

μXRF for Geological Materials: Upgrade to Existing Horiba XGT-7000**Lead contact for RDF Application:**

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Key Participating Units: Department of Geology & Geophysics; Department of Petroleum Engineering

Anticipated Request Amount (\$): 52,090

Executive summary of this application to utilize Research Development Funds:

This proposal requests funding to upgrade an existing X-ray analytical microscope (Horiba XGT-7000) housed in the Tice lab in the Department of Geology & Geophysics. The upgrade will ensure continued operation of the instrument once the manufacturer drops support for key components in 2020, lower operating costs, and improve instrument sensitivity. The XGT-7000 currently supports five funded projects by four investigators in the Departments of Geology & Geophysics and Petroleum Engineering and is used regularly by four other faculty members and their students. The XGT-7000 is a close analog to PIXL, a mapping XRF device planned for the scientific payload for NASA's Mars 2020 rover. The similarity between these instruments increases the competitiveness of TAMU investigators for NASA grants related to the 2020 mission and has already contributed to awards in Geology.