Note: Important changes have been made to the Policies and Procedures of the Graduate Archives. Please review this document to ensure your thesis and related specimens are properly documented and submitted.

These policy changes will be implemented as of January 1, 2009. Any thesis or research paper completed after this date must be conform to new policy. Any specific questions regarding these changes may be sent to the curator.

Each thesis, and in particular a geology paper, involves the examination of specimens. These samples form a foundation, physical and theoretical, for each work. It is therefore vital that they be treated as methodically as the printed portion of each thesis.

The purpose of the department's Graduate Archives is to retain the original samples and prepared materials from masters' and doctorate theses, such that scientific data are not lost and that in the future, research can be duplicated. See Dunn, 1988 for further discussion.

This policy is intended as a guide. Each thesis is unique, and exceptions can be made for all points below. In this electronic document students will be provided with a step-by-step set of instructions regarding this policy. They will know in advance that they must collect sufficient amounts of rock to provide the department with archival material. The exact specimens submitted to the graduate archives will be selected by the student and the thesis advisor in consultation with the department curator. Each figured sample, each sample whose analysis appears in the thesis, and each sample which is otherwise mentioned must be preserved. Additional samples will be kept when they add to the collection.

A sample list, with provenance data or a sample locality map is expected with each set of samples. Sample lists, prepared by the students, can be on disk, or on paper. All thin sections, probe mounts, and other prepared materials belonging to the department will also be submitted. The sample list provided to the curator will then be supplemented with a block of department accession numbers. Each sample is to be given an individual number from the provided block and then the list must be returned to the curator with all information listed in Section 3 of this document. These lists will be kept for archival and collection purposes and numbered specimens will be added to the department collection database.

Each thesis collection will be packed by the curator, and then stored in the rock storage area of the University Research Centre building.

Although specific specimens may be used for demonstration purposes, samples from thesis collections will not be used for regular teaching, as this tends, in most cases, to result in the destruction of samples. Duplicates or portions of samples may be used for regular teaching when available.

Policy Sections:
1. **Unique Thesis Accession Code and Sample Numbers**

2. **Sample Lists**

3. **Provenance Data for the Graduate Archives**

4. **Locality Map**

5. **Archival Policy by Sample Type for Graduate Collections**

6. **Loan Policy for Archive Samples**

1.0 Unique Student/Thesis Code and Sample Numbers

When collecting, preparing and analyzing samples, students may use whatever numbering system they wish. Field numbers may be used for the duration of research. Each student will receive an accession code to create a series of final, unique sample numbers. When referring to samples in the thesis students will use all these accession numbers. Samples will be labeled with the full accession number. Each will have the form:

UCXXXXX

Where:

UC = University of Calgary;

XXXXX = specific student accession number (length as required);

This standard system will provide a unique number for each sample, enough numbers for any collection, a logical order for sample numbers, allow easy computer searches, and can be expected to label each sample and prepared specimen with a long-lasting labeling method.

2.0 Sample List

A sample list in some logical order, giving sample numbers, one or two word sample descriptions, sample provenance, preparations (TS, XRF, etc.) and notes of thesis figures must be included with archival samples. See McDonough 1989, Appendix 1, for example.

3.0 Provenance Data for Graduate Archives

All archival thesis collections must include information gathered during collecting. Samples without provenance data are not acceptable. The following information is required for each sample:

3.1 Location: Each sample locality will be identified by UTM map coordinates and NTS map name, or latitude and longitude. When a single section is sampled in detail, the section location is to be given along with the datum, and elevations from datum listed for each sample.

3.2 Location type: outcrop, measured section, borehole, float, etc;

3.3 Sample type: lithic, macropaleo, micropaleo, geochem, etc;

3.4 Stratigraphic data: member, formation and age (where established and known);

3.5 Sample collection date: YY/MM/DD format; (university standard);
3.6 Orientation data: samples collected for structural analyses should include specific orientation information, as suggested by the thesis advisor. A description of orientation notation may be required if not in thesis. See McDonough, 1989, Appendix 1 for example.

4.0 Locality Map

If students prefer, a 1:50 000 (or larger) scale locality map may be provided instead of written sample localities. The locality map should be a standard topographic map, or geological map with contours and cultural features. Air photos or photomosaics are acceptable where no maps are available. Maps must be in "nearly-new" condition, with sample locality data written in indelible ink. See (unnumbered) Sample Locality Map in Gal, 1989 for example. (Blue- or black-line diazo copies are not acceptable as archival quality paper maps.)

5.0 Archival Policy by Sample Type for Graduate Collections

5.1 Raw materials (rock, etc.): will be kept indefinitely, in representative sizes and quantities. The standard archival size for lithographic hand samples is about 50x75x100mm.

5.2 Prepared materials: will be kept for periods depending upon type of preparation: anything that packs well and is stable will be kept indefinitely. All prepared materials will be clearly labeled with the appropriate accession number. Portions of powdered samples for geochemistry, XRF, XRD, etc., should be set aside as archival material before analyses begin. Powdered samples must be in proper containers for storage to prevent contamination. Unless individually packed in sealed containers, XRF pellets will be kept for short periods only. Powdered samples on glass slides (for XRD) will not be stored. Acetate peels must be encapsulated between glass slides before storage. All thin sections’ cut-offs will be retained for potential teaching purposes. They must be labeled.

5.3 Micropaleontology samples: leftover processed materials without microfossils will be disposed of immediately. Note that samples still saturated with heavy liquids must go to the Environment, Health and Safety for proper disposal. Leftover processed materials still containing microfossils will not be stored except when they will be repicked within a reasonable amount of time. Extra unprocessed materials from will be kept indefinitely, in appropriate volumes. Every effort must be made to keep quantities as small as possible. Prepared slides and other mounts (except holotypes, see below) will be kept indefinitely in the Micropaleontology Collection. Representative lithology samples will be stored indefinitely in small quantities. Chipped and crushed materials must be bagged in heavy-duty plastic bags (No Ziplock or sandwich bags!) and labeled. Sample bags can be obtained from curator if necessary.

5.4 Holotypes: holotypes of macrofossils will be sent to a major institution, usually the Geological Survey of Canada, or the Canadian Museum of Nature, at Ottawa. Alberta types will be sent to the Royal Tyrrell Museum at Drumheller. For department reference, representative specimens of newly established forms will be kept when available. Microfossil holotypes will also be sent to a major institution. Extra slides of representative specimens will be kept when available. Type depository information will be included in each thesis.

5.5 Samples from type, remote, and restricted localities: will be kept in greater volumes and quantities, as well samples from localities which no longer exist or will soon be destroyed or consumed (mines, road cuts, flooded areas, etc.).

5.6 Sponsored Theses and Collections-By-Permit: where private corporations or government agencies also require submission of samples, representative portions must still be submitted to the graduate archives when available (small rock samples are adequate). Copies of all loan agreements and collecting permits must be supplied with samples. Thin sections, probe mounts and other materials prepared by the department will remain in the department unless other arrangements have been made. Where specimens from other institutions are referred to in a thesis, a complete sample list with depository information will be submitted.
5.7 Cores and Well Cuttings: Slabbed core cut with department funds will be stored indefinitely, and may be used for teaching. Research cores will be marked before use by undergraduates. Core cut with corporate funding can be stored in the department providing it has been formally donated to the university and it can be used for teaching. Core chip samples and well cuttings will be stored for three years from the date of the thesis defense and then sent for disposal, providing no other use can be made of them.

5.8 Oversized samples (for sedimentary or tectonic structures, etc.): where practical and appropriate, all samples over about 250mm will be cut into slabs. If this would destroy the sample, the whole specimen will be stored. Extra slabs may be cut for teaching, display, and exchange.

5.9 Geochemical samples: about 50-100ml of prepared sample in sealed plastic containers and about 400-500g of raw rock will be kept indefinitely.

5.10 Geophysics degrees: raw data digital files, either internally generated or supplied by outside agencies, along with all original documentation, will be stored indefinitely. Digital file copies of final processed sections will also be stored indefinitely. Each file will be clearly identified. Additional materials will be stored at the suggestion of the advisor and student. Paper sections are not required for the Archives.

5.11 Paper: will not be stored, except sample locality maps, sample lists and other documents specifically mentioned in this policy. Manuscript and finished copies of significant artwork (sections and maps) may be stored if space is available.

5.12 Hazardous materials: will be stored in smaller quantities, and within the applicable regulations. This applies to all controlled substances, including radioactive rocks. All hazardous materials must be clearly labeled, as outlined by WHMIS guidelines. All liquids, hazardous or not, must be labeled.

5.13 Incomplete work: research specimens may be stored for four years from first registration date for master’s degrees, and for six from first registration date for doctorate degrees. After the student’s registration expires, the advisor will be consulted, and samples can be returned to the former student, assigned to teaching or general reference collections (when properly documented), or a faculty research collection, or sent for disposal.

5.14 Excess materials: can be distributed to other institutions as quality, quantities and interest warrant, as suggested by the advisor and student. Unwanted excess material will be sent for disposal if unsuitable for teaching.

6.0 Loan Policy for Archives Samples

Once thesis samples and prepared materials have been incorporated into the graduate archives they should be treated as if irreplaceable. Department faculty, research associates and graduate students may use archive samples and materials for research, provided that temporary storage locations are recorded, and that archives samples are not completely consumed. Other academic research institutions may borrow the archives’ materials by arrangement through the original advisor, if available, and the department curator. The question of sample consumption will be dealt with as it arises. Details of loan procedures are in a separate document. Proper loan forms and documentation must be created for all loans of specimens and must be done through the department curator.

References:
