

Geology Field Sample Protocols

Introduction

Field observation and sample collection are critical for student learning and research in the discipline of Geology. Field studies provide the framework and context for laboratory and numerical studies designed to understand geologic processes. Safety is the primary concern when away from the home institution and conducting field research, including sampling of rock specimens. Radiologic exposures are highly unlikely in most cases, but extra precaution should be taken when sampling a sedimentary formation known to contain uranium-bearing minerals (e.g., uraninite) in concentrations that could be mined, and/or in an area of active or historic mining of radioactive minerals. In such cases, a Geiger-Muller probe should be used to test for samples exceeding 3x the background of an area known to be free of radiation.

All incoming field samples are to be surveyed by the Geology Support Technician or the Radiation Safety Officer (RSO) on the loading dock of Duncan Hall. If field samples are above 3X background, they will be isolated and stored in DH 308 and/or DH 315A, both of which are limited access rooms.

Procedure for Geology Support Technician or the RSO:

1. Measure background radiation where no radiation sources are kept.
2. Measure incoming rock samples with Geiger-Muller probe.
3. If a sample measurement is greater than 3 times, but less than 10 times, the background, the samples will be placed into a designated cabinet/bin housed in DH-308 and/or DH 315A. If sample measurements are 10 times the background or greater, notify the RSO for verification. Samples greater than 10 times background will be stored in NSF DH-086.

If samples measure less than 3 times background the samples can be released for general use. All field samples with more than 3 times the background will be labeled with the name of the collector, date and locality where the sample was collected.