

# 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 2000, the estimated value<sup>1</sup> of nonfuel mineral production for New York was \$1 billion, based upon preliminary U.S. Geological Survey (USGS) data. This was a marginal increase from that of 1999<sup>2</sup> and followed a 2.6% increase from 1998 to 1999. New York continued to be 15th in rank among the 50 States in total nonfuel mineral production value, of which the State accounted for about 2.5% of the U.S. total.

In 2000, crushed stone, by value, remained New York's leading nonfuel mineral, followed by cement (portland and masonry), salt, construction sand and gravel, and zinc. Increases in the values of all five commodities, which together accounted for about 90% of the State's total nonfuel mineral production value, led to the State's overall rise in value. Zinc represented the major portion of New York's metal production and value. The State's major construction material commodities—crushed stone, cement, construction sand and gravel, and gypsum—accounted for about 66% of the State's nonfuel mineral value.

In 1999, New York's increase in value resulted mostly from increases in cement, gypsum, and salt, moderated somewhat by decreases in the values of crushed stone, construction sand and gravel, zinc, and wollastonite (descending order of change in value) (table 1). All other changes had little effect on the overall net result.

Based on USGS estimates of the quantities produced in the 50 States in 1999, New York remained the only State to produce wollastonite and continued to be fourth in zinc and talc. While the State increased in rank to 3d from 4th in the production of salt, to 7th from 9th in dimension stone, and to 10th from 11th in masonry cement, it decreased to 2d from 1st of three industrial garnet-producing States and to 10th from 9th in portland cement. Additionally, New York mining and mineral processing operations produced significant quantities of crushed

stone, construction sand and gravel, gypsum, and common clay (listings in descending order of value).

The following narrative information was provided by the New York State Geological Survey (NYSGS) and the Division of Mineral Resources<sup>3</sup> (DMR) of the New York State Department of Environmental Conservation. The DMR reported that there were 2,475 mines active in New York in 2000. These mines affected 19,774 hectares (ha). During the year, 116 ha were reclaimed for a total of 7,279 ha reclaimed since the inception of the Mined Land Reclamation Program in 1975. Of the total number of mines statewide, 1,837 were operated by industry, and 638 were operated by governmental agencies. The majority of mines (901) affected parcels of land from 0 to 2 ha; mines affecting 2 to 4 ha were second most abundant. Mines affecting 4 to 8 ha were 436. Those of 8 to 12 ha numbered 155, and 295 were greater than 12 ha. Minor projects accounted for the rest of the total. During the year, 361 mining permits were issued, of which 71 were for new mining projects. Total value of reclamation security held by New York State in 2000 was about \$77.1 million.

The winner of the New York State 1999 Annual Reclamation Award, Porter's Concrete Service, Inc., won a national reclamation award from the Interstate Mining Compact Commission (IMCC). Porter won a special small operator award from the IMCC for its innovative reclamation at its Barton and Waverly Mines in Tioga County. AKZO Nobel Salt Inc. (Akzo) was presented the annual New York State Mined Land Reclamation Award for the closure and restoration of its underground salt mine in Livingston County. Akzo also won the National Association of State Land Reclamationists Award for 2000. Final reclamation of the largest sand pit in the New York State was completed. This mine, in North Hemstead on Long Island, once supplied large amounts of material to Manhattan and the New York City metropolitan area. A golf course will be constructed on the site of the former mine.

Noise and visual impacts emerged as the most significant environmental issues involved in the application of St. Lawrence Cement Co. for a proposed new \$300 million cement plant to be located in the middle of an existing quarry in Hudson, NY. Current plans call for a plant that is 107 meters in height and that will operate 24 hours per day in an area where there is no history of nighttime operations. Negotiations with State and local agencies continued.

The NYSGS continued bedrock and surficial geologic mapping projects in several regions of the State. Mapping priority is given to areas in which expanding development surrounding urban areas and along transportation corridors drives the need for an understanding of mineral resources, among other topics. Maps are produced at a scale of 1:24,000.

<sup>3</sup>William Kelly, Associate Scientist with the NYSGS (a bureau of the New York State Museum in the State Education Department), Division of Research and Collections, and Steven Potter, Mined Land Reclamation Specialist II with the New York State Department of Environmental Conservation, DMR, coauthored the text of mineral industry information submitted by those agencies.

<sup>1</sup>The 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 2000 USGS mineral production data published in this chapter are preliminary estimates as of July 2001 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. A telephone listing of the specialists may be retrieved over the Internet at URL <http://minerals.usgs.gov/minerals/contacts/comdir.html>, by using MINES FaxBack at (703) 648-4999 from a fax machine with a touch-tone handset (request Document #1000 for a telephone listing of all mineral commodity specialists), or by calling USGS information at (703) 648-4000 for the specialist's name and number. All Mineral Industry Surveys—mineral commodity, State, and country—also may be retrieved over the Internet at URL <http://minerals.usgs.gov/minerals>; facsimile copies may be obtained from MINES FaxBack.

<sup>2</sup>Values, percentage calculations, and rankings for 1999 may vary from the Minerals Yearbook, Area Reports: Domestic 1999, Volume II, owing to the revision of preliminary 1999 to final 1999 data. Data for 2000 are preliminary and are expected to change; related rankings may also change.

In 2000, four quadrangles in eastern, central, and western New York were mapped. Geologists in the Division of Research and Collections of the New York State Museum, an affiliate of the NYSGS, began investigations into lower Paleozoic

hydrothermal dolomite formations. These have the potential to be significant reservoirs of natural gas in New York State. Test wells yielded production far exceeding typical New York gas wells.

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

(Thousand metric tons and thousand dollars unless otherwise specified)

Mineral	1998		1999		2000 p/	
	Quantity	Value	Quantity	Value	Quantity	Value
Clays, common	622	16,100	W	W	W	W
Gemstones	NA	64	NA	68	NA	54
Salt	4,120	198,000	4,220	209,000	5,440	218,000
Sand and gravel, construction	32,100	161,000	29,900	152,000	32,600	170,000
Stone:						
Crushed	47,200	279,000	46,700	268,000	47,000	277,000
Dimension metric tons	52,900	8,870	49,300	8,940	48,900	9,260
Combined values of cement, garnet (industrial), gypsum (crude), lead, peat, sand and gravel (industrial), silver, talc, wollastonite, zinc, and values indicated by symbol W	XX	309,000 r/	XX	358,000	XX	327,000
Total	XX	972,000 r/	XX	997,000	XX	1,000,000

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

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

Kind	1998				1999			
	Number of quarries	Quantity (thousand metric tons)	Value (thousands)	Unit value	Number of quarries	Quantity (thousand metric tons)	Value (thousands)	Unit value
Limestone	54 r/	22,400 r/	\$127,000 r/	\$5.70 r/	53	22,100	\$123,000	\$5.58
Dolomite	12 r/	8,410 r/	54,400 r/	6.47 r/	12	8,760	55,600	6.35
Limestone-dolomite	10 r/	5,640 r/	30,500 r/	5.41 r/	10	5,340	27,500	5.15
Granite	10 r/	3,690 r/	25,500 r/	6.96 r/	9	2,900	16,400	5.67
Marble	1	90	1,580	17.60	1	W	W	5.76
Sandstone 2/	12 r/	2,010 r/	14,900 r/	7.41 r/	12	1,830	13,700	7.46
Traprock	3	3,830	18,100	4.73	3	W	W	5.49
Slate	--	--	--	--	1	W	W	5.51
Miscellaneous stone	4 r/	1,140 r/	6,310 r/	5.56 r/	4	1,250	7,220	5.76
Total or average	XX	47,200	279,000	5.91	XX	46,700	268,000	5.75

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

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

2/ Includes sandstone-quartz to avoid disclosing company proprietary data.

TABLE 3  
NEW YORK: CRUSHED STONE SOLD OR USED  
BY PRODUCERS IN 1999, BY USE 1/ 2/

Use	Quantity (thousand metric tons)	Value (thousands)	Unit value
<b>Construction:</b>			
<b>Coarse aggregate (+1 1/2 inch):</b>			
Macadam	103	\$987	\$9.58
Riprap and jetty stone	183	1,400	7.64
Filter stone	138	764	5.54
Other coarse aggregate	116	964	8.31
<b>Coarse aggregate, graded:</b>			
Concrete aggregate, coarse	1,340	8,460	6.34
Bituminous aggregate, coarse	4,570	30,900	6.76
Bituminous surface-treatment aggregate	886	5,520	6.22
Railroad ballast	W	W	4.20
Other graded coarse aggregate	2,080	18,800	9.05
<b>Fine aggregate (-3/8 inch):</b>			
Stone sand, concrete	277	1,140	4.12
Stone sand, bituminous mix or seal	703	4,670	6.64
Screening, undesignated	746	3,610	4.84
Other fine aggregate	W	W	7.91
<b>Coarse and fine aggregates:</b>			
Graded road base or subbase	4,370	26,200	6.00
Unpaved road surfacing	121	593	4.90
Crusher run or fill or waste	3,620	17,400	4.80
Other coarse and fine aggregates	1,320	8,420	6.40
Drain fields	474	3,270	6.89
Other construction materials	142	1,070	7.54
Agricultural, agricultural limestone	158	1,490	9.41
<b>Chemical and metallurgical:</b>			
Cement manufacture	4,180	13,100	3.13
Lime manufacture	W	W	5.48
<b>Unspecified: 3/</b>			
Reported	6,920	40,200	5.81
Estimated	14,000	74,000	5.46
<b>Total or average</b>	<b>46,700</b>	<b>268,000</b>	<b>5.75</b>

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

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

2/ Includes dolomite, granite, limestone, limestone-dolomite, marble, miscellaneous stone, sandstone, sandstone-quartz, slate, and traprock.

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

TABLE 4  
NEW YORK: CRUSHED STONE SOLD OR USED BY PRODUCERS IN 1999, BY USE AND DISTRICT 1/ 2/

(Thousand metric tons and thousand dollars)

Use	District 2		District 3		District 4		District 5	
	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value
<b>Construction:</b>								
Coarse aggregate (+1 1/2 inch) 3/	148	1,440	196	1,280	61	372	57	517
Coarse aggregate, graded 4/	1,640	15,100	1,950	14,300	1,330	8,030	W	W
Fine aggregate (-3/8 inch) 5/	474	3,850	W	W	W	W	88	548
Coarse and fine aggregate 6/	801	5,930	1,460	8,400	W	W	762	3,430
Other construction materials	--	--	W	W	--	--	--	--
Agricultural 7/	--	--	24	140	16	87	W	W
Chemical and metallurgical 8/	--	--	W	W	W	W	W	W
<b>Unspecified: 9/</b>								
Reported	--	--	W	W	--	--	W	W
Estimated	9,000	49,000	940	5,300	550	3,000	400	2,100
<b>Total</b>	<b>12,000</b>	<b>75,000</b>	<b>9,150</b>	<b>47,300</b>	<b>4,020</b>	<b>21,700</b>	<b>6,280</b>	<b>38,200</b>
Use	District 6		District 7		District 8			
	Quantity	Value	Quantity	Value	Quantity	Value		
<b>Construction:</b>								
Coarse aggregate (+1 1/2 inch) 3/	46	280	33	228	--	--		
Coarse aggregate, graded 4/	839	4,450	926	4,540	W	W		
Fine aggregate (-3/8 inch) 5/	337	1,720	552	2,590	126	922		
Coarse and fine aggregate 6/	840	3,520	2,410	11,400	W	W		
Other construction materials	W	W	--	--	474	3,270		
Agricultural 7/	W	W	46	341	49	606		
Chemical and metallurgical 8/	--	--	--	--	--	--		
<b>Unspecified: 9/</b>								
Reported	1,010	6,140	1,500	8,560	--	--		
Estimated	820	4,500	1,800	9,800	150	810		
<b>Total</b>	<b>3,910</b>	<b>20,800</b>	<b>7,250</b>	<b>37,400</b>	<b>4,070</b>	<b>28,000</b>		

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 in District 1.

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

4/ Includes bituminous aggregate (coarse), bituminous surface-treatment aggregate, concrete aggregate (coarse), railroad ballast, 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 material or fill), drain fields, graded road base or subbase, unpaved road surfacing, and other coarse and fine aggregates.

7/ Includes agricultural limestone.

8/ Includes cement and lime manufacture.

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

TABLE 5  
NEW YORK: CONSTRUCTION SAND AND GRAVEL SOLD OR USED IN 1999,  
BY MAJOR USE CATEGORY 1/

Use	Quantity (thousand metric tons)	Value (thousands)	Unit value
Concrete aggregate (including concrete sand)	7,000	\$42,600	\$6.09
Plaster and gunite sands	113	589	5.21
Concrete products (blocks, bricks, pipe, decorative, etc.)	357	2,860	8.02
Asphaltic concrete aggregates and other bituminous mixtures	2,060	11,500	5.58
Road base and coverings 2/	5,080	22,700	4.46
Fill	2,420	8,700	3.59
Snow and ice control	1,160	4,860	4.20
Railroad ballast	17	112	6.59
Other miscellaneous uses 3/	519	4,210	8.11
Unspecified: 4/			
Reported	2,880	13,400	4.66
Estimated	8,300	41,000	4.94
Total or average	29,900	152,000	5.10

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

2/ Includes road and other stabilization (cement and lime).

3/ Includes filtration.

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

TABLE 6  
NEW YORK: CONSTRUCTION SAND AND GRAVEL SOLD OR USED IN 1999,  
BY USE AND DISTRICT 1/

(Thousand metric tons and thousand dollars)

Use	District 1		District 2		District 3		District 4	
	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value
Concrete aggregate and concrete products 2/	2,210	13,400	896	8,070	614	3,460	607	2,760
Asphaltic concrete aggregates and other bituminous mixtures	W	W	200	1,220	400	2,280	273	1,140
Roadbase and covering 3/	W	W	276	1,550	1,360	5,840	525	2,020
Fill	460	1,030	94	256	765	2,640	206	749
Snow and ice control	5	24	65	424	259	1,050	218	737
Other miscellaneous uses 4/	279	2,620	110	755	121	761	19	110
Unspecified: 5/								
Reported	--	--	--	--	41	219	1	1
Estimated	500	2,400	800	4,500	700	2,700	900	3,200
Total	3,400	19,500	2,400	16,800	4,250	19,000	2,760	10,700
Use	District 5		District 6		District 7		District 8	
	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value
Concrete aggregate and concrete products 2/	164	1,440	1,110	6,950	545	2,680	1,330	7,350
Asphaltic concrete aggregates and other bituminous mixtures	--	--	453	2,490	W	W	W	W
Roadbase and covering 3/	247	1,050	908	3,470	W	W	W	W
Fill	239	785	236	932	14	28	409	2,280
Snow and ice control	59	172	287	1,060	100	527	163	856
Other miscellaneous uses 4/	10	67	20	141	45	313	52	303
Unspecified: 5/								
Reported	262	1,420	298	1,110	3	6	2,270	10,600
Estimated	800	4,100	1,600	7,600	2,600	13,000	500	2,700
Total	1,790	9,030	4,860	23,800	4,200	21,200	6,220	32,300

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/ Includes gunite sands and plaster.

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

4/ Includes filtration and railroad ballast.

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