

## **Combined Microdiffraction and Micro-XRF Analysis of Geological Specimens**

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Non-destructive characterization of geological specimens is desirable when multiple analytical techniques are needed (e.g., diffraction studies on a thin section that also will be characterized by staining and polarized microscopy). Here, we describe mineralogical and elemental mapping techniques via X-ray diffraction and fluorescence. Combining these two methods allows for positive identification of discrete grains and regions by providing a high degree of spatial resolution of the beam onto the sample. Diffraction studies benefit from the use of the EIGER2 R 500K detector with large active area and easily switchable scanning/still 1D/2D modes. Micro XRF studies were conducted with the M4 TORNADO equipped with SDD detector and polycapillary focusing optics.