Applied Petrographic Services, Inc.
www.petrography.net

# Additional Petrographic Services

## Photomicrography, Optical Microscopy, XRD, XRF, & SEM-EDS

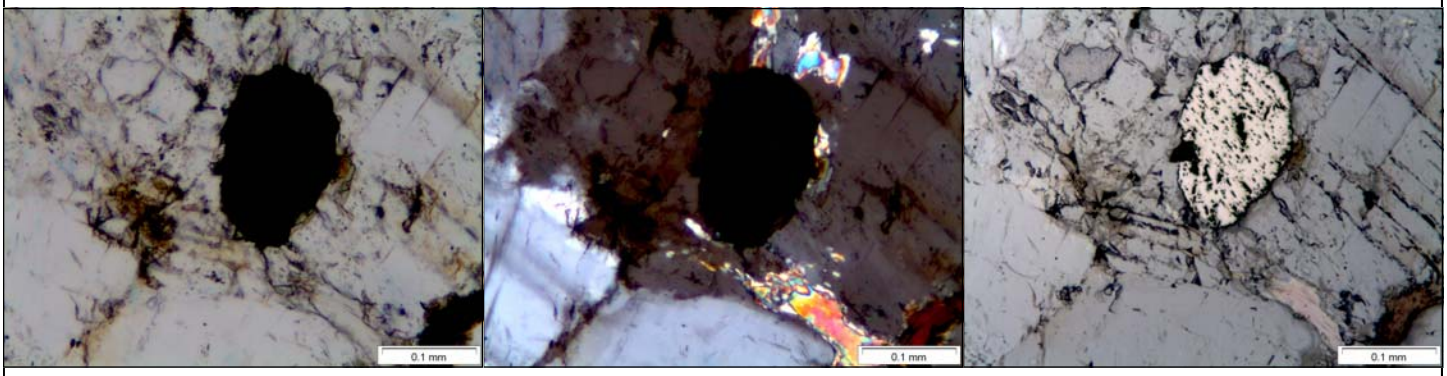
**Photomicrographs of Your Thin or Polished Sections:** **$12/per set per sample**

For an additional $10, you can request photomicrographs of your thin or polished sections in a CD, taken by using high-resolution, latest-model, state-of-the-art digital cameras attached to research-grade petrographic microscopes. At least three sets of plane and cross polarized-light photomicrographs will be provided per sample, with scale bars, depicting the detailed mineralogy, grain and pore size distribution, and texture of the rock.

**Petrographic Examinations**

Optical Microscopical examinations of thin sections in plane and cross polarized lights, and polished sections in reflected-light, XRD, XRF, etc. to determine detailed mineralogy, estimated modal (volume) proportions of different minerals, texture and microstructure, alteration, classification, and type of rock. Each report will include at least one set of photomicrographs per sample taken in plane and cross polarized-light modes with a high-resolution digital camera attached to a research-grade petrographic microscope. Price does not include the cost for sample preparation.

- Optical Microscopy: **$300 per sample**
- XRD (Qualitative): **$300 per sample**
- XRF ($SiO_2$, $Al_2O_3$, CaO, MgO, $Na_2O$, $K_2O$, $Fe_2O_3$, $TiO_2$, $P_2O_5$, $SO_3$): **$150 per sample**
- SEM-EDS: **$500 per hour**

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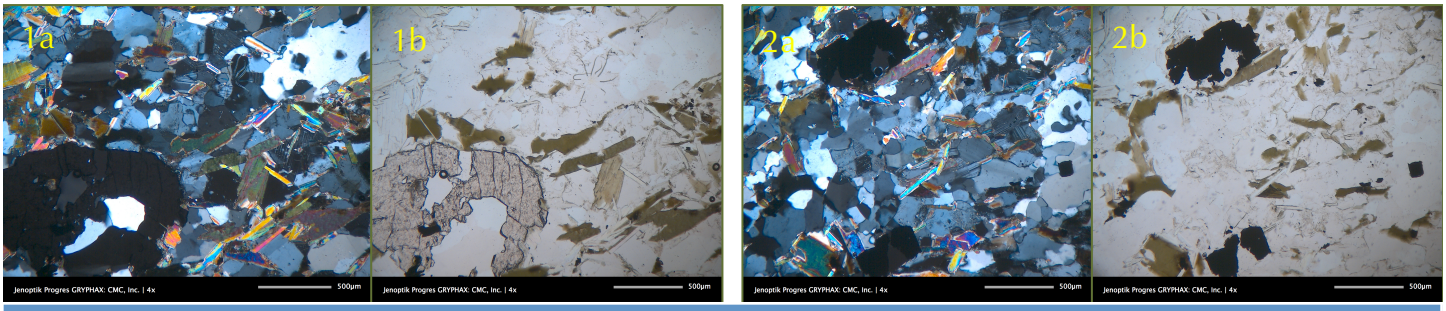
# Sample Report Page Showing what is included in Petrographic Examination

## Sample ID: "Your Sample ID Here" Rock: Mica-Quartz Schist

| | |
|---|---|
| Appearance: | Dense, hard, dark gray, coarse-grained metamorphic rock |
| Examined By: | Hand specimen<br>Thin Section (< 30 µm thick, 27 mm × 46 mm) for Microscopy;<br>Pulverized Powder (<45 µm size) for XRD and XRF |
| Mineralogy: | Major Minerals - Quartz<br>Subordinate Minerals – Plagioclase Feldspar (Albite), Mica (Muscovite, Biotite)<br>Minor Accessory Minerals – Zircon, Apatite<br>Minerals from Alteration – Sericite (from plagioclase feldspar), Chlorite (from biotite) |
| Texture: | Schistose texture defined by parallel arrangements of quartz-feldspar grains and mica flakes |
| Alterations: | Sericitic alteration of plagioclase feldspar and chloritic alteration of biotite mica |
| Photomicrographs: | 1a, 1b – Crossed and plane polarized light views of garnet porphyroblast at bottom left corner, rest quartz, feldspar, muscovite and biotite mica, green chlorite alteration of pleochroic biotite flakes<br>2a, 2b - Crossed and plane polarized light views of dark opaque grains in mica-quartz schist |




## Chemical Composition from X-Ray Fluorescence Spectroscopy (XRF)

| $SiO_2$ | $Al_2O_3$ | CaO | MgO | $Na_2O$ | $K_2O$ | $Fe_2O_3$ | $TiO_2$ | $P_2O_5$ | $SO_3$ | Balance |
|---|---|---|---|---|---|---|---|---|---|---|
| 64.0 | 13.7 | 1.34 | 2.03 | 1.4 | 3.56 | 5.69 | 0.722 | 0.164 | ND | 7.86 |

## Mineralogical Composition from X-Ray Diffraction (XRD) & Microscopy

| Quartz | Albite | Muscovite | Biotite | Chlorite | Garnet | Opaque | Accessories (Zircon, Apatite) |
|---|---|---|---|---|---|---|---|
| 48.9 | 17.8 | 12.2 | 21.0 | <1 | <1 | <1 | <1 |