



2006 Minerals Yearbook

NEW YORK

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 2006, New York's nonfuel raw mineral production¹ was valued at \$1.33 billion, based upon annual U.S. Geological Survey (USGS) data. This was a \$40 million, or 3%, increase from the total value for 2005, which was up by \$200 million, or 18.3%, from 2004 to 2005. The State was 17th in rank (15th in 2005) among the 50 States in total nonfuel mineral production value, of which the State accounted for 2% of the U.S. total value.

In 2006, crushed stone, by value, remained New York's leading nonfuel mineral, followed by cement (portland and masonry), salt, construction sand and gravel, zinc, and wollastonite. These six mineral commodities accounted for nearly 97% of the State's total nonfuel mineral production value. Cement (portland and masonry) led New York's increase in value; a small increase in production and a moderate increase in unit value generated a nearly \$50 million increase in the mineral commodity's total production value. This was followed by increases in the production values of construction sand and gravel, zinc, common clays, peat, and wollastonite, in descending order of change. Construction sand and gravel value was up by \$32 million, and the value of common clays was up by nearly \$19 million. The production values and increases in those values from 2005 to 2006 for zinc (no production in 2005), peat, and wollastonite are withheld because these are individual company proprietary data. The largest decreases in value took place in the production of salt, crushed stone, crude gypsum, and dimension stone, down by \$70 million, \$12 million, \$9.3 million, and nearly \$4 million, respectively (table 1).

In 2006, New York continued to be the only State to produce wollastonite. The State was first in the quantity of industrial garnet produced of three producing States, third in the production of salt, and fourth in that of talc. The State rose to 3d in peat production with a very significant increase in production from years past; to 4th in the production of zinc, with the first resumption of mining since when the metal was last produced in 2001, and to 10th in common clays. The State decreased to 9th from 8th in dimension stone production. Additionally, mining and mineral processing operations produced significant quantities of, in descending order of value, crushed stone (14th in rank), portland cement (12th), construction sand and gravel (13th), and masonry cement (12th). Primary aluminum and raw steel were produced from materials obtained from foreign,

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 2006 USGS mineral production data published in this chapter are those available as of March 2008. 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>.

and other domestic sources. In 2006, with a small decrease in production, the State ranked sixth (fourth in 2005) in primary aluminum production among 11 producing States.

The following narrative information was provided by the New York State Geological Survey² (NYSGS) and the Division of Mineral Resources (DMR) of the New York State Department of Environmental Conservation (DEC). Continuing the trend of the past few years, the number of permitted nonfuel mineral mining operations in New York was lower in 2006 than the previous year, numbering 2,215. There were 56 active mines in New York's 63 counties. Of the 2,215 active mining operations, 1,739 were operated by industry and 476 by local or State government entities. These totals cover only mines regulated by the Mined Land Reclamation Law. New York has many unregulated mines, both active and abandoned that fall outside the law's jurisdiction. Most of these are small operations or mines that predate the 1975 law. The vast majority of the permitted mines produce sand and gravel or other surficial deposits. However, approximately 250 hardrock mines produced materials ranging from carbonate rock, garnet, salt, shale, talc and wollastonite. Most of the hardrock mines are surface quarries producing carbonate rock, but there are a few permitted underground mines. The most commonly mined commodities were 1,838 mineral operations for sand and gravel, 100 for limestone, 64 for bluestone, and 21 for sandstone.

Environmental Issues and Mine Reclamation

In the aftermath of the AKZO Inc. Restoff salt mine failure, a desalinization plant was constructed in Livingston County, and began operations in 2006. The purpose of the plant is to stabilize the level of salt-contaminated ground water rising in the area of the mine collapse. The AKZO Brine Mitigation Project states that this will prevent the salty water from mixing with and degrading the quality of the ground water in the bedrock and surficial aquifers. Salt water levels have been rising because of the slow closure of the flooded mine. This is taking place because mine space reduction forces salt water up the collapsed area and into the overlying aquifer. Salt from the desalinization plant will be pelletized and marketed for use in water softeners. The purified water will augment the drinking water supply of the local community.

A total of nearly 403 hectares (ha) (997 acres) of mined land were reclaimed in 2006. The Mined Land Reclamation Program holds \$122 million in financial security to guarantee mine reclamation. In 2006, DEC approved reclamation on 232 ha

²William Kelly, State Geologist of New York, authored the text of the State mineral industry information provided by the New York State Geological Survey (a bureau of the New York State Museum in the State Education Department), Division of Research and Collections in collaboration with the New York State Department of Environmental Conservation, Division of Mineral Resources.

(574 acres) at 78 operating mines and final reclamation on 175 ha (432 acres) at 68 closed mines. A total of 10,400 ha (25,600 acres) of mined land have been reclaimed since the inception of the program in 1975.

Government Programs

In 2006, DEC collected \$2.7 million in annual regulatory fees from industry and State-owned mines. Mines owned by other governmental entities are exempt from these fees. A total of 327 permits were issued by the DEC in 2006. Of these, 47 were for new operations, and 327 were either renewals or modifications. A breakdown of the new permits and the commodities is: sand and gravel (31), topsoil (5), bluestone (3), granite (crushed) (3), limestone (3), peat (1), and shale (1). A total of 19,500 ha (48,200 acres) were affected by mining in 2006 out of a total life-of-mine approved area of 46,600 ha (115,000 acres). In 2006, only seven of 62 counties had more than 0.30% of their land surface under mining permit (range is 0.36% to 0.41%). Most counties with active mines have less than 0.25% of the surface affected by mining. Permitted new mines tended to be smaller in 2006. Nearly 70% of new mines permitted was 4 ha (10 acres) or less in size. The trend towards smaller mines represents a reversal from the larger mines permitted in the past. For the first half of the last decade, the number of large mines increased, and the number of small mines decreased reflecting the challenges in permitting green field operations. Expanding

or deepening an existing mine was sometimes easier than opening a new mine.

The NYSGS continued bedrock and surficial geologic mapping projects in several regions of the State. Mapping priority was given to areas with expanding development surrounding urban areas and along transportation corridors with a need for an 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 Geologic Mapping Program (NCGMP), through which the USGS distributes Federal funds to support geologic mapping efforts through a competitive funding process. The NCGMP has three primary components: (1) FEDMAP, which funds Federal geologic mapping projects, (2) STATEMAP, which is a matching-funds grant program with State geological surveys, and (3) EDMAP, a matching-funds grant program with universities that has a goal to train the next generation of geologic mappers. Maps were produced at a scale of 1:24,000. In 2006, digital maps of three 7 1/2-minute quadrangles were produced in New York. These included the town of Camillus surficial geologic map, the Maybrook Village bedrock map, and the Croton Falls Hamlet surficial map. Using ground-penetrating radar, the NYSGS mapped a French and Indian War fortification in Ogdensburg, NY, along the St. Lawrence River. The work was performed for archaeological staff of the New York State Museum. Subsequent excavation revealed many period artifacts.

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

(Thousand metric tons and thousand dollars)

Mineral	2004		2005		2006	
	Quantity	Value	Quantity	Value	Quantity	Value
Clays, common	756	10,900	785	11,700	813	30,400
Gemstones, natural	NA	74	NA	78	NA	90
Gypsum, crude	--	--	2,230	11,400	413	2,120
Salt	6,430	301,000	6,840	327,000	6,090	257,000
Sand and gravel, construction	33,100	189,000	31,300	204,000	35,000	236,000
Stone:						
Crushed	49,400	327,000	52,600 ^r	447,000 ^r	52,100	435,000
Dimension	44	4,560	42	7,470	39	3,860
Combined values of cement, garnet (industrial), peat, sand and gravel [industrial (2004, 2006)], talc (crude), wollastonite, zinc	XX	256,000	XX	286,000	XX	368,000
Total	XX	1,090,000	XX	1,290,000	XX	1,330,000

^rRevised. NA Not available. XX Not applicable. -- Zero.

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 YORK: CRUSHED STONE SOLD OR USED, BY KIND¹

Kind	2005			2006		
	Number of quarries	Quantity (thousand metric tons)	Value (thousands)	Number of quarries	Quantity (thousand metric tons)	Value (thousands)
Limestone ²	59	31,600 ^r	\$267,000	56	29,200	\$238,000
Dolomite	14	10,200	86,500	13	10,900	91,100
Marble	1	W	W	1	W	W
Granite	7	3,540	28,400	9	3,800	31,400
Traprock	2	W	W	2	W	W
Sandstone	12	2,410 ^r	23,000 ^r	10	2,850	28,100
Slate	1	90	737	1	88	736
Miscellaneous stone	7 ^r	445 ^r	3,540 ^r	7	515	4,290
Total	XX	52,600 ^r	447,000 ^r	XX	52,100	435,000

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

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

²Includes limestone-dolomite reported with no distinction between the two.

TABLE 3
NEW YORK: CRUSHED STONE SOLD OR USED BY PRODUCERS IN 2006, BY USE¹

(Thousand metric tons and thousand dollars)

Use	Quantity	Value
Construction:		
Coarse aggregate (+1½ inch):		
Macadam	67	940
Riprap and jetty stone	401	4,430
Filter stone	16	134
Other coarse aggregate	274	3,440
Total	758	8,940
Coarse aggregate, graded:		
Concrete aggregate, coarse	1,630	13,600
Bituminous aggregate, coarse	1,900	15,000
Bituminous surface-treatment aggregate	825	6,630
Railroad ballast	W	W
Other graded coarse aggregate	1,960	20,300
Total	6,320	55,500
Fine aggregate (-¾ inch):		
Stone sand, concrete	132	928
Stone sand, bituminous mix or seal	821	6,630
Screening, undesignated	143	916
Other fine aggregate	1,260	14,800
Total	2,360	23,300
Coarse and fine aggregates:		
Graded road base or subbase	2,960	19,500
Unpaved road surfacing	(2)	(2)
Terrazzo and exposed aggregate	(2)	(2)
Crusher run or fill or waste	3,050	21,100
Other coarse and fine aggregates	2,910	24,000
Total	8,930	64,800
Other construction materials ³	710	5,980
Agricultural, limestone	(4)	(4)
Other miscellaneous uses and specified uses not listed	(4)	(4)
Unspecified: ⁵		
Reported	15,700	131,000
Estimated	17,000	140,000
Total	32,900	276,000
Grand total	52,100	435,000

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

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

²Withheld to avoid disclosing company proprietary data; included in "Total."

³Includes drain fields.

⁴Withheld to avoid disclosing company proprietary data; included in "Grand total."

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

TABLE 4
NEW YORK: CRUSHED STONE SOLD OR USED BY PRODUCERS IN 2006, BY USE AND DISTRICT^{1,2}

(Thousand metric tons and thousand dollars)

Use	District 2		Districts 3 and 4 ³		Districts 5 and 6 ³	
	Quantity	Value	Quantity	Value	Quantity	Value
Construction:						
Coarse aggregate (+1½ inch) ⁴	207	2,850	356	3,960	98	1,050
Coarse aggregate, graded ⁵	W	W	2,530	20,900	1,840	14,000
Fine aggregate (¾ inch) ⁶	W	W	W	W	723	6,120
Coarse and fine aggregate ⁷	685	8,110	2,380	18,800	2,390	14,200
Other construction materials ⁸	--	--	404	3,370	73	211
Agricultural ⁹	--	--	W	W	W	W
Other miscellaneous uses and specified uses not listed	--	--	--	--	W	W
Unspecified:¹⁰						
Reported	10,500	87,400	305	2,530	1,980	16,500
Estimated	3,100	26,000	6,900	57,000	3,600	32,000
Total	15,600	139,000	13,800	116,000	10,700	84,100
	Districts 7 and 8 ³					
	Quantity	Value				
Construction:						
Coarse aggregate (+1½ inch) ⁴	98	1,080				
Coarse aggregate, graded ⁵	W	W				
Fine aggregate (¾ inch) ⁶	W	W				
Coarse and fine aggregate ⁷	3,470	23,700				
Other construction materials ⁸	233	2,400				
Agricultural ⁹	W	W				
Other miscellaneous uses and specified uses not listed	--	--				
Unspecified:¹⁰						
Reported	2,920	24,200				
Estimated	3,600	30,000				
Total	12,000	95,800				

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 1.

³Districts 3 and 4, 5 and 6, and 7 and 8 are combined to avoid disclosing company proprietary data.

⁴Includes filter stone, macadam, riprap and jetty stone, and other coarse aggregate.

⁵Includes bituminous aggregate (coarse), bituminous surface-treatment aggregate, concrete aggregate (coarse), railroad ballast, and other graded coarse aggregate.

⁶Includes screening (undesignated), stone sand (concrete), stone sand (bituminous mix or seal), and other fine aggregate.

⁷Includes crusher run or fill or waste, graded road base or subbase, terrazzo and exposed aggregate, unpaved road surfacing, and other coarse and fine aggregates.

⁸Includes drain fields.

⁹Includes agricultural limestone.

¹⁰Reported and estimated production without a breakdown by end use.

TABLE 5
NEW YORK: CONSTRUCTION SAND AND GRAVEL SOLD OR USED IN 2006,
BY MAJOR USE CATEGORY¹

Use	Quantity (thousand metric tons)	Value (thousands)	Unit value
Concrete aggregate (including concrete sand)	5,290	\$40,400	\$7.65
Plaster and gunite sands	205	1,750	8.55
Concrete products (blocks, bricks, pipe, decorative, etc.)	114	893	7.83
Asphaltic concrete aggregates and other bituminous mixtures	1,720	12,600	7.32
Road base and coverings	4,610	23,500	5.09
Road stabilization (cement)	395	2,720	6.88
Road stabilization (lime)	39	106	2.72
Fill	1,890	8,410	4.46
Snow and ice control	1,090	5,720	5.25
Railroad ballast	68	435	6.40
Filtration	104	1,030	9.87
Other miscellaneous uses	107	1,180	11.05
Unspecified: ²			
Reported	3,440	32,300	9.39
Estimated	15,900	105,000	6.60
Total or average	35,000	236,000	6.75

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

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

TABLE 6
NEW YORK: CONSTRUCTION SAND AND GRAVEL SOLD OR USED IN 2006,
BY USE AND DISTRICT¹

(Thousand metric tons and thousand dollars)

Use	District 1		District 2		District 3	
	Quantity	Value	Quantity	Value	Quantity	Value
Concrete aggregates and concrete products ²	1,370	11,200	497	6,280	548	4,680
Asphaltic concrete aggregates and road base material	W	W	W	W	1,750	11,200
Fill	177	1,550	112	701	620	2,280
Snow and ice control	W	W	127	1,400	225	1,250
Other miscellaneous uses ³	34	420	190	2,730	78	466
Unspecified: ⁴						
Reported	1,530	17,000	286	4,130	28	210
Estimated	1,130	7,560	2,380	15,800	769	5,090
Total	4,240	37,700	3,590	31,000	4,020	25,200
	District 4		District 5		District 6	
	Quantity	Value	Quantity	Value	Quantity	Value
Concrete aggregates and concrete products ²	563	2,700	360	2,010	807	5,960
Asphaltic concrete aggregates and road base materials	427	1,740	390	2,350	2,170	9,660
Fill	292	952	151	576	279	1,160
Snow and ice control	W	W	187	790	154	566
Other miscellaneous uses ³	268	1,150	--	--	143	1,120
Unspecified: ⁴						
Reported	140	616	122	832	201	1,600
Estimated	1,070	7,070	990	6,550	2,780	18,500
Total	2,760	14,200	2,200	13,100	6,530	38,500
	District 7		District 8			
	Quantity	Value	Quantity	Value		
Concrete aggregates and concrete products ²	723	5,100	736	5,140		
Asphaltic concrete aggregates and road base materials	1,130	6,600	728	5,160		
Fill	99	422	156	763		
Snow and ice control	W	W	24	94		
Other miscellaneous uses ³	105	499	--	--		
Unspecified: ⁴						
Reported	1,130	7,920	4	26		
Estimated	3,690	24,300	3,100	20,000		
Total	6,880	44,800	4,740	31,200		

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 filtration and railroad ballast.

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