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Geography of New York State**

**Summary of the Mineral Resources of New York State**

**I. Non-Metals.**

They are found in sedimentary rocks and make up most of the minerals found in New York State.

**A. Building Materials.** The occurrence of these materials is important in an urban-industrial setting, especially one with a good road network.

**1. Cement.** There are two types: natural cement that is a naturally-occurring clayey limestone and Portland cement a man-made product created by mixing limestone, clay and shale, grinding the mixture, heating it until fused, and then grinding the end product into a powder. The principal cement producing area is in the mid-Hudson Valley. Here both the right ingredients are nearby and the major markets are within easy reach by water transportation. New York is one of the leading cement producing states in the country.

**2. Sand and gravel.** The deposits are glacier-related and are found throughout the state with the exception of the Adirondacks. Long Island is the major producer. The proximity to NYC is a very important factor. Deposits of sand and gravel are sieved to separate the grains according to size. It is also mined extensively in Rensselaer and Dutchess counties.

**3. Clay and shale.** The Hudson valley is the principal producing area. Brick making and cement industries are located near the quarries. The clay is also used as a waterproof lining and a cover for landfill sites.

**4. Slate.** Washington County is the chief producing area. The importance of this material for walkways, flooring and roofing has declined because of the increased use of substitutes. NYS produces red slate.

**5. Stone.** Any hard substance (sandstone, limestone, granite, marble, dolomite, quartzite, basalt, etc.) can be crushed and used in construction. Source areas are found throughout the state.

**6. Gypsum.** NYS is the only major producer of gypsum in northeastern US with the area between Buffalo and Syracuse the chief producing area of the state. It is used in the manufacture of plaster and wallboard.

**B. Other Non-metals.**

**1. Emery.** This mineral is an impure form of corundum, one of the hardest minerals on earth. It is used as an industrial abrasive. The mines closed in 1989 when less expensive and more uniform substitutes were used by the industry. All US production once came from mines in Westchester County near Peekskill.

**2. Garnet.** The mineral found in NYS is not of gem quality but is used instead as an industrial abrasive. It is found in Warren and Essex counties. The largest industrial garnet mines are near North Creek.

**3. Peat.** This mineral is mined in the bogs of the Finger Lake region and in the Hudson Valley. It is used as a fertilizer (peat moss), not as a fuel.

**4. Salt.** Much of western NYS is underlain by salt. The largest salt mines are in Livingston and Wyoming Counties. The largest area of salt wells is in Onondaga County. Chemical companies use most of the salt and the remainder is made into rock salt (ice control) and table salt. Abandoned underground salt mines are used as storage sites, including storage for radioactive material.

**5. Talc.** The chief producing area of talc is in St. Lawrence County. It is used in ceramics, paints and interior building materials. NYS ranks fourth in talc production.

**6. Wollastonite.** It is mined in Essex County and accounts 99% of US production. It is used in ceramic tile, porcelain, paint, and super-plastics. It replaces asbestos in many cases.

## II. Metals.

They are found in crystalline rocks. Most of the minerals are found in the Adirondack Mts., especially in St. Lawrence County, and in the Hudson Highlands.

**A. Magnetite.** This mineral is a form of iron ore. Until high-grade iron was discovered in the Mesabi Range of Minnesota, NYS met a lot of the nation's demand. Magnetite is no longer mined commercially in the state (St. Lawrence, Washington and Clinton counties).

**B. Titanium.** This mineral is a concentrate of ilmenite, a form of iron ore. The chief producing area is in Essex County.

**C. Zinc.** The chief mines are in St. Lawrence County. Lead and silver are mined along with the zinc. NYS is one of the largest producers of zinc in the US.

## III. Fuels.

NYS is located at the northeastern edge of the petroleum and natural gas producing area of northeastern US. The chief producing area is southwestern NYS. The spaces created from the removal of oil and gas are now used as underground storage areas for imported resources.

**A. Oil.** Used by Native Americans, it was first produced commercially in the 1860s. By the 1890s production had declined significantly.

**B. Natural Gas.** Production was begun in the early 1900s. Previously the gas was allowed to escape or was burned off intentionally. The highest production period was the mid-1980s. Since the beginning of the 21<sup>st</sup> century new, controversial technologies have allowed the capture of natural gas reserves in Marcellus shale formation and opened a new debate in the Southern Tier counties of NYS concerning natural gas and ground water quality.