



Submission Guidelines for State-Owned Paleontological Collections

These guidelines are offered by the Office of the State Archaeologist (OSAC) to strengthen the statewide curation network. They list standard best practices for paleontological collections submitted to Colorado repositories under the authority of a State permit. These guidelines apply to paleontological materials, for archaeological materials, please see Submission Guidelines for State-Owned Archaeological Collections. Please be aware that individual State repositories may have more stringent requirements that will supersede those listed below. Specific requirements that are more stringent than those listed below should be outlined in all curation agreements between the permittee and the repository. Additionally, all repositories have the right to refuse collections that are submitted to them.

Organization and Container Storage Standards

All paleontological collections submitted must reference the official State of Colorado Smithsonian Trinomial Site Number. Material collections should not be submitted to repositories until all fossil preparation, stabilization or conservation, and inventorying, cataloging, and labeling have been completed. Unless the curation agreement between the permittee and repository specifies that materials may be submitted in another condition with fossil preparation, etc. to be completed by the repository at cost to the permittee. While specific guidelines for submission are formulated by each repository, at a minimum each depositor should ensure the following common best practices.

1. Material collections must be accompanied by all documenting records (held-in-trust collection catalog form, a copy of the official receipt for deposit form, field notes, site forms, photos, maps, reports, formal deeds of gift, preparation record, and other contracts or agreements preferably printed on acid-free archival paper). Photographic records (i.e., slides, negatives, prints) should be enclosed in acid-free polyethylene holders or sleeves. An explanation of the indexing method used to organize the boxed materials should also be provided. In addition to the secure hardcopies, documentation in digital format may also be submitted to the repository if they have the means to store these data, as well as an established policy for secure data archiving and migration. If the facility lacks these means then all the miscellaneous digital (non-required reporting) data should be submitted to OSAC.
2. All fossil materials should be prepared by qualified professionals prior to submission using appropriate, reversible, nondestructive techniques. Justification and repository approval are required for the use of nonreversible materials, methods, and destructive techniques. The removal of matrix using hand tools, air scribes, or air abrasion are considered standard techniques and exempt from this requirement.

3. Stabilization of material should only be performed to ensure the specimen's safety during transport and storage. Sections of the matrix may be left in place for the purpose of support and stabilization, such as the maintenance of articulated elements.
4. Specimens needing ongoing conservation should be separated, documented, and a conservation plan submitted to the repository for approval prior to acceptance of these specimens. This plan should be drafted to inform the repository of the long-term conservation requirements of these specimens.
5. Potentially radioactive specimens such as those from the Morrison Formation must be tested prior to arrival. Radioactive material must be documented, and separated from the rest of the collection, and the containers in which they are delivered must be labeled with the standard Atomic Energy Commission magenta symbol on a yellow background. Where possible, these specimens should be housed in resealable polyethylene bags or polypropylene boxes with tight-fitting lids prior to arrival.
6. Exceptional specimens should be separated from the rest of the collection and noted. These include holotypes and exquisite specimens intended for further analysis.
7. Unless otherwise directed by the repository, all specimens or collections should be labeled individually in accordance with the cataloging, and labeling systems of the repository. The Office of the State Archaeologist should be consulted to determine labeling standards if the repository has not adopted formal standards for cataloging and labeling.
8. Unless otherwise directed by the repository, all specimens should be individually labeled using direct or indirect methods. All labels should be archival and removable. The reversible B-72 "sandwich" method with the State number, site number followed by a dash, and the catalog number (e.g. 5LR999-1, 5LR999-2). Labels should be hand-written as small as possible or printed on acid-free laser-printed labels, and placed away from diagnostic features on the specimen. If specimens are too small to be numbered individually (<1 cm in maximum dimension) and/or for large groups of similar specimens from the same provenience (e.g. collection of loose gar scales), then they may be put together in labeled, appropriately sized acid-free containers.
9. Specimens that are too fragile, lack good surface integrity, or where direct labeling methods would obscure diagnostic or important features should be labeled using indirect methods. All indirect labels should be handwritten using archival ink pens or laser-printed on acid-free paper tags. These labels should be appropriately affixed to specimens when possible and a second label should be attached to any custom housing such as a cookie cutter or bedding jacket.
10. All fossil specimens must be shelf-ready and housed in archival quality, acid-free trays and boxes with adequate padding and support using acid-free archival materials. Larger and heavier specimens should arrive in archival bedding jackets with clamshells preferred for difficult-to-handle specimens. Exceptions may be granted by the repository for specimens that do not require housing or support such as trackway slabs.
11. All boxed containers housing materials must be stable and sturdy, in acid-free boxes, and should fit the size/shape requirements of the collection. Standard-size archival boxes are typically no larger than one cubic foot and should weigh less than 30 lbs to avoid damage to specimens and/or packaging.
12. Larger containers, such as acid-free storage boxes, should be labeled with archival ink or appropriately affixed laser-printed archival labels on their exterior surfaces. Labels in or on large containers should

provide the following information: site designation, project name and date, provenience data, specimen category (e.g. vertebrate, invertebrate, plant, or ichnofossil), and the number of specimens. A box-level inventory should be laser-printed on acid-free paper and affixed to the interior of the lid.

13. Following any analysis, the material should be returned to storage with the rest of the material from that field provenience. For instance, thin sections from histology should be stored with the element from which they were removed. This element and its resulting thin sections should both be stored with the rest of the material from that provenance.
14. A simple collection inventory should accompany each collection using the official simple collection inventory template provided by the society. This inventory must accurately reflect the quantity of the material. This list must be submitted in an electronic format to the repository prior to arrival and a physical copy must accompany the material. Upon acceptance of the material both the State Permittee and the repository official shall complete the receipt for deposit form and a copy must be submitted by the permittee to OSAC as part of their reporting requirements. The deposit form must be accompanied by the final digital copy of the simple collection inventory. Please refer to our office's official receipt for deposit form and simple collection inventory documents.
15. Bulk samples or non-diagnostic redundant material (e.g. sediment, invertebrate hash, unidentifiable elements, etc.) should only be collected and submitted to a repository as specified in the curation agreement between the permittee and repository; the quantity of such samples should likewise be specified in the curation agreement. Sediment samples should be processed as much as possible before submission, fully dried, and reduced to a minimally representative sample necessary for future analysis. Samples should be double bagged in 4 mil polyethylene bags with a labeled tag placed in the outer bag separated from the sample.
16. Permitted researchers who deliver collections not according to the guidelines outlined above, or more stringent guidelines as outlined in a curation agreement, may be subject to refusal to accept submission pending correction or corrective hourly labor rate fees plus the cost of supplies by the state-approved museum or curatorial repository as detailed in the curation agreement.

Ownership Documentation

Private collections deposited at a State-Approved repository must be accompanied by a signed Deed of Gift from the private landowner. The signed and dated statement must indicate the owner's name, legal address, and other contact information, and indicate that the collection being donated is unrestricted and irrevocable. Note that private landowners or entities must negotiate directly with each repository for these agreements unless either through contract or assignment a consultant assumes the role of legal agent for the private owner. If the repository is part of a subdivision of State government (City, County, local, district) and private ownership of that item(s) has been transferred to a government entity then the State holds a title interest in that specimen/artifact. Unless requested by the State-Approved repository, permitted researchers collecting from non-Federal public lands do not need to provide ownership documentation. However, it is the

responsibility of the permitted researcher depositing collections to ensure the repository of the accurate ownership status of all specimens or artifacts deposited for curation.