

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 1998, the preliminary estimated value¹ of nonfuel mineral production for New York was \$983 million, according to the U.S. Geological Survey (USGS). This was about a 3% increase from that of 1997,² and followed a 7.4% increase from 1996 to 1997. New York rose in State ranking to 14th from 16th in the Nation in total nonfuel mineral production value, of which the State accounted for more than 2% of the U.S. total.

In 1998, crushed stone, by value, remained New York's leading nonfuel mineral, followed by portland cement, construction sand and gravel, salt, and zinc. These five mineral commodities accounted for about 91% of the State's total nonfuel mineral production value, of which industrial minerals and mineral products represented about 94%. Zinc accounted for the major portion of metal production and value. The State's net value increase in 1998 resulted mostly from a \$37 million rise in the value of crushed stone, a \$23 million increase in construction sand and gravel, and a more moderate yet substantial increase in portland cement (table 1). Only salt and zinc values (listings are by descending magnitude of change) showed similarly significant decreases in value. Smaller decreases also took place: crude gypsum had a decrease of less than \$3 million and wollastonite and dimension stone were down about \$1 million each. All other nonfuel minerals had relatively small increases, except talc, which showed a small decrease, and industrial sand and gravel, which remained unchanged.

In 1997, a substantial increase in the value of crushed stone plus a combined increase of more than \$15 million in zinc and wollastonite led New York's rise in value for the year. While most of the State's other nonfuel minerals showed decreases in value, only salt, common clay, and construction sand and gravel decreased by \$1 million or more.

¹The 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 1998 USGS mineral production data published in this chapter are preliminary estimates as of February 1999 and are expected to change. For some mineral commodities (for example, 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 for the specialists may be retrieved over the Internet at <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 <http://minerals.usgs.gov/minerals>; facsimile copies may be obtained from MINES FaxBack.

²Values, percentage calculations, and rankings for 1997 may vary from the *Minerals Yearbook, Area Reports: Domestic 1997, Volume II*, owing to the revision of preliminary 1997 to final 1997 data. Data for 1998 are preliminary and expected to change, while related rankings may also be subject to change.

Based on USGS estimates of the quantities produced in the 50 States in 1998, New York remained the only² State to produce wollastonite, second of three industrial garnet-producing States, third in the production of salt and zinc, fourth in talc, sixth in lead, and eighth in portland cement. The State dropped to 11th from 6th in dimension stone. Additionally, New York mining and mineral processing operations produced substantial quantities of crushed stone, construction sand and gravel, and masonry cement.

The following narrative information was provided by the New York State Geological Survey (NYSGS) and the Division of Mineral Resources of the New York State Department of Environmental Conservation (NYSDEC).³ The NYSDEC issued a total of 514 Mined Land Reclamation permits in 1998, 88 of which were for new mines. Another 70 mines were approved for final reclamation. Total hectares reclaimed for the year were 241. At the end of 1998, 2,463 mines—1,814 industry-owned and 649 government-owned (municipal)—were active in the State. The number of hectares under permit at the end of 1998 was about 18,800 with more than 16,700 hectares affected by industry-owned mines and the remainder by government-owned mines. Total hectares reclaimed in 1998 were almost 1,980, of which about 1,850 were on industry-owned properties. The total value of reclamation financial security held by the department equaled almost \$69.9 million.

American Rock Salt Inc. (ARS) broke ground on its new underground salt mine at Hampton Corners in the Town of Groveland, Livingston County, in the fall of 1998 and was on schedule with its construction. The mine site is about 3 kilometers southeast of the southeastern limit of the failed Akzo Nobel Salt Inc. mine at Retsof, NY. Salt will be mined at the same stratigraphic level as the old Akzo Nobel Mine. Surface development had been slowed by inclement weather, but the sinking of the shaft continued through the winter months of 1999. Service and production shafts were excavated through unconsolidated materials to the top of bedrock at an approximate depth of 21 meters. Archeological work was completed by the end of winter on one of three sites that required archeological field inspections. The excavation of American Indian human remains discovered at the site slowed work on the rail spur line that will connect the new facility with existing rail lines of the Genesee and Wyoming Railroad. ARS anticipates that the mine will start producing development salt in October 1999 and will go into full production during 2000.

³William Kelly, Associate Scientist with the New York State Geological Survey, and Steven Potter, Mined Land Reclamation Specialist II with the New York State Department of Environmental Conservation, Division of Mineral Resources, coauthored the text of mineral industry information submitted by those agencies. Mr. Potter may be contacted at his State agency, 50 Wolf Rd, Albany, NY 12233, telephone: (518) 457-9341; fax: (518) 457-9298; the NYSDEC is on the Internet at <http://www.dec.state.ny.us/website/dmm>.

In July 1998, the NYSDEC received a mining termination notice from the United States Gypsum Co. indicating its intention to close its underground gypsum mine in Oakfield, Genesee County. Mine closure and final reclamation are anticipated to continue through 1999 and be finalized during 2000.

Zinc Corporation of America notified the NYSDEC in August of its intention to close and reclaim the Hyatt Mine, in Edwards, St. Lawrence County. The completed reclamation of the site was anticipated to be fall 1999.

Although neither the State Governor nor the NYSDEC introduced any mining law reform legislation, bills dealing with amendments to the Mined Land Reclamation Law were introduced during the 1998-99 legislative session. No bills, the purpose of which would be to specifically clarify NYSDEC's role in underground mining regulation, have as yet been enacted.

The NYSGS released its Environmental Services Technical Report 98-001, *Seismic Hazard Assessment of Onondaga*

County. The work leading to the report was performed by the NYSGS in conjunction with the New York State Emergency Management Office and the Federal Emergency Management Agency. In addition to maps of surficial and bedrock geology, depth-to-water-table, and slope, the publication contains landslide and liquefaction susceptibility, ground shaking amplification, and composite seismic hazard maps. Additionally, the NYSGS has available a digital version of the 1:250,000-scale surficial geologic map of the State. This is a materials-based map illustrating the location of sand and gravel, clay, and other mineral resources in addition to till and outcrops; as such, it is of interest to the mineral industry. The map can be obtained in ArcInfo and ArcView format at no cost. The data may be accessed at <http://www.nysm.nysed.gov/index.html> by choosing "GIS Data and Map Server" and following the map download instructions. A corollary bedrock map was expected to be available at the same Internet address in late summer 1999.

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

Mineral	1996		1997		1998 p/	
	Quantity	Value	Quantity	Value	Quantity	Value
Cement: Portland	2,570	157,000 e/	W	W	W	W
Clays: Common	652	14,000	477	12,100	487	12,300
Gemstones	NA	291	NA	70	NA	100
Salt	4,420	203,000	3,590	183,000	3,400	161,000
Sand and gravel: Construction	28,100	145,000	28,500	144,000	32,100	167,000
Stone:						
Crushed	43,600	233,000	44,400	285,000	46,000	322,000
Dimension metric tons	34,400	8,120	54,700	9,380	31,200	8,330
Combined values of cement (masonry), garnet (industrial), gypsum (crude), lead, peat, sand and gravel (industrial), silver, talc and pyrophyllite, wollastonite, zinc, and values indicated by symbol W	XX	128,000 r/	XX	321,000	XX	313,000
Total	XX	889,000 r/	XX	955,000	XX	983,000

e/ Estimated. p/ Preliminary. r/ Revised. 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 three significant digits; may not add to totals shown.

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

Kind	1996				1997			
	Number of quarries	Quantity (thousand metric tons)	Value (thousands)	Unit value	Number of quarries	Quantity (thousand metric tons)	Value (thousands)	Unit value
Limestone	75 r/	22,300 r/	\$105,000 r/	\$4.71 r/	55	22,000	\$119,000	\$5.41
Dolomite	12 r/	8,610 r/	52,300 r/	6.08 r/	12	9,950	88,100	8.85
Limestone-dolomite	11	5,990	34,900	5.82	11	5,870	34,100	5.81
Granite	9 r/	2,190 r/	14,400 r/	6.58 r/	8	2,210	16,100	7.31
Traprock	2	W	W	W	2	W	W	W
Sandstone	7	1,990 r/	10,200 r/	5.14 r/	7	1,880	11,100	5.87
Marble	1	80	1,380	17.20	1	85	1,390	16.29
Slate	1	W	W	W	1	W	W	W
Miscellaneous stone	4 r/	1,220 r/	5,210 r/	4.27 r/	3	1,020	5,010	4.91
Total	XX	43,600	233,000	5.34	XX	44,400	285,000	6.43

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

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

TABLE 3
NEW YORK: CRUSHED STONE SOLD OR USED
BY PRODUCERS IN 1997, BY USE 1/ 2/

Use	Quantity (thousand metric tons)	Value (thousands)	Unit value
Coarse aggregate (+1 1/2 inch):			
Macadam	108	\$1.170	\$10.86
Riprap and jetty stone	399	2.980	7.46
Filter stone	84	596	7.10
Other coarse aggregate	987	5.890	5.96
Coarse aggregate, graded:			
Concrete aggregate, coarse	1,820	13.800	7.59
Bituminous aggregate, coarse	4,820	47.600	9.88
Bituminous surface-treatment aggregate	814	5.800	7.12
Railroad ballast	110	1.110	10.11
Other graded coarse aggregate	2,430	20.300	8.35
Fine aggregate (-3/8 inch):			
Stone sand, concrete	206	1.100	5.36
Stone sand, bituminous mix or seal	761	6.720	8.83
Screening, undesignated	616	6.120	9.93
Other fine aggregate	1,240	8.300	6.68
Coarse and fine aggregates:			
Graded road base or subbase	3,580	23.200	6.47
Unpaved road surfacing	155	997	6.43
Crusher run or fill or waste	3,450	21.300	6.17
Other coarse and fine aggregates	1,390	9.920	7.15
Other construction materials 3/	313	2.100	6.70
Agricultural:			
Agricultural limestone	136	1.500	11.01
Other agricultural uses	6	64	10.67
Chemical and metallurgical:			
Cement manufacture	3,890	15.300	3.93
Lime manufacture	W	W	W
Special: Other fillers or extenders	W	W	W
Other miscellaneous uses not listed	3	17	5.67
Unspecified: 4/			
Actual	6,750	26,500	3.93
Estimated	9,900	59,600	6.02
Total	44,400	285,000	6.43

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

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

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

3/ Includes terrazzo and exposed aggregate.

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

TABLE 4
NEW YORK: CRUSHED STONE SOLD OR USED BY PRODUCERS IN 1997, BY USE AND DISTRICT 1/ 2/

(Thousand metric tons and thousand dollars)

Use	District 2		District 3		District 4		District 5	
	Quantitv	Value	Quantitv	Value	Quantitv	Value	Quantitv	Value
Construction aggregates:								
Coarse aggregate (+1 1/2 inch) 3/	190	2,180	227	1,820	67	427	W	W
Coarse aggregate, graded 4/	3,810	43,100	1,700	13,100	1,130	7,110	708	3,900
Fine aggregate (-3/8 inch) 5/	1,050	12,100	450	2,680	272	1,710	W	W
Coarse and fine aggregate 6/	1,280	11,200	980	6,400	808	5,190	1,280	5,190
Other construction materials 7/	--	--	238	1,740	19	83	257	1,310
Agricultural 8/	3	27	(9/)	(9/)	(9/)	(9/)	(9/)	(9/)
Chemical and metallurgical 10/	--	--	(9/)	(9/)	(9/)	(9/)	44	970
Special 11/	--	--	3	18	--	--	2	110
Unspecified: 12/								
Actual	--	--	(9/)	(9/)	--	--	(9/)	(9/)
Estimated	6,430	46,500	559	2,370	272	1,680	137	477
Total	12,800	115,000	7,670	43,400	3,300	18,400	4,360	20,700
Use	District 6		District 7		District 8		Unspecified districts	
	Quantitv	Value	Quantitv	Value	Quantitv	Value	Quantitv	Value
Construction aggregates:								
Coarse aggregate (+1 1/2 inch) 3/	W	W	W	W	15	192	--	--
Coarse aggregate, graded 4/	479	2,890	W	W	W	W	2	2
Fine aggregate (-3/8 inch) 5/	156	816	697	3,810	W	W	--	--
Coarse and fine aggregate 6/	755	4,160	1,070	5,950	W	W	27	44
Other construction materials 7/	18	131	1,980	11,200	3,610	30,500	--	--
Agricultural 8/	13	209	(9/)	(9/)	72	1,040	--	--
Chemical and metallurgical 10/	--	--	--	--	--	--	--	--
Special 11/	(9/)	(9/)	--	--	--	--	--	--
Unspecified: 12/								
Actual	(9/)	(9/)	(9/)	(9/)	--	--	--	--
Estimated	543	2,310	1,800	5,930	165	373	--	--
Total	5,040	21,900	7,350	33,600	3,860	32,100	29	46

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

1/ No crushed stone was produced in District 1.

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, railroad ballast, and other graded coarse aggregate.

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), and other coarse and fine aggregates.

7/ Includes drain fields.

8/ Includes agricultural limestone and other agricultural uses.

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

10/ Includes cement and lime manufacture.

11/ Includes other fillers or extenders and other specified uses not listed.

12/ Includes reported and estimated production without a breakdown by end use.

TABLE 5
NEW YORK: CONSTRUCTION SAND AND GRAVEL SOLD OR USED IN 1997,
BY MAJOR USE CATEGORY 1/

Use	Quantity (thousand metric tons)	Value (thousands)	Value per ton
Concrete aggregate (including concrete sand)	7,320	\$42,800	\$5.84
Plaster and gunite sands	159	916	5.76
Concrete products (blocks, bricks, pipe, decorative, etc.)	329	2,470	7.52
Asphaltic concrete aggregates and other bituminous mixtures	2,440	12,900	5.31
Road base and coverings	4,340	17,700	4.09
Road stabilization (cement)	15	32	2.13
Road stabilization (lime)	24	98	4.08
Fill	2,660	7,030	2.64
Snow and ice control	1,670	6,620	3.96
Railroad ballast	9	25	2.78
Other miscellaneous uses	371	1,920	5.18
Unspecified: 2/			
Actual	2,630	11,800	4.47
Estimated	6,560	40,000	6.09
Total or average	28,500	144,000	5.06

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

2/ Includes reported and estimated production without a breakdown by end use.

TABLE 6
NEW YORK: CONSTRUCTION SAND AND GRAVEL SOLD OR USED IN 1997,
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	1,850	10,800	765	6,110	910	4,050	171	678
Concrete products 2/	223	1,610	W					
Asphaltic concrete aggregates 3/	--	--	330	1,900			138	391
Roadbase and covering	199	2,000	286	1,920	623	2,080	436	1,260
Fill	61	334	494	1,110	696	2,020	587	829
Snow and ice control	37	211	263	1,630	274	959	188	570
Other miscellaneous uses 4/	--	--	W					
Unspecified 5/	1,620	17,300	439	2,240	85	176	1,010	3,770
Total	3,990	32,200	2,630	15,300	3,060	11,900	2,530	7,520
Use	District 5		District 6		District 7		District 8	
	Quantity	Value	Quantity	Value	Quantity	Value	Quantity	Value
Concrete aggregate	196	1,060	1,150	6,710	1,250	7,940	1,030	5,460
Concrete products 2/	W	W	W	W	187	1,210	--	--
Asphaltic concrete aggregates 3/	W	W	950	5,600	339	2,030	462	1,690
Roadbase and covering	381	1,240	1,110	3,940	715	2,460	588	2,840
Fill	142	297	349	1,040	77	193	251	1,210
Snow and ice control	138	394	445	1,490	249	988	79	384
Other miscellaneous uses 4/	8	30	W	W	14	65	30	116
Unspecified 5/	560	2,610	336	1,300	1,320	6,800	3,830	17,500
Total	1,430	5,640	4,470	20,800	4,150	21,700	6,270	29,200

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

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

2/ Includes plaster and gunite sands.

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

4/ Includes railroad ballast.

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