

GY343 Petrology Laboratory

Mineral Identification with a Petrographic Microscope

NOTE: The petrographic microscopes are very expensive (approximately \$10,000 to replace) and very sensitive pieces of equipment. Do not use force on any of the microscope adjustments. If you can't figure out how to work the scope, find your instructor or TA.

I. Observe the following mineral thin sections provided in room 340 (microscope lab): Epidote, Sillimanite, Hypersthene, Hornblende (green), Calcite

For each of the above minerals turn in a single page describing the below properties for each:

1. Cleavage
2. Color/Pleochroism
3. Relief
4. Birefringence (maximum interference color)
5. Twinning
6. Extinction Angle/ Undulose Extinction

II. Identify the minerals in the following thin sections:

44-5103
44-5098 (phenocrysts only)
44-5023
44-5052

List the minerals for each sample on a separate page for each thin section. Briefly list by each mineral its diagnostic characteristics. Refer the Kerr for diagnostic thin section properties.