# Explore Nebraska Archeology The Importance & Care of Archeologícal Records

Nebraska State Historical Society



The mission of the Nebraska State Historical Society is to safeguard and interpret Nebraska's past and make it accessible in ways that enrich present and future generations.

#### Explore Nebraska Archeology, No. 7

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On the cover: Terry Steinacher, Nebraska State Historical Society preservation archeologist, draws a site plan of an excavation at Fort Robinson near Crawford, Nebraska. Site plans are among the many kinds of field activity records that contribute to an understanding of material culture.

# Associated documentation makes material culture intelligible.

Pearce, 1990



Recording the provenience of an artifact in the field.

# What are archeological records?

Archeological records include notes, drawings, photographs, maps, charts, and other materials that record information about archeological activities. The notes an archeologist makes when planning an excavation, photographs taken of the terrain of a site, data that indicates the GIS positioning of each artifact in the ground, and charts that tabulate information from the analysis of the excavated artifacts all make up the body of materials known as archeological records.

Archeological records can be divided into three main classes: field related records, research interpretation records, and curation records *(Table 1)*. Field project records contain information

Field Project	Research	Curation
Records	Interpretation Records	Records
<ul> <li>a. Pre-field activity records <ul> <li>contract proposals</li> <li>grant proposals</li> <li>contracts</li> <li>correspondence</li> <li>administrative records</li> </ul> </li> <li>b. Field activity records <ul> <li>field notes and journals</li> <li>landowner permission forms</li> <li>photographs</li> <li>photograph logs</li> <li>videotapes</li> <li>scaled drawings (section profiles, plan views)</li> <li>mapping records</li> <li>(GPS data, transit, EDM data)</li> <li>site survey forms</li> <li>excavation forms</li> <li>artifact inventories</li> <li>maps</li> <li>sketches</li> <li>architectural drawings</li> <li>oral history records</li> <li>publicity (newspaper clippings)</li> <li>correspondence</li> </ul> </li> </ul>	<ul> <li>data analysis records (raw data, chemical analysis data)</li> <li>preliminary reports</li> <li>final reports</li> <li>books</li> <li>manuscripts</li> <li>articles</li> <li>appendixes</li> <li>photographs</li> <li>correspondence</li> </ul>	<ul> <li>accession records</li> <li>donor records</li> <li>catalog records</li> <li>location records</li> <li>condition reports</li> <li>treatment records</li> <li>certificate of gift forms</li> <li>curation agreements</li> <li>curation contracts</li> <li>correspondence</li> <li>loan records</li> <li>deaccession records</li> <li>photographs</li> <li>videotapes</li> </ul>

Modified from Parezo and Fowler 1995:54-55 (Tables 1 and 2)

pertaining to excavation project plans, grant proposals, initial site discovery, and subsequent artifact recovery. They are classified as either pre-field activity records or field activity records.

Research interpretation records include all documents generated after the excavation or during analysis. Research records can include raw data, published materials, and unpublished materials. They may be continue to be produced long after fieldwork is completed.



Electronic data collected in the field will be saved as part of the permanent record of a project.

Curation records are created during the longterm storage and care of an archeological collection. They document the management of archeological collections for study and storage. Curation is an ongoing, continuous process.

The media used for archeological records can include paper, photographic film, magnetic tape, computer disks, and optical systems. Electronic media may be used in the creation of all three classes of archeological records. Digital data may include global positioning data, field databases, laboratory databases, digital images, and Computer Assisted Design (CAD) models.

### Who produces archeological records?

Archeologists, field crewmembers, laboratory analysts, curators, conservators, registrars, and many other museum and archeological professionals produce archeological records. Amateur archeologists also create archeological records. Notes about where and how an artifact was found can mean the difference between an exciting archeological discovery and simply gathering one more dirt-encrusted relic for a collection of unassociated, unrelated items. Even the notes taken by construction workers who encounter artifacts during their work can become part of the documented archeological record.

### Why are archeological records important?

The science of archeology is concerned with the study of material culture in an attempt to understand and reconstruct the way people behaved in the past. Equally important to the discovery and excavation of artifacts is the creation and preservation of archeological records that document and explain the excavation. Sometimes the records are the only tangible products that remain after an archeological project—for field survey projects when artifacts are not found or are not collected, for example, and for excavations of large features such as hearths or rock art that cannot be moved.

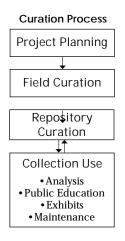
When an artifact is unearthed, the information retrieved from it is dependent upon the relationship it has with surrounding artifacts and its placement in the ground. When artifacts are removed from the ground unaccompanied by contextual information, little can be learned about the past. Like a novel whose pages are jumbled together in a random order, artifacts without context tell no story and convey no message. The relationship of one artifact to another in the original context provides meaning. Contextual information is detailed and preserved in archeological records.

Artifacts also risk losing their meaning throughout the curation process, so recording information in the field is important. Keeping information linked with the artifacts is vital, both in the field and in storage. If the location of artifacts and the treatment they receive is not recorded, whether at a museum or private location, loss of information is inevitable. Information also can be lost if the records are not kept safe and secure.

Material Culture—that portion of our physical environment that we modify through culturally determined behavior.

Artifacts—objects manufactured or modified by humans that can be picked up or removed from the ground without affecting the object's integrity.

**Context**—the provenience of an artifact; its relationship with other artifacts and its placement in the ground.



#### Table 2. General Storage Tips

- Keep storage area separate from other activities
- Monitor storage environment
- Keep temperature and relative humidity constant
- Minimize handling
- · Avoid natural light
- Avoid wooden shelving units and map cases
- Do not store records in basements or attics

# How should archeological records be cared for?

Caring for archeological records is a continuing effort to retain and preserve the information that brings context and meaning to archeological artifacts and their study. The goal is to maintain each record in a stable condition. All the media used for records have a limited life-span and all are subject to the agents of deterioration. Proper organization, handling, housing, monitoring, and storage of records will help prevent deterioration. Table 2 provides general storage tips applicable for various types of media.

# While excavation "destroys" a site, the retention of materials that contain primary data and information "preserves" the site.

Parezo and Fowler, 1995

Five principal sources of deterioration include Deterioration inherent chemicals, pollutants, light, biological agents, and physical agents (Table 3). The media used to record data may contain inherent instabilities resulting from the composition and properties of the media themselves. Atmospheric pollutants include gases such as sulfur dioxide, nitrogen oxides, and ozone; organic acids; and solid particles such as dirt, dust, carbon, soot, and tar. Such pollutants lead to abrasion or the formation of chemicals damaging to records. Sunlight and unfiltered light contribute to the deterioration of archeological records by causing photographs to fade and paper to become brittle and discolored. Newsprint left in direct sunlight begins to change color within days. Major biological agents of deterioration include fungi, insects, and rodents (Table 4). Physical sources of damage, such as poor storage environments and improper handling, can be disastrous to an archeological records collection.

Table 3.	Sources of	Deterioration
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Source of Deterioration	Description	How Controlled
Inherent Chemicals	The material itself produces the reactions of decay. It does not depend on external pollutants or light.	Control the rate of deterioration by controlling temperature and relative humidity in the storage environment.
Pollutant-induced	External pollutants can affect both organic and inorganic materials.	Use air purification systems and protective enclosures.
Light-induced	Light is a form of energy that breaks chemical bonds, thus causing decay. Damage depends on a number of factors: nature of the material, relative humidity, kind of light, intensity, and duration.	Keep illumination intensities low and store objects in dark places.
Biological	Primarily affect organic materials. Divided into four categories: bacterial, fungal, insect, and rodent. Factors involved include temperature, relative humidity, light, ventilation, and housekeeping practices.	Tailor control measures to the particular circumstances of each collection. Monitor the collection regularly.
Physical	Mechanical forms of deterioration such as warping, cracking, or separation of layers. Changes in moisture content cause various materials to swell or shrink at different rates. Handling and use are major sources.	Keep relative humidity constant. Train staff and monitor use of collections.

Modified from Hunter, G. S. 1997 (Figure 7.2)

Conservator — a professional whose primary occupation is the practice of conservation and who, through specialized education, knowledge, training, and experience, formulates and implements all the activities of conservation in accordance with an ethical code. If documents show signs of deterioration, remove and isolate them from other material. Simple housings such as polyester film enclosures, and simple treatments such as surface cleaning and staple removal usually do not require a trained conservator, but do not hesitate to consult a conservator, but do not hesitate to consult a conservator with any questions. All actions taken to preserve a document must be reversible—that is, no procedure or treatment should be undertaken that cannot be undone without harm to the document. For example, repairing a torn

#### Preservation vs. Conservation-

The terms preservation and conservation are often confused and misused. Preservation is an umbrella term that encompasses interrelated activities that can be performed to extend the life of archeological records. Preservation may be thought of as the ongoing maintenance of materials through proper storage and handling to ensure their survival for use. Conservation refers to the examination and chemical or physical treatment of an item in an attempt to stabilize it. Holistic preservation includes:

- understanding the nature of the preservation problem
- monitoring and controlling the storage environment
- planning for disasters
- maintaining the collection

# Maintaining a Proper Physical Environment

document with pressure-sensitive transparent tape is not reversible. As an alternative to treating an original document, consider reformatting it by photocopying, microfilming, or digital imaging so the information can be preserved.

Professional paper conservators can restore many documents. Several conservators should be consulted to evaluate recommended treatments and compare costs. An item returned from a conservator should be accompanied by a treatment report detailing all methods and materials used, and "before and after" photographs should be provided.

Conservation treatment is expensive, and conservators can be difficult to find. The most responsible and cost effective means of preventing damage to records is careful preservation. A suitable storage environment, proper housing materials and methods, and safe maintenance and access procedures will effectively prevent records from deteriorating prematurely.

The physical environment includes both the macroenvironment and the microenvironment. Basic knowledge of the macroenvironmentthe building and storage room where the records are housed—is essential. Effective management entails understanding how the building is administered to ensure that the records are preserved safely. The microenvironment includes the containers in which archeological records are stored (usually boxes and file folders) and the properties of the records themselves. The simplest step in preventing deterioration is to understand the properties of the media on which the records are kept, and store them in the best possible environment. Temperature, relative humidity, air quality, light, and maintenance practices affect the physical environment where archeological records are stored and used.

Agents of Deterioration	Preferred Conditions	Potential Damage
Fungi (bacteria, mold, and mildew)	Warm (above 75°F), humid (above 65% RH), dark, and little air circulation.	Feed on cellulose, starch adhesive, sizing, and gelatin. Can weaken, stain, and obliterate material.
Insects (especially cockroaches, silverfish, termites, and beetles)	Dark, warm, damp, and quiet.	Eat image-bearing materials; damage structures by boring through them.
Rodents (rats, mice, and squirrels) Snakes	Need source of food and quiet.	Nibble at items; use shredded paper as nesting material; droppings are corrosive and can leave permanent stains.

Modified from Hunter, G. S. 1997 (Figure 7.5).

# Temperature and Relative Humidity

Relative Humidity—the amount of water vapor in the air, at a specific temperature, expressed as a percentage of the maximum the air could hold at that temperature. Relative humidity is temperature dependent; generally, as the temperature increases, the RH decreases, if no additional moisture is added to the air. Ideal conditions vary for different media. For mixed media a constant temperature of 68° and relative humidity (RH) at 45% are recommended. Because high temperatures accelerate chemical reactions, low temperatures are best for all media. High humidity levels encourage growth of mold and insect activity and also accelerate chemical reactions; low humidity levels can cause desiccation and brittleness in organic materials such as paper and photographs. Overall, relative humidity levels between 30 and 45% are best. It is very important to guard against daily or weekly fluctuations in temperature and relative humidity.

The best method of ensuring constant temperature and relative humidity is to install a heating, ventilation, and air-conditioning (HVAC) system. Next best is local environmental control equipment such as dehumidifiers and window air conditioners. Local equipment is less efficient than HVAC systems because it requires constant monitoring and maintenance to avoid problems

	such as leaks and mold growth. Conservators and HVAC engineers can provide guidance and consultation regarding effective environmental control. No matter what system is used to control temperature and relative humidity, collection areas should be monitored throughout the year with calibrated instruments, and the data should be recorded. Instruments for measuring temperature and relative humidity include recording hygrothermographs, hygrometers, psychrometers, and data loggers.
Air Quality and Light	An efficient HVAC system also can improve air quality by filtering out airborne dust and pollutants. Filters should be changed regularly. An ideal record storage area should be window- less, but if windows are unavoidable, they should be heavily draped to block all sunlight. Ultraviolet light filters should be placed on all fluorescent lights in all areas where records are stored, displayed, processed, and researched. It is also good practice to regularly monitor light levels (UV and visible) with a light meter to be certain the filters are working properly and the collection is not being overexposed to other kinds of light.
Maintenance	Maintenance includes housekeeping, disaster planning, security planning, and establishing written policies and procedures for access and use of archeological records. Regular house- keeping is essential. Cabinets should be dusted

**Integrated Pest Management** 

(IPM)—selection, integration, and implementation of pest management methods that prevent and discourage pest activity and the need for pesticides. planning, security planning, and establishing written policies and procedures for access and use of archeological records. Regular housekeeping is essential. Cabinets should be dusted and floors vacuumed regularly. Be alert for signs of animal or insect infestation such as droppings or small piles of wood or paper shavings. An integrated pest management (IPM) program should be established. No food or drink should be allowed in or near the storage area, smoking should be prohibited, and living plants should not be allowed in record storage areas. Before archeological records enter a facility, they should be carefully examined for infestation or mold that might affect other collection materials. Planning for disasters such as fires, floods, earthquakes, and tornadoes is handled through risk management. A disaster-preparedness plan should be prepared outlining procedures to follow if a disaster strikes. Archeological records are irreplaceable, so security is also essential. Control key access to storage rooms, monitor research space, and be sure that doors leading into the storage area can be locked and are visible to staff. Keep an access log to track researchers using the collections.

Establishing, implementing, and updating written collection-management policies and procedures are fundamental to the optimal long-term care of archeological records. Collection policies and procedures should outline hours of access, locations for use, stipulate who may have access, and establish sign-in/sign-out procedures. Visual aids, such as illustrations demonstrating proper handling techniques for archeological records, are useful for both staff and researchers (*Table 5*).

### **Proper Storage by Media Type**

Paper A temperature of 65° and relative humidity between 45 and 55% are optimum for paper records. Paper documents are best stored in acid-free, lignin-free file folders and boxes. Many archival suppliers carry buffered acidfree, lignin-free folders that contain an alkaline reserve (about pH 8.5) to combat acids that may form in paper records. Because of its high acid content, newsprint should be isolated from other documents.

> Powder-coated steel shelving units or secure, fireproof file cabinets are good for permanent storage. Oversize maps, sketches, and drawings should not be folded. Store them flat in map cabinets, interleaved with acid-free tissue or in acid-free map folders. Wooden shelving should be avoided because wood contains acids that can damage paper.

Acid-free—paper having a pH of 7.0 or greater. Acid-free file folders and boxes are sometimes buffered with an alkaline substance capable of neutralizing acids. Buffering raises the pH to at least 8.5.

Lignin—an organic substance that forms an essential part of woody fiber. Responsible for rigidity in plants, but a major cause of acidity in paper. Acidfree, lignin-free file folders and boxes will last longer and take longer to acidify than ordinary acid-free supplies.

#### Table 5. Proper Handling Techniques

Medium	Technique
Paper Records	<ul> <li>Support and protect records being moved.</li> <li>Remove entire folder from box or cabinet before looking for an individual item.</li> <li>Do not lean on or write on top of records.</li> <li>Avoid metal clips and staples.</li> </ul>
Bound Volumes	<ul> <li>Do not pull volumes from the top of the binding.</li> <li>Support volumes from the bottom when removing them from shelves.</li> <li>Be careful when turning pages, especially brittle ones.</li> </ul>
Photographic Media	<ul> <li>Avoid bending or creasing.</li> <li>Use two hands rather than picking up items by one edge.</li> <li>Store each image individually.</li> <li>Wear white, lint-free, cotton gloves when handling.</li> </ul>
Videotapes	<ul> <li>Handle only by the housing supports.</li> <li>Never touch tape surfaces.</li> <li>Assure proper threading and mounting on playback equipment.</li> </ul>

Modified from Hunter, G. S. 1997 (Figure 7.6). Additional information from Ritzenthaler 1983:40-46.

# In addition:

- Store paper records in a cool, stable environment.
- Keep paper records away from light in closed containers.
- Record field records on acid-free paper.
- Use pencil when labeling paper records for curation.
- Avoid bending or folding records.
- Avoid adhesives, steel paperclips, and staples.



Wear white, lint-free, cotton gloves when handling photographic negatives, slides, and prints.

Photographic Media

Photographic prints are inherently unstable and can be costly to maintain. They are best stored individually in chemically stable plastic sleeves. Safe plastics for archival storage are polyester, polypropylene, and polyethylene. Photographic negatives must be stored in non-buffered, acidfree paper envelopes. Photographs stored in hot, humid conditions will stick to their enclosure and to each other. A temperature of 68° and relative humidity in the range of 30 to 45% are acceptable conditions for photographs. Cold storage (temperature below 45° and relative humidity between 30 and 35%) is best for photographic negatives and film, especially cellulose nitrate and acetate films, which are inherently unstable. Photographs and negatives must be handled with white, lint-free, cotton gloves. Other recommendations include:

- Avoid exposure to light.
- Take black-and-white as well as color photographs to document research because black-and-white film has greater longevity.
- Keep an inventory of all photographs, including fields for subject, viewing direction, date, and film type.
- Use pencil when writing on back of prints.

Magnetic Media Videotapes are inherently unstable, with an estimated shelf life of ten to thirty years, but caring for them correctly will maximize their lifespan. Common causes of damage are improper handling and extremes or fluctuations in temperature and relative humidity. Videotape images are magnetic signals stored in metal oxide particles attached to the tape by a polyurethane binder. Unstable environmental conditions can cause the binder to break down, and electrical currents can alter the magnetic signal. Either condition makes the tape unplayable. Ideal storage temperatures range from 62 to 68° and relative humidity from 30 to 40%. Use only high quality tapes, make a reference copy for working use, and store the originals. Videotapes should be stored upright in acid-free boxes or enclosures in an enclosed, dust-free environment. Tapes should be clearly labeled and a location catalog should be created for easy access. As with photographs, handle them only with lint-free cotton gloves. It is also important to maintain playback equipment and to consider its longevity. Videotaped information can be transferred to a more stable medium. Standard media for computerized data include **Digital Media** magnetic tapes, computer hard disks, and optical

magnetic tapes, computer hard disks, and optical systems such as compact disks (CDs) and digital versatile disks (DVDs). The data, encoded in digital form, must be read by player devices and converted by software programs into text, pictures, or music. Electronic records must be accompanied by documentation detailing the computer processes used to generate them. This "metadata" can include information pertaining to file names, relationships among files, and the level of data accuracy. Digital records should be transferred to new media at least every five years. The transfer of data, also called migration, should be considered in planning the collection care budget. An important aspect of digital data management is defining standards for record and file format, data content (terminology), and data elements. Information about data standardization for collections and recommended data standards can be obtained through the International Documentation Committee of the International Council of Museums *(see* Contacts *for additional information)*. There are no true national standards for digital media, only "best practices."

Digital media should be protected from heat, dust, dirt, light, magnetic fields, and electric fields. There is no standard storage medium, and the choice should be based on its likely longevity. Records should be labeled on the housing in permanent ink.

# **Planning for Archival Storage**

During the planning phases of archeological projects, anticipate and incorporate into the budget the costs of the long-term curation of both the artifact collection and the associated record collection. Include the costs of supplies as well as the salaries of trained people to process, prepare, and manage the records into the future.

The term "archival" has no standardized meaning. Some products advertised as archival may be safe only for temporary use and are not appropriate for long-term storage. In selecting supplies do not depend on the label "archival"; instead determine what type of plastic and paper are used. Look for products tested by the American National Standards Institute (ANSI).

Consultation in advance with a professional conservator, archeological collection registrar, or curator can provide valuable information and guidance about project planning and the importance and care of your archeological records. More information about topics discussed in this publication can be found through the following resources. Contacts René Botts, Curator Archeology Division Nebraska State Historical Society 1500 R Street P.O. Box 82554 Lincoln, NE 68501-2554 (402) 471-4766 rbotts@mail.state.ne.us

> Tara Kennedy, Paper Conservator Gerald R. Ford Conservation Center 1326 South 32nd Street Omaha, NE 68105-3805 (402) 595-1142 *tkennedy@mail.state.ne.us*

> Jill Koelling, Curator of Photographs Library/Archives Division Nebraska State Historical Society 1500 R Street P.O. Box 82554 Lincoln, NE 68501-2554 (402) 471-4409 *koelling@nebraskahistory.org*

> Julie Reilly, Director Gerald R. Ford Conservation Center 1326 South 32nd Street Omaha, NE 68105-3805 (402) 595-1171 grfcc@radiks.net

American Institute for Conservation of Historic and Artistic Works (AIC) 1717 K Street NW, Suite 200 Washington, D.C. 20006 (202) 452-9245 http://aic.stanford.edu

International Council of Museums (ICOM) Maison de l'UNESCO 1 rue Miollis 75732 Paris cedex 15 France http://icom.museum/ http://www.cidoc.icom.org

Regional Alliance for Preservation *http://www.rap-arcc.org* 

Suppliers Conservation Materials, Ltd. P.O. Box 2884 Sparks, NV 89431 (702) 331-0582

> Fisher Scientific 711 Forbes Avenue Pittsburgh, PA 15219 (412) 562-8300 www.fishersci.com

Gaylord Bros. P.O. Box 4901 Syracuse, NY 13221-4901 (800) 448-6160 *www.gaylord.com* 

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Metal Edge, Inc. 6340 Bandini Ave. Commerce, CA 90040 (800) 862-2228 www.metaledgeinc.com

University Products, Inc. 517 Main Street P.O. Box 101 Holyoke, MA 01041-010 (800) 628-1912 www.universityproducts.com References Applebaum, B., 1991 *Guide to Environmental Protection of Collections.* Sound View Press, Madison.

> Bachmann, K., ed., 1992 Conservation Concerns: A Guide for Collectors and Curators. Smithsonian Institution Press, Washington, D.C.

> Bellardo, L. L. and L. Bellardo, eds., 1992 *The Glossary of Archivists, Manuscript Curators, and Records Managers.* Society of American Archivists, Chicago.

Boyle, D., 1993 *Video Preservation: Securing the Future of the Past.* Media Alliance, New York.

Buck, R. A. and J. A. Gilmore, eds. 1998 *The New Museum Registration Methods.* American Association of Museums, Washington, D.C.

Clapp, A. F., 1987 *Curatorial Care of Works on Paper*. Fourth edition. Lyons and Burford Publishers, New York.

Koelling, J. M., 2002 *Digitizing Your Collection.* Technical Leaflet No. 217. American Association for State and Local History.

Dorrell, P., 1989 *Photography in Archaeology and Conservation.* Cambridge Manuals in Archaeology, Cambridge University Press, Cambridge.

Ehrenberg, R. E., 1982 Archives and Manuscripts: Maps and Architectural Drawings. Society of American Archivists, Chicago.

Hunter, G. S., 1997 *Developing and Maintaining Practical Archives.* How-to-do-it Manuals for Librarians, No. 71. Neal-Schuman, Inc. New York.

Kenworthy, M. A., E. M. King, M. E. Ruwell, and T. Van Houten, ed., 1985 *Preserving Field Records—Archival Techniques for Archaeologists and Anthropologists.* The University Museum, University of Pennsylvania, Philadelphia.

National Park Service, 1990 *Museum Handbook. Part 1: Museum Collections*. National Park Service, Washington, D.C.

Ogden, S. ed., 1999 *Preservation of Library and Archival Materials: A Manual.* Northeast Document Conservation Center, Andover, MA. Parezo, N. J. and D. D. Fowler, 1995 "Archaeological Records Preservation: An Ethical Obligation." *Ethics in American Archaeology: Challenges for the 1990s*, ed. M. J. Lynott and A. Wylie, pp. 50–55. Society for American Archaeology, Allen Press, Lawrence.

Pearce, S. M., 1990 *Archaeological Curatorship.* Leicester University Press, London.

Reilly, J. M., 1986 *Care and Identification of 19th Century Photographic Prints.* Eastman Kodak, Rochester, New York.

Ritzenthaler, M., 1993 *Preserving Archives and Manuscripts.* Society of American Archivists, Chicago.

Ritzenthaler, M. L., G. J. Munoff, and M. S. Long, 1984 *Archives and Manuscripts: Administration of Photographic Collections.* Society of American Archivists, Chicago.

Short, J. M., 1982 "Photographic Preservation for the Archaeologist." *Northwest Anthropological Research Notes* 16 (Fall): 212–20.

Sutton, M. Q. and B. S. Arkush, 1996 Archaeological Laboratory Methods—An Introduction. Second edition. Kendall/Hunt Publishing Company, Dubuque.

#### Van Bogart, J., 1993

*Magnetic Tape Storage and Handling: A Guide for Libraries and Archives.* National Media Lab and Commission on Preservation and Access, Washington, D.C.

#### Wilhelm, H., 1993

The Permanence and Care of Color Photographs: Traditional and Digital Color Prints, Color Negatives, Slides, and Motion Pictures. Preservation Publishing Company, Grinnell, IA.

For more information call the Nebraska State Historical Society archeology staff in Lincoln at (402) 471-4760.

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Archeologists in the field make maps, drawings, charts, and other detailed records to document and explain an excavation. Such archeological records, whether published, as in the excavation profile at right, or carefully stored for later study and interpretation, are vital to an understanding of how a site was formed and what happened there.

