

**AN ARCHAEOLOGICAL CURATION-NEEDS ASSESSMENT FOR
FORT IRWIN,
NAVAL AIR STATION, NORTH ISLAND,
EDWARDS AIR FORCE BASE,
MARINE CORPS AIR-GROUND COMBAT CENTER,
TWENTYNINE PALMS**

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and
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Editors

Prepared for
and
Submitted in fulfillment under agreement with the
Legacy Resource Management Program

**U.S. Army Corps of Engineers
St. Louis District
Mandatory Center of Expertise for the
Curation and Management of Archaeological Collections
Archaeological Curation-Needs Assessments
Technical Report No. 5**

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EXECUTIVE SUMMARY

PROBLEM

Federal archaeological collections are a significant and non-renewable national cultural resource. Unfortunately, curation of these materials, for the most part, has not played an integral part in the planning of archaeological projects in the last fifty years. Instead, numerous collections representing our nation's heritage were placed in the attics, basements, and closets of countless storage facilities across the United States where many have undergone steady deterioration. Additionally, many collections were illegally transported to Europe where they still remain. Inappropriate care and subsequent deterioration of these collections are not only transgressions of the laws under which they were recovered, but also prevents them from being used for educational and research purposes, which were the very public benefits Congress intended when they passed historic preservation laws. Valuable portions of the North American prehistory and history are being lost, and the considerable financial investment by the American public in archaeological recovery is quickly being squandered.

BACKGROUND

Naval Air Station, North Island (NAS North Island), Edwards Air Force Base, Fort Irwin, and the Marine Corps Air-Ground Combat Center (MCAGCC), Twentynine Palms, are responsible for the management of cultural resources on their properties and for the archaeological and historical resources removed from these lands. As mandated by federal law, agencies are required to ensure that all recovered archaeological materials and the associated records are adequately curated. Unfortunately, funding shortfalls, lack of consistent national policy, and the magnitude of the problem have prevented compliance.

Air Force, Army, and Navy collections are public property, the result of many years of archaeological research and the expenditure of millions of federal dollars. A federally sponsored mitigation program usually provides for the recovery of materials from archaeological sites, the analysis of recovered items, the publication and circulation of a final report, and the placement of collections in storage facilities for preservation, display, and future study. In the past, federal agencies gave little attention to the maintenance of collections once salvage programs were completed. Through the years, most collections have been stored free of charge by universities and museums. Inadequate funding and failing facilities now seriously hinder these institutions' ability to adequately care for collections. At the request of the Legacy Resource Management Program and under the umbrella of the Department of Defense,

inspections of all archaeological materials and associated records in the care of NAS North Island, Edwards Air Force Base, Fort Irwin, and MCAGCC Twentynine Palms were conducted by the U.S. Army Corps of Engineers, Technical Center of Expertise in Archaeological Curation and Collections Management (now a Mandatory Center of Expertise) from July 22, 1992, to October 19, 1992, and September 16-20, 1993. These inspections produced evidence documenting widespread deterioration and neglect of many of the Air Force, Army, and Navy archaeological collections.

FINDINGS

Physical Status of Facilities

1. Repository Adequacy: Collections in the care of NAS North Island, Edwards Air Force Base, Fort Irwin, and MCAGCC Twentynine Palms are presently curated in 17 repositories.

Installation/Satellite Repository

Naval Air Station, North Island

Installation Repository

California State University, Fullerton

California State University, Northridge

Natural History Museum of Los Angeles County

San Diego Museum of Man

San Diego State University

Southwest Museum

University of California, Los Angeles

Institute of Archaeology, University of California, Los Angeles

Edwards Air Force Base

Installation Repository

Antelope Valley College

San Bernardino County Museum

Fort Irwin

Installation Repository

Far Western Anthropological Research Group

Dames and Moore

Marine Corps Air-Ground Combat Center, Twentynine Palms

Joshua Tree National Monument

Statistical Research

None of the 17 facilities fulfill all of the standards mandated by 36 CFR Part 79 (Curation of Federally-Owned and Administered Archaeological Collections), a federal regulation that establishes professional standards for the management and care of all federal collections.

2. Environmental Controls: Environmental monitoring and adequate environmental control, which consist of stable temperature and humidity readings, are critical for the long-term preservation of collections. Only two of the repositories examined contain these types of controls. Most of the facilities are heated and air-conditioned, but temperature fluctuations and lack of humidity controlling devices provide for unstable storage environments.

3. Security: Fifty percent of the repositories meet the federal standards for the security of archaeological collections. Included in these standards are such measures as intrusion alarms, motion detectors, limited access to collections storage area, absence of windows in collections storage area, and locks on doors. Although all facilities were locked, there was one documented case of loss from unauthorized entry. Additionally, the isolated location of several facilities creates further security risks.

4. Fire Detection/Suppression: Only 12 of the repositories examined contain adequate fire detection and suppression systems, including smoke alarms, fire alarms, fire extinguishers, and a sprinkler system. Although not adequate protection, all facilities contain at least one fire extinguisher in the collections storage area. Because fire is a major hazard to any museum collection, strict prevention measures must be adhered to.

5. Pest Management: Pests play a major factor in the deterioration of archaeological collections. It is therefore imperative that repositories holding collections for long-term storage also contain adequate pest management programs that incorporate both monitoring and control. Only 50% of the repositories have rudimentary pest management programs, which usually consists of controlling rodents with traps, and chemical spraying for insects on a regular basis. The remainder of the collections storage areas deal with pest infestations on an as-needed basis.

Status of Artifacts

The NAS North Island, Edwards Air Force Base, Fort Irwin, and MCAGCC Twentynine Palms collections consists of approximately 2,176 ft³ of material. Only one of the facilities has properly prepared the federal archaeological materials for long-term curation using acid-free boxes and archival containers. Eleven of the repositories have properly cleaned, labeled, and sorted their collections.

Overall, the primary containers (boxes that house a group of artifacts) consist of various-sized acidic cardboard boxes, which are frequently overstacked, overpacked, compressed, torn, and dirty. Most primary containers have been labeled, although inconsistently and with basic, or minimal information.

The wide variety of inappropriate secondary containers are contributing to the deterioration of the many components of the collections. Secondary containers (containers that are directly within the primary container) observed include such things as sandwich bags, acidic paper bags, acidic cardboard cartons, small acidic cardboard and plastic boxes, artifacts packed in cotton and/or newspaper, plastic and glass vials, manila envelopes, wax paper bags, and the occasional archival-quality, zip-lock plastic bags.

The major prehistoric material classes in the NAS North Island, Edwards Air Force Base, Fort Irwin, and MCAGCC Twentynine Palms collections include lithics, shell, faunal remains, ceramics, botanical samples, and human skeletal remains. Also observed were glass and metal; leather, trade beads, coins, and medals were observed in lesser quantities.

Status of Human Skeletal Remains

A minimum number of 37 individuals are curated at nine repositories housing NAS North Island, Edwards Air Force Base, Fort Irwin, and MCAGCC Twentynine Palms collections. Additionally, an unknown number of individuals from one of the facilities have been sent to a separate repository where they are undergoing analysis. Complete rehabilitation (e.g., reboxing, rebagging, labeling) needs to be conducted in order to stabilize the remains, and a complete inventory is required for compliance with the Native American Graves Protection and Repatriation Act (P.L. 101-601).

Status of Documentation

The NAS North Island, Edwards Air Force Base, Fort Irwin, and MCAGCC Twentynine Palms records encompass approximately 245 linear feet. The records do not contain the full range of documentation classes that were originally created for each project (e.g., paper records, photographic records, maps and/or oversized documents, project reports). Archaeological materials usually are accompanied by a set of records, photographs, maps, reports, and field notes, some of which are lacking at each of the examined facilities. We could not determine if the records were missing or had never been created.

Minimal professional archival-quality practices were noted at only one of the 17 repositories. In most cases, photographic materials have not been isolated or stored in chemically inert sleeves. Maps and/or oversized documents are not being properly cared for at any of the repositories. In sum

records, which are an integral part of these collections, are receiving the worst treatment and are in the greatest danger. Corrective actions should be taken immediately.

Status of Repository Management Controls

Although over 50% of the repositories have accession records for collections from NAS North Island, Edwards Air Force Base, Fort Irwin, and MCAGCC Twentynine Palms, only nine of the 17 have written records of where their collections are located within the repositories. Only seven of the repositories have inventoried their collections within the last 10 years. Basic policy and procedure statements for artifact curation, records management, and deaccessioning are present at only seven of the curation facilities. Written policies regarding loan procedures are present at nine repositories. Six of the repositories maintain minimum standards for the acceptance of collections, whereas only two have field guidelines for the curation of archeological materials. Only one repository has a published guide to the archaeological material in their care. Thirteen of the 17 repositories employ some form of computer database management for their collections.

CORRECTIVE ACTIONS

It is imperative that a number of corrective measures take place in order to bring these collections, and the facilities housing them, into compliance with 36 CFR Part 79. Several general recommendations include the following.

1. Coalesce collections into one federally owned repository, or distribute them into existing facilities their state of origin and spend necessary funds to upgrade them.
2. Develop cooperative agreements with other agencies to share costs in building construction and collections rehabilitation.
3. Use archival quality containers to rebox and rebag existing collections.
4. Design and implement formal archives management programs.
5. Develop and enact consistent artifact inventory procedures.
6. Consider employing full-time curators to care for the archaeological collections and associated records.

CONCLUSIONS

Each recommendation may not be readily attainable. However, some action is necessary immediately as the collections are deteriorating in their current storage environments, and there are no long-term plans for curation of archaeological collections and associated records at any of the facilities. If not properly cared for, these federal collections will lose their educational and research value. Any improvements will more sufficiently preserve the collections and help insure that they will be useful to future generations.

EDITOR'S NOTE

All data contained in this report is current as of the date of the visit to the particular repository. During the interim between the completion of fieldwork for this project and the production of the final report, several drafts have been circulated to various individuals who have asked for the information. This report is the final version and all information contained herein should supercede all previous circulated copies.

ACKNOWLEDGMENTS

The entire staff of the Technical Center of Expertise in Archaeological Curation and Collections Management should be commended for their parts in the fieldwork and report editing that led to the completion of these curation-needs assessments. This study is the first real example of a regional approach to the problems surrounding archaeological curation. We are grateful to the following individuals for the time, effort, and contributions they made to the completion of the curation-needs assessments at the institutions/agencies listed below.

NAVAL AIR STATION, NORTH ISLAND, CALIFORNIA

Connie Cameron, California State University, Fullerton
Lynne Christenson, San Diego State University
Chris Coleman/Karen Wise, Natural History Museum of Los Angeles County
Roger Colten/Nancy Davis, University of California, Los Angeles, Institute of Archaeology
Ken Hedges, San Diego Museum of Man
George Kritzman, Southwest Museum
Mark Raab, California State University, Northridge
Andrew Yatzko, NAS North Island

EDWARDS AIR FORCE BASE, CALIFORNIA

Robin Laska, San Bernardino County Museum
Rick Norwood, Edwards Air Force Base
Roger Robinson, Antelope Valley College

MARINE CORPS AIR-GROUND COMBAT CENTER, TWENTYNINE PALMS, CALIFORNIA

Jeffery Altschul/Carol Ellick, Statistical Research
Rosie Pepito, Joshua Tree National Monument

FORT IRWIN

Walter Cassidy, Fort Irwin
Debbie Jones, Far Western Anthropological Research Group
Andrew York, Dames and Moore

1

INTRODUCTION

Naval Air Station, North Island, Fort Irwin, Edwards Air Force Base, and Marine Corps Air-Ground Combat Center, Twentynine Palms, are responsible for archaeological materials and archaeological documentation (archaeological collections) in 18 facilities in two states. This responsibility is mandated by the Antiquities Act (16 U.S.C. 431 et seq.), the National Historic Preservation Act, as amended (16 U.S.C. 470 et seq.), the Archaeological Resources Protection Act, as amended (16 U.S.C. 470aa et seq.), and 36 CFR Part 79, Curation of Federally-Owned and Administered Archeological Collections.

In 1990 the Native American Graves Protection and Repatriation Act (NAGPRA 25 U.S.C. 3001 et seq.) was enacted to identify Native American human remains, funerary objects, sacred objects, and objects of cultural patrimony in archaeological collections, and to foster communication between federal agencies and Indian Tribes, Native Alaskans, and Native Hawaiian organizations on the disposition of these remains and objects. All federal agencies are required to meet mandated deadlines for compliance with NAGPRA. A summary of unassociated funerary objects, sacred objects, and objects of cultural patrimony was to be completed by November 16, 1993. An inventory of human remains and associated funerary objects was to be completed by November 16, 1995.

In the Fall 1991, the St. Louis District submitted a proposal to the Legacy Resource Management Program outlining a regional strategy for performing curation needs assessments on a sample of Department of Defense archaeological collections. The regional strategy included performing curation needs assessments for four-military installations and satellite repositories in southern California that were known to have extensive archaeological collections. The proposal was funded in the Spring of 1992. The proposal included a work plan containing the following.

1. Professional and technical services for the inspection and inventory of archaeological collections in selected repositories.
2. A final report detailing the results of the evaluation includes the following.
 - a. Physical description of all repository facilities.
 - b. Physical description of all recovered archaeological materials.
 - c. Physical description of all associated documentation collections.
 - d. Recommendations for compliance with 36 CFR Part 79.
3. A master bibliography of reports associated with archaeological investigations at NAS North Island, Fort Irwin, Edwards Air Force Base, and MCAGCC Twentynine Palms.

As part of a curation-needs assessment the St. Louis District visits each installation to examine any reports, records, or inventory data associated with the archaeological collections and develops an annotated bibliography of reports, that includes a list of the associated collections and their present location.

Methods

Nineteen separate repositories including three installation repositories, were evaluated during the fieldwork. Each repository was visited as follows:

July 23, 1992—Fort Irwin
July 27 and 29, 1992—NAS North Island
July 28, 1992—San Diego State University (SDSU)
July 30, 1992—San Diego Museum of Man (SDMoM)
August 3, 1992—California State University (CSU), Northridge
August 6, 1992—Southwest Museum
August 11, 1992—Edwards Air Force Base
August 17, 1992—University of California, Los Angeles (UCLA)
August 17 and 18, 1992—UCLA, Institute of Archaeology
August 19, 1992—CSU Fullerton
August 21, 1992—Joshua Tree National Monument
August 26, 1992—San Bernardino County Museum (SBCM)
September 9, 1992—Statistical Research, Inc. (SRI)
September 15, 1992 and December 15, 1993—Antelope Valley College (AVC)
October 19, 1992—Natural History Museum of Los Angeles County (NHMLAC)
September 15, 1993—Dames and Moore
September 16, 17, and 20, 1993—Far Western Anthropological Research Groups (FWARG)

Repository summaries generated from the aforementioned visits are arranged alphabetically in the report. Also Twentynine Palms was not assessed by St. Louis District personnel; however, an installation summary is provided in the report.

Pre-Fieldwork Investigation

The assessment of each facility's compliance with 36 CFR Part 79 included the following:

1. A visit to each installation to examine all reports, records, and inventory data associated with NAS North Island, Edwards Air Force Base, Fort Irwin, and MCAGCC Twentynine Palms collections and to compile an annotated bibliography of project reports.
2. Initial contacts were made with all personnel and agencies with information about NAS North Island, Edwards Air Force Base, Fort Irwin, and MCAGCC Twentynine Palms archaeological collections.

3. From these initial contacts, a list was created of all archaeological contractors and repositories associated with the recovery and curation of materials from these four installations.

Field Inspection and Assessment of Repositories and Collections

A survey questionnaire was completed for every facility involved with the curation of archaeological collections associated with NAS North Island, Edwards Air Force Base, Fort Irwin, and MCAGCC Twentynine Palms. The questionnaire contained information on the repositories and the archaeological collections.

A building evaluation form was completed for every facility and satellite repository involved with the curation of archaeological collections associated with these four installations. We collected information on structural adequacy, space use, environmental controls, security, fire detection/suppression, pest management, and utilities. These data permitted the determination of whether or not the facility was in compliance with the physical requirements for repositories as specified in 36 CFR Part 79.

A physical examination was performed of all project and site reports, administrative files, field records, curation records, electronic media, and photographic records to determine their presence or absence, the total length of each type of record, the physical condition of the containers and the records, and the overall condition of the storage environment. The status of the facilities compliance with 36 CFR Part 79 is based on this research.

A physical examination was conducted of all archaeological collections. The assessment included the (a) primary and secondary containers, (b) the degree of container labeling, (c) the extent of laboratory processing, (d) the material classes included in each collection, and (e) the condition of any human skeletal remains. Primary containers hold an individual artifact or a group of artifacts. These include acidic and acid-free cardboard boxes, cardboard, metal, or wooden trays, and, wood and metal drawers. Secondary containers are located within the primary containers and they can include acidic paper bags, plastic sandwich bags, plastic zip-lock bags, glass jars, film vials, aluminum foil, and small acidic and acid-free cardboard boxes.

NAGPRA-Compliance Assessment

To satisfy the requirements of NAGPRA, the following tasks need to be performed at each repository with NAS North Island, Edwards Air Force Base, Fort Irwin, and MCAGCC Twentynine Palms archaeological collections.

1. Conduct a records search to identify the location of human remains, associated and unassociated funerary objects, objects of cultural patrimony, and sacred objects.
2. Perform a search of the archaeological materials to document human skeletal remains, associated and unassociated funerary objects, objects of cultural patrimony, and sacred objects.

3. Conduct an analysis of human skeletal remains that includes (a) a detailed skeletal inventory listing elements present, their completeness, and condition, (b) measurements of long bones and crania sufficient to provide basic description of physical characteristics, stature, and morphology of the skeletal remains, (c) estimates of age and sex, and (d) observations of any pathological conditions, cultural modifications, and evidence of life activities and trauma that might provide information to determine the cultural affiliation of the remains or the context from which they were recovered.
4. Produce summary and inventory reports for each installation.

Report Preparation

The report includes descriptions of the facilities, estimates of the size of each collection, and an assessment of their condition. We also include recommendations for the rehabilitation of the facilities and/or the collections, according to 36 CFR Part 79.

Chapter Synopsis

Chapters 2 through 19 discuss the general state of archaeological collections from NAS North Island, Edwards Air Force Base, Fort Irwin, and MCAGCC Twentynine Palms. Chapter 20 provides an overall findings summary of the assessments.

2

FORT IRWIN, CALIFORNIA

INSTALLATION SUMMARY

(1) Volume of Archaeological Materials: 1,036 ft³

On Installation: 89 ft³

Off Installation: 947 ft³ (FWARG)

Compliance Status: Archaeological materials require partial rehabilitation to comply with existing federal standards. Artifacts should be placed in acid-free containers and a proper storage facility should be provided to accommodate the oversized artifacts.

(2) Linear Feet of Records: 127 linear feet

On Installation: Unknown

Off Installation: 113 linear feet (FWARG); 14 linear feet (Dames and Moore)

Compliance Status: Documentation requires partial rehabilitation to comply with existing federal guidelines and standards for archival preservation. All associated records should be duplicated on acid-free paper or microfilm and stored in acid-free folders, envelopes, and archival-quality photographic sleeves. A duplicate copy should be stored in a separate and fire-safe location.

(3) Human Skeletal Remains: No known human skeletal remains exist from Fort Irwin.

(4) Status of Curation Funding: Unknown

INTRODUCTION

DATE OF VISIT: 23 July 1992

PERSON CONTACTED: Walter Cassidy

An estimated 89 ft³ of prehistoric, ground stone from numerous projects are currently stored at the Goldstone NASA Deep Space Center, a vacated facility approximately 17 miles from Mr. Cassidy's office on Fort Irwin (Table 1).

Table 1.
Groundstone Stored at Fort Irwin

Site Number	Ft ³	Project/Location
SBR-4453	4	No Name Basin
SBR-4454	4	No Name West
SBR-4483	14	No Name Basin
SBR-4499	2	No Name West
SBR-4458	1	No Name Basin
SBR-4520	7	Bow Willow Wash
SBR-4786	8	Bow Willow Quarry
SBR-4796	2	—
SBR-4457	4	No Name West
SBR-4474	2	No Name West
SBR-4504	1	No Name West
SBR-ISO	1	Gallant Eagle Survey
SBR-4990	1	N. of Red Pass Lake
SBR-4966	9	Nelson Lake Wash
SBR-3831	1	Drinkwater Springs
SBR-4501	2	No Name West
SBR-4583	1	No Name West
SBR-2659	4	Bitter Springs-Tiefert
SBR-4871	1	Langford Well Area
SBR-5368	2	Tiefert Basin
SBR-5377	1	Tiefert Basin
SBR-5380	1	Tiefert Basin
SBR-5367	1	Tiefert Basin
SBR-5373	1	Tiefert Basin
SBR-5365	1	Bow Willow Wash
SBR-5382	2	—
SBR-4204	3	Bow Willow Quarry
SBR-3328	1	—
SBR-2211	1	Garlic Springs
SBR-5250	1	Tiefert Basin
SBR-5247	1	Tiefert Basin
SBR-5534	1	Tiefert Basin
SBR-5532	1	Tiefert Basin
SBR-5535	1	Tiefert Basin
—	1	—
Total	89	

At the time of the assessment, approximately 350 ft³ of artifacts and documentation from the Bow Willow Wash project were also stored at this facility. Shortly thereafter, these collections were removed from Fort Irwin as part of a rehabilitation project contracted to Far Western Anthropological Research Group (FWARG), Davis, California. All archaeological collections produced from Fort Irwin projects, except oversized groundstone, were subsequently moved to Davis, California, for re-cataloging. Documentation from several archaeological projects conducted on Fort Irwin are stored at Dames and Moore.

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Bergin, Kathleen, and Claude Warren

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3
**NAVAL AIR STATION, NORTH ISLAND,
CALIFORNIA**

INSTALLATION SUMMARY

(1) Volume of Archaeological Materials: 1,061 ft³

On Installation: 108 ft³

Off Installation: 187.5 ft³ (CSU Fullerton); 68.5 ft³ (CSU Northridge); 60 ft³ (NHMLAC); 27 ft³ (SDMoM); 6 ft³ (Southwest Museum); 15 ft³ (UCLA); 576 ft³ (UCLA Institute of Archaeology); 13 ft³ (SDSU)

Compliance Status: All collections require at least partial rehabilitation to comply with existing federal guidelines and standards for curation.

(2) Linear Feet of Records: 47 linear feet

On Installation: 20 linear feet

Off Installation: 15 linear feet (CSU Northridge); 1 linear foot (NHMLAC); 0.5 linear feet (SDMoM); 4 linear feet (SDSU); 0.5 linear feet (UCLA); 9 linear feet (UCLA Institute of Archaeology).

Compliance Status: Documentation requires complete rehabilitation to comply with existing federal guidelines and standards for archival preservation. All associated records should be duplicated on acid-free paper or microfilm and stored in acid-free folders, envelopes, or archival quality photographic sleeves. A duplicate copy of all associated records should be stored in a separate and safe location.

(3) Human Skeletal Remains: Skeletal remains minimally representing 36 individuals are included in the Naval Air Station North Island collections.

On Installation: 3 individuals

Off Installation: 7 individuals (CSU Fullerton); 5 individuals (NHMLAC); 13 individuals (SDMoM); 7 ft³ (SDSU); 3 individuals (Southwest Museum); 4 individuals (UCLA); 1 individual (UCLA Institute of Archaeology).

(4) Status of Curation Funding: Currently no funding is available for the curation of archaeological collections recovered from Naval Air Station, North Island.

INTRODUCTION

DATE OF VISIT: July 27 and 29, 1992

PERSON CONTACTED: Andrew Yatsko

Approximately 108 ft³ of prehistoric archaeological materials generated by four separate archaeological projects are stored at NAS, North Island. Three collections—those recovered by TMI Environmental (1988), the University of California, Riverside (1965), and the sand-dune burial recovered by Andrew Yatsko—are relatively limited. They comprise approximately 8 ft³ of material. The fourth collection from the San Diego Mesa College Project, consists of 90 boxes of varying sizes and measures approximately 100 ft³. During our visit, we examined a sample consisting of 21 of 96 boxes. An additional 20 linear feet of documentation and reports, including records generated by a 1991 no-collection survey by TMI Environmental, were also present. Archaeological materials in the North Island collections and include prehistoric chipped stone, shell, soil samples, botanical remains, ceramics, faunal remains, human skeletal remains, historic glass, metal, botanical, and leather items.

REPOSITORY

The archaeological repository at the NAS North Island is located in the Staff Civil Engineer Building (Building 3). Archaeological materials are stored in two locations within the facility. All associated documentation is stored in the base archaeologist's office.

Archaeological Material Storage Area 1—Hallway Closet

This small second floor closet is approximately 25 ft². It is located across the hall from the office of the base archaeologist. The TMI Environmental collection, the University of California, Riverside, collection, and the sand dune burial are stored here.

Archaeological Material Storage Area 2—Storage Room within the Carpenter's Shop

This 20 ft² room is located within the carpenter's shop of Building 3. The large Mesa College collection is stored here. This area also functions as storage for miscellaneous field equipment and office furniture.

Structural Adequacy

Archaeological Material Storage Area 1—Hallway Closet

Building 3 was constructed in 1918 and is now on the National Register of Historic Places. The hallway closet has concrete walls and ceiling and a finished hardwood floor. There are no windows and only one single-panel wooden-louvered door exists on the west wall. This area is filled to

capacity and does not meet any of the federal requirements for the curation of archaeological collections.

Archaeological Material Storage Area 2—Storage Room within Carpenter's Shop

This area is also part of the 1918 structure. The storage room is situated within the Carpenter's Shop which is constructed of corrugated metal and steel. The ceiling and interior walls of the storage area are covered with plasterboard and the concrete foundation is covered with tile. Although there are several windows in the carpenter's shop, no windows exist in the storage area. There is a single wood panel door on the east wall of the archaeological material storage area. Because the storage space is filled with field equipment, office furniture, and personal items, only a small percentage of the total available space is dedicated to archaeological material storage. The storage space does not meet any of the requirements for curation.

Environment

Archaeological Material Storage Area 1—Hallway Closet

Environmental monitors and controls are nonexistent in the hallway closet storage area. Major deficiencies include the lack of heating, air conditioning, and humidity control systems. Environmental fluctuations cannot be attenuated. Lighting is provided by one covered incandescent bulb.

Archaeological Material Storage Area 2—Storage Room within Carpenter's Shop

There are no temperature or humidity controls. Lighting is provided by several fluorescent tubes, one of which was not working properly.

Pest Management

Archaeological Material Storage Area 1—Hallway Closet

No integrated pest management program exists. Although no evidence of pest infestation was observed during our visit, Mr. Yatsko mentioned that there had been a problem with ants.

Archaeological Material Storage Area 2—Storage Room within Carpenter's Shop

There is no integrated pest management program.

Security

Archaeological Material Storage Area 1—Hallway Closet

No security system exists other than a key lock in the door. However, the security requirements of

the Naval base and the vigilance of the base archaeologist significantly reduce the possibility of collection loss through theft or neglect.

Archaeological Material Storage Area 2—Storage Room within Carpenter's Shop

A combination padlock on the door constitutes the only security measure (Figure 1). Mr. Yatsko, however, is the only one who knows the combination of the lock. The area is also secured through controlled access.



Figure 1. Security measures present on door to Archaeological Material Storage Area 2.

Fire Detection and Suppression Systems

Archaeological Material Storage Area 1—Hallway Closet

No fire detection system is in place. However, fire extinguishers are located in the hallway outside of the closet storage.

Archaeological Material Storage Area 2—Storage Room within Carpenter's Shop

No fire detection system is in place for this storage area and the only means of fire suppression exists outside the storage area in the form of fire extinguishers.

ARCHAEOLOGICAL MATERIAL STORAGE

Storage Units

Archaeological Material Storage Area 1—Hallway Closet

The three small collections (TMI Environmental, University of California, Riverside, and sand dune

burial) stored in the hallway closet are kept on unsealed wooden shelving units measuring approximately 6.5 ft by 2 ft by 1.5 ft (length, width, height; Figure 2). There are six shelving units and a total of 33 individual shelves.



Figure 2. Shelving units used in Archaeological Material Storage Area 1.

Archaeological Material Storage Area 2—Storage Room within Carpenter's Shop

Three types of storage units house the Mesa College collection. Some are stored on top of and within a homemade, unsealed, wooden shelving unit. A small portion is stored in a two-door enameled-metal cabinet. Most of the collection is stacked on the floor. The collections stored on top of the wooden shelving unit and/or on the floor are stacked at least three boxes high.

Primary Containers

Archaeological Material Storage Area 1—Hallway Closet

Five acidic, folded-top cardboard boxes of various sizes and one acidic, telescoping-lid box serve as primary containers for collections stored in the hall closet. The exteriors of five of the six boxes are directly labeled in marker with site number, container number, and/or provenience information.

Archaeological Material Storage Area 2—Storage Room within Carpenter's Shop

All of the primary containers consist of various sized acidic cardboard boxes with folded-tops that were taped shut with strapping tape. All are directly labeled with marker and include container number and item number information. Fifty percent of the boxes exhibit container damage; 25 percent are over packed, and 25 percent are compressed. Additionally, one box has been punctured.

Secondary Containers

Archaeological Material Storage Area 1—Hallway Closet

Secondary containers consist of acidic paper bags with folded tops; a small quantity of two-mil plastic zip-lock bags; material wrapped in toilet paper; and material protected by packing peanuts, but curated loose in boxes. Only a minority of the secondary containers examined were labeled. Information was directly applied in pen and consists of site number, site name, date, and container contents.

Archaeological Material Storage Area 2—Storage Room within Carpenter's Shop

Most of the secondary containers consist of pieces of acidic brown paper wrapped loosely around artifacts. However, acidic paper bags with folded tops; small acidic boxes; two-mil plastic, zip-lock bags; miscellaneous vials with lids; manila envelopes; artifacts wrapped in acidic paper towels; and wax paper bags are also present. Regardless of the secondary container, all boxes contained packing peanuts. Few of the secondary containers are labeled. Those that have been are directly labeled in pen or pencil with catalog number information. One box contains completed artifact cards glued to secondary containers (manila envelopes). These cards include catalog number, material class, and object description. The security of the wrapped items is poor because the items tend to fall out of their wrappers when handled.

Laboratory Processing and Labeling

Archaeological Material Storage Area 1—Hallway Closet

All of the artifacts have been cleaned and the majority of the materials, except the soil samples and some shell, have been directly labeled in India ink. Most items have been sorted according to site number and material class.

Archaeological Material Storage Area 2—Storage Room within Carpenter's Shop

All the artifacts have been cleaned, labeled, and sorted in the same manner as those stored in archaeological material storage area 1.

HUMAN SKELETAL REMAINS

Three human burials are included in the collection from NAS North Island, one each from Mesa

College, Environmental Services (1988) project, and the sand dune burial recovered by Mr. Yatsko. All remains, most of which are in good condition, have been cleaned and partially sorted, but none have been labeled.

RECORDS STORAGE

Approximately 20 linear feet of documentation associated with three of the four archaeological collections stored at NAS North Island base repository were identified and evaluated. Records exist for the Mesa College Project (1975–1980), and the two TMI Environmental Services Collections (1988, 1991)(Table 2). Associated records for the sand dune burial recovered by Mr. Yatsko and for the collection held by the University of California, Riverside, were not included with the artifacts when they were transferred to the Naval Air Station. It is possible that associated documentation was never generated for these collections. All documentation is stored on two wooden shelves (Figure 3) and in a four-drawer metal file cabinet in the office of the base archaeologist (Building 3). The office area is not heated or air conditioned, a condition that is unacceptable for the long-term storage and preservation of these materials. In addition, a duplicate security/archival copy of the records has not been produced and stored in a separate location. Loss of any original documentation significantly reduces the research value of the associated archaeological materials.

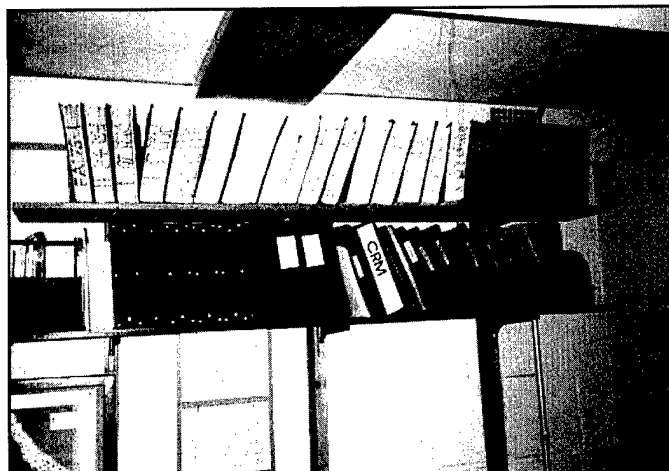


Figure 3. Storage units for associated records.

Table 2. Summary of Associated Documentation housed at
NAS North Island

Project	Paper (l.f.)	Photographic	Maps	Reports	Total
Mesa College (1975-1980)	10.00	—	—	—	10.00
TMI Environmental (1988)	0.08	—	—	—	0.08
TMI Environmental (1991)	2.00	—	—	—	2.00
Miscellaneous Projects	—	—	—	8.00	8.00
Total	12.08	—	—	8.00	20.08

Note: l.f. refers to linear feet

Paper Records***Mesa College Project (1975–1980)***

Approximately ten linear feet of paper records are associated with the Mesa College Project. Included are administrative records, artifact cards, typed field notes, and site records. Typed field notes and site records are maintained in three-ring binders and are stored on wooden shelves. The remaining paper documentation is filed in acidic manila folders inside a metal file cabinet. This cabinet also contains artifact cards, which are stored in an acidic cardboard box within the cabinet.

TMI Environmental Services Collection (1988)

There is less than one linear inch of associated records for this collection, that includes site record evaluation forms and a burial form. The latter documentation was located in the box containing the skeleton.

TMI Environmental Services Collection (1991)

Two linear feet of paper records associated with the collection consist of archaeological site records and site maps, all of which are stored in three-ring binders on wooden shelves or in acidic paper file folders within a metal file cabinet.

Photographic Records***Mesa College Project (1975–1980)***

Approximately one linear foot of photographic records consisting of slides, black and white photographs, negatives, and contact print sheets exists and are stored in a metal file cabinet. Slides are stored in their original plastic containers, some photographs and negatives are still stored in the original processing sleeves, and contact sheets are pasted to acidic manila folders. Most negatives are stored in non-archival sleeves within a three-ring plastic binder; some are stored in non-archival sleeves within acidic paper envelopes.

Maps and/or Oversized Documents

The only collection that contained field maps was the Mesa College Project. The original field maps for this collection were not examined because of time constraints. However, we were able to make a cursory examination that revealed that the maps are folded and stored with other documentation, rather than stored flat in map cases.

Reports

Miscellaneous documentation and reports occupy an additional eight linear feet of space on the wooden shelves in Mr. Yatsko's office.

COLLECTIONS MANAGEMENT STANDARDS

Registration Procedures

Accession Files

NAS North Island does not maintain accession files.

Location Identification

The location of archaeological materials and records are not kept by NAS North Island.

Cross-indexed files

Archaeological files are not cross indexed.

Published Guide to Collections

A published guide to the collections does not exist.

Site Record Administration

Archaeological sites are recorded using the Smithsonian site-numbering system.

Computerized Database Management

Archaeological information is maintained in a computer database.

Written Policies and Procedures***Minimum Standards for Acceptance***

No minimum standards exist for the acceptance of archaeological collections.

Curation Policy

NAS North Island does not have a curation policy.

Records Management Policy

NAS North Island does not have a records management policy.

Field Curation Guidelines

No written guidelines exist for researchers leaving collections. However, all artifacts must be cataloged and boxed before leaving San Clemente Island.

Loan Procedures

No written loan policy exists. However, Mr. Yatsko requires written notification of requests for loans.

Deaccessioning Policy

NAS North Island does not have a curation policy deaccessioning policy.

Inventory Policy

NAS North Island does not have an inventory policy.

Latest Collection Inventory

Collections were inventoried in 1990.

Curation Personnel

There is no full-time curator for the archaeological collections maintained at the NAS North Island. Curatorial responsibilities have been assigned to the base archaeologist.

Curation Financing

Funding for the curation of NAS North Island collections has not occurred.

Access To Collections

Access to collections stored on installation is controlled by the base archaeologist. Requests for access must be made through him.

Future Plans

NAS North Island plans to turn the collections over to a long-term repository as soon as a satisfactory facility becomes available. One possible solution is the renovation of a 60,000 ft² building owned by the Navy. This building was used previously as an electronics laboratory and, as such, has over 20,000 ft² of environmentally controlled space.

COMMENTS

1. Although collection damage was not evident at the time of our visit, the storage conditions under which archaeological materials and records are maintained will lead to significant deterioration and the eventual loss of these materials and records. The closet and storage room where materials are now stored do not meet federal standards for curation and are inappropriate storage facilities. Specifically, this repository does not have adequate environmental protection, fire detection and suppression systems, or pest management controls.
2. Archaeological materials are not curated to federal guidelines and standards for archaeological collections. Archaeological materials are stored in acidic containers with poor security.
3. None of the associated records have been archivally duplicated for storage in a secure location.
4. Labels on all boxes have been applied directly, a practice not in compliance with archival standards.

RECOMMENDATIONS

1. A fire detection/suppression systems should be installed in both repositories if collections are to remain there.
2. Shelving should be installed in Archaeological Material Storage Area 2 in order to move the collections off the floor.
3. All materials should be rebagged in archival-quality four-mil plastic zip-lock polyethylene bags; interior labels made from spun-bonded polyethylene paper (e.g. Nalgene polypaper) should be lettered in India ink and included in each polyethylene bag. bags and acid-free boxes.

4. Rebox archaeological material in acid-free containers and apply adhesive polyethylene label holders with acid-free paper labels to each.
5. Human skeletal remains should be identified and their disposition determined in accordance with the requirements of the Native American Graves Protection and Repatriation Act.
6. All recovered funerary objects (associated and unassociated), sacred objects, and objects of cultural patrimony as defined by NAGPRA, should be identified and their disposition determined.
7. All associated records should be duplicated on acid-free paper.
8. All documentation should be stored in acid-free folders, envelopes, and archival-quality photographic sleeves and then moved to a separate, secure location.

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4

EDWARDS AIR FORCE BASE, CALIFORNIA

INSTALLATION SUMMARY

(1) Volume of Archaeological Materials: 76.5 ft³

On Installation: 60.5 ft³

Off Installation: 15 ft³ (AVC); 1 ft³ (SBCM)

Compliance Status: Collections require partial rehabilitation to comply with existing federal guidelines and standards for curation. All materials need to be reboxed and rebagged in archival-quality containers.

(2) Linear Feet of Records: 66.3 linear feet

On Installation: 65.5 linear feet

Off Installation: 0.5 linear feet (AVC); 0.3 linear feet (SBCM)

Compliance Status: Associated records require complete rehabilitation to comply with existing federal guidelines and standards for archival preservation. All paper records need to be duplicated and curated in acid-free folders, photographic records need to be stored in archival quality containers, and copies of each should be stored at a separate and safe location.

(3) Human Skeletal Remains: Skeletal remains from one individual recovered from Edwards Air Force Base are curated in the installation repository.

(4) Status of Curation Funding: Curation is financed through Environmental Compliance and Protection funds that appear as a line item in the annual budget.

INTRODUCTION

DATE OF VISIT: August 11, 1992

PERSON CONTACTED: Rick Norwood

Approximately 60 ft³ of prehistoric and historic artifacts recovered from Edwards Air Force Base and 65.5 linear feet of associated records are stored in Building 1632A. Collections are stored by project rather than by individual site number (Table 3). Materials include prehistoric charcoal, botanical, faunal, chipped stone, shell, soil samples, and human skeletal remains in addition to historic ceramics, glass, metal, wood, coins, and plastic.

Table 3. Volume of Archaeological Materials housed at Edwards Air Force Base

Project/Collection Name	Year	Contractor	Ft ³
no data	1973	AVAS ^a	1.00
East Range	1984	Intermountain Research	2.00
KER-2060	1985	U.S. Air Force	2.00
All-American Pipeline	1986	NMSU ^b	20.00
Farm Drop Zone	1988	RECON	6.00
SB Water	1988	LSA	1.00
KER 1830	1988?	No data	3.25
Leach Lake	1988	no data	0.50
Homesteads	1990	U.S. Air Force	2.00
Piute Ponds	1990	RECON	1.00
KER 1922	no data	no data	0.50
Gem Hills/Bissel Farm	no data	no data	0.25
Tropico Farm	no data	no data	0.25
EAFB Collection	no data	no data	0.75
KER 1248/2135	no data	no data	1.00
Paleo Overview	no data	SBCM ^c	0.25
Misc. Historic	no data	no data	18.75
Total			60.5

^aAVAS = Antelope Valley Archaeological Survey; ^bNMSU = New Mexico State University, ^cSBCM = San Bernardino County Museum

Human skeletal remains representing one individual have been recovered from site KER-2060, and the remains are stored with the archaeological collections on Edwards Air Force Base. Rick Norwood, the base archaeologist, stated that a Mr. A. Van Dusen Eggers may have an additional cremation in his possession at the time of our assessment. Mr. Van Dusen Eggers has not responded to inquiries by Mr. Norwood.

REPOSITORY

Archaeological collections recovered from Edwards Air Force Base are stored in the office of Mr. Norwood, located in Building 1632A. The building is along the flight line and contains offices, a staff library, a kitchen area, and restrooms.

Structural Adequacy

The office in which the Edwards Air Force Base collections are located is 20 ft by 14 ft. It has a concrete slab foundation covered with tile, a roof covered with sheet asphalt, and a suspended acoustical tile ceiling. Exterior walls are constructed of corrugated metal with steel supports, whereas interior walls are covered with plasterboard. The office contains no windows. A single panel door leads to other offices. The electrical and plumbing systems date to the mid 1960s. This area functions well as office space.

Environment

Temperature in Building 1632A is controlled by a central heating and air conditioning system, but humidity levels are not monitored or controlled. There are no dust filters for the environmental controls. Lighting is provided by fluorescent tubes covered with nonultraviolet plastic shields. The entire building is regularly maintained by a janitorial service under contract to Edwards Air Force Base.

Pest Management

There is a partial program for pest management in the building, including the archaeological material storage area. As there are many rare and endangered rodent species in the area, live traps are used. Mr. Norwood stated that there have not been many problems with insect infestation.

Security

Although the building is locked after hours and a guard is posted on the road at the perimeter of the base, the room containing Edwards Air Force Base collections remains unlocked.

Fire Detection and Suppression Systems

A manual fire alarm is the only device for notifying individuals in the building of a fire. One fire extinguisher is locked in a hallway closet and is the only fire deterrent present.

ARCHAEOLOGICAL MATERIAL STORAGE

Storage Units

Most of the Edwards Air Force Base collections are stored in boxes stacked in the middle of the room (Figure 4) or under a table located along a wall. Type specimens and isolated finds are stored in an enameled metal, seven-drawer filing cabinet measuring 2 by 2.5 by 4.5 feet (length, width, height) situated along the back wall of the office. Some smaller artifacts are temporarily stored in 14 beer flats stacked on top of the filing cabinet.

Primary Containers

Three types of primary containers are used to store the Edwards Air Force Base collections. Fifty-five 1ft³ acidic cardboard filing boxes with telescoping lids are the primary containers for most of the materials. Additionally, metal drawers in a seven-drawer filing cabinet contain the type specimens. Fourteen standard size beer flats, with additional flats used for lids, temporarily hold the smaller artifacts.

The 1ft³ boxes contain adhesive labels written in marker listing box number, site number, and occasionally site name. The drawers of the filing cabinet contain acidic paper tags directly labeled and inserted into metal label holders. Label information consists of artifact type written in black marker and/or ink. Adhesive labels written in marker and/or ink are affixed to the beer flats. Label information includes site name, site number, box number, and contents.

Secondary Containers

Secondary containers consist of a wide variety of materials, including two-mil zip-lock plastic bags, acidic paper bags, open plastic bags, acidic paper envelopes, plastic, cardboard, and glass vials. We also observed several artifacts wrapped and/or padded in newspaper. Many artifacts, especially



Figure 4. View of Edwards Air Force Base archaeological collections.

historic materials, are stored loose in the box. Ninety-seven percent of the secondary containers are either directly labeled with black marker or include acidic paper tags labeled in pen and/or pencil. Label information consists of survey name, date, site number, number of artifacts, description of artifacts, location, topographic map name, county, collector initials, catalog number and/or an Isocat number (a tracking number used by the repository).

Laboratory Processing and Labeling

Most of the archaeological materials examined are clean. Sixty-nine percent are labeled directly with site number, catalog number, and/or Isocat number in India ink, and 77% are sorted by site number and material class. Three boxes contain catalog lists that were typed or handwritten on acidic paper.

HUMAN SKELETAL REMAINS

The remains of one individual were recovered from KER-2060 in 1985 and are included in the Edwards Air Force Base collections. Elements represented include a partial skull, ribs, vertebrae, innominates, long bones, hands and feet, scapulae and clavicles. Although structurally in good condition, none of the remains are labeled and some of the long bones have been glued together.

RECORDS STORAGE

Approximately 65.5 linear feet of associated records, including photographs, maps, and reports, are stored in Building (Table 4).

Paper Records

Eighty percent of the paper records are stored in standard metal filing cabinets located in the office/archaeological material storage area and the office library. The remaining 20% are stored in three acidic cardboard records boxes located in the archaeological material storage area under a table. Most of the paper records are in acidic manila folders and have not been archivally processed. Paper records appear to be arranged by project and/or site number. None of the paper records have been archivally duplicated. However, three copies of the site records have been produced. One copy remains at Edwards Air Force Base, one the other is sent to the San Bernardino Information Center, and one is sent to the State Historic Preservation Office in Sacramento.

Table 4. Types of Associated Documentation in Linear Feet at Edwards Air Force Base

Documentation Type	l.f.
Paper Records	29.0
Photographic Records	1.5
Reports	35.0
Total	65.5

Note: l.f. refers to linear feet

Photographic Records

The 1.5 linear feet of photographic records are stored in a variety of containers. Slides are contained in archival sleeves that have been inserted into five plastic three-ring binders. Photographic prints are stored both with the paper records and in acidic envelopes. Negatives are contained in non-archival glassine sleeves and non-archival plastic sleeves. Large aerial photographs are stored flat in metal map drawers. For security, Mr. Norwood has a duplicate set of photographic prints stored at his home.

Reports

The assessment team recorded 35 linear feet of project reports. Approximately 11 linear feet are stored in the staff library, 13 linear feet are stored on shelves in the archaeological material storage area and 11 linear feet are on shelves in the hallway between various offices.

COLLECTIONS MANAGEMENT STANDARDS

Registration Procedures

Accession Files

All materials are assigned an Isocat (artifact specific) number that includes information referring to case number, classifier (e.g. prehistoric, historic, paleontological, ecological), material class, specific type of material, technical class, functional type, description, remarks, original catalog number, location (e.g. box, drawer), Edwards Air Force Base site number, date collected, project file number, how the site was recorded (e.g. site form), artifact count, county, Universal Transverse Mercator locations, and elevation.

Location Identification

The location of the collection within the repository is identified by box number in the Isocat file.

Cross-indexed files

There are two major types of files. The Isocat database file contains information on in-house projects, isolated finds, and small projects. Data from large projects are kept on a separate DBASE database. At present, the files are cross-indexed by specific database and site number.

Published Guide to Collections

A published guide to the collections does not exist at this time.

Site Record Administration

The Smithsonian trinomial site-numbering system is used as well as the Edwards Air Force Base system (e.g. EAFB site number). The base is attempting to use the EAFB system exclusively in order to avoid confusion over site numbers.

Computerized Database Management

A DBASE database program is in use.

Written Policies and Procedures

Minimum Standards for Acceptance

At the time of our visit there were no written minimum standards for the acceptance of collections. Since then, Mr. Norwood has developed interim curation guidelines.

Curation Policy

Same as above.

Records Management Policy

There is a policy on how site forms should be completed, how to use the notebook files, which consist of hard copies of site and catalog records, and how to use a new recording system that is based on a Geographic Information System.

Field Curation Guidelines

Loose guidelines have been incorporated into contracts explaining how the material will be curated upon delivery to Edwards Air Force Base.

Loan Procedures

Most loan requests are approved if made by qualified institutions. A letter of intent requesting the loan is required, and a loan form must be completed prior to any collections or portions of a collection being removed from the base.

Deaccessioning Policy

The base does not have a deaccessioning policy. However, when items are deaccessioned, a specific code is entered into the Isocat system designating that items have been deaccessioned.

Inventory Policy

A DBASE program, or "data dictionary," exists that explains how to obtain site numbers and how to record them.

Latest Collection Inventory

A complete collections inventory has never been produced. However, whenever a collection or portion of a collection is loaned for research, an inventory of that material is made.

Curation Personnel

There is no full-time curator of archaeological collections. Mr. Norwood is responsible for the archaeological collections stored at Edward Air Force Base. His primary responsibilities, however, are cultural resource management and compliance with Sections 106 and 110, and the Native American Graves Protection and Repatriation Act.

Curation Financing

Curation is financed through Environmental Compliance and Protection funds that are a line item in the yearly budget.

Access to Collections

Access to collections is controlled by Mr. Norwood. Other staff members do not have access to collections, unless they first contact Mr. Norwood. When Mr. Norwood is not available, he gives his key to the in-house contractor.

Future Plans

Mr. Norwood views his primary responsibilities with respect to the collection as research, education, and exhibits. Plans are being made to design a curation facility, purchase equipment, and develop an ongoing curation program. In addition to a curation facility, Mr. Norwood feels that in order to meet the anticipated storage and handling requirements for the next 20 years, a full-time curator for collections is required.

COMMENTS

1. Many historic ceramic, glass and metal items are stored loose in boxes. This practice is detrimental to the collections and to any researcher who must search through the box.
2. The unlabeled human remains may contribute to the disassociation of the elements.
3. One fire alarm is inadequate for the entire building.

RECOMMENDATIONS

1. All archaeological materials should be inventoried, reboxed in acid-free containers, rebagged in four-mil, zip-lock polyethylene bags, and labeled legibly with indelible ink.
2. Additional fire extinguishers and/or a sprinkler system should be installed in Building 1632A.
3. A system to monitor and control humidity should be installed.
4. All associated records should be stored in acid-free folders or archival-quality photographic containers.
5. A duplicate acid free copy of the associated records should be produced and stored in a secure location.
6. An integrated pest management program, including monitoring and control, should be implemented for Building 1632A.
7. The disposition of all identified human skeletal remains should be determined in order to meet the requirements of the Native American Graves Protection and Repatriation Act.
8. All recovered funerary objects, associated and unassociated, sacred objects, and objects of

cultural patrimony, as defined by NAGPRA, should be identified and their disposition determined.

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5

**MARINE CORPS AIR-GROUND COMBAT CENTER,
TWENTYNINE PALMS,
CALIFORNIA**

INSTALLATION SUMMARY

(1) Volume of Archaeological Materials: 2.8 ft³

On Installation: None

Off Installation: 0.3 ft³ (Joshua Tree National Monument); 2.5 ft³ (Statistical Research)

Compliance Status: Archaeological materials at Joshua Tree National Monument require partial rehabilitation to comply with existing federal standards governing the long-term curation of archaeological materials.

Archaeological materials at Statistical Research require complete rehabilitation.

(2) Linear Feet of Records: 1.8 linear feet

On Installation: None

Off Installation: 1.5 linear feet (Joshua Tree National Monument); 0.3 linear feet (Statistical Research)

Compliance Status: Documentation at Joshua Tree National Monument is properly curated, except for photographic materials that must be inventoried and archivally curated. Records at Statistical Research will require partial rehabilitation to comply with existing federal guidelines and standards for archival preservation.

(3) Human Skeletal Remains: No known human skeletal remains are at Joshua Tree National Monument or Statistical Research. However, Joshua Tree National Monument is curating records in a sealed, restricted file, of human remains from MCAGCC Twentynine Palms that were repatriated.

(4) Status of Curation Funding: MCAGCC Twentynine Palms does not request funds for archaeological curation.

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6

**ANTELOPE VALLEY COLLEGE
LANCASTER, CALIFORNIA**

REPOSITORY SUMMARY

(1) Volume of Archaeological Materials: 15 ft³

Compliance Status: Archaeological materials require complete rehabilitation to comply with existing federal guidelines and standards for curation. Archaeological materials should be stored in four-mil, plastic zip-lock bags within acid-free boxes.

(2) Linear Feet of Records: 0.5 linear feet

Compliance Status: Records require complete rehabilitation to comply with existing federal guidelines and standards for archival preservation. Documents should be stored in acid-free containers.

(3) Human Skeletal Remains: No human skeletal remains recovered from Edwards Air Force Base were located at Antelope Valley College (AVC).

(4) Status of Curation Funding: Funding for curation activities does not exist. Funds for curation are derived from the teacher operating budget or contract work.

INTRODUCTION

DATE OF VISIT: 15 September 1992, 15 December 1993

PERSON CONTACTED: Roger Robinson

Approximately 15 ft³ of archaeological materials recovered from Edwards Air Force Base and 0.5 linear feet of associated records are stored in an anthropology laboratory at AVC (Table 5). Of the 15 ft³ of artifacts examined, 77% were prehistoric and 23% were historic (Table 6).

Table 5.
Volume of Archaeological Materials from Edwards Air Force Base at
Antelope Valley College

Site Number	Ft ³
AVC-23	1
AVC-24	4
AVC-27	3
AVC-28	5
HR 867	1
EAFB Surface (Mix of Sites)	1
Total	15

Table 6.
Material Classes in Edwards Air Force Base Collections

Material Class	%
Prehistoric	
Chipped Stone	30
Faunal Remains	5
Soil Samples	28
Charcoal	2
Historic	
Ceramics	2
Glass	10
Metal	5
Wood	5
Concrete	2
Fiberboard	5
Marble	3
Tile	3
Total	100

REPOSITORY

Archaeological collections at Antelope Valley College are in a 624 ft² anthropology laboratory/office (room 721) adjacent to a classroom on the college campus. The laboratory includes an artifact holding area, artifact washing area, an artifact processing lab, a records storage area, and offices. Approximately 40 ft² is devoted to the storage of archaeological collections.

Structural Adequacy

This single-story university classroom building was originally constructed in 1967. The building has a concrete slab foundation, a built-up asphalt roof, a poured concrete floor that appears to have been sealed, and a drop Celotex ceiling. The exterior walls are concrete overlaid with stucco and interior walls are covered with sheetrock. There are two single panel metal exterior doors to the laboratory. One is functional and faces north. The east facing door has been blocked on the inside by a counter. An interior south facing single panel wooden door leads to the adjacent classroom. The two east facing windows in the laboratory collections area do not have shades. The plumbing and electrical systems, and the roof were replaced in 1991. The repository is at 90% capacity.

Environment

Temperature in the laboratory archaeological material storage area is controlled by a central heating and air conditioning system. Humidity is not monitored or controlled. Light is provided by desk lamps and fluorescent tubes with non-ultra violet blocking plastic shields. The archaeological material storage area is maintained on a daily basis by university janitorial staff. Hazardous chemicals such as acetone are used in the laboratory collections storage space which has no ventilation.

Pest Management

An integrated pest management program is absent. When the janitorial staff notices a pest problem, they bring it to the attention of the university, which then contracts with a pest management company to eradicate the pests.

Security

The only security system at AVC consists of key locks on the doors and window locks. university security guards are available during office hours and randomly patrol the campus in the evenings. The Dean of the college, the secretary to the Dean, the student assistant, and custodial and security personnel all have keys to the laboratory archaeological material storage area. Thus, the room is only partially protected by controlled access.

Fire Detection and Suppression Systems

Fire extinguishers and manual fire alarms are located throughout the building. However, none are present in the laboratory archaeological material storage area.

ARCHAEOLOGICAL MATERIAL STORAGE

Storage Units

Separate, sealed plywood shelves covered with Formica have been built under a counter top as storage units for the Edwards Air Force Base collections. Each unit measures approximately 1.3 feet by 2.6 feet by 1.7 feet (width, height, depth). Each unit has four shelves. The Edwards Air Force Base collections occupied 15 shelves or almost four units.

Primary Containers

Molded hard plastic tubs 1ft³ in size are the primary containers for the Edwards Air Force Base collections (Figure 5). The tubs serve as drawers in the shelving units. Primary container labels are made from acidic paper directly labeled with marker and taped to the front of the tubs with cellophane tape. Label information consists of an AVC site number.



Figure 5. Molded hard plastic tubs used to hold Edwards Air Force Base archaeological materials.

Secondary Containers

A variety of secondary containers are used to store the Edwards Air Force Base collections. The majority of the secondary containers are directly labeled with marker. The remainder are labeled with India ink (27%), pen (7%) and pencil (7%). Label information consists of an AVC site number.

Laboratory Processing and Labeling

Approximately half of the artifacts recovered from Edwards Air Force Base have been cleaned. Cleaning did not apply to 33.3% of the material, as it consisted of soil samples, charcoal samples, and/or of empty artifact bags, and 16.7% had not been cleaned. On the other hand, only 20% of the artifacts have been labeled, whereas 53.3% have not, and labeling did not apply to 26.7%. All artifacts have been sorted by Antelope Valley College site number.

HUMAN SKELETAL REMAINS

No known human skeletal remains recovered from Edwards Air Force Base were located at AVC at the time of inspection.

RECORDS STORAGE

Approximately 0.5 linear feet of associated records are stored in the laboratory collections area and adjacent classroom. Record types include field records, maps, and a report. A copy of the records exists, but not on archival quality material. An employee has a copy in his house.

Paper Records

Paper records consist of site survey forms, field catalogs, and analysis records. These are stored in a five drawer enameled metal file cabinet in the classroom adjacent to the laboratory archaeological material storage area. Paper records are arranged by project and then by site number within a specific project. The drawers of the file cabinet contain typed acidic paper tags placed in metal tag holders. Label information includes project number. The paper records themselves are stored in acidic manila file folders within hanging files. The files are labeled directly with marker and contain the AVC site number, project number, and occasionally site name information.

Photographic Records

No known photographic documentation of material recovered from Edwards Air Force Base could be located during the assessment even though photographs were taken, but are now missing. Mr. Van Dusen Eggers might have them in his possession.

Maps and/or Oversized Documentation

Original field maps are stored in the same filing cabinet as the paper records. The maps are folded and have been inserted into acidic manila file folders contained within hanging file folders. Label information is the same as that for the paper records.

Reports

The final project report is stored in cupboards hung over the counter top work space in the laboratory archaeological material storage area. These cupboards are constructed of Formica and have locking double doors.

COLLECTIONS MANAGEMENT STANDARDS

Registration Procedures

Accession Files

All collections are given an AVC catalog number upon receipt.

Location Identification

No information was available.

Cross-Indexed Files

The files are cross-indexed.

Published Guide to Collections

No published guide to the collections exists.

Site Record Administration

An AVC site number is given to the collection until a Smithsonian trinomial number can be assigned.

Computerized Database Management

A cataloging database management system is being used for specific collections, but not to identify individual objects within a collection.

Written Policies and Procedures***Minimum Standards for Acceptance***

No minimum standards of acceptance exist.

Curation Policy

A curation policy does not exist. Instructions do exist for washing, labeling, and bagging archaeological materials.

Records Management Policy

Guidelines exist for managing the catalog cards.

Field Curation Guidelines

No field curation guidelines exist.

Loan Procedures

No loan procedures exist. Artifacts are rarely loaned to other institutions.

Deaccessioning Policy

No deaccessioning policy exists.

Inventory Policy

No inventory policy exists.

Latest Collection Inventory

No information was available.

Curation Personnel

A full-time curator position for the archaeological collections does not exist. One employee spends part of the time in collections management and is aided by a student assistant.

Curation Financing

Separate funding for collection management does not exist. Any funding for curation presently comes from an employee's operating budget in his role as a teacher or through contract work.

Access to Collections

Collection access is controlled by one employee. However, the Dean of the college, the secretary to the Dean, security and custodial staff, and a student assistant all have keys to the laboratory archaeological material storage area, thus increasing the chance of a security breach.

Future Plans

No plans exist for upgrading the curation program at AVC.

COMMENTS

1. Fire detection/suppression is not present in the laboratory archaeological material storage area.
2. The molded hard plastic tubs are a good alternative to acid-free boxes.
3. Hazardous chemicals are used in the laboratory that also serves as the archaeological material storage area.
4. The only forms of security are key locks on the doors, window locks, and random patrols by university security guards.
5. The windows in the archaeological material storage area do not have shades.
6. Humidity is not monitored or controlled in the laboratory archaeological material storage area.

RECOMMENDATIONS

1. Smoke detectors, fire extinguishers, and/or a sprinkler system should be installed in the laboratory archaeological material storage area immediately.
2. Hazardous chemicals must be kept away from the collections and some form of ventilation must be installed.

3. An electronic motion detection system should be installed in the laboratory. If this is not possible, a dead-bolt lock should be installed on the doors of the laboratory archaeological material storage area and windows should be sealed shut.
4. Shades should be installed over windows to protect collections from harmful ultraviolet radiation.
5. A climate control system should be installed to monitor and control humidity. If this is not possible, a sling psychrometer should be used to monitor humidity and a commercial dehumidifier should be purchased to control humidity.
6. All archaeological materials need to be reboxed and rebagged into acid-free boxes and four-mil zip-lock plastic bags. The bags should be labeled in indelible ink.
7. The photographic material associated with the Edwards Air Force Base collections should be located, reintegrated with the associated documentation, and archivally preserved.
8. The molded plastic tubs that serve as primary containers need some sort of lid, not only for security purposes and to protect the archaeological materials from spilling out and getting separated from one another, but also to protect the materials from dust and pests.

**CALIFORNIA STATE UNIVERISITY
FULLERTON, CALIFORNIA**

REPOSITORY SUMMARY

(1) Volume of Archaeological Materials: 187.5 ft³

Compliance Status: Archaeological materials require complete rehabilitation to comply with existing federal guidelines and standards for curation.

(2) Linear Feet of Records: No associated records are present.

Compliance Status: All missing documentation, photographic records, and maps should be identified, returned to California State University, Fullerton, incorporated into the Murphy collection, and rehabilitated to comply with existing federal guidelines and standards for archival preservation.

(3) Human Skeletal Remains: Approximately seven burials are included in the Murphy collection stored at California State University (CSU), Fullerton.

(4) Status of Curation Funding: Funding is inadequate. Funds go directly to the Anthropology Department and may then be transferred to the museum.

INTRODUCTION

DATE OF VISIT: August 19, 1992

PERSON CONTACTED: Connie Cameron

Approximately 187.5 ft³ of prehistoric artifacts (Table 7) recovered from San Clemente Island by Theodore Murphy are curated at the University of California, Fullerton (accession number 115). This material was originally donated to the San Diego State Historical Society in 1974, but transferred to the University of California, Fullerton in 1988. Private collections, such as the Murphy collection, are stored by artifact class, but general collections are curated according to site number.

Table 7.
Material Classes in NAS North Island Collections (Murphy Collection)

Material Class	%
Chipped stone	50
Human skeletal remains	10
Faunal remains	10
Worked shell	30
Total	100

REPOSITORY

The archaeological laboratory (Room 311) is located in the Humanities Building on the CSU, Fullerton, campus and serves as the archaeological repository. The repository occupies approximately 960 ft². Entrance to the repository is possible from the corridor or from Ms. Cameron's office. Although none of the artifacts from the Theodore Murphy collection are on display, there is a small anthropology/archaeology museum adjacent to the archaeology laboratory.

Structural Adequacy

The Humanities Building is a modern steel-framed structure with a concrete block exterior. The archaeological material storage area/archaeology laboratory is located on the third floor (Room 311). The interior walls are covered with sheetrock. There is a drop Celotex ceiling and the floor is overlaid with tile. There are two doors, one of which leads to the hallway and one to Ms. Cameron's office. Both are single metal panel. Two windows with shades are present along one wall. The collections storage facility is filled to capacity. The building is structurally adequate for classroom, laboratory, and office space, but the archaeology lab is deficient as a collections storage

facility because of overcrowding. The room does not function well as a collections repository. The collections are at risk from being stored inadequately.

Environment

Temperature is controlled by a central, heating and air conditioning system. Humidity is not controlled or monitored, but does not appear to be a major problem. The overhead lighting is fluorescent with nonultraviolet plastic shields covering the tubes.

Pest Management

An integrated pest management program is absent. Rooms are sprayed as needed.

Security

Although both entrances to the storage room have key locks, there are no alarms on the doors or windows. Motion detectors are not in the room. The Humanities Building is patrolled by campus security guards and access to the archaeology laboratory is controlled by Connie Cameron. There are two sealed windows along one wall.

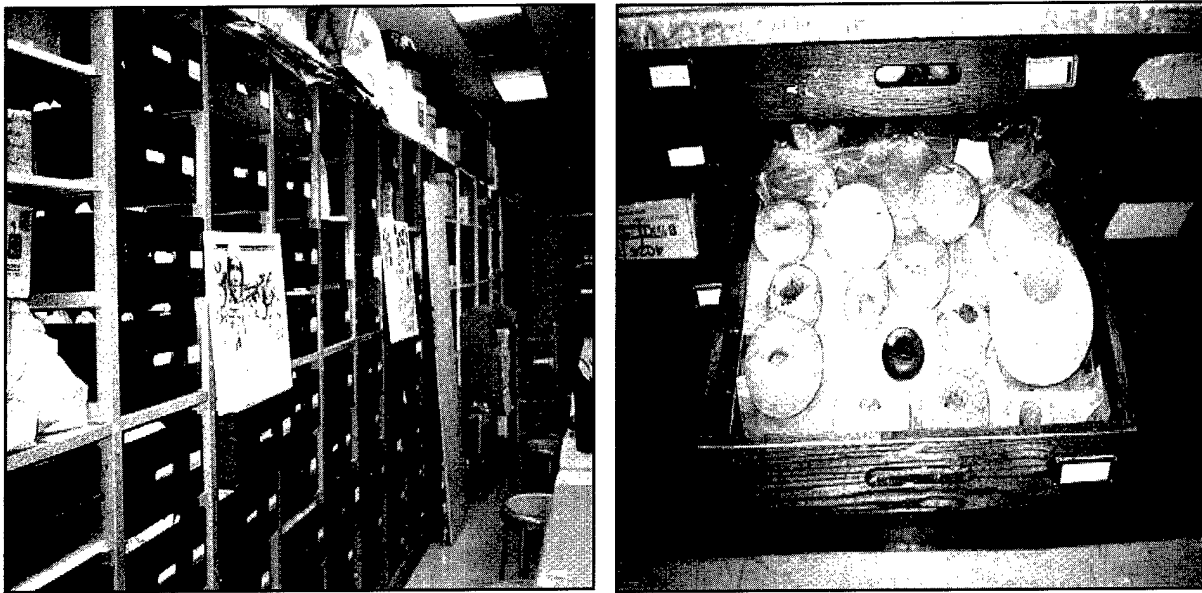
Fire Detection and Suppression Systems

There are no smoke or heat detectors in the archaeology laboratory or a fire suppression system. However, fire alarms wired into the fire department and fire hoses are located in the corridor outside the archaeological material storage area.

ARCHAEOLOGICAL MATERIAL STORAGE

Storage Units

Storage units holding the Murphy Collection consist of (1) a painted wooden shelves (8 feet high by 3 feet wide by feet deep) (Figure 6), (2) variously sized (heights) unsealed wooden drawers stored in an enameled metal framework (8 feet high by 2 feet wide by 2 feet deep) (Figure 7), and (3) a two-door, locking, enameled metal storage cabinet (7 feet high by 3 feet wide by 2 feet deep) (Figure 8).



Figures 6 and 7. Murphy collection storage unit types 1 (left) and 2 (right).



Figure 8. Murphy collection storage unit type 3.

Primary Containers

A sample of the primary containers used to hold the Murphy Collection were examined by St. Louis District personnel. These containers consist of four untreated wooden drawers, three acidic flap top boxes, and three cardboard shoe boxes. All boxes are labeled legibly with marker or pen, and box label information is minimal. The box label information sometimes included the date, catalog number, and contents, but more often only had the donor's name.

Secondary Containers

Archaeological materials from San Clemente Island are packaged in a wide variety of containers. These include two-mil zip-lock plastic bags, plastic sandwich bags with folded flaps, small plastic or acidic cardboard boxes both with and without lids, small glass cases with cotton packing (Riker Mounts), as well as items wrapped in newspaper and those stored loose in unlined wooden drawers. The archaeological materials stored in the small plastic or acidic cardboard boxes and Riker Mounts are also packed in cotton or tissue paper. The condition of many of the items is poor because of the acidic nature of the tissue paper, cotton, and newspaper. Security is also poor because of the loosely folded flaps of the unsealed plastic sandwich bags. None of the secondary containers are directly labeled, but the majority contain paper tags including catalog number information that is typed or written in pencil or ink.

Laboratory Processing and Labeling

All of the artifacts in the Murphy Collection have been cleaned and sorted by archaeological material type. The catalog number is applied directly to the chipped stone with india ink. Shell, faunal remains, and human remains have not been labeled. The secondary containers include acidic paper tags with the catalog number, and/or age and sex information written in pencil or ink.

HUMAN SKELETAL REMAINS

Approximately seven incomplete individuals are included in the Murphy Collection, represented by maxilla, mandibles, and a long bone. All remains have been cleaned and sorted, but none are labeled. Acidic paper tags are included with the remains, but only have age and sex information.

RECORDS STORAGE

There are no records associated specifically with the Murphy Collection. However, general paper records are stored in metal filing cabinets in Ms. Cameron's office. Photographs are kept with reports. Oversized maps are folded or rolled and stored in cardboard tubes.

COLLECTIONS MANAGEMENT STANDARDS

Registration Procedures

Accession Files

All collections are accessioned upon receipt.

Location Identification

The location of the collection within the archaeological material storage area is not identified in the accession file.

Cross-indexed files

No information.

Published Guide to Collections

A published guide to the collections exists as part of a graduate thesis.

Site Record Administration

The Smithsonian Institution trinomial system is used.

Computerized Database Management

The repository does not use a computerized database manager.

Written Policies and Procedures***Minimum Standards for Acceptance***

No minimum standards for acceptance exist.

Curation Policy

No curation policy exists.

Records Management Policy

No records management policy exists.

Field Curation Guidelines

No field curation guidelines exist.

Loan Procedures

Loans are made to other museums upon request and a record of these transactions is kept.

Deaccessioning Policy

No deaccessioning policy exists.

Inventory Policy

No deaccessioning exists.

Latest Collection Inventory

No collections inventory has ever been performed.

Curation Personnel

There is no full time curator for the archaeological collections. The curatorial responsibilities belong to adjunct faculty in addition to a 3/4-time museum curator. Little rehabilitation work is being carried out, although artifacts from select collections are being labeled as a part of student projects.

Curation Financing

Funding goes directly to the Anthropology Department. The department may then allocate funds to the collections repository.

Access to Collections

Collections are readily accessible and made available to researchers upon request. Artifacts are loaned to other museums upon request. Access to collections is controlled exclusively by Ms. Cameron.

Future Plans

New building funding has been lost. There are no definite plans for the future.

COMMENTS

1. Although the collections do not have any visible signs of damage, the archaeological laboratory is crowded and the collections risk being damaged because of inadequate storage conditions.
2. There is no fire detection or fire suppression system in the collection storage room.
3. Although the Humanities Building is patrolled by campus guards and the two entrances to the collections storage room are secured with key locks, there are no motion detectors in the storage room. There are no alarms on the doors or windows.
4. By packing artifacts in acidic newspaper, plastic sandwich bags with folded flaps, cotton, and tissue paper, the security and longevity of these artifacts are compromised. Additionally, most of the items examined are not labeled. If any of these are misplaced, it will be difficult to reintegrate them with the Murphy Collection.

RECOMMENDATIONS

1. The collections that are now curated in cotton, newspaper, and tissue paper packing will deteriorate more rapidly due to the acidity of these products. These should be repacked into ethyfoam or acid-free tissue packing and stored in acid-free boxes.
2. All artifacts should be labeled in india ink with an identifying number.
3. A fire detection/suppression system should be installed in the archaeological material storage area immediately.
4. An internal security system should be installed in the archaeology storage room so that campus security is not the exclusive means of security.
5. All missing documentation, photographic records, and maps should be identified, recovered, returned to CSU, Fullerton, incorporated into the Murphy Collection, and curated according to federal standards.

8
CALIFORNIA STATE UNIVERSITY
NORTHRIDGE, CALIFORNIA

REPOSITORY SUMMARY

(1) Volume of Archaeological Material: 68.5 ft³

Compliance Status: Archaeological materials will require partial rehabilitation to comply with existing federal guidelines and standards for curation.

(2) Linear Feet of Records: 15 linear feet

Compliance Status: All records require significant rehabilitation and must be duplicated with copies stored in a separate location for safety and security purposes.

(3) Human Skeletal Remains: Human skeletal remains recovered from NAS North Island by California State University (CSU), Northridge, have been transferred to the University of California, Santa Barbara (UCSB). The collections are being inventoried as part of the requirements of the Native American Graves Protection and Repatriation Act. They will remain at the UCSB until their ultimate disposition is determined. All original documentation on the burials is still at CSU Northridge and NAS North Island.

(4) Status of Curation Funding: The only financing for curatorial activities comes from cultural resource management contracts. There are no funds available for collections maintenance and rehabilitation.

INTRODUCTION

DATE OF VISIT: 3 August 1992

PERSON CONTACTED: L. Mark Raab

An estimated 68.5 ft³ (89 boxes) of prehistoric archaeological material from three seasons of fieldwork (1988-1990) on San Clemente Island and an additional 15 linear feet of associated documentation are curated at California State University, Northridge. The collections, recovered from SCLI-1215 and SCLI-1524, contain chipped stone, ceramics, human skeletal remains, faunal remains, shell, basketry fragments, and flotation samples.

REPOSITORY

NAS North Island collections are stored at the Center for Public Archaeology located adjacent to the university. The facility was originally a private residence and has approximately 1200 ft² of space devoted to collections storage, and office/laboratory space (Figure 9). The office/laboratory facility, including the foyer and hallway, is used for map production, laboratory operations, computer use, field equipment storage, furnace and miscellaneous storage, exhibits.

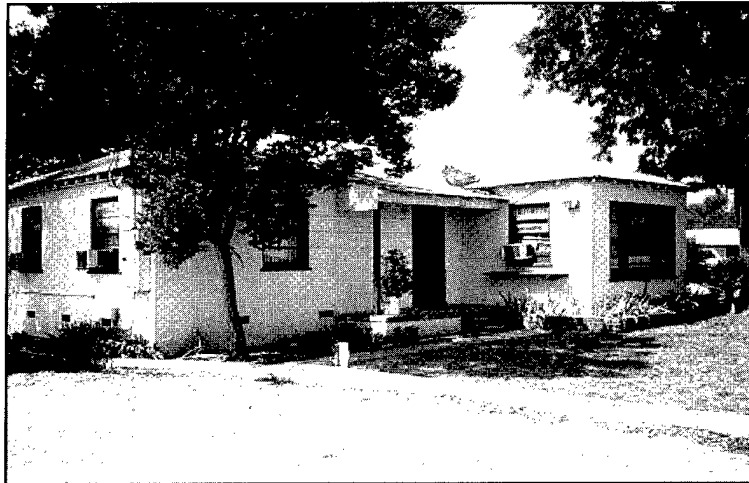


Figure 9. Space devoted to storage of NAS North Island archaeological materials.

Structural Adequacy

The repository is at least 30 years old and is a wood-frame structure with a concrete slab foundation and stucco exterior. Asphalt shingles cover the roof, which was replaced in 1984 or 1985. The interior walls and ceilings are covered by sheetrock. Most of the floors are of sealed hardwood; however, the floor in the laboratory area is covered with tile. There are windows throughout the

facility with two in the archaeological material storage area and two in the laboratory area. These are covered by plastic shades. There are two single panel wood doors in the facility—in the front and rear of the building. The building was not designed to function as an archaeological repository and is not structurally adequate to meet the basic requirements for such a facility. Limited laboratory and collections storage space is a major deficiency. The facility is filled to capacity. The rooms are too small to function an archaeological material storage area . As a result the collections are stored in any available space, including shelving erected in the center of the laboratory. Boxes are simply stacked on the floor. Space-saving shelving units would not alleviate the lack of space since the floor of the building could not support the added weight.

Environment

The repository is heated with a forced-air, natural gas furnace and cooled with two window-unit air conditioners. These units, however, are only operated when staff are working in the building. Humidity is not controlled or monitored. There is no system for dust control. The room is illuminated by fluorescent lights as well as high intensity bulbs hanging from overhead conduits.

Pest Management

Although the repository is sprayed for insects on an as-needed basis, no integrated pest management program is in place. There has never been any evidence of rodent infestation.

Security

The repository is protected by electronic motion detectors that are wired to the campus police department. Sensors are located in each room of the facility. The doors are also wired with alarms that detect unauthorized entry, but the windows are protected only by simple latches. A limited number of keys have been issued to staff members. As an additional security measure, the staff performs all maintenance functions rather than permitting unknown janitorial staff into the building.

Fire Detection and Suppression Systems

There are no smoke or heat detectors in the repository. A small fire extinguisher is the only fire deterrent present. The use of the furnace room for storage of miscellaneous items is a fire hazard.

ARCHAEOLOGICAL MATERIAL STORAGE

Storage Units

Two types of storage units are used to store archaeological materials. Most materials are stored on a homemade, unsealed, wooden shelving unit, measuring 8 ft by 8 ft by 2 ft, (height, length, width) contains archaeological materials in the laboratory area. Boxes are stacked two to three high on these shelves. This unit is located in the center of the laboratory work area. Additional

archaeological materials are stacked six boxes high on the floor in the one room dedicated exclusively to collections storage.

Primary Containers

Two types of primary containers are used to store archaeological materials from NAS North Island. Approximately one-half of the containers are acidic-cardboard boxes with telescoping lids, each approximately 1 ft³ in capacity. The remaining containers are also acidic cardboard, but these have folded-flap lids and are only approximately 0.5 ft³ in capacity. Both types of boxes are secured with strapping tape. The adhesive on the tape has dried on some boxes, rendering the tape useless for securing the boxes. Minor compression damage caused by stacking and overpacking was observed on approximately 10% of the boxes stacked on the floor. The flap-top boxes are directly labeled in marking ink, whereas the boxes with telescoping lids are directly labeled with marking ink and/or with computer generated labels. All label information is legible and consistent, providing site number, box number, catalog number, provenience, and material class information.

Secondary Containers

A variety of containers is used to store the NAS North Island archaeological materials. Most materials are sorted and individually packaged in zip-lock bags that are enclosed in larger zip-lock bags. Others are contained in small, acidic-cardboard boxes, prescription vials, and newspaper. Computer generated container labels, consistent in style and content, are inserted into the individual containers rather than being affixed to the outside (Figure 10). Label information includes accession, catalog, and feature numbers, artifact measurements, material class, and artifact type. The larger bags, into which the individual archaeological materials are sorted, are labeled in marking ink with site number, catalog number, and provenience information.



Figure 10. Container labels used for archaeological materials.

Laboratory Processing and Labeling

All artifacts were partially washed in the field and are sorted according to site number and material class. Not all of these artifacts are labeled. Those that have been labeled have the catalog number directly applied in India ink.

HUMAN SKELETAL REMAINS

Human skeletal remains from San Clemente Island have been transferred to the University of California, Santa Barbara. The collections are being inventoried in fulfillment of the requirements of the Native American Graves Protection and Repatriation Act and will remain there until their ultimate disposition is determined. However, all original documentation on the burials is still at California State University, Northridge and at the NAS North Island.

RECORDS STORAGE

Approximately 15 linear feet of documentation associated with the San Clemente Island collections are stored at California State University, Northridge. A duplicate copy of these records has not been made however, dramatically reducing the research value of the artifacts in the event of an accidental loss of the documents.

Paper Records

The majority of the paper records are maintained in three-ring, plastic binders which are stored on a painted, wooden bookcase located in the foyer of the repository. The records are organized by project year and include artifact catalogs, auger test forms, unit/level forms, laboratory forms, field notes, plan and profile maps, feature forms, and student field analysis notebooks. The exteriors of the three-ring binders are directly labeled in black marker with the year and excavator's name. Some information is recorded in pencil, that is now fading. None of the records have been duplicated on acid-free paper or preserved in archival folders.

Photographic Records

Color slides taken during the field research on San Clemente Island are stored at the home of Dr. Raab and were not available for our review. Dr. Raab reported that the slides were in inert plastic sleeves and stored in three-ring binders.

Maps and/or Oversized Documents

The majority of oversized maps are stored folded or rolled in acidic cardboard map tubes, with the minority in flat drawers in metal map cabinets.

COLLECTIONS MANAGEMENT STANDARDS

Registration Procedures

Accession Files

All artifacts and records are accessioned upon receipt.

Location Identification

The location of the collections within the repository is not identified within the accession file.

Cross-indexed Files

The files are not cross-indexed.

Published Guide to Collections

There is no published guide to the collections.

Site Record Administration

The Smithsonian Institution trinomial system is employed.

Computerized Database Management

There is a database management system in use.

Written Policies and Procedures

Minimum Standards for Acceptance

There are no minimum standards for the acceptance of archaeological collections.

Curation Policy

There is a written plan for curation that addresses the receipt of materials, processing of materials, use of materials, and future preservation of materials.

Records Management Policy

The repository does not have written guidelines and standards for the curation of associated records.

Field-Curation Guidelines

None exists.

Loan Procedures

There are no loan procedures as the facility has never loaned any material.

Deaccessioning Policy

The facility does not have a written deaccessioning policy.

Inventory Policy

None exists.

Latest Collection Inventory

The collections have never been inventoried.

Curation Personnel

There is no full-time curator for archaeological collections. Dr. Raab is responsible for the collections. He is assisted by four part-time research assistants.

Curation Financing

The only financing for curatorial activities comes from cultural resource management contracts. There are no funds for collection maintenance and rehabilitation.

Access to Collections

Direct access to the collections is limited to Dr. Raab and the four research assistants. Collections will be made available to outside researchers with demonstrated needs and interests.

Future Plans

A proposal for a new curation facility was submitted to the CSU in 1988. The proposal outlined the deficiencies of the existing repository and suggested the requirements of an adequate facility. The associated documentation may be transferred to the university archives.

COMMENTS

1. The archaeological repository at CSU Northridge, does not meet federal requirements for the curation of federal archaeological collections. Major facility deficiencies exist in available space, fire safety, environmental controls, and security.
2. All primary and secondary containers are made from acidic materials. This allows for rapid decay of the containers and deterioration of archaeological materials stored inside.
3. Unsealed wooden storage units are adequate for temporarily storing collections, but this type of shelving does not meet the standards in 36 CFR Part 79 for long term curation of archaeological collections.

RECOMMENDATIONS

1. All archaeological collections should be removed from the CSU Northridge facility. Environmental controls are absent. A small fire extinguisher is the only means of fire suppression. The windows are a security risk since they are only protected by window locks.
2. All collections should be reboxed in acid-free quality boxes. Archaeological materials should be rebagged into archival quality four-mil, zip-lock plastic bags.
3. If collections are to remain in the facility, steel shelving units should be purchased. If this is not possible, the existing wooden shelving should be sealed. Additional shelving should be constructed to store collections that are stacked on the floor.
4. When the NAGPRA compliance work is completed at UCSB, all human skeletal remains should be returned to CSU Northridge, and reintegrated into the appropriate collections.

**DAMES AND MOORE
SAN DIEGO, CALIFORNIA**

REPOSITORY SUMMARY

(1) Volume of Archaeological Material: None

Compliance Status: Dames and Moore does not have any archaeological material from Fort Irwin.

(2) Linear Feet of Records: 14.0 linear feet

Compliance Status: Documentation requires partial rehabilitation to comply with existing federal guidelines and standards for archival preservation. All associated records should be duplicated on acid-free paper or microfilm and stored in acid-free folders, envelopes, and archival quality photographic sleeves. A duplicate copy should be stored in a separate fire-safe location.

(3) Human Skeletal Remains: No known human skeletal remains recovered from Fort Irwin are stored at Dames and Moore.

(4) Status of Curation Funding: Curation is financed through cultural resource management contracts.

INTRODUCTION

DATE OF VISIT: September 15, 1993

PERSON CONTACTED: Andrew York

Approximately 14.0 linear feet of records from Fort Irwin are stored at the San Diego office of Dames and Moore (Table 8). No artifacts associated with these projects are stored at Dames and Moore. Artifacts from Fort Irwin have been returned to the installation.

Table 8.
Type of Records from Fort Irwin Housed at Dames and Moore

Record Type	l.f.
Reports	7.2
Analysis	0.1
Photographs	0.4
Administrative	6.1
Other	0.2
Total	14.0

Note: l.f. refers to linear feet

REPOSITORY

Records are stored in two repositories three separate archaeological material storage areas. Two of these areas are in the same building, whereas the third is in a separate facility. The library and records processing area are located in the Dames and Moore office complex. The permanent records storage area is located at the COR-O-VAN records storage facility approximately 13 miles north. The building in which the offices of Dames and Moore are located is a four story glass, steel frame facility located in San Diego, California. The office complex is located on the second floor of the building and includes a library, records storage room, offices, staff lounge, and restrooms. The COR-O-VAN records storage facility is a concrete block building in Poway, California. It includes a receiving/loading dock, a records storage area, materials/supplies room, offices, and restrooms.

Repository 1—Archaeological Material Storage Area 1 (Library)

Included in the Dames and Moore office complex is the 150 ft² contract report library.

Repository 1—Archaeological Material Storage Area 2 (Records Processing Area)

The records processing area occupies approximately 450 ft². Several offices are located here. Records are kept in-house for two years before being transferred to long-term storage at the COR-O-VAN records storage facility.

Repository 2—Archaeological Material Storage Area 3 (COR-O-VAN Records Storage Facility)

This 76,000 ft² single story records storage facility is located approximately 13 miles north of Dames and Moore in Poway, California.

Structural Adequacy***Repository 1—Archaeological Material Storage Area 1 (Library)***

The office building in which Dames and Moore is located was constructed in 1988. The building is a four-story glass and steel-framed structure with a concrete foundation. The 150 ft² library has a carpeted concrete floor. The interior walls are sheetrock. There is a drop Celotex ceiling. There are no windows in the library. A single panel wood door on the west side of the room opens onto a hallway. An exit is located in the southeast corner of the room and leads to a hallway containing other offices. The plumbing and electrical systems are original to the building.

Repository 1—Archaeological Material Storage Area 2 (Records Processing Area)

The 450 ft² records processing area is located on the second floor. It has a carpeted concrete floor. The interior walls are sheetrock and there is a drop Celotex ceiling. Along the south wall of the room are six windows with blinds. Two single panel wood doors, one located on the north wall and one on the east wall, provide access to the records processing area. Both exit onto hallways containing offices. The plumbing and electrical systems are original to the building.

Repository 2—Archaeological Material Storage Area 3 (COR-O-VAN Records Storage Facility)

This 76,000 ft² records storage facility is located in Poway, California, approximately 13 miles north of Dames and Moore. The facility is approximately five years old. The north one third is two stories high and contains offices, restrooms, and a reception area. Although the south two-thirds is the same height as the north, it is used as a records warehouse without any permanent floors separating levels. Instead, metal mesh floors have been constructed in the aisles between the metal shelving units and are approximately 25 feet high and occur at 10 foot intervals. All interior walls are covered with sheetrock. The ceiling in the records storage area is covered with insulation. Two skylights provide natural light to the records storage area. There are three exterior metal overhead loading doors in the east wall and one interior wood panel door in the north wall that leads to the office areas. The plumbing and electrical systems are original to the facility. The records storage facility is filled to 90% capacity. However, additional shelving units are being constructed.

Environment***Repository 1—Archaeological Material Storage Area 1 (Library)***

Temperature in the library is controlled by means of a central heating and air conditioning system equipped with dust filters. Humidity is not monitored or controlled. Light is provided by uncovered fluorescent tubes. The library is maintained on an as-needed basis by the building janitorial staff.

Repository 1—Archaeological Material Storage Area 2 (Records Processing Area)

Temperature is controlled by means of a central heating and air conditioning system equipped with dust filters. Humidity is not monitored or controlled. Light is provided by uncovered fluorescent tubes. The area is maintained on an as-needed basis by the building janitorial staff.

Repository 2—Archaeological Material Storage Area 3 (COR-O-VAN Records Storage Facility)

Temperature in the records storage area is controlled by a central heating and air conditioning system. The targeted temperature range is between 60^o and 65^oF. Humidity is not monitored or controlled. Natural light is provided by two skylights. There are also incandescent bulbs hanging from the ceiling. The warehouse records storage area is maintained on a daily basis by COR-O-VAN employees as a security measure, whereas the office area is cleaned daily by a professional cleaning company.

Pest Management

Repository 1—Archaeological Material Storage Area 1 (Library)

No integrated pest management is in place. If any type of infestation occurs the building manager is notified. The building manager will then contact a professional pest management company. No evidence of pests was apparent during our visit.

Repository 1—Archaeological Material Storage Area 2 (Records Processing Area)

No integrated pest management is in place. If any type of infestation occurs the building manager is notified. The building manager will then contact a professional pest management company. No evidence of pests was apparent during our visit.

Repository 2—Archaeological Material Storage Area 2 (COR-O-VAN Records Storage Facility)

A partial pest management program exists COR-O-VAN and includes pest control. A professional pest management company visits the facility monthly to eliminate any pest problems that may have arisen. No evidence of pests was evident during our visit.

Security

Repository 1—Archaeological Material Storage Area 1 (Library)

The building is protected by a private security company. Dead-bolt and key locks are present on the exterior doors and access is controlled. The library itself is protected only by a key lock on the west door.

Repository 1—Archaeological Material Storage Area 2 (Records Processing Area)

No security system other than dead-bolt locks on both the north and east doors exist. However, the second floor windows do not open. The windows height above the ground makes forced entry less of a concern.

Repository 2—Archaeological Material Storage Area 3 (COR-O-VAN Records Storage Facility)

The COR-O-VAN facility is protected by intrusion alarms wired into the San Diego Alarm Company, dead-bolt and key locks on doors, and controlled access through an electronic key card system.

Fire Detection and Suppression Systems

Repository 1—Archaeological Material Storage Area 1 (Library)

There is no fire detection system. Fire suppression consists of a sprinkler system.

Repository 1—Archaeological Material Storage Area 2 (Records Processing Area)

There is no fire detection system. Fire suppression consists of a sprinkler system.

Repository 2—Archaeological Material Storage Area 3 (COR-O-VAN Records Storage Facility)

The fire suppression system consists of a sprinkler system and approximately 25 fire extinguishers that are located on all levels of the records storage area. The extinguishers are regularly checked.

ARCHAEOLOGICAL MATERIAL STORAGE

No artifacts are stored at Dames and Moore. They only have records.

HUMAN SKELETAL REMAINS

No human skeletal remains associated with Fort Irwin are stored at Dames and Moore.

RECORDS STORAGE

There are approximately 14 linear feet of records associated with work carried out at Fort Irwin, in the three archaeological material storage areas.

Repository 1—Archaeological Material Storage Area 1 (Library)

Reports

All Fort Irwin project reports are stored on sealed, adjustable wooden shelving units measuring approximately 2.9 feet by 0.9 feet by 7 feet (length, width, height). All reports are bound with plastic binding or are in plastic three-ring binders. Most are grouped together by project in acidic cardboard magazine holders. The magazine holders have adhesive labels listing project name written in black marker.

Repository 1—Archaeological Material Storage Area 2 (Records Processing Area)

Paper Records

The majority of the records in the records processing area are paper. Paper records are arranged by job number. They are processed and kept on-site for two years before being transferred to COR-O-VAN. All are stored in acidic manila file and hanging folders that are in acidic cardboard banker's boxes one ft³ in size with telescoping lids. The boxes are stacked three to six high on the floor. Boxes contain post-it note adhesive labels with box number and job number information written in marker. File folders include typed adhesive labels listing job number, project name, and folder contents. Types of paper records include correspondence, scopes of work, accounting and background records, and field notes. None were duplicated.

Reports

Draft reports and copies of final reports from Fort Irwin are stored in the records processing area. The storage methods are the same as those for paper records.

Repository 2—Archaeological Material Storage Area 3 (COR-O-VAN Records Storage Facility)

Records from Dames and Moore remain on-site for two years before they are transferred to this facility for long term storage.

Paper Records

Paper records are stored in cardboard bankers boxes one cubic foot in size with telescoping lids. The boxes are stored on enameled metal shelving units approximately thirty feet in height. Boxes are organized according to a bar-code system. Records are arranged by job number within the boxes. The arrangement of the records within the boxes is not altered by COR-O-VAN upon receipt for storage. Paper records are stored in acidic manila file folders with typed adhesive labels with the job number, project name, and folder contents. Types of paper records include correspondence, proposals, accounting records, and analysis records. None of these records have been duplicated.

Photographic Records

The 0.42 linear feet of photographic records consists of a photo log, negatives, slides, and contact print sheets relating to work carried out at Fort Irwin. All are stored in acidic manila folders with the paper records. The negatives and slides are contained in non-archival plastic sleeves. The individual slides have been directly labeled with marker, and include roll and frame numbers. The contact print sheets have adhesive labels listing roll and site numbers.

Reports

There are 7.2 linear feet of project reports from work at Fort Irwin. All are stored in acidic manila folders or loose in boxes, and have been separated from the paper records by folders only.

COLLECTIONS MANAGEMENT STANDARDS

Registration Procedures

Accession Files

All materials are assigned a catalog number(s) using the numbering system of the curation facility where the collections will eventually be transferred.

Location Identification

Not Applicable.

Cross-indexed files

The files are cross-indexed by job number and project/site name.

Published Guide to Collections

Not Applicable.

Site-Record Administration

The Smithsonian Institution trinomial system is used.

Computerized Database Management

Some of the cataloging is done using DBASE.

Written Policies and Procedures

Minimum Standards for Acceptance

No minimum standards exist.

Curation Policy

No curation policy exists.

Records-Management Policy

Dames and Moore has created guidelines for the maintenance of the project files .

Field-Curation Guidelines

No field curation guidelines exist.

Loan Procedures

Not Applicable.

Deaccessioning Policy

Portions of certain classes of archaeological materials such as soil samples and historic bottle fragments (e.g. bulk items that are redundant) are sometimes excluded from curation. All material is brought in from the field and a decision to discard is made at this point.

Inventory Policy

No inventory policy exists.

Latest Collection Inventory

The staff state that the collections currently at Dames and Moore for analysis were inventoried in 1992.

Curation Personnel***Repository 1***

As Dames and Moore is not a long-term curation facility there is no full-time curator for the archaeological collections.

Repository 2

It is unknown how many employees work at COR-O-VAN.

Curation Financing***Repository 1***

Dames and Moore is not a long-term curation facility, but the funds to process the collections are included in contracts. The staff feel that financing is adequate.

Repository 2

COR-O-VAN Records Storage Division is a commercial business that provides supervised long-term records storage. Storage fees are incorporated into the contracts between parties.

Access to Collections***Repository 1***

Access to the records at Dames and Moore is controlled. All permanent employees can gain access through two individuals. There is an informal check-out system for the records that includes leaving a file insert in the space where a file was removed. Dames and Moore does not have a policy on access to collections by researchers. However, should the case arise, Dames and Moore would let researchers examine material only if permission has been granted from the funding agency.

Repository 2

Authorized personnel (administrators and warehouse supervisors) have access to the records storage area through an electronic key card. Records storage warehouse floor employees are supervised daily. To use the records, permission must be obtained from the agency whose records are stored at COR-O-VAN.

Future Plans

Future plans include assembling additional enameled metal shelving units.

COMMENTS

1. None of the associated records have been duplicated or placed in archivally stable materials.
2. There is no means for monitoring humidity at Dames and Moore or the COR-O-VAN facility.
3. Neither Dames and Moore or COR-O-VAN have fire detection systems.

RECOMMENDATIONS

1. All records need to be stored in acid-free folders. Photographic material should be stored in archival quality sleeves. Records should be duplicated on acid-free paper and a copy stored at a separate and secure location.
2. Humidity-monitoring devices should be installed at Dames and Moore and COR-O-VAN. Dehumidifiers should be purchased and monitored.
3. The fire detection and suppression systems should be upgraded to include smoke alarms at each facility.

10
**FAR WESTERN ANTHROPOLOGICAL
RESEARCH GROUP
DAVIS, CALIFORNIA**

REPOSITORY SUMMARY

(1) Volume of Archaeological Material: 947 ft³

Compliance Status: Archaeological materials require partial rehabilitation to comply with existing federal guidelines and standards for curation. All artifacts should be placed in acid-free containers and all heavy fraction material should be rebagged in four-mil, zip-lock plastic bags labeled in india ink.

(2) Linear Feet of Records: 113 linear feet

Compliance Status: Documentation requires partial rehabilitation to comply with existing federal guidelines and standards for archival preservation. All associated records should be duplicated on acid-free paper or microfilm and stored in acid-free folders, envelopes, and archival-quality photographic sleeves. A duplicate copy should be stored in a separate fire-safe location.

(3) Human Skeletal Remains: No known human skeletal remains recovered from Fort Irwin are at FWARG.

(4) Status of Curation Funding: Curation is financed through cultural resource management contracts.

INTRODUCTION

DATE OF VISIT: September 16, 17, and 20, 1993

PERSON CONTACTED: Debbie Jones

An estimated 947 ft³ of artifact collections and 113 linear feet of associated documentation from numerous projects conducted on Fort Irwin are stored at Far Western Anthropological Research Group (FWARG), in Davis, California. Archaeological collections are stored in four areas within two separate facilities: Ms. Jones' office, the FWARG laboratory, and two garages at the Central Davis Storage facility located approximately one-half mile from the FWARG office.

A 35% (328 ft³) sample of the entire Fort Irwin collections held at FWARG was examined. Material classes represented in the sample (Table 9) include prehistoric chipped stone, ceramics, faunal remains, and botanical, flotation, soil, and ¹⁴C samples.

Table 9.
Prehistoric Material Classes in a Sample of Fort Irwin Archaeological Materials

Material Class	Percentage
Ceramics	1
Chipped Stone	91
Faunal Remains	1
Soil Samples	5
¹⁴ C Samples	1
Botanical Samples	1
Total	100

REPOSITORY

Archaeological collections from Fort Irwin are stored in four separate archaeological material storage areas within two different repositories. Both archaeological materials and documentation are stored in the FWARG office facility in two rooms; Ms. Jones' office and the FWARG laboratory. Additionally, archaeological materials and documentation are located in two self-storage garages at the Central Davis Storage facility.

Repository 1—Far Western Anthropological Research Group Office

Repository 1 is a 3,600 ft² office facility. The building is the main office for FWARG (Figure 11). The building contains laboratories, artifact washing and processing areas, artifact holding areas, offices, and restrooms. Collections from Fort Irwin are stored in two archaeological material storage areas; Debbie Jones' office and an anthropology laboratory.

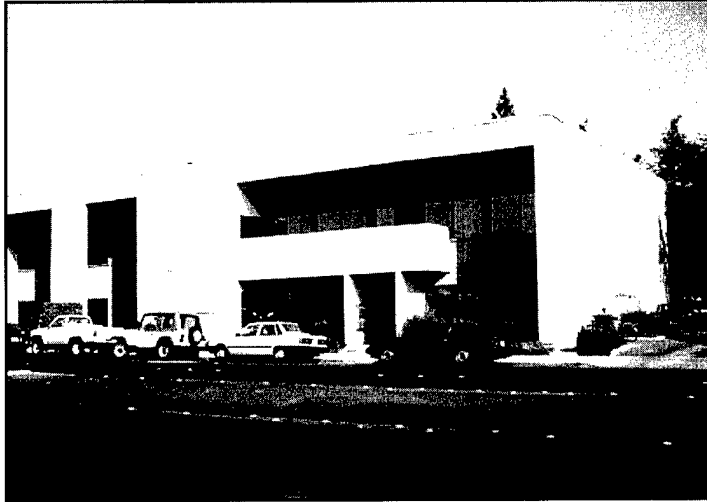


Figure 11. Exterior view of FWARG repository 1.

Repository 2—Central Davis Storage

Central Davis Storage is a public self-storage rental facility, located approximately one-half mile from FWARG (Figure 12). Collections are stored in two rented garages, units B-4 and D-17.

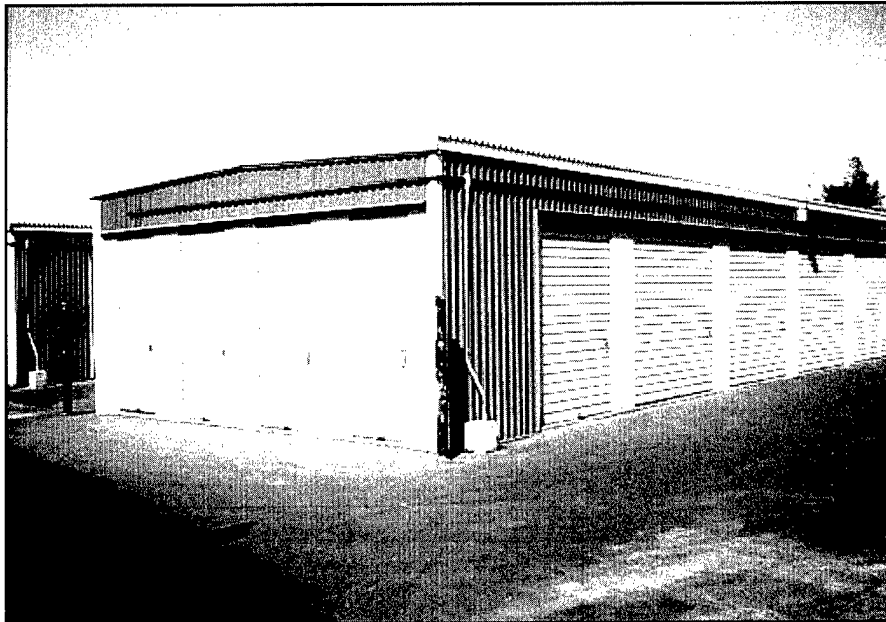


Figure 12. Exterior view of FWARG repository 2.

Structural Adequacy

Repository 1—Far Western Anthropological Research Group Office

Built around 1974, the two-story office building has a concrete foundation, stucco exterior walls, sheet rock interior walls, and a tar paper roof. No internal or external renovations have occurred since its construction.

Archaeological Material Storage Area 1—Debbie Jones' Office

Archaeological material storage area 1 is a 100 ft² office located between a hallway and an anthropology laboratory. Interior sheetrock walls, a plaster ceiling, and a carpeted, concrete floor are present. No windows exist. A single, wood panel door on the north wall and a single, wood panel door on the south wall of the room lead to the laboratory and hallway, respectively.

Archaeological Material Storage Area 2—Anthropology Laboratory

Archaeological material storage area 2 is a 400 ft² laboratory constructed of sheetrock, concrete floors, and a plastic covered insulated ceiling. Two windows, both located on the ceiling, are present. Two single doors provide access to the room; one interior, wood panel door and one exterior, wood and metal panel door. A large metal, overhead loading door leads to an alley outside. The laboratory is cluttered with empty boxes, curation supplies, janitorial supplies, full artifact boxes, office furniture, books, food, luggage, and personal items.

Repository 2—Central Davis Storage

These public rental storage units are constructed of a concrete foundation, concrete block and corrugated metal exterior walls, and a corrugated metal roof. All units are of similar construction, but vary in size. Storage units B-4 and D-17 are used to house the Fort Irwin collections and are approximately 200 ft² each.

Environment

Repository 1—Far Western Anthropological Research Group Office

Temperature in the building, including the collection storage areas, is controlled by a central air conditioning system and an electric, forced air heating system. However, no environmental monitoring or humidity control is attempted. Lighting is provided by fluorescent bulbs. The entire building is regularly maintained twice a week by janitorial staff.

Repository 2—Central Davis Storage

Temperature and humidity are not controlled in the storage units. Environmental monitoring does not take place. Wide temperature fluctuations occur in the storage areas. No artificial lighting is present in the storage units. Storage areas are maintained monthly by the curatorial staff.

Pest Management

Repository 1—Far Western Anthropological Research Group Office

The janitorial staff have a pest control program. However, no monitoring of pests takes place. Live insects were present in archaeological material storage area 1 during our visit.

Repository 2—Central Davis Storage

No precautions against insects or rodents are taken. No monitoring for pests takes place. Live insects were noted at the time of our visit.

Security

Repository 1—Far Western Anthropological Research Group Office

An intrusion alarm system is in place and consists of coded access and police link-ups. Security devices to prevent unauthorized access are installed on all exterior doors. No unauthorized entry has occurred in the past. All office windows are built into the walls and cannot be opened.

Archaeological Material Storage Area 1—Debbie Jones' Office

Dead-bolt and key locks are present on the doors to the office.

Archaeological Material Storage Area 2—Anthropology Laboratory

The exterior door has an intrusion detector wired into the main intrusion detection system.

Repository 2—Central Davis Storage

A metal gate and metal hurricane fencing are located at the entrance to the storage facility. Entry is only possible by coded access. Two codes must be entered at the front gate: one to open the metal gate and one for access to the individual storage units. Additionally, a padlock is present on all storage unit doors that are used.

Fire Detection and Suppression Systems

Repository 1—Far Western Anthropological Research Group Office

Fire extinguishers and smoke detectors are located throughout the building. Yearly inspections of the fire extinguishers are performed by qualified personnel.

Archaeological Material Storage Area 1—Debbie Jones's Office

No fire detection or suppression devices are located in Archaeological Material Storage Area 1. However, a fire extinguisher is present in an adjacent room.

Archaeological Material Storage Area 2—Anthropology Laboratory

One fire extinguisher is located in Archaeological Material Storage Area 2. It is installed next to the interior door. Additionally, smoke detectors are present in the room.

Repository 2—Central Davis Storage

No fire detection or suppression devices are present in storage units B-4 or D-17. However, one fire extinguisher, whose inspection is current, is located in the storage compound.

ARCHAEOLOGICAL MATERIAL STORAGE

Storage Units

Archaeological Material Storage Area 1—Debbie Jones' Office

One box of a chipped stone type collection was found by the assessment team on top of a filing cabinet along the wall of the office.

Archaeological Material Storage Area 2—Anthropology Laboratory

Artifact material currently being processed is temporarily stored in Archaeological Material Storage Area 2. Artifact boxes are located on metal shelving units with particle board shelves and are stacked on the floor.

Repository 2—Central Davis Storage

Artifact boxes are stacked on the floor up to six high down the center and along the walls of the storage units.

Primary Containers

The majority of the primary containers consist of folded, acidic cardboard boxes with telescoping lids (74% of sample). Additionally, most large groundstone is placed in wooden grape crates. Those that are not, have cardboard sheets separating each piece. Containers are labeled either directly in marker or are labeled in marker on an acidic paper label taped or glued to the outside. Most boxes are dusty and dirty. Some are compressed, overpacked, and/or contain live insects.

Secondary Containers

Secondary containers consist of two- and four-mil, plastic zip-lock bags, plastic garbage bags, and paper envelopes. Artifacts are also stored loose in boxes. Containers are labeled directly and/or with an adhesive paper label attached to the inside of the container. Labels are written in marker or pen.

Laboratory Processing and Labeling

The majority of the artifacts are cleaned (80%), labeled (78%), and sorted by material class (99%). Artifacts are labeled directly with ink, with ink on correction fluid, or with ink on nail polish.

HUMAN SKELETAL REMAINS

No known human skeletal remains from Fort Irwin are at FWARG.

RECORDS STORAGE

Most of the 113 linear feet of associated documentation from Fort Irwin is stored in acidic cardboard boxes at Repository 2. However, several locations within Repository 1 also contain administrative records, computer records, and reports (Table 10).

Table 10.
Types of Associated Documentation in the Fort Irwin Collections

Record Type	l.f.
Administrative	3.7
Background	4.3
Survey/Excavation	27.0
Analysis	26.0
Reports	17.0
Photographic	5.2
Computer	1.3
Cartographic	28.5

Total 113

Note: l.f. refers to linear feet

Paper Records

Paper records from Fort Irwin measure approximately 61 linear feet. The majority of the paper records, including background records, survey and excavation records, analysis records, and administrative records, are stored at Repository 2 in folded, acidic, cardboard boxes with telescoping lids. Boxes are labeled directly, or occasionally on an adhesive label, in marker with box contents, box number, and/or site information. Records are stored in various secondary containers including acidic three-ring binders, acidic three-hole folders, hanging folders, acidic manila folders, and loose in boxes. The majority of secondary containers are labeled in marker and had information on the box contents. However, some of the containers are unlabeled. Approximately eight linear feet of cardboard boxes with telescoping lids, and a four-drawer metal filing cabinet in Ms. Jones' office. Cardboard boxes are labeled in marker on a paper label containing the project name. The label has an adhesive backing. File drawers are labeled in marker with the project name on a paper tag held in place by a metal holder. Records in boxes are stored in acidic manila folders labeled either directly or on an adhesive label in pencil, pen, or marker. Records stored in a filing cabinet are contained in acidic manila folders, held by hanging file folders, and labeled either directly or on an adhesive label in pen, marker, or type. All label information includes the project name and/or contents.

Many of the paper records are torn, dusty, dirty, stained, and discolored. Some exhibit insect damage. Additionally, contaminants, such as rubber bands, staples, and paper clips, are present with many of the records.

Photographic Records

Approximately 5.2 linear feet of photographic records are stored in Repository 1 and Repository 2. These include color prints, black and white prints, contact prints, negatives, slides, and aerial photographs. Photographic records are, for the most part, not segregated from the associated paper records. They are stored together with paper records in the four-drawer metal filing cabinet in archaeological material storage area 2 at Repository No. 1, and in acidic, cardboard boxes at Repository 2. Most of the prints and contact sheets are stored in unlabeled, plastic three-ring binders in non-archival sleeves. Some, however, are stored in acidic manila folders, paper envelopes, or are loose in the container. Slides are stored in cardboard slide boxes. Photo sleeves are labeled in marker or type either directly or on an adhesive label with the roll number. Additionally, the three-ring binders include paper photo logs.

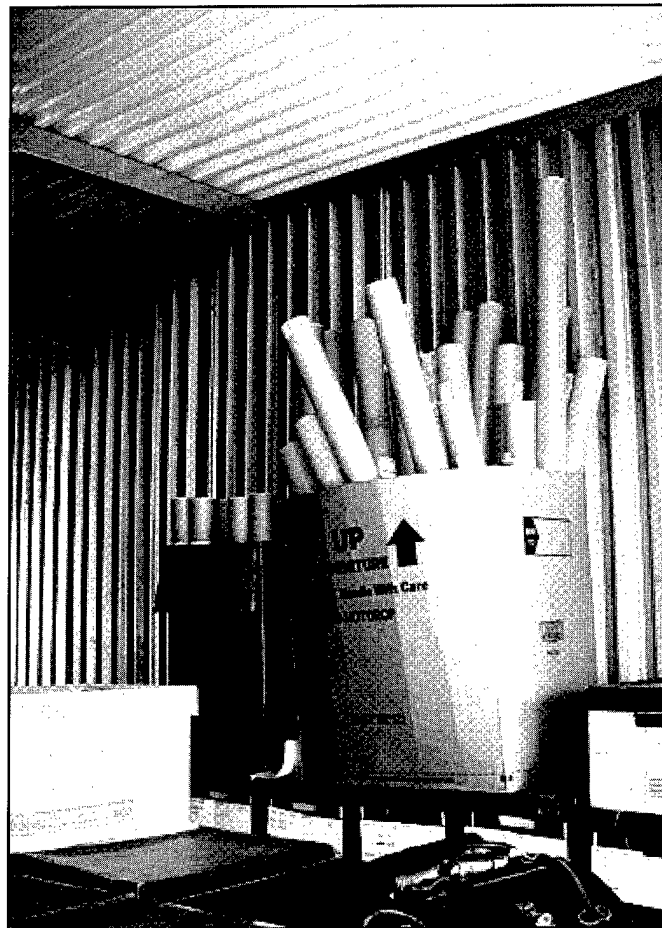


Figure 13.
View of container for cartographic records.

Maps and/or Oversized Documents

Cartographic records from Fort Irwin consist of approximately 28.5 linear feet in size of the total associated documentation and are located in both repositories. The cartographic records include large and small-scale site and topographic maps, drawings, report graphics, camera-ready figures and maps, and blueprints. The majority are stored in storage unit B-4 at Repository 2. Primary containers for the cartographic records stored at Repository 2 consist of 19, three-inch cardboard map tubes contained in a large, acidic cardboard box (Figure 13). Tubes are labeled with marker with the map roll number, and site number on an adhesive label. Maps are rolled and bound together with rubber bands.

A limited number of cartographic records are stored in Ms. Jones' office and the anthropology laboratory (Archaeological Material Storage Area 2) in Repository 1. Records in Ms. Jones' office are stored in one Federal Express triangular tube. Archaeological Material Storage Area 2 contains cartographic records in two separate places: the four-drawer filing cabinet along the north wall of the room and in one drawer of a metal map case under a work table in the middle of the room. Records stored in the filing cabinet are stored in manila folders, whereas those in the map case are loose in the drawer. Drawers and manila folders are labeled either directly or on an adhesive paper label with the contents in marker or type.

Reports

Final project reports, draft project reports, monthly reports, and site reports total approximately 17 linear feet of associated report documentation. The majority of the reports are stored in acidic, cardboard boxes with telescoping lids in storage unit D-17 at Repository 2. These are either bound, stored in manila folders, or are stored loose in the boxes.

A small amount of report records is stored in Repository 1. Miscellaneous draft reports are stored in various locations throughout Ms. Jones' office. Additionally, site reports from the Nelson Basin project are stored in manila folders in one drawer of the four-drawer filing cabinet located in the anthropology laboratory (archaeological material storage area 2). Folders are labeled either directly or on an adhesive paper label in marker or type with the contents.

Machine Readable Records

Approximately 1.3 linear feet of 5 1/2 inch and 3 1/4 inch floppy diskettes containing Fort Irwin report data, are stored on open, particle board shelves in the anthropology laboratory (archaeological material storage area 2) of Repository 1.

COLLECTIONS MANAGEMENT STANDARDS

Registration Procedures

Accession Files

All materials are accessioned upon receipt.

Location Identification

The location of the collections within the repository is identified in the accession files.

Cross-Indexed Files

All collection information is kept in a computer database file that can be cross-indexed.

Published Guide to the Collections

No published guide to the collections exists.

Site-Record Administration

The Smithsonian Institution's trinomial site numbering system is used.

Computerized Database Management

Far Western Anthropological Research Group uses DBASE to manage its accession and inventory records.

Written Policies and Procedures***Minimum Standards for Acceptance***

At the time of our visit, there is no written policy for the acceptance of archaeological collections.

Curation Policy

There is no written policy for the curation of archaeological collections.

Records-Management Policy

There is no written policy for the management of associated documentation.

Field-Curation Guidelines

No written field-curation guidelines exist.

Loan Procedures

No loans occur.

Deaccessioning Policy

Archaeological materials are tracked and, when deaccessioned, are noted as such within the repository catalog records.

Inventory Policy

No standard written inventory policy exists. However, inventories are completed on a case-by-case basis as stipulated in contracts.

Latest Collection Inventory

Archaeological collections were last inventoried in January 1993.

Curation Personnel

A staff of six, composed of managers and technicians, is assigned to the care for federal collections. Although there is no full-time curator for the collections, Ms. Jones devotes her time to curation related work.

Curation Financing

Curation is financed through archaeological contracts.

Access to Collections

The staff members all have access to archaeological collections. In addition, researchers wishing to inspect collections may do so, but only with curatorial personnel.

COMMENTS

1. Far Western Anthropological Research Group has recataloged, reorganized, coalesced, and inventoried the Fort Irwin collections generated from several contractors (Cornerstone, RECON, Wirth, and Far Western Anthropological Group) as part of a project with Fort Irwin.
2. Although suitable room exists for the storage of Fort Irwin collections at Repository 2, the lack of shelving is contributing to the compression and destruction of primary containers and their contents.
3. No environmental controls exist for Repository 2. No environmental monitoring occurred at either repository.
4. No integrated pest management system exists for either repository. Live and dead insects were noted in and around the collections.
5. Although security measures exist at Repository 2, its isolation puts the collections at risk from unauthorized entry. There is no direct alarm wired into a security company or local police station.
6. Although fire extinguishers and smoke detectors are located in Repository 1, there is no centralized fire alarm system wired to the local fire department. There are no centralized fire suppression devices. The isolated nature of Repository 2 puts the collections at risk from undetected fires. No fire detection or suppression devices are located inside the storage units where the collections are stored.
7. Archaeological materials are not stored in archivally stable containers. Archival containers for the oversized groundstone do not exist.
8. Almost all artifacts are sorted by material class. However, some are not labeled.
9. No central storage place for the associated documentation exists. Records are stored in acidic containers. Record types are stored mixed together. No duplicate copies of any documentation exists.
10. There is currently no comprehensive set of written policies and procedures for the management of archaeological collections.

11. There is no full-time curator for the archaeological collections.
12. Improving the structural adequacy (i.e., environmental controls, fire suppression devices, etc.) of Repository 2 is not possible because the facility is rented. Thus, the safety of the collections is compromised.

RECOMMENDATIONS

1. All Fort Irwin collections should be removed from FWARG and placed in a curation facility that has a full time curatorial staff and proper environmental controls, fire detection and suppression devices, security, and pest management systems.
2. If Recommendation 1 cannot be implemented, the following procedures are recommended in order to upgrade the existing facility to meet federal standards:
 - a. If space is available, collections in Repository 2 should be moved to Repository 1.
 - b. Humidity control devices should be installed in Repository 1. Temperature and humidity monitoring should take place in all archaeological material storage areas.
 - c. An integrated pest management system, stressing monitoring, should be implemented.
 - d. Fire suppression devices should be upgraded in Repository 1 to include a sprinkler system. A centralized fire detection system should be installed.
 - e. For security reasons, collections should be moved to an area of the building that can be easily monitored for unauthorized personnel or to which access is restricted.
3. All artifacts should be labeled and cleaned, re-boxed in acid-free containers, and stored in four-mil plastic zip-lock bags. Labels should be applied in indelible ink.
4. Associated documentation should be coalesced and stored by record type. All paper records should be housed in acid-free folders and boxes. All contaminants should be removed. All photographic records should be inserted into inert plastic sleeves and stored in acid-free binders or boxes. All maps should be removed from the cardboard tubes and placed flat in a sealed map drawer. All documentation should be copied onto acid-free paper or microfilm, with the copies stored in a separate fire-safe, secure location.
5. Written policies for the management of archaeological collections should be implemented.

11
JOSHUA TREE NATIONAL MONUMENT
JOSHUA TREE, CALIFORNIA

REPOSITORY SUMMARY

(1) Volume of Archaeological Materials: 0.3 ft³

Compliance Status: Archaeological material requires partial rehabilitation to comply with existing federal guidelines and standards for curation.

(2) Linear Feet of Records: 1.5 linear feet

Compliance Status: The majority of the associated records have been properly curated. However, photographic documentation needs to be inventoried and archivally curated.

(3) Human Skeletal Remains: All human skeletal remains recovered from the Marine Corps Air-Ground Combat Center, Twentynine Palms have been repatriated. The remains were analyzed at the University of California, Riverside, prior to repatriation. The record of this analysis and other documentation is kept in a sealed, restricted file at Joshua Tree National Monument.

(4) Status of Curation Funding: Curation is also financed by funds from special projects and by excess funds from elsewhere in the National Park Service.

INTRODUCTION

DATE OF VISIT: August 21, 1992

PERSON CONTACTED: Rosie Pepito

The Campbell collection, gathered by William and Elizabeth Campbell during the 1920s to 1940s, is the only collection from the MCAGCC Twentynine Palms, currently at Joshua Tree National Monument. It consists of approximately 0.3 ft³ of artifacts and 1.5 linear feet of associated records. The majority of the collections consists of chipped stone material, although ceramic and shell artifacts are also present.

Any human skeletal remains recovered from MCAGCC Twentynine Palms and stored at Joshua Tree National Monument have since been repatriated. However, prior to repatriation, the remains were analyzed at the University of California, Riverside. A record of these burials is kept in a sealed, restricted file at Joshua Tree National Monument.

REPOSITORY

Archaeological collections at Joshua Tree National Monument are stored in a 800 ft² refurbished garage building within the park (Figure 14).

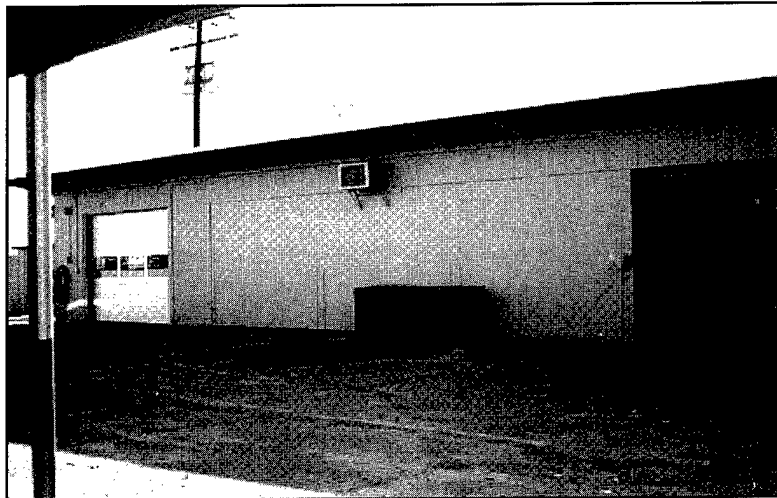


Figure 14. Exterior view of the Joshua Tree National Monument curation repository.

Structural Adequacy

The building originally functioned as a garage, but was renovated for use as a collection storage area. The interior and exterior walls are constructed of brick and wood. The ceiling is constructed from of 2 inch by 8 inch pine. There is a poured concrete floor. There is one exterior metal overhead loading door and one interior single panel door. No windows are present. The collection storage

area is filled to capacity. Because of space restrictions, some larger historic artifacts (not associated with the Campbell collection) are suspended from the ceiling (Figure 15). Lack of usable storage space is also reflected by boxes and large historic artifacts being stored on the floor.

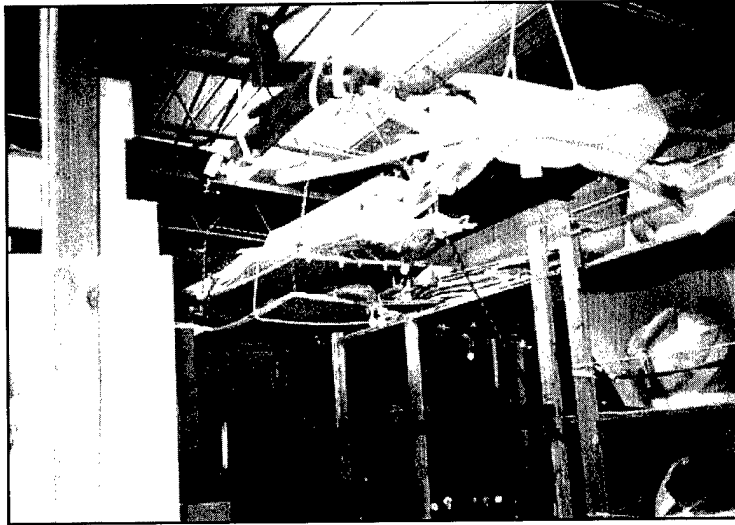


Figure 15. Storage of some types of artifacts at Joshua Tree National Monument.

Environment

Temperature is controlled by an air conditioning and heating system. Although humidity is monitored by a hygrothermograph, it is not regulated. Lighting is provided by uncovered fluorescent tubes.

Pest Management

No integrated pest management program is in place. However, pest strips are used to monitor for pests and the archaeological archaeological material storage area is thoroughly cleaned and checked by staff every other week. No evidence of pest infestation was noticed during the inspection by the assessment team.

Security

The facility is protected by a motion detector/security alarm system. The door to the collection storage area is secured by a key lock at all times. All visitors to the collection storage area must be accompanied by a curatorial staff member and all research must be done under the supervision of a museum staff member. Extended research (over 1/2 hour) is by appointment, whereas research extending beyond one day requires a research tracking sheet.

Fire Detection and Suppression Systems

The fire detection system consists of several smoke alarms. Two fire extinguishers and an automatic sprinkler system comprise the fire suppression system in the facility. A manually operated fire alarm exists on the exterior of the facility.

ARCHAEOLOGICAL MATERIAL STORAGE

Storage Units

Storage units with archaeological materials recovered from MCAGCC Twentynine Palms consist of enameled metal, fireproof lane cases containing metal drawers (Figure 16). Cabinets are labeled with storage unit reference numbers on adhesive labels.



Figure 16. Storage units for collections at Joshua Tree National Monument.

Primary Containers

Archaeological materials recovered from MCAGCC Twentynine Palms are stored in enameled metal, archival quality foam-lined drawers measuring three feet long, two feet wide, and 0.16 feet high. Acidic paper tags are contained within metal label holders on the fronts of the drawers. The labels contain site name and storage unit reference number information.

Secondary Containers

Several types of secondary containers contain MCAGCC Twentynine Palms artifacts. These secondary containers include Riker mounts padded with cotton and small acidic and acid-free lidless boxes lined with ethyfoam. Most artifacts stored in the lidless boxes are loose, although some are actually embedded in the ethyfoam. At the time of our visit, the repository staff was in the process of transferring artifacts to archival quality containers. The Riker mounts are directly labeled in pen and/or contain a typed adhesive label listing site name and catalog number. Lidless boxes are not labeled, but contain acidic paper tags written in marker with the site name and catalog number.

Laboratory Processing and Labeling

All artifacts are cleaned and most are directly labeled in india ink with a Southwest Museum number and a Joshua Tree catalog number.

HUMAN SKELETAL REMAINS

All human skeletal remains were repatriated. The remains were analyzed at the University of California-Riverside, prior to repatriation and a record of these burials is kept in a sealed, restricted file at Joshua Tree National Monument.

RECORDS STORAGE

Documentation associated with the Campbell collection consists of approximately 1.5 linear feet of paper records and three boxes of unidentified photographs and negatives some of which may be associated with the Campbell collection.

Paper Records

Paper records include original field notes, original descriptions of dry lake-bed sites, and an original catalog of artifacts. Original field notes are written in ink on pages contained inside black leather binders. Field notes documenting the dry lake-bed sites are typed and enclosed in an acidic cardboard three-ring binder. The individual pages, however, have been inserted into glassine sleeves for protection. These are all stored flat on ethyfoam lined trays in locked, fireproof metal cabinets (Figure 17). Duplicates of all paper records are on archival paper. One copy is stored at the Southwest Museum. All working, duplicate copies are stored in acid-free folders in boxes on the floor of the repository.

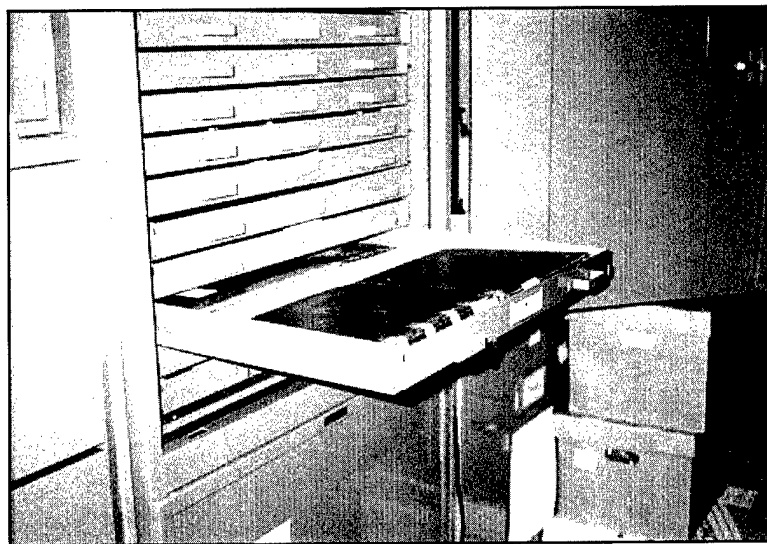


Figure 17. Storage units for paper records housed at Joshua Tree National Monument.

Staff members are in the process of entering catalog card information into a computer database. Information included on these cards consists of item classification, counts, location, dimensions, weight, donor name, acquisition date, catalog number, cataloger, and condition of artifact. Paper copies of these cards are printed in triplicate. One copy is kept in a binder for use at the repository, one is stored at the visitor center museum, and one copy is sent to the National Park Service in Washington, D.C. Copies of the computer disks are stored in a vault at the visitor center.

Photographic Records

There are three boxes of unidentified photographs and negatives, some of which may be associated with the Campbell collection. Unfortunately, there is no photo log or detailed descriptions of photographs included in the field notes. None of the photographs are labeled. Thus, it is difficult to identify which photos belong to the Campbell collection. The photographs and negatives are stored in acid-free envelopes within acid-free folders in archival quality boxes. Folders are labeled with Joshua Tree catalog numbers. Many of the artifacts have been photographed on slides. These slides are stored in archival sleeves in plastic three-ring binders on bookshelves.

COLLECTIONS MANAGEMENT STANDARDS

Registration Procedures

Accession Files

Accession files are present.

Location Identification

The location of the collections within the repository is identified in the computer catalog system.

Cross-indexed files

The files are cross-indexed by site name, catalog number, and storage unit reference number.

Published Guide to Collections

No published guide to the collections exists.

Site Record Administration

The Smithsonian Institution trinomial system is used.

Computerized Database Management

Joshua Tree National Monument uses a DBASE to catalog the collections.

Written Policies and Procedures

Minimum Standards for Acceptance

No minimum standards for acceptance exist.

Curation Policy

Special Directive 80-1 (revised), "Guidance for Meeting National Park Service Preservation and

Protection Standards for Museum Collections” serves as the repository’s curation guide. The directive addresses museum collections storage, museum environment, security, fire protection, and housekeeping, and also provides a checklist for each of these areas.

Records Management Policy

Archival material is accessioned and cataloged in accordance with the National Park Service standards of the *Museum Handbook*, Part II.

Field Curation Guidelines

Prehistoric and historic archaeological materials are curated in accordance with National Park Service standards.

Loan Procedures

Objects can be loaned to qualified institutions for approved purposes. Institutions must meet minimal standards for security, handling, and exhibition of museum objects. Outside researchers must submit a research proposal to the superintendent for review before access to a collection is granted. No loans are made to individuals.

Deaccessioning Policy

No information was available on the deaccessioning policy.

Inventory Policy

Inventories are conducted annually.

Latest Collection Inventory

The collections were last inventoried in 1992.

Curation Personnel

The curation staff consists of three full-time employees and one part-time employee, all of whom have passed training courses in curation. Rosie Pepito serves as curator, one full-time staff member serves as the museum registrar, and two other staff members serve as museum technicians.

Curation Financing

Curation activities are financed by special project funds and through excess funds. A portion of Ms. Pepito’s salary is the only funding allocated to curation.

Access to Collections

Access to collections is controlled by curation personnel. All visitors are supervised by museum staff members. Anyone wanting to conduct research using the collections must submit a research proposal that must be approved by the park superintendent before the research starts.

Future Plans

Plans have been made for the construction of a new park building more suited to archaeological curation. The new facility will have 4,600 ft² of space for collections.

COMMENTS

1. The repository is well organized, has well-written research, security and loan policies, and is transferring the collections to archival quality containers.
2. The facility is filled to capacity, as evidenced by boxes stacked on top of cabinets and on the floor and by artifacts suspended from the ceiling.

RECOMMENDATIONS

1. An attempt should be made to identify and archivally curate the photographic records.
2. Because of overcrowding, all collections should be removed from the current repository as soon as possible.
3. The disposition and cultural affiliation of all funerary objects (both associated and unassociated), objects of cultural patrimony, and sacred objects should be determined as part of NAGPRA compliance.
4. All artifacts currently stored loose in lidless boxes should be archivally curated in four-mil, polyethylene zip-lock bags to prevent them from damaging each other.

12

NATURAL HISTORY MUSEUM OF LOS ANGELES COUNTY LOS ANGELES, CALIFORNIA

REPOSITORY SUMMARY

(1) Volume of Archaeological Materials: 60 ft³

Compliance Status: Archaeological materials require complete rehabilitation to comply with existing federal guidelines and standards for curation. All archaeological materials should be reboxed and rebagged into archival quality containers.

(2) Linear Feet of Records: 1 linear foot

Compliance Status: All documentation requires complete rehabilitation to comply with existing federal guidelines and standards for archival preservation. Original documentation should be located and returned so that all the documentation is in one place. Original photographs from Big Dog Cave are still curated on acidic cardboard mounts and need to be removed and stored in acid-free envelopes.

(3) Human Skeletal Remains: Five human burials representing an unknown number of individuals are reported to have been recovered from Big Dog Cave by A. Woodward. At the time of our visit, the museum staff were unaware of the existence of any of these remains. We did locate and identify one cremation, but the location of the other four burials is unknown.

(4) Status of Curation Funding: Funding for the maintenance of archaeological collections consists of the salary of the collections manager plus funds for curation supplies. The appropriated sum is inadequate for the needs of the department.

INTRODUCTION

DATE OF VISIT: 19 October 1992

PERSON CONTACTED: Chris Coleman and Karen Wise

An estimated 60 ft³ of archaeological materials recovered from San Clemente Island and NAS North Island, and one linear foot of associated documentation are stored at the Natural History Museum. Most of these materials (59 ft³) resulted from excavations at Big Dog Cave conducted by A. Woodward during his Channel Island Survey in the 1930s. The remaining collection (1 ft³) was donated by Prud Home. Museum personnel believe that some San Clemente Island artifacts from the Woodward collection are now at the University of Arizona and the Arizona State Historical Society. Most associated documentation is at the Arizona State Historical Society and the Santa Barbara Museum of Natural History.

REPOSITORY

The archaeological material storage area occupies approximately 3250 ft² of space within the main museum (Figure 18), and is located on a mezzanine level between the second and third floors of the museum.

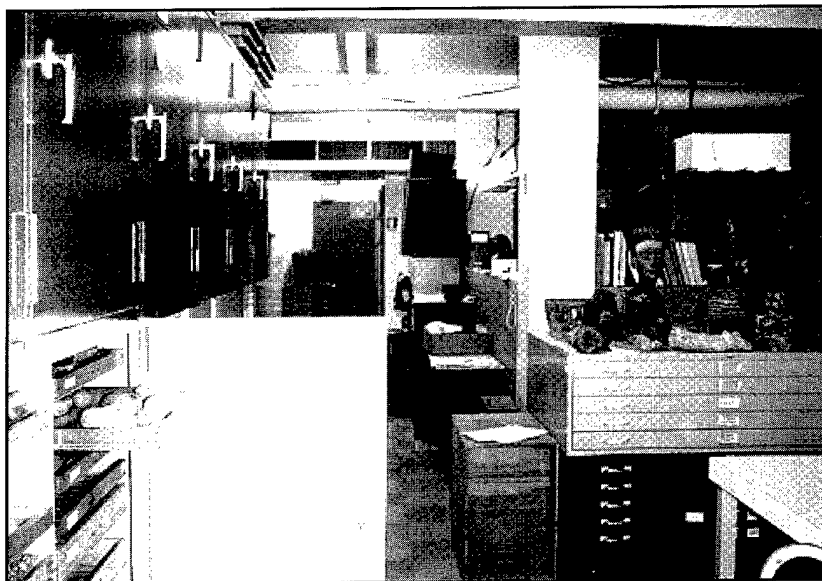


Figure 18. View of archaeological material storage area.

Structural Adequacy

The Museum building was constructed in 1914 and the archaeological material storage area was added in 1928. As part of the museum proper, the storage area is structurally adequate. The concrete floor is tiled and the ceiling and walls are plastered. However, the age of the building and its poor design make the available space less than desirable for collections storage. Space is inadequate and the archaeological material storage area is not equipped for the proper curation of archaeological materials. The area is crowded with curation materials and supplies. Running water is not available for laboratory purposes.

Environment

There are no environmental controls in the archaeological material storage area. Temperature and humidity levels cannot be regulated. Temperatures range from 50–80°F, whereas relative humidity fluctuates between 10% and 50%. Overhead pipes present a continuous threat to the collections.

Pest Management

Traps are used to monitor for insect pests. The archaeological material storage area is chemically sprayed on an as-needed basis. The museum has never had a problem with rodents.

Security

Armed security guards patrol the museum 24 hours a day. The archaeological material storage area is always locked and key access is limited. Collections can only be used under the supervision of a museum staff member. Maintenance of the area is done only when staff members are present.

Fire Detection and Suppression Systems

The museum is inspected annually and meets Los Angeles County requirements for fire prevention. Fire alarms are the only fire detection devices. Security must be called to request the fire department. Although a sprinkler system exists in the exhibit areas, a similar system has not been installed in the archaeological materials storage area. Fire extinguishers are the only fire suppression devices in that area.

ARCHAEOLOGICAL MATERIAL STORAGE

Storage Units

Archaeological materials are stored in double-door, metal cabinets that have a baked enamel finish. Each unit measures 25 inches by 56 inches by 50 inches (length, width, height) and contains approximately 54 ft³ of space.

Primary Containers

Primary containers consist of 19 wooden drawers that have been treated with an unknown finish. Each drawer is 24 inches by 25 inches by 2 inches (length, width, height). Acidic paper labels are attached to each drawer. Label information is recorded in pencil.

Secondary Containers

A variety of secondary containers are used to protect the archaeological materials in the drawers. Small wooden boxes, cardboard boxes, with and without lids, Riker mounts, plastic trays, coffee cans, plastic bags, cloth bags, and glass and plastic vials are all present. Historic mission cloth is wrapped in acidic tissue paper and separated by acidic cardboard. Cordage is stored in cotton. Two English game hens are stored in large plastic zip-lock bags along with mission cloth, fur, cordage, and trade beads. Some chipped stone items and large abalone shells are stored loose in the drawers on foam padding, but there is no protection from abrasion when the objects touch one another.

Laboratory Processing and Labeling

Artifact labeling is inconsistent. Most chipped stone and shell artifacts are individually labeled with the catalog number in either black or white india ink. Adhesive labels, paper cards, and paper tag labels tied with string are also used. In addition to the catalog numbers, these labels also contain the site number, the artifact classification, and the date the items were curated.

HUMAN SKELETAL REMAINS

Five human burials, along with associated grave goods are reported from Big Dog Cave on San Clemente Island by A. Woodward and stored at museum. At the time of our visit, museum curators were unaware of the existence of any of these remains. The museum's catalog (No.: A.4616-c, 1-71 and 1-72) notes that remains from two burials were received by the museum in April 1939. Burial No. 1-71 was described as being in good condition and consisting of a skull, a jaw, and was reported as being fairly complete except for long bones. Burial No. 1-72 was also in good condition and contained a jaw, ribs, scapulae, vertebrae, sternum, and some foot bones. A thesis proposal by Richard Maclas (1980) makes the following statement:

Burials: Five human and three animal burials were found. The field map, scattered field notes and the catalogue supply details not mentioned by Woodward in his two articles. The burials are given names, numbers, and letters in the notes and it is difficult to correlate them. The human skeletons and the dog skeleton could not be located among the specimens.

Woodward may have taken the burials with him when he left the museum. One cremation is present, but the location of the other four burials is unknown.

RECORDS STORAGE

All associated documents are prepared archivally for storage and are kept in metal file cabinets in a climate-controlled room. The original documentation associated with the Woodward collection is no longer at the museum. These records have been identified as being at the Arizona State Historical Society and at the Santa Barbara Museum of Natural History.

One linear foot of copies of some of these documents is maintained in the collection manager's office, with a duplicate copy in the collections storage room. Documentation includes photocopies of the catalog cards with the catalog number, specimen, origin, collector, date received, description, and museum location, site locations for the Channel Island Survey, 1939–41, site survey records; various analysis notes and articles, transcriptions of Woodward's notes, an incomplete accession record, progress reports; field notes for Big Dog Cave, November–December, 1940, a thesis proposal, loan records, and photographs.

Paper Records

All paper documents are kept in acid-free folders and filed in metal file cabinets.

Photographic Records

General photographic materials, including negatives and prints, are protected by acid-free paper sleeves and filed in acid-free cardboard boxes. The Big Dog Cave photographs are still attached to acidic cardboard mounts. These items are labeled with the museum catalog number, subject, and date.

Maps and/or Oversized Documents

Oversized maps and related documents are stored flat in standard metal map cases. These documents are separated by acid-free map board.

COLLECTIONS MANAGEMENT STANDARDS

Registration Procedures

Accession Files

The museum has accession files.

Location Identification

The location of collections is not identified.

Cross-indexed Files

The files are cross-indexed by site name and accession number.

Published Guide to Collections

No guide to the collections exists.

Site Record Administration

None exists.

Computerized Database Management

Approximately 5,000 catalog cards (50%) of the entries for the systematic collections have been entered into Macintosh database program.

Written Policies and Procedures***Minimum Standards for Acceptance***

The museum no longer accepts collections.

Curation Policy

A draft plan that was part of an Institute for Museum Services (IMS) grant submission is used to guide curation policy. The plan does not address the receipt of materials, but provides suggestions for the processing and use of collections. A curation policy developed for the ethnographic collections is also used for the archaeological materials.

Records-Management Policy

Records management is also addressed in draft plan. Procedures for storing paper documents, photographic materials, and maps are presented, but the long-term preservation of these records is not addressed.

Field-Curation Guidelines

As the museum no longer accepts collections, it does not have field curation guidelines.

Loan Procedures

Collections access request forms and specimen invoice and receipt forms are required for use or loan of archaeological materials.

Deaccessioning Policy

The deaccessioning policy is included in the museum's general operating policy.

Inventory Policy

None exists.

Latest Collection Inventory

The collections have never been completely inventoried.

Curation Personnel

The archaeological collections are managed by professional and knowledgeable personnel consisting of two full time curators, one full-time assistant, and four part-time volunteers who assist with the collections one day per week.

Curation Financing

Funding of the archaeological collections consists of the salary of the collections manager plus funds for curation supplies. Additional funds are occasionally available from IMS grants. These funds are inadequate, especially when the total rehabilitation costs of the collections are considered.

Access to Collections

Researchers and students from recognized institutions are permitted access to the collections, but all requests must first be submitted in writing. Collections can also be loaned after the loan applications are completed.

Future Plans

Plans for the archaeological collections room include reducing clutter, setting up a collections work area with running water, and installing compact shelving. The staff hope that collections can also be repackaged in appropriate containers and information on the artifacts entered into an on-line database management system. Digitizing the photo images is also a project that staff would like to undertake.

COMMENTS

1. All of the secondary containers consist of various types of acidic materials.
2. The original documentation associated with the Woodward collection is stored at the Arizona State Historical Society and the Santa Barbara Museum of Natural History.
3. The photographs from Big Dog Cave are still curated in the original acidic cardboard mounts. If not removed, they will deteriorate.
4. There are no environmental controls in the museum. Temperature and humidity variations are outside the acceptable range suggested by the American Association of Museums.
5. Although the facility is inspected annually, fire alarms and extinguishers are the only means of fire detection/suppression in the archaeological collections area.
6. Five human burials are reported from Big Dog Cave on San Clemente Island by A. Woodward. We discovered one cremation, but the other four burials could not be located.

RECOMMENDATIONS

1. All artifacts should be rebagged into archival-quality four-mil, zip-lock polyethylene bags.
2. The original documentation associated with the Woodward collection that is currently thought to be stored at the Arizona State Historical Society and the Santa Barbara Museum of Natural History should be returned to the Natural History Museum of Los Angeles so that the entire collection can be curated in one place.
3. The original photographs from Big Dog Cave that are still curated on the original acidic cardboard mounts should be removed from these mounts and stored in acid-free envelopes.
4. A climate control system should be installed to regulate temperature and humidity. If this is not possible, commercial dehumidifiers and air conditioners should be used temporarily to stabilize the storage environment.
5. A sprinkler system should be installed in the archaeological material storage area. If this is not possible, additional fire extinguishers should be purchased and fire alarms should be wired directly into the local fire department, rather than having to call on security to request the fire department to respond.
6. The four burials from Big Dog Cave on San Clemente Island that were recovered by A. Woodward should be located and reintegrated with the collections as a first step in complying with NAGPRA.

13

SAN BERNARDINO COUNTY MUSEUM SAN BERNARDINO, CALIFORNIA

REPOSITORY SUMMARY

(1) Volume of Archaeological Material: 1 ft³

Compliance Status: Archaeological materials require partial rehabilitation to comply with existing federal guidelines and standards for curation. All are cleaned and sorted, but should be rebagged and reboxed into archival quality containers.

(2) Linear Feet of Records: 0.3 linear feet

Compliance Status: Partial rehabilitation is required to comply with existing federal guidelines and standards for archival preservation. Documents are duplicated and copies are stored elsewhere, but the copies are not on acid-free paper and are not stored in acid-free folders.

(3) Human Skeletal Remains: No known human skeletal remains recovered from Edwards Air Force Base are at the San Bernadino County Museum.

(4) Status of Curation Funding: Curation is financed through cultural resource management contracts.

INTRODUCTION

DATE OF VISIT: August 26, 1992

PERSON CONTACTED: Robin Laska

Approximately 1 ft³ of prehistoric archaeological materials was recovered from two sites on Edwards Air Force Base (San Bernardino County Museum numbers 3043,3044). Approximately as 0.25 linear feet of records are stored at the San Bernardino County Museum (Table 11).

Approximately 95% of the archaeological material consist of chipped stone material, whereas the remaining 5% include faunal remains, shell, and ceramics. Collections are well organized and are arranged according to San Bernardino County Museum (SCBM) number. We did not locate any human skeletal remains from sites on Edwards Air Force Base at SCBM.

Table 11.
Summary of Edwards Air Force Base Collections at
the San Bernardino County Museum

Donor	SBCM Number	Site Number/Name	Presence or Absence		Year
			Artifacts	Documents	
Lisle Babcock	3043	Rogers Lake	Y	Y	1975
Lisle Babcock	3044	Rogers Lake	Y	Y	1975
	3356	SBr1563/Muroc Air Base ^a	N	Y	1977
	3366	Muroc Base Historical District	N	Y	1977
	4403	SBr4052/Edwards AFB	N	Y	1977
	4409	SBr4056/Edwards AFB	N	Y	1980
	4410	SBr4057/Edwards AFB	N	Y	

^a Muroc Air Base changed its name to Edwards Air Force Base in 1949.

REPOSITORY

Next to the museum is the California Archaeological Inventory (CAI) and an archaeological material storage and laboratory area, offices, and a restroom. The archaeological material storage area occupies approximately 6500 ft² (Figure 19).

Structural Adequacy

The museum is a single story building with a concrete slab foundation and a reinforced steel frame. The floor in the archaeological material storage area is unsealed concrete, The CAI has an unsealed concrete floor covered by carpeting. The roof is covered with asphalt shingles and sheet asphalt. A drop Celotex ceiling exists in the CAI, whereas the ceiling in the archaeological material storage area consists of insulation covered by plastic sheeting. The exterior walls are corrugated metal and

wooden siding, whereas the interior walls are covered with sheetrock. Although there are several windows in the CAI, none exist in the archaeological material storage area. Exterior doors include a single panel entrance door to the CAI and a single metal overhead loading door to the archaeological materials storage area. There is a single panel interior door leading to the archaeological material storage area from the CAI. The plumbing system was updated in 1973. The electrical system is new. Although the San Bernardino County Museum is the only facility in southern California still accepting archaeological collections, it has reached capacity.



Figure 19. View of archaeological material storage area at the California Archaeological Inventory.

Environment

There are no temperature or humidity controls in the archaeological material storage area. Box fans are used to increase ventilation. However, a central air conditioning and heating system does create a stable environment in the CAI. Fluorescent lighting is present throughout the complex. Several electrical conduits hang from the ceiling in the archaeological material storage area and provide electricity for additional lights or fans.

Pest Management

There is no integrated pest management program. Although we did not observe any rodent or insect damage, the museum staff acknowledge that there is a problem with black widow spiders. Mouse traps are used to control rodents. Chemical spraying and chemical bombs are administered on an as-needed basis to control insects.

Security

The archaeological material storage area and the CAI complex are contained within a fenced compound. The area is protected by a security alarm and motion detector. Only a limited number of

keys to the building exist and these are signed out by individuals. Individuals without keys must ring a buzzer to gain entrance. A guard is on duty when the museum is open and is responsible for checking on the archaeological material storage area.

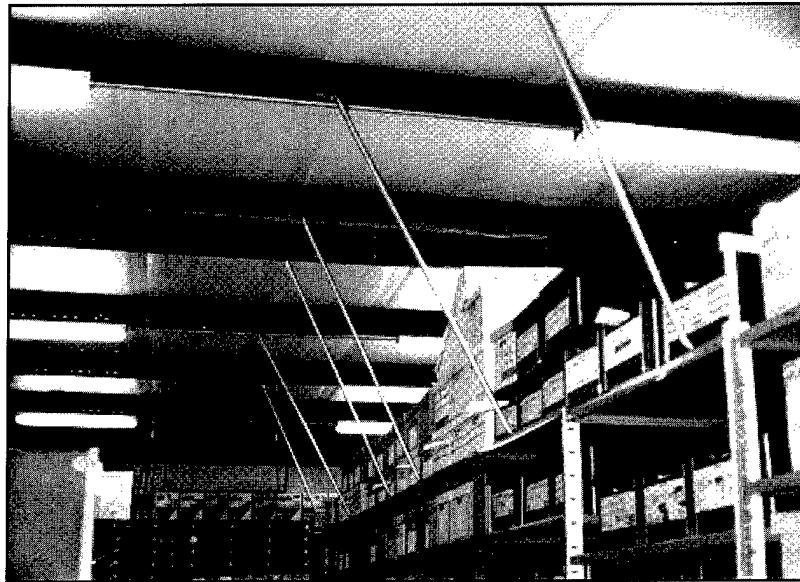
Fire Detection and Suppression Systems

The fire suppression system in the archaeological material storage area includes three fire extinguishers and a garden hose located just outside the overhead loading door. It is not known what type(s) of fire detection/suppression system are in the CAI.

ARCHAEOLOGICAL MATERIAL STORAGE

Storage Units

The archaeological collections recovered from sites on Edwards Air Force Base are stored in wooden drawers inside multiple units located in a metal framework. Each unit measures 5 feet by 1.5 feet by 8 feet (Figure 20). Collections curated at the museum are stored on enameled metal warehouse shelving units that are 3 feet by 3 feet by 8 feet (length, width, height). Aluminum poles, approximately five feet long, have been attached to the tops of all shelving units and secured to the walls or ceiling. The poles provide support in case of earthquakes (Figure 20).



**Figure 20. Types of storage unit used for archaeological materials.
Note poles used for earthquake protection.**

Primary Containers

Wooden drawers 2 feet by 1.5 feet by 0.25 feet (length, width, height) are used as the primary containers for the Edwards Air Force Base collections. The exteriors of the drawers are painted red and the interiors are unsealed and unlined. Drawer number and San Bernardino County Museum

number information are directly labeled on the front of each drawer in black marker.

Secondary Containers

Secondary containers for the Edwards Air Force Base materials include small lidless, acidic cardboard boxes, two-mil, zip-lock plastic bags, and artifacts stored loose in a drawer. Most artifacts are stored loose in the wooden drawers. Both the zip-lock bags and small acidic cardboard boxes are labeled directly in black marker with a museum number (e.g., SBCM 4033).

Laboratory Processing and Labeling

All artifacts are cleaned, sorted by artifact class and size, and labeled with a museum number in India ink.

HUMAN SKELETAL REMAINS

No human skeletal remains recovered from Edwards Air Force Base are curated at the museum.

RECORDS STORAGE

Approximately 0.3 linear feet of associated documentation from archaeological projects conducted at Edwards Air Force Base are present. Most are paper records. Unless otherwise noted, all are photocopies.

Paper Records

Paper records from Edwards Air Force Base are from SBCM site numbers 3043, 3044, 3356, 3366, 4403, 4409, and 4410. The paper records are centralized in a climatically controlled room in the CAI, and are stored in enameled metal file cabinets. All records are arranged by SCBM number, and are contained in acidic file folders with typed adhesive labels stating the SBCM number, the state trinomial number, and occasionally, the site name.

Information from Roger's Lake (SBCM 3043, 3044) consists of original site survey records from 1975 and 1984, a duplicate copy from 1977, copies of artifact catalog cards, cultural resource inventory records, and correspondence. Folders SBCM 3356 and 3366 contain information on Muroc Air Base. The information includes copies of site survey records dating to 1977, artifact catalog cards, and correspondence. Folders SBCM 4403, 4409, and 4410 are all from 1980 and contain cultural resource inventory records.

Although the records have not been copied on acid-free paper, duplicate copies of these records exist and are stored in the CAI, the SHPO's office in Sacramento, and in the museum. Robin Laska and Carol Rector are responsible for the maintenance of these records, but personnel in the CAI also have access to them.

Maps and/or Oversized Documents

In the folder for SCBM 3366 is an original topographic map, now folded and inserted in a "pocket" constructed of an acidic manila envelope.

Reports

The only report is in folder SCBM 4056. The report summarizes the mitigation of the space shuttle transport road at Edwards Air Force Base.

COLLECTIONS MANAGEMENT STANDARDS

Registration Procedures

Accession Files

Only items received by private donors are accessioned. Collections acquired as a result of cultural resource management projects are documented and a receipt is prepared and then returned to the contractor.

Location Identification

The location of collections within the repository is stored with the catalog cards and on a computer database.

Cross-indexed files

Files are cross-indexed by SBCM collection and catalog numbers. Catalog cards, as well as site files, contain this information.

Published Guide to Collections

No guide to the collections exists.

Site Record Administration

The Smithsonian Institution trinomial system is used.

Computerized Database Management

A computer based database management system is being used.

Written Policies and Procedures

Minimum Standards for Acceptance

The museum is formulating a new set of standards. However, staff are waiting for the state curation guidelines to be adopted before completing their own standards.

Curation Policy

Much of what is included in the SBCM policy is linked to the adoption of the state curation guidelines.

Records Management Policy

Major emphasis is placed on storing the records in a climatically controlled environment.

Field-Curation Guidelines

The museum does have field curation guidelines.

Loan Procedures

Collections are only allowed to be loaned to individuals that the museum determines are qualified researchers. A letter is required from the director of the borrowing institution requesting the loan.

Deaccessioning Policy

Unless the item(s) is completely destroyed, a request to deaccession must be submitted to the director of the museum. After the request is granted, 25 years must pass before the item(s) are actually deaccessioned.

Inventory Policy

AN inventory policy exists.

Latest Collection Inventory

A collections inventory was completed in 1992. Prior to this, the last inventory occurred in 1987.

Curation Personnel

There is no full-time curator for the archaeological collections. The full-time curator for Anthropology is given this additional responsibility. The curator has a part-time assistant.

Curation Financing

All curation work is financed through cultural resource management projects.

Access to Collections

Access to collections is controlled by curatorial personnel. The collections are available to researchers through loans or in the museum. All use is supervised by curatorial staff. No original records are allowed to be removed from the SBCM, but duplicates may be made.

Future Plans

The curatorial staff responsible for maintaining the archaeological collections feel that the primary responsibilities associated with each collection are curation, preservation, storage, and availability of collections to researchers. If funds are available, the curation program will be upgraded.

COMMENTS

1. The SBCM is the only facility in southern California still accepting archaeological collections for curation. Their storage space is full. In some cases, boxes are stacked on top of each other on the upper shelving units. This leads to compression of boxes and possible damage to the collections. Ms. Laska estimated that at least six times as much space as is now available would be needed in the next twenty years to accommodate all the archaeological collections that would be generated.
2. Although collections are easily accessible, they need to be rehabilitated according to federal standards. The wooden trays with the archaeological materials are not lined with acid-free tissue

paper and most of the artifacts are stored loose in the drawers. Artifacts thus rattle around and abrade each other.

3. There are no environmental controls. Box fans are used to increase ventilation in the archaeological collections area. Humidity is not monitored or controlled.
4. There is an acknowledged problem with black widow spiders, yet there is no consistent program of pest control.
5. No associated records could be located for SCBM 3356, 3366, 4403, 4409, or 4410.
6. Records have been duplicated, but not on archival quality acid-free paper.

RECOMMENDATIONS

1. All archaeological materials should be rehabilitated and curated according to federal standards. The artifacts now stored loose in the drawers should be curated in four-mil, zip-lock, polyethylene bags.
2. Utilities such as heat, air conditioning, and running water to process collections should be installed in the repository.
3. A temperature and humidity control system should be installed. If an climate control system is not possible, an alternative would be to purchase air conditioners, dehumidifiers and humidifier to provide a more stable environment for the collections.
4. A pest control system should be developed and used consistently to combat the problem of black widow spiders.
5. Records for SCBM 3356, 3366, 4403, 4409, and 4410 should be located, returned to the San Bernardino County Museum, and archivally preserved.
6. All records should be stored in acid-free folders and duplicated on acid-free paper.

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SAN DIEGO MUSEUM OF MAN
SAN DIEGO, CALIFORNIA

REPOSITORY SUMMARY

(1) Volume of Archaeological Materials: 27 ft³

Compliance Status: Archaeological materials require partial rehabilitation to comply with existing federal guidelines and standards for curation.

(2) Linear Feet of Records: less than one (0.5) linear foot

Compliance Status: All records require significant rehabilitation and must be duplicated and copies stored at a separate location for safety and security purposes.

(3) Human Skeletal Remains: Skeletal remains from 13 individuals recovered from NAS North Island are currently stored in the physical anthropology laboratory (Laboratory No. 6).

(4) Status of Curation Funding: Financing for archaeological curation is included as a line item in the museum's operating budget.

INTRODUCTION

DATE OF VISIT: 30 July 1992

PERSON CONTACTED: Ken Hedges

Approximately 27 ft³ of artifacts recovered from NAS North Island and 0.5 linear feet of associated documentation are curated at the San Diego Museum of Man (SDMOM)(Table 12). Types of archaeological material present in these collections consists of chipped stone, faunal remains, worked shell, human skeletal remains, and botanical remains.

Table 12.
Summary of NAS North Island Collections Housed at the San Diego Museum of Man

Collector	Year	Storage Area	Ft³
Saylor	1954-55	Laboratory No. 2	4.0
		Laboratory No. 5	5.0
		Laboratory No. 6	5.5
Rogers and Tyson	1970s	Laboratory No. 6	8.0
Mesa College	1975	Laboratory No. 6	2.5
Unidentified/ Uncataloged	?	Laboratory No. 6	2
Total			27

REPOSITORY

Archaeological collections under the jurisdiction of the NAS North Island are stored in three separate laboratories within the Museum of Man: curation laboratory (Lab 2), archaeological material storage area (Lab 5), and the physical anthropology laboratory (Lab 6).

Archaeological Material Storage Area 1—Curatorial Work Area, Lab 2

Curation laboratory 2, located in the basement of the museum, functions both as a archaeological material storage area for diagnostic artifacts and as a curatorial work area. The room measures approximately 1,190 ft².

Archaeological Material Storage Area 2—Collections Storage, Lab 5

Laboratory 5 is located in the museum's sub-basement and measures approximately 865 ft². A portion of the museum's boxed collections is stored here.

Archaeological Material Storage Area 3—Physical Anthropology Lab, Lab 6

Laboratory 6, the physical anthropology laboratory, is located on an upper level of the museum building. The room measures approximately 800 ft² and contains all the museum's human skeletal remains.

Structural Adequacy

The SDMOM opened in 1915 as part of the World's Fair Exposition. It is a steel framed, multi-level building with a poured concrete foundation, hollow ceramic brick and tile walls, a ceramic tile and asphalt roof. The plumbing and heating systems, along with the roof, have been renovated or replaced over the years. Laboratories 2, 5, and 6 are all located within the Museum complex. The building is still structurally sound, but no longer functions well as a collection storage area. While the museum's exhibit areas meet the accreditation requirements of the American Museum Association, the storage rooms for archaeological collections do not meet the mandated environmental requirements for curation of federally-owned collections.

Archaeological Material Storage Area 1—Curatorial Work Area, Lab 2

The interior walls of the curatorial work area are insulated and covered with sheetrock. The floor is of poured concrete, and there are acoustical tiles on the ceiling. The area is located in the basement. There are no windows. One solid-core, single panel wooden door is the only means to enter or exit from the room. Water pipes that are part of the air conditioning system are approximately 3 to 4 feet overhead. The repository has reached 100% capacity as a collections storage space. It functions well as a curation laboratory, but is too overcrowded for collections storage.

Archaeological Material Storage Area 2—Collections Storage, Lab 5

The interior walls, ceiling, and floor of the sub-basement storage area are of poured concrete. No windows exist. Access is possible through two single panel wooden doors on each side of the room. Water pipes are present overhead. Water stains are present on the walls indicating that these pipes have leaked in the past. The storage room is filled to capacity.

Archaeological Material Storage Area 3—Physical Anthropology Lab, Lab 6

The physical anthropology laboratory is located on an upper level of the museum complex. The walls and ceiling are of poured concrete. The floor is covered with tile. A single panel door provides the only entrance/exit. Four windows covered with bars are present on one wall.

Environment

Archaeological Material Storage Area 1—Curatorial Work Area, Lab 2

Temperature and humidity levels are monitored and maintained in the museum's exhibit areas and in Laboratory 2. Temperature is maintained at 68-70° F. The targeted humidity level is 55%. Dust

filters are part of the heating/cooling system. Light is provided by fluorescent tubes covered with ultraviolet sleeves. The storage area has no windows.

Archaeological Material Storage Area 2—Collections Storage, Lab 5

Temperature and humidity controls for this collection storage area do not exist. Light is provided by uncovered fluorescent tubes.

Archaeological Material Storage Area 3—Physical Anthropology Lab, Lab 6

There are no temperature or humidity controls. Unfiltered fluorescent tubes provide light.

Pest Management

Archaeological Material Storage Area 1—Curatorial Work Area, Lab 2

An integrated pest management program is in place in the exhibit halls, and archaeological material storage areas. The program consists of monitoring, monthly and/or as-needed spraying, and fumigation of organic materials prior to entering the storage areas.

Archaeological Material Storage Area 2—Collections Storage, Lab 5

The lab is covered by the museum-wide program. A baited rat trap in this sub-basement archaeological material storage area suggests that rats may be a problem.

Archaeological Material Storage Area 3—Physical Anthropology Lab, Lab 6

The lab is covered by the museum-wide program.

Security

Archaeological Material Storage Area 1—Curatorial Work Area, Lab 2

Intrusion alarms have been installed on all exterior doors. The door to Laboratory 2 remains locked at all times. Only curatorial and security staff have keys. Security guards patrol the area when the museum is open.

Archaeological Material Storage Area 2—Collections Storage, Lab 5

Intrusion alarms have been installed on exterior doors of the building. The doors to each sub-basement storage level are secured with padlocks. Only curatorial staff and security guards have keys. Security guards patrol the area during museum business hours.

Archaeological Material Storage Area 3—Physical Anthropology Lab, Lab 6

This laboratory is secured by means of an electronic coded door lock and bars on the windows.

Fire Detection and Suppression Systems

Archaeological Material Storage Area 1—Curatorial Work Area, Lab 2

The fire detection system consists of heat sensors wired directly to the local fire department. Fire extinguishers are the only means of fire suppression. Fire inspections are conducted annually. There is no sprinkler system.

Archaeological Material Storage Area 2—Collections Storage, Lab 5

Fire extinguishers and heat sensors are the fire detection/suppression system.

Archaeological Material Storage Area 3—Physical Anthropology Lab, Lab 6

Heat sensors wired directly to the local fire department and fire extinguishers in the lab and outer hallway serve as the fire detection/suppression system.

ARCHAEOLOGICAL MATERIAL STORAGE

Storage Units

Archaeological Material Storage Area 1—Curatorial Work Area, Lab 2

The diagnostic artifacts stored in Laboratory 2 are stored in four unlined wooden-drawer units of varying sizes that were donated to the museum by Marsten's Department Store (Figure 21). A stamped adhesive label listing drawer number is marked to the outsides each drawer. Metal tag holders with acidic paper tags are also used. Label information includes site number(s).



Figure 21. Storage units used in Archaeological Material Storage Area 1 at the San Diego Museum of Man.

Archaeological Material Storage Area 2—Collections Storage, Lab 5

Enameled metal uprights with sealed particle board shelves are used as storage units in Laboratory 5 (Figure 22). A single unit measures 6 feet by 4 feet by 10 feet (length, width, height). A portion of a metal upright extends between each row of shelving units to provide stability during an earthquake.

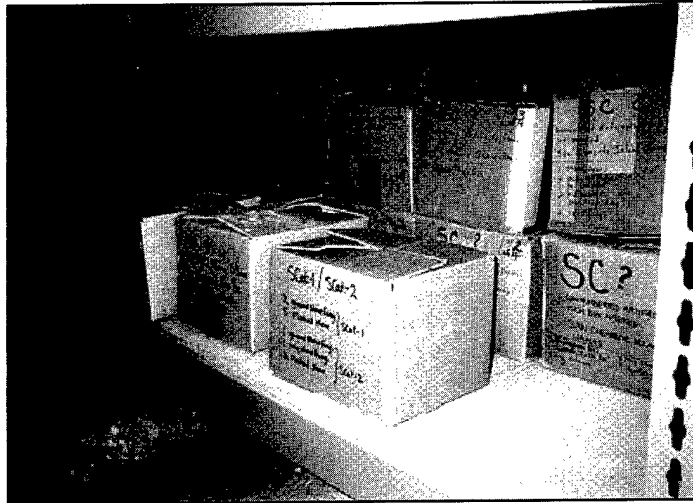


Figure 22.

Storage units and primary containers used in Archaeological Material Storage Area 2 at the San Diego Museum of Man. Note compression damage on some of the primary containers.

Archaeological Material Storage Area 3—Physical Anthropology Lab, Lab 6

Human skeletal remains are stored on adjustable, enameled, metal shelving units measuring approximately 4 feet by 2.5 feet by 12 feet (length, width, height). Each unit has eleven shelves. Each shelf holds approximately five boxes.

Primary Containers

Archaeological Material Storage Area 1—Curatorial Work Area, Lab 2

Unlined wooden drawers, 1 ft³ in capacity, are the primary containers for the diagnostic materials recovered from NAS North Island. These drawers have an exterior adhesive label that lists the drawer number and a metal tag holder inside of which is an acidic paper tag on which the site number is written. The exteriors of the drawers have been varnished at some time in the past possibly while they were still at Marsten's Department Store.

Archaeological Material Storage Area 2—Collections Storage, Lab 5

Primary containers consist of small (0.23 ft³), acidic cardboard boxes with folded flap lids. The boxes are directly labeled in marker. Label information includes the site name, catalog number, and/or content information. Boxes are usually stacked two high on the shelves, and some show signs of compression (Figure 22).

Archaeological Material Storage Area 3—Physical Anthropology Lab, Lab 6

Acidic cardboard boxes with telescoping or flap top lids are the primary containers for the human skeletal remains recovered from NAS North Island. Boxes are directly labeled with marker and include catalog number information.

Secondary Containers

Archaeological Material Storage Area 1—Curatorial Work Area, Lab 2

Small various size acidic cardboard boxes are the secondary containers for the type collection. Most boxes are labeled directly in marking ink with site number(s), contents, and/or provenience information. Boxes with groundstone and large shell artifacts do not have lids. For these boxes label information is written on acidic paper tags and inserted into the boxes. Beside the organic material in plastic zip-lock bags, artifacts are stored loose within these small boxes.

Archaeological Material Storage Area 2—Collections Storage, Lab 5

Secondary containers with NAS North Island archaeological materials consist of paper bags, paper bags within plastic bags secured with twine, and loose artifacts. The majority of the chipped stone artifacts are stored loose in the boxes, whereas bone and shell material are curated in paper or plastic bags. The containers are directly labeled with marker and contained site number and provenience. Occasionally, original paper bag labels are placed into plastic bags when material is rebagged.

Archaeological Material Storage Area 3—Physical Anthropology Lab, Lab 6

Secondary containers with human skeletal remains consist of open paper bags, plastic zip-lock sandwich bags, plastic bags secured with twist ties, small acidic cardboard boxes, film vials, and cloth bags. Some skeletal elements are wrapped in paper towels or gauze, whereas others are packed in cotton, plastic foam, or packing peanuts. Approximately half of the secondary containers are directly labeled with pen, pencil, or marker. Label information includes site number, catalog number, burial number, and date.

Laboratory Processing and Labeling

Archaeological Material Storage Area 1—Curatorial Work Area, Lab 2

All artifacts curated in Laboratory 2 are completely processed. All are washed, directly labeled with catalog number in black or white india ink, and sorted by site number and artifact type.

Archaeological Material Storage Area 2—Collections Storage, Lab 5

Not all of the NAS North Island artifacts stored in Lab 5 are completely processed. All have been cleaned, but not all have been labeled. Those that have been labeled have been directly labeled with

site or catalog number in india ink. Most have been sorted by material class within the primary container.

Archaeological Material Storage Area 3—Physical Anthropology Lab, Lab 6

Twelve of the thirteen individual skeletons are cleaned, whereas 10 are labeled with catalog numbers in india ink. All are sorted by catalog number.

HUMAN SKELETAL REMAINS

The remains of 13 individuals recovered from NAS North Island are curated in Laboratory No. 6 (Table 13). Most of the burials are relatively complete, in fair to good condition, and partially sorted by element. Museum records indicate that associated grave goods were recovered from burials assigned by catalog numbers 2087 (1957-78), 1971-78-1, 1972-60-1, and 1975-14-1.

Table 13.
Summary of Human Skeletal Remains from NAS North Island
by Collection and Catalog Number

Collection Name	Catalog Number	Number of Individuals
Sayler	2084	2
	2085	1
	2086	1
	2087	1
Rogers and Tyson	1971-78-1	1
	1972-60-1	1
	1975-14-1	1
	1975-14-2	1
Mesa College	1976-50-1	1
	SCLI-64	1
	Uncataloged	1
	C-124	1
Total		13

RECORDS STORAGE

Associated documentation consists of approximately 0.5 linear feet of records from the 1954–55 Sayler project. These records are stored in Laboratory 2.

Paper Records

Two original field journals and five manila folders containing typed field notes, burial record sheets, and archaeological site survey forms are included in the associated documentation. The field journals are stored unprotected on open shelves. The folders are filed in a metal cabinet. Only the field journals have been photocopied and are stored in a separate location.

Photographic Records

Negatives are stored in acidic glassine sleeves. Slides are stored loose and unprotected in acidic manila envelopes. A paper envelope containing photographs is taped inside one of the field journals.

Copies of the photographic documentation have not been made.

Maps and/or Oversized Documents

The original field maps are missing from the collection, and no duplicate copies were available.

COLLECTIONS MANAGEMENT STANDARDS

Registration Procedures

Accession Files

All artifacts and records are accessioned upon receipt and the files are maintained by the registrar.

Location Identification

The location of archaeological materials and records within the museum is identified in the accession file.

Cross-indexed files

Files are cross-indexed by catalog number, site number, and cultural affiliation.

Published Guide to Collections

A guide to the museum's archaeological collections has never been published.

Site Record Administration

The Museum of Man maintains its own system of site record administration and has not converted to the state trinomial system. Site and catalog numbers specific to the museum's system are assigned to each collection.

Computerized Database Management

Information on the museum's archaeological collections has not been entered into an electronic data base.

Written Policies and Procedures

The SDMOM revised and published its *Collections Policy* in 1991. The document addresses acceptance, evaluation, accessioning and deaccessioning of collections, access to collections, and loans.

Minimum Standards for Acceptance

The conditions for acceptance of collections are stated in the written collections policy. The SDMOM does not accept specimens on which restrictions are placed that would prevent research, normal exhibition use, loan, or disposal. The museum does not accept specimens under conditions that would require that these specimens be placed on long-term exhibition or that they be kept together permanently and/or displayed only as a discrete collection. At this time, the museum is not accepting new archaeological collections.

Curation Policy

The collections policy addresses the acquisition of collections, evaluation of materials, policies for deaccessioning, specimen transfer, loan policy, and accessibility of archaeological materials and records.

Records Management Policy

The preservation of associated documentation is not specifically addressed in the collections management plan.

Field Curation Guidelines

Field curation guidelines do not exist.

Loan Procedures

The procedures for loans are in the Collections Policy. All loans must be approved by the Director. Materials can only be loaned to institutions engaged in educational or scientific pursuits. Loans to individuals are not made. A record of all loans is maintained by the Registrar.

Deaccessioning Policy

The deaccession procedure requires the recommendations of the chief curator or registrar and the approval of the director and the Board of Trustees. Various types of deaccessioning are discussed in the museum's *Collections Policy*, such as gifts of specimens to an appropriate scientific, educational or cultural institution, exchanges of specimens between two or more institutions to increase the probability of preserving materials, and sales of material if certain specimens or collections are no longer needed for research and exhibition programs. A complete record of all deaccessioned material is maintained.

Inventory Policy

No inventory policy exists.

Latest Collection Inventory

The last collections-wide inventory for the museum was completed in the 1970s. Inventories are conducted when collections are accessed for research.

Curation Personnel

Ken Hedges and Grace Johnson have part-time curatorial responsibilities for archaeological collections. Most of their time is devoted to the curation of ethnographic collections.

Curation Financing

Financing for archaeological curation is included as a line item in the museum's operating budget. The funding level for curation is considered adequate by curation personnel, but the present needs assessment suggests that the present funding cannot meet the curation requirements for federally-owned collections.

Access to Collections

Collection use is controlled by curatorial personnel. Collections are available to researchers by appointment only. All qualified individuals accessing collections must demonstrate legitimate research needs and their request for access must be project specific.

Future Plans

Metal storage cabinets may be purchased and a computerized database system may be developed.

COMMENTS

1. Although the archaeological collections at the SDMOM are reasonably secure from fire and theft, the museum does not provide the environmental requirements necessary for the long-term preservation of these materials.
2. Without the original artifact catalogs, we could not determine what is missing from the NAS North Island collections.
3. The registration procedures at the museum are adequate for maintaining control over the collections. Converting the records to a computerized database would greatly increase the retrieval and manipulation of collection information. Conversion of the system of archaeological site record administration to the state's trinomial system would also eliminate the existing complicated procedures for site identification.

RECOMMENDATIONS

1. The NAS North Island collections should be removed from their present storage areas to an area with adequate environmental protection. If the museum cannot do this, the collections should be transferred to NAS North Island until a suitable curation facility can be located.
2. Fire detection/suppression system should be installed in archaeological material storage Lab 5.
3. All collections should be inventoried and any archaeological materials and associated records identified as missing should be recovered and reintegrated into the existing collections.
4. All artifacts should be rehabilitated and prepared for long-term storage according to federal guidelines and standards and modern curation procedures. Specifically, all artifacts should be (a) cleaned; (b) labeled legibly in indelible ink; (c) repackaged in appropriate secondary containers, preferably four-mil, polyethylene, zip-lock bags; and (d) stored in acid-free boxes.
5. All human skeletal remains, associated and unassociated funerary objects, sacred objects, and objects of cultural patrimony should be identified and their final disposition should be determined in accordance with the requirements of the Native American Graves Protection and Repatriation Act. The human skeletal remains from the Mesa College project should be reunited with the rest of this

collection, which is housed at NAS North Island.

6. All documentation associated with the NAS North Island archaeological materials should be prepared for long-term storage according to federal guidelines and standards and modern archival procedures. Minimally, the following should be performed to protect and preserve these records: (a) all paper records should be filed in acid-free folders and stored in acid-free boxes or metal file cabinets; (b) all photographic records should be filed in inert plastic sleeves or other archival storage containers; (c) all oversize maps should be stored flat in metal map cabinets; and (d) a duplicate copy of all documentation should be produced and stored in a separate and secure location.

15
SAN DIEGO STATE UNIVERSITY
SAN DIEGO, CALIFORNIA

REPOSITORY SUMMARY

(1) Volume of Archaeological Materials: 13 ft³

Compliance Status: Archaeological materials require complete rehabilitation to comply with existing federal guidelines and standards for curation.

(2) Linear Feet of Records: 1 linear foot

Compliance Status: All associated records require complete rehabilitation to comply with existing federal guidelines and standards for archival preservation.

(3) Human Skeletal Remains: Approximately 7 ft³ of human skeletal remains from an unknown number of individuals are stored in the physical anthropology laboratory in Nassiter Hall.

(4) Status of Curation Funding: Funding to inventory and rehabilitate the archaeological collections has been secured from the university administration. No resources were allocated to archaeological curation in prior years.

INTRODUCTION

DATE OF VISIT: July 28, 1992

PERSON CONTACTED: Lynne Christenson and Dan Whitney

Approximately 13 ft³ of prehistoric and historic artifacts recovered from NAS North Island by Spencer Rogers in 1950 are at San Diego State University (SDSU). An additional 1 linear foot of associated documentation is also part of this collection. Materials include prehistoric chipped stone, faunal remains, human remains, and historic metal artifacts. A 1987 inspection revealed that the present collection is incomplete. Comparison of the original field notes with the existing collection showed that beads, fishhooks, projectile points, a dog burial, human skeletal remains, and part of the associated records were missing.

REPOSITORY

Archaeological collections are stored in two locations—shipping containers at the vacant Montezuma Elementary School and the physical anthropology laboratory in Nassiter Hall.

Repository 1—Shipping Container, Montezuma School

The currently vacant Montezuma Elementary School is located approximately one mile off campus. The property is surrounded by a chain link fence. The repository consists of four metal shipping containers, each approximately 25 feet by 6 feet by 8 feet (length, width, height). The NAS North Island archaeological materials, with the exception of the human skeletal remains, are stored in one of these containers (Figure 23).



Figure 23. View of the Montezuma School Repository 1.

Repository 2—Physical Anthropology Laboratory, Nassiter Hall

The physical anthropology laboratory, located on campus in Nassiter Hall, contains the human skeletal remains recovered from NAS North Island. Nassiter Hall is a modern multi-level steel and concrete classroom building.

Structural Adequacy

Repository 1—Shipping Container, Montezuma School

The metal shipping container that contains the NAS North Island archaeological materials is constructed of corrugated metal with a plywood floor. Rust has formed along the walls where paint has chipped off and water has leaked through cracks and vents in the ceiling. The storage container is filled to capacity. Boxes filled with artifacts clutter the floor, making access to them difficult. Plans are being made to have all collections rehabilitated and moved to a better storage facility.

Repository 2—Physical Anthropology Laboratory, Nassiter Hall

This multistory building was constructed in the 1970s and contains classrooms and offices. The exterior walls are of concrete block and interior walls are covered with sheetrock. The floor is poured concrete covered with tile. There is a suspended acoustical tile ceiling. Several windows, all covered with blinds, are located along the exterior wall of the laboratory. One single wood panel door leads to the adjacent hallway. The building is adequate as a laboratory, classroom, and office space, but requires further work if it is to function as a long-term collections storage facility for human skeletal remains.

Environment

Repository 1—Shipping Container, Montezuma School

Temperature and humidity levels are not monitored or controlled in the shipping container. The metal exterior of the container and the warm, local climate cause interior temperatures to reach extremely high levels. The only means of light in the shipping container is from natural lighting when the door is opened.

Repository 2—Physical Anthropology Laboratory, Nassiter Hall

Temperature is controlled by a central heating and air conditioning system. Humidity is not monitored or controlled. Fluorescent light with nonultraviolet plastic shields covering the tubes are present.

Pest Management

Repository 1—Shipping Container, Montezuma School

There is no integrated pest management program for the storage facility. Evidence of rodent infestation was noted in the shipping containers, but no action has been taken for protection from future infestations.

Repository 2—Physical Anthropology Laboratory, Nassiter Hall

A partial pest management program that controls rather than monitors exists. The university provides pest management on an as needed basis. No infestation was noted during our visit.

Security

Repository 1—Shipping Container, Montezuma School

A padlock on the shipping container and a chain-link fence surrounding the property are provide security for the archaeological collections. The isolated location of the container compromises security.

Repository 2—Physical Anthropology Laboratory, Nassiter Hall

The door to the physical anthropology laboratory is has a key lock, and remains locked during non-class hours. Windows are present, but because the lab is located on the upper floor of Nassiter Hall, entry through these windows is unlikely. Native American skeletal remains are no longer used for student research and teaching purposes because of ethical concerns. However, because the cabinets with the remains are not locked, the potential exists for unauthorized access by students during regularly scheduled classes.

Fire Detection and Suppression Systems

Repository 1—Shipping Container, Montezuma School

There is no fire detection and suppression system.

Repository 2—Physical Anthropology Laboratory, Nassiter Hall

The fire detection/suppression system consists of manual fire alarms and fire extinguishers in the hallway adjacent to the physical anthropology laboratory.

ARCHAEOLOGICAL MATERIAL STORAGE

Storage Units

Repository 1—Shipping Container, Montezuma School

NAS North Island archaeological materials are stored in two boxes stacked on the floor.

Repository 2—Physical Anthropology Laboratory, Nassiter Hall

Human skeletal remains are stored in nine wooden drawer units each measuring approximately 4 feet by 3 feet by 6 feet (width, depth, height). Label information consists of contents written in black marker on acidic notecards taped to the front of the cabinets.

Primary Containers

Repository 1—Shipping Container, Montezuma School

Primary containers consist of acidic cardboard filing boxes. Label information includes contents and project number written directly in marker on the box.

Repository 2—Physical Anthropology Laboratory, Nassiter Hall

The human skeletal remains are curated in unlined wooden drawers measuring 3 feet by 1 foot by 1 foot (length, width, height). Label information includes skeletal element written in red marker on acidic paper labels. These labels are affixed to the fronts of the drawers with cellophane tape.

Secondary Containers

Repository 1—Shipping Container, Montezuma School

The majority of the secondary containers consist of open brown paper bags. Plastic zip-lock sandwich bags inside the paper bags are also present. Paper bags are labeled directly with site number and material class in marker and/or ball point pen. Several bag labels are incorrect because the bag contains more material than is indicated on the labels. Security is compromised by the unsealed paper bags and bags with punctures and tears.

Repository 2—Physical Anthropology Laboratory, Nassiter Hall

Skeletal remains NAS North Island are either stored loose in drawers (Figure 24) or in small acidic cardboard boxes, shoeboxes, or foam boxes within the drawers. However, these remains are commingled with skeletal remains from other collections and cannot be easily separated. The miscellaneous secondary containers are usually directly labeled in marker.



Figure 24. Secondary containers used for NAS North Island human remains.

Laboratory Processing and Labeling

Repository 1—Shipping Container, Montezuma School

All artifacts are cleaned and are labeled with correction fluid in india ink with the site number and/or catalog number.

Repository 2—Physical Anthropology Laboratory, Nassiter Hall

All human skeletal remains have been washed, and some are labeled directly in ink and/or marker with project and site number. However, since the skeletal elements from NAS North Island are not labeled and other non-NAS North Island skeletal remains are also stored in the same drawers, it is impossible to determine how many of the elements are a part of the Spencer Rogers Collection.

HUMAN SKELETAL REMAINS

Approximately 7 ft³ of human skeletal remains recovered from NAS North Island are curated in the physical anthropology laboratory at SDSU. These remains were well preserved when they excavated, but have deteriorated because of the existing storage conditions.

RECORDS STORAGE

Approximately 1 linear foot of associated documentation from the Spencer Rogers Collection has been turned over to SDSU. It is stored in the gymnasium of former the Montezuma Elementary School and is being inventoried. None of the documentation has been archivally prepared for long-term storage and copies of the records do not exist. These records are in danger of being lost because of high humidity and temperature levels, water damage, and rodent/insect infestations.

Paper Records

Eleven bound field journals are stored in an acidic cardboard box and are the only surviving paper records for the Spencer Rogers collection. Site forms, a catalog list, and a summary report prepared by Spencer Rogers are missing.

Photographic Records

All photographic documentation for this collection is missing.

Maps and/or Oversized Documents

Three large field maps are curated with the field journals. The maps were stored rolled-up for many years and are not protected in any way.

COLLECTIONS MANAGEMENT STANDARDS

Registration Procedures

Accession Files

All collections are accessioned upon receipt.

Location Identification

The location of the collection within the repository is not identified in the accession file because no permanent storage location for the material exists.

Cross-indexed files

The files are cross indexed electronically with Quattro-Pro. Files are cross indexed by site number and box/container number.

Published Guide to Collections

None exists.

Site Record Administration

The Smithsonian Institution trinomial system is used.

Computerized Database Management

Quattro-Pro and Lab Assistant IV are used for database management. Both are DBASE compatible.

Written Policies and Procedures

Minimum Standards for Acceptance

SDSU is no longer accepting new collections.

Curation Policy

The repository has a comprehensive plan for curation that follows the National Park Service standards.

Records Management Policy

The guidelines primarily address the paper records. The repository has not identified any photographic records. Curation of large scale maps remains to be addressed.

Field Curation Guidelines

None exists.

Loan Procedures

Loans are granted to recognized institutions and archaeological contractors.

Deaccessioning Policy

The repository does not have a written deaccessioning policy, but deaccession of certain materials occasionally occurs for soil samples that are stored in punctured or torn bags.

Inventory Policy

An inventory policy exists.

Latest Collection Inventory

No information is available on when the last inventory occurred.

Curation Personnel

Lynne Christenson is currently in charge of rehabilitating the archaeological collections curated at SDSU. She is assisted by several part-time student workers.

Curation Financing

Funding to inventory and rehabilitate the collections has recently been received from the university. In the past, no resources were available for curation.

Access to Collections

Access to the shipping containers is controlled by the university's property department. Access to the locked physical anthropology laboratory is controlled by Anthropology Department personnel.

Future Plans

SDSU plans to transfer the collections to a repository that can provide long-term curation for the collections as soon as such a facility becomes available.

COMMENTS

1. Inadequate storage facilities have contributed to the loss of archaeological materials and associated documentation from the NAS North Island collection.
2. Shipping containers for the storage of archaeological collections is an inadequate for long-term curation.
3. Contextual information associated with individual human burials has been lost because of commingling.

RECOMMENDATIONS

1. The NAS North Island collections should be removed from the existing storage containers and transferred to a facility that can provide long-term curation, security, pest management, and has a working fire prevention/detection system.
2. All collections should be inventoried and all missing archaeological materials and associated records should be recovered and reintegrated into the existing collection.
3. All artifacts should be rehabilitated and prepared for long-term storage according to federal guidelines and standards and modern curation procedures. Specifically, all artifacts should be: (a) labeled legibly in indelible ink, (b) repackaged in appropriate secondary containers, preferably four-mil, polyethylene, zip-lock bags, and (c) stored in acid-free boxes.
4. All human skeletal remains, associated and unassociated funerary objects, sacred objects, and objects of cultural patrimony should be identified, and their final disposition should be determined in accordance the Native American Graves Protection and Repatriation Act. The remains stored in the physical anthropology laboratory should be secured and skeletal elements that are from a single burial should be curated together.
5. All documentation and reports associated with the NAS North Island archaeological materials should be prepared for long-term storage according to federal guidelines and standards and modern archival procedures. Minimally, the following should be implemented to protect and preserve these records: (a) all paper records should be filed in acid-free folders and stored in acid-free boxes or metal file cabinets, (b) all oversize maps should be stored flat in metal map cabinets, (c) all photographic records should be filed in inert plastic sleeves or other approved archival storage containers, and (d) a duplicate copy of the documentation should be produced and stored in a separate and secure location.

16
SOUTHWEST MUSEUM
LOS ANGELES, CALIFORNIA

REPOSITORY SUMMARY

(1) Volume of Archaeological Materials: 6 ft³

Compliance Status: Archaeological materials require partial rehabilitation to comply with existing federal guidelines and standards for curation.

(2) Linear Feet of Records: No associated records for the collections are in the Southwest Museum.

Compliance Status: Associated records need to be located and transferred to the Southwest Museum to be reintegrated with collections.

(3) Human Skeletal Remains: Skeletal remains from at least three individuals recovered from NAS North Island are at the Southwest Museum.

(4) Status of Curation Funding: Curation is privately financed.

INTRODUCTION

DATE OF VISIT: 6 August 1992

PERSON CONTACTED: George Kritzman

Approximately 6 ft³ of artifacts recovered from San Clemente Island, representing nine separate private donations, are curated at the Southwest Museum (Table 14). An estimated 90% of the San Clemente Island collections consist of prehistoric artifacts, including chipped stones, worked shell, faunal material, botanical remains, and human skeletal remains. The remaining 10% were recovered from historic sites. The historic collections are represented by trade beads, coins and medals, fragments of Spanish cloth, and a human skull with a beaded skull cap. No supporting documentation is available for any of the collections.

Table 14.
Summary of NAS North Island Collections at the Southwest Museum

Donor Name	Catalog No.	Material Type	Recovered
Bolser	1293.G.1-G.7	Prehistoric	1908
C. Rife	714.G.1-G.8	Prehistoric	
H.L. Pogue	733.G.1-G.47	Prehistoric/Historic	
Gerald Nelson	1668.G.1-G.21	Prehistoric	
Palmer	mixed sites, not all from NAS	Prehistoric	
Kenneth Seaman		Historic	1961
Unknown		Historic	1900-1918
Unknown	Ledge Site	Prehistoric	1963
Unknown		Prehistoric	

REPOSITORY

The tower portion of the Southwest Museum is the storage area for archaeological collections. The lower and mezzanine levels of the tower are approximately 1050 ft² of space in one room. The room contains the boxed archaeological materials (Figure 25).

Structural Adequacy

The museum was constructed in 1915 and is a multilevel steel and concrete structure with a stucco exterior. A new roof was installed recently. The lower and mezzanine levels of the collections storage room have concrete floors, walls, and ceilings. There are six windows, each measuring three feet by twelve feet (width, length) along the three exterior walls of the storage area. A single wood panel door is on the interior wall. Overhead water pipes for the exhibit area air conditioning system are present. They are situated near the ceiling on the interior wall above storage units in the mezzanine level. The storage area is currently filled to approximately 95% capacity.



Figure 25. View of repository at the Southwest Museum.

Environment

Environmental controls are absent. The rooms are not heated or air conditioned. Temperatures range from approximately 55° F in the winter to 95° F in the summer. Humidity levels are monitored, but are not controlled. The collections are affected by ultraviolet radiation from direct sunlight entering through the large, unshaded tower windows. Lighting is provided by 60 watt, unfiltered incandescent bulbs. The fixtures are original to the building.

Pest Management

An integrated pest management program is absent. The storage areas are sprayed on an as-needed basis, most recently for an infestation of silverfish. No rodent or insect activity was noted during our visit.

Security

The collections are protected by a security alarm system wired into Wells Fargo. The door to the storage area is kept locked at all times with a dead bolt lock. Access to the area is regulated by the archaeological curator. The tower windows are too high to present a serious security problem.

Building maintenance is performed on an as-needed basis under the supervision of the curator.

Fire Detection and Suppression Systems

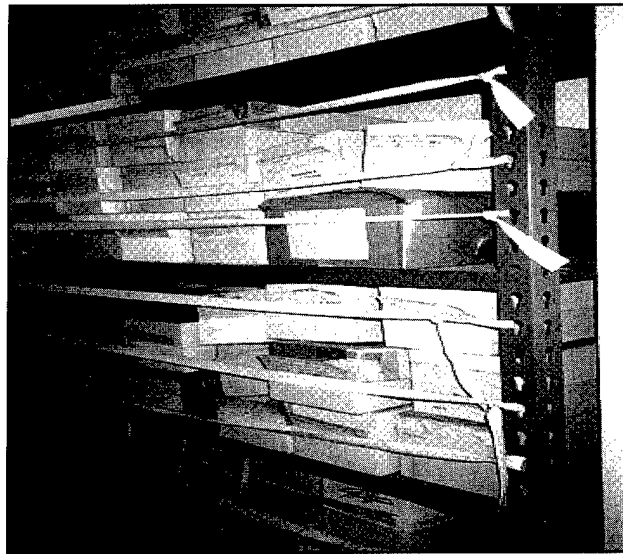
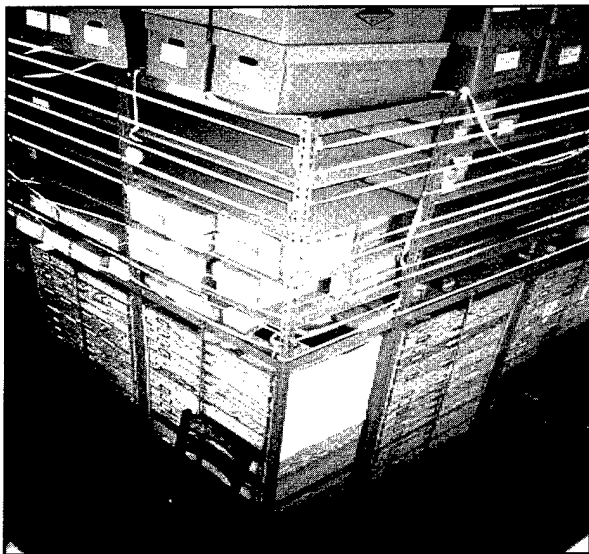
Smoke and fire alarms are wired directly into Wells Fargo. The only fire suppression system in the archaeological material storage area is a Halon fire extinguisher. The extinguisher is serviced annually and classes are offered on how to operate it.

ARCHAEOLOGICAL MATERIAL STORAGE

Storage Units

Two types of units are used to store the NAS North Island archaeological materials. Boxed materials are stored on enameled metal shelving units that are fitted with unsealed plywood shelves. These units measure 12 feet by 3 feet by 1 foot (length, width, height) and contain seven shelves per unit. Boxes are frequently double or triple stacked on the shelves. As a precaution against earthquake damage, tape has been stretched across the open faces of these shelves (Figure 26).

Collections are stored in wooden-drawer storage units that are inside a metal frame. The units are arranged in the center of the storage area on the first level. All units are approximately the same size, each measuring 12 feet by three feet by 1.5 feet (height, width, depth). Each unit contains 11 to 16 drawers. Each drawer measures 3 feet by 1.5 feet by either 4 inches or 8 inches (length, width, height). Metal bars run perpendicular through the handles of these drawers to prevent them from falling open during an earthquake (Figure 27).



Figures 26 and 27. Storage units for NAS North Island archaeological materials at the Southwest Museum.

Primary Containers

Four small acidic boxes with telescoping lids, four small acidic boxes with flap tops, three standard cardboard cigar boxes, and one wooden drawer serve as primary containers for the San Clemente Island collections. Acidic paper labels are taped to the front of each container. Label information is recorded in either ballpoint pen ink or marker and typically includes site name, donor, and catalog number information.

Secondary Containers

The majority of NAS North Island artifacts are not protected by secondary containers, but are stored loose in the boxes. A few, however, are stored in zip-lock bags, vials, and small plastic boxes with attached lids. Containers are either labeled directly with marker or ballpoint pen, or a typed acidic paper label is inserted into the container. Labeling formats are not consistent and include combinations of site name, catalog number, date, and occasionally the donor's name.

Laboratory Processing and Labeling

All artifacts are cleaned and sorted by material class and the museum's catalog number is written in india ink.

HUMAN SKELETAL REMAINS

The skeletal remains from at least three individuals recovered from NAS North Island are housed at the museum (Table 15). All human skeletal remains are cleaned and with the exception of the skull, are labeled in India ink with the museum's catalog numbers. The remains are in good condition, but are stored loose in the boxes.

Table 15.
NAS North Island Collections
Known to Contain Human Skeletal Remains

Donor	Year	Skeletal Elements(s) Present
	1900–1918	Skull
Bolser	1908	Miscellaneous Fragments
Gerald Nelson		Human Teeth

RECORDS STORAGE

No Associated records are located at the museum for any of the NAS North Island material.

COLLECTIONS MANAGEMENT STANDARDS

Registration Procedures

Accession Files

Accession files are present.

Location Identification

All artifacts have been photographed and their location within the museum (e.g., room number and shelf number) is entered into a computer database.

Cross-indexed files

The files are cross indexed.

Published Guide to Collections

No published guide to the collections exists.

Site Record Administration

An in-house system using the Southwest Museum catalog numbers exists.

Computerized Database Management

A computerized database is in use.

Written Policies and Procedures

Minimum Standards for Acceptance

Minimum standards of acceptance exist.

Curation Policy

No curation policy exists.

Records Management Policy

No records management policy exists.

Field Curation Guidelines

The Southwest Museum no longer performs fieldwork. The collections are acquired by donation and purchase.

Loan Procedures

Loan procedures exist.

Deaccessioning Policy

A deaccessioning policy is being written.

Inventory Policy

No inventory policy exists.

Latest Collection Inventory

The collections were last inventoried and photographed in 1985–1986. Information was then entered into a computerized database.

Curation Personnel

A part-time curator is responsible for the archaeological collections.

Curation Financing

Private funds are used to finance curation.

Access to Collections

Although collections are not properly curated, they are readily accessible and made available to researchers. Access has never been denied to anyone, but researchers must present a written letter of intent. As an added security measure, a staff member is always present when research collections are being used

Future Plans

The Board of Trustees would like to move the museum to a new facility with proper environmental controls. A new facility, however, has not been identified.

COMMENTS

1. A Halon fire extinguisher is the only means of fire protection in the archaeological material storage area. Halon is a toxic chemical that can have adverse effects on users.
2. The more fragile material such as basket fragments, wooden, and shell artifacts would be better preserved in an environment with stable temperature and humidity.
3. Insufficient storage space for collections is reflected by the overcrowded and cluttered storage conditions.
4. Essential utilities are absent in the archaeological material storage area, including heat, air conditioning, and running water to process collections.
5. Water pipes are located directly over collections.
6. Limited access in the tower creates problems in moving the collections because of the spiral staircase entrance.

7. Box labels are fading due to exposure to ultraviolet light from the unshaded windows.
8. Associated documentation does not exist.

RECOMMENDATIONS

1. The NAS North Island archaeological materials at the Southwest Museum need to be inventoried, reboxed and rebagged into archival-quality containers (e.g., acid-free boxes and four-mil, zip-lock polyethylene bags).
2. The fire detection and suppression systems should be upgraded to include smoke alarms and sprinkler systems. The Halon fire extinguisher is inadequate and the chemicals used in it are dangerous to the staff if used.
3. All associated records should be located, returned to the Southwest Museum, and rehabilitated to comply with existing federal guidelines and standards.
4. The disposition of all identified human skeletal remains should be determined in accordance with the requirements of the Native American Graves Protection and Repatriation Act (NAGPRA).
5. All recovered funerary objects (associated and unassociated), sacred objects, and objects of cultural patrimony as defined by NAGPRA should be identified and their disposition determined.
6. Additional storage space needs to be found because the existing archaeological material storage area is overpacked and cluttered, reflected by boxes of collections stacked on the floor of the mezzanine.
7. If the collections are to remain in the tower storage area, devices to control temperature and humidity must be installed.
8. Window shades should be installed to prevent ultraviolet light from fading box labels.

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STATISTICAL RESEARCH, INC.
TUCSON, ARIZONA

REPOSITORY SUMMARY

(1) Volume of Archaeological Materials: 2.5 ft³

Compliance Status: All materials require complete rehabilitation to comply with existing federal guidelines and standards for the curation of archaeological collections. The materials should be inventoried, reboxed, and rebagged in archival quality containers.

(2) Linear Feet of Records: 0.3 linear feet

Compliance Status: All associated documentation requires complete rehabilitation to comply with existing federal guidelines for archival preservation. A duplicate copy of associated records needs to be created on acid-free paper and stored in a separate, safe and secure location. Any photographic documentation from Marine Corps Air-Ground Combat Center, Twentynine Palms needs to be located and integrated with its collection.

(3) Human Skeletal Remains: There are no human skeletal remains from MCAGCC Twentynine Palms at Statistical Research.

(4) Status of Curation Funding: There is no funding for the curation of archaeological materials.

INTRODUCTION

DATE OF VISIT: 9 September, 1992

PERSONS CONTACTED: Jeffrey Altschul and Carol Ellick

The Surprise Spring collection from MCAGCC Twentynine Palms is the only MCAGCC Twentynine Palms collection at SRI. The collection consists of approximately 2.5 ft³ of archaeological materials and 0.25 linear feet of documentation. Artifacts from the collection include chipped stone, debitage, groundstone, fire-cracked rock, ceramics, faunal remains, botanical materials, the light fraction from flotation samples, ¹⁴C samples, pollen samples, and phytolith samples. Some pollen, phytolith, and flotation samples were removed for analysis. The heavy fraction from the flotation samples has been discarded. The assessment team did not locate any burials recovered from Twentynine Palms.

REPOSITORY

Statistical Research is located on the second floor in an office/business complex in Tucson, Arizona. The offices include administrative and research offices, a library, laboratories, an equipment storage room, a report production room, and an archaeological materials storage room. The storage room is approximately 15 feet by 25 feet and functions as a temporary storage area for collections for which final reports have not been completed or for which a permanent storage facility has not been designated.

Structural Adequacy

The facility is a multistory concrete and steel office building. The archaeological material storage area has a suspended, acoustical tile ceiling, interior walls are covered with plasterboard, and the concrete floor is covered with tile. There are no windows and only a single panel wooden door exists in the archaeological material storage area.

Environment

Temperature is controlled by a central air conditioning and heating system. Humidity levels are neither monitored nor controlled.

Pest Management

An integrated pest management program does not exist. No pests were observed during our visit.

Security

The doors to the office and archaeological material storage area are secured at all times by a key lock. However, any staff member with a master key to the office has access to the collections.

Fire Detection and Suppression Systems

The Statistical Research office meets the fire codes for the Arizona and Tucson. The fire detection and suppression systems consist of a standard sprinkler system and fire extinguishers.

ARCHAEOLOGICAL MATERIAL STORAGE

Storage Units

Collections are stored on homemade shelving units constructed from unsealed two-by-four-inch uprights, unsealed half-inch plywood shelves, and metal brackets. Each unit is approximately eight feet high and the plywood shelves are three feet wide, with six shelves per unit.

Primary Containers

Artifacts are stored in 1 ft³ acidic cardboard boxes with telescoping lids. The boxes are overpacked and in poor condition. Typed acidic paper labels are attached to the boxes with cellophane tape and contain information on the project name, site number, collection type, material class, and catalog specimen number.

Secondary Containers

Most artifacts in the Surprise Spring collection are stored in acidic paper bags, secured with rubber bands. The bags are labeled with black marker with the project name, site number, provenience, date collected, specimen number, and artifact classification. If more than one type of artifact is included in a bag, the items are placed into plastic sandwich bags within the paper bags. These plastic bags are only labeled with the specimen number. Most of the plastic sandwich bags are either open or tied shut with a metal twist tie. Small artifacts are stored in film vials. Plastic bags with the flotation samples and light fraction material are secured with string. An attached paper label identifies the project, site number, provenience, catalog number, date collected, and artifact classification. This information is recorded in pencil and is fading.

Laboratory Processing and Labeling

All artifacts are cleaned and sorted by material class, but no artifacts are labeled.

HUMAN SKELETAL REMAINS

There are no human skeletal remains from MCAGCC Twentynine Palms.

RECORDS STORAGE

Approximately three inches of documentation are in the Surprise Spring collection.

Paper Records

Paper records consist of a specimen log for small projects, original plan and profile maps, background information, and a copy of the contract proposal. The specimen log is stored in a three-ring binder in the laboratory. It contains the field specimen record and a list of all samples removed for analysis. The remaining paper records are maintained in an acidic hanging file folder in the administrative office.

Maps and/or Oversized Documents

Large-scale field maps, quadrangle maps, and drafting maps are stored in a metal map case.

Reports

Two final project reports are in the office library. Although documentation from the Surprise Spring collection is readily available, the records are not prepared for archival storage or are stored in a long-term storage environment.

COLLECTIONS MANAGEMENT STANDARDS

The Statistical Research facility is not a long-term repository for the storage of archaeological collections.

Curation Personnel

There is no full-time curator for archaeological collections.

Curation Financing

There is no funding for the curation.

Access to Collections

Only staff members can access the collection.

Future Plans

Plans are being made to transfer the MCAGCC Twentynine Palms collection to Joshua Tree National Monument.

COMMENTS

1. Statistical Research does not meet the current federal requirements for archaeological curation.
2. Statistical Research staff are concerned about the long-term survival of archaeological collections under their control and are currently maintaining these materials in an environment that will lessen immediate damage.

RECOMMENDATIONS

1. All collections recovered or generated through contracts with MCAGCC Twentynine Palms and stored at Statistical Research, should be inventoried, rehabilitated and curated according to federal guidelines and standards. All artifacts need to be reboxed and rebagged into acid-free boxes and four-mil, plastic zip-lock bags.
2. All associated documentation and reports should be arranged, described, and preserved according to federal guidelines and standards and modern archival procedures.
3. A duplicate copy of all associated documentation and reports should be created and stored in a separate and secure location.
4. The original photographic documentation for the Surprise Spring collection should be recovered and integrated with this collection.
5. All archaeological materials, associated documentation, and reports should be transferred to a curation facility that can provide the staff, institutional commitment, and financial support necessary for the level of professional archaeological curation mandated by current federal regulations. The repository at Joshua Tree National Monument is a satisfactory storage facility for these materials.

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UNIVERSITY OF CALIFORNIA,
LOS ANGELES

REPOSITORY SUMMARY

(1) Volume of Archaeological Materials: 15 ft³

Compliance Status: Archaeological materials require complete rehabilitation to comply with existing federal guidelines and standards for curation.

(2) Linear Feet of Records: 0.5 linear feet

Compliance Status: Documentation requires partial rehabilitation to comply with existing federal guidelines and standards for archival preservation. Only one third of the negatives are currently stored in acid-free envelopes. Duplicate contact prints need to be produced before the negatives are totally destroyed.

(3) Human Skeletal Remains: Skeletal remains from four individuals recovered from NAS North Island are stored in the Human Collections Storage Room in Haines Hall.

(4) Status of Curation Funding: Unknown

INTRODUCTION

DATE OF VISIT: August 17, 1992

PERSON CONTACTED: Roger Colten

Approximately 15 ft³ of prehistoric and historic archaeological materials recovered from NAS North Island and 0.5 linear feet of associated documentation are stored in two separate rooms in Haines Hall at the University of California, Los Angeles (UCLA)(Table 16). Materials represented include prehistoric botanical, charcoal, faunal, chipped stone, shell, and human skeletal remains, along with historic metal.

Table 16.
Summary of NAS North Island Collections
at UCLA

Collector	Date	Accession Number	Ft ³	Human Skeletal Remains
McKusick/Warren	1958	198	7	1
McKusick, et al.	1958, 1959	200-203	4	2
Ericson/ Tartaglia	1975	141	2	0
Meighan	1969?	553	1	0
Valdivia		252	1	1
Total			15	4

Human skeletal remains representing four individuals are included in three of the five collections. Many of the skeletal elements could not be located and are presumed to be lost. However, all located remains present are in good to fair condition.

REPOSITORY

Archaeological collections are stored in two rooms located in Subbasement Three of Haines Hall, a multilevel classroom building located on the UCLA campus.

Archaeological Material Storage Area 1

Archaeological Material Storage Area 1 is composed of three adjoining rooms. The office area opens onto the hallway, and the archaeological materials storage area and records room branch off from the office.

Archaeological Material Storage Area 2

The room is dedicated strictly to the storage of human skeletal remains.

Structural Adequacy

Archaeological Material Storage Area 1



Figure 28. View of archaeological materials in storage area 1.

This archaeological material storage area has a poured concrete foundation and ceiling and painted concrete block interior walls. There are no windows. There is a single wood panel door leading to the hallway adjoining the storage complex. The interior doors to the collections and records storage rooms are also single wood panel. The storage areas are currently filled to approximately 98% capacity. The building is not structurally sound as evidenced by water seeping into the facility when it rains. The collections have been draped with plastic sheets in an attempt to protect them from being damaged (Figure 28). Efforts have been made to control the water seepage by drilling an additional street drain at ground level. Overhead vents have been cemented shut to further facilitate seepage control. Although these measures have relieved some of the problems, they are inadequate. A more permanent solution should be sought before the collections are permanently damaged.

Archaeological Material Storage Area 2

The Human Skeletal Laboratory has a poured concrete foundation and ceiling, and painted concrete block walls. There is a single wood panel door that leads to the adjoining hallway. Overhead water pipes exist, but there has not been a structural failure of this system. However, as in Archaeological Material Storage Area 1, the human skeletal collections are covered with plastic sheet due to water seepage from the ground floor. The same efforts to control water seepage in Archaeological Material Storage Area 1 have also been taken in the human skeletal laboratory. Again, a more permanent solution to the problem of water leakage should be considered or the skeletal collections should be stored elsewhere in a secure and environmentally controlled location.

Environment

Archaeological Material Storage Area 1

Temperature is controlled by a central heating and air conditioning system. There is no system for regulating temperature. No system for monitoring or controlling humidity exists. All lighting is fluorescent.

Archaeological Material Storage Area 2

Temperature is controlled by a central heating and air conditioning system. No system monitors or controls humidity. Light is provided by fluorescent tubes and desk lamps.

Pest Management

Archaeological Material Storage Area 1

No evidence of pests was noted during our visit. The university provides limited pest management on an as-needed basis.

Archaeological Material Storage Area 2

No integrated program for pest management is in place in the laboratory. No pests were observed during our visit.

Security

Archaeological Material Storage Area 1

The storage doors have key locks and are also protected by a security alarm. A limited number of staff have keys. The age and structural inadequacies of the facility present just as great a danger to the collections as does unauthorized entry.

Archaeological Material Storage Area 2

The door to the human skeletal laboratory is secured by an electronic keypad. A limited number of staff have the combination.

Fire Detection and Suppression Systems

Archaeological Material Storage Area 1

Manual fire alarms are located in the hallway adjoining the storage complex and are the only means of fire detection. The fire suppression system consists of fire hoses in the hallway, fire extinguishers and a sprinkler system. We could not determine when the fire extinguishers were last charged.

Archaeological Material Storage Area 2

The fire detection system consists of manual fire alarms located in the adjoining hallway. The fire suppression system includes a sprinkler system in the laboratory, as well as fire hoses in the hallway.

ARCHAEOLOGICAL MATERIAL STORAGE

Storage Units

Archaeological Material Storage Area 1

Wood drawers are used to store the archaeological materials. The drawers are in a painted wood framework. Each wooden shelving unit is approximately 3 feet by 2 feet by 10 feet (length, width, height) and has approximately 15–20 drawers.

Archaeological Material Storage Area 2

Human skeletal remains are stored in wooden drawers in unsealed wooden frames. Each unit is approximately 3 feet by 1.5 feet by 9 feet (length, width, height) and has nine drawers.

Primary Container

Archaeological Material Storage Area 1

Two types of primary containers are used to store NAS North Island archaeological materials. The Ericson/Tartaglia (Accession 141) collection is curated in an acidic cardboard box with a folded flap lid. The box is stacked on top of the wooden shelving unit. The box is labeled directly in marker with the accession number, site name, and contents. Water damage has resulted in compression damage to the box. The remainder of the archaeological materials are stored in unsealed wood drawers measuring 3 feet by 2 feet by 0.3 feet (length, width, height). The drawers contain metal label holders with typed acidic paper labels with the accession number and site name.

Archaeological Material Storage Area 2

Primary containers used to house human skeletal remains consist of wooden drawers with sealed exteriors and unsealed interiors measuring approximately 3 feet by 1.5 feet wide by 1 foot (length, width, height). These drawers are occasionally foam lined and contain typed and hand-written adhesive labels with the site number, accession number, drawer number, and content information.

Secondary Containers

Archaeological Material Storage Area 1

Various types of secondary containers were used to store the NAS North Island material. The Ericson/Tartaglia collection is in an acidic cardboard box with paper bags inside folded plastic bags. Artifacts in the wood drawers are stored in secondary containers that include small acidic cardboard boxes, two-mil zip-lock bags, plastic vials, and a small plastic box. These secondary containers are directly labeled with marker and/or pen and have the accession number, site number, provenience, contents, catalog number, and field number.

Archaeological Material Storage Area 2

The majority of the human skeletal remains are wrapped in plastic and stored loose in the drawers.

Laboratory Processing and Labeling

Archaeological Material Storage Area 1

The majority of the NAS North Island artifacts are cleaned, sorted, and labeled. Accession number and site number are directly applied in india ink. One shell fragment contains an adhesive masking tape label written in pencil with the accession number. The label is beginning to fade.

Archaeological Material Storage Area 2

All of the human skeletal remains recovered from NAS North Island are cleaned and sorted by accession number and element. However, only two of the four individuals are labeled directly in India ink with a catalog number.

HUMAN SKELETAL REMAINS

Four individuals are represented in three different collections from NAS North Island. None are complete. All are stored loose in the drawers except for three vertebrae belonging to the McKusick et al. collection (Accession 202), and a skull from the Valdivia collection. They are wrapped in plastic. Half of the remains are directly labeled in india ink with a catalog number.

Many of the skeletal elements could not be located and are presumed to be lost. The skull and mandible associated with the three vertebrae (Accession 202) were loaned to Dr. Berger's lab in 1969 and are now stored in an unknown location. A once complete burial (Accession 203) is missing the larger long bones and skull. A sub-adult mandible is missing from a skull in the Valdivia collection. All remains, however, are in good to fair condition.

RECORDS STORAGE

The 88 ft² archives room is located in Sub-basement Three in Haines Hall. Less than 0.5 linear feet of associated documentation from NAS North Island are present.

Paper Records

Paper records are stored in acidic manila file folders in standard metal file cabinets. Individual pages are secured to the folders by metal clasps. We examined Accession file No. 198 (San Clemente Island Collections) as well as one folder containing field records for same collection. The accession file contained original records written on faded mimeographed forms.

Field records included mimeographed shell midden analysis forms written in ball point ink, as well as carbon copies of typed artifact descriptions.

Photographic Records

Photographic archives are located in a corner of the archaeological material storage room. Documentation from NAS North Island collections consists of 25 envelopes of 3 inch by 5 inch acetate negatives from Big Dog Cave. The envelopes are labeled with an item description, institution name, photographer, date, and negative number. Contact prints are attached to the back of the envelopes. The artifacts in these negatives are stored at the Natural History Museum of Los Angeles County. Approximately one third of the acetate negatives are curated in acid-free envelopes within acidic ones and are in fair condition. The remaining two thirds are stored in acidic envelopes. The negatives are bubbled and bent because of age and their storage environment.

COLLECTIONS MANAGEMENT STANDARDS

Registration Procedures

Accession Files

Accession files exist.

Location Identification

The location of a collection is identified.

Cross-indexed files

The files are partially cross-indexed.

Published Guide to Collections

No published guide to the collections exists.

Site Record Administration

The Smithsonian Institution's trinomial system is employed.

Computerized Database Management

A computerized database exists and covers part of the collections.

Written Policies and Procedures***Minimum Standards for Acceptance***

Minimum standards of acceptance exist.

Curation Policy

No curation policy exists.

Records-Management Policy

No records management policy exists.

Field Curation Guidelines

No field curation guidelines exist.

Loan Procedures

Loan procedures exist.

Deaccessioning Policy

No deaccessioning policy exists.

Inventory Policy

No inventory policy exists.

Latest Collection Inventory

No information is available on when the last collection inventory was undertaken.

Curation Personnel

There is only a part-time curator for the archaeological collections.

Curation Financing

No information was available.

Access to Collections

Information was not available.

Future Plans

Future plans include moving the collections from the subbasement to a room in the Fowler Museum located on-campus that has better environmental controls and is more suitable for storing archaeological collections.

COMMENTS

1. The repository at UCLA does not meet current federal requirements for archaeological curation. Although measures have been taken to curb future water damage, the collections are still in danger not only from moisture but also from high humidity levels. An attempt has been made to monitor the temperature and humidity, but little can be physically done to correct the fluctuations. Records need to be duplicated before the ink fades altogether and photographs need to be moved to a more environmentally stable storage area before they are totally destroyed.
2. Although the human remains are in good condition, the missing skeletal elements suggest that these materials are improperly curated. Human skeletal remains are in danger from future disassociation and improper storage.

RECOMMENDATIONS

1. All collections should be inventoried, rehabilitated, and placed in acid-free containers according to federal guidelines and standards. Minimum work that needs to be done includes (a) transferring all loose artifact into zip-lock bags, (b) treat and seal wood surfaces, (c) provide drawer or box inventories on acid-free paper, and (d) label all containers and artifacts with appropriate diagnostic information in indelible ink.
2. All associated documentation should be recovered, arranged, described, and preserved in acid-free containers according to federal guidelines and standards for modern archival procedures.
3. A duplicate copy of all associated documentation and reports should be stored in a separate and secure location.
4. All missing human skeletal remains should be located and returned.
5. All collections should be removed from their present location and stored in a secure, environmentally controlled, and monitored repository.

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UNIVERSITY OF CALIFORNIA, LOS ANGELES INSTITUTE OF ARCHAEOLOGY

REPOSITORY SUMMARY

(1) Volume of Archaeological Materials: 576 ft³

Compliance Status: Archaeological materials will require complete rehabilitation to comply with existing federal guidelines and standards for curation.

(2) Linear Feet of Records: 9 linear feet

Compliance Status: All records require significant rehabilitation and should be duplicated with a copy stored at a separate location for safety and security purposes. All missing photographs and maps should be located.

(3) Human Skeletal Remains: Three human teeth recovered in 1986 from the Old Airport Site are included in the NAS North Island collections at the Institute of Archaeology. All other human skeletal remains from these collections are now in the Physical Anthropology Laboratory at the University of California, Santa Barbara, where they are being analyzed as part of Native American Graves Protection and Repatriation Act compliance. We did not examine these remains.

(4) Status of Curation Funding: There are no financial resources devoted to the curation of the NAS North Island collections.

INTRODUCTION

DATE OF VISIT: 17-18 August 1992

PERSON CONTACTED: Nancy Davis and Roger Colten

Approximately 576 ft³ of archaeological materials recovered from San Clemente Island, NAS North Island, along with nine linear feet of associated documentation are in the Fowler Museum, UCLA. These materials were recovered by the Institute of Archaeology and not the Fowler (Table 17). The 1960 field season at the Ledge site was conducted by the Archaeological Survey Association, whereas the 1983–1987 field seasons were conducted by the University of California, Los Angeles.

Table 17.
Sites Represented in the NAS North Island Collections
at the Institute of Archaeology

Site Name	Site Number	Field Seasons
Ledge Site	SCLI-126	1960
Eel Point	SCLI-43	1983, 1984, 1986
Big Dog Cave	SCLI-119	1985
Ledge Site	SCLI-126	1983,1984
North End Shelter	SCLI-1178	1984,1985
Nursery Site	SCLI-1215	1984, 1985, 1987
Target Site	SCLI-1375	1984
Old Airport/Airfield	SCLI-1487	1986

Artifact classes include chipped stone, botanical remains, faunal remains, flotation samples, human skeletal remains, and worked shell. The flotation samples do not appear in any collections until 1984. The three human teeth were observed in a 1986 collection from the Old Airport Site.

REPOSITORY

The NAS North Island collections are in the 625 ft² former laboratory of Clement Meighan located in the basement of the Fowler Museum (Figure 29). The NAS North Island collections have been moved to a dedicated archaeological repository. The upper floors of the facility are devoted to exhibits, whereas the basement level where the NAS North Island collections are stored is used for office and laboratory space. There is, however, a large storage room with compact shelving units in the basement of the museum. This area could eventually be used to curate these materials.

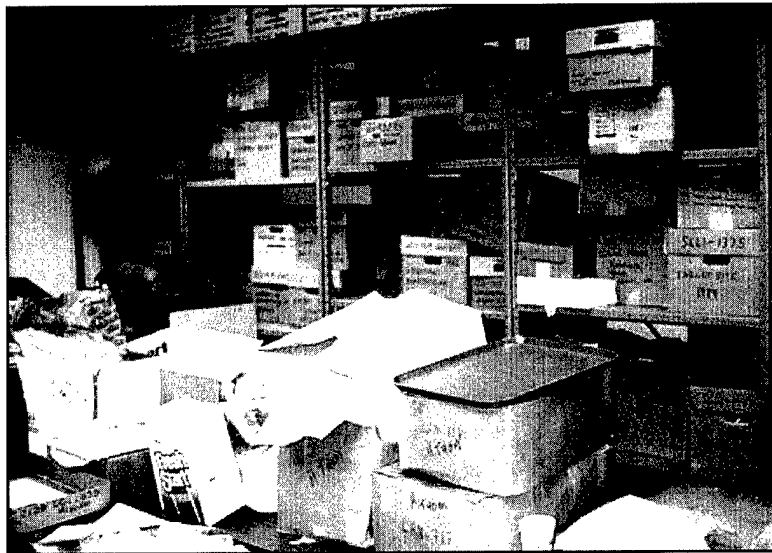


Figure 29. View of repository located in the basement of the Fowler Museum.

Structural Adequacy

Construction of the new Fowler Museum was completed in 1992. The building is a modern concrete and steel structure which meets the requirements of all California fire and safety codes, including those for earthquake protection. Interior walls are covered with sheet rock and there is a suspended, acoustical tile ceiling. The floor is of poured concrete covered with tile. No windows exist in the collections storage facility. There is only a single wood panel door. The archaeological material storage area is filled to capacity. All available shelf space is used for collections storage, with boxes of artifacts and documentation also stacked on the floor and on table tops. Students are now using the area for the analysis of other collections, which contributes to the room's disarray.

Environment

The entire museum, including the basement area, is centrally heated and air conditioned, but humidity levels in the basement are not monitored or controlled. Lighting is provided by fluorescent tubes and miscellaneous desk lamps. There are no windows.

Pest Management

We could not determine whether a formal pest management program is in place. However, during our visit, we did not notice any insects or rodents.

Security

The room in which the NAS North Island collections are stored is secured with a key lock and access to the room is limited and controlled. However, since students are now conducting research on other collections in this laboratory, the security of the materials is compromised.

Fire Detection and Suppression Systems

The fire detection system consists of fire alarms. A sprinkler system and fire extinguishers serve as the fire suppression system.

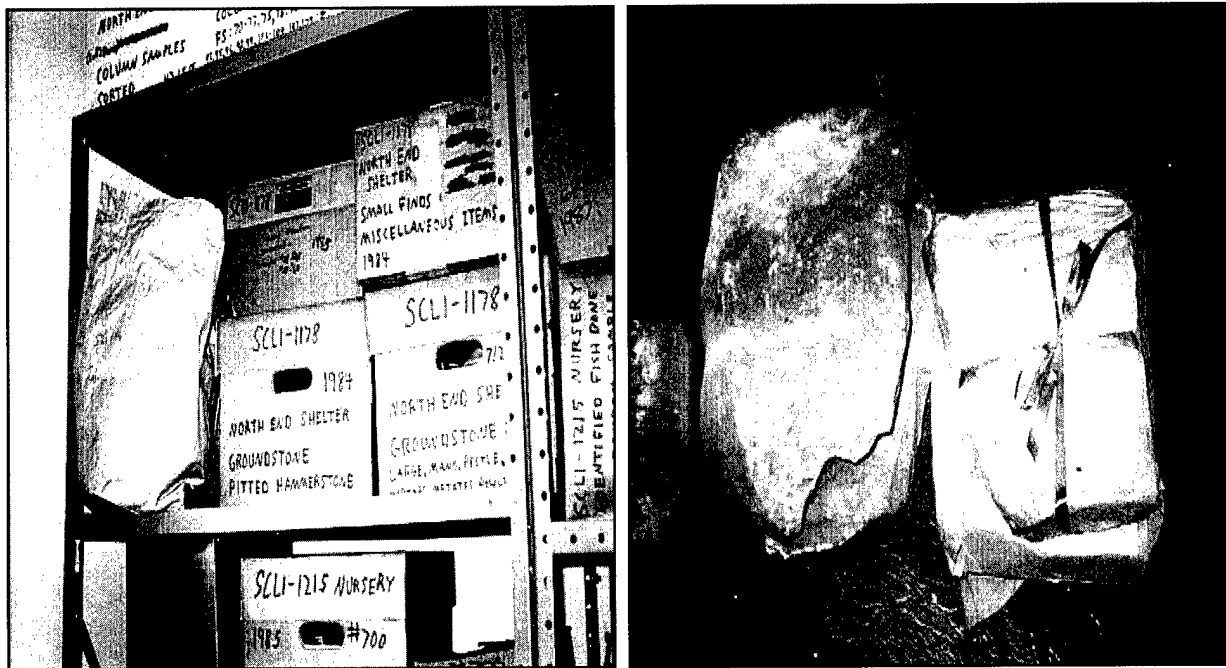
ARCHAEOLOGICAL MATERIAL STORAGE

Storage Units

The collections from NAS North Island are stored along the walls of the laboratory on 12 enameled metal warehouse shelving units. Each unit is 3 feet by 2 feet by 8 feet (height, width, depth). These units are filled to capacity with artifact boxes. Materials that could not be stored on shelving are placed on tables and on the floor.

Primary Containers

Acidic cardboard boxes of various sizes are used to store the San Clemente collections (Figure 30). Many of the boxes have telescoping lids, but a significant number have folded flap lids. A small number of artifacts are in shoe boxes and paper bags. All boxes are directly labeled in marker. Label information varies with the project year, but includes descriptions of site number, site name, year, provenience, contents, and catalog numbers. Most containers are in good condition, although some compression damage was noted on the boxes from the 1987 field season. This compression is due to inadequate storage space that lead to stacking of excessively heavy boxes of chipped stone. A large whale bone is also stored unprotected on the shelves. Metates are stored unprotected on the floor or wrapped in plastic saran wrap (Figure 31).



Figures 30 and 31. Storage containers for San Clemente archaeological materials.

Secondary Containers

The majority of secondary containers consist of large two-mil, zip-lock, plastic bags. In many cases, artifacts are curated in other types of containers within these larger bags, including smaller zip-lock bags, small two-mil, plastic bags that are secured with staples, various types of small cardboard boxes, jewelry boxes, and plastic film vials. In a few instances, items are loose within the primary containers or are packed with paper towels or styrofoam. Seldom were secondary containers labeled directly. In almost all cases, acidic paper tags labeled with ink or pencil were included within secondary containers. Label information consists of site number, provenience, depth, material class/bag contents, catalog number, and date recovered. All label information is legible and consistent.

Laboratory Processing and Labeling

All artifacts from the seven NAS North Island projects are sorted by site number, project year, and catalog number. Most artifacts are partially cleaned, but artifact labeling is not consistent. For example, only shell material from the 1983 project year is labeled, whereas labeling for the 1984 and 1985 project years also includes groundstone and bone artifacts. Label information consists of the artifact catalog number applied directly to the artifact in either black or white india ink.

HUMAN SKELETAL REMAINS

Only three human teeth recovered in 1986 from the Old Airport Site are included in the NAS North Island collections curated at the Institute. All other human remains from these collections are now temporarily in the physical anthropology laboratory at the University of California, Santa Barbara, where they are undergoing analysis as part of the requirements of NAGPRA. These skeletal remains were not examined.

RECORDS STORAGE

Approximately nine linear feet of documentation associated with the NAS North Island collections are stored in Dr. Meighan's former laboratory.

Paper Records

The majority of the paper records are filed in spiral-bound notebooks, acidic manila folders, and plastic three-ring binders that are kept on two enameled metal shelving units situated side by side against one wall. Each shelving unit is approximately 2 feet by 3 feet by 1 foot (length, height, depth), with three shelves per unit. The paper records are roughly organized by field season and site number and include administrative materials as well as field notes and analysis records.

Photographic Records

Although photographs of the archaeological materials from NAS North Island, no photographic documentation was available. These images may be in files belonging to Dr. Meighan.

Maps and/or Oversized Documents

Profile maps were located for the 1983, 1984, 1985, and 1986 field seasons. These are stored in the three-ring binders with the paper records. However, no oversized maps and/or documents could be located for the NAS North Island collections..

Reports

Preliminary reports were located for the 1983 field season. The reports are stored on the metal shelves with the paper records.

The documentation from the 1960 project could not be located, but records from 1958 were identified. This documentation includes site survey records, excavation descriptions, site maps, and a report.

The documentation that exists is in poor condition as reflected by the loose, dirty, and faded condition of the materials. No documents are archivally prepared for long-term storage or is a duplicate copy created and then stored in a separate and secure location. Since no one has direct responsibility for the safekeeping of these records, their security is threatened. The photographic images and maps are already separated from the other primary field records. Further dispersal will occur if their present storage environment is maintained.

COLLECTIONS MANAGEMENT STANDARDS

Registration Procedures

Accession Files

No accession files exist.

Location Identification

The location of collections is not identified in the repository.

Cross-indexed files

Information is not cross-indexed.

Published Guide to Collections

There is no published guide to the collections.

Site Record Administration

There are no site records.

Computerized Database Management

A computerized database system is not in use.

Written Policies and Procedures***Minimum Standards for Acceptance***

There are no minimum standards of acceptance.

Curation Policy

No curation policy exists.

Records Management Policy

There is no records management policy.

Field Curation Guidelines

No field curation guidelines exist.

Loan Procedures

There are no loan procedures.

Deaccessioning Policy

There is no deaccessioning policy.

Inventory Policy

There is no inventory policy.

Latest Collection Inventory

We could not determine when the last collection inventory occurred.

Curation Personnel

Prior to his retirement Dr. Meighan was given curatorial responsibility for the NAS North Island collections. Since his retirement, no one has been given the responsibility for the collections. Although the materials were collected by the Institute of Archaeology and are technically its responsibility, there are no storage facilities under the Institute's control for the long-term curation of these items. The Fowler Museum may take temporary control of these collections.

Curation Financing

There are no funds for curation.

Access to Collections

Since Dr. Meighan's retirement, the NAS North Island collections are not accessible. If they are transferred to the Fowler Museum archaeological curator, they will then be accessible for research.

Future Plans

Tentative plans have been made to transfer responsibility for the NAS North Island collections to the archaeological curator of the Fowler Museum. If this transfer occurs, the collections are expected to be moved to the new archaeological curation room in the basement of the Fowler Museum rather than to the Museum's storage rooms in the basement of Haines Hall.

COMMENTS

1. The retirement of Dr. Meighan from UCLA dramatically illustrates what occurs all too often with archaeological collections: (a) collections are recovered, but remain under the control of the principal investigator; (b) when this researcher leaves the institution, no one is assigned responsibility for the long-term curation of these materials and the collections are essentially abandoned; (c) display quality items in the collections "disappear" and the documentation becomes disassociated from the archaeological materials; (d) after a short period of time, the collections are rendered useless for future research. This scenario is now describes the NAS North Island collections. Although the collections have been isolated for a relatively short period of time and are potentially still intact, no one has been assigned the responsibility for their safekeeping. Likewise, questions concerning the extent of the collection, the location of missing documentation, or the ultimate disposition of the human skeletal remains remain unanswered.
2. The human skeletal remains were transferred to the University of California, Santa Barbara where they are being analyzed as part of the requirements of NAGPRA. These remains were not examined.
3. Humidity is not monitored and/or controlled in the archaeological material storage area.
4. Labels on all boxes are written directly on the fronts of the boxes.

5. The archaeological material storage area is overcrowded.
6. The associated records have not been duplicated and a copy stored at a separate location for security purposes.

RECOMMENDATIONS

1. Curatorial responsibility for the collections should be formally established.
2. All recovered human skeletal remains should be identified, returned, and incorporated into the collections.
3. All missing documentation, including the records for the 1960 project at the Ledge Site, all photographic documentation and all field maps should be identified, recovered, arranged, and preserved according to federal guidelines and standards and modern archival procedures.
4. All collections should be inventoried, rehabilitated, and curated according to federal guidelines and standards.
5. A duplicate copy of all associated documentation and reports should be stored in a separate and secure location.
6. Humidity monitoring and control devices should be installed.
7. All NAS North Island archaeological materials should be reboxed and rebagged into four-mil, polyethylene, zip-lock bags and acid-free boxes.
8. Adhesive plastic label holders should be applied to the front of each box. Labels should no longer be applied directly to the boxes. If adhesive labels with paper inserts are used, the chance for conflicting and confusing information diminishes if label information changes.
9. Remove lab tables in the archaeological material storage area and install additional shelving units to move collections off the floor.
10. All archaeological materials and documentation should be removed from Dr. Meighan's former laboratory and transferred to the collections storage room in the basement of the Fowler Museum. If this space is not available for the long-term curation of collections, the materials should be transferred to a curation facility that can provide the staff, institutional commitment, and financial support necessary for the level of professional archaeological curation mandated by current federal regulations.

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FINDINGS SUMMARY

Eighteen separate repositories including four military installations in two different states curate archaeological collections from NAS North Island, Edwards Air Force Base, Fort Irwin, and MCAGCC Twentynine Palms. We visited each of these facilities. A building evaluation, survey questionnaire, and collections and documentation evaluation were completed for each repository.

Repositories

None of the 18 repositories are in full compliance with 36 CFR Part 79. One-half were not designed for, or adapted to, the requirements of a modern curation center (Tables 18 and 19). In most cases, institutions use available space, because they do not have the financial resources to acquire additional space suitable for collections management needs.

Table 18.
Types and Frequencies of Repositories Curating
DoD Archaeological Collections

Type of Repository	Frequency
Collection Facility	1
Base Repository/Office	4
Museum	4
University/College Laboratory	6
Contracting Firm	3

Total 18

Environmental Controls

Environmental monitoring and adequate environmental controls do not exist in 17 of the 18 repositories. Only two repositories, Joshua Tree National Monument and the San Diego Museum of Man, monitor humidity and none have the capability to control it. Although most of the structures are heated and air conditioned, temperature and humidity fluctuates outside the acceptable range dictated by the American Association of Museum standards.

Table 19.
Summary of Collections by Location

	Archaeological Materials	Records	MNI/Burials
Edwards Air Force Base			
Base Repository	60.5	65.5	1
Antelope Valley College	15.0	0.5	—
San Bernardino County Museum	1.0	0.3	—
Fort Irwin			
Base Repository	89.0	unknown	—
Far Western Anthropological Research Group Office	947.0	113.0	—
Dames and Moore	—	14.0	—
Naval Air Station, North Island			
Base Repository	108.0	20.0	3
CSU Fullerton ^a	187.5	—	7
CSU Northridge	68.5	15.0	—
Natural History Museum of Los Angeles County ^a	60.0	1.0	5
San Diego Museum of Man	27.0	0.5	13
San Diego State University ^a	13.0	4.0	7(ft ³)
Southwest Museum	6.0	—	3
UCLA	15.0	0.5	4
UCLA Institute of Archaeology ^b	576.0	9.0	1
Marine Corps Air-Ground Combat Center, Twentynine Palms			
Joshua Tree National Monument	0.3	1.5	—
Statistical Research	2.5	0.3	—
Total	2,176.3	245.1	37+

^a Because of the way the skeletal materials were curated at these repositories, it was impossible to determine the minimum number of individuals.

^b Total does not include skeletal materials that are undergoing a Section 5 NAGPRA inventory at the University of California, Santa Barbara.

Pest Management

Fifty-percent of the repositories have a rudimentary pest management program, that consists of monitoring insects visually. If a problem is encountered, chemical eradication is performed. The types of chemicals used, the frequency of use, and the hazard to personnel and collections, are beyond the scope of work reported here, but should be investigated in the future because of the presence of rare and endangered rodent species in the area. Edwards Air Force Base uses live traps to capture rodents instead of chemical methods.

Security

Although access to collections is limited to a select number of employees, only fifty-percent of the repositories meet the federal standards for security of archaeological collections. Minimal security standards include intrusion alarms, motion detectors, limited access, absence of windows in the archaeological material storage area, and proper door security.

Fire Safety

Less than half of the repositories contain fire detection devices, and sprinkler systems are present in only five of the 18 facilities. All repositories have fire extinguishers in or directly outside the archaeological material storage area. This is not adequate protection.

ARCHAEOLOGICAL MATERIAL CURATION

Only one, Antelope Valley College, of the 18 repositories properly prepared archaeological materials for long-term curation. Overall, most of the primary containers are variable-sized acidic cardboard boxes that have been frequently overstacked, overpacked, compressed, and torn. Furthermore, not all primary containers included adequate label information.

The wide variety of inappropriate secondary containers is contributing to the deterioration of many components of the collections. Secondary containers include plastic sandwich bags, acidic paper bags, acidic cardboard ice cream containers, small acidic cardboard and plastic boxes, plastic and glass vials, manila envelopes, wax paper bags, and polyethylene zip-lock bags.

The major prehistoric material classes encountered include chipped stone, shell, faunal remains, ceramic, botanical remains, soil, and flotation samples, and human skeletal remains. Major historic material classes are glass and metal, leather, trade beads, coins, and metals.

HUMAN SKELETAL REMAINS

A minimum number of 36 individuals from NAS North Island and one individual from Edwards Air Force Base are stored at nine facilities.

RECORDS MANAGEMENT

Records associated with NAS North Island, Edwards Air Force Base, and MCAGCC Twentynine Palms collections 242.1 linear feet. Minimal archival practices were noted at only two of the 16 repositories. Original paper records at 14 facilities have not been duplicated. Most of the paper records are not stored in acid-free folders, maps are not stored flat in metal cases at half of the repositories, and photographic materials have not always been isolated and stored in chemically inert sleeves. A systematic records inventory is performed at only one of the facilities.

Environmental controls that meet 36 CFR Part 79 do not exist in any of the repositories. Records at these facilities are subject to severe temperature and humidity fluctuations, resulting in expansion, contraction, and dimensional changes that accelerate deterioration and promote major visible damage such as cockling paper, flaking ink, warped book covers, and cracked emulsions on photographs.

MANAGEMENT CONTROLS

Basic policy and procedure statements for artifact curation, records management, and deaccessioning exist at seven of the repositories. Although 12 of the facilities have accession records only three have minimum standards for the accepting collections. Furthermore, only seven of the repositories have inventoried their collections in the last 10 years. This situation has led to substandard care for many of the NAS North Island, Edwards Air Force Base, and MCAGCC Twentynine Palms archaeological collections.

In order to rectify this situation, the cultural resource managers at NAS North Island, Edwards Air Force Base, Fort Irwin, and MCAGCC Twentynine Palms must develop and implement plans of action for the long-term care and management of their archaeological collections. At a minimum, a plan of action should include the following four tasks.

1. Inventory all human skeletal remains to comply with the Native American Graves Protection and Repatriation Act.
2. Prioritize the care needed by all the collections that minimally includes rehabilitation and conservation.
3. Inventory and rehabilitate the collections to comply with federal curation standards.
4. Develop an archives management plan.

Implementation of these minimal tasks will contribute greatly to our understanding of the culture history of southern California and North America.

RECOMMENDATIONS

The following recommendations are suggested for bringing the NAS North Island, Edwards Air Force Base, Fort Irwin, and MCAGCC Twentynine Palms collections into compliance with the mandates of 36 CFR Part 79 and NAGPRA. Maximum cost savings would be achieved if NAGPRA and 36 CFR Part 79 work was done simultaneously. A comprehensive plan for curation compliance includes the following nine areas.

I. DEVELOPMENT A PLAN OF ACTION

A plan of action minimally must address four points—(1) long-term housing of the collections and records, (2) rehabilitation of the archaeological materials, (3) rehabilitation of the associated records, and (4) management of these data.

II. COMPLIANCE WITH NAGPRA

The NAS North Island, Edwards Air Force Base, Fort Irwin, and MCAGCC Twentynine Palms collections must be examined for human skeletal remains, associated and unassociated funerary objects, sacred objects, and objects of cultural patrimony. To satisfy NAGPRA requirements, the following tasks should be performed at each repository with NAS North Island, Edwards Air Force Base, Fort Irwin, and MCAGCC Twentynine Palms collections.

1. Conduct a records search to identify accession and catalog numbers and the locations of human remains, associated and unassociated funerary objects, objects of cultural patrimony, and sacred objects within collections.
2. Perform a box search to identify the human skeletal remains, associated and unassociated funerary objects, objects of cultural patrimony, and sacred objects.
3. Produce summary and inventory reports that present the results of the summary and inventory for each repository, that includes the following.
 - a. Information on unassociated funerary objects, sacred objects, and objects of cultural patrimony.
 - b. An estimate of the number of objects in the collection.
 - c. A description of the kinds of objects included in the collection, when readily available with reference to the means and dates of acquisition and locations from which the collections came.
 - d. If available, information relevant to identifying lineal descendants and cultural affiliation.

4. The inventory should contain the following.
 - a. Information on human skeletal remains and associated funerary objects.
 - b. An item-by-item list of all the human skeletal remains and associated funerary objects that are identified as being culturally affiliated with one or more present-day Native American tribes.
 - c. A list of all the human skeletal remains and associated objects for which no present-day Indian tribe can be determined.
 - d. Accession and catalog entries of the human remains with which funerary objects were associated.
 - e. If known, information on the acquisition of each object, including the name of the person and/or organization from whom the object was obtained, the date the object was acquired, the place where the object was acquired, the means of acquisition, and the antiquity of the human remains and associated funerary objects.
 - f. A description of each set of funerary remains and associated funerary objects, including dimension, materials, and photographic documentation.

III. DEVELOP A FORMAL ARCHIVES MANAGEMENT PROGRAM

A management program must be developed immediately to establish priorities for the documentation within the NAS North Island, Edwards Air Force Base, Fort Irwin, and MCAGCC Twentynine Palms collections. All records must be coalesced and rehabilitated to comply with existing federal guidelines and standards for modern archival practices. Archives rehabilitation includes eight steps.

1. Develop an archives inventory management program that uses micro-computer technology.
2. Inventory and catalog all associated records to standards consistent with those of a professional museum.
3. Using an appropriate professional staff, conduct a condition assessment of all records and implement a long-term conservation program for appropriate records.
4. Conserve significant records that are currently at risk.

5. Transfer records into acid-free folders and appropriate archival storage units.
6. Place photographs, negatives, and slides into archival polyethylene sleeves, acid-free envelopes, and appropriate storage units.
7. Catalog and curate large-scale maps in metal map cases.
8. Produce duplicate/back-up copies of associated records that will be stored in a separate location.

Proper management of the NAS North Island, Edwards Air Force Base, Fort Irwin, and MCAGCC Twentynine Palms archaeological archives will provide opportunities for scholars, students, and the public to benefit from the information contained in these records, a major public benefit that currently is not being realized.

IV. INVENTORY AND REHABILITATION OF EXISTING ARCHAEOLOGICAL MATERIALS

The collections from NAS North Island, Edwards Air Force Base, Fort Irwin, and MCAGCC Twentynine Palms collections must be rehabilitated to professional museum standards. Rehabilitation must include the following.

1. Inventory and catalog all archaeological materials to a standard consistent with those of a professional museum.
2. Label and package artifacts to one consistent standard, and place them in archivally stable containers.
3. Using an appropriate professional staff, conduct a condition assessment of all archaeological materials, and implement a long-term conservation program.
4. Develop a collections manual to aid in the management of archaeological materials.

These steps for stabilizing and preserving existing archaeological materials will ensure management of the collections in a cost-effective manner. Proper management of these collections will ensure that scholars, students, and the public have access to, and benefit from, the NAS North Island, Edwards Air Force Base, Fort Irwin, and MCAGCC Twentynine Palms collections, which are not being used.

V. COALESCE COLLECTIONS

A plan of action for the long-term care of archaeological materials and associated records must be adopted by NAS North Island, Edwards Air Force Base, Fort Irwin, and MCAGCC Twentynine Palms. In this era of cost-efficiencies, the St. Louis District recommends coalescing collections into one regionally oriented repository for the curation and long-term management of archaeological collections.

VI. DEVELOP COOPERATIVE AGREEMENTS

To offset the costs, NAS North Island, Edwards Air Force Base, Fort Irwin, and MCAGCC Twentynine Palms are encouraged to develop cooperative agreements with other agencies to share costs of collections management for all their collections in the same regional repository. Cooperative agreements provide opportunities for joint ventures between and among federal agencies with similar curation requirements.

VII. DEDICATE TEMPORARY SPACE FOR STORAGE OF COLLECTIONS

Following the adoption of a curation strategy, NAS North Island, Edwards Air Force Base, Fort Irwin, and MCAGCC Twentynine Palms must create a plan of action that identifies how their temporary curation space will function. The space must be dedicated strictly for curating archaeological materials and associated records. Office, research, and work areas must be separated from this area. Space that is used both as storage and work areas is not acceptable. Minimal curation standards must include the following.

1. Storage space should be environmentally adequate to maintain stable temperature and humidity levels, in addition to maintaining environmental requirements for the types of objects being curated.
2. Storage space should minimize the number of exterior walls, windows, and doors in order to (1) decrease the chance of condensation on walls and windows during seasonal temperature changes, (2) enhance security, and (3) increase energy efficiency.
3. Water lines associated with fire suppression systems are the only kind of overhead pipes to be allowed in the archaeological material storage area. Water and sewer pipes should be removed.
4. Electric junction boxes and gas and electric meters should be outside the archaeological material storage area in order to limit access by non-curatorial staff.
5. Storage areas should be large enough to accommodate existing collections from

on-going projects prior to their transfer to the permanent off-installation repository.

VIII. SECURITY, FIRE PROTECTION, AND MAINTENANCE OF ARCHAEOLOGICAL MATERIAL STORAGE AREA

As part of any collections storage facility, a plan of action must include measures for security, fire protection, and maintenance of the archaeological material storage area that minimally incorporate the following.

Security

Entrances to the archaeological material storage area should have metal or solid-core wood doors. Doors should have dead-bolt and key locks and the storage area should be protected by an electronic intrusion detection system. Keys to the storage area must be restricted to repository personnel. All cabinets with archaeological materials should be kept locked, unless items are being removed. Researchers and visitors should not be allowed access to the archaeological material storage area unless accompanied by curatorial staff. When researchers and/or visitors request to work with objects, the objects should be taken to an area separate and outside the archaeological material storage area.

Fire Protection

Fire detection and suppression systems must be installed to protect collections and personnel. Smoke detectors must be placed in all parts of the archaeological material storage area. In addition, the appropriate types and number of fire extinguishers, with respect to the types of collections and overall size of archaeological material storage area, must be properly maintained and placed in clearly marked positions. Ultimately, sprinkler systems should be installed in the archaeological material storage area.

Maintenance of the Archaeological Material Storage Area

A scheduled plan for maintenance, including routine sweeping, mopping, and dusting by curatorial staff or bonded janitorial service, must be established. In addition, an integrated pest management program must be implemented, including regular monitoring for signs of pest infestation. Smoking, eating, and drinking should be forbidden in the archaeological material storage area.

IX. FULL-TIME MANAGER FOR ARCHAEOLOGICAL COLLECTIONS

A collections manager should be hired as soon as possible to care for the archaeological collections. This person should have professional qualifications and prior experience in collections management. Collections managers are minimally responsible for the following.

1. Ensuring that adequate written policies and procedures are in place and are shared so that staff have appropriate guidance.
2. Ensuring that management records are kept up-to-date, are complete, are properly monitored, and are readily available to researchers.
3. Managing a computerized data base.
4. Ensuring that archaeological materials can be easily located.
5. Ensuring that objects are properly labeled.
6. Ensuring that the archaeological materials and records are maintained under physically secure conditions, whether in storage, on exhibit, or under study.
7. Performing periodic inventories and inspections of archaeological materials and records to ensure their long-term survival.

The St. Louis District suggests that these recommendations are the minimum that must be addressed in order to bring NAS North Island, Edwards Air Force Base, Fort Irwin, and MCAGCC Twentynine Palms archaeological collections into compliance with federal archaeological curation standards. Our knowledge of the prehistory of southern California will be enhanced by the proper curation of the archaeological materials that are the responsibility of these installations.