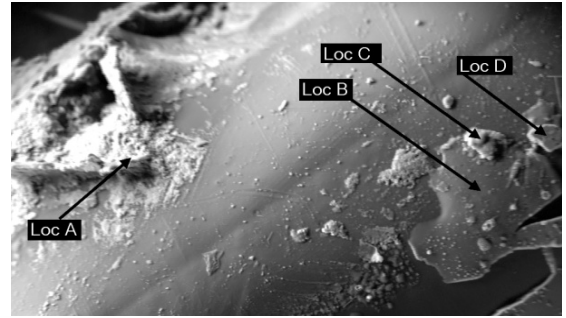


# Electron Microprobe Analysis

M+P Labs is equipped with an electron microprobe which is a scanning electron microscope that has been optimized for flexibility and accuracy in elemental analysis. It quickly provides information about chemical composition, distribution of chemical constituents, molecular structure and surface topography.



## MICROPROBE FEATURES

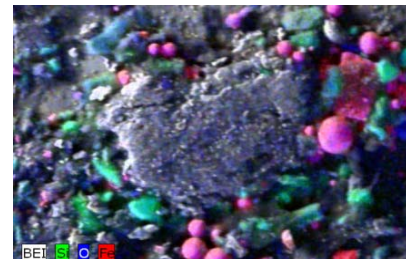
- One of the world's fastest electron microprobes, with seven wavelength dispersive X-ray spectrometers (WDS) and a silicon drift detector energy dispersive X-ray spectrometer (SDD-EDS)
- Produces ultra-fast color X-ray element maps with Bruker Quantax software capable of incorporating signals from both EDS and WDS detectors
- Highest take-off angle of any commercial electron microprobe for the greatest accuracy and sensitivity
- Capability to determine nearly the entire periodic table of elements, from boron to uranium, on a microscopic scale
- High-quality SEM images are produced with CamScan CS3000 digital imaging

## THE M+P LABS EXPERIENCE

We are dedicated to a cooperative, analytical approach to materials problem-solving. The accuracy and precision of our results, as well as our meticulous reporting procedures, are second to none. This world-class service allows our clients to make critical decisions based on reliable, accurate information. **M+P Labs is a knowledgeable resource you may need – now, and in the future!**

## APPLICATIONS

- Characterize elemental diffusion profiles
- Qualitatively identify alloys
- Evaluate plating and coating composition, thickness
- Determine the composition and cause of contaminants, stains
- Ascertain the composition of materials trapped in filters
- Identify products of corrosion
- Characterize phases of carbides, borides, and intermetallics
- Perform **X-Ray Element mapping** to identify spatial variation in chemistry



X-ray element map highlighting silicon, oxygen and iron

The electron microprobe can be used to thoroughly study a feature of interest. Detailed information about chemical composition can be superimposed on a surface topography map. Each chemical element can be assigned a different color. These techniques, combined with others available at M+P Labs, will provide a fundamental understanding of what's happening in any material investigation.



All testing is performed in compliance with the quality requirements mandated by:

