

Lab # 1; Common Igneous Minerals and Textures.

The main objective of this lab is to familiarize you with some of the common rock-forming minerals and textures found in igneous rocks. A rock's texture is defined by the degree of crystallization, grain size; shape the geometric arrangement of the mineral grains. There are many terms that are used to describe the textures of igneous rocks. Please refer to the handout given in class and Table 3-1 in your textbook for the common terms. Also consider the following websites and books.

<http://www.people.carleton.edu/%7Ebhaileab/Petrology/mainIndex.html>

<http://www.people.carleton.edu/%7Ebhaileab/Mineralogy/Index.html>

Perkins, D. and Henke, K.R. (2000), *Minerals in thin sections*, New Jersey, Prentice-Hall, 125 p.

Williams, H., Turner, F.J., and Gilbert, C.M. (1982) *Petrography: an introduction to the study of rocks in thin-sections*, San Francisco, W.H. Freeman, 626 p.

Instructions: Fill out a "Petrographic Description" form for each of the samples listed below. Most of these samples display a specific texture that you should find, describe, and draw in the circle provided on the form. When making your drawings, use a pencil and label the minerals in the field of view. Use the mineral abbreviations listed in Appendix A in your textbook.

Example W-37: Example (this is an example of Porphyritic apahnitic rock and its description)

I. Phaneritic Rocks

- a) A1.165, IA1.137: Perthite and tartan twinning
- b) BH250-13: myrmekite
- c) A1.48, A1.51, A1.52: graphic granite
- d) BH250-9: exsolution
- e) H1.67: ophitic
- f) BH53: corona (reaction rim)
- g) A1.37: sericite

II. Porphyritic Aphanitic Rocks

- h) HA-9
- i) HA-20

III. Aphanitic Rocks

- j) HA-7 vesicular
- k) W-35: amygdaloidal
- l) H2.9: microlitic
- m) A3.27, A3.28, A3.29, A3.30: glassy