

# Geology 222b Laboratory

## Mineral Recognition

The following is a list of some of the more common minerals of igneous and metamorphic rocks along with the sample numbers of some rocks that contain them.

<u>Mineral</u>	<u>Thin Sections</u>
Aegirine	JB-8, K-77, WS-23
Apatite	JB-10, SN-9, W-11
Augite	K-28, K-84, S-36, SIC-3, SIC-6
Biotite	K-21, K-84, W-11, WS-19
Hornblende	K-21, SN-9, K-84, WS-19
Microcline	J-18, SCW-1, W-11, W-12
Muscovite	SCW-1, W-11, W-12
Orthoclase	SN-9, JB-10
Orthopyroxene	JP-17, SIC-3, SIC-4, SIC-5
Perthite	JB-8, K-21
Plagioclase	K-28, K-84, K-93, S-36, USGS-64, W-203, HI-99-2a
Sanidine	USGS-64, WS-8

For one of these minerals (chosen/assigned in class), edit the description of the mineral and its identifying optical features through examination of the thin sections provided and through reading textbooks and other references. Take at least one good (in focus, good exposure) photomicrograph of the mineral in thin section **in both plane and crossed-polarizing light** using the digital camera. Present your description in an HTML page prepared using Dreamweaver (or other) software. Include your photomicrographs as a ppl/xpl “rollover” image accessed by clicking on a thumbnail image. Dreamweaver has a rollover option under Insert/Image\_Objects/Rollover\_Image.

If the mineral has optical properties that vary with composition, add this information in graphical form if possible. Be sure to include a scale and a sample number for the thin section source of the photomicrographs. Add links to other petrographic images on the www as appropriate from these or other web sites:

<http://www.mineralogie.uni-wuerzburg.de/links/petrology/thinsection.html>

<http://www.nslc.ucla.edu/pet/browse.html>

<http://www.geolab.unc.edu/Petunia/IgMetAtlas/mainmenu.html>

<http://www.brocku.ca/earthsciences/people/gfinn/minerals/database.htm>

<http://sorrel.humboldt.edu/~jdl1/minerals.list.html#anchor742776>

Place all html files and images in a folder for each mineral. Zip the folder and turn it in to me using the assignments tool on the Moodle site. These files will be posted on the petrology course web page for use during the semester. Do a good job so that your classmates will find your summary helpful when they must identify your mineral.

## **Petrographic Data Base Project HTML Instructions**

After you have prepared your images, it is time to build/modify the mineral web page. You will do this by modifying the html code for an existing web page. The major steps are as follows:

- (1) With your favorite web browser, open the Petrography page for Geo 222:  
<http://www.science.smith.edu/departments/Geology/Petrology/Petrography/default.html>
- (2) Click on your mineral of interest.
- (3) Choose “Save Page As” from the “File” menu and choose or create a folder to hold the files. The html source code for the page along with the visible image files should be downloaded.
- (4) Start Dreamweaver (or another html editor) and open the html file that you have just saved.
- (5) If you are using Dreamweaver, data and text changes can be made WYSIWYG as needed in the “Design View” mode. Save your changes.
- (6) To include a rollover image, open a new file in Dreamweaver. Choose “Image\_Objects/Rollover\_Image” from the pulldown “Insert” menu. Enter the names of your jpg photomicrograph ppl and xpl files. You can add text to the page if you wish. Save the file.
- (7) Insert a thumbnail image (either ppl or xpl -- no need for both thumbnails) of your photomicrograph onto a new table row in the mineral page. Link to the rollover file from the thumbnail image. Give information about the image in the text box. Keep all the files in a single folder with the mineral name.
- (8) Use the “Create Archive of” command in the “File” menu to create a single “zipped” file of your folder full of files. Submit your zip file using the assignment tool in Moodle.