

Hunter College of the City University of New York  
Department of Geography  
Geography of New York State  
**EXERCISE 5 - REQUIRED**

MINING in NYS

Due by October 11, 2012; late submission will be penalized.

*The purpose of this exercise is to relate NYS's geologic environment, the processes that have shaped the state's landscape and human interaction to the location of its mineral resources. Please remember that not all minerals are of commercial use nor are they found in quantities that make them economically feasible to mine for a profit. Also, mining activities that were active in the past may have been closed for geologic, economic, and/or environmental reasons but are still part for our analysis of regional development, specifically to the historical geography of your assigned counties.*

*When the word "resources" is used, human interaction is assumed because a value has been placed on a naturally occurring commodity. Not only is human interaction assumed, the possibility of environmental degradation becomes a reality. As a result of years of mining (many of which were un- or under-regulated) there a negative human impact can be discerned. The reclamation of mined land is now mandated by state law.*

*(This exercise also introduces you to web sites of the NYS Museum and the NYS Department of Environmental Conservation.)*

**1. Background.** Read (a) *Chapter 15* of "Geology of New York" and (b) *Minerals* handout from the course home page.

**2. NYS Museum.**

- a) Go to the **NYS Museum web site** ([www.nysm.nysed.gov](http://www.nysm.nysed.gov)). Locate its "**Geology Collection**" of NYS minerals and rocks.
- b) At the web site read about the museum's geology and paleontology collections. (Quick link: [www.nysm.nysed.gov/research\\_collections/collections/geology/](http://www.nysm.nysed.gov/research_collections/collections/geology/)).
- c) At the top of the web page click **Exhibitions**, then **Ongoing Exhibitions**; scroll down and click **Minerals of New York** (read it), then **Virtual Mineral Exhibit** to see the specimens on display in the museum.

**3. NYS Department of Environmental Conservation (DEC)**

- a) Visit the home page of the *NYS DEC* ([www.dec.ny.gov](http://www.dec.ny.gov)) and become familiar with the index in the left sidebar.
- b) At <http://www.dec.ny.gov/about/255.html?showprintstyles> the *Divisions and Regions* of DEC are listed.
- c) Locate your counties within the 9 DEC regions at <http://www.dec.ny.gov/about/50230.html>.
- d) There is an extensive subject index at <http://www.dec.ny.gov/130.html>.

**4. Mining and Reclamation.** Go to <http://www.dec.ny.gov/lands/5020.html?showprintstyles> and read at the top of the page about **Mining and Reclamation**. Notice the links to related topics at the bottom of the page, especially "**Mining in New York**" which you will use in this exercise; quick link: <http://www.dec.ny.gov/lands/5045.html>.

5. The **2009 Annual Minerals Report** published in May 2011 is the latest one available from DEC. The links (below) will bring you to the three-part report. Electronically flip through the pages to find information on your counties. **These are long documents. Be selective before** you hit the PRINT button. You may find some maps/graphs helpful in completing the assignment. Previous reports are available through the DEC search box.

[http://www.dec.ny.gov/docs/materials\\_minerals\\_pdf/09anrpt1.pdf](http://www.dec.ny.gov/docs/materials_minerals_pdf/09anrpt1.pdf)

[http://www.dec.ny.gov/docs/materials\\_minerals\\_pdf/09anrpt2.pdf](http://www.dec.ny.gov/docs/materials_minerals_pdf/09anrpt2.pdf)

[http://www.dec.ny.gov/docs/materials\\_minerals\\_pdf/09anrpt3.pdf](http://www.dec.ny.gov/docs/materials_minerals_pdf/09anrpt3.pdf)

6. For distribution maps of mines and wells, go to <http://www.dec.ny.gov/energy/4733.html>. Once you are at the mapping site, be sure **zoom in** on your counties to get to the point where you can see the location of the mines and then click on IDENTIFY to get information about the mine. **The legend changes as you zoom in and more detail is provided.** You need to set an ACTIVE layer and to REFRESH the map after making changes. You can title and print unique maps using the *Environmental Navigator for Minerals* at: <http://www.dec.ny.gov/imsmaps/minerals/viewer.htm>.

7. Consult the web sites of your counties and links within the DEC web site for additional information on mining activities. For oil, gas and solution salt mines in western NYS check out <http://www.dec.ny.gov/energy/1534.html>.

**8. ASSIGNMENT: Describe the mining situation (both for commodities mined and mine rehabilitation) in each of your counties. Relate the mined products to the geology of the area in your counties where it is located. Use the 2009 Annual Report as a guide as well as the links below. This may be done in chart format. Include the following in your chart:**

**a) Mined Materials and their Uses.**

Go to <http://www.dec.ny.gov/cfm/xtapps/MinedLand/standard/commodities/> and [www.nysm.nysed.gov/esogis](http://www.nysm.nysed.gov/esogis) to see if your counties produce any of the materials listed on these web pages. From *Chapter 15* and the *Minerals* handout find their uses. (Be sure to include information about oil, gas and salt wells if they exist in your county.) *If the mines/wells are inactive, note that in your discussion and answer Q.8a from an historic perspective.*

**b) Geologic Setting.** Note each county's **physiographic region** (consult the landforms handout and the geology book chapters) and **predominant bedrock** (sedimentary/igneous/metamorphic) found there. Some counties straddle two or more settings.

**c) Active Mines and Wells.** From the sources above and other DEC links (especially <http://www.dec.ny.gov/cfm/xtapps/MinedLand/search/mines/>), estimate the number of active ("permitted") facilities in each of your counties. For additional information about wells, go to [www.nysm.nysed.gov/esogis](http://www.nysm.nysed.gov/esogis). **NOTE: If there are no active facilities in a county, give reasons for its absence.**

**d) Mined Land Reclamation.** Discuss NYS's effort to rehabilitate mined land. Include (1) a brief explanation of the law and (2) one example of reclaimed land from each of your counties, if available. (For example the sand pits of Manhasset Neck in Nassau County have been turned into a park.) See <http://www.dec.ny.gov/lands/5020.html>, [http://www.dec.ny.gov/cfm/xtapps/MinedLand/standard/ml\\_summaries/](http://www.dec.ny.gov/cfm/xtapps/MinedLand/standard/ml_summaries/) and <http://www.dec.ny.gov/chemical/brownfields.html?showprintstyles>.