

**2007 Fact Sheets**  
**Products of**  
**New York State Mines**

**New York State**  
**Department of Environmental Conservation**  
**Division of Mineral Resources**  
**625 Broadway**  
**Albany, New York 12233-6500**

[www.dec.ny.gov](http://www.dec.ny.gov)



**Table of Contents**

Important Products from New York Mines ..... 3

Sand and Gravel..... 4

Limestone and Dolostone ..... 6

Wollastonite ..... 8

Garnet ..... 9

Salt ..... 10

Bluestone ..... 11

Sandstone..... 13

Talc..... 14

Zinc ..... 14

Granite ..... 15

**Remember if it Can't be Grown  
It has to be Mined !**

## **Important Products from New York Mines**

### **What's in the Fact Sheets**

Information in the fact sheets comes from two sources:

- the New York State DEC Division of Mineral Resources which regulates mining in the State. While the State has a permitting system with strong environmental controls, NYS law does not require mine operators to report production. The tables with DEC statistics showing the largest mines are very useful, but note that mine acreage is not the sole predictor of mine output. Production levels are influenced by a number of factors, including market demand and mine depth.
- the U.S. Geological Survey which collects production information on a voluntary basis from a sampling of mines nationwide and publishes data on the each state's output and national rank. NOTE -The federal statistics are published on a staggered schedule, so the latest available USGS data given for a specific mineral may be from 2005, 2006 or 2007.

### **New York Production Rank for Important Minerals**

USGS data for 2007 showed that New York State:

- remains the **only wollastonite producer in the U.S.**
- little is imported, so we **supply almost the entire country's wollastonite**
- NY ranks **third in the world in wollastonite production**, behind only China and India

In addition, for 2005 USGS reported that by production volume New York continued to be:

- **first in industrial garnet**
- **third in salt**
- **fourth in talc**

In 2005 we were also fifth in zinc and rose from ninth to eight in dimension stone production. Other important New York minerals include bluestone, sandstone, granite, shale, slate and clay.

### **Economic Value of NY Minerals**

For 2005 USGS reported that, in dollar terms, crushed stone remained New York's leading non-fuel mineral within the State, followed by salt, cement (portland and masonry), construction sand and gravel, and wollastonite. These five commodities typically account for over 97% of New York State's non-fuel mineral value, which USGS estimated at **\$1.29 billion** for 2005.



Sand and gravel mines are New York’s most common type of mine with 1,757 active mines spread across the State. Suffolk, Dutchess and Rensselaer Counties are the leading producers of sand and gravel due to high quality glacial deposits in those counties and their proximity to large populations that require these materials for roads, buildings, and other infrastructure.

For 2005 USGS reported that New York production of construction grade sand and gravel rose 12% to 35 million metric tons and the value increased 16% to \$236 million. Sand and gravel is New York’s fourth most economically important non-fuel mineral. The majority of mines in the State that fall below the Mined Land Reclamation Law’s permit thresholds are small sand and gravel pits.

**Table 1 - Sand and Gravel Mines Over 125 Permitted Acres, 2007**

<u>Company</u>	<u>County</u>	<u>Town</u>	<u>Acres</u>
Callanan Industries	Rensselaer	North Greenbush	412
Hanson Aggregates NY, Inc.	Oswego	Sandy Creek	273
Country Side Sand & Gravel	Cattaraugus	Dayton	236
Hanson Aggregates NY, Inc.	Livingston	Caledonia	200
Frey Concrete, Inc.	Genesee	Alexander	186
Peckham Materials Corp.	Warren	Chester	183
F S Lopke Contracting, Inc.	Tioga	Tioga	177
Valley Sand & Gravel, Inc.	Livingston	Caledonia	172
Coram Materials Corp.	Suffolk	Brookhaven	160
Hanson Aggregates NY, Inc.	Herkimer	Russia	160
Lafarge North America, Inc.	Cattaraugus	Freedom	149
Hanson Aggregates NY, Inc.	Ontario	Phelps	149
Gernatt Asphalt Products, Inc.	Erie	Sardinia	148
Buffalo Crushed Stone, Inc.	Cattaraugus	Farmersville	146
JML Quarries, Inc.	Sullivan	Mamakating	136
Blades Construction Products	Steuben	Howard	135

**Table 1 - Sand and Gravel Mines Over 125 Permitted Acres, 2007 (Continued)**

<u>Company</u>	<u>County</u>	<u>Town</u>	<u>Acres</u>
Graymont Materials NY, Inc.	Clinton	Schuyler Falls	135
Hanson Aggregates NY, Inc.	Steuben	Bath	134
Knight Settlement S & G, Inc.	Steuben	Bath	134
Material Sand & Gravel	Herkimer	Russia	133
Hanson Aggregates NY, Inc.	Ontario	Victor	133

**Table 2 - Largest Sand and Gravel Mine Operators, Total Permitted Acres, 2007**

<u>Company</u>	<u>Counties</u>	<u>Acres</u>
Hanson Aggregates NY, Inc.	Cattaraugus, Chemung, Genesee, Herkimer, Livingston, Monroe, Montgomery, Oneida, Ontario, Oswego, Steuben, Schuyler, Wayne	1,774
Lafarge North America, Inc.	Cattaraugus, Erie, Wyoming	578
Buffalo Crushed Stone, Inc.	Allegeny, Cattaraugus, Genesee	542
Gernatt Asphalt Products, Inc.	Erie, Cattaraugus, Chautauqua	541
F S Lopke Contracting, Inc.	Broome, Chenango, Tioga	473
Graymont Materials NY, Inc.	Clinton, Essex, Franklin, Hamilton, St. Lawrence	468
Dalrymple Gravel & Constructing	Chemung, Steuben	457
Callanan Industries, Inc.	Albany, Rensselaer	422
Cranesville Aggregate Co., Inc.	Columbia, Fulton, Jefferson, Saratoga, Schenectady	412
Burton F Clark, Inc.*	Broome, Chenango, Delaware, Greene, Herkimer, Otsego, Tioga	363

\* Includes Clark Companies

**New York  
Limestone &  
Dolostone**

Limestone and dolostone make up the second biggest category of New York mines with 105 scattered across the State. These mines produce roughly 90% of the stone sold in New York State. They collectively encompass 12,867 permitted acres with nearly half of that acreage in DEC Region 4 (Mid-Hudson) and DEC Region 8 (west-central New York).

New York’s most important products from these mines are crushed stone and cement, which are used predominantly in building and road construction and maintenance. Based on value, crushed stone is always New York’s leading non-fuel mineral, followed usually by salt and then cement. USGS figures for 2005 show New York production of crushed stone rose 7% to 52.7 million metric tons and the stone’s value rose 36% to \$445 million. While limestone and dolostone represent the vast majority of the State’s crushed stone production, New York also produces crushed granite, marble, traprock, sandstone and quartzite.

USGS last published cement figures for New York in 2001 when the State produced almost 3 million metric tons of cement worth over \$230 million. In more recent USGS reports, New York figures are grouped with Maine, so a yearly update is no longer possible. Nonetheless, New York remains an active cement manufacturing state. The highest concentration of activity is in the upper Hudson Valley area where a relatively pure limestone is quarried from the Coeymans formation. Across the State limestone and dolostone mines may also sell some of their production in the form of blocks or slabs, which are categorized as dimension stone.

**Table 3 - Limestone and Dolostone Mines Over 250 Permitted Acres, 2007**

<b><u>Company</u></b>	<b><u>County</u></b>	<b><u>Town</u></b>	<b><u>Acres</u></b>
Hanson Aggregates NY, Inc.	Onondaga	Dewitt	839
Lafarge N. American Cement	Albany	Coeymans	759
Buffalo Crushed Stone, Inc.	Erie	Lancaster	600
Tilcon, NY, Inc.	Dutchess	Poughkeepsie	458
St. Lawrence Cement Co.	Greene	Catskill	318
Hanson Aggregates NY, Inc.	Livingston	Lima	289
Seneca Stone Corp.	Seneca	Fayette	282
St. Lawrence Cement Co.	Columbia	Greenport	281
Hanson Aggregates NY, Inc.	Onondaga	Skaneateles	278

**Table 3 (Continued) - Limestone & Dolostone Mines Over 250 Permitted Acres, 2007**

<u>Company</u>	<u>County</u>	<u>Town</u>	<u>Acres</u>
Buffalo Crushed Stone, Inc.	Genesee	Alabama	271
Lehigh Northeast Cement Co.	Greene	Catskill	267
Hanson Aggregates NY, Inc.	Jefferson	Pamelia	263
Hanson Aggregates NY, Inc.	Oneida	Marshall	258
Callanan/ Iroquois Rock Prod.	Monroe	Sweden	251

**Table 4 - Largest Limestone & Dolostone Operators, Total Permitted Acres, 2007**

<u>Company</u>	<u>Counties</u>	<u>Acres</u>
Hanson Aggregates NY, Inc.	Cayuga, Genesee, Herkimer, Jefferson, Livingston, Montgomery, Oneida, Onondaga, Ontario, Orleans, St. Lawrence, Wayne	3,392
Callanan Industries, Inc.*	Albany, Madison, Monroe, Montgomery Ulster	1,035
Buffalo Crushed Stone, Inc.	Erie, Genesee	1,013
Lafarge N. American Cement	Albany	759
Tilcon NY, Inc.	Dutchess, Rockland, Ulster	711
Dolomite Products Co., Inc.	Genesee, Monroe, Ontario, Wayne	705
Barrett Paving Materials, Inc.	Herkimer, Jefferson, Oneida, St. Lawrence	652
St. Lawrence Cement**	Columbia, Greene	599
Redland Quarries NY, Inc.	Niagara	489
Glens Falls Lehigh Cement Co.	Greene, Saratoga	416
Cobleskill Stone Products, Inc.	Schoharie	300
Seneca Stone Corp.	Seneca	282

\* Includes Callanan dba Iroquois Rock Products

\*\* Includes St. Lawrence Cement, LLC and Co.

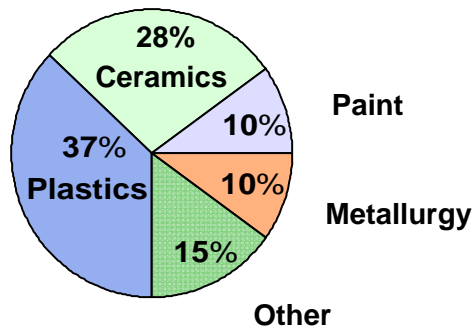
**New York Wollastonite**

New York is the only commercial producer of wollastonite in the nation and the State’s four mines, located in the Adirondacks, account for all U.S. production. Since only a relatively small quantity of wollastonite is imported into the U.S, this means New York supplies almost all of the wollastonite used in the country. On a global scale, New York is the third largest producer (behind China and India), accounting for around 20 percent of world output. A significant portion of New York’s wollastonite is specially milled and/or surface treated to achieve specific industrial properties.

To protect proprietary data, USGS does not publish detailed statistics on wollastonite. However, USGS does quote industry experts who estimate that the country’s, and therefore New York’s, production was around 110,000 metric tons in 2007. According to the latest available USGS data from 2005, wollastonite continued to retain its usual spot as New York’s fifth most valuable non-fuel mineral.

One of wollastonite’s most unusual characteristics is its ability to cleave into needle-like (acicular) crystals. These fibrous particles make it useful both as an asbestos replacement and as reinforcement material in products ranging from plastics, ceramics and brake pads, to paint, coatings and sealants. As shown below, plastics are the major use of wollastonite in the U.S.

**U.S. End-Uses of Wollastonite 2005**



**Table 5 - New York Wollastonite Mines, Permitted Acres, 2007**

<u>Company &amp; Mine</u>	<u>County</u>	<u>Town</u>	<u>Acres</u>
NYCO/ Oak Hill Mine	Essex	Lewis	127
NYCO/ Lewis Mine	Essex	Lewis	90
Gouverneur Talc/ No. 4 Mine	Lewis	Diana	49
NYCO/ Willsboro Mine	Essex	Willsboro	4

## New York Garnet

USGS statistics for 2007 showed that New York State continued to rank first nationwide in industrial garnet production. Since there are just a few companies in the U.S. that produce industrial garnet, USGS does not publish details for individual mines. However, generally speaking, Barton Mines in Warren County is the largest U.S. garnet producer. NYCO Minerals in Essex and Lewis counties also produces small quantities of garnet at its wollastonite mines (see page 8).

**Table 6 - New York Garnet Mine, Permitted Acres, 2007**

<u>Company</u>	<u>County</u>	<u>Town</u>	<u>Acres</u>
Barton Mines Co., LLC	Warren	Johnsburg	107

Barton currently extracts garnet from its Ruby Mountain mine in Warren County. However, the company's nearby Gore Mountain mine, which opened in 1878 and ran until 1983, was the largest garnet mine in the world during its operation. Garnet is a well-known gemstone, but most New York garnets have too many imperfections to be used in jewelry.

Garnets from the company's current Ruby Mountain site make especially high-quality abrasives. Most New York garnet is used for sandpaper. USGS reported that 2007 end uses for garnet in the U.S. included waterjet cutting (35%), abrasive blasting media (30%), water filtration (15%), abrasive powders (10%), and other (10%).



Garnet boulder on display at the New York State Fair in Syracuse. The boulder was donated by the Barton Garnet Mine.

**New York Salt**

More than 10,000 square miles of central and western New York are underlain by the Salina formation which contains roughly 3.9 trillion metric tons of rock salt. These salt deposits range in depth from 500 feet near Syracuse to 4,000 feet near the Pennsylvania/ New York border. This large salt resource has been economically important to the State for over 200 years. USGS statistics show that salt remains a valuable asset; within the State it consistently ranks as the third most valuable non-fuel mineral we produce. Nationwide, New York also ranks third in salt production. USGS statistics show that in 2007 we contributed 18% of the country’s salt supply, up 6% from the previous year.

There are currently two active rock salt mines in New York: Cargill’s Cayuga Mine centered around Cayuga Lake in Tompkins and Seneca counties, and American Rock Salt’s Hampton Corners Mine in Livingston County. The Cargill mine is the larger of the two mines and also, at 2,300 feet, the deepest salt mine in the western hemisphere. Cargill leases the underwater land from the NY State Office of General Services and pays a royalty on its production. Virtually all the salt from this particular mine is sold as road deicing salt. However, salt also has a broad array of uses in food and chemical products. Salt is also produced from five solution mining facilities in Schuyler and Wyoming counties (see main body of Annual Report, page 25).

For 2007 the U.S. Geological Survey estimated New York’s combined salt output from both underground mines and solution salt mining wells at roughly 8 million metric tons worth \$400 million. Subtracting New York’s estimated brine production for 2007 leaves estimated rock salt production at 5.65 million metric tons. This 30% jump in rock salt output for 2007 reflects a weather-related production increase as the winter need for salt surged across New England and the northern Midwest in 2007. The value of New York’s rock salt in 2007 was roughly \$300 million.



Road salt is crucial to winter travel.

<b>Table 7 - New York Underground Salt Mines, Permitted Acres, 2007</b>		
<b><u>Company</u></b>	<b><u>Counties</u></b>	<b><u>Acres*</u></b>
American Rock Salt, Inc.	Livingston	672
Cargill, Inc.	Seneca, Tompkins	9,260

\* Note these are underground acres



New York and Pennsylvania are the only sources of bluestone, a specific type of sandstone that can be split into thin slabs. Bluestone has been mined periodically in New York State since the mid-19th century when it was used for sidewalks, building veneer, stair treads and other construction applications. Nowadays, bluestone is also considered a high-end material for indoor floors, countertops, outdoor patios and other landscaping uses. Despite the name, bluestone can also be dusty gray, or tinged with red or green.

In 2007 there were 62 permitted bluestone mines in an area extending from Tompkins County on the west to Albany County on the east. However, the majority of the bluestone activity is in Delaware and Broome Counties. In Broome County roughly 90% of the bluestone mines are in the Pennsylvania border towns of Windsor and Sanford. In Delaware the majority of mines are in the western end of the county with the highest number in Hancock, a long-time stronghold of the bluestone industry. Bluestone mining is by nature a relatively small-scale operation. Around 20% of permitted bluestone mines are only one acre and 60% fall in the one- to five- acre range. Activity also tends to be seasonal, with most mines closed in the winter. According to the NY State Bluestone Association, the estimated market value of bluestone is roughly \$100 million per year.

Bluestone's rising popularity and expanding markets over the last decade led to reopening of old mines and the search for new deposits. However, exploring for bluestone is more difficult than for many types of rock where a few well-placed coreholes will yield useful information. With bluestone, miners may need to remove as much as 10 times more overburden than product in the search for rock that breaks into slabs well.

In 2002 the New York State Legislature passed a Bluestone Exploration Authorization (EA) program that recognized the unique nature of the bluestone industry. Instead of going through the full mining permit application process, bluestone miners have the option of applying for a simplified one-year authorization to explore a potential bluestone site. This reduces the paperwork burden for a mine that may be a failure, while at the same time allowing DEC to maintain adequate environmental control over the activity. The operator may also request a one-time, one-year renewal if additional exploration is required to assess the resource. When an EA expires, the operator must either apply for a regular mining permit, if the site is commercially viable, or reclaim the land. In 2007 there were 20 EAs in effect with 10 sites in Broome County, 9 in Delaware County, and 1 in Chenango County.

The operators with the largest mines under permit are shown in Table 10. In 2007 the companies with the highest number of mines were Johnston & Rhodes Bluestone (16), Tompkins Bluestone (4), Star Stone Quarries (2), Devonian Stone of NY (2), and Damtown Stone and Drilling, Inc. (2).

Recent high prices for bluestone have allowed many mine operators to switch from old-fashioned hand mining to more modern techniques that rely on large motorized saws to cut blocks and slabs of bluestone.



A worker at a bluestone mine demonstrates how bluestone can be broken into the slabs that make it such a popular landscaping and building material.

**Table 8 - Bluestone Mines Over 15 Permitted Acres, 2007**

<b><u>Company</u></b>	<b><u>County</u></b>	<b><u>Town</u></b>	<b><u>Acres</u></b>
Heldeberg Bluestone & Marble	Albany	Berne	30
Damascus 535 Quarry & Stone	Broome	Windsor	24
Eastern Materials, LLC	Ulster	Kingston	22
RCS, LLC	Delaware	Multiple Towns	18
Johnston & Rhodes Bluestone	Delaware	Masonville	16
Johnston & Rhodes Bluestone	Delaware	Hancock	15
Fannie E. Kamp	Broome	Sanford	15
Kenneth Decker	Broome	Conklin	15

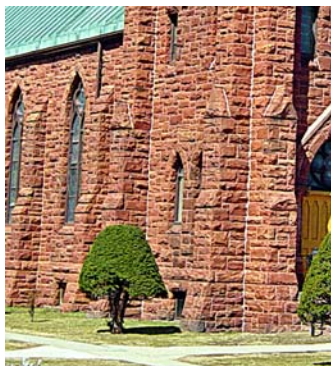
## New York Sandstone

In 2007 there were 24 mines in New York producing sandstone which is found widely across the State in the form of sedimentary sandstones, graywacke, metamorphic quartzite and conglomerate. According to the latest USGS statistics available (2006), New York continued to rank second nationwide in the production of sandstone dimension stone (blocks and slabs) for building use, flagstone and curbing; larger blocks are also sold for rip-rap to stabilize waterways and embankments. In 2006 New York State produced 37,300 metric tons of sandstone dimension stone valued at \$2,670,000. However, most of New York's sandstone production is in the form of crushed stone for aggregate.

Callanan Industries is the company with the most sandstone mines (5 in eastern New York). The highest concentration of permitted acreage for sandstone mining is in a roughly 40-mile long trend in Sullivan and Delaware Counties (total 670 permitted acres).

**Table 9 - Sandstone Mines Over 50 Permitted Acres, 2007**

<u>Company</u>	<u>County</u>	<u>Town</u>	<u>Acres</u>
Callanan Industries, Inc.	Sullivan	Thompson	375
E. Tetz & Sons, Inc.	Sullivan	Thompson	161
Cobleskill Stone Products, Inc.	Delaware	Hancock	131
Callanan Industries, Inc.	Rensselaer	Brunswick	76
Hanson Aggregates NY, Inc.	Orleans	Murray	68
Blades Construction Products	Steuben	Bath	64
Woodfalls Industries	Clinton	Mooers	62
Callanan Industries, Inc.	Sullivan	Cochecton	53



Potsdam sandstone is a well-known type of sandstone found on many public buildings in New York State. In the 1800s it was lauded for its ability to withstand fire better than granite (less cracking and spalling). In fact its fire resistant properties were so well known, it was used to line furnaces.

## **New York Talc**

The latest available USGS figures (2007) showed that New York ranked fourth in the country in the quantity of talc produced. Since there are so few talc producing companies in the country, the USGS does not publish detailed production information. Gouverneur Talc is New York's only talc producing company, and their overall land holdings cover roughly 2,000 acres in the northwest Adirondacks. While the company has more than one mine with a current permit, most of its production is from its #1 Mine, an open pit facility also known as the Arnold Mine. Most talc in the U.S. is sold only after crushing and grinding and Gouverneur Talc has a milling operation at Balmat. Talc is used as a paint extender, a carrier for insecticide dust and in many other products where a white powdery mineral is needed. It is also used in ceramics, filler in asphalt roofing, putty and linoleum.

**Table 10 - New York Talc Mines, Permitted Acres, 2007**

<b><u>Company</u></b>	<b><u>County</u></b>	<b><u>Town</u></b>	<b><u>Acres</u></b>
Gouverneur Talc No. 1 & 2 Mine	St. Lawrence	Fowler	150
Gouverneur Talc No. 3 Mine	St. Lawrence	Edwards	3

## **New York Zinc**

New York has historically been a major zinc producer with one of the top 10 zinc mines in the country and a State rank of third or fourth in quantity of zinc produced. However, in 2001 the Pierrepont mine was permanently closed and reclaimed and the Balmat mine temporarily shut down. The Balmat mine reopened near the end of 2005. USGS data for 2006, the latest year available, showed that New York ranked fifth in zinc production in the country. Zinc is used to galvanize steel and protect it from rusting. It is also essential to making brass and bronze.

**Table 11 - New York Zinc Mines, Permitted Acres, 2007**

<b><u>Company</u></b>	<b><u>County</u></b>	<b><u>Town</u></b>	<b><u>Acres</u></b>
Zinc Corporation of America	St. Lawrence	Fowler	432

## New York Granite

In 2007 there were 24 granite mines operating mostly in the Adirondack and Taconic regions. Washington County, with 9 mines, has the highest concentration of this type of mine in New York State. Granite has long been used for statues, gravestones and building exteriors. Recently, its also become very popular for kitchen countertops and other decorative interior uses.

The number of permitted granite mines in the State has more than doubled since 2003. Some of this growth occurred as sand and gravel mine operators decided to dig deeper and switch to mining the bedrock underneath. Since 2003 former sand and gravel mines in four Adirondack counties and two mines in Dutchess County have started producing granite.

Most New York granite mines are aboveground, but Wingdale Material's underground mine in Dutchess County supplies crushed granite for roads and other construction needs. In 2007 the company finished moving its rock crushers belowground; this decreased the mine's noise and visual impacts and increased aboveground storage space for materials. Some of the other large granite mines in New York State also produce crushed stone for construction use.

**Table 12 - Granite Mines Over 20 Permitted Acres, 2007**

<u>Company</u>	<u>County</u>	<u>Town</u>	<u>Acres</u>
Peckham Materials Corp.	Warren	Chester	183
Peckham Materials Corp.	Saratoga	Greenfield	104
Pompa Brothers, Inc.	Saratoga	Greenfield	103
Hanson Aggregates, NY, Inc.	Oneida	Forestport	100
Graymont Materials NY, Inc.	Franklin	Brandon	77
Delaney Crushed Stone	Fulton	Northampton	67
Graymont Materials NY, Inc.	Essex	Lewis	62
Wingdale Materials, LLC	Dutchess	Dover	60
Thalle Industries, Inc.	Dutchess	Fishkill	46
Graymont Materials NY, Inc.	Essex	St. Armand	45
Lake Placid Granite Co.	Essex	Jay	28
Lake Placid Granite Co.	Essex	Jay	20

