



Applied Petrographic Services, Inc. (APS) is a full-service petrographic and sample preparation laboratory equipped with various state-of-the-art optical and scanning electron microscopes, x-ray diffractometer, sample preparation (thin sectioning and polishing) equipments, and, facilities for chemical analysis. Our primary goal is to provide complete customer satisfaction through consistent quality services and rapid turnaround — all at a competitive price.

Petrographic Sample Preparation stays at the heart of our services, where we provide quality thin and polished sections of rocks, minerals, soil, cement, clinker, masonry, concrete, ceramic, glass, fossils, and various other geological, archeological, and building materials. The sample preparation laboratory houses an impressive array of basic to advanced thin sectioning and polishing equipments for simultaneous and rapid production of consistently high quality thin sections of multiple samples. Aided with advanced equipments are a group of well-trained, hard-working, dedicated and motivated technicians and experienced petrographers, whose diligent work help us to build a unique position and reputation in the industry.

Petrographic Services provide detailed microscopical examinations of rocks, concrete, and other materials. Comprehensive report includes mineralogy, texture, and classification of rocks, detailed microstructure, composition, and evaluation of concrete and other materials, and an impressive display of photomicrographs. In addition, we also provide SEM, XRD, and various chemical analyses (XRF, ICP, AA) services, as needed, for comprehensive examination and characterization of a material.

Services AP\$ Provides

- ◆ Regular & Large-area Thin Section Preparation
- ◆ Circular Sections
- ◆ Grain Mounts
- ◆ Multi-Depth Thin Sections
- ◆ Polished Thin Sections
- ◆ Polished Thick Sections
- ◆ Ultra-Thin Sections
- ◆ Staining & Etching
- ◆ Vacuum Impregnation
- ◆ Orientation, Cover Slips
- ◆ Petrographic Examinations
- ◆ Mineralogy, Texture, Classification, Petrogenesis, Microstructure, Materials Evaluation, Failure Investigation
- ◆ Photomicrography & Image Analysis
- ◆ SEM & XRD Analyses
- ◆ Chemical Analysis

Why Choose AP\$

- ◆ Quality Service from Experienced Professionals and State-of-the-art Equipments
- ◆ Competitive Price
- ◆ Rapid Turnaround
 - Rush = 1 to 5 business days
 - Priority = 5 to 10 business days
 - Standard = At least 15 days



Petrographic and Metallurgical Microscopes by Nikon, Olympus, Leitz, and Zeiss; Camscan Series II Scanning Electron Microscope; Siemens D 5000 XRD; Nikon, Olympus, Pixera, Sony, Panasonic, and other Microscope Cameras, Automated Image Analysis Software

Sectioning

APS sample preparation laboratory houses a variety of slab and trim saws from Covington, MK Diamond, and others to slab and trim a large-size sample to a small rectangular block to fit in a regular (27 × 46 mm) or large-size (50 × 75 mm) glass slide. Either coolant-mixed water or oil (for water-sensitive samples) is used as a coolant. Various (from 6-in. to 18-in. diameter) continuous rim diamond blades are used for sectioning.



Thin Sectioning

APS houses more than ten thin-sectioning machines from Buehler, Ingram-Ward, Hillquest, Microtek, Logitech, Struers, Allied High Tech, and others, which can prepare up to forty high quality thin sections simultaneously. Standard (~30 μm thick) or ultra-thin (~15 μm thick) sections can be prepared at 27 × 46 mm or 50 × 75 mm sizes. Thin sections can be polished, stained, or protected with a permanent or removable cover slip.

Grinding & Polishing

Various horizontal rotary grinding wheels (from 8-in. to 18-in. diameter) are used in Buehler, Leco, Allied High Tech, Logitech, Lapmaster, Struers, and other machines for precision flattening, grinding, and polishing operations. Diamond, alumina, or silicon carbide based fixed (metal or resin-bonded) or loose abrasives (from >50 μm to 0.25 μm size) are used in water or glycol medium for grinding and polishing operations.

Impregnation, Staining

Soft, friable, small, porous, or brittle samples are often encapsulated and/or impregnated with a clear or blue/fluorescent dye-mixed epoxy to improve sample integrity prior to thin sectioning, and to highlight pore spaces. Various vacuum impregnation units are used for epoxy injection. Thin sections can be stained to highlight carbonates, feldspar, and other minerals. Image analysis can estimate porosity or proportions of a stained mineral of interest.

Grain Mounts, Multi-Depth Sections

Thin sections of loose, powdery samples, or grains are often prepared after epoxy encapsulation. Standard or large-size, thin or polished sections can be prepared.

Multi-depth sections are also possible from a single or multiple samples on a single standard or large-size glass slide. Water-sensitive samples (e.g., clay, sulfate, halide) are prepared with oil or glycol.

Optical (Reflected & Transmitted-light) Microscopy and Fluorescent Microscopy

Optical microscopy is the most powerful tool in petrography, which provides a detailed characterization (mineralogy and texture) of a material. APS houses more than thirty petrographic and metallurgical microscopes with reflected, transmitted, and fluorescent light facilities, and each with photomicrographic attachments for digital photography and image analysis.



Chemical Analysis

Conventional petrographic classification of rocks often depends not only on mineralogy and texture, but also on chemical composition. Therefore, a variety of major element oxide or elemental analysis are done by XRF, ICP, or AA. In addition to optical microscopy, SEM, XRD, and XRF/ICP analyses are often done for comprehensive examination. SEM-EDS is used for elemental analysis of a small area of interest in a thin or polished section.

- Our Clients are:
- Universities
 - Oil Companies
 - Engineering Firms
 - Geotechnical Firms
 - Individuals

Hundreds of satisfied clients nationwide

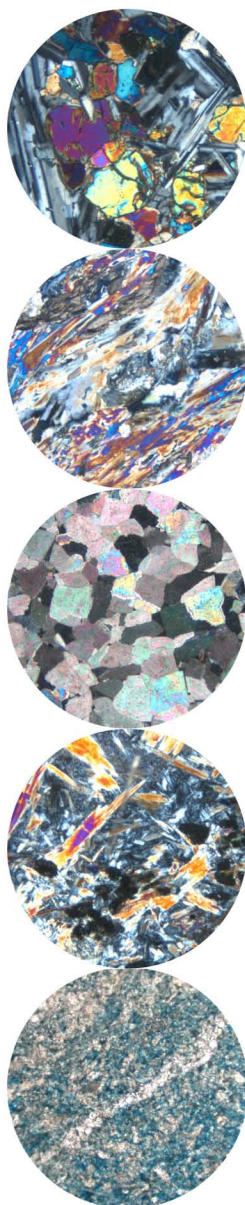
- Apart from regular terrestrial rocks, we have also handled:
- Meteorites
 - Lunar samples
 - Pyramid Samples
 - Ancient architectural & ceramic samples
 - And many other unusual and interesting ones

Thin sectioning Machines from Buehler (Isomet, Petrothin), Logitech (CS10, PM2A & PS2000), Hillquest, Microtek (Microtrim III), Struers (Discoplan), Ingram-Wards (Saw & Grinder); Grinding & Polishing Machines from Buehler, Leco, Allied, Logitech, Struers; and More





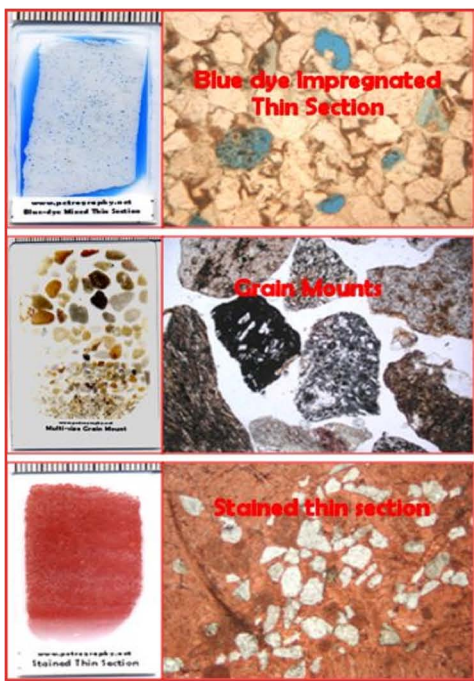
We also provide detailed petrographic examinations of aggregates, cement, clinker, concrete, mortar, masonry units, stucco, cast stone, and other building materials, as well as various ceramic materials, terracotta, glass, and metals. Construction Materials Consultants, Inc. (CMC, www.cmc-concrete.com), the sister company of APS provides petrographic services to civil, structural, and architectural engineering firms in the construction industry.



Henry Clifton Sorby
(1826-1908)
The father of thin section
petrography and metallurgy
We try to follow his legacy!

From Moon
To Meteorite
To Planet Earth

From Ancient
To Modern
Marvels in
Construction



From Minerals
To Metals
To Treasures
In Mines

APS
Seeks
To
prepare
samples
from
all!

Our
journey
continues
with
you....



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Quality Service - Rapid Turnaround - Competitive Price



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