

PLYMOUTH GRANITE LAB
GL 201 Bedrock Geology of Vermont

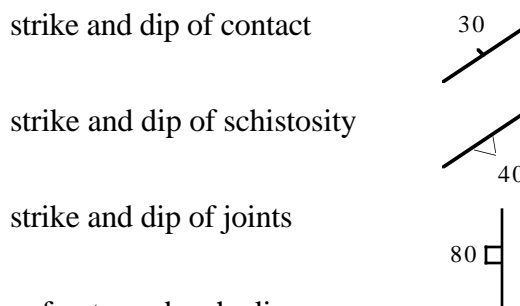
The purpose of this lab is to show you how to map the contact of an igneous body and how to describe igneous and metamorphic rocks in the field. The report for this field trip will consist of a short write-up, a complete and neat map of the area, a cross-section through the intrusion, and a volume calculation.

Text:

- include detailed description of granite and of country rock.
- in the interpretation, write about the relative age relation of granite and country rock. Speculate on the environment in which the granite was intruded.

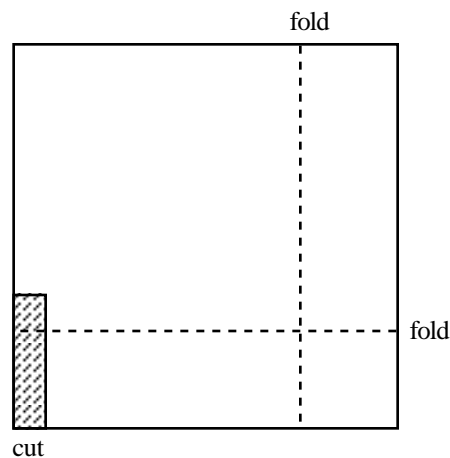
Map:

- plot symbols: (use protractor to plot strike strike lines in terms of true north)



- show areas of outcrop by shading

- fold map so that it can be stapled into report and still unfolded. To do this, square the upper left corner of the map with the pages of text; staple. Then fold right side in to page width, and fold up bottom to page length. Finally, cut out the dashed area, so this folding will not be caught in stapled margin.



Cross-Section:

- Construct a cross-section, northeast across the map to show the third dimension of the intrusion. The cross-section should be a bit smaller than the map in order to get it on a page. Use no vertical exaggeration (horizontal scale = vertical scale), and show angles of dip of contact on the two margins of the granite. Then, dash the subsurface continuation you estimate for this intrusion. You may assume that the granite's original shape, before erosion, was similar in cross-section to its map pattern.

Calculation:

- Calculate the volume of the granite still in the ground (you can approximate the original shape as a hockey puck with its edge facing upward). Assuming 50% erosion and 60% waste and using slabs of granite 2.54 cm thick, how many Bicentennial Halls could be faced with the Plymouth Granite left in the ground? (for simplicity, assume that these futuristic science centers have no windows or doors).