

Lab 18: Microprobe Analysis

For the last three labs, we have been identifying minerals in thin sections based on their optical properties. Another powerful tool that can be used for mineral identification is the electron microprobe, which can identify the elements present in a given mineral, thus enabling you to determine its chemical formula. In today's lab, we are going to look at three samples, that you observed optically, in the electron microprobe and identify the elements that are present in each mineral. You can then compare these observations with the optical properties you observed for the minerals present in each section, and determine if your mineral identification was correct, and if not, you can determine what minerals are actually present.

Sample PAL 15

Minerals you concluded were present based on optical properties:

Mineral 1: Elements Present:

Mineral Name:

Composition:

Sample IU 30

Minerals you concluded were present based on optical properties:

Mineral 1: Elements Present:

Mineral Name:

Composition:

Mineral 2: Elements Present:

Mineral Name:

Composition:

Mineral 3: Elements Present:

Mineral Name:

Composition:

Mineral 4: Elements Present:

Mineral Name:

Composition:

Mineral 5: Elements Present:

Mineral Name:

Composition:

Mineral 6: Elements Present:

Mineral Name:

Composition:

Sample SC 37

Minerals you concluded were present based on optical properties:

Mineral 1: Elements Present:

Mineral Name:

Composition:

Mineral 2: Elements Present:

Mineral Name:

Composition:

Mineral 3: Elements Present:

Mineral Name:

Composition:

Mineral 4: Elements Present:

Mineral Name:

Composition:

Mineral 5: Elements Present:

Mineral Name:

Composition: