quantity	Value	Quantity	Value
Concrete aggregates and concrete products <sup>2</sup>	541	2,140	169	1,130	1,080	7,890
Asphaltic concrete aggregates and other bituminous mixtures	150	572	--	--	316	2,080
Road base and coverings <sup>3</sup>	289	994	245	1,060	913	4,120
Fill	263	485	132	457	296	1,100
Snow and ice control	100	384	150	372	262	1,090
Other miscellaneous uses <sup>4</sup>	2	10	2	87	23	143
Unspecified: <sup>5</sup>						
Reported	14	76	212	1,230	538	3,570
Estimated	1,500	7,900	470	2,500	1,800	9,300
Total	2,840	12,600	1,380	6,880	5,270	29,200
Use	District 7		District 8			
	Quantity	Value	Quantity	Value		
Concrete aggregates and concrete products <sup>2</sup>	334	2,310	873	5,890		
Asphaltic concrete aggregates and other bituminous mixtures	W	W	W	W		
Road base and coverings <sup>3</sup>	853	3,630	309	1,150		
Fill	153	625	212	1,320		
Snow and ice control	96	368	197	1,190		
Other miscellaneous uses <sup>4</sup>	225	1,240	532	2,530		
Unspecified: <sup>5</sup>						
Reported	3,050	18,400	1,730	8,180		
Estimated	2,200	11,000	920	5,000		
Total	6,870	37,700	4,770	25,300		

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

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

<sup>2</sup>Includes plaster and gunite sands.

<sup>3</sup>Includes road and other stabilization (cement and lime).

<sup>4</sup>Includes filtration and railroad ballast.

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