

YOU CAN LEARN AND DO COSMOGENIC ^{10}Be AND ^{26}Al PROCESSING AT THE UNIVERSITY OF VERMONT'S COMMUNITY SAMPLE PROCESSING FACILITY

Bierman, Paul. R.*, Corbett, Lee B., Christ, A., and Halsted, C.

Session S14 General Contributions

Poster Presentation

Cosmogenic nuclides, such as ^{10}Be and ^{26}Al , provide a quantitative means for investigating Earth surface history and processes. Yet, as with most geochronologic techniques, they require specialized, maintenance-intensive, and costly laboratory facilities restricting participation generally to those at well-funded, research-intensive educational institutions. Producing accurate, high-precision, and reproducible geochronologic data requires technical expertise, which can be difficult and expensive to acquire. The US National Science Foundation (NSF 17-504) now provides technical support for seven different geochronology laboratories in the US. Such support not only allows us to open our facilities to more visitors and more a diverse audience, it can reduce the cost of geochronology and increase the quality of the data and interpretation. For 25 years, the University of Vermont has hosted a facility for cosmogenic nuclide sample preparation and welcomed external visitors. Starting in January 2018, we opened our lab to visitors so they can process their own samples under the guidance of an experienced technical support team. The laboratory cleanroom, purpose-built in 2008, has 5 perchloric acid laminar flow hoods, allowing simultaneous processing of meteoric and in situ samples. We have a separate laboratory dedicated to the rapid, simultaneous purification of quartz from a large number of samples. With NSF support, the Vermont laboratory is now a community facility, dedicated to training students, faculty, and researchers in cosmogenic nuclide extraction techniques including all phases of sample preparation in a safe, collaborative, environment. Our streamlined techniques allow extraction of a suite of 10 samples in less than a week (once quartz has been purified) making both participation and observation visits tractable for all. For more information about the facility or about working with us, see: <https://www.uvm.edu/cosmolab/> or email us at cosmolab@uvm.edu.