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2007 Minerals Yearbook

NEW YORK [ADVANCE RELEASE]

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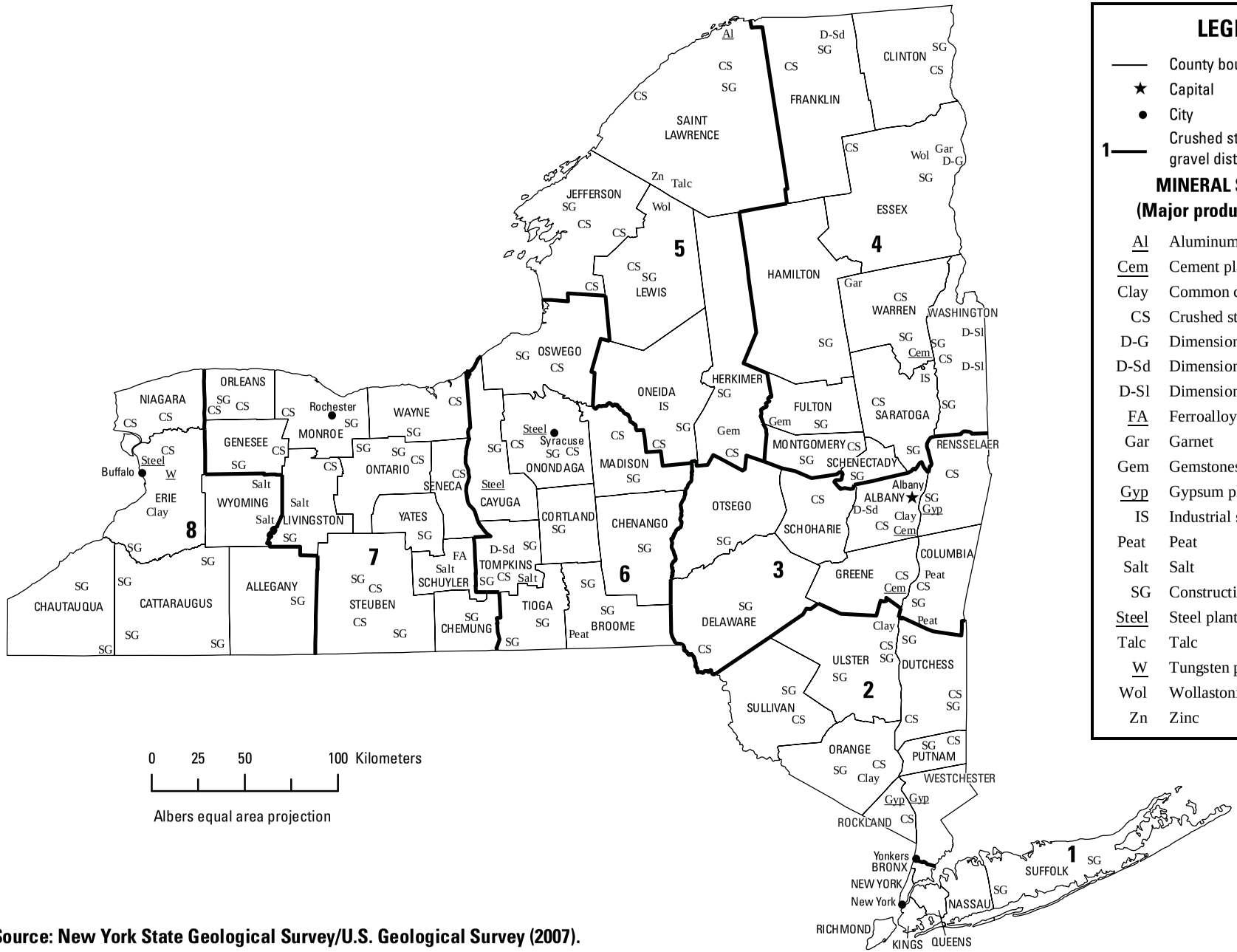
NEW YORK



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

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 2007, New York's nonfuel raw mineral production[1] was valued at $1.53 billion, based upon annual U.S. Geological Survey (USGS) data. This was a $198 million, or nearly 15%, increase from the total value for 2006, which was up by $44.5 million, or 3.4%, from 2005 to 2006. The State was 16th in rank (17th in 2006) among the 50 States in total nonfuel mineral production value, of which the State accounted for 2.2% of the U.S. total value.

The leading nonfuel mineral commodities were crushed stone, salt, and construction sand and gravel, listed in order of decreasing value. These commodities made up 72% the total nonfuel mineral production value, and, when combined with portland cement, zinc, and common clay, made up more than 96% of New York's total value. The sizable increase in the State's mineral industry value was owing to increases in the value of salt, up $143 million; zinc, up $43.3 million; and construction sand and gravel, up $41.9 million. Whereas the unit value of salt declined by 4.8%, the production quantity increased 63%, resulting in the significant rise in value for the commodity. Contrastingly, the unit value of construction sand and gravel rose by 23% with a modest decrease in production of 4.8%. A significant increase in value also took place in dimension stone, up $2.95 million. Crushed stone remained the State's leading commodity, despite a $10.9 million decrease in value, though it did experience a 9.7% increase in unit value. The largest decreases in value took place in portland cement, down $14 million; crushed stone (discussed above); and wollastonite, of which New York is the sole producing State. Significant decreases in value also took place in common clay, masonry cement, crude gypsum, and peat, listed in descending order of change (table 1).

In 2007, New York continued to be the only wollastonite-producing State in the Nation. New York was the second leading producer of industrial garnet in terms of quantity produced (first in 2006) of the three producing States as well as second in peat sales (up from third in 2006). The State remained third in the production of salt, fourth of five producing States in crude talc, tenth in common clay, and twelfth in masonry cement. New York rose in rank from 9th to 7th in dimension stone production and from 13th to 12th in the production of construction sand and gravel. Additionally, the State remained fifth in zinc production and dropped from 12th to 14th in portland cement production. Significant amounts of industrial sand and gravel, crushed stone, and cadmium were also produced. New York produced raw steel and primary aluminum, feeds for which were obtained from foreign and/or other domestic sources. For the second consecutive year, the State ranked sixth in the production of aluminum among 11 producing States.

The following narrative information was provided by the New York State Geological Survey[2] (NYSGS) and the Division of Mineral Resources (DMR) of the New York State Department of Environmental Conservation (DEC).

The number of permitted nonfuel mineral mining operations was lower in 2007 than the previous year, numbering 2,203. This continued the trend of the past few years. Of these, 1,742 were operated by industry and 461 by local or State governmental entities. These statistics cover only mines regulated by the Mined Land Reclamation Law of 1975. In 2007, New York had many unregulated mines, both active and abandoned, which fell outside the law's jurisdiction. Most of these were small operations or mines that predated the 1975 law. Of the permitted mines, the vast majority produced sand and gravel or other surficial materials. However, approximately 200 hard rock mines produced materials ranging from carbonate rock, garnet, and salt to wollastonite, sandstone, and talc. Most of the hard rock mines were surface quarries producing carbonate rock, but there were a few permitted underground mines. The most commonly mined commodities were sand and gravel (1,810 mines), limestone (85), bluestone—referred to as dimension stone above (85), and sandstone (24). Mining took place in 56 of New York's 62 counties.

Commodity Review

Metals

Zinc.—St. Lawrence Zinc Co. LLC. (a subsidiary of HudBay Minerals Inc.) continued to operate its underground mine at Balmat, NY, though HudBay reported that the mine was falling short of output expectations (HudBay Minerals Inc., 2007). The company cited higher-than-anticipated mine depreciation and continued operating losses at the facility, which was reopened in 2005 after having been idle since 2001. As of late 2007, St. Lawrence Zinc employed more than 200 workers. HudBay was planning to spend more than $2 million on exploration at the Balmat site (HudBay Minerals Inc., 2007). HudBay termed the Balmat operation a noncore asset, with a life-of-mine of less than 3 years.

[1]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 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.

[2]William 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.

Environmental Issues and Mine Reclamation

At the end of 2007, the State held roughly $139 million in financial security for mine reclamation. Bonding requirements were increased in 2006 to more accurately reflect the reclamation costs of abandoned mines. Reclamation costs in 2007 were estimated to be about $10,770 per hectare ($4,360 per acre). This is expected to rise from $12,400 to $14,800 per hectare ($5,000 and $6,000 per acre) for new mining permits.

In 2007, DEC collected $2.8 million in annual regulatory fees from industry and State-owned mines. Mines owned by other governmental entities were exempt. The Mined Land Reclamation Program held $122 million in financial security to guarantee mine reclamation. In 2006, DEC approved concurrent reclamation on 232 hectares (ha) at 78 operating mines and final reclamation on 175 ha at 68 closed mines. A total of 10,400 ha of mined land have been reclaimed since the inception of the program in 1975.

In 2007, DEC completed an experimental reclamation project on a 5.3-ha abandoned gravel mine that had steep slopes, erosion problems, sparse vegetation, and no top soil stockpiles. The mine's permit had expired and DEC seized the financial security. Synagro Corporation, a recycler of organic and inorganic residuals, offered to reclaim the mine under a Research Development and Demonstration Permit using short paper fiber waste from a paper mill. The fibrous paper material boosts the water-holding capacity of soil, helps retain nutrients, reduces run-off, and increases plant growth. The company was authorized to reclaim the mine with five different blends of soil, short paper fiber, and fertilizer. The site was monitored for an extended period of time, but new vegetation grew very quickly and the reclamation was quite successful.

Also in 2007, Callanan Industries dedicated a new nature trail on land that is part of the original Albany Pine Barrens ecosystem. Working with DEC and the Wildlife Habitat Council, the mining company voluntarily agreed to modify its mined land-use plan to protect "species of special concern" identified by DEC. The company also voluntarily gave up permitted reserves next to a seasonal pond and modified the mine's final reclamation plans to include nesting habitat, native plantings, pond shoreline enhancements, vegetative buffers, and shoreline basking logs.

Government Programs and Activities

A total of 372 permits were issued by the DEC in 2007. Of these, 46 were for new operations and 326 were either renewals or modifications. A breakdown of the new permits and the commodities was as follows: 36 sand and gravel, 4 sandstone, 3 clay, 2 limestone, 1 bluestone (10 bluestone exploration permits),and 1 shale permits. A total of 19,600 ha were affected by mining in 2007 out of a total life-of-mine approved area of 46,800 ha. A total of 434 ha were reclaimed in 2007. In 2007, only 8 of 62 counties had more than 0.30% of their land surface under mining permit, with a range of 0.30% to 0.41%. These counties all contained or were close to major population centers such as Albany, Buffalo, New York City, and Syracuse. Most counties with active mines had less than 0.25% of the surface affected by mining.

Mine renewal and modification permits issued in 2007 ranged in size from 0.4 to 185 ha. However, the trend in new mines was toward smaller operations. Eighty percent of new mines permitted in 2007 were 4 ha or less. The largest was a 36-ha crushed stone mine in Rensselaer County. This was a reversal of the recent trend. For the first half of the decade, the number of large mines increased and the number of small mines decreased, reflecting the challenges in permitting green field operations. Existing mines ranged in size as follows: 739 mines of less than 2 ha, 509 mines of 2 to 4 ha, 431 of 4 to 8 ha, 358 of greater than 12 ha, and 166 of 8 to 12 ha in size.

In 2007, DEC Mined Land staff performed 2,507 mine inspections, traveling 277,964 kilometers (km). Violations were handled with a mixture of enforcement tools, remediation requirements, and penalties. The Mined Land Program collected $302,750 in penalties in 43 cases. An additional $200,000 was collected as part of an Environmental Benefit Project that will be used to place rip-rap on the banks of a creek with a chronic erosion problem at the border of a reclaimed mine.

The NYSGS continued bedrock and surficial geologic mapping projects in several regions of the State in conjunction with the STATEMAP program. STATEMAP is a component of 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 matching-funds grant program with State geological surveys, and (3) EDMAP, a matching-funds grant program with universities that has goal to train the next generation of geologic mappers. Mapping priority was given to areas in which expanding development surrounding urban areas and along transportation corridors drove a need for an understanding of mineral resources, among other topics. Maps were produced at a scale of 1:24,000. In 2007, digital maps were produced of two 7½ minute quadrangles, and four legacy maps were also digitized and published. As a side project to the mapping, using its ground penetrating radar capabilities, the NYSGS located and mapped in the subsurface a layer of buried logs in the Montezuma Wildlife Refuge which were dated to the Younger Dryas cooling period, a rapid return to glacial conditions 12,900–11,500 years ago.

NYSGS staff provided outreach services that included a month-long lecture series on geologic topics and a 5-day, residential, competitive earth science workshop for secondary school teachers. The NYSGS continued to answer public, industry, and governmental inquiries about the State's geology. Publications on the geology of New York are available from the New York State Museum at http://www.nysm.nysed.gov/pubsforsale/index.cfm?categoryID=5.

References Cited

HudBay Mineral Inc., 2007, Hudbay reports second quarter 2007 results: Winnipeg, Manitoba, Canada, HudBay Minerals Inc. press release, August14. (Accessed October 8, 2010, at http://investor.shareholder.com/hbm/releasedetail.cfm?ReleaseID=259793).

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HudBay Mineral Inc., 2007, Hudbay plans $42.8 million for 2008 exploration: Winnipeg, Manitoba, Canada, HudBay Minerals Inc. press release, December 11. (Accessed October 8, 2010, at http://investor.shareholder.com/hbm/releasedetail.cfm?ReleaseID=281226).

TABLE 1
NONFUEL RAW MINERAL PRODUCTION IN NEW YORK[1, 2]

(Thousand metric tons and thousand dollars)

Mineral	2005		2006		2007	
	Quantity	Value	Quantity	Value	Quantity	Value
Clays, common	785	11,700	813	30,400	699	28,500
Gemstones, natural	NA	78	NA	90	NA	96
Gypsum, crude	2,000 r	10,300 r	367 r	3,230 r	299	1,540
Salt	6,840	327,000	4,890 r	257,000	7,990	400,000
Sand and gravel, construction	31,300	204,000	35,000	236,000	33,300	278,000
Stone:						
Crushed	52,600	447,000	52,400 r	438,000 r	46,800	427,000
Dimension	42	7,470	39	3,860	49	6,450
Combined values of cadmium (byproduct from zinc concentrates), cement, garnet (industrial), peat, sand and gravel [industrial (2006–07)], talc (crude), wollastonite, zinc	XX	286,000	XX	368,000	XX	393,000
Total	XX	1,290,000	XX	1,340,000 r	XX	1,530,000

rRevised. NA Not available. 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 TYPE[1]

Type	2006			2007		
	Number of quarries	Quantity (thousand metric tons)	Value (thousands)	Number of quarries	Quantity (thousand metric tons)	Value (thousands)
Limestone[2]	58 r	29,300 r	$239,000 r	59	27,500	$243,000
Dolomite	13	10,900	91,100	17	9,320	86,000
Marble	1	60	2,700	1	61	557
Granite	8 r	3,440 r	28,300 r	7	1,590	17,500
Sandstone	13 r	3,040 r	29,800 r	14	4,040	40,500
Slate	1	88	736	2	86	760
Miscellaneous stone	12 r	5,530 r	46,200 r	14	4,230	39,000
Total	XX	52,400 r	438,000 r	XX	46,800	427,000

rRevised. XX Not applicable.

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

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

TABLE 3

NEW YORK: CRUSHED STONE SOLD OR USED BY PRODUCERS IN 2007, BY USE[1]

(Thousand metric tons and thousand dollars)

Use	Quantity	Value
Construction:		
Coarse aggregate (+1½ inch):		
Macadam	81	1,020
Riprap and jetty stone	311	4,280
Filter stone	31	291
Other coarse aggregate	1,780	14,000
Coarse aggregate, graded:		
Concrete aggregate, coarse	883	8,280
Bituminous aggregate, coarse	1,540	13,300
Bituminous surface-treatment aggregate	917	8,070
Railroad ballast	W	W
Other graded coarse aggregate	2,560	28,000
Fine aggregate (-⅜ inch):		
Stone sand, concrete	94	926
Stone sand, bituminous mix or seal	613	4,180
Screening, undesignated	301	2,100
Other fine aggregate	1,690	19,100
Coarse and fine aggragates:		
Graded road base or subbase	2,150	17,900
Unpaved road surfacing	W	W
Terrazzo and exposed aggregate	W	W
Crusher run or fill or waste	3,910	25,200
Other coarse and fine aggregates	1,130	10,600
Other construction materials	700	6,570
Agricultural, limestone	164	1,430
Chemical and metallurgical, cement manufacture	W	W
Other miscellaneous uses and specified uses not listed	6	33
Unspecified:[2]		
Reported	16,300	150,000
Estimated	8,100	74,000
Total	46,800	427,000

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

TABLE 4

NEW YORK: CRUSHED STONE SOLD OR USED BY PRODUCERS IN 2007, 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]	158	2,540	1,790	13,800	100	808
Coarse aggregate, graded[5]	W	W	2,670	23,500	W	W
Fine aggregate (-⅜ inch)[6]	405	6,620	886	8,960	518	3,570
Coarse and fine aggregate[7]	W	W	W	W	W	W
Other construction materials	--	--	341	2,880	--	--
Agricultural[8]	--	--	47	309	2	12
Chemical and metallurgical[9]	--	--	W	W	--	--
Other miscellaneous uses and specified uses not listed	--	--	--	--	--	--
Unspecified:[10]						
Reported	8,240	76,400	248	2,260	3,640	33,200
Estimated	618	5,600	3,800	35,000	2,900	26,000
Total	10,600	109,000	15,400	142,000	8,850	75,400

	Districts 7 and 8[3]	
	Quantity	Value
Construction:		
Coarse aggregate (+1½ inch)[4]	164	2,490
Coarse aggregate, graded[5]	1,790	15,200
Fine aggregate (-⅜ inch)[6]	891	7,180
Coarse and fine aggregate[7]	3,640	26,700
Other construction materials	359	3,700
Agricultural[8]	115	1,110
Chemical and metallurgical[9]	--	--
Other miscellaneous uses and specified uses not listed	6	33
Unspecified:[10]		
Reported	4,150	37,900
Estimated	763	7,000
Total	11,900	101,000

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 for District 1.

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

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

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

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

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

[8]Includes agricultural limestone.

[9]Includes cement manufacture.

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

TABLE 5
NEW YORK: CONSTRUCTION SAND AND GRAVEL SOLD OR USED IN 2007,
BY MAJOR USE CATEGORY[1]

Use	Quantity (thousand metric tons)	Value (thousands)	Unit value
Concrete aggregate (including concrete sand)	4,860	$51,900	$10.68
Plaster and gunite sands	96	632	6.58
Concrete products (blocks, bricks, pipe, decorative, etc.)	19	143	7.53
Asphaltic concrete aggregates and other bituminous mixtures	1,370	15,000	10.95
Road base and coverings	3,200	18,900	5.91
Road stabilization (cement)	4	18	4.50
Road stabilization (lime)	34	64	1.88
Fill	1,910	8,460	4.43
Snow and ice control	929	5,300	5.71
Railroad ballast	93	742	7.98
Filtration	62	705	11.37
Other miscellaneous uses	178	2,290	12.87
Unspecified:[2]			
Reported	4,650	43,900	9.44
Estimated	16,000	130,000	8.13
Total or average	33,300	278,000	8.35

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

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

TABLE 6
NEW YORK: CONSTRUCTION SAND AND GRAVEL SOLD OR USED IN 2007,
BY USE AND DISTRICT[1]

(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]	1,290	19,400	382	5,930	815	7,950
Asphaltic concrete aggregates and road base materials[3]	W	W	W	W	1,080	6,220
Fill	146	1,430	178	1,050	413	1,390
Snow and ice control	W	W	58	707	252	1,450
Other miscellaneous uses[4]	360	8,460	222	2,560	49	369
Unspecified:[5]						
Reported	2,040	20,700	703	7,790	18	133
Estimated	560	4,700	2,400	20,000	980	8,200
Total	4,390	54,700	3,950	38,200	3,600	25,700

	District 4		District 5		District 6	
	Quantity	Value	Quantity	Value	Quantity	Value
Concrete aggregates and concrete products[2]	498	4,960	305	2,230	541	4,060
Asphaltic concrete aggregates and road base materials[3]	106	464	323	1,770	977	5,730
Fill	311	648	213	789	445	2,080
Snow and ice control	87	369	178	823	166	715
Other miscellaneous uses[4]	64	626	--	--	31	281
Unspecified:[5]						
Reported	1	3	127	986	376	3,350
Estimated	1,700	12,000	1,000	8,600	3,500	29,000
Total	2,800	19,000	2,180	15,200	6,060	45,600

	District 7		District 8	
	Quantity	Value	Quantity	Value
Concrete aggregates and concrete products[2]	441	2,980	703	5,110
Asphaltic concrete aggregates and road base materials[3]	1,010	6,270	W	W
Fill	67	329	138	736
Snow and ice control	100	466	W	W
Other miscellaneous uses[4]	55	560	750	5,270
Unspecified:[5]				
Reported	931	7,570	451	3,370
Estimated	3,000	25,000	2,700	22,000
Total	5,620	43,400	4,710	36,000

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

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

[2]Includes plaster and gunite sands.

[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.