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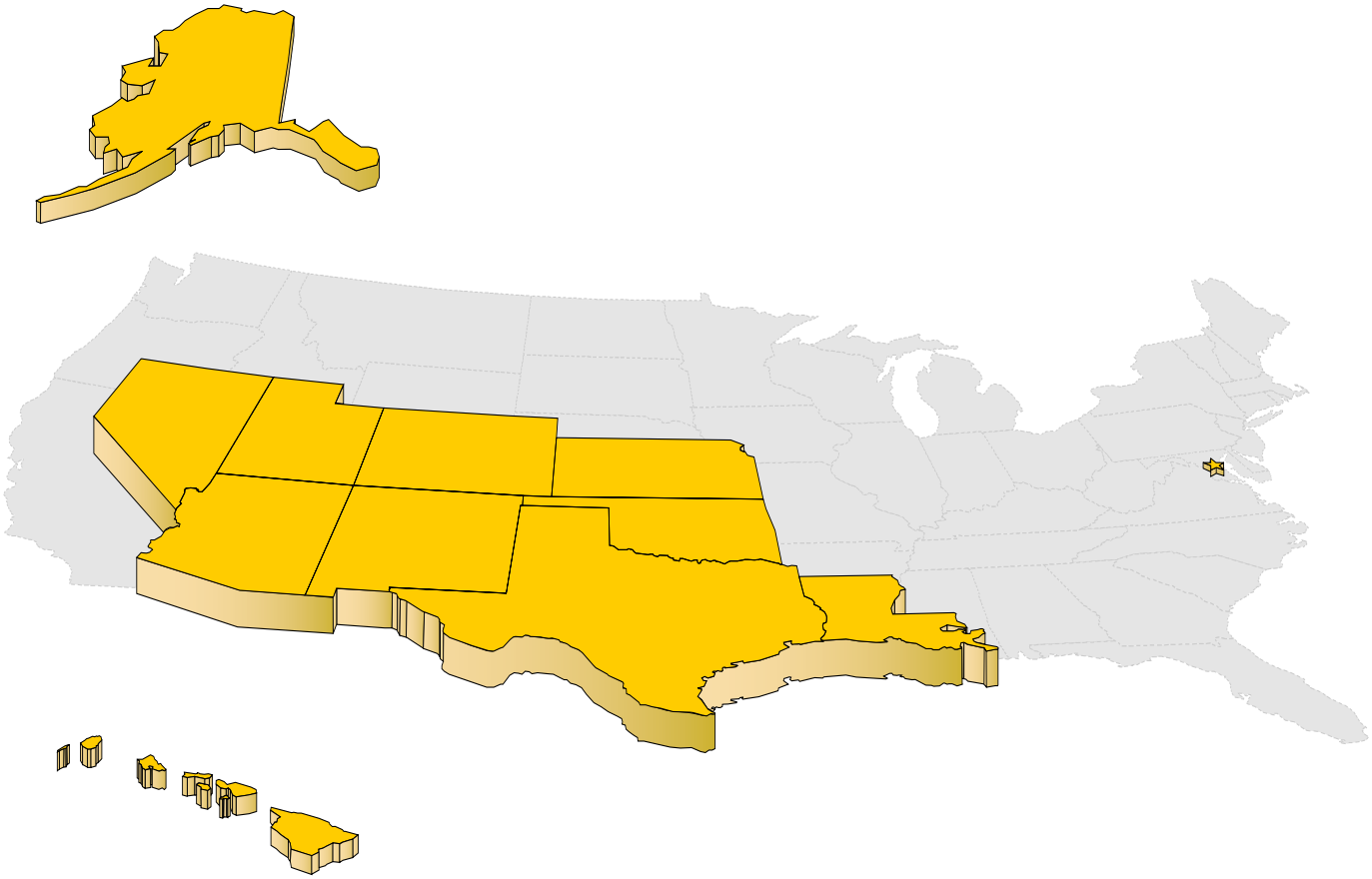

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Mandatory Center of Expertise for the Curation
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Between April 1996 and July 1997 personnel from the U.S. Army Engineer District, St. Louis conducted curation needs assessments at all active military installations in Alaska, Arizona, Colorado, Hawaii, Kansas, Louisiana, Oklahoma, Nevada, New Mexico, Texas, Utah, and the District of Columbia. Over 5,000 ft^3 of artifacts and over 700 linear feet of associated documentation from archaeological projects conducted on these installations were examined during the course of the fieldwork. This research was sponsored by the Department of Defense and was coordinated through the office of the Deputy Under Secretary of Defense for Environmental Security.

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Susan S. Felix, Amy E. Halpin, Kelly L. Holland, Eugene A. Marino, Steve McSween, D. Lynn Murdoch, Julia A. Samerdyke, Kenneth L. Shingleton, and Sylvia Yu

Michael K. Trimble
and
Christopher B. Pulliam
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List of Acroymns

AAF	Army Air Field
AAP	Army Ammunition Plant
AEC	Army Environmental Center
AFB	Air Force Base
AFR	Air Force Range
AFS	Air Force Station
ARC	Army Recreation Center
BLM	Bureau of Land Management
BRAC	Base Realignment and Closure Act
CRM	Cultural Resource Management
DoD	Department of Defense
DoE	Department of Energy
DoT	Department of Transportation
EFA	Engineering Field Activity
EPA	Environmental Protection Agency
FORSCOM	U.S. Army Forces Command
IPM	Integrated Pest Management
HQ	Headquarters
HVAC	heating, ventilation, and air conditioning
MCAS	Marine Corps Air Station
MCB	Marine Corps Base
NAGPRA	Native American Graves Protection and Repatriation Act
NAS	Naval Air Station
NAVMAG	Naval Magazine
NAVSTA	Naval Station
NPS	National Park Service
PMRF	Pacific Missile Range Facility
TRADOC	Training and Doctrine Command
USAED	U.S. Army Engineer District
USFS	U.S. Forest Service
USFWS	U.S. Fish and Wildlife Service
U.S.G..S.	U.S. Geological Survey

Executive Summary

Problem

Federal archaeological collections are a nonrenewable national resource, a legacy to the prehistoric and historic events that have shaped the nation. The American public is the owner of these materials and documentation, and as such it is incumbent upon the Department of Defense (DoD) to uphold the laws and regulations set forth by Congress for the artifacts' proper use and care in perpetuity. Unfortunately, for the last 50 or more years, curation of these materials has been insufficient and/or ignored. Many collections have been lost or destroyed, and many have been damaged. They are often not stored in repositories equipped and staffed for the purpose of archaeological curation, but instead are stored in closets, basements, storage sheds; very few repositories meet the requirements outlined in 36 CFR Part 79. The improper care and subsequent deterioration of many of these collections not only violates the laws under which they were recovered but also prevents educational and scientific use. Valuable portions of our irreplaceable national heritage have been lost, and our financial investment in archaeological recovery has often been compromised.

Background

The Department of Defense as a federal landholding agency is responsible for the management of archaeological and historical resources recovered from lands under its administration. As mandated by federal law, agencies are required to ensure that all archaeological materials and associated records are properly curated to the standards outlined in 36 CFR Part 79. Unfortunately, funding shortfalls, lack of consistent national policy, and the magnitude of the problem have prevented compliance on any large scale. Through the years, most collections have been stored free of charge by universities, museums, state and federal agencies, private societies, and archaeological research firms. As a consequence of free storage, few collections were allocated the attention necessary for their direct proper care. Inadequate funding and failing facilities now seriously hinder these institutions' ability to adequately care for the collections.

In 1992, the Legacy Resource Management Program began funding the U.S. Army Engineer District, St. Louis, to conduct a national inventory and assessment of archaeological collections recovered from active DoD installations. Fiscal year 1992 and 1993 funds were provided for the investigation of collections recovered from installations in California, Oregon, and Washington. Fiscal year 1994 funds were allocated for installations located in Idaho, Maryland, Montana, Virginia, and Wyoming. The scope of this report is the set of installations located in the following states, and

provided by fiscal year 1995 funding: Alaska, Arizona, Colorado, Hawaii, Kansas, Louisiana, Oklahoma, Nevada, New Mexico, Texas, Utah, and the District of Columbia. Three other western states, Nebraska, North Dakota, and South Dakota, that fell into the region funded with fiscal year 1995 money, were completed under a separate curation assessment project for the U.S. Air Force Air Combat Command. Pre-fieldwork for the current project began in the spring of 1996, and fieldwork began in the summer of 1996. Facility visits continued through May 1997.

Project Scope

The project area includes all military installations in the states of Alaska, Arizona, Colorado, Hawaii, Kansas, Louisiana, Oklahoma, Nevada, New Mexico, Texas, Utah, and the District of Columbia (Table 1). However, several other curation assessment projects conducted by this office have included installations in these states. As a result these installations and their collections are not included in this report. The overlapping projects include U.S. Air Force Air Combat Command; Fort Carson, Colorado; Fort Riley, Kansas; and U.S. Navy Engineering Field Activity West. These installations are listed in Table 2, with the Technical Reports in which they were previously assessed.

Table 1.
Military Installations and Sub-installations Investigated in the Department of Defense Curation Assessment Project (FY95)

Installations with Collections *(sub-installation)*	**Installations with no Collections**
Alaska	
Adak Naval Air Station	Adak Naval Security Group Activity
Clear Air Force Station	Elmendorf Air Force Base
Eareckson Air Force Station	Haines Terminal
Eielson Air Force Base	Nome Army Site
Fort Greely	USARAL PD Tok Junction
Fort Richardson	Whittier Anchorage Pipeline
Fort Wainwright	
Harding Lake Recreation Center	
Kotzebue Air Force Station	
Arizona	
Fort Huachuca	
Luke Air Force Base	
Barry M. Goldwater Range (east)	
Navajo Army Depot	
Williams Air Force Base	
Yuma Marine Corps Air Station	
Barry M. Goldwater Range (west)	
Yuma Proving Ground	

Table 1. (continued)
Military Installations and Sub-installations Investigated in the Department of Defense Curation Assessment Project (FY95)

Installations with Collections *(sub-installation)*	**Installations with no Collections**
Colorado	
Cheyenne Mountain Air Force Base	La Junta Stategic Training Center
Falcon Air Force Base	Lamar Communications Annex
Fitzsimons Army Medical Center	Pueblo Depot Activity
Lowry Air Force Base	
Peterson Air Force Base	
Rocky Mountain Arsenal	
U.S. Air Force Academy	
District of Columbia	
Walter Reed Army Medical Center	Anacostia Naval Station
	Armed Forces Institute of Pathology
	Bolling Air Force Base
	Fort Lesley J. McNair
	Military District of Washington
	Naval Medical Command
	Naval Research Laboratory
	Naval Security Station
	U.S. Naval Observatory
	U.S. Soldier's and Airmen's Home
	Washington Naval Yard
	Marine Barracks, Washington
Hawaii	
Barbers Point Naval Air Station	Aliamanu Military Reservation
Bellows Air Force Station	Fort Ruger
Camp H. M. Smith	Kapalama Military Reservation
Dillingham Military Reservation	Kawaihae Military Reservation
Fort DeRussy	Kilauea Military Camp
Fort Kamehameha	Kunia Military Reservation
Fort Shafter	Maui MSSS
Helemano Radio Station	Mauna Kapu Communication Site
Hickam Air Force Base	Marine Barracks, Hawaii
Kaena Point Tracking Station	Mokuleia Army Beach
Kahuku Training Area	Naval Computer and Telecommunications Area, Master Station, Eastern Pacific
Kawailoa Training Area	Tripler Army Medical Center
Kipapa Ammunition Storage Area	Waikakalaua Ammunition Storage Tunnels
Lualualei Naval Magazine, *Waikele NAVMAG*	
Makua Military Reservation	
Marine Corps Base Hawaii, Kaneohe Bay	
Pacific Missile Range Facility, Barking Sands	
Pearl Harbor Naval Complex *Kahoolawe Island* *Naval Air Station, Ford Island*	
Pohakuloa Training Area	
Schofield Barracks	
Waianae Army Recreation Center	
Wheeler Army Airfield	

Table 1. (continued)
Military Installations and Sub-installations Investigated in the Department of Defense Curation Assessment Project (FY95)

Installations with Collections *(sub-installation)*	**Installations with no Collections**
Kansas	
Fort Leavenworth	Defense Industrial Plant Equipment Facility
Sunflower Army Ammunition Plant	Kansas Army Ammunition Plant
	McConnell Air Force Base
Louisiana	
Fort Polk	New Orleans Naval Air Station
Louisiana Army Ammunition Plant	
Nevada	
Hawthorne Army Depot	
New Mexico	
Fort Wingate Army Depot Activity	
Kirtland Air Force Base	
White Sands Missile Range	
Oklahoma	
Fort Sill	Altus Air Force Base
	McAlester Army Ammunition Plant
	Tinker Air Force Base
	Vance Air Force Base
Texas	
Bergstrom Air Force Base	Brooks Air Force Base
Corpus Christi Naval Air Station	Camp Bullis Training Site
Fort Bliss	Camp Stanley Storage Activity
Fort Hood	Carswell Air Force Base
Fort Sam Houston	Chase Field Naval Air Station
Ingleside Naval Station	Corpus Christi Army Depot
U.S. Mine Warfare Center	Dallas Naval Air Station
Kelly Air Force Base	Defense Plant Representative
Kingsville Naval Air Station	Office, Air Force Plant #4
Lackland Air Force Base	Eldorado Air Force Station
Laughlin Air Force Base	Goodfellow Air Force Base
Lonestar Army Ammunition Plant	Longhorn Army Ammunition Plant
Matagorda Island Air Force Range	Orange Grove Naval Auxilliary
Red River Army Depot	Landing Field
Reese Air Force Base	Randolph Air Force Base
	Saginaw Army Aircraft Plant
	Seguin Auxilliary Airfield
	Sheppard Air Force Base
Utah	
Dugway Proving Ground	Green River Test Complex
Fort Douglas	Naval Plant Branch Representative Offic
Ogden Defense Distribution Depot	
Tooele Army Depot	
Utah Test and Training Range/Hill Air Force Base	

Table 2.
Military Installations Investigated in Other St. Louis District Curation Assessment Projects

Installation *(sub-installation)*	**Project**
Arizona	
Davis-Monthan Air Force Base	Air Combat Command Vol. 1, Technical Report #10
Colorado	
Fort Carson	Fort Carson, Technical Report #18
Pinon Canyon Maneuver Site	
Kansas	
Fort Riley	Fort Riley, Technical Report #4
Louisiana	
Barksdale Air Force Base	Air Combat Command Vol. 1, Technical Report #10
Nevada	
Nellis Air Force Base and Range	Air Combat Command Vol. 2, Technical Report #10
Fallon Naval Air Station	U.S. Navy Engineering Field Activity West, Technical Report #9
New Mexico	
Cannon Air Force Base	Air Combat Command Vol. 1, Technical Report #10
Melrose Air Force Range	
Holloman Air Force Base	Air Combat Command Vol. 1, Technical Report #10
Oklahoma	
Fort Sill	Archeological Curation-Needs Assessments Technical Report #1
Texas	
Dyess Air Force Base	Air Combat Command Vol. 2, Technical Report #10

Findings

Status of Physical Facilities

The following statistics were compiled from the curation assessment fieldwork. In some cases, data were unavailable for various reasons. For each reported statistic, the sample size includes only known data.

1. Repository Adequacy: Military collections examined in this study are presently stored in 86 facilities encompassing 107 separate repositories located in 17 different states (Table 3). These facilities can be separated into five distinct facility types including museum, universities, contracting firms, state and federal agency offices, and military installations (Table 3). Of these 86 facilities, 33 are considered to be permanent curators of archaeological collections. The other 53 facilities are currently holding archaeological collections but are not interested and/or not capable of curating them in perpetuity. The 33 permanent facilities encompass 44 separate repositories, and the 53 nonpermanent facilities encompass 63 separate repositories. Sixty

Table 3.
Types and Frequencies of Facilities Curating Military Collections

Type of Facility	Number Present	Percent
Contract Firm	27	31
Museum (private or public)	25	29
Military Installation	13	15
University Lab/Curation Facility	12	14
Government Agency	9	11
Total	86	100

six percent of the facilities have no full-time personnel for the management of archaeological collections. Few facilities approach compliance with the major standards mandated by Curation of Federally-Owned and Administered Archeological Collections (36 CFR Part 79) including proper environmental controls, security, pest management, and fire safety (see Chapter 75, Findings Summary). A significant number of these facilities do not approach any of these standards.

2. Maintenance of Repositories: Some of the repositories receive maintenance on a regular basis, which is required for the upkeep of facilities. However, many of the repositories store extraneous items such as field equipment, hazardous chemicals, and personal items in collections storage areas, an unacceptable practice in professional collections management facilities.

3. Environmental Controls: Environmental monitoring and adequate environmental control, which consists of stable temperature and humidity readings, are crucial for the long-term preservation of collections. Eighty five percent of the permanent repositories have heat; however, 32% do not have air conditioning. In addition, although 70% monitor humidity levels, 60% do not control humidity levels. Twenty one percent of the nonpermanent repositories have no air conditioning, and 26% have no heat. Ninety three percent of nonpermanent repositories do not monitor and control humidity.

4. Security: Forty three percent of permanent repositories are not equipped with intrusion alarms wired to the local police or a security company. Fifty six percent of nonpermanent repositories are not equipped with intrusion alarms. All of the repositories are secured with key and/or dead-bolt locks, most provide for limited access, and those with windows include window locks. However, a primary requirement is the presence of intrusion alarms. The potential for unauthorized entry linked with loss of military collections exists at 56% of the repositories examined.

5. Fire Detection/Suppression: Fire is a major hazard to any museum collection. Although most permanent repositories examined provide fire detection systems, few have sufficient fire suppression systems. Adequate fire detection does no good without adequate fire suppression, and the opposite is also true. In addition, detection and suppression systems must be able to operate after business hours, which is not a capability of some fire systems

such as manual fire alarms. No form of fire detection is present in 33% of permanent repositories examined and in 53% of nonpermanent repositories. Fire extinguishers are present in 95% of permanent repositories and 86% of nonpermanent repositories; however, 52% of permanent repositories and 62% of nonpermanent repositories do not have sprinkler systems. Protection, then, of these federal collections from fire is not possible in just over 50% of the facilities.

6. Pest Management: Professional pest management is not practiced in 47% of permanent repositories. In fact, 33% of permanent repositories do not even use their own staff for monitoring or for limited control activities. These numbers are significantly higher for nonpermanent repositories, at 75% and 89%, respectively. A professional pest management program that includes regular monitoring as well as control measures is crucial to the long-term survival of many archaeological collections and most associated records.

Status of Archaeological Materials

Military archaeological materials collections consist of an estimated 5061.5 ft^3 of material recovered from 73 military installations. Tables 4, 5, and 6 are summaries of the archaeological collections assessed for this project, listed by state of installation location, state of facility location, and military branch of service, respectively. For a more detailed breakdown of the collections by facility and by installation, refer to the Findings Summary, Chapter 75, and the individual installation chapters.

Overall, primary containers (boxes that house a group of archaeological materials) consist mainly of acidic cardboard boxes of varying sizes (most in the 1.0 ft^3 range), both with flap and telescoping lids. Acid-free cardboard boxes are utilized, but not to the extent necessary for the proper

Table 4.
Department of Defense Archaeological Collections Summary by State of Installation Location

State	Archaeological Materials (ft^3)	Associated Documentation (linear feet)
Alaska	62.6	8.9
Arizona	406.8	39.1
Colorado	7.0	7.8
D.C.	1.9	—
Hawaii	1314.2	46.8
Kansas	85.2	2.1
Louisiana	427.0	143.9
Nevada	14.6	4.9
New Mexico	340.0	143.8
Oklahoma[a]	248.8	—
Texas	2095.8	371.0
Utah	57.6	14.7
Total	5061.5	783.0

[a] Archaeological materials and associated records located at Fort Sill total a greater amount than the reported figures. These collections were not assessed in detail, because the work was completed as part of Technical Report #1. However, Fort Sill has a new curation facility, which was assessed. Collections at the Oklahoma Museum of Natural History were not available at the time of the assessment.

Table 5.
Department of Defense Archaeological Collections Summary by State of Facility Location

State	Archaeological Materials (ft^3)	Associated Documentation (linear feet)
Alaska	62.6	8.9
Arizona	389.5	38.5
California	24.8	2.9
Colorado	7.0	7.3
Georgia	35.0	5.6
Hawaii	1314.2	46.8
Kansas	85.1	2.0
Louisiana	340.0	119.9
Maryland	1.9	—
Missouri	0.1	0.1
Nevada	14.6	2.9
New Mexico	339.1	143.6
North Carolina	1.2	0.7
Oklahoma	241.5	—
Texas	2146.1	388.1
Utah	57.6	15.6
Virginia	1.2	0.1
Total	5061.5	783.0

Table 6.
Department of Defense Archaeological Collections Summary by Service

Service	Total Archaeological Materials Volume	Total Documentation (linear feet)
Air Force	494.0	66.0
Army	3483.5	689.4
Navy & Marines	1084.0	27.6
Total	5061.5	783.0

curation of the collections. Many containers were overpacked and coated with dust. Most boxes contain some sort of label to identify box contents.

Seventy two percent of the collections by volume are stored in polyethylene zip-lock bag secondary containers (those included within the primary container). Many of these plastic bags need to be replaced because of tears or increasing brittleness caused by storage in environments lacking proper temperature controls. Seventeen percent of the collections by volume are stored in paper bags, and six percent by volume are stored in small acidic or nonacidic cardboard boxes. Two percent are stored loose in the primary containers, without secondary containers. Three percent are stored in a variety of other types of containers which are detailed in the chapters.

Major prehistoric material classes (by volume) encountered include lithics (33%), human skeletal remains (14%), ceramics (10%), soil samples

(10%), shell (4%), faunal remains (3%), botanical remains (2%), flotation remains (2%), and radiocarbon samples (2%). Other prehistoric material classes total three percent by volume; these are outlined in detail in the chapters. Principal historic material classes examined include metal (7%), glass (6%), ceramic archaeological materials (2%), and brick/masonry (1%). Other historic material classes total one percent by volume; these are outlined in detail in the chapters. It must be stated that these percentages are representative samples of archaeological collections only for the western United States and are general estimates.

Status of Human Skeletal Remains

At present, all possible human skeletal remains recovered from military installations in the study area are being curated at 18 facilities (Table 7). Human skeletal remains in the project area encompass 748 ft^3 of the entire archaeological materials by volume and consist of a minimum of 1684 individuals.

Status of Documentation

The military collection records encompass 783 linear feet and include paper, photographic, maps, and draft report records (Tables 4 and 5). In addition,

Table 7.
Volume and Minimum Number of Individuals (MNI) of Human Skeletal Remains Recovered from Department of Defense Installations

Facility	ft^3	MNI	Installations of Origin
Bernice P. Bishop Museum, Hawaii	667.0	1541	Barbers Point Naval Air Station
			Bellows Air Force Station
			Combined Army Installation
			Fort Kamehameha
			Fort Shafter
			Helemano Radar Station
			Hickam Air Force Base
			Kaena Point Tracking Station
			Lualualei Naval Magazine
			Marine Corps Base Hawaii, Kaneohe Bay (650 ft^3)
			Pacific Missile Range Facility, Barking Sands
			Waianae Army Recreation Center
Centennial Museum, Texas	0.3	1	Fort Bliss
Cultural Surveys Hawaii, Hawaii	0.1	1	Waianae Army Recreation Center
Fort Bliss, Texas	18.6	15	Fort Bliss
Fort Hood, Texas	0.4	3	Fort Hood
Fort Huachuca, Arizona	0.1	1	Fort Huachuca
Fort Polk, Louisiana	1.0	1	Fort Polk
Fort Sill, Oklahoma	0.2	1	Fort Sill
International Archaeological Research Institute Incorporated, Hawaii	0.3	3	Barbers Point Naval Air Station
Kansas Historical Museum, Kansas	1.0	1	Fort Leavenworth

Table 7. (Continued)
Volume and Minimum Number of Individuals (MNI) of Human Skeletal Remains Recovered from Department of Defense Installations

Facility	ft^3	MNI	Installations of Origin
Maxwell Museum of Anthropology, New Mexico	6.5	7	Fort Wingate; White Sands Missile Range
Natural History Museum of Los Angeles County, California	4.0	1	Fort Bliss, (undetermined)
New Mexico State University Museum, New Mexico	0.3	1	White Sands Missile Range
Ogden Environmental and Energy Services, Hawaii	36.0	90	Fort Kamehameha; Waianae Army Recreation Center
Paul R. Rosendahl, Inc, Hawaii	0.1	1	Pohakuloa Training Area
University of Alaska Museum, Alaska	—	—	Adak Naval Air Station;
	7.9	13	Eareckson Air Force Station
Utah Museum of Natural History, Utah	2.1	1	Fort Douglas
Wilderness Park Museum, Texas	2.3	2	Fort Bliss
Total	748.1	1684	

Note: Human skeletal remains are discussed in more detail in the appropriate chapters. In general, complete rehabilitation (e.g., reboxing, rebagging, labeling) needs to be carried out in order to stabilize the remains. The remains at the Bishop Museum have been inventoried.

the assessment team located multiple project reports (most stored at state repositories) that document archaeological work at military installations and in regions around and including military lands.

Professional-quality archival practices were noted at few of the repositories visited. In many cases, paper records have not been housed in acid-free folders, photographs have not been isolated and stored in chemically inert sleeves, and large-scale maps have not been stored flat in map cases.

In few instances did a set of project documentation appear to exist in its entirety at the repository with the collection. Project documentation is more often than not fragmentary or nonexistent. This could result from a number of factors. Collections managers and archaeologists in the past may not have considered associated documentation a part of their curatorial responsibilities. In many cases, records may have been produced but lost on the way to their final storage area, and it is also possible that records were never produced for some of the projects. Regardless, the result is that records for some of the collections cannot be located.

Status of Repository Management Controls

Repository management control information was collected for all permanent repositories. Nonpermanent repositories rarely have the expertise or commitment to utilize repository management controls, and this information was thus not collected. Five (15%) of the 33 permanent curation facilities have no accession records for the collections for which they are responsible. A written record of where collections are located within the buildings is not available at eight (24%) of the facilities. No facilities have fully inventoried the archaeological collections in their care. However, all facilities are in some

stage of carrying out this task. Basic policy and procedure statements for archaeological materials curation are present at 28 (85%) of the facilities. However, inventory policies are not present at 17 (51%) of the facilities, and deaccessioning policies are not present for 5 (15%) of the facilities.

Records management policies and procedures are not present at 12 (36%) of the facilities. Eight (24%) of the facilities do not cross index the files. The assessment team noted that written policies regarding loan procedures were not present at nine (24%) of the facilities. Seven (21%) of the facilities do not maintain minimum standards for the acceptance of collections. Thirty-nine percent (13) of the facilities have no field guidelines for the curation of archaeological materials. None has a published guide to the archaeological collections in their care. Given the above, it is evident that the collections are unevenly cared for and many are at risk. In general, DoD collections are not being cared for under the guidelines of 36 CFR Part 79.

Discussion Items

The following points of discussion outline details or problems that were not easily incorporated into this report. In some instances, they provide complementary information to this report. Discussion points are organized by state of installation location.

Alaska

- Telephone conversations with an official at the Alaska State Office of History and Archaeology indicated that the U.S. Army Engineer District, Alaska may have a loose-leaf book of 35-mm slides concerning archaeological work conducted at Elmendorf Air Force Base. Conversations with the archaeologist at the Alaska District, however, did not reveal the same information.
- Several historical-period materials recovered from the Sullivan Roadhouse (previously located on Fort Greely) were not available at the time of the assessment. An archaeologist with the Bureau of Land Management, Northern District Office, identified these archaeological materials as being in the possession of a contractor who was designing an interpretive panel for display purposes. It could not be determined if these collections had been formally loaned by DoD.
- A collection of archaeological materials from the Timeagain Creek Cabin of Fort Greely was improperly disposed. The collection was recovered from the site in 1981 in a maintenance project. It was stored in a warehouse on Fort Greely and discovered missing around 1985–86. It is the conclusion of present personnel in the groundskeeping department that a former employee inadvertently disposed of the collection. The materials consisted of historical-period artifacts estimated at nine cubic feet in volume.
- Fieldwork in Alaska revealed that Kotzebue Air Force Station collections from sites KTZ-030, KTZ-031, and KTZ-036 are located at the University of Pennsylvania and Brown University. As of completion of fieldwork for

the eastern portion of this project, August 1999, no collections from these sites were located at these repositories.

- Two boxes of archaeological materials recovered from Fort Greely and curated at the University of Alaska, Fairbanks were loaned to the National Museum of Ethnology, Osaka, Japan. The loan was requested on July 30, 1985, and was granted on August 28, 1985, for a one-year period. According to the loan documents, the collections were from sites XMH-280 and XMH-297 (Accession numbers UA78-442, UA79-152, UA78-458, and UA79-153). There is no record of the loan's return.
- The site files search conducted at the Office of History and Archaeology in Anchorage revealed several land issues for all Alaska installations. The following installations were determined to be largely on either Bureau of Land Management (BLM) or U.S. Fish and Wildlife (USFWS) land: Shemya AFS (USFWS land); Adak NAS (USFWS land); Fort Greely (BLM land); Fort Wainwright (BLM land); Yukon Maneuver and Training Area (BLM land); Fort Richardson (BLM land); Elmendorf AFB (BLM land); and Eielson AFB (BLM land). Numerous installations located in Alaska were established during World War II and Cold War activities. Many of these installations are small and remote, and all of them are at least partially located on withdrawn land. Of the current active installations and multiple subinstallations, most activities are conducted on land withdrawn from USFWS and BLM.
- Preliminary conversation with personnel at BLM and USFWS concluded that archaeological materials collections are the property of the landowner (in this case BLM andUSFWS) and the associated documentation generated from military-funded projects is the property of the military. This issue remains unresolved in part. BLM and the U.S. Army, Alaska, have a memorandum of agreement concerning the management of certain public lands withdrawn for military use, but this document does not address archaeological curation specifically. The St. Louis District requested guidance from the U.S. Army Environmental Center (AEC) regarding the legal ownership and responsibility for long-term curation of archaeological collections recovered from lands withdrawn from public use. AEC directed that curation responsibility for collections generated from Army-funded work be assumed by the Army.
- During a recent St. Louis District staff visit to the American Museum of Natural History (AMNH) in New York City, it was determined that AMNH has a collection from St. Lawrence Island in Alaska, which was World War II-era work permitted by the Navy. This collection falls into the aforementioned gray area and was recovered from lands probably owned by USFWS.
- Much of the Aleutian Islands were designated a wildlife refuge in 1913, and placed under the management of USFWS. During World War II, Army installations and camps were established on many of the Aleutian Islands. During the war, camps and installations were established as needed for national defense; land transfers or agreements were foregone. Because of the lack of official title or agreement, the Department of Defense may

not have to assume responsibility for cultural resource management of these properties.

Arizona

- Two visits were made to Fort Huachuca for this project. A former water treatment plant at Fort Huachuca was being converted into an archaeological collections storage facility and laboratory on post at the time of the first assessment. The collections were being temporarily housed in a historic adobe building on post. The newly converted facility was to be completed by the time of the second visit, but it was not. The chapter for Fort Huachuca in this report assesses the temporary storage facility for the collections. Records that were not accessible during the first visit were examined and recorded during the second visit.
- Williams Air Force Base was closed in 1993; however, archaeological materials in a display case and associated documentation remain at the base. The base staff have been directed to dispose of the archaeological collections, but St. Louis District staff recommend turning the responsibility of the collections over to the environmental staff at Luke Air Force Base. One of the local Native American tribes has expressed interest in taking responsibility for the display; however, St. Louis District staff believe that the archaeological materials labeled with specimen and accession numbers should be transferred to larger collections located at one or more of the institutions currently housing Williams AFB collections.
- Yuma Proving Ground, Directorate of Environmental Sciences has begun the process of upgrading the condition of the collections currently housed on post. The artifacts have been rebagged and are no longer overpacked. Additionally, labeling is now more appropriate to the bagged contents. The artifacts are now located in a locked cabinet with restricted access.

Colorado

- Centuries Research in Montrose, has records documenting historic World War II buildings for Peterson Air Force Base in dead storage that total approximately two linear inches (this includes the original report, copies of photographs, background notes, and site forms). A visit was not scheduled for this facility because of the small amount of material and the remote location of the facility.
- The International (IT) Corporation in Englewood, conducted an environmental assessment of an auxiliary field at the U.S. Air Force Academy. The archaeological materials generated from the project were deposited at the University of Denver; the IT Corporation retained the records. The archaeologist who conducted the assessment for the IT Corporation is no longer with the company yet has possession of records from the project. These records were assessed at the University of Denver with the associated archaeological materials, but the former IT Corporation archaeologist, whose records were examined at the university, stores the documentation. Other documentation including photographic materials are still held by the IT Corporation and are housed in off-site storage. An assessment of these materials could not be scheduled.

- Larson-Tibesar Associated (LTA) of Laramie, Wyoming, was contacted in September 1996, in regard to documentation collections from Peterson AFB, Pueblo Army Depot, Fort Riley, Kansas, and Warren Air Force Base, Wyoming. St. Louis District personnel were informed that field notes and administrative records from Peterson AFB and Pueblo Army Depot were in dead storage. The collections from Fort Riley were being shipped to the installation. LTA has a policy of sending complete copies of the records to installations and retaining original documentation. When contacted again in January 1997, LTA informed St. Louis District personnel that copies of all documentation had been sent to the respective installations. The exception to this was that the records from Pueblo Army Depot were sent to U.S. Army Engineer District, Omaha and some of the documentation from Peterson AFB might have been destroyed. Due to these circumstances, it was determined unnecessary to conduct an assessment at LTA. In a subsequent phone conversation with archaeologists from the Omaha District it was stated that the Pueblo Army Depot collections had not arrived.
- Niken and Associates in Montrose is a contract archaeology firm that is no longer in business. The former owner of the company was contacted by staff of the St. Louis District regarding work conducted by Niken and Associates on the U.S. Air Force Academy. The owner believed that a project report, administrative records, and photographs from the project could be in storage in a garage in Arizona. The owner did not have access to the documentation and, therefore, staff of the St. Louis District could not gain access to conduct an assessment of the collection.
- Pike and San Isabel National Forests, Comanche and Cimmaron National Grasslands, Pueblo, has 0.25 linear inches of documentation from the U.S. Air Force Academy. A phone conversation with Forest Service personnel revealed that the ownership of these sites is questionable; however, at least one site investigated by the Forest Service was 90% on Forest Service land and 10% on Air Force land and another is entirely Air Force property. No archaeological materials were collected from these projects but approximately 0.25 linear inches of Air Force documentation is held at the National Forest and Grassland offices. A visit was not scheduled for this facility because of the small amount of material.
- Powers Elevation in Aurora misplaced the records (one linear inch) for Rocky Mountain Arsenal.
- Background research indicated that Engineering Sciences of Denver conducted work on the U.S. Air Force Academy and documentation from that work was generated. An archaeologist at the Colorado Historical Society was consulted about the firm. The archaeologist was of the understanding the company no longer existed and if it does, it does not have an archaeology division. No further leads to this firm could be identified.
- Bibliographic information indicated that the National Park Service (NPS) Rocky Mountain Regional Office conducted archaeological work at the Rocky Mountain Arsenal. Personnel at the NPS Rocky Mountain Regional Office could not locate any further information about this investigation.

District of Columbia

- Background research in the District of Columbia failed to identify the existence of archaeological collections for military installations except for the Walter Reed Army Medical Center. Through telephone contacts, some facilities were purported to have collections, but these leads appear to have been false. In all cases, either the facilities in question failed over many months to return the assessment teams' calls, or once contacted, it was determined that the collections in question were not archaeological in nature.

Hawaii

- Human skeletal remains from Pohakulua Training Area (PTA) were examined at the State Historic Preservation Office in Honolulu but were later transferred to the State Historic Preservation Office in Hilo on the island of Hawaii. Due to these circumstances the evaluation that was completed was not used in this report.
- Faunal collections generated from work conducted at PTA by several contracting firms were temporarily at PTA for analysis during the time of the St. Louis District assessments in Hawaii. The location of these collections was identified through a contractor at the time of the evaluation. Due to time and cost restraints, the faunal collection at the installation was not evaluated.
- Kaho'olawe Island is a small uninhabited island off the west coast of Maui. It is held in trust by the state of Hawaii, but has had a 50-year period of use by the military, primarily for ordnance maneuvers. The island is not found on any military real property lists. The existence of collections from the island, made under military contract, were identified by the contracting firm Paul H. Rosendahl, Inc. at the time of the assessment. The collection consists of five boxes of records and several boxes of volcanic glass. They are considered property of the U.S. Navy and are located in a warehouse at Pearl Harbor. Due to time constraints, the collection could not be assessed. These materials may be assessed as part of a St. Louis District project for the Naval Facilities Command, Pacific Division.

Kansas

- The archaeologist at Kansas State University was on sabbatical during the length of the project, and no university personnel were made available to assist the assessment team. Research indicates that Kansas State University has materials recovered from Fort Riley (St. Louis District Technical Report #4) and probably from Fort Leavenworth.
- Human skeletal remains and associated funerary objects recovered from site 14LV328 on Fort Leavenworth are curated at the Kansas State Historical Museum. During the evaluation of the Kansas State Historical Museum, the collections could not be located in their assigned storage area. There were indications that the collections were on the premises with a museum staff member but still could not be located for evaluation by the team. After the team completed the evaluation, they were notified by letter that most of the collection in question was located at the museum, with the

exception of three pieces: a piece of worked sandstone, a scraper and a core. These items are presumed lost.

- Previous NAGPRA research conducted on the Sunflower Army Ammunition Plant indicated that the University of Kansas Museum curates five cubic feet of archaeological materials recovered from the installation. However, at the time of the physical assessment, museum personnel stated that the collection consisted of documentation only and no archaeological materials. According to the St. Louis Districts' points of contact, the amount of artifact collections has increased from 50 ft^3 to 125 ft^3 and the associated record collections have increased from 0.9 linear feet to 4 linear feet since the assessment. In addition, during the St. Louis District assessment it was found that 50% of the materials were cleaned. It appeared that the 50% of materials that were not washed were bulk stone items. However, the University has informed us that they have an unwritten policy that all materials are cleaned prior to storage, except for important materials that are only dry brushed to remove excess dirt but maintain possible residues. Also, exceptions to direct labeling of the artifacts include items that are too small, have unsuitable surfaces, or have distinguishing characteristics that should not be covered. Additionally, ultraviolet filters for all of the lights have been installed since the assessment.

Louisiana

- The Fort Polk collections assessed at New South Associates, Stone Mountain, Georgia and Gulf South Research, Baton Rouge, Louisiana, will be returned to Fort Polk in the near future.
- After the assessment at Fort Polk was completed, Prentice Thomas and Associates, Fort Walton Beach, Florida, transferred a collection to the post. The newly arrived collection was not assessed.

Oklahoma

- Fort Sill and Fort Riley curation facilities were previously assessed in St. Louis District Technical Reports #1 and #4, respectively. However, Fort Sill has since rehabilitated the curation facility and much of the collections. Therefore, a repository assessment and partial collections assessment were performed for Fort Sill, which is included in this report. Since the partial assessment at Fort Sill several changes have occurred. The exterior has been painted, a new roof has been added and the leaking ceiling vent has been corrected. New collections are now being isolated in a separate building prior to integration into the repository. Measures to upgrade the associated documentation are in progress.
- Geo-Marine, Plano, Texas, recovered a small collection from the McAlester Army Ammunition Plant. This collection was supposedly sent to the U.S. Army Engineer District, Tulsa, and then was returned to McAlester Army Ammunition Plant. The collection was not located by the assessment team at any of the aforementioned facilities.
- Access to the facilities at the Oklahoma Museum of Natural History was not possible. The museum was in the process of inventorying collections and preparing for a move into a new curation facility currently under

construction. The museum is thought to have a small amount of materials recovered from Fort Sill.

New Mexico

- Since this report was written, White Sands Missile Range personnel have removed the artifacts and records that were stored in Buildings T-149 and 1851. Those materials are now located in their curation facility on post, Building 19300, a nonflammable building with a controlled environment. Additionally, a limited number of associated records temporarily are being stored in the Environmental Services Building 163, a renovated cinder-block structure, while they are being prepared for permanent storage.

Texas

- Several military installations in Texas opened during World War II and closed after the end of the war. Personnel at other facilities had no knowledge of any archaeological collections pertaining to these installations.
- Collections from Fort Bliss that had been curated by the Natural History Museum of Los Angeles County, California, have been returned to the installation.
- New collections from Lackland Air Force Base arrived at the University of Texas at San Antonio after the assessment. These additions are not reflected in the chapter tables. Lackland AFB collections that were assessed have been rehabilitated using archival-quality primary and secondary containers.

Utah

- During a telephone interview conducted by the St. Louis District for an Army NAGPRA compliance project, PIII Associates in Salt Lake City was identified as holding two archaeological materials and four pages of notes from Tooele Army Depot. When contacted for this project, the point of contact at the firm was unsure if the archaeological materials and documentation were still in their possession or had been returned to the installation. The firm was also reluctant to check the status of the collection or to allow St. Louis District staff members to visit the facility.
- Less than one cubic foot of archaeological materials from Tooele Army Depot is identified as being housed at the installation. This collection was not gathered during any associated archaeological or environmental project. Personnel at the installation expressed to the St. Louis District that they felt no need to allow an assessment of the collection.
- Research indicates that the Karl Schmitt collection of archaeological materials recovered from Dugway Proving Ground is curated at the Smithsonian Institution's Museum of American Indian in Washington, D.C. This collection was not assessed, because past requests by the St. Louis District to examine collections curated at the Smithsonian Institution have been denied.

- Archaeological collections temporarily housed at Dugway Proving Ground will soon be moved to the Utah Museum of Natural History. Dugway Proving Ground has a cooperative agreement with the museum.
- According to personnel at Statistical Research all photographic media resulting from their investigations at Dugway Proving Ground were transferred to Science Applications International Corporation (SAIC) of Pleasanton, California. Statistical Research retained only the project notes. The Pleasanton SAIC office is now apparently closed, and former SAIC staff have no information as to the whereabouts of the transferred materials.
- The collections assessed at the Utah Geological Survey (currently active projects) will be curated at the Utah Museum of Natural History at the completion of those projects.

A number of corrective actions are necessary to bring the military collections, and those facilities housing them, into compliance with 36 CFR Part 79. Several general recommendations include the following.

1. Coalesce collections into existing facilities in their state of origin dedicated to the long term care of archaeological collections and, when necessary, spend

Table 8.
Previously Unassessed Archaeological Materials and Records Located During Current Legacy Project

Installation	Repository	ft[3a]	l.i.[b]	Reference[c]
Barksdale AFB, Louisiana	TRC-Mariah, New Mexico	7.0	—	Technical Report # 10
	Northwestern State University, Louisiana	0.5	2.5	
	Gulf South Research Associates, Louisiana	—	4.5	
MCB Camp Pendleton, California	U.S. Army Engineer District, Los Angeles	—	0.5	Technical Report # 1
Cannon AFB, New Mexico	Public Service Company, New Mexico	—	8.0	Technical Report # 10
Davis-Monthan AFB, Arizona	Statistical Research, Arizona	0.1	—	Technical Report # 10
	Tetra Tech, California	—	0.5	
	U.S. Army Engineer District, Los Angeles	—	0.3	
Dyess AFB, Texas	Tetra Tech, California	—	6.5	Technical Report # 10
Edwards AFB,California	Tetra Tech, California	—	26.3	Technical Report # 8
Fairchild AFB, Washington	Tetra Tech, California	—	3.0	Technical Report # 10
F. E. Warren AFB, Wyoming	Tetra Tech, California	—	118.8	Technical Report # 15
Fort Irwin, California	U.S. Army Engineer District, Los Angeles	—	2.0	Technical Report # 5
Grand Forks AFB, North Dakota	Tetra Tech, California	—	1.5	Technical Report # 6
NAVSTA Long Beach, California	Tetra Tech, California	—	1.0	Technical Report # 8
Los Angeles AFB, California	Tetra Tech, California	—	1.5	Technical Report # 8
Malmstrom AFB, Montana	Tetra Tech, California	—	20.5	Technical Report # 6
March AFB, California	Tetra Tech, California	—	7.0	Technical Report # 6
Minot AFB, North Dakota	Tetra Tech, California	—	1.5	Technical Report # 10

Table 8.
Previously Unassessed Archaeological Materials and Records Located Current Legacy Project

Installation	Repository	ft^3[a]	l.i.[b]	Reference[c]
NAS Miramar, California	Tetra Tech, California	—	10.3	Technical Report # 8
Norton AFB, California	Tetra Tech, California	—	4.3	Technical Report # 6
NAS Point Mugu, California	U.S. Army Engineer District, Los Angeles	—	1.0	Technical Report # 9
MCAS Tustin, California	U.S. Army Engineer District, Los Angeles	—	0.5	Technical Report # 8
MCB Twentynine Palms, California	U.S. Army Engineer District, Los Angeles	—	1.25	Technical Report # 5
Vandenburg AFB, California	Tetra Tech, California	3.0	93.5	Technical Report # 1
Total		10.6	316.5	

Unassessed collections recovered from previously researched installations by the St. Louis District were located at several facilities (Table 8). These collections were assessed, but not included in this project report.

[a] Values in this column are noted in cubic feet.

[b] Values in this column are noted in linear inches.

[c] This column contains MCX-CMAC reports that are referenced as follows:
Technical Report #1—Selected U.S. Military Installations (Legacy FY91)
Technical Report #5—Selected U.S. Military Installations in Southern California (Legacy FY92)
Technical Report #6—U.S. Air Force Air Mobility Command
Technical Report #8—U.S. Military Installations in California, Oregon, and Washington (Legacy FY93)
Technical Report #9—U.S. Navy Engineering Field Activity West
Technical Report # 10—U.S. Air Force Air Combat Command, Volumes 1 and 2
Technical Report # 15—U.S. Military Installations in Idaho, Maryland, Montana, Virginia, and Wyoming (Legacy FY 94)

Corrective Actions

requisite funds to upgrade the facilities to meet federal curation standards. Such facilities have the professional capability and staff to care for archaeological collections in perpetuity.

2. Develop and implement uniform inventory procedures.

3. Develop and implement a formal archives management program.

4. Rehabilitate existing collections by inventorying and cataloging all archaeological materials collections to a standard consistent with those of a professional museum, and reboxing and rebagging collections in archival-quality containers.

5. Develop cooperative agreements with other agencies to share curation costs when possible.

The corrective measures, if carried out, will permit military installations to meet minimum federal requirements for the adequate long-term curation of archaeological collections. By adopting this approach, the military has the opportunity to implement a curation program that allows public access and will serve DoD needs well into the future.

Conclusions

Department of Defense archaeological collections and associated records are deteriorating in their current storage environments. There is no long-term, consistent management plan for the proper curation of these materials. Federal archaeological collections represent a nonrenewable resource, and if not properly cared for soon, they will forever lose their educational and research value and potential. Increased attention to these collections will more adequately preserve them for use by future generations.

Editor's Note

Since the completion of fieldwork and the submission of the first draft of this report to the Department of Defense in July 1997, several comments have been received by St. Louis District personnel regarding the findings at various repositories. Editorial comments are reflected in the body the final draft. Other comments or statements will be listed here in the order that they were processed during the production of the final report.

Collections Update

During fieldwork to repositories in the eastern portion of the country, which will be addressed in the eastern region curation needs-assessment report (currently in press), collections from several western states were identified. They are as follows:

Virginia
Naval Air Station Oceana (0.8 linear feet of records)
Fort Belvoir (2.1 ft^2 of artifacts)
Quantico Marine Corps Base (4.7 ft^2 of artifacts and 1.6 linear feet of records)

Maryland
Fort Meade (0.1 linear feet of records)
Adelphi Laboratory Center, MD/Blossom Point Field Test Facility (45 ft^3 of artifacts and 1.8 linear feet of records)
Andrews Air Force Base (11 ft^3 of artifacts and 3.2 linear feet of records)

Kansas
Fort Riley (10.2 ft^3 of artifacts and 3.8 linear feet or records)

Texas
Naval Air Station Corpus Christi (1.2 ft^3 of artifacts)

Fort Bliss, Texas
According to the staff at the Fort Bliss Curation Facility (FBCF) all collections pertaining to Fort Bliss and identified at 'Off Post' repositories in

this report have been coalesced and returned to Fort Bliss and are now in the control of FBCF staff. The rattlesnake in the aquarium that was noted during the assessment is no longer in the facility. Additionally, all of the Fort Bliss Section 5 material discussed in this report has been separated from the other Fort Bliss collections and is being processed by a NAGPRA specialist. An infrared monitoring system has been ordered for the facility to increase security for the collections. The Fort Bliss curation policy has been accepted by both the Texas and New Mexico State Historic Preservation Offices.

Louisiana
Fort Polk (23.4 ft^3 of artifacts and 7.4 linear feet or records)

California
Fort Ord (1.7 ft^3 of artifacts and 0.6 linear feet of records)

These statistics are not included as part of either report, but have been reported here as additional collection information for DoD.

1

Introduction

U.S. military installations are responsible for archaeological artifact collections and accompanying documentation (hereafter referred to as archaeological collections) stored in many different institutions in every state. The project area covered in this report consists of military installations in the states of Alaska, Arizona, Colorado, Hawaii, Kansas, Louisiana, Nevada, New Mexico, Oklahoma, Texas, Utah, and the District of Columbia. Military installations located in the states of California, Delaware, Idaho, Maryland, Montana, Nebraska, North Dakota, Oregon, South Dakota, Virginia, Washington, and Wyoming were investigated and reported in separate curation-needs assessment reports, which are outlined in the Executive Summary. The remaining states, all bordering or east of the Mississippi River, will be addressed in the next report to the Legacy Resource Management Program office.

The responsibility for archaeological collections is mandated through numerous legislative enactments, including the Antiquities Act of 1906 (16 U.S.C. 431-433), the Historic Sites Act of 1935 (16 U.S.C. 461-467), the Archaeological and Historic Preservation Act of 1974 (16 U.S.C. 469-469c), the National Historic Preservation Act of 1966 (16 U.S.C. 470), and the Archaeological Resources Protection Act of 1979 (16 U.S.C. 470aa-470mm). Executive Order 11593 (U.S. Code 1971) and amendments to the National Historic Preservation Act in 1980 provide additional protection for these resources. The implementing regulation for securing the preservation of archaeological collections is 36 CFR Part 79, Curation of Federally-Owned and Administered Archeological Collections. Additionally, the U.S. Army Corps of Engineers is the only federal agency that possesses strict standards for curation of archaeological materials. ER 1130-2-540, which was implemented in November 1996, serves as a standard for long-term Corps archaeological curation.

The Native American Graves Protection and Repatriation Act (25 U.S.C.3001 et seq., NAGPRA) was enacted in 1991 to identify federal holdings of Native American human remains, funerary objects, sacred objects, and objects of cultural patrimony. In addition, NAGPRA mandates that federal agencies reach agreements with Native American Tribes, and Native Alaskan and Hawaiian groups, on the repatriation or disposition of these remains and objects. All federal agencies were required to meet mandated deadlines for compliance with NAGPRA by November 16, 1993, when a summary of unassociated funerary objects, sacred objects, and objects of cultural patrimony was to be completed. An inventory of human remains and associated funerary objects was to be completed by November 15, 1995.

As the first step in complying with 36 CFR Part 79 and NAGPRA, the Legacy Resource Management Program began providing funds to the U.S. Army Corps of Engineers in 1992 for the purpose of inventorying archaeological collections recovered from active DoD installations across the nation. Funding was provided in fiscal years 1992 and 1993 for the complete investigation of installations in California, Oregon and Washington (Trimble and Pulliam 1997,1999), and funding for fiscal

year 1994 called for the complete investigation for installations in Idaho, Maryland, Montana, Virginia, and Wyoming (Wissehr, et al. 1999). Fiscal year 1995 funds were initially awarded to the St. Louis District for the purpose of conducting curation assessments in the states of Louisiana, Nebraska, North Dakota, Oklahoma, South Dakota, and Texas. However, in fiscal year 1996 these funds were applied to a new DoD curation assessment project, at the direction of DoD. Reasons for this are twofold: (1) the new DoD project anticipated a much larger geographical study area and (2) archaeological collections recovered from active military installations in the states of Delaware, Nebraska, North Dakota, and South Dakota were assessed, in fiscal years 1995 and 1996 by funds provided by the U.S. Air Force's, Air Combat Command (Drew 1996, Marino 1997). The executive summary of this report outlines the curation assessment coverage of active military installations in the states from a historical perspective.

As part of the DoD curation strategy and at the request of DoD, the St. Louis District initiated curation assessments for active military installations in the following states: Alaska, Arizona, Colorado, Hawaii, Kansas, Louisiana, Nevada, New Mexico, Oklahoma, Texas, Utah, and the District of Columbia. In addition, fiscal year 1995 funds were provided to perform assessments of potential curation partners in all western states and the mid-Atlantic states. The partnership program is outlined in a separate report for the DoD (U.S. Army Engineer District, St. Louis 1999). Fiscal year 1996 funds were subsequently provided to perform curation assessments and partnership assessments in the remaining eastern states, which will be addressed in future reports.

As part of this curation assessment project, the DoD would receive a general inventory of collections, providing a firm estimation of the magnitude of curation needs. In addition, collections managers at storage facilities and cultural resource managers at installations would receive a plan addressing their specific curation needs.

The Scope of Work outlines the following services:

1. Provide professional and technical services to the Department of Defense for the inspection and inventory of archaeological collections in selected repositories.

2. Provide a final report detailing the results of the inspection and evaluation, and addressing the following items.
   a. Physical description of all repository facilities.
   b. Physical description of all recovered artifact collections.
   c. Physical description of all associated documentation collections.
   d. Recommendations for compliance with the requirements of 36 CFR Part 79.

3. Provide a master bibliography of reports associated with the military collections.

Methods

Eighty six facilities were evaluated in the course of the curation-needs assessment. Among the facilities were 27 archaeological research firms, 25 museums (both private and public), 13 military installations, 12 university laboratories/curation facilities, and nine government agencies. The following schedule outlines the facilities visited and the dates of visit. Some facilities that were visited were not included in the report for reasons outlined below.

Alaska

Bureau of Land Management, Fairbanks District	May 22, 1997
Delta Chamber of Commerce	May 29, 1997
Eielson Air Force Base	May 30, 1997
Northern Land Use Research	May 23, 1997
Office of History and Archaeology (no chapter—site files search only)	July 8–19, 1996
University of Alaska Museum	May 20–23, 1997

Arizona

Archaeological Research Services	April 23, 1997
Arizona State Historic Preservation Office (no chapter—site files search only)	June 17–18, 1996
Arizona State Museum	June 10–14, 1996; Feb. 4–7, 1997
Arizona State University	April 24, 1997
Bureau of Land Management, Phoenix District	April 29, 1997
Bureau of Land Management, Yuma District	Dec. 11, 1997

Fort Huachuca	Jan. 28–Feb. 3, 1997; May 1, 1997
Gutierrez-Palmenberg, Inc. (see Yuma Proving Ground)	Dec. 12, 1996
Luke Air Force Base	April 22–23, 1997
Mesa Southwest Museum (no chapter—collections found not to belong to DoD)	April 28, 1997
Museum of Northern Arizona	April 21, 1997
Northland Research	Dec. 9, 1996
Statistical Research	April 30, 1997
SWCA	Dec. 10, 1996
Williams Air Force Base	April 25, 1997
Yuma Proving Ground	Dec. 12, 1996

California

KEA Environmental	Feb. 20, 1997
Natural History Museum of Los Angeles County	Feb. 11–12, 1997
San Diego Museum of Man	Feb. 12–13, 1997
Tetra Tech	Feb. 13–14, 1997
U.S. Army Engineer District, Los Angeles	Feb. 12, 1997
U.S. Army Engineer District, Sacramento	May 20, 1997

Colorado

Colorado Department of Transportation	Nov. 13, 1996
Colorado Historical Society, Office of Archaeology and Historic Preservation (no chapter —site files search only)	May 13–24, 1996; June 24–26, 1996
Goodson and Associates (no chapter —no collections found)	Nov. 15, 1996
IT Corporation (see University of Denver Museum)	Feb. 27, 1997
National Park Service, Rocky Mountain Regional Office (no chapter—collections assessed under Technical Report No. IV)	Feb. 28, 1997
Peterson Air Force Base	Feb. 25, 1997
Powers Elevation Company	Nov. 14, 1996
University of Colorado at Colorado Springs	Nov. 19, 1996
University of Colorado Museum	Nov. 18, 1996
University of Denver Museum	Feb. 27, 1997

Georgia

New South Associates	May 6–7, 1997

Hawaii

Archaeological Consultants of the Pacific	March 19, 1997
Bernice P. Bishop Museum	July 23–25, 1996; March 25, 27, 1997
U.S. Army Central Identification Laboratory (no chapter—CILHI not a repository)	March 17, 1997
Cultural Surveys Hawaii	March 18, 1997
Department of Land and Natural Resources (no chapter—site files search only)	July 15–22, 1996; March 21, 1997
Garcia and Associates	March 20, 1997
International Archaeological Research Institute, Inc.	March 18, 26, 1997
Ogden Environmental and Energy Services	March 25, 1997
Paul H. Rosendahl, Inc.	March 18–20, 1997
Schofield Barracks, U.S. Army Garrison (see U.S. Army Engineer District, Pacific Ocean Division)	March 21, 24, 1997
Scientific Consultants Services	March 21, 1997
U.S. Army Engineer District, Pacific Ocean Division	March 21, 24, 1997
University of Hawaii at Hilo	March 19, 1997

Kansas

Frontier Army Museum, Fort Leavenworth	Aug. 20–21, 1996
Kansas Historical Museum, Center for Archaeological Research (site files search and assessment)	May 13–16, 1996; Aug. 22–23, 1996
University of Kansas Museum	Aug. 14–19, 1996

Louisiana

Fort Polk Environmental Learning Center	Oct. 28-Nov. 8, 1996
Gulf South Research Corporation	Dec. 4, 1996
Louisiana Department of Culture, Recreation, and Tourism (no chapter—site files search only)	May 16–23, 1996
Northwestern State University of Louisiana	Dec. 3, 1996

Maryland

U.S. Army Engineer District, Baltimore	Sept. 9, 1996

Missouri

Kansas City Museum	Aug. 12–13, 1996

Nevada

Harry Reid Center, University of Nevada at Las Vegas	April 25, 1997
Nevada State Museum	March 24–25, 1997

New Mexico

Agency for Conservation Archaeology, Eastern New Mexico University	Sept. 16, 1996
Human Systems Research, Las Cruces	Sept. 11–12, 1996
Human Systems Research, Tularosa	Sept. 18–19, 1996
Kirtland Air Force Base	Oct. 22, 1996
Laboratory of Anthropology, Museum of Indian Arts and Culture and Archaeological Records Management Section	May 14–23, 1996; Dec. 3–4, 1996; April 28–29, 1997
Maxwell Museum of Anthropology, University of New Mexico	Oct. 28-29, 1996
New Mexico State University Museum	Sept. 13, 1996
Office of Contract Archaeology, University of New Mexico	Oct. 30, 1996
Public Service Company, New Mexico	Oct. 23, 1996
Quivera Research Center	Oct. 23, 1996
School of American Research (no chapter—collections consist of curriculum reports only)	Dec. 6, 1996
TRC-Mariah Associates	Oct. 24–25, 1996
U.S. Army Engineer District, Albuquerque	Oct. 21, 1996
White Sands Missile Range	Sept. 17, 1996

North Carolina

Garrow and Associates	Nov. 12, 1996

Oklahoma

Fort Sill	March 18, 1997
Oklahoma Archaeological Survey (no chapter—site files search only)	June 10–11, 1996
Oklahoma Museum of Natural History (no chapter, no assessment due to scheduling problems)	March 19, 1997

Texas

Centennial Museum, University of Texas at El Paso	Nov. 18–21, 1996
Center for Archaeological Research, University of Texas at San Antonio	Nov. 28–30, 1996
Fort Bliss	Mar. 24–Apr. 2, 1997
Fort Hood	Jan. 7–14, 1997
Fort Sam Houston	Oct. 24, 1996
Geo-Marine	Oct. 22, 1996
Museum of Texas Tech University	March 24, 1997
Texas Archaeological Research Laboratory (site files search and assessment)	July 8–12, 1996; July 15–16, 1996; Oct. 23, 1996
Texas Historical Commission (no chapter—site files search only)	July 17–19, 1996
Wilderness Park Museum	Apr. 28-May 1, 1997

Utah

Bureau of Land Management, Salt Lake City District	Oct. 10, 1996
Dames and Moore	Jan. 17, 1997
Dugway Proving Ground	Jan. 14, 1997
Fort Douglas Military Museum	Jan. 16, 1997
Hill Air Force Base	Oct. 15, 1996
Office of Public Archaeology, Brigham Young University	Oct. 10, 1996
Sagebrush Archaeological Consultants	Jan. 15, 1997
Utah Geological Survey	Oct. 8, 1996
Utah Museum of Natural History	Oct. 9, 1996
Utah State Historical Society (site files search and assessment)	Jan. 13, 1997; Oct. 11, 1996
Weber State University	Oct. 15–16, 1996

Virginia

Parson's Engineering Science	Sept. 10, 1996

Washington, D.C.

Department of Consumer and Regulatory Affairs, Historic Preservation Division (no chapter—site file search only)	June 24–26, 1996

Prior to visiting the aforementioned facilities, site file searches were conducted at the state historic preservation offices and/or site file facilities for Alaska, Arizona, Colorado, Hawaii, Kansas, Louisiana, Nevada, New Mexico, Oklahoma, Texas, Utah and the District of Columbia. In addition to conducting fieldwork, much of the project was conducted in house. This work consisted of pre-fieldwork, fieldwork planning, and report generation. The following schedule outlines the course of activities.

Activity	Dates
Pre-Fieldwork	April 1996
State Site File Visits	May –October 1996
Fieldwork Planning	August 1996
Fieldwork	September 1996–May 1997
Preliminary Draft Report Generation	October 1996–May 1997
Final Draft Report Generation	June–July 1997

Pre-Fieldwork Investigation

Assessment of each facility's compliance with 36 CFR Part 79 included the following items.

1. A (National Park Service) National Archeological Database and general records search were performed for each installation.

2. Topographic maps of each installation were acquired for the purpose of establishing base boundaries for the site file searches.

3. Site file searches were conducted at respective state archaeology and historic preservation offices to determine the sites located within installation boundaries and to determine where collections might be located.

4. During site file searches a database was compiled of all fieldwork reports deposited at the state repositories.

5. All institutions and personnel likely to be knowledgeable about the collections were contacted by telephone.

6. A list was compiled of all agencies, firms, and institutions associated with the recovery or curation of materials belonging to the U.S. Military.

7. Agencies, firms, and institutions were contacted by telephone for information regarding the curation of military collections. From these phone conversations evolved the list of repositories visited for the project.

Field Inspection and Assessments of Repositories and Collections

1. A survey questionnaire was completed for every facility involved with the curation of military archaeological collections. The questionnaires solicit information on repositories, artifact collections, and associated documentation.

2. A building evaluation facilitated the determination of whether or not the facility approached compliance with the requirements for repositories specified in 36 CFR Part 79. Forms address topics such as structural adequacy, space utilization, environmental controls, security, fire detection and suppression, pest management, and utilities. Information was gathered both by observation and through discussion with collections and facilities managers.

3. An examination of all documentation was conducted to determine the presence of the different documentation types, the amount present, and its condition. Types of documentation include project and site reports, administrative files, field records, curation records, and photographic records. For each type of document the length (in linear feet), the physical condition of the containers and the records, and the overall condition of the storage environment was collected. The determination of whether or not the facility is in compliance with the archives management requirements specified in 36 CFR Part 79 is based on this information.

4. Artifact collections were examined and evaluated as to their condition and compliance with 36 CFR Part 79. Assessments included examination of (1) the condition of the primary and secondary containers, (2) the degree of container labeling, (3) the extent of laboratory processing, (4) the material classes included in each collection, and (5) the condition of and approximate minimum number of individuals of any human skeletal remains. Primary containers are generally acidic or acid-free cardboard boxes that contain artifacts. Secondary containers are those included within the primary container, and they are composed of a wider range of materials. Secondary containers may include, but are not limited to, acidic paper bags, plastic sandwich bags, archival or non-archival plastic zip-lock bags, glass jars, film vials, aluminum foil, newspaper, packing materials, or small acidic or acid-free cardboard boxes.

NAGPRA-Compliance Assessment

To satisfy the requirements for Section 5 NAGPRA, the following tasks must be performed at each repository holding military collections.

1. Conduct a records search of the collections to identify the accession and catalog numbers and to gather all written information on the NAGPRA Section 5 material.

2. Perform a physical inspection of storage containers to identify human skeletal remains, associated and unassociated funerary objects, sacred objects, and objects of cultural patrimony.

3. Conduct an analysis of the human skeletal remains, which includes (1) a detailed skeletal inventory listing elements present, their completeness, and condition; (2) measurements of long bones and crania sufficient to provide basic description of physical characteristics, stature, and morphology of the skeletal remains; (3) estimates of age and gender; and (4) observations of any pathological conditions, cultural modifications, and evidence of life activities and trauma that might provide evidence of cultural affiliation of the remains or the context from which they were recovered.

4. Produce summary and inventory reports for each repository.

Report Preparation

1. A written report is required by DoD that details the results of the curation-needs assessment. General information included in the report are estimates of the sizes of collections including condition statements, and descriptions of the facilities.

2. Recommendations are provided for the rehabilitation of the facilities and/or the collections according to the federal standards established in 36 CFR Part 79.

Chapter Synopsis

Preceding Chapter 1 is an executive summary of the project, and Chapter 75 outlines the overall findings of the project and lists references cited in this report. Chapters 2–74 provide a detailed examination of the state of archaeological collections under the jurisdiction of individual military installations. Each chapter contains an executive summary for each installation, a detailed examination of any on-post repository or repositories and the collections, recommendations for the improved care of the collections, and a bibliography of archaeological work conducted on the installation.

Chapters 77-145 in Volume 2 consist of nonmilitary repository summaries, referenced in the installation chapters as applicable. Volume 1, Appendix 1 lists references for military installations in the project area for which no collections were identified.

A total of 86 facilities (museums, universities, state agencies, county agencies, federal agencies, private societies, and firms) was assessed for the project. Collections are stored in a total of 107 repositories within the 86 facilities. Throughout the report, assessment emphasis was placed on the 33 facilities that are considered permanent repositories. Detailed recommendations for the care of federal collections are provided at the end of each permanent repository chapter. For nonpermanent repositories, recommendations are less detailed. Given the current

state of DoD archaeological collections, all materials and documentation stored at facilities without the proper staff, infrastructure, or storage requirements should be deposited at permanent repositories. These facilities should meet or exceed the standards outlined in 36 CFR Part 79.

2

Naval Air Station Adak

Adak, Alaska

Collections Summary

Collections Total: 1.0 ft^3 of archaeological materials and human skeletal remains in collections; no associated records.

Volume of Artifact Collections: 0.1 ft^3

On Post: None

Off Post: 0.1 ft^3 at the University of Alaska Museum (Chapter 56, Volume 2)

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

Human Skeletal Remains: 0.9 ft^3

On Post: None

Off Post: 0.9 ft^3 the University of Alaska Museum (Chapter 56, Volume 2)

Compliance Status: A minimum of one individual from Adak Naval Air Station was poorly preserved and is in poor condition at the University of Alaska Museum (Chapter 56, Volume 2).

Linear Feet of Records: None

Status of Curation Funding: There is no funding for curation activities.

Established in 1942 by the U.S. Navy as a Naval Operating Base on Adak Island in the Aleutians, the installation provides a base for ships and aircraft operations in the North Pacific. From Adak the P-3 Orion aircraft flies antisubmarine patrols, ice patrols, search missions, and routine surveillance flights. The harbor at Sweeper Cove provides full services for U.S. ships, and the tenant Naval Security Group Activity's mission is in fleet communications. Oceanographic research is another mission activity of the naval facility. As of July 1994, the installation became a Naval Air Station and was to lose antisubmarine operations (Cragg 1994; Evinger 1991, 1995).

In July 1996, St. Louis District personnel performed background research at the Alaska Office of History and Archaeology in Anchorage. Research included a review of all pertinent archaeological site forms, records, and manuscripts for NAS Adak. Archaeological sites have been recorded and a small number of reports have been generated as a result of archaeological investigations. Archaeological collections are currently housed at one repository in Alaska.

Reports Related to Archaeological Investigations at NAS Adak

Bank, Theodore P.
1953 *Ecology of Prehistoric Aleutian Village Sites.* In *Ecology*, Volume 34(2). University of Michigan, Ann Arbor.

Denfeld, D. Colt
1994 *The Cold War in Alaska: A Management Plan for Cultural Resources, 1994–1999.* U.S. Army Corps of Engineers, Alaska District, Anchorage.

Denfeld, D. Colt, Jennifer Abel, and Dale Slaughter
1988 *Nike Missile Defenses in Alaska: 1958–1979.* Historic American Engineering Record for the Nike System in Alaska. U.S. Army Corps of Engineers, Alaska District, Anchorage.

EBASCO Services
1987 *World War II in Alaska: A History and Resources Management Plan.* Vol. I. Final Report. EBASCO Services, Newark, New Jersey.

Frohlich, B. and D. Kopjanski
1975 *Aleutian Site Survey, 1975 Preliminary Report*. Laboratory of Biological Anthropology, University of Connecticut, Storrs.

Reynolds, Georgeanne
1988 *Historical Overview and Inventory: White Alice Communications System.* U.S. Army Corps of Engineers, Alaska District, Anchorage. Submitted to U.S. Air Force Alaskan Air Command, Elmendorf Air Force Base, Anchorage.

3

Clear Air Force Station

Clear, Alaska

Collections Summary

Collections Total: No archaeological materials or human skeletal remains; 0.8 linear feet of associated records.

Volume of Artifact Collections: None

Human Skeletal Remains: None

Linear Feet of Records: 0.8 linear feet (9.0 linear inches)

On Post: None

Off Post: 0.8 linear feet at Northern Land Use Research (Chapter 37, Volume 2)

Compliance Status: Records require partial rehabilitation to comply with existing federal guidelines and standards for archival preservation.

Status of Curation Funding: There is no funding for curation activities.

In 1959, two Ballistic Missile Early Warning Systems (BMEWS) were constructed, one stationed in Clear, Alaska, and a second in Thule, Greenland, to provide for more adequate warning of ballistic missiles. Both stations had a 3000-mile range and could detect a Soviet intercontinental ballistic missile (ICBM) about five minutes after launch. All missile warning systems were tied into North American Aerospace Defense Command (NORAD) headquarters at Colorado Springs, Colorado. Presently, the BMEWS is an active advanced warning radar facility (Denfeld et al. 1994).

In July 1996, St. Louis District personnel performed background research at the Alaska Office of History and Archaeology in Anchorage. Research included a review of all pertinent archaeological site forms, records, and manuscripts for Clear AFS. Archaeological sites have been recorded and a small number of reports have been generated as the result of archaeological investigations. Archaeological collections are currently housed at one repository in Alaska.

Reports Related to Archaeological Investigations at Clear AFS

Bowers, Peter M., Andrew S. Higgs, Owen K. Mason, Charles W. Smythe, and Catherine M. Williams

1994 *Cultural Resources Management Plan for Clear Air Force Station, Alaska.* Draft. Northern Land Use Research, Fairbanks, Alaska.

1995 *Cultural Resources Management Plan for Clear Air Force Station, Alaska.* Final. Northern Land Use Research, Fairbanks, Alaska.

Denfeld, D. Colt
1994 *The Cold War in Alaska: A Management Plan for Cultural Resources, 1994–1999.* U. S. Army Corps of Engineers, Alaska District, Anchorage.

Denfeld, D. Colt, Jennifer Abel, and Dale Slaughter
1988 *Nike Missile Defenses in Alaska: 1958–1979.* Historic American Engineering Record for the Nike System in Alaska. U.S. Army Corps of Engineers, Alaska District, Anchorage.

EBASCO Services
1987 *World War II in Alaska: A History and Resources Management Plan.* Vol. I. Final Report. EBASCO Services, Newark, New Jersey.

Goebel, Ted, and Nancy Bigelow
1991 *Archaeological Reconnaissance Survey of the Clear Air Force Station, Clear, Alaska.* Department of Anthropology, University of Alaska, Fairbanks.

Goebel, Ted, Nancy Bigelow, and W. Roger Powers
1991 *Cultural Resources Survey and Management Plan of the Clear Air Force Station, Clear, Alaska.* Department of Anthropology, University of Alaska, Fairbanks.

Reynolds, Georgeanne
1988 *Historical Overview and Inventory: White Alice Communications System.* U.S. Army Corps of Engineers, Alaska District, Anchorage. Submitted to U.S. Air Force Alaskan Air Command, Elmendorf Air Force Base, Anchorage.

4

Eareckson Air Force Station

Shemya Island, Alaska

Collections Summary

Collections Total: 6.9 ft^3 of archaeological materials and human skeletal remains; 0.9 linear feet of associated records.

Volume of Artifact Collections: 0.3 ft^3
On Post: None
Off Post: 0.3 ft^3 at the University of Alaska Museum (Chapter 56, Volume 2)
Compliance Status: Collections require partial rehabilitation to comply with existing federal guidelines and standards for archaeological curation.

Human Skeletal Remains: 6.6 ft^3
On Post: None
Off Post: 6.6 ft^3 at the University of Alaska Museum (Chapter 56, Volume 2)
Compliance Status: A minimum of eight individuals from Eareckson Air Force Station were fairly well preserved and in fair condition.

Linear Feet of Records: 0.9 linear feet (11.25 linear inches)
On Post: None
Off Post: 0.9 linear feet (11.25 linear inches) at University of Alaska Museum (Chapter 56, Volume 2)
Compliance Status: Records require partial rehabilitation to comply with existing federal guidelines and standards for modern archival preservation.

Status of Curation Funding: There is no funding for curation activities.

Formerly Shemya AFB, named after the island it occupied in the Aleutians, Eareckson AFS was established in May 1943. The installation's primary service was as a bomber base during World War II. The reservation accommodated a cryptological unit from June 1956–April 1975. Shemya Air Force Base did not receive primary installation status until December 1970. In 1993, it was renamed after Colonel William O. Eareckson (Cragg 1994; Evinger 1995; Mueller 1989).

In July 1996, St. Louis District personnel performed background research at the Alaska Office of History and Archaeology in Anchorage. Research included a review of all pertinent archaeological site forms, records, and manuscripts for Eareckson Air Force Station. Archaeological sites have been recorded and a small number of reports have been generated as the result of archaeological investigations. Archaeological collections are currently housed at one repository in Alaska.

Reports Relating to Archaeological Investigations at Eareckson AFS

Corbett, Debra Garland
1991 *Aleut Settlement Patterns in the Western Aleutian Islands, Alaska.* Master's Thesis, University of Alaska, Fairbanks.

Denfeld, D. Colt
1994 *The Cold War in Alaska: A Management Plan for Cultural Resources, 1994–1999* . U.S. Army Corps of Engineers, Alaska District, Anchorage.

Denfeld, D. Colt, Jennifer Abel, and Dale Slaughter
1988 *Nike Missile Defenses in Alaska: 1958–1979.* Historic American Engineering Record for the Nike System in Alaska. U.S. Army Corps of Engineers, Alaska District, Anchorage.

EBASCO Services
1987 *World War II in Alaska: A History and Resources Management Plan.* Volume I. Final Report. EBASCO Services, Newark, New Jersey.

Reynolds, Georgeanne L.
1986 *Letter Report: Cultural Resources Survey, Shemya Island.* U.S. Army Corps of Engineers, Alaska District, Anchorage.

1988 *Historical Overview and Inventory: White Alice Communications System.* U.S. Army Corps of Engineers, Alaska District, Anchorage. Submitted to U.S. Air Force Alaskan Air Command, Elmendorf Air Force Base, Anchorage.

5

Eielson Air Force Base

Fairbanks, Alaska

Collections Summary

Collections Total: No archaeological material or human skeletal remains; 0.4 linear feet of associated records.

Volume of Artifact Collections: None

Human Skeletal Remains: None

Linear Feet of Records: 0.4 linear feet (4.25 linear inches)

On Post: 0.4 linear feet (4.25 linear inches)
Off Post: None

Compliance Status: Records require partial rehabilitation to comply with existing federal guidelines and standards for archival preservation.

Status of Curation Funding: Curation activities are not funded.

Established in December 1943, the installation was previously named Mile 26 Satellite Field and Mile 26 Field before being named Eielson AFB. It was given its current name in 1948 after the famed arctic pioneer, National Guard, and Alaskan bush pilot Colonel Carl Benjamin Eielson. The installation's operational facilities were used little during World War II. Until 1961, Eielson AFB was a satellite installation of Ladd Field, which was then occupied by the Army and renamed Fort Wainwright. The Strategic Air Command at Eielson AFB was supported by the 5010th Air Base Wing and Alaskan Air Command. In 1981, the 343rd Composite Wing was activated as a host and in 1984 was redesignated as the 343rd Tactical Fighter Wing. It was reorganized in 1991 as the 343rd Wing. The 354th Fighter Wing from Myrtle Beach AFB became host on the installation in 1993. Current base mission activities include training and equipping tactical air support and close air support, as well as forward air control for Army ground forces in Alaska (Cragg 1994; Evinger 1991, 1995; Mueller 1989).

In July 1996, St. Louis District personnel performed background research at the Alaska Office of History and Archaeology in Anchorage. Research included a review of all pertinent archaeological site forms, records, and manuscripts for Eielson AFB. Archaeological sites have been recorded and a small number of reports have been generated as the result of archaeological investigations. Archaeological collections are currently housed at one repository in Alaska.

Assessment

Date of Visit: May 30, 1997

Point of Contact: Tom Slater (for Gerry Von Rueden)

Eielson AFB is a 19,790-acre installation about 25 miles southeast of Fairbanks in the interior of Alaska. The Natural/Cultural Resources Branch manages forested land, lakes, ponds, and freshwater streams. The base has an enormous amount of land desirable for fishing, trapping, hunting, hiking, bird watching, canoeing, camping, berry and mushroom picking, wildlife observation, cross-country and downhill skiing, archery, skeet, rifle and pistol shooting, and picnicking.

The Eielson AFB Natural Resources building serves as an office and a public information center for individuals wishing to take advantage of the many opportunities for outdoor activities. Completed in 1989, the building (also known as Building 2160) is the only structure built by the Air Force.

Structural Adequacy

The single-story building has a crawl space, a brick foundation, and an all wood exterior with cedar siding and cedar shingles on the roof (Figure 1). The building encompasses 2244 ft^2 and is structurally solid, with no cracks or leaks. Interior space contains the offices of the Natural/Cultural Resources Branch, serves as an information center for outdoor recreation, and has an exhibit area displaying mounted animal specimens from Alaska. The collections storage area is located in the garage area of the building, which has a concrete floor. The interior walls are plasterboard, and the ceiling is cedar panel. The garage measures 717 ft^2.

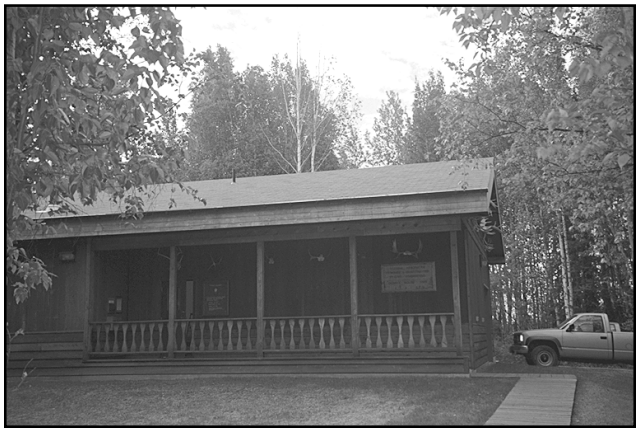

Figure 1. View of the exterior of the Natural Resources building at Eielson Air Force Base.

Environmental Controls

Wood framed windows on the northern and southern walls are covered with blinds. The garage has unfiltered fluorescent lighting, and some natural light comes from one window in the garage door. The rest of the facility has incandescent and natural light. Temperature is controlled with fuel oil forced-air heat or occasionally a wood stove; however, there is no air conditioning system or humidity control. The targeted temperature is 70° F. Additional services/utilities include rest rooms, telephones, and electricity. There are no dust filters. The building is regularly maintained by the staff and the Civil Engineer Squadron, who clean the building interior daily. The garage is cleaned on an as-needed basis.

Pest Management

No precautions are taken against insects or rodents. Staff claim that pest infestation is unusual for their location in Alaska. The team saw no evidence of pest problem during the assessment.

Security

Security measures for the repository include dead-bolt locks on exterior doors, window locks, and a 24-hour military police patrol.

Fire Detection and Suppression

The building has heat sensors and manual fire alarms wired into the fire department. There are extinguishers for fire suppression next to most doors.

Artifact Storage

No archaeological materials have been collected from Eielson Air Force Base.

Human Skeletal Remains

No human remains are housed at Eielson AFB.

Records Storage

Archaeological records which are stored in a wood cabinet in the garage, are in good condition. Additional items stored in the room include a snow blower, a tractor, and tools.Supplies and equipment encompass approximately seventy-five percent of the storage area.

Report Records

One report measuring 1.5 inches and entitled _____, is housed in this location.

Photographic Records

Photographic records totaling 2.75 inches include a vinyl binder containing color prints, black-and-white prints, negatives, slides, and a photolog. The negatives and slides are in archival sleeves and labeled with the installation, project, roll number, and, occasionally, the year. Most are labeled directly in marker; however, some slides are typed. Photographs, which are also in archival sleeves, are labeled directly in marker with roll number, print number, and sometimes the installation. Sticky tags mark the first page of each roll for easy access.

Collections Management Standards

The repository is not a permanent curation facility; therefore, collections management standards were not assessed.

Curation Personnel

Personnel include Gerry Von Rueden, chief, Natural/ Cultural Resources and Tom Slater and Jim Schemanski, Natural Resources technicians. Their primary responsibilities are land-management tasks such as forest management, waste disposal and borrow pit areas, outdoor recreation, and fish and wildlife management. The staff also helps with obtaining licenses and permits for sport fishing, hunting, and trapping.

Curation Financing

Curation has not been financed.

Access to Collections

Collections can be accessed through one of the Natural Resources staff members.

Future Plans

No future plans regarding curation have been determined.

Comments

1. The building is structurally sound.

2. Environmental controls are inadequate, with only a wood-stove or forced-air heat.

3. No pest-management system has been established.

4. Security measures currently include a 24-hour patrol and locks for all doors and windows.

5. Fire suppression is inadequate, with only hand held fire extinguishers.

Recommendations

1. Transfer archaeological collections to a permanent repository that meets the curation standards outlined in 36 CFR Part 79. Coordinate with applicable installations to establish agreements for the permanent disposition of the collections.

2. Produce duplicate copies of all documentation on acid-free paper and store in a separate, secure location. Documentation should be placed in acid-free folders, and lightly packed into fire-resistant file cabinets. Arrange documentation in a logical order, and provide a finding aid to the collection. Records should be free of metal binder clips, staples, and paper clips, or other contaminants.

Reports Related to Archaeological Investigations at Eielson AFB

Denfeld, D. Colt
1994 *The Cold War in Alaska: A Management Plan for Cultural Resources, 1994–1999.* U. S. Army Corps of Engineers, Alaska District, Anchorage.

Denfeld, D. Colt, Jennifer Abel, and Dale Slaughter
1988 *Nike Missile Defenses in Alaska: 1958–1979.* Historic American Engineering Record for the Nike System in Alaska. U.S. Army Corps of Engineers, Alaska District, Anchorage.

EBASCO Services.
1987 *World War II in Alaska: A History and Resources Management Plan.* Vol. I. Final Report. EBASCO Services, Newark, New Jersey.

Gerlach, S. Craig, Stacie J. McIntosh, Peter M. Bowers, and Owen K. Mason
1996 *Archaeological Survey and Assessment of Prehistoric Cultural Resources on Eielson Air Force Base, Alaska.* Northern Land Use Research, Fairbanks, Alaska.

Mason, Owen, Peter Bowers, and S. Craig Gerlach
1994 *Predictive Model for Discovery of Cultural Resources on Eielson Air Force Base, Alaska.* Northern Land Use Research, Fairbanks, Alaska.

Reynolds, Georgeanne
1988 *Historical Overview and Inventory: White Alice Communications System.* U.S. Army Corps of Engineers, Alaska District, Anchorage. Submitted to U.S. Air Force Alaskan Air Command, Elmendorf Air Force Base, Anchorage.

Staley, David P.
1993 *A Phase I Cultural Resources Survey of 19 Locations for the Proposed Yukon Measurement and Debriefing System in Interior Alaska.* Mariah Associates, Albuquerque, New Mexico.

6

Fort Greely

Fort Greely, Alaska

Collections Summary

Collections Total: 45.1 ft^3 of archaeological material; 1.0 linear feet of associated records.

Volume of ArtifactCollections: 45.1 ft^3 plus oversized archaeological materials

On Post: None

Off Post: 19.5 ft^3 at the University of Alaska Museum (Chapter 56, Volume 2) and 25.6+ ft^3 at the Delta Chamber of Commerce (Chapter 17, Volume 2)

Compliance Status: Collections require partial to complete rehabilitation to comply with existing federal guidelines and standards for archaeological curation.

Human Skeletal Remains: None

Linear Feet of Records: 1.0 linear feet (11.5 linear inches)

On Post: None

Off Post: 4.75 linear inches at the Bureau of Land Management-Northern District Office (Chapter 8, Volume 2) and 6.75 linear inches at the University of Alaska Museum (Chapter 56, Volume 2)

Compliance Status: Records require partial rehabilitation to comply with existing federal guidelines and standards for archival preservation.

Status of Curation Funding: There is no funding for curation activities.

An Army Air Force Base was established in June 1942 at the present location of Fort Greely. Station 17, Alaskan Wing, Air Transport Command was established during World War II and was formed under the Lend-Lease program as a transfer site for American and Russian pilots. In 1945, the reservation was inactive but was designated in 1947 as the first postwar cold weather maneuver site, Exercise Yukon. Redesignated an Army post in 1948, the installation was named U.S. Troops, Big Delta, after the Arctic Training Center. Originally this center consisted of the Army Arctic Indoctrination School, Army Training Company, and Test and Development Section. In 1952, the site was renamed the Army Arctic Center, and the Army Chemical Corps-Arctic Test Team was established. In 1955 the installation was named Fort Greely, for the arctic explorer and founder of Alaska Communications System, Major General Adolphus Washington Greely. The Chemical Corps-Arctic Test Team was redesignated in 1956 to Class II activity and renamed Army Chemical Corps-Arctic Test Activity. In this year the Arctic Test Group was renamed Arctic Test Board and was renamed again in 1964 to Arctic Test Center. The Arctic Indoctrination School became the Army Cold Weather and Mountain School, which in 1963 became the Northern Warfare Training Center. Fort Greely became part of the 172nd Infantry Brigade in 1974. With the activation of the 6th Infantry Division (Light) and the Army Garrison, Alaska, in 1986

Fort Greely became one of the three posts in the single installation concept (Cragg 1994; Evinger 1991, 1995).

In July 1996, St. Louis District personnel performed background research at the Alaska Office of History and Archaeology in Anchorage. Research included a review of all pertinent archaeological site forms, records, and manuscripts for Fort Greely. Archaeological sites have been recorded and a number of reports have been generated as the result of archaeological investigations. Archaeological collections are currently housed at three repositories in Alaska.

Reports Related to Archaeological Investigations at Fort Greely

Bacon, Glenn H.
1978 *Final Report on the Archaeological Survey of the XM-1 Tank Range, Fort Greely, Alaska. Alaskarctic, Fairbanks, Alaska.* Submitted to U.S. Army Corps of Engineers, Alaska District, Anchorage.

Bacon, Glenn H., and Charles Holmes
1980 *Archaeological Survey and Inventory of Cultural Resources at Fort Greely, Alaska, 1979: Final Report.* Alaskarctic, Fairbanks, Alaska. Submitted to U.S. Army Corps of Engineers, Alaska District, Anchorage.

Bacon, Glenn H., James A. Ketz, and Charles M. Mobley
1985 *Historic Preservation Plan for U.S. Army Lands in Alaska (Volume 1).* Alaska Heritage Research Group, Fairbanks. Submitted to U.S. Army Corps of Engineers, Alaska District, Anchorage.

1986 *Historic Preservation Plan for U.S. Army Lands in Alaska (Technical Appendix).* Alaska Heritage Research Group, Fairbanks. Submitted to U.S. Army Corps of Engineers, Alaska District, Anchorage.

Bureau of Land Management, Steese/White Mountains District
1994 *Fort Greely: Proposed Resource Management Plan Final Environmental Impact Statement.* U.S. Department of the Interior, Bureau of Land Management, Steese/White Mountains District. Submitted to U.S. Department of Defense, U.S. Army, and 6th Infantry Division (Light), Fairbanks, Alaska.

Denfeld, D. Colt
1994 *The Cold War in Alaska: A Management Plan for Cultural Resources, 1994–1999.* U.S. Army Corps of Engineers, Alaska District, Anchorage.

Denfeld, D. Colt, Jennifer Abel, and Dale Slaughter
1988 *Nike Missile Defenses in Alaska: 1958–1979.* Historic American Engineering Record for the Nike System in Alaska. U.S. Army Corps of Engineers, Alaska District, Anchorage.

EBASCO Services
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Hadleigh-West, Frederick
1967 *The Donnelly Ridge Site and the Definition of an Early Core and Blade Complex in Central Alaska. American Antiquity*, 32(3).

Holmes, Charles E.
1979 *Report of Archeological Reconnaissance Withdrawal Areas, Fort Greely, Alaska.* Laboratory of Anthropology, Washington State University, Pullman. Submitted to U.S. Army Corps of Engineers, Alaska District, Anchorage.

1979 *Archaeological Reconnaissance Report for Fort Wainwright, Fort Greely, and Fort Richardson Withdrawal Lands, Alaska.* Laboratory of Anthropology, Washington State University, Pullman.

Phillips, Walter T., Sr.
1984 *Roadhouses of the Richardson Highway: The First Quarter Century, 1898 to 1923.* Walter T. Phillips, Palmer, Alaska.

Reynolds, Georgeanne
1985 *Historic Preservation Plan, U.S. Army Installations and Satellites in Alaska: Phase I Inventory of Cultural Resources and Overview.* U.S. Army Corps of Engineers, Alaska District, Anchorage.

1986 Letter Report: Historic Preservation Plan U.S. Army Installations and Satellites in Alaska. U.S. Army Corps of Engineers, Alaska District, Anchorage.

1988 *Historical Overview and Inventory: White Alice Communications System.* U.S. Army Corps of Engineers, Alaska District, Anchorage. Submitted to U.S. Air Force Alaskan Air Command, Elmendorf Air Force Base, Anchorage.

Solka, Paul
1970 Letter to Robert A. McKennon, Dartmouth College, Hanover, New Hampshire.

Steele, Julia L.
1980 *Fort Greely Bison Trail Archaeological Survey.* U.S. Army Corps of Engineers, Alaska District, Anchorage.

1980 *Archaeological Assessment of Squad Assault Range, Powerline Extension, and M-16 Record Fire Range, Fort Greely, Alaska.* U.S. Army Corps of Engineers, Alaska District, Anchorage.

1983 *Cultural Resource Assessment of a Powerline Extension: Fort Greely, Alaska.* U. S. Army Corps of Engineers, Alaska District, Anchorage.

7

Fort Richardson

Fort Richardson, Alaska

Collections Summary

Collections Total: No archaeological material or human skeletal remains; 0.7 linear feet of associated records.

Volume of Artifact Collections: None

Human Skeletal Remains: None

Linear Feet of Records: 0.7 linear feet (8.75 linear inches)

On Post: None

Off Post: 0.7 linear feet at University of Alaska Museum (Chapter 56, Volume 2)

Compliance Status: Records require partial rehabilitation to comply with existing federal guidelines and standards for archival preservation.

Status of Curation Funding: There is no funding for curation activities.

Fort Richardson—named for the military pioneer explorer, Brigadier General Wilds P. Richardson who served three tours of duty in the Alaska territory from 1897 to 1917—was built in 1940–1941 on the site of what is now the post's sister installation, Elmendorf Air Force Base. The installation was established in 1947 as the headquarters of the U.S. Army Alaska (USARAL) and it was moved to its present location in 1950. In 1959, three off-post Nike Hercules missile sites were built at Fort Richardson. From 1961 to 1973, the installation was home to the U.S. Modern Biathlon Training Center. Fort Richardson was established as the headquarters for the 172nd Infantry Brigade (Alaska) in 1974 and the 6th Infantry Division (Light) and U.S. Army Garrison, Alaska in 1986. In 1990, the headquarters moved to Fort Wainwright. The 6th Infantry Division (Light) was to be reorganized in 1994 as the brigade task force with the Commander, U.S. Army Alaska forces stationed at Fort Richardson (Cragg 1994; Evinger 1991, 1995).

In July 1996, St. Louis District personnel performed background research at the Alaska Office of History and Archaeology in Anchorage. Research included a review of all pertinent archaeological site forms, records, and manuscripts for Fort Richardson. Archaeological sites have been recorded and a small number of reports have been generated as the result of archaeological investigations. Archaeological collections are currently housed at one repository in Alaska.

Reports Relating to Archaeological Investigations at Fort Richardson

Bacon, Glenn H., James A. Ketz, and Charles M. Mobley

1985 *Historic Preservation Plan for U.S. Army Lands in Alaska.* Vol. 1. Alaska Heritage Research Group, Fairbanks. Submitted to U.S. Army Corps of Engineers, Alaska District, Anchorage.

1986 *Historic Preservation Plan for U.S. Army Lands in Alaska.* Technical Appendix Alaska Heritage Research Group, Fairbanks. Submitted to U.S. Army Corps of Engineers, Alaska District, Anchorage.

Denfeld, D. Colt

1994 *The Cold War in Alaska: A Management Plan for Cultural Resources, 1994–1999.* U. S. Army Corps of Engineers, Alaska District, Anchorage.

Denfeld, D. Colt, Jennifer Abel, and Dale Slaughter

1988 *Nike Missile Defenses in Alaska: 1958–1979.* Historic American Engineering Record for the Nike System in Alaska. U.S. Army Corps of Engineers, Alaska District, Anchorage.

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1987 *World War II in Alaska: A History and Resources Management Plan.* Vol. I. Final Report. EBASCO Services, Newark, New Jersey.

Holmes, Charles E.

1979 Report of Archeological Reconnaissance: Withdrawal Area Fort Richardson, Alaska. In *Draft Environmental Impact Statement Concerning Proposed Land Withdrawal for the 172nd Infantry Brigade (Alaska) at Fort Richardson,* by the U.S. Department of the Army, pp. (G-1) – (G-7).

1979 *Archaeological Reconnaissance Report for Fort Wainwright, Fort Greely, and Fort Richardson Withdrawal Lands, Alaska.* Laboratory of Anthropology, Washington State University, Pullman.

Reynolds, Georgeanne

1985 *Historic Preservation Plan, U.S. Army Installations and Satellites in Alaska: Phase I Inventory of Cultural Resources and Overview.* U.S. Army Corps of Engineers, Alaska District, Anchorage.

1986 Letter Report: Historic Preservation Plan U.S. Army Installations and Satellites in Alaska. U.S. Army Corps of Engineers, Alaska District, Anchorage.

1988 *Historical Overview and Inventory: White Alice Communications System.* U.S. Army Corps of Engineers, Alaska District, Anchorage. Submitted to U.S. Air Force Alaskan Air Command, Elmendorf AFB, Anchorage.

Steele, Julia L.

1980 *Archaeological Survey and Cultural Resources Overview, Fort Richardson, Alaska.* U.S. Army Corps of Engineers, Alaska District, Anchorage.

8

Fort Wainwright

Fort Wainwright, Alaska

Collections Summary

Collections Total: 4.1 ft^3 of archaeological material; 2.7 linear feet of associated records.

Volume of Artifact Collections: 4.1 ft^3 plus oversized archaeological materials

On Post: None

Off Post: 3.9 ft^3 at the University of Alaska Museum (Chapter 56, Volume 2) and 0.2 ft^3 at the Bureau of Land Management-Northern District Office (Chapter 8, Volume 2)

Compliance Status: Collections require partial to complete rehabilitation to comply with existing federal guidelines and standards for archaeological curation.

Human Skeletal Remains: None

Linear Feet of Records: 2.7 linear feet (32.0 linear inches)

On Post: None

Off Post: 4.5 linear inches at the Bureau of Land Management-Northern District Office (Chapter 8, Volume 2) and 27.5 linear inches at the University of Alaska Museum (Chapter 56, Volume 2)

Compliance Status: Records require partial rehabilitation to comply with existing federal guidelines and standards for archival preservation.

Status of Curation Funding: There is no funding for curation activities.

Fort Wainwright was established in late 1941 as Ladd Army Airfield, a link in the Alaska Siberia Lend Lease route. In 1947, the site became part of Eielson Air Force Base and was used as a resupply base for Distant Early Warning radar sites and experimental ice stations in the Arctic Ocean. The Army reassumed command of Ladd Field in 1961 and renamed it Fort Wainwright for General Jonathon M. Wainwright, defender of Bataan Peninsula in World War II. Fort Wainwright is home to the 171st Infantry Brigade (Mechanized) and the 172nd Infantry Brigade. Headquarters, 6th Division was scheduled to leave in September 1994 (Cragg 1994; Evinger 1991, 1995).

In July 1996, St. Louis District personnel performed background research at the Alaska Office of History and Archaeology in Anchorage. Research included a review of all pertinent archaeological site forms, records, and manuscripts for Fort Wainwright. Archaeological sites have been recorded and a number of reports have been generated as the result of archaeological investigations. Archaeological collections are currently housed at two repositories in Alaska.

Reports Related to Archaeological Investigations at Fort Wainwright

Bacon, Glenn H., James A. Ketz, and Charles M. Mobley

1985 *Historic Preservation Plan for U.S. Army Lands in Alaska.* Vol. 1. Alaska Heritage Research Group, Fairbanks. Submitted to U.S. Army Corps of Engineers, Alaska District, Anchorage.

1986 *Historic Preservation Plan for U.S. Army Lands in Alaska.* Technical Appendix Alaska Heritage Research Group, Fairbanks. Submitted to U.S. Army Corps of Engineers, Alaska District, Anchorage.

Bureau of Land Management, Steese/White Mountains District

1994 *Fort Wainwright, Yukon Maneuver Area: Proposed Resource Management Plan Final Environmental Impact Statement.* U.S. Department of the Interior, Bureau of Land Management, Steese/White Mountains District. Submitted to U.S. Department of Defense, U.S. Army, and 6th Infantry Division (Light), Fairbanks, Alaska.

Cash Barner Usher Architects

1991 *Preliminary Report Historic American Buildings Survey, Building Number 1560, Fort Wainwright, Alaska.* Cash Barner Usher Architects, Anchorage, Alaska.

Cook, John P.

1979 Limited Cultural Resource Survey in Wainwright. Manuscript on file, Fort Wainwright, Alaska.

1979 *Site XBD-094: Aircraft Assault Strip, Fort Wainwright, Alaska.* Final Report to U.S. Army Corps of Engineers, Alaska District, Anchorage.

Denfeld, D. Colt

1994 *The Cold War in Alaska: A Management Plan for Cultural Resources, 1994–1999.* U.S. Army Corps of Engineers, Alaska District, Anchorage.

Denfeld, D. Colt, Jennifer Abel, and Dale Slaughter

1988 *Nike Missile Defenses in Alaska: 1958–1979.* Historic American Engineering Record for the Nike System in Alaska. U.S. Army Corps of Engineers, Alaska District, Anchorage.

Dixon, E. James, Jr., George S. Smith, and David C. Plaskett

1979 *Fort Wainwright Archeological Reconnaissance Research Strategy.* University of Alaska Museum, Fairbanks. Submitted to U.S. Army Corps of Engineers, Alaska District, Anchorage.

1980 *Archaeological Survey and Inventory of Cultural Resources, Fort Wainwright, Alaska.* Final Report. University of Alaska Museum, Fairbanks. Submitted to U.S. Army Corps of Engineers, Alaska District, Anchorage.

EBASCO Services

1987 *World War II in Alaska: A History and Resources Management Plan.* Vol. I. Final Report. EBASCO Services, Newark, New Jersey.

Frizzera, Arturo

1973 *Preliminary Survey Report, Blair Lakes, Alaska.* Anthropology Department, University of Alaska, Fairbanks.

Holmes, Charles E.

1979 *Report of Archeological Reconnaissance: Yukon Training Command Withdrawal Area, Fort Wainwright, Alaska.* Laboratory of Anthropology, Washington State University, Pullman. Submitted to U.S. Army Corps of Engineers, Alaska District, Anchorage.

1979 *Archaeological Reconnaissance Report for Fort Wainwright, Fort Greely, and Fort Richardson Withdrawal Lands, Alaska.* Laboratory of Anthropology, Washington State University, Pullman.

Matheson, Janet

1981 *Fairbanks North Star Borough, Survey of Historic Properties: History.* Janet Matheson, Architect, Fairbanks, Alaska.

Matheson, Janet, and F. Bruce Haldeman
1981 *Historic Resources in the Fairbanks North Star Borough.* Janet Matheson, Architect, Fairbanks, Alaska.

Phillips, Walter T., Sr.
1984 *Roadhouses of the Richardson Highway: The First Quarter Century, 1898 to 1923.* Walter T. Phillips, Palmer, Alaska.

Reynolds, Georgeanne L.
1984 *Archeological Survey of Portions of the Fairbanks Petroleum Oils and Lubricants (POL) Terminal, Fort Wainwright, Alaska.* U.S. Army Corps of Engineers, Alaska District, Anchorage.

1985 *Historic Preservation Plan, U.S. Army Installations and Satellites in Alaska: Phase I Inventory of Cultural Resources and Overview.* U.S. Army Corps of Engineers, Alaska District, Anchorage.

1985 Letter Report: Survey of Construction Projects, Fort Wainwright Cantonment. U.S. Army Corps of Engineers, Alaska District, Anchorage.

1985 *Survey of Construction Projects, Fort Wainwright Cantonment.* U.S. Army Corps of Engineers, Alaska District, Anchorage.

1986 Letter Report: Historic Preservation Plan U.S. Army Installations and Satellites in Alaska. U.S. Army Corps of Engineers, Alaska District, Anchorage.

1988 *Historical Overview and Inventory: White Alice Communications System.* U.S. Army Corps of Engineers, Alaska District, Anchorage. Submitted to U.S. Air Force Alaskan Air Command, Elmendorf Air Force Base, Anchorage.

Solka, Paul
1970 Letter to Robert A. McKennon, Dartmouth College, Hanover, New Hampshire.

Staley, David P.
1993 *A Phase I Cultural Resources Survey of 19 Locations for the Proposed Yukon Measurement and Debriefing System in Interior Alaska.* Mariah Associates, Albuquerque.

9

Harding Lake Recreation Center

Fairbanks, Alaska

Collections Summary

Collections Total: 1.3 ft^3 of archaeological material; 0.5 linear inches of associated records.

Volume of Artifact Collections: 1.3 ft^3
On Post: None
Off Post: 1.3 ft^3 at the University of Alaska Museum (Chapter 56, Volume 2)
Compliance Status: Collections require partial rehabilitation to comply with existing federal guidelines and standards for archaeological curation.

Human Skeletal Remains: None

Linear Feet of Records: 0.5 linear inches
On Post: None
Off Post: 0.5 linear inches at the University of Alaska Museum (Chapter 56, Volume 2)
Compliance Status: Records require partial rehabilitation to comply with existing federal guidelines and standards for archival preservation.

Status of Curation Funding: There is no funding for curation activities.

In July 1996, St. Louis District personnel performed background research at the Alaska Office of History and Archaeology in Anchorage. Research included a review of all pertinent archaeological site forms, records, and manuscripts for Harding Lake Recreation Center. Archaeological sites have been recorded and a small number of reports mention the archaeological investigations performed at Harding Lake Recreation Site. Archaeological collections are currently housed at one repository in Alaska.

Reports Related to Archaeological Investigations at Harding Lake Recreation Center

Bacon, Glenn H., James A. Ketz, and Charles M. Mobley
1985 *Historic Preservation Plan for U.S. Army Lands in Alaska.* Vol. 1. Alaska Heritage Research Group, Fairbanks. Submitted to U.S. Army Corps of Engineers, Alaska District, Anchorage.

1986 *Historic Preservation Plan for U.S. Army Lands in Alaska.* Technical Appendix Alaska Heritage Research Group, Fairbanks. Submitted to U.S. Army Corps of Engineers, Alaska District, Anchorage.

Denfeld, D. Colt
1994 *The Cold War in Alaska: A Management Plan for Cultural Resources, 1994–1999.* U.S. Army Corps of Engineers, Alaska District, Anchorage.

Denfeld, D. Colt, Jennifer Abel, and Dale Slaughter
1988 *Nike Missile Defenses in Alaska: 1958–1979.* Historic American Engineering Record for the Nike System in Alaska. U.S. Army Corps of Engineers, Alaska District, Anchorage.

EBASCO Services
1987 *World War II in Alaska: A History and Resources Management Plan.* Vol. I. Final Report. EBASCO Services, Newark, New Jersey.

Reynolds, Georgeanne
1985 *Historic Preservation Plan, U.S. Army Installations and Satellites in Alaska: Phase I Inventory of Cultural Resources and Overview.* U.S. Army Corps of Engineers, Alaska District, Anchorage.

1986 Letter Report: Historic Preservation Plan U.S. Army Installations and Satellites in Alaska. U.S. Army Corps of Engineers, Alaska District, Anchorage.

1988 *Historical Overview and Inventory: White Alice Communications System.* U.S. Army Corps of Engineers, Alaska District, Anchorage. Submitted to U.S. Air Force Alaskan Air Command, Elmendorf Air Force Base, Anchorage.

Yarborough, Linda Finn
1975 *Archaeology in the Delta Land Management Planning Study Area.* Prepared for the Alaska State Division of Parks and the U.S. Government, Juneau.

10

Kotzebue Air Force Station

Kotzebue, Alaska

Collections Summary

Collections Total: 4.2 ft^3 of archaeological material; 0.1 linear feet of associated records.

Volume of Artifact Collections: 4.2 ft^3

On Post: None

Off Post: 4.2 ft^3 at the University of Alaska Museum (Chapter 56, Volume 2)

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

Human Skeletal Remains: None

Linear Feet of Records: 0.1 linear feet (0.75 linear inches)

On Post: None

Off Post: 0.1 linear feet (0.75 linear inches) at the University of Alaska Museum (Chapter 56, Volume 2)

Compliance Status: Records require partial rehabilitation to comply with existing federal guidelines and standards for modern archival preservation.

Status of Curation Funding: There is no funding for curation activities.

Kotzebue Air Force Station was originally built as a temporary Aircraft Control and Warning (AC&W) site to fill a radar coverage gap while Cape Lisburne and Tin City permanent sites were being constructed. The station became operational in 1950, and in 1954, the Alaskan Air Command (AAC) decided to make the site a permanent station. Construction of the facility was completed in 1958. The station operated as a ground control intercept site until 1973 when it was converted to a NORAD surveillance station. In 1977, a contractor took over operations as part of an AAC program. The station was deactivated in 1984 (Denfeld et al. 1994).

In July 1996, St. Louis District personnel performed background research at the Alaska Office of History and Archaeology in Anchorage. Research included a review of all pertinent archaeological site forms, records, and manuscripts for Kotzebue AFS. Archaeological sites have been recorded and a small number of reports mention Kotzebue AFS. Archaeological collections are currently housed at one repository in Alaska.

Reports Related to Archaeological Investigations at Kotzebue Air Force Station

Denfeld, D. Colt
1994 *The Cold War in Alaska: A Management Plan for Cultural Resources, 1994–1999.* U. S. Army Corps of Engineers, Alaska District, Anchorage.

Denfeld, D. Colt, Jennifer Abel, and Dale Slaughter
1988 *Nike Missile Defenses in Alaska: 1958–1979.* Historic American Engineering Record for the Nike System in Alaska. U.S. Army Corps of Engineers, Alaska District, Anchorage.

EBASCO Services
1987 *World War II in Alaska: A History and Resources Management Plan.* Vol. I. Final Report. EBASCO Services, Newark, New Jersey.

Reynolds, Georgeanne
1988 *Historical Overview and Inventory: White Alice Communications System.* U.S. Army Corps of Engineers, Alaska District, Anchorage. Submitted to U.S. Air Force Alaskan Air Command, Elmendorf Air Force Base, Anchorage.

11

Fort Huachuca

Fort Huachuca, Arizona

Collections Summary

Collections Total: 223.5 ft^3 of archaeological materials and human skeletal remains; 14.3 linear feet of associated record collections.

Volume of Artifact Collections: 223.5 ft^3

On Post: 191.7 ft^3

Off Post: 5.6 ft^3 at the Arizona State Museum (Chapter 5, Volume 2), and 26.2 ft^3 at Statistical Research (Chapter 51, Volume 2)

Compliance Status: Collections require partial rehabilitation to comply with existing federal guidelines and standards for archaeological collections.

Human Skeletal Remains: 0.02 ft^3

On Post: 0.02 ft^3

Off Post: None

Compliance Status: Human skeletal materials, which fall under Section 3 of NAGPRA, were found in the collections housed on post. Qualified personnel need to take measures to manage these remains as outlined in NAGPRA.

Linear Feet of Records: 14.3 linear feet (172.18 linear inches)

On Post: 7.4 linear feet (89.25 linear inches)

Off Post: 3.3 linear inches at the Arizona State Museum (Chapter 5, Volume 2); 6.6 linear feet (78.88 linear inches) at Statistical Research (Chapter 51, Volume 2); and 0.75 linear inches at the U.S. Army Engineer District, Los Angeles (Chapter 64, Volume 2)

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

Status of Curation Funding: Curation is financed through TRADOC as a line item on the yearly budget. To date, curation financing has been adequate. A a budget increase will be needed if there is a future need to add to the building currently being renovated as a curation facility.

Fort Huachuca was established as a post in the foothills of the Huachuca Mountains in 1877. It played a key role in the United States' 1886 campaign against Geronimo and his Apache warriors when it served as a supply base and provided housing for calvary troops during the five-month pursuit and capture of Geronimo and his men. Today, Fort Huachuca is the home of the U.S. Army Intelligence Center and School, the U.S. Army Information Systems Command, the Joint Interoperability Test Center, the 11th Signal Brigade, and other specialized units. The base has a museum and a military cemetery dating from 1877. The Old Post area is designated as a National Historic Landmark (Cragg 1994; Evinger 1995).

In June 1996, St. Louis District personnel performed background archaeological research at the State Site Files of the Arizona State Museum in Tucson and the Arizona State Historic Preservation Office in Phoenix. This research included a review of

all pertinent archaeological site forms, reports, and manuscripts. Archaeological sites have been recorded on Fort Huachuca and numerous reports have been generated as a result of archaeological investigations. Collections are currently housed at four repositories in Arizona and California.

Assessment

Date of Visit: January 28–February 3 and May 1, 1997

Point of Contact: John Murray

Structural Adequacy

Repository 1—Building 22330

At the time of the first assessment, archaeological collections were being housed in Building 22330 (Figure 2). This 900-ft^2 building was constructed circa 1884 and originally served as a magazine. It is a single-story adobe structure with a rock and adobe-block foundation. The wood-and-tar shingled roof was most recently repaired in 1995. Interior plaster walls are one-to-three-inches thick and were installed between 1918 and 1922. In 1993 one of the walls of the building collapsed; it was rebuilt and the window in it was replaced. The windows measure 33 x 60 inches (w x h), with 15-inch-wide window sills. The other four windows of the building have not been replaced, but their wood frames have been refurbished. The lathe ceiling was also plastered between 1918 and 1922. The building has most of its original wood flooring, with the exception of several areas that were removed for construction purposes. The wood flooring in those areas was not saved and had to be replaced. There is a door at the front and the back of the building, both of wood with wood frames. The building is without utilities. The only source of illumination is natural light.

Repository 2—Curation Facility

Originally a pumping station, the post Sewage Treatment Plant (Building 90322), is being remodeled for use as an Archaeology Laboratory and Curation Facility for the Fort Huachuca collections (Figure 3). Plans to move the collections into this building in March 1997 were changed to summer 1997. Renovations were still underway during the St. Louis District visit in May. The building, constructed in 1905, has one floor above grade and one below grade. A room was added on the ground-level floor in the 1950s. Building 90322 encompasses approximately 1,000 ft^2, has a concrete foundation, and painted concrete block exterior walls. The roof is steel reinforced poured concrete that was resealed in 1997. The building has proven to be structurally solid, and any wall or foundation cracks are being repaired prior to the transfer of the collections. Steel framed windows measure 3-x-4 feet (w x h) and are without shades. A few of the windows had to be replaced. The two wood-and-glass exterior doors are being replaced

Figure 2. Building 22330 is a 900 square foot adobe building constructed in 1884; it originally served as a magazine.

Figure 3. Building 90322 on post, formerly part of a water treatment plant, is being renovated to serve as a curation facility.

with metal doors. All of the utilities were upgraded in 1997 and a bathroom was added.

The collections will be stored below grade, where the floor and ceiling are concrete and the interior walls are painted plasterboard. There are no windows in the collection storage room, which encompasses approximately 236 ft^2.

Environmental Controls

Repository 1—Building 22330

This repository has no heating or cooling system, and the temperature and humidity of the building vary according to climate changes. The building is regularly maintained by the Directorate of Engineering and Housing (DEH) or the Directorate of Public Works (DPW).

Repository 2—Curation Facility

The building recently had an electrical climate control system installed, which monitors and regulates temperature and humidity levels and includes a dust filtration system. There are no windows in the collections storage room downstairs. Fluorescent and natural light on the ground level floor are not equipped with filters. A regular maintenance and cleaning schedule has not been implemented during the remodeling of the building, but the same measures used for the rest of the buildings on the post will extend to this facility when completed. Staff and volunteers will clean the facility. Asbestos is not present in this building.

Pest Management

Repository 1—Building 22330

There is no scheduled spraying of Building 22330. An entomologist on staff in DEH is responsible for monitoring for pest infestation, and the building is sprayed as needed. The St. Louis District team discovered a dead moth in one box, and a live spider in another box.

Repository 2—Curation Facility

Because the building is open during remodeling insects were noted during the assessment. An integrated pest management program is not in place at this time for the curation facility.

Security

Repository 1—Building 22330

The doors to Building 22330 are secured with key locks, and there is limited access to the keys. Windows are secured with latches. The building is patrolled regularly by the post's military police. Under previous staff, collections from a 1964 Garden Canyon site excavation were lost. It is known that some of the large ground stone archaeological materials were recovered from a dumpster by the post museum staff. It is suspected that other archaeological collections may have been discarded in a similar fashion.

Repository 2—Curation Facility

A request has been made in the project funds available for the renovation of Building 90322 to include an intrusion alarm and motion detectors wired to the military police. The building is surrounded by a padlocked security fence that is topped with barbed wire. Doors will have key and dead-bolt locks, and all the windows will have security screens installed. Access is controlled by limiting access to the keys for the building.

Fire Detection and Suppression

Repository 1—Building 22330

Fire safety consists of two fire extinguishers in the building. There were no tags present on the extinguishers, but the St. Louis District team was told that they are inspected annually.

Repository 2—Curation Facility

Fire detection measures present in this building include heat sensors that trigger an alarm that notifies the post fire and emergency department. A sprinkler system has been installed, and fire extinguishers will be placed on both floors of the building. The collections will be housed in the room downstairs behind a fire door. A small closet area will also be fitted with a fire door to protect the records that will be stored there.

Artifact Storage

Approximately 191.7 ft^3 of archaeological material collections are stored at Fort Huachuca. For a breakdown of material classes present in these collections, refer to Table 9.

Table 9.
Summary of Material Classes Present in the Fort Huachuca Collection

Material Class	%
Prehistoric	
Lithics	49
Ceramics	37
Faunal	1
Botanical	2
Soil	3
^{14}C	3
Modified Shell	1
Other[a]	2
Historical-Period	
Other[b]	2
Total	100

[a] Prehistoric Other includes shell, human remains, modified bone, and flotation.

[b] Historical-Period Other includes glass, metal and crockery.

Storage Units

Repository 1—Building 22330

Collections are stored on unsealed wood shelves (Figure 4). The shelving units measure 43.75 x 29.75 x 62 inches (l x w x h). There are five shelves per unit and three units in a row. There is a total of eight rows of wooden shelves, plus four free standing metal shelving units in the building.

Repository 2—Curation Facility

Metal shelving units have been ordered that measure 7 x 2 x 6 feet (l x w x h). Shelves will be spaced approximately 14 inches apart, and collections will be stored beneath water-bearing pipes.

Primary Containers

Cardboard boxes are used as primary containers; 38% are archival quality and the remaining 62% are acidic. Boxes vary in degree of wear and size, but most are approximately 1.2 ft^3. Some of the boxes are overpacked and too heavy. Of the artifacts that have primary containers, 50% of the containers are labeled with acid-free paper labels glued or taped to the box. Twenty-one percent of the primary containers are labeled directly in marker or pen, and the remaining 29% are labeled with both paper labels and directly in marker.

Secondary Containers

Most (78%) of the secondary containers are plastic bags. Ten percent of the artifacts are loose in the boxes. Paper bags constitute 2% of the secondary containers. The remaining 10% of the artifacts are stored in various secondary containers including plastic boxes, foil, bubble wrap, plastic sheeting, foam sheeting, and cardboard boxes. Most (88%) of the secondary containers are labeled directly in marker or ink. Eight percent have no labeling, and 4% have paper labels glued, taped, or tied to the secondary container.

Laboratory Processing and Labeling

Most of the artifacts have been cleaned (73%), but only 15% have been labeled either directly on the surface of the artifact in ink or with a paper label inserted in the secondary container. Almost all (99%) of the artifacts have been sorted by material class.

Figure 4. Acidic cardboard boxes of artifacts are stored temporarily on unsealed wooden shelves in Building 22330.

Human Skeletal Remains

Less than one percent of the collections (0.02 ft^3) consists of human skeletal remains. A member of the St. Louis District staff performed an inventory of human skeletal remains for compliance with Section 5 of NAGPRA during the first visit. This was conducted at the request of the U.S. Army Environmental Center (AEC). Three excavations conducted at the Garden Canyon Site yielded human skeletal remains.

The first excavation was conducted by Jon Nathan Young in 1964. Documentation examined by St. Louis District personnel indicates that 43 cremations and seven inhumations, as well as associated objects, were recovered at that time. The whereabouts of this collection is uncertain, although some of the objects may be curated at the Fort Huachuca Historical Museum. The Center for Military History assumes responsibility for these collections; therefore, they were not assessed for this project.

In 1991–1992, Marie Cottrell, the post archaeologist at that time, conducted an excavation that yielded human skeletal remains. These remains were inventoried by St. Louis District personnel, and the minimum number of individuals (MNI) was determined to be 10.

The current post archaeologist, has been conducting excavations at the Garden Canyon Site from 1995 to the present. A small amount of human skeletal remains have been recovered from this work. St. Louis District personnel examined these remains and from dentition analysis determined the MNI for this collection to be five. Fort Huachuca has begun the consultation process in order to determine the disposition of remains.

Records Storage

Approximately 7.4 linear feet (89.25 inches) of records are housed in Building 22330 on Fort Huachuca (Figure 5). These records are stored in acidic cardboard boxes, on open metal shelves, and in three-ring binders on metal shelves with glass front doors. A small closet in the collections storage room in the new curation facility will be fitted with filing cabinets and shelves to house the record collections.

Figure 5. Records from Fort Huachuca archaeological projects in Building 22330.

Paper Records

Most of the records in Building 22330 are paper records (4.1 linear feet). Five three-ring vinyl binders hold laboratory reference materials. An additional five binders hold original level forms. Other paper records include reference materials for Southwest archaeology and Fort Huachuca, copies of the 1964 Garden Canyon excavation documentation conducted by Jon Nathan Young, collections inventories, release forms from the Arizona State Museum, survey field notes, and site forms. Records are either in binders or stacked on work tables and shelves. Contaminants are present, including paper clips, staples, rubber bands, and metal binder clips.

Report Records

Fort Huachuca houses 0.8 linear feet (10 inches) of report records that are either spiral bound or perfect bound. They consist of both preliminary drafts and final reports. Reports are stored in the same manner as the paper records.

Photographic Records

Photographic records which are in need of organization, currently are stored in their original commercial developing packets, acidic paper envelopes, manila envelopes, shoe boxes, nonarchival quality plastic sleeves, and plastic slide boxes. Approximately 1.9 linear feet (22.5 inches) of color prints, black-and-white prints, negatives, slides, and contact sheets are present. A few of the slides are in plastic sleeves that are stored in a three-ring binder;

otherwise photographic records are stacked on top of each other in a large, open box lid. Most of the material is unlabeled.

Maps and Oversized Documents

Approximately seven inches of USGS topographic maps, drawings and site sketches, and blue-line maps were assessed. Maps were either stored loose on the shelves, folded and stored with the paper records, or rolled and housed in cardboard mailing tubes. These documents were not labeled and considerable wear was noticed on many.

Collections Management Standards

Registration Procedures

Accession Files

Fort Huachuca does not accession collections from outside sources. They are currently in the process of accessioning the collections they have that were generated from work conducted on post.

Location Identification

There is no written record of location of collections. All artifact collections are located in Building 22330 and are grouped by project on the shelves.

Cross-Indexed Files

Files are not cross indexed.

Published Guide to Collections

There is no published guide to the collections.

Site-Record Administration

Fort Huachuca follows the Arizona State Historic Preservation Office's site numbering system.

Computerized Database Management

There are two computers used for data entry of the archaeological collection. The post archaeologist is currently looking for a program for collections management.

Written Policies and Procedures

Minimum Standards of Acceptance

Fort Huachuca does not accept collections beyond what is generated at Fort Huachuca.

Curation Policy

A curation policy is under development for Fort Huachuca. It will be implemented when collections are moved to the curation facility on post. Presently, everything is collected during excavations. The policy will address the criteria for permanent curation of materials. The post archaeologist has a core of volunteers who regularly work with the collection. Also, a field school is conducted at the Garden Canyon site. Volunteers will be given a 40-hour course on the procedures and standards of the collections and curation facility.

Records-Management Policy

Guidelines and standards for the curation of associated documentation will be included in the curation policy under development.

Field-Curation Guidelines

Fort Huachuca has field-curation guidelines in which both students in the field school and volunteer staff are trained.

Loan Procedures

Presently there is no loan policy. The majority of collections from Fort Huachuca remain on post. A loan policy will be developed for collections that are curated at other museums and will remain there on a long-term basis.

Deaccessioning Policy

Fort Huachuca does not have a deaccessioning policy.

Inventory Policy

A field inventory is made of collections. An inventory policy is under development.

Latest Collection Inventory

A full inventory of all the collections is currently ongoing.

Curation Personnel

There is no full-time curator of archaeological collections. John Murray spends eight hours per week on curation. Additionally, there are five part-time volunteers that each work four-to-five hours per week with the collections. Volunteers work three days a week as field crew and in the laboratory conducting rough sorting, identification, and preliminary data entry for cataloging.

Curation Financing

Curation is financed through TRADOC as a line item on the yearly budget. To date, curation financing has been adequate. A budget increase will be needed if there is a future need to add to the building currently being renovated as a curation facility.

Access to Collections

Only authorized personnel have access to the collection. Keys to Building 22330 are held by three people. Volunteer staff have access to the collections on their scheduled days to work. The collections are accessible to researchers for academic purposes on a need-to-know basis.

Future Plans

Building 90322, formerly part of a water treatment plant, on post is presently being renovated to serve as a curation facility. A request has been made in the project funds available for the renovation of Building 90322 to include an intrusion alarm and motion detectors wired to the military police. The building is surrounded by a padlocked security fence that is topped with barbed wire. Doors will have key and dead-bolt locks, and all the windows will have security screens installed. Fire extinguishers will be placed on both floors of the building. The collections will be housed in the room downstairs behind a fire door. A small closet area also will be fitted with a fire door to protect the records that will be stored there. It is being brought up to federal standards for a curation facility.

Ongoing excavations at the Garden Canyon site, therrefore, continue to add to the collection, more storage space will be needed in the near future. There is room for an addition to Building 90322.
Mr. Murray also plans to investigate what became of the collections, including the human skeletal remains, from the 1964 Garden Canyon excavation.

Comments

1. Building 22330 does not have adequate facilities to serve as a curation facility; however, it is only being used as such until renovations are complete on Building 90322.

2. Mr. Murray is actively developing a curation plan and facility for the Fort Huachuca collections. He is closely following federal guidelines and seeking professional guidance.

3. Disposition of the collections generated from archaeological work conducted at the Garden Canyon Site is presently under investigation.

4. Artifact collections are not consistently housed in archival-quality containers.

5. Associated documentation requires complete rehabilitation to meet archival standards for federal guidelines.

6. Although Fort Huachuca has just one staff member responsible for the curation of collections, there is a strong, consistent volunteer pool dedicated to working with the archaeological collections.

7. At present, adequate financing has been secured for the housing and care of archaeological collections.

Recommendations

1. Associated documentation should be rehabilitated to meet federal guidelines and standards for modern archival preservation. Records should be duplicated onto acid-free paper and stored in a separate, secure, and fire-safe location.

2. All contaminants need to be removed. Records should be organized in acid-free file folders and lightly packed into fire-resistant file cabinets. Photographic records should be labeled and placed in inert plastic sleeves. Large maps should be placed in

flat map cases to avoid further deterioration. A finding aid should be developed for the record collections.

3. Artifact collections not presently stored in acid-free boxes should be transferred to such boxes as they are inventoried. Boxes should be labeled with acid-free paper inserted into adhesive polyethylene sleeves on the outside of the boxes. As box contents change, a new label can then be inserted, avoiding conflicting label information.

4. As collections are reboxed, the weight of each box should not exceed a manageable amount.

5. The recommended management policies and procedures should be developed and implemented for the proper long-term care of the collections.

6. NAGPRA materials should be dealt with as soon as possible.

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12

Luke Air Force Base and Barry M. Goldwater Range (East)

Luke Air Force Base, Arizona

Collections Summary

Collections Total: 56.6 ft^3 of archaeological material; 11.8 linear feet of associated records.

Volume of Artifact Collections: 56.6 ft^3

On Post: 1 ft^3

Off Post: 54.3 ft^3 at the Arizona State Museum (Chapter 5, Volume 2) and 1.3 ft^3 at the Bureau of Land Management, Phoenix District (Chapter 9, Volume 2)

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

Human Skeletal Remains: None

Linear Feet of Records: 11.8 linear feet (141.78 linear inches)

On Post: 5.2 linear feet (62.3 inches)

Off Post: 1.5 linear feet (17.8 inches) at Archaeological Research Services (Chapter 4, Volume 2); 2.7 linear feet (32.3 inches) at Arizona State Museum (Chapter 5, Volume 2); 2.3 linear feet (27 inches) at Bureau of Land Management, Phoenix Office (Chapter 9, Volume 2); 1.0 inch at Sagebrush Archaeological Consultants (Chapter 48, Volume 2); 1.4 inches at Tetra Tech (Chapter 53, Volume 2); and 0.1 inch at U.S. Army Engineer District, Los Angeles (Chapter 64, Volume 2)

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

Status of Curation Funding: Presently, there is no curation financing system in place at Luke AFB. Individual project budgets may include repository fees for a curation facility, such as Arizona State Museum, but there is currently no system that allows for curation activities to be funded specifically.

Luke Air Force Base was named after a World War I fighter pilot and Medal of Honor recipient who was a native of Phoenix, Lt. Frank Luke, Jr. Known as "Home to the Fighter Pilot," it was called Luke Field in 1941 and served as a training facility for fighter pilots. The base, which occupies 4,197 acres 20 miles west of Phoenix, was closed between 1946 and 1951, but was reactivated after 1951 under Air Training Command. It was transferred to Tactical Air Command in 1958, and in 1977 HQ Tactical Training Luke (TTL) was activated. Today Luke AFB serves as home for the 58th Fighter Wing, which trains aircrews in the F-16 Fighting Falcon and the F-15E Strike Eagle. Pilots from Luke AFB conduct maneuvers on the 2.7 million acre Barry M. Goldwater Range.

This range which is in the Sonoran Desert of Arizona, received its current designation as the Barry M. Goldwater Range (BMGR) in 1986 and boasts of supporting the world largest gunnery range. The site

was selected in 1941 for a flight-training gunnery range for Luke Field and Williams Field. The site was deactivated from 1946 until 1951. It became Williams Bombing and Gunnery Range at the time of reactivation. In 1963, it was redesignated as Luke Air Force Range, which it remained until it received its present name (Cragg 1994; Evinger 1995).

In June 1996, St. Louis District personnel performed background archaeological research at the State Site Files of the Arizona State Museum in Tucson and the Arizona State Historic Preservation Office in Phoenix. This research included a review of all pertinent archaeological site forms, reports, and manuscripts. Over 440 archaeological sites have been recorded on the range alone, and numerous reports have been generated as a result of archaeological investigations conducted on both Luke AFB and Goldwater Range. Collections are currently housed at seven repositories in Arizona, California, and Utah.

Assessment

Date of Visit: April 22, 1997

Point of Contact: Bruce Masse

Luke AFB currently curates approximately 1 ft^3 of archaeological materials recovered from Luke AFB and BMGR managed lands. The base also has 5.2 linear feet of associated documentation from projects conducted on their property.

Structural Adequacy

Building 302, encompassing approximately 6,781 ft^2, is the administrative office complex for the Natural and Cultural Resource Management and Environmental Impact Analysis Section at Luke AFB (Figure 6). This office complex is officially titled the Base Engineering Administrative Building, Air Force Category Code 610127, but is generally referred to by its building number. Building 302 was originally the site of two separate office structures: one building housed the contracts and maintenance personnel and the second complex accommodated the environmental offices. Both of the buildings were constructed in 1985 but were connected in 1995 to house the expanded environmental office. The contracts and maintenance personnel were moved across the street to the engineering building.

The building has a concrete foundation with slump-block exterior walls. The roof is made of built-up asphalt and is 12 years old, with the exception of the addition, which is only two years old. The building has one floor above grade and is structurally solid. It is important to note, however, that one of the original buildings had a lower foundation. Therefore, there is a step when entering or exiting this section of the new complex. There have been both internal and external renovations. Thirty-six exterior aluminum framed windows with blinds are located on all four sides of the building. The windows measure 1.8 x 5.9 feet (w x h) and show no evidence of water or air leaks. Interior wood panel doors are located throughout the building, and metal paneled doors lead to the exterior.

The collection storage area measures approximately 120 ft^2 and is filled to approximately thirty percent capacity. The collections storage area encompasses the area allocated to the archaeological staff in the building. This area includes the two offices belonging to the archaeologists on staff and an open cubicle space. Most of the records, such as paper, map, and computer records, are located in Dr. Masse's office. Report records are stored in the offices of both archaeologists, as well as on a shelf in the cubicle area. The majority of these records were duplicate copies of reports.

The collection storage area has concrete floors covered with carpet. Interior walls consist of painted plaster and the ceiling consists of suspended

Figure 6. Building 302 on Luke Air Force Base houses the Environmental Impact Analysis Section.

acoustical tiles. There are interior wood panel doors in the office spaces. No exterior doors lead into the collections storage area. Dust is present within the collections storage area, which contains boxes, curation supplies, office furniture, and books/reports.

Environmental Controls

Building 302 has temperature controls that consist of both an electric heat pump and an air conditioning system. The air conditioner is the only temperature control equipment with dust filters. Humidity levels are not regulated or monitored. A janitorial staff maintains the very basic cleaning needs of the office on a weekly basis. Nonfiltered fluorescent lighting without ultraviolet (UV) filters throughout the building. All of the offices' plumbing, electrical, and heating is original to the building, except for the new addition. Asbestos is not present in the building.

Pest Management

Precautions are taken against insects and rodents in the office building on an as-needed basis. Cutbacks in the budget have prevented any further control or monitoring procedures. There were no signs of pest infestation in Building 302.

Security

Security measures for the building, including the collections storage area, consist of dead bolt locks on all exterior doors, sealed windows, base security patrol, and controlled access onto the premises of the base. There have never been any past episodes of unauthorized entry into the office building.

Fire Detection and Suppression

Building 302 is equipped with manual fire alarms that are wired into the fire department and a sprinkler system. The base also has an electronic fire monitoring and control system that regulates temperatures by a computer system. The electronic system controls approximately 40-50% of the buildings on base, including Building 302. The computer is alerted if temperatures in the building are getting too high or too low so that appropriate adjustments can be made.

Artifact Storage

Storage Units

The only artifact at Luke AFB is on display in a metal and glass cabinet in Building 3020. The display case measures 1.3 x 3.0 x 6.0 feet (l x w x h) and has six shelves.

Primary Containers

The glass shelves individually occupy approximately 3.9 ft^2 of space. There are no labels on the shelves. One large fragment of a ceramic vessel is on display in the case. The object encompasses less than 1 ft^3 of space on that shelf.

Secondary Containers

The ceramic vessel fragment is loose on the display case shelf.

Laboratory Processing and Labeling

The archaeological material has been cleaned but has not been labeled.

Human Skeletal Remains

Luke AFB is not curating human skeletal remains recovered from any archaeological projects conducted on base or on BMGR.

Records Storage

Luke AFB currently curates approximately 5.2 linear feet (62.3 linear inches) of documentation associated with archaeological work performed on Luke AFB and BMGR.

Paper Records

More than five feet (61.5 linear inches) of paper records—administrative records, background records, and survey records—are stored in Dr. Masse's office. However, it is important to note that the amount of paper records, especially the administrative records, could be doubled in size to incorporate those records that are scattered throughout the office in boxes and loose on the table and desk. These records are in use,

in need of filing, or awaiting future use. A wooden desk measuring 2.0 x 4.4 x 2.5 feet (l x w x h) has two file cabinet drawers that contain paper records. The letter-sized file cabinet drawers measure 1.9 x 1.3 x 1.0 feet (l x w x h). Secondary containers consist of hanging file folders and manila folders all of which are in good condition. The containers are either labeled directly in pen and marker or have a paper tag inserted in the plastic holder on the hanging file. Information on the labels is not consistent and has either the contents or subject matter. Twenty-three linear inches of survey records have been placed in plastic vinyl binders on wooden shelving unit in Dr. Masse's office.

Report Records

Luke AFB has approximately 0.25 linear inches of report records curated in the environmental offices. These records are stored in the same manner as the paper records that are located in the desk file drawers. Although not included in the volume of report records, Dr. Masse has duplicate copies of reports in his office. Another base archaeologist also has a shelving unit that contains copies of reports and papers.

Computer Records

Computer records at Luke AFB total approximately 0.25 linear inches. These records are stored in the same manner as the paper records in the desk file drawers.

Map Records

Luke AFB holds approximately 0.25 linear inches of maps. These records are stored in the same manner as the paper records in the desk file drawers.

Collections Management Standards

Luke AFB is not a permanent curation facility; therefore, collections management standards are not described.

Curation Personnel

No personnel are dedicated to the curation of collections; however, Dr. Bruce Masse and Adrien Rankin, staff archaeologists, maintain the archaeological collections.

Curation Financing

No curation financing system is in place presently at Luke AFB. Individual project budgets may include repository fees for a curation facility, such as Arizona State Museum, but there is currently no system that allows for curation activities to be funded specifically.

Access to Collections

Access to the collections is controlled by the base archaeologists.

Future Plans

Plans to establish a Natural and Cultural Field Office at the Gila Bend Air Force Auxiliary Field are being developed to facilitate the management of the BMGR. Once established, this facility will house the majority of current and future records from Luke AFB-managed lands on BMGR.

The Cultural Resources Management Program has a projected list of activities for FY1998–FY2003. Bruce Masse was able to calculate an estimated volume of records that will be produced from these projects that would also need long-term curation. Numerous archaeological surveys and data recovery projects are proposed for the next five years. It is estimated that the surveys will produce 0.75 to 1.5 linear feet of records and the data recoveries will generate 7.0 linear feet of records, as well as an unknown amount of archaeological materials. Miscellaneous projects throughout the five years will add an additional 1.5 linear feet per project to the total amount of records. It is predicted that the various projects will create over 200 photographs per year. A Geological Information System will also be established, which will produce a large amount of maps.

Current ongoing projects probably will generate 7.5 linear feet of records—four surveys (3 linear feet), one data recovery project (0.75 linear feet), and five miscellaneous projects (3.75 linear feet).

Comments

1. Luke AFB has an air conditioning and an electric heat pump system. Only the air conditioning has dust

filters. Humidity is not controlled or monitored. The building has nonfiltered fluorescent lighting.

2. There is not an integrated pest management system that includes both monitoring and control. Insect and rodent precautionary measures are performed on an as-needed basis.

3. The security system in Building 302 includes dead-bolt locks on all exterior doors, sealed windows, security patrols, and controlled access onto the base premises.

4. The repository has a fire detection system that consists of manual fire alarms connected to the local fire department and and a fire supression system that consist of a sprinkler system. The base is also equipped with a computer system that can regulate temperatures in approximately one-half of the buildings.

5. The one artifact at Building 302 is in a metal and glass display case with a variety of other objects, specifically biological specimens. This object is not labeled.

6. Documentation is stored throughout the collections storage area, but is primarily arranged in Dr. Masse's wood desk filing cabinet drawers. However, there are numerous paper records scattered throughout the office that need to be filed.

Recommendations

1. Transfer all archaeological collections to a permanent repository that meets the curation standards outlined in 36 CFR Part 79.

2. If and when the artifact is taken off display, it will be important to place it in acid-free primary and secondary containers with appropriate labels.

3. Produce multiple copies of all documentation on acid-free paper and store in separate, secure locations. Documentation should be placed in acid-free folders, and lightly packed into fire-resistant file cabinets. Arrange documentation in a logical order, and provide a finding aid to the collection. Records should be free of metal binder clips, staples, and paper clips, or other contaminants. Photographic material should be placed in archival-quality photographic sleeves, labeled properly, and stored in a secure storage unit.

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Bruder, J. Simon, Kristopher S. Shepard, and Glenn P. Darrington
1994 *Targets: Cultural Resources Sample Survey of the East Tactical Range, Barry M. Goldwater Air Force Range, Southwestern Arizona.* Dames and Moore, Phoenix. Submitted to Department of Defense Legacy Resource Management Program, U.S. Air Force, Luke Air Force Base, Arizona.

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1996 *Range 1: Cultural Resource Survey South of the Crater Range, Southwestern Arizona.* Dames and Moore, Phoenix, Arizona. Submitted to the U.S. Air Force, Luke Air Force Base, Arizona.

Darrington, Glenn P., Ronald D. Savage, and J. Simon Bruder
1996 *Mountains in the Desert: Cultural Resources Inventory for the Goldwater Range Measurement and Debriefing System, Southern Arizona.* Dames and Moore, Phoenix, Arizona. Submitted to the U.S. Air Force, Luke Air Force Base, Arizona.

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1980 Archaeological Site Descriptions: The Buried Trench Project Luke Air Force Range, Arizona.

1980 *Past Adaptive Patterns in Western Papagueria: An Archaeological Study of Nonriverine Resource Use.* Unpublished Ph.D dissertation, Department of Anthropology, University of Arizona, Tuscon.

1982 *An Archaeological Survey of the Yuma TACTS Range Project Area, Luke Air Force Range, Arizona.* Institute for American Research, Arizona Division, Tuscon. Submitted to Engineering-Science.

Ensor, Bradley E. and Barbara S. Macnider
1996 *Archaeological Survey of a Proposed Arizona Public Service Company Powerline on the Barry M. Goldwater Air Force Range, South of Gila Bend, Maricopa County, Arizona.* Archaeological Consulting Services, Tempe.

Haynes–Peterson, Robert G.
1992 *Addendum to an Archaeological Survey of the Yuma Lateral Expansion Project: Realignments North of the Gila River, Yuma County, Arizona.* SWCA, Flagstaff, Arizona.

HDR Ecosciences
1978 *Required Documentation in Support of the "No Adverse Effect" Determination for Archaeological Resources within the Buried Trench Project Area, Luke Air Force Range, Arizona.* HDR Ecosciences, Santa Barbara, California.

Homburg, Jeffrey, Jeffery H. Altschul, and Rein Vanderpot
1994 *Intermontane Settlement Trends in the Eastern Papagueria: Cultural Resources Sample Survey in the Northeastern Barry M. Goldwater Range, Maricopa County, Arizona.* Statistical Research, Tucson. Submitted to U.S. Army Corps of Engineers, Los Angeles District.

Huckell, Bruce
1978 Preliminary Results of Archaeological Investigations at AZ Y:8:1, Y:8:2, and Y:8:3, Luke Air Force Bombing and Gunnery Range. Letter Report, Arizona State Museum, The University of Arizona, Tuscon. Submitted to Luke Air Force Base, Arizona.

Huckell, Bruce et al.
1979 *The Coronet Real Project: Archaeological Investigations on the Luke Range, Southwestern Arizona.* Cultural Resource Management Section, Arizona State Museum, University of Arizona, Tuscon. Submitted to the U.S. Air Force, Luke Air Force Base, Arizona.

Mayro, Linda L.
1982 *An Archaeological Survey of the Cares-Dry Project Area Luke Air Force Range, Arizona. Institute for American Research Arizona Division.* Submitted to New Mexico Engineering Research Institute at the University of New Mexico, Albuquerque and the Air Force Weapons Laboratory, Kirtland Air Force Base, New Mexico.

1983 *An Archaeological Survey of the ISST Project Area Luke Air Force Range, Arizona. Institute for American Research.* Submitted to New Mexico Engineering Research Institute of the University of New Mexico, Albuquerque and the Air Force Weapons Laboratory, Kirtland Air Force Base, New Mexico.

1983 Result of the Archaeological Field Survey of the ICBM Silo Superhardening Technology (ISST) Test Site Located in the Western Portion of Luke Air Force Range in Southwestern Arizona. Letter Report, Institute for American Research, Arizona Division, Tucson. Submitted to Air Force Weapons Laboratory (AFSC), Kirtland Air Force Base, New Mexico.

1984 *An Archaeological Survey of a Demarcation Line and Target Relocation Site East Tactical Range Target Area Luke Air Force Range, Arizona.* Institute for American Research, Arizona Division, Tucson. Submitted to Luke Air Force Base, Arizona.

1984 *An Archaeological Survey of the Expanded ISST Project Area Luke Air Force Range, Arizona.* Institute for American Research, Arizona Division, Tucson.

1984 Letter Report: An Archaeological Evaluation of the Proposed Border Patrol Road Located on Luke Air Force Range, Arizona. Institute for American Research, Arizona Division, Tucson.

McClellan, Carole, and Lawrence Vogler

1977 *An Archaeological Assessment of Luke Air Force Range Located in Southwestern Arizona.* Arizona State Museum, Cultural Resource Management Section, University of Arizona, Tucson. Submitted to Luke Air Force Base, Arizona.

Olszewski, Deborah I., Sharon K. Bauer, Glenn P. Darrington, and J. Simon Bruder

1996 *Range 4 Cultural Resource Survey Beyond the Sentinel Plain, Barry M. Goldwater Air Force Range, Southwestern Arizona.* Dames and Moore, Phoenix. Submitted to the U.S. Air Force, Luke Air Force Base, Arizona.

Olszewski, Deborah I., Glenn P. Darrington, and Sharon K. Bauer

1995 *From the Aquila Mountains to the Crater Range: Cultural Resources Sample Survey of the North Tactical Range, Barry M. Goldwater Air Force Range, Southwestern Arizona.* Dames and Moore, Phoenix. Submitted to the U.S. Air Force, Luke Air Force Base, Arizona.

1996 *Across the Growler Valley from the Granite to the Growler Mountains: Cultural Resources Sample Survey of the South Tactical Range, Barry M. Goldwater Air Force Range, Southwestern Arizona.* Dames and Moore, Phoenix. Submitted to the U.S. Air Force, Luke Air Force Base, Arizona.

Polk, Michael R.

1986 *A Cultural Resources Survey of a Proposed Expansion of the ISST Missile Site, Luke Air Force Range, Yuma County, Arizona.* Sagebrush Archaeological Consultants, Ogden, Utah. Submitted to Kirtland Air Force Base, New Mexico.

Rodgers, James B.

1993 *An Archaeological Inventory of the Dysart Drain Improvements Project Area of North-Central Maricopa County, Arizona.* Scientific Archaeological Services, Phoenix. Submitted to Flood Control District of Maricopa County, Phoenix.

1994 *The Dysart Drain Addendum II Archaeological Inventory Project of North-Central Maricopa County, Arizona.* Scientific Archaeological Services, Phoenix. Submitted to Flood Control District Maricopa County, Phoenix.

1994 *The Dysart Drain Archaeological Inventory Project of North-Central Maricopa County, Arizona: An Addendum.* Scientific Archaeological Services, Phoenix. Submitted to the Flood Control District of Maricopa County, Phoenix.

Rogge, A. E., Glenn P. Darrington, Melissa Keane, and Sharon K. Bauer
1995 *Between Ajo and Gila Bend: Cultural Resource Survey in the Vicinity of Four Auxiliary Airfields on the Barry M. Goldwater Air Force Range.* Dames and Moore, Phoenix. Submitted to Department of Defense Legacy Resource Management Program, U.S. Air Force, Luke Air Force Base, Arizona.

Seymour, Gregory R. and David P. Doak
1993 *An Archaeological Sample Survey of 17,600 Acres in the Sauceda and Crater Mountain Ranges on the Eastern Barry M. Goldwater Air Force Range, Maricopa County, Arizona.* SWCA, Environmental Consultants, Tuscon. Submitted to the Bureau of Land Management, Phoenix District Office.

Tetra Tech
1986 *Archaeological Survey for Peacekeeper Follow-On Basing Concealment Testing Dateland Test Site, Luke Air Force Range, Arizona.* Tetra Tech, San Bernardino, California.

13

Navajo Army Depot

Bellemont, Arizona

Collections Summary

Collections Total: 3.1 ft^3 of archaeological material; 1.5 linear feet of associated records.

Volume of Artifact Collections: 3.1 ft^3

On Post: None

Off Post: 1.0 ft^3 at Statistical Research (Chapter 51, Volume 2) and 2.1 ft^3 at SWCA (Chapter 52, Volume 2).

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

Human Skeletal Remains: None

Linear Feet of Records: 1.5 linear feet (17.7 linear inches)

On Post: None

Off Post: 2.1 linear inches at Arizona State Museum (Chapter 5, Volume 2); 3.13 linear inches at Statistical Research (Chapter 51, Volume 2); 7.0 linear inches at SWCA (Chapter 52, Volume 2); 5.38 linear inches at Tetra Tech (Chapter 53, Volume 2); and 0.05 linear inches at U.S. Army Engineer District, Los Angeles (Chapter 64, Volume 2)

Compliance Status: Records require partial rehabilitation to comply with existing federal guidelines and standards for archival preservation.

Status of Curation Funding: Curation activities for archaeological collections is not funded.

Since 1982 Camp Navajo (Navajo Army Depot) has been used for Army National Guard ammunition training. The installation was originally constructed in 1942 as an ordnance depot, using substantial labor from the Navajo Indian Reservation. In 1953, a strategic and critical materiels mission was assigned to Navajo Ordnance Depot. The installation was a backup to Erie Ordnance Depot and then to Benicia Arsenal in a general supply mission from 1955 to 1961. A physical distribution mission of the Defense Logistics Distribution was assigned to the depot in 1967. In 1971, the installation was put on reserve status under Pueblo Army Depot and reassigned to Tooele Army Depot Complex in 1975. The depot was selected in 1993 as a storage site for Minuteman II rocket motors (Cragg 1994; Evinger 1991, 1995).

In June 1996, St. Louis District personnel performed background archaeological research at the State Site Files of the Arizona State Museum in Tucson and the Arizona State Historic Preservation Office in Phoenix. This research included a review of all pertinent archaeological site forms, reports, and manuscripts. Archaeological sites have been recorded on Navajo Army Depot and several reports have been generated as a result of archaeological investigations. Collections are currently housed at five repositories in Arizona and California.

Reports Relating to Archaeological Investigations at Navajo Army Depot

Anduze, Richard
1995 *A Cultural Resource Survey for a Water Filtration Plant at Camp Navajo, Bellemont, Coconino County, Arizona*. SWCA, Flagstaff. Submitted to State of Arizona, Department of Emergency and Military Affairs, Facilities Management Office, Phoenix.

Bupp, Susan L., and David L. Carmichael
1992 *Final Report: Cultural Resources Reconnaissance on Portions of the Navajo Army Depot, Arizona.* Tetra Tech, San Bernadino, California. Submitted to the U.S. Air Force, Center for Environmental Excellence, Norton Air Force Base, California.

Deats, Stewart, and Richard Anduze
1995 *Results of Cultural Resource Monitoring of the Construction of the National Weather Service Forecast Office at Camp Navajo in Coconino County, Arizona.* SWCA, Flagstaff. Submitted to Fluor Daniel, Kansas City.

Goodman, John D., II, and Preston C. Payton
1995 *Revised-Cultural Resource Survey for the U.S. Navy's Storage Facilities for Trident Rocket Motors at Camp Navajo Near Bellemont, Arizona.* SWCA, Flagstaff. Submitted to SRI International, Menlo Park, California.

Grenda, Donn R.
1993 *Land Use in North-Central Arizona: An Archaeological Survey of Navajo Army Depot, Coconino County, Arizona.* Statistical Research, Tucson. Submitted to U.S. Army Corps of Engineers, Los Angeles District.

Kern, Laurence
n.d. *Parks-Reardon Project 140-3 (47).* Arizona State Museum, Tucson.

Walsh-Anduze, Mary-Ellen
1993 *An Archaeological Survey for the Proposed National Weather Service Weather Forecast Office at Navajo Army Depot near Buemon, Arizona.* SWCA, Flagstaff.

14

Williams Air Force Base

Mesa, Arizona

Collections Summary

Collections Total: 64.8 ft^3 of archaeological material; 4.0 linear feet of associated records.

Volume of Artifact Collections: 64.8 ft^3

On Post: 6.0 ft^3

Off Post: 13.6 ft^3 at Arizona State Museum (Chapter 5, Volume 2); 6.4 ft^3 at Arizona State University (Chapter 6, Volume 2); and 38.8 ft^3 at the Museum of Northern Arizona (Chapter 31, Volume 2)

Compliance Status: Collections require complete rehabilitation to comply with existing federal guidelines and standards for archaeological collections.

Human Skeletal Remains: None

Linear Feet of Records: 4.0 linear feet (48.4 linear inches)

On Post: 0.7 linear feet (8.3 linear inches)

Off Post: 1.0 linear foot (12.2 linear inches) at Arizona State Museum (Chapter 5, Volume 2); 1.4 linear feet (16.4 inches) at Arizona State University (Chapter 6, Volume 2); and 1.0 linear foot (11.5 inches) at the Museum of Northern Arizona (Chapter 31, Volume 2)

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

Status of Curation Funding: The curation of archaeological collections is not funded.

Williams AFB was selected in 1991 by the Base Realignment and Closure Commission to be closed in 1993. The installation served as a military installation for over 50 years. It was previously known as Mesa Military Airport and Higley Field, before it was named Williams Field in honor of Charles Linton Williams who died in an air crash test in 1927 near Fort DeRussy, Hawaii. Williams AFB was closed in September 1993 and is in the final stages of environmental remediation and real estate transfers. Few personnel are left on base to manage the cultural resources of Williams AFB (Evinger 1991).

In February 1997, St. Louis District personnel performed background archaeological research at the State Site Files of the Arizona State Museum in Tucson. This research included a review of all pertinent archaeological site forms, reports, and manuscripts. Archaeological sites have been recorded on Willams AFB and several reports have generated as a result of archaeological investigations. Collections are currently housed at four repositories in Arizona.

Assessment

Date of Visit: April 25, 1997

Point of Contact: Dan Lain

Structural Adequacy

The only remaining personnel on base responsible for its final closure and disposal of the property are temporarily located in Building 1 (Figure 7). It is a one-story building that was built in 1941 as an administrative office building. Encompassing approximately 5,000 ft^2, it has a concrete foundation and concrete block walls with stucco facing. The roof, which has been repaired often, is covered with fiberglass sheets to resemble ceramic tiles. The building which exhibits no cracks in the foundation or walls, has experienced roof leakage. The aluminum framed windows have been replaced and measure 3 x 5 feet (w x h). The windows have no shades and are not airtight.

Figure 7. Although Williams AFB is no longer an active military installation, archaeological collections are still housed in the headquarters building on base.

Environmental Controls

The building is equipped with an electric heat pump and air conditioning system that has thermostat temperature controls. These units are mounted on the roof and do not function properly. Dust filters are located in the heat pump and the air conditioning system. Humidity within the building is neither monitored nor regulated because of the dry climate characterizing Mesa. There is no asbestos present within the building structure and no overhead pipes within the collections storage area. The facility is regularly maintained and cleaned by a maintenance staff provided by the Air Force.

Pest Management

A pest management and control service is provided by an outside contractor and includes periodic building inspection. There were no reported or observed signs of insect or rodent infestation within the building.

Security

The only security measure for Building 1 consists of key locks on all exterior doors. All windows in the facility are accessible from the outside ground level. There is no evidence of unauthorized entrance into the building, and no episodes had ever been reported.

Fire Detection and Suppression

Fire protection measures within the building include manual fire alarms, heat sensors, and fire extinguishers which were last inspected in August 1994.

Artifact Storage

This facility is not viewed as a permanent collection repository and no special area has been designated for the curation of archaeological artifacts. A ceramic vessel, bowl, sherd type collection, and stone and shell archaeological materials are housed in a display case in the hallway of Building 1 (Figure 8). For percentages of material classes in the collection, refer to Table 10. The display measures approximately 2.5 x 6 feet (w x d). The standing display case is constructed of painted wood with an angled glass front. The open back of the case is normally situated against a wall. At the time of the assessment, the case was not secured to a wall and access could have been gained through the back of the display case. There are no primary or secondary containers in use.

Approximately seventy-five percent of the artifacts have been labeled with ink, some on a white

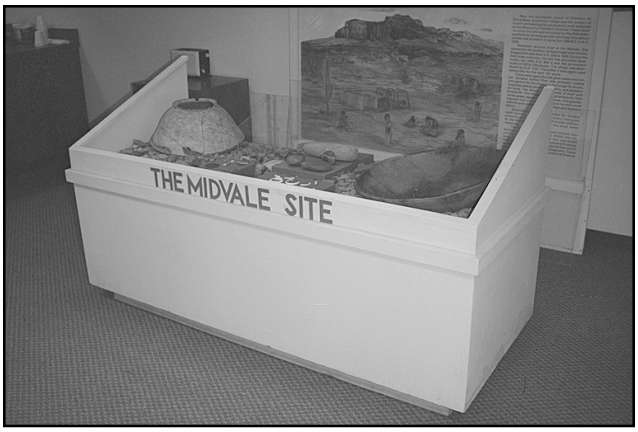

Figure 8. Archaeological collections remain in a display case in the headquarters building.

Table 10.
Summary of Material Classes Present in the Williams Air Force Base Collection

Material Class	%
Ceramics	62
Lithics	35
Shell	3
Total	100

or clear base coat, and some with a stamp. Labels are inconsistent and appear to be the result of different institutions labeling the archaeological materials from different projects. At least twenty-five percent of the artifacts have no label or provenience, except that they have been included in a display exhibiting artifacts recovered from the Midvale Site. Many projects have included this site in their surveys, and the artifacts may have been recovered from any number of projects.

Human Skeletal Remains

No human skeletal remains recovered from Williams AFB are currently housed at base.

Records Storage

The 8.3 linear inches of archaeological documentation for Williams AFB consist of files that are no longer in use. They are kept in a locked room with other inactive Williams AFB files in a metal 5-drawer letter-size file cabinet. A magnetic sticker on the cabinet reads "Closed." No other labels are present. There are no finding aids for the contents and location of the files, nor is there a preservation copy located in a separate, secure location. Records are in good condition; however, the only apparent organization to the records is that they belong to the "Archaeological" records group of files.

Paper Records

Paper records, including administrative correspondences, National Register forms, background information, and survey/excavation records, comprise a total of 4.75 linear inches. These records are housed in manila folders and hard-backed files where they are held in place with metal clasps. The files are labeled in a variety of ways, including typed adhesive tabs or handwritten directly on the file in either pen or marker. Contaminants include paper clips, staples, rubber bands, and metal clasps. Evidence of rust was noted on some of the documents.

Reports

Two linear inches of reports, including copies of final and letter reports, are stored in the same files with the paper records. They are not labeled and are in the same condition as the paper records.

Photographic Records

Less than one linear inch of color prints, black-and-white prints, negatives, and contact sheets are mixed in with the paper records. A few of the prints have been directly labeled with pen or with an adhesive label that had information written in pen. Photographs are stored with the paper records in the acidic manila files and are in danger of information loss and deterioration.

Maps and Oversized Documents

Approximately one linear inch of maps generated for fieldwork, or copies of USGS topographic maps, have been folded and stored with the rest of the paper records. These records have not been labeled and show signs of wear.

Collections Management Standards

Building 1 on Williams AFB is not a permanent curation facility; therefore, collections management standards were not addressed during the assessment.

Curation Personnel

There are no personnel specifically assigned to the curation of artifacts.

Access to Collections

Associated documentation is stored in the inactive office files, and the artifacts are stored in the hallway. Both areas are accessible to all environmental staff.

Future Plans

No future plans related to building renovation or document storage were reported, and Williams AFB staff have been directed to dispose of the collection. St. Louis District staff recommended turning the responsibility of the collections over to the environmental staff at Luke Air Force Base. One of the local Native American tribes has expressed an interest in taking responsibility for the display; however, St. Louis District staff believe that the artifacts labeled with specimen and accession numbers belong to larger collections located at one or more of the institutions currently housing Williams AFB collections.

Comments

1. Environmental, security, and fire safety measures are inadequate for housing federal archaeological collections.

2. Collections are in danger of being disposed of or turned over to a local Native American tribe, further separating them from the rest of base collections.

3. Williams AFB is closed and no longer employs staff to manage the collection of records and artifacts.

4. Some of the artifacts on display have no labels or collection information.

5. Records are in danger of deterioration and loss after the final closure of the base.

Recommendations

1. Relinquish responsibility for the management of the collections to the environmental staff at Luke Air Force Base who have the personnel capable of handling the placement of the collections into a permanent curation facility.

2. Determine the project and/or institution responsible for the recovery of the artifacts on display and coalesce the artifacts with the rest of the collection.

3. Remove and place collections in a permanent curation facility that will ensure the proper environmental, security, and fire safety measures outlined in 36 CFR Part 79.

4. Ensure that the permanent curation of the original documentation is included with the artifact collections.

Reports Related to Archaeological Investigations at Williams AFB

Bradford, Don-Michael
1981 *Environmental Assessment for the Development of Geothermal Resources at Williams Air Force Base, Arizona.* WESTEC Services and Office of Cultural Resource Management, Arizona State University, Tempe. Submitted to U.S. Air Force, Environmental Planning Division, Randolph Air Force Base, Texas.

Brew, Susan A.
1985 *Archaeological Monitoring on Williams AFB.* Letter Report. Arizona State Museum, Tuscon. Submitted to Williams Air Force Base, Arizona.

Clark, Geoffrey A., and Thomas Russell Cartledge
1973 *Williams Air Force Base Elementary School Site.* Department of Anthropology, Arizona State University, Tempe. Submitted to the National Park Service.

Dennis, Carolyn K.
1989 *Archaeological Resources Assessment Proposed 111th Air Traffic Control Flight Facility, Williams Air Force Base, Arizona.* Headquarters, Air National Guard of Arizona.

Erwin, Richard
1986 Archaeological Monitoring of Soil Auger Testing for the Proposed Base Maintenance Complex. Letter report, submitted to Williams Air Force Base, Arizona.

Euler, R. Thomas
1987 Archaeological Monitoring of Soil Auger Testing on Central Tarmack, Williams Air Force Base, Arizona. Letter report, submitted to Williams Air Force Base, Arizona.

1988 *Archaeological Testing at the Midvale Site, Williams Air Force Base, Maricopa County, Arizona.* Arizona State Museum, Cultural Resource Management Division, Tuscon. Submitted to the Department of the Air Force, Williams Air Force Base, Arizona.

Faught, Michael, and Stephanie Whittlesey
1988 Report of Excavations and Analysis of a Small Feature of the Midvale Site (AZ U: 10:24 [ASM]). Letter report, Project Origins, Arizona State Museum, University of Arizona, Tucson.

Gasser, Robert E., and Donald E. Weaver, Jr.
1981 *Final Report for an Archaeological Survey of a Proposed Loading Platform for an Electrical Sub-Station at Williams Air Force Base, Maricopa County, Arizona.* Museum of Northern Arizona, Flagstaff. Submitted to Williams Air Force Base, Arizona.

1982 *Archaeological Investigations Cultural Resources Evaluation of a Proposed Geothermal Well Site Williams Air Force Base, Maricopa County, Arizona.* Museum of Northern Arizona, Flagstaff. Submitted to Williams Air Force Base, Arizona.

1982 *Archaeological Investigation Definition of Boundaries for the Midvale Site Williams Air Force Base, Maricopa County, Arizona.* Museum of Northern Arizona, Flagstaff. Submitted to Williams Air Force Base, Arizona.

Geosciences Section
1977 *Natural and Cultural Resources Study of Luke-Williams Bombing and Gunnery Range and Yuma Proving Grounds.* Geosciences Section, Architectural, Civil and Geotechnical Department, TRW,

Goodfellow, Jon K.
1989 *Archaeological Test Excavations for the NEXRAD Project, Williams Air Force Base.* Cultural Resources Management Division, Arizona State Museum, University of Arizona, Tuscon. Submitted to SRI International, Menlo Park, California.

Greenwald, David H. et al.
1994 *Archaeological Survey and Testing at Williams Air Force Base, Arizona.* SWCA, Flagstaff. Submitted to Halliburton NUS Corporation, Gaithersburg, Maryland.

Haynes-Peterson, Robert G.
1993 *An Archaeological Survey Along the NEXRAD Utilities Access Lines to Williams Air Force Base, Maricopa County, Arizona.* SWCA, Scottsdale. Submitted to SRI International, Menlo Park, California.

Schoenwetter, James
1972 *Williams Air Force Base Archaeology AZ U:10:24 (ASU).* Department of Anthropology, Arizona State University, Tempe.

1973 *Clearance Archaeology at Williams AFB: An Evaluative Report.* Department of Anthropology, Arizona State University, Tempe. Submitted to the National Park Service.

1973 *Williams AFB-1: Report on Test Excavations at the NCO Club and Commissary Facilities.* Department of Anthropology, Arizona State University, Tempe.

Schoenwetter, James, Sylvia W. Gaines, and Donald E. Weaver, Jr.
1973 *Definition and Preliminary Study of the Midvale Site.* Department of Anthropology, Arizona State University. Submitted to the Arizona Archeological Center, National Park Service, Tuscon.

Schoenwetter, James, and Donald E. Weaver, Jr.
1973 *Test Excavations at AZ U:10:24 (ASU) Williams AFB., Arizona, A Report to the Arizona Archaeological Center.* Submitted to the Arizona Archaeological Center, National Park Service, Tuscon.

Shepard, Kristopher S., Glenn P. Darrington, and J. Simon Bruder
1996 *Williams Gateway Airport Authority Phase I Development Project Archaeological Testing Report.* Dames and Moore, Phoenix. Submitted to Williams Gateway Airport Authority and Air Force Base Conversion Agency, Mesa, Arizona.

Sires, Earl W.
1986 *An Archaeological Testing Program on a Four Acre Parcel of Land at Williams Air Force Base, Maricopa County, Arizona.* Arizona State Museum, Cultural Resource Management Division, Tuscon. Submitted to U.S. Army Corps of Engineers, Los Angeles District.

Stubing, Michael and Douglas R. Mitchell
1996 *Archaeological Testing at an Existing Radar Facility Within Site AZ U:10:65 (ASM) on Williams Gateway Airport, Mesa, Maricopa County, Arizona.* SWCA, Phoenix. Submitted to Raytheon Service Company, Manhattan Beach, California.

15

Marine Corps Air Station Yuma and Barry M. Goldwater Range (West)

Yuma, Arizona

Collection Summary

Collections Total: 21.3 ft^3 of archaeological material; 2.9 linear feet of associated records.

Volume of Artifact Collections: 21.3 ft^3

On Post: None

Off Post: 18.8 ft^3 at Arizona State Museum (Chapter 5, Volume 2); 0.01 ft^3 at the Bureau of Land Management, Phoenix District (Chapter 9, Volume 2); and 2.5 ft^3 at KEA Environmental (Chapter 28, Volume 2)

Compliance Status: Collections require partial rehabilitation to comply with existing federal guidelines and standards of archaeological curation.

Human Skeletal Remains: None

Linear Feet of Records: 2.9 linear feet (34.95 linear inches)

On Post: None

Off Post: 7.25 linear inches at Archaeological Research Services (Chapter 4, Volume 2); 1.2 linear feet (14.2 linear inches) at Arizona State Museum (Chapter 5, Volume 2); 1.0 linear foot (11.75 linear inches) at the Bureau of Land Management, Phoenix District (Chapter 9, Volume 2); and 1.75 linear inches at KEA Environmental (Chapter 28, Volume 2).

Compliance Status: Records require partial rehabilitation to comply with existing federal guidelines and standards for archival preservation.

Status of Curation Funding: Curation activities are not funded.

The federal government leased 640 acres of land in the desert of Arizona in 1928 as a flying field. This land was taken over by the Army during World War II for an air school and was named Yuma Army Air Field. Activities at the field stopped after the war. In 1951, Yuma Air Base was reactivated as a weapons proficiency center for fighter-interceptor units. In 1956, the facility was known as Vincent Air Force Base. It was signed over to the Navy in 1959, and it was designated a Marine Corps Auxiliary Air Station. Its current designation as MCAS Yuma occurred in 1962. MCAS Yuma uses the western half of the Barry M. Goldwater Range for training and is responsible for the cultural resources on this portion of the range.

The 2.7-million acre Barry M. Goldwater Range (BMGR) in the Sonoran Desert of Arizona received its current designation in 1986 and boasts of supporting the world largest gunnery range. The site was selected in 1941 for a gunnery range to serve flying training for Luke Field and Williams Field. The site was deactivated from 1946 until 1951. It became Williams Bombing and Gunnery Range at the time of reactivation. In 1963, it was redesignated as Luke Air Force Range, which it remained until it received its present name (Cragg 1994; Evinger 1995).

In June 1996, St. Louis District personnel performed background archaeological research at the State Site Files of the Arizona State Museum in Tucson and the Arizona State Historic Preservation Office in Phoenix. This research included a review of all pertinent archaeological site forms, reports, and manuscripts. Archaeological sites have been recorded on MCAS Yuma and several reports have been generated as a result of archaeological investigations. Collections are currently housed at four repositories in Arizona.

Reports Related to Archaeological Investigations at MCAS Yuma

Altschul, Jeffrey H., and Bruce A. Jones
1989 *A Cultural Resources Sample Survey of Operation Zones, Barry M. Goldwater Range, Marine Corps Air Station, Yuma, Arizona.* Statistical Research, Tuscon. Submitted to E.I.P. Associates, San Francisco, California.

Apple, Rebecca McCorkle
n.d. *Archeological Records Search and Historic Structures and Building Inventory Report for the Marine Corps Air Station Yuma.* KEA Environmental, San Diego. Submitted to the Department of the Navy, Southwestern Division, Naval Facilities Engineering Command, San Diego.

1996 *Phase I Cultural Resources Survey for the Tactical Aircrew Combat Training System Range Upgrade Marine Corps Air Station, Yuma.* Kea Environmental, San Diego. Submitted to the Department of the Navy, Southwestern Division, Naval Facilities Engineering Command, San Diego.

1996 *Testing Plan for the Tactical Aircrew Combat Training System (TACTS) Range Upgrade, Marine Corps Air Station (MCAS) Yuma, Arizona.* KEA Environmental, San Diego. Submitted to the Department of the Navy, Southwestern Division, Naval Facilities Engineering Command, San Diego.

Bruder, J. Simon, Diane Fenicle, and Everett E. Bassett
1988 *Cultural Resources Technical Report for the Goldwater Range Environmental Assessment, Phase I.* Dames and Moore, Phoenix, Arizona. Submitted to Marine Corps Air Station, Yuma.

Bruder, J. Simon, et. al.
1988 *Research Design for Testing Program at Five Archaeological Sites on the West Half of the Barry M. Goldwater Range, Arizona.* Dames and Moore, Phoenix. Submitted to Marine Corps Air Station, Yuma.

Bruder, J. Simon, Kristopher S. Shepard, and Deborah I. Olszewski
1996 *The Western Edge: Cultural Resources Assessment for the Yuma Aviation Training Range Complex on the Goldwater Range, Southwestern Arizona.* Dames and Moore, Phoenix. Submitted to Marine Corps Air Station, Yuma and Southwestern Division, Naval Facilities Engineering Command, San Diego.

Doelle, William Harper
1982 *An Archaeological Survey of the Yuma Tacts Range Project Area, Luke Air Force Range, Arizona.* Institute for American Research, Arizona Division, Tuscon. Submitted to the Department of the Navy, Southwestern Division, Naval Facilities Engineering Command, San Diego.

EIP Associates
1990 *Draft Environmental Assessment (EA) for Ground and Air Operations on the Barry M. Goldwater Air Force Range (BMGAFR) Marine Corps Air Station Yuma, Arizona.* EIP Associates. Submitted to Western Division, Naval Facilities Engineering Command, Office of Environmental Management, San Bruno, California.

McQuestion, Kathleen M., Robert G. Haynes-Petersen, and Pat H. Stein
1992 *An Archaeological Survey of the Yuma Lateral Expansion Project, La Paz and Yuma Counties, Arizona.* SWCA, Flagstaff. Submitted to El Paso Natural Gas Company, Texas.

Olszewski, Deborah, and J. Simon Bruder
1994 *Cultural Resources Assessment for the Yuma Aviation Training Range Complex on the Goldwater Range: Research Goals and Objectives.* Dames and Moore, Phoenix. Submitted to Marine Corps Air Station, Yuma and Southwestern Division, Naval Facilities Engineering Command, San Diego.

Sires, Earl W.
n.d. *An Archaeological Clearance Survey of Target Complex Sites in the Proposed Yuma Tactical Aircrew Combat Training System.* Cultural Resources Management Division, Arizona State Museum, University of Arizona, Tuscon. Submitted to SRS Technologies.

Van Wormer, Stephen R., Andrew Pignilolo, and Rebecca McCorkle Apple
1996 *Archaeological Records Search and Historic Structures and Buildings Inventory Report for the Marine Corps Air Station Yuma.* KEA Environmental, San Diego. Submitted to Department of the Navy, Southwestern Division, Naval Facilities Engineering Command, San Diego.

Woodall, Gregory R., Lynn M. Peterson, Rebecca M. Apple, and J. Simon Bruder
1993 *Two Sides of the River: Cultural Resources Technical Studies Undertaken as Part of Environmental Documentation for Military Use of the Marine Corps Air Station, Yuma Training Range Complex in Arizona and California.* Dames and Moore, Phoenix. Submitted to Southwest Division, Naval Facilities Engineering Command, San Diego and Marine Corps Air Station, Yuma.

16

Yuma Proving Ground

Yuma, Arizona

Collections Summary

Collections Total: 37.5 ft^3 of archaeological material; 4.5 linear feet of associated records.

Volume of Artifact Collections:

On Post: 3.1 ft^3

Off Post: 11.7 ft^3 the Arizona State Museum (Chapter 5, Volume 2); 7.9 ft^3 at Northland Research (Chapter 38, Volume 2); and 14.8 ft^3 at the San Diego Museum of Man (Chapter 49, Volume 2)

Compliance Status: Collections require partial-to-complete rehabilitation to comply with existing federal guidelines and standards for archaeological curation.

Human Skeletal Remains: None

Linear Feet of Records: 4.5 linear feet (54.4 linear inches)

On Post: 1.4 linear feet (17.0 linear inches)

Off Post: 4.5 linear inches at Archaeological Research Services (Chapter 4, Volume 2); 1.2 linear feet (13.9 linear inches) at Arizona State Museum (Chapter 5, Volume 2); 1.5 linear feet (18.0 linear inches) at the Bureau of Land Management, Yuma District (Chapter 11, Volume 2); 0.75 linear inches at Statistical Research (Chapter 51, Volume 2); and 0.25 linear inches at U.S. Army Engineer District, Los Angeles (Chapter 64, Volume 2)

Compliance Status: Records require complete rehabilitation to comply with federal guidelines and standards for archival preservation.

Status of Curation Funding: Curation activities are not adequately funded. Archaeological compliance projects are funded through the Environmental Division; however, long-term curation of artifacts and associated documentation is not provided.

The military has been present in the Yuma area since 1849, when a fort was established across the Colorado River in what is now California. The present site was activated as Yuma Test Branch under the Army Corps of Engineers to test bridges, boats, vehicles, and well-drilling equipment in 1943. In the 1940s the installation served as a Dam Engineer Station and then as Engineer Research and Development Laboratories. It was deactivated in 1950 and quickly reactivated in 1951 as Yuma Test Station. In 1963, it was redesignated Yuma Proving Ground. The 840,000-acre installation consists of two ranges and test facilities where weapons, armament systems, and military equipment are tested for desert warfare (Cragg 1994; Evinger 1995).

In June 1996, St. Louis District personnel performed background archaeological research at the State Site Files of the Arizona State Museum in Tucson, and the Arizona State Historic Preservation Office in Phoenix. This research included a review of all pertinent archaeological site forms, reports, and manuscripts. Archaeological sites have been recorded

on Yuma Proving Ground and numerous reports have been generated as a result of archaeological investigations. Collections are currently housed at eight facilities in Arizona and California.

Assessment

Date of Visit: December 12, 1996

Point of Contact: Delores Gauna

Repository 1, Building 3021, is an office building that houses the post's Directorate of Environmental Sciences (Figure 9). Approximately 3.1 ft^3 of boxed archaeological collections are stored with various other supplies in one of the offices. Approximately 1.4 linear feet of associated documentation from recent archaeological projects on the Proving Ground are located in the temporary offices of the environmental contractor, Gutierrez–Palmenberg, located beside Building 3021. Yuma Proving Ground (YPG) currently has a no-collection policy regarding archaeological resources on the installation. Endangered sites are mapped and avoided if at all possible. The only collections currently housed on post are those resulting from prior work and avocational collectors who donated them to, or dropped them off with, personnel in these offices.

A small prehistoric display is located in a corner of the foyer in the YPG Headquarters Building (Figure 10). Encased behind glass is a partially reconstructed ceramic pot next to a mano and metate, all resting on gravel and depicting their found environments. A building evaluation of the Headquarters facility was not performed since this was a temporary display in an extremely large office building.

Figure 9. The Directorate of Environmental Sciences building houses artifacts and associated documentation.

Figure 10. YPG artifacts on display in the Headquarters Building.

Structural Adequacy

Repository 1—Building 3021

Building 3021, built in 1962, has a poured concrete foundation and painted concrete block exterior walls. The built-up gravel roof has recently been replaced. This single-story, 6,733 ft^2-facility is structurally solid and shows no signs of cracks or leaks. Several internal renovations have occurred as office space needs have changed. Windows are on all sides of the building and measure approximately 3 x 3 feet. Windows have aluminum frames and are shaded. None of the windows have been replaced, and all of them appear to be airtight. All of the utilities are original to the construction of the building.

Repository 2—GPI Trailer

Two older trailers of an undetermined age were placed next to Building 3021 two years before the date of the St. Louis District visit. These provide approximately 600 ft^2 of office space for the current environmental contractors on post. The trailers rest on metal jack supports with prefabricated drywall exterior walls that are covered with siding. Interior walls are covered with wallpaper. The roof is constructed of metal sheeting. The trailer seems to be fairly solid with no evidence of cracks or leaks in the

walls or roof. There have been no internal or external renovations to the trailers. The windows measure 2 x 2 feet and have curtains that mostly remain drawn. The aluminum frames, which appear to be airtight, are original to the trailers. There is no running water or restrooms in these trailers. Heating, air conditioning, and electrical lines are also original to the construction of the trailers.

Environmental Controls

Repository 1—Building 3021

This building has a 25-ton central heat, ventilation, and air conditioning (HVAC) system is equipped with dust filters. Humidity levels are not monitored or controlled; however, high humidity levels in this region are uncommon. The installation's services support contractor is responsible for maintenance of the building. Nonfiltered fluorescent light tubes are used to light the offices. Asbestos tiles are present underneath the carpeting in the office. An asbestos survey is currently ongoing at the installation.

Repository 2—GPI Trailer

The trailer that houses the file cabinets of associated documentation is equipped with electric heat and air conditioning, both of which are fitted with dust filters. However, on the day of the assessment the doors were open to let in fresh air. Humidity levels are not monitored or regulated. Natural light and nonfiltered incandescent light bulbs light the offices. The same installation contractor also services these trailers when necessary.

Pest Management

The installation employs an entomologist that is responsible for monitoring and taking precautions against pest infestation for both facilities. A pesticide is sprayed on a regular basis. There was no evidence of pest infestations during the assessment.

Security

Repository 1—Building 3021

Security measures in this building include dead bolt locks on the exterior doors, controlled access into the building, and standard window locks on all windows. Interior office doors are locked after business hours. The installation's military police (MP) also patrol the area regularly and notify the designated Building 3021 security person if everything has not been locked properly at closing time.

Repository 2—GPI Trailer

The only security measures followed for the trailers consist of key-locks on all exterior doors and regular patrolling by the MPs.

Fire Detection and Suppression

Repository 1—Building 3021

Fire detection measures present in this building consist of manual fire alarms placed throughout the building. These alarms are wired directly into the installation's fire department. There are no fire suppression measures in Building 3021.

Repository 2—GPI Trailer

Fire extinguishers are the only means of fire protection in the trailers. A monthly fire inspection is done at all facilities.

Artifact Storage

Storage Units

The 3.1 ft^3 of artifacts recovered from YPG are stored in a cramped supply storage cabinet. The metal, upright open cabinet is painted black and is not labeled with any collection information.

Primary Containers

Acidic cardboard boxes, all of which have folding flap closures that have been taped shut, are used as primary containers for the collections. The boxes are a variety of sizes and are not consistently labeled. Two of the five boxes have the words "White Tanks" written directly on their surfaces in marker. The other three boxes have no labels at all, with the exception of a shipping label from previous usage of one of the boxes.

Secondary Containers

Most of the secondary containers (67%) are paper bags that have been rolled or folded over and secured with rubber bands. Approximately eighteen percent of the collections are kept in plastic zip-lock bags, fourteen percent of the artifacts are loose within the primary container, and one percent of the artifacts are in acidic 3-x-5-inch manila envelopes or a black plastic film canister. If the secondary containers are labeled, label information is typically written directly on the container in marker. Data on the labels consist of a field number, date, and project investigator.

Prehistoric artifact material classes present in the collections include lithic artifacts (65%), ceramic sherds (21%), unmodified faunal material (2%), flotation sample (2%), ^{14}C samples (2%), and botanical samples (1%). Historical-period material classes found in the collections include metal pieces (3%), ceramic/crockery fragments (2%), and glass (2%).

Laboratory Processing and Labeling

Approximately half of the 3.1 ft^3 of artifacts have been cleaned (52%) and most have been sorted by material class (77%). Approximately thirty percent of artifacts have been labeled directly with black ink.

Human Skeletal Remains

No human skeletal remains were found in these collections.

Records Storage

Associated documentation is primarily located in the current office files maintained in the trailers outside Building 3021. However, approximately 0.5 inches of records were found in boxes containing the artifacts. These records are bound together with a large metal binder clip. Other contaminants present in the records include many staples, paper clips, and rubber bands. All of the records are generally in excellent condition; however, no duplicate copies have been produced of any original documentation (Figure 11).

Figure 11. Associated project records are on file in the GPI trailer on YPG.

Paper Records

Approximately 6 linear inches of paper records include administrative records and correspondence, background research records, survey records and field notes, and archaeological material inventories. Records are arranged by project number in acidic manila folders that have been labeled in marker with adhesive tabs labeled with the project number. These files are kept in either acidic hanging files, which have the plastic tabs with paper insert labels, or in acidic manila envelopes that are labeled in marker directly with project information. With the exception of the records in the artifact boxes, all of the records are filed in metal, four-drawer, legal-size file cabinets that have paper labels inserted into the drawers' metal label holders.

Report Records

Seven linear inches of report records, including original copies, draft copies, and final camera-ready copies, are stored with the rest of the documentation in project files.

Photographic Records

Approximately 2.25 linear inches of color prints and negatives are included in the associated documentation for YPG. None of the photographic records have been labeled, and the negatives are in nonarchival quality plastic sleeves. Photographs are stored in their original film-developing envelopes.

Computer Records

Less than one linear inch of computer disks is located in the files of project records. The disks have adhesive labels with project information written in marker.

Maps and/or Oversized Documentation

Approximately one linear inch of cartographic records, including large USGS topographic maps, is stored folded in the files of project records. Also included are small camera-ready maps and site maps. The records are not separated or labeled specifically, outside of the project file.

Collections Management Standards

This facility is not a permanent repository; therefore, collections management standards are not addressed in this report.

Curation Personnel

There is no full-time person dedicated to the curation of archaeological collections. The staff of the Directorate of Environmental Sciences are responsible for the security and maintenance of the artifacts and records in addition to their normal duties. Delores Gauna, a cultural resources manager, is the primary person in charge of archaeological compliance on the installation and, therefore, any collections that have been generated from these projects.

Curation Financing

Curation activities are not adequately funded. Archaeological compliance projects are funded through the Directorate of Environmental Sciences; however, long-term curation of artifacts and associated documentation is not provided.

Access to Collections

Collections are not kept in a secure area and all staff in the building have access to them. Researchers and Native Americans are given access upon request.

Future Plans

Ms. Gauna is currently trying to generate interest in the installation's resources through consultation with Native American tribes. She would like to give the material to the tribes who are interested. She has had several visits to the post; however, no claims have been made on the collections. No future plans have been made for the long-term storage and curation of YPG's collections.

Comments

1. An HVAC system is installed in Repository 1 but not in Repository 2.

2. Precautions are taken to prevent pests.

3. Asbestos is present in Repository 1 and possibly Repository 2.

4. Repository 2 does not have adequate security measures.

5. Fire safety measures are inadequate in both repositories.

6. Artifacts and records are not housed in appropriate storage containers.

7. A duplicate copy of all records has not been made.

8. No plans have been made for the long-term curation of the collections.

Recommendations

1. Transfer archaeological collections to a permanent repository that meets the curation standards outlined in 36 CFR Part 79. Coordinate with applicable repositories to establish memoranda of agreement for the permanent disposition of the collections.

2. Rebox those collections that are not in archival boxes and rebag collections into appropriately sized archival-quality polyethylene zip-lock bags. Reduce the volume of artifacts in each drawer and bag so that containers are not overpacked. Insert acid-free paper

labels into each bag. Do not use contaminants to secure the containers.

3. Make duplicate copies of all associated documentation onto acid-free paper. Store these copies in a separate and secure location. Process and arrange all records according to archival practices and standards. Place documents in acid-free folders, and lightly pack them into fire-resistant file cabinets. All records should be free of contaminants, including metal fasteners, rubber bands, dirt, and rocks. Provide a finding aid to the record holdings.

Reports Related to Archaeological Investigations at Yuma Proving Ground

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1993 *Addendum to an Ethnographic Survey of the Yuma Lateral Expansion Project: Yuma and San Luis Line Realignment, Yuma County, Arizona.* SWCA, Flagstaff. Submitted to El Paso Natural Gas Company, El Paso.

Torres, Javier F., and Bob Manygoats
1992 *Final Ethnographic Resources Report, El Paso Natural Gas Company, Yuma Lateral Expansion Project: California Line, San Luis Line, and Yuma Line.* SWCA, Environmental Consultants., Flagstaff. Submitted to El Paso Natural Gas Company, El Paso.

Vivian, R. Gwinn
1973 *Project Name: Canal Improvement and Bridge-Road Construction.* Arizona State Museum, Tucson. Submitted to Bureau of Reclamation, Boulder City, Nevada.

Waters, Michael R.
1987 *Geomorphic Investigations on the Yuma Proving Ground, Arizona. Appendix A in Archaeological Investigations on the Yuma Proving Ground: The Direct Fire Weapons Range by Richard W. Effland, Allan J. Schilz and Patricia R. Jertberg.* WESTEC, Services, San Diego. Submitted to U.S. Army Corps of Engineers, Los Angeles District.

Wirth Associates
1980 *Archaeological Resources.* Wirth Associates. Submitted to Arizona Public Service Company/San Diego Gas and Electric Company, San Diego.

17

Cheyenne Mountain Air Force Base

Colorado Springs, Colorado

Collections Summary

Collections Total: No archaeological material or human skeletal remains; 0.1 linear feet of associated records.

Volume of Artifact Collections: None

Human Skeletal Remains: None

Linear Feet of Records: 0.1 linear feet (1.75 linear inches)

On Post: None

Off Post: 0.1 linear feet at University of Colorado, Colorado Springs (Chapter 57, Volume 2)

Compliance Status: Records require partial rehabilitation to comply with existing federal guidelines and standards for archival preservation.

Status of Curation Funding: There is no funding for curation activities.

Original construction of Cheyenne Mountain AFB was initiated in 1961, and the installation was opened in 1966. Operational centers at Cheyenne Mountain AFB in conjunction with Canadian Military, keep watch on aircraft, missiles, and space systems that might pose threats to North America. The majority of the installation is inside the hollowed mountainside of Cheyenne Mountain. The base requires special clearance for access (Evinger 1991, 1995).

In May 1996, St. Louis District personnel performed background research at the Colorado Office of Archaeology and Historic Preservation, Colorado Historical Society in Denver. Research included a review of all pertinent archaeological site forms, records, and manuscripts for Cheyenne Mountain AFB. Only one isolated find has been recorded and one report has been generated as the result of an archaeological investigation. Archaeological collections are currently housed at one repository in Colorado.

Reports Related to Archaeological Investigations at Cheyenne Mountain AFB

Arbogast, William R.
1990 *Cultural Resource Survey Cheyenne Mountain Air Force Base, El Paso County, Colorado.* William Arbogast, Archaeological Consultant, Colorado Springs.

18

Falcon Air Force Base

Falcon Air Force Base, Colorado

Collections Summary

Collections Total: 0.1 ft^3 of archaeological material; 0.4 linear feet of associated records.

Volume of Artifact Collections: 0.1 ft^3

On Post: None

Off Post: 0.1 ft^3 at the University of Denver Museum (Chapter 59, Volume 2)

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

Human Skeletal Remains: None

Linear Feet of Records: 0.4 linear feet (4.96 linear inches)

On Post: None

Off Post: 0.5 linear inches at the Colorado Department of Transportation (Chapter 14, Volume 2); 3.21 linear inches at Tetra Tech (Chapter 53, Volume 2); and 1.25 linear inches at the University of Denver Museum (Chapter 59, Volume 2)

Compliance Status: Records require partial rehabilitation to comply with existing federal guidelines and standards for archival preservation.

Status of Curation Funding: There is no funding for curation activities.

On October 1, 1985, operations began on a site (as an Air Force Station) that did not have base support. The station was activated as a backup to Onizuka AFB, California. The 2nd Space Wing took operational control of the site's Air Force Satellite Control Network in 1987. In 1988, the installation was granted base status and redesignated Falcon AFB. The 50th Space Wing is the major unit at Falcon, controlling the Department of Defense satellite system and operating the Air Force Satellite Control Network (Cragg 1994; Evinger 1991, 1995).

In May 1996, St. Louis District personnel performed background research at the Colorado Office of Archaeology and Historic Preservation, Colorado Historical Society in Denver. Research included a review of all pertinent archaeological site forms, records, and manuscripts for Falcon AFB. Archaeological sites have been recorded and a number of reports have been generated as the result of archaeological investigations. Archaeological collections are currently housed at two repositories in Colorado and one repository in California.

Reports Relating to Archaeological Investigations at Falcon AFB

Anderson, Jane L.
1991 *Cultural Resource Inventory of Proposed Expansion Areas for Peterson and Falcon Air Force Bases, El Paso County, Colorado.* Vol. I. Centennial Archaeology, Fort Collins, Colorado.

Cassells, E. Steve
1984 *Cultural Resource Survey of the 115 KV Transmission Line for the Falcon Air Force Station Colorado.* Plano Archaeological Consultants, Longmont, Colorado.

Guthrie, Mark R.
1982 *Cultural Resource Survey for the Consolidated Space Operations Center Project Near Colorado Springs, El Paso County, Colorado.* Archaeological Research Institute, Department of Anthropology, University of Denver, Colorado.

Jepson, Daniel A.
1996 *An Intensive Archaeological Inventory of the Proposed Falcon Air Force Base Defense Access Road, El Paso County, Colorado.* Archaeological Unit, Colorado Department of Transportation, Denver.

Zier, Christian J., William R. Arbogast, Jane L. Anderson, and Daniel A. Jepson
1992 *An Archaeological and Historical Survey, Falcon Air Force Base, El Paso County, Colorado.* Centennial Archaeology, Fort Collins, Colorado.

19

Fitzsimons Army Medical Center

Aurora, Colorado

Collections Summary

Collections Total: 0.3 ft^3 of archaeological material; 0.1 linear feet of associated records.

Volume of Artifact Collections: 0.3 ft^3

On Post: None

Off Post: 0.3 ft^3 at the University of Colorado Museum (Chapter 58, Volume 2)

Compliance Status: Collections require partial to complete rehabilitation to comply with existing federal guidelines and standards for archaeological curation.

Human Skeletal Remains: None

Linear Feet of Records: 0.1 linear feet (0.75 linear inches)

On Post: None

Off Post: 0.75 linear inches at Powers Elevation Company (Chapter 45, Volume 2)

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

Status of Curation Funding: There is no funding for curation activities.

Fitzsimons Army Medical Center ground was broken in April 1918. In 1920, the installation was named after First Lieutenant William Thomas Fitzsimons, a doctor who was the first American officer killed in action in World War I. Fitzsimons Army Medical Center is the regional hospital for a 15-state area from Utah to Michigan, providing medical care to one million military beneficiaries (Cragg 1994; Evinger 1991, 1995).

In May 1996, St. Louis District personnel performed background research at the Colorado Office of Archaeology and Historic Preservation, Colorado Historical Society in Denver. Research included a review of all pertinent archaeological site forms, records, and manuscripts for Fitzsimons Army Medical Center. Archaeological sites have been recorded and a small number of reports have been generated as the result of archaeological

investigations. Archaeological collections are currently housed at two repositories in Colorado.

Reports Relating to Archaeological Investigations at Fitzsimmons Army Medical Center

Simmons, R. Laurie
1991 *Cultural Resources Study Fitzsimons Army Medical Center, Aurora, Colorado.* Front Range Research Associates, Denver.

Tate, Marcia J.
1987 *Historic American Building Survey Fitzsimons Army Medical Center/Fitzsimons General Hospital.* Greenhorne and O'Mara, Green Belt, Maryland

1991 *Fitzsimons Army Medical Center, Cultural Resources Inventory, Adams County, Colorado.* Powers Elevation Co., Archaeology Department, Aurora, Colorado.

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Lowry Air Force Base

Lowry Air Force Base, Colorado

Collections Summary

Collections Total: No archaeological material or human skeletal remains; 0.3 linear feet of associated records.

Volume of Artifact Collections: None

Human Skeletal Remains: None

Linear Feet of Records: 0.3 linear feet (3.0 linear inches)

On Post: None

Off Post: 0.3 linear feet at Powers Elevation Company (Chapter 45, Volume 2)

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

Status of Curation Funding: There is no funding for curation activities.

Formerly Agnes Phipps Sanatorium for the treatment of tuberculosis, the installation began in 1937 as the Air Corps Technical School, Denver Branch. During World War II photography, armaments, and B-29 crew training took place here. The base was named in June 1948 for the Denver aerial observer, Lieutenant Francis Brown Lowry, killed in action in World War I. President Dwight D. Eisenhower used major base facilities from 1952 to 1955 as the "Summer White House." Lowry AFB was home to the U.S. Air Force Academy from 1954 to 1958 before completion of its permanent site in Colorado Springs. Strategic Air Command used Lowry from 1958 to 1965 in the Titan I missile program. All flight operations were terminated in July 1966. Once one of the world's largest training facilities in audiovisual, avionics, logistics, munitions, and space operations, Lowry was scheduled for closure September 30, 1994. The Defense Finance Accounting Service and Air Force Reserve Personnel Center were to remain on site. The training missions of Lowry were to be transferred to Lackland AFB, Texas and undergraduate space training was to move to Vandenberg AFB, California (Cragg 1994; Evinger 1991, 1995; Mueller 1989).

In May 1996, St. Louis District personnel performed background research at the Colorado Office of Archaeology and Historic Preservation, Colorado Historical Society in Denver. Research included a review of all pertinent archaeological site forms, records, and manuscripts for Lowry AFB. Archaeological sites have been recorded and a small number of reports have been generated. Archaeological collections are currently housed at one repository in Colorado.

Reports Related to Archaeological Investigations at Lowry AFB

Simmons, Thomas H., and R. Laurie Simmons
1995 *Historic Building Recordation, Lowry Air Force Base, Colorado.* Final Submittal, and Appendix, Part I and Appendix, Part II. Front Range Research Associates, Denver.

1995 *Historic Interpretive Plan, Lowry Air Force Base, Colorado.* Front Range Research Associates, Denver.

U.S. Air Force Civil Engineering Squadron
1983 *Historic Preservation Survey, Lowry Air Force Base, Colorado.* 3415 Civil Engineering Squadron, Lowry Air Force Base, Colorado.

21

Peterson Air Force Base

Peterson Air Force Base, Colorado

Collections Summary

Collections Total: 0.4 ft^3 of archaeological materials; 0.5 linear feet of associated records.

Volume of Artifact Collections: 0.4 ft^3

On Post: 0.1 ft^3

Off Post: 0.3 ft^3 at the University of Colorado Museum (Chapter 58, Volume 2)

Compliance Status: Collections require partial -to-complete rehabilitation to comply with existing federal guidelines and standards for archaeological curation.

Human Skeletal Remains: None

Linear Feet of Records: 0.5 linear feet (6.05 linear inches)

On Post: 3.0 linear inches

Off Post: 3.05 linear inches at Tetra Tech (Chapter 53, Volume 2)

Compliance Status: Records require partial rehabilitation to comply with existing federal guidelines and standards for archival preservation.

Status of Curation Funding: Curation is not specifically funded. Archaeological contracts are funded through a conservation budget, which is appropriated through environmental funds from the major command.

Peterson AFB was established as a civil airport for Colorado Springs in 1925. A large portion of this airport was acquired in early 1942 for an Army air base. In 1942, the base was named Peterson Field after First Lietenant Edward J. Peterson, a photoreconnaissance pilot whose F-4 aircraft crashed on takeoff in 1942 at the field that bears his name. After World War II, the city took control of the site and dismantled the barracks. The flying facility for the 15th Air Force was established at Peterson Field in 1948. The Air Force portion of Peterson Field was in inactive status until 1951 when the Aerospace Defense Command reactivated it. Peterson Field served as a flying facility and base support unit for Air Defense Command, headquartered at Ent AFB in Colorado Springs. Peterson Field was renamed Peterson AFB in 1976 and transferred to Strategic Air Command in 1979. In 1983, it was transferred to Air Force Space Command, 1st Space Wing. The 3rd Space Support Wing, established in 1986, and the 21st Space Wing, established in 1992, were the hosts of Peterson Complex which includes personnel from Peterson AFB, Cheyenne Mountain AFB, and Falcon AFB (Cragg 1994; Evinger 1991, 1995; Mueller 1989).

In May 1996, St. Louis District personnel performed background research at the Colorado Office of Archaeology and Historic Preservation, Colorado Historical Society in Denver. Research included a review of all pertinent archaeological site forms, records, and manuscripts for Peterson AFB. Archaeological sites have been recorded and a

number of reports have been generated as the result of archaeological investigations. Archaeological collections are currently housed at two repositories in Colorado and one repository in California.

Assessment

Date of Visit: February 25, 1997

Point of Contact: Casey Buechler

Peterson AFB is located in eastern Colorado Springs. The environmental offices are located in the Civil Engineering building (Building 1324), which was constructed in 1976. Offices are located on the north end of the building, while the south end and much of the structure's length is devoted to shops. The offices are currently housing less than 0.1 ft^3 of archaeological materials (one projectile point) recovered from Peterson AFB and three linear inches of associated documentation.

It is important to note that when the St. Louis District team visited Peterson AFB, Mr. Casey Bueckler was the natural resource manager; however, this position is currently occupied by Ms. Elise Sherva.

Structural Adequacy

The Civil Engineering building has a concrete foundation, with brick-faced masonry/concrete bearing walls. The roof is built-up asphalt. The building is solid, with no major cracks or leaks. Facilities include offices in a section of one floor above grade and one below, and shops on the ground level. There are multiple aluminum frame windows throughout the structure, all equipped with shades. The collections storage area is the natural resource manager's office, a systems furniture cubicle on the lower floor. The floor is concrete covered with carpet, with a suspended acoustical-tile ceiling.

Environmental Controls

Environmental controls in the Building 1324 consist of baseboard hot water radiator heat, air conditioning, and humidity regulation. Air systems are equipped with dust filters. Base personnel regularly maintain the facility, and cleaning is conducted daily by a contracted firm. Lighting is provided by nonfiltered fluorescent tubes.

Pest Management

There is no integrated pest management system. Monitoring and control of pests are the responsibility of the base-supported entomology department. The assessment team did not observe any signs of insects or rodents.

Security

Security measures for the building consist of key locks on exterior doors, a 24-hour in-house guard, and an intrusion alarm wired to the military police. In addition, after 5:00 p.m., access is restricted by the guard. Military police regularly patrol the area.

Fire Detection and Suppression

Fire detection consists of heat sensors, smoke detectors, and manual fire alarms wired to the base fire department. Fire suppression consists of fire extinguishers.

Artifact Storage

One prehistoric lithic projectile point recovered from Peterson AFB is stored in the natural resource manager's office on base. The artifact is stored in a lateral overhead systems furniture file, which has a sliding overhead door. The file measures 14.75 x 47.75 x 16.5 inches (l x w x h). The primary container for the point is a small cardboard envelope that is labeled directly in pen with project, site number, and contents. The artifact is loose in the envelope and is itself unlabeled but has been cleaned.

Human Skeletal Remains

Peteson AFB is not curating any human skeletal remains.

Records Storage

Associated documentation is located in the natural resource manager's office in the same lateral

overhead systems furniture file where the archaeological material is stored.

Paper Records

Paper records total 1.75 linear inches and consist of administrative and background documentation. These include National Register nomination forms, correspondence, phone records, and notes. Secondary containers for the documentation are manila folders, although some records are loose. Envelopes are labeled with an adhesive-backed paper tag, with information either typed or directly recorded in pen or marker.

Report Records

One copy of a spiral bound draft report totaling 0.25 linear inches is stored with the paper records.

Photographic Records

Color prints, black-and-white prints, negatives, and contact sheets encompass 0.5 linear inches and are stored loose with the paper records. Color prints are directly labeled in pencil or are stamped. Black-and-white prints are directly labeled with pencil. Negatives are enclosed in an archival-quality plastic sleeve. A photograph log is present in the records collection.

Maps and Oversized Documents

One large color map totals 0.25 linear inches of the document collection. The map is stored folded with the paper records.

Microformat Records

One 5-inch floppy computer disk is stored with the paper records.

Collections Management Standards

Peterson AFB manages archaeological research projects for the base and for satellite installations located throughout the country and overseas. Peterson AFB is not a permanent curation facility. Therefore, collections management standards were not evaluated.

Curation Personnel

Peterson AFB is staffed with a natural resources planner, Elise Sherva. At the time of the St. Louis District visit, Casey Buechler occupied this position. The position has multiple areas of responsibilities, including cultural resources and curation.

Curation Financing

Funds for archaeological projects are acquired through a conservation budget, which is appropriated through environmental funds at the major command.

Access to Collections

The collections are accessed through the natural resource manager and are available to outside researchers as necessary.

Future Plans

There are no plans for upgrading the curation program, although Mr. Buechler expressed an interest in displaying the projectile point or other base collections at the facility in the future.

Comments

1. Filtered heating, air conditioning, and humidity control systems are present for the building.

2. The building has no integrated pest management system. Pest control is probably performed as needed, and there were no signs of a current problem.

3. The building is staffed with a 24-hour security guard, and it is equipped with an intrusion alarm. Access to the base by nonemployees is controlled, and the building is regularly patrolled by military police. Exterior doors are equipped with key locks.

4. Fire detection consists of smoke detectors, heat sensors, and manual fire alarms, and fire suppression consists of fire extinguishers.

5. The primary container for the archaeological material is a cardboard envelope.

6. Records are stored in manila envelopes, and placed on an open, unsecured systems furniture shelf.

Recommendations

1. Transfer the artifact and records to a permanent repository that meets the curation standards outlined in 36 CFR Part 79. Coordinate with applicable installations to establish memoranda of agreement for the permanent disposition of the collections.

2. Place the archaeological material in an archival box and an appropriate archival-quality polyethylene zip-lock bag. Insert an acid-free paper label into the bag.

3. Produce multiple copies of all documentation on acid-free paper and store in separate, secure locations. Documentation should be placed in acid-free folders, and lightly packed into fire-resistant file cabinets. Arrange documentation in a logical order, and provide a finding aid to the collection. Records should be free of metal binder clips, staples, paper clips, or other contaminants. All photographic material should be placed in archival-quality photographic sleeves, labeled properly, and stored in a secure storage unit.

Reports Related to Archaeological Investigations at Peterson AFB

Anderson, Jane L.
1991 *Cultural Resources Inventory of Proposed Expansion Areas for Peterson and Falcon Air Force Bases, El Paso County, Colorado.* Vol.Collins, Colorado.

1994 *Draft–Cultural Resources Inventory of Portions of Peterson Air Force Base, El Paso County, Colorado.* Western Cultural Resource Management, Boulder, Colorado.

Anderson, Jane L., and Steven F. Mehls
1994 *Draft, Peterson Air Force Base Cultural Resource Management Plan, Volume I, Background Section.* Western Cultural Resource Management, Boulder, Colorado.

1996 *Peterson Air Force Base Cultural Resource Management Plan.* Western Cultural Resource Management, Boulder, Colorado.

Baker, Steven G.
1985 *A Cultural Resource Inventory of Peterson Air Force Base, Colorado Springs, Colorado.* Centuries Research, Montrose, Colorado.

Higginbotham/Briggs and Associates
1991 *The Original Colorado Springs Airport: Master Plan for Historic District, Peterson Air Force Base, Colorado.* Higginbotham/Briggs and Associates, Colorado Springs.

Hilman, Ross G., and William L. Tibesar
1984 *Report on the Cultural Resource Inventory of 170 Acres of Land at Peterson Air Force Base, Colorado Springs, Colorado.* Larson-Tibesar Associates, Laramie, Wyoming.

Hoffecker, John F., and Mandy Whorton
n.d. *Historic Properties of the Cold War Era, 21st Space Wing, U.S. Air Force Space Command.* Argonne National Laboratory, Argonne, Illinois. Submitted to the 21st Space Wing U.S. Air Force Space Command.

National Park Service
1993 Request for Quotation No. RFQ-1242-3-2052, Cultural Resource Investigation, Peterson Air Force Base, Colorado. National Park Service, RMR-AC, Lakewood, Colorado.

Reddish, Rodger
1990 National Register of Historic Places Registration Form for the Colorado Springs Airport Inc. (5EP774). Manuscript on file, Environmental Office, Peterson Air Force Base, Colorado.

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Rocky Mountain Arsenal

Commerce City, Colorado

Collections Summary

Collections Total: 0.3 ft^3 of archaeological materials; No associated records.

Volume of Artifact Collections: 0.3 ft^3
On Post: None
Off Post: 0.3 ft^3 at the University of Colorado Museum (Chapter 58, Volume 2)
Compliance Status: Collections require partial rehabilitation to comply with existing federal guidelines and standards for archaeological curation.

Human Skeletal Remains: None

Linear Feet of Records: None

Status of Curation Funding: There is no funding for curation activities.

Land for Rocky Mountain Arsenal was purchased in 1942 for the production of chemical weapons and munitions during World War II. The site was used from 1945 to 1950 for reconditioning and demilitarization of mustard shells. During the Korean War, Rocky Mountain Arsenal produced white phosphorous-filled munitions and incendiary cluster bombs. Nerve gas was produced at the installation from 1953 to 1957. The late-1950s to mid-1960s missions consisted of demilitarization programs, followed in the 1970s with the disposal of chemical weapons material. The current mission of the reservation is the cleanup of contaminated materials (Evinger 1995).

In May 1996, St. Louis District personnel performed background research at the Colorado Office of Archaeology and Historic Preservation, Colorado Historical Society in Denver. Research included a review of all pertinent archaeological site forms, records, and manuscripts for Rocky Mountain Arsenal. A few archaeological sites have been recorded and a small number of reports have been generated as the result of archaeological investigations. Archaeological collections are currently housed at one repository in Colorado.

Reports Relating to Archaeological Investigations at Rocky Mountain Arsenal

EBASCO Services
1988 *Litigation Technical Support and Services Rocky Mountain Arsenal, Draft Final: Volume II Structure Profile Structures Survey, Version 2.2 Section 2.7 Buildings 1405-1405; Buildings 1501-1512; Buildings 1601-1622; and Buildings 1701-1736 (North Plant).* EBASCO Services, Newark, New Jersey.

1993 *Detailed Analysis of Alternative Report Version 2.0 Structures DAA, Volume VI or VII and I of VII.* EBASCO Services, Newark, New Jersey.

Burchett, Timothy W., Marcia J. Tate, and Paul D. Friedman
1985 *A Cultural Resources Survey of the Proposed Stapleton Expansion Area.* Powers Elevation Co., Archaeology Department, Aurora, Colorado.

Carrasco, E. Dederick
1992 *A Class III Cultural Resources Inventory of Runway Outer Marker Sites and Access Roads.* Report Series No. 92-2. Huerfano Consultants and Federal Aviation Authority, Special Projects Office, Denver.

Harrison, Cheryl A.
1993 *Archaeological Survey of a 64 Acre Grass Planting Area, Rocky Mountain Arsenal, Adams County, Colorado.* Powers Elevation Co., Archaeology Department, Aurora, Colorado.

1993 *Cultural Resources Inventory of 10 Proposed Planting Areas, Rocky Mountain Arsenal, Adams County, Colorado.* Powers Elevation Co., Archaeology Department, Aurora, Colorado.

Hess, Jeffery A.
1984 *Historic Properties Report: Rocky Mountain Arsenal, Commerce City, Colorado.* MacDonald and Mack Partnership, Minneapolis.

Johnson, Ann M.
1982 *Reconnaissance Inventory of Reported Site Location (5AM185), Rocky Mountain Arsenal, Colorado.* National Park Service, Rocky Mountain Regional Office, Interagency Archaeological Services, Denver.

Kuznear, Casimir, and William Trautmann
1980 *History of Pollution Sources and Hazards at Rocky Mountain Arsenal, Colorado.*

Nickens & Associates
1984 *An Archaeological Overview and Management Plan for the Rocky Mountain Arsenal, Adams County, Colorado.* Report Series No. 9. Nickens & Associates, Montrose, Colorado.

Tate, Marcia J.
1987 *South Adams County Sanitation District, Adams County, Colorado.* Powers Elevation Co., Archaeology Department, Aurora, Colorado.

Tate, Marcia J., and Paul D. Friedman
1987 *Stapleton International Airport Runway and Taxiway, Denver and Adams Counties, Colorado.* Powers Elevation Co., Archaeology Department, Aurora, Colorado.

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U.S. Air Force Academy

Colorado Springs, Colorado

Collections Summary

Collections Total: 5.9 ft^3 of archaeological materials; 6.4 linear feet of associated records.

Volume of Artifact Collections: 5.9 ft^3

On Post: None

Off Post: 5.6 ft^3 at University of Colorado, Colorado Springs (Chapter 57, Volume 2); 0.2 ft^3 at the University of Colorado Museum (Chapter 58, Volume 2); and 0.1 ft^3 at the University of Denver Museum (Chapter 59, Volume 2)

Compliance Status: Collections require rehabilitation to comply with existing federal guidelines and standards for archaeological curation.

Human Skeletal Remains: None

Linear Feet of Records: 6.4 linear feet (77.25 linear inches)

On Post: None

Off Post: 6.14 linear feet; 6.1 linear feet at University of Colorado (Chapter 57, Volume 2); 0.04 linear feet at University of Colorado Museum (Chapter 58, Volume 2)

Compliance Status: Records require partial rehabilitation to comply with existing federal guidelines and standards for archival preservation.

Status of Curation Funding: There is no funding for curation activities.

The U.S. Air Force Academy was authorized by Congress in 1954, making it the newest of the three service academies. The first class entered the program in 1955 at temporary facilities located at Lowry AFB. Completion of the Academy in Colorado Springs was in 1958. In 1959, the Commission of Colleges and Universities of North Central Association of Colleges and Secondary Schools accredited the Academy's program and the first class graduated with 206 officers. Women were admitted into the Academy in 1976 (Cragg 1994; Evinger 1991, 1995).

In May 1996, St. Louis District personnel performed background research at the Colorado Office of Archaeology and Historic Preservation, Colorado Historical Society in Denver. Research included a review of all pertinent archaeological site forms, records, and manuscripts for U.S. Air Force Academy. Archaeological sites have been recorded and a number of reports have been generated as the result of archaeological investigations. Archaeological collections are currently housed at four repositories in Colorado.

Reports Relating to Archaeological Investigations at USAF Academy

Arbogast, William R., Margaret Bost, Paul Groves, Lynn Grundmann, Timothy Hatch, Patricia Joy, and Thomas Wynn

1995 *Cultural Resources Survey, Phase II United States Air Force Academy Including Farish Memorial Recreation Area, Colorado Springs, El Paso County, Colorado.* Final Report No. 1. Department of Anthropology, University of Colorado, Colorado Springs.

Arbogast, William R., Art Grundmann, Thomas Wynn, and Michelle L. Zupan

1993 *Cultural Resource Survey: Jack's Valley Training Area United States Air Force Academy, Colorado Springs, El Paso County, Colorado.* Appendices A, B, and C to the Full Report. Department of Anthropology, University of Colorado, Colorado Springs.

Arbogast, William R., Michelle Hertz, and Thomas Wynn

1996 *Cultural Resource Survey. Final Report. United States Air Force Academy Including Farish Memorial Recreational Area, Colorado Springs, El Paso County, Colorado.* Department of Anthropology, University of Colorado, Colorado Springs.

Bambrey, Lucy Hackett

1987 *Cultural Resources Investigations for the U.S. Air Force Academy Auxiliary Airfield, El Paso County, Colorado.* International Technology Corporation, Englewood, Colorado.

1987 *Research Design for Cultural Resources Investigations: U.S. Air Force Academy Auxiliary Airfield, Colorado Springs, Colorado.* International Technology Corporation, Englewood, Colorado.

Colorado Department of Highways, Archaeological Unit

1988 *Archaeological Survey of I-25 from South Academy Blvd. to North Academy Blvd., Colorado Springs, El Paso County.* Colorado Department of Highways, Archaeological Unit, Colorado Springs.

El Paso County Park Department

1988 *The New Santa Fe Trail, Air Force Academy Section, Environmental Assessment, El Paso County Park Department.* El Paso County Park Department, Colorado Springs, Colorado.

Gambrill, Kim and Dan Jepson

1994 *Cultural Resource Survey of a Bike Trail from Colorado Springs to the Air Force Academy, El Paso County, Colorado.* Colorado Department of Highways, Archaeological Unit, Colorado Springs.

Hand, O. D.

1995 *Cultural Resource Investigations of the North Powers Boulevard Corridor in Colorado Springs, El Paso County, Colorado.* Colorado Department of Transportation, Denver.

Howey, Allan William

1981 *The Base of the Ramparts.* Department of History, U.S. Air Force Academy, Colorado.

International Technology Corporation

1988 *Auxiliary Airfield Environmental Assessment, El Paso County, Colorado, U.S. Air Force Academy, Colorado Springs, Colorado.* International Technology Corporation, Englewood, Colorado.

Reed, Alan D.

1985 *Archaeological Inventory of a Planned Sewer Line at the U.S. Air Force Academy, El Paso County, Colorado.* Nickens & Associates, Montrose, Colorado.

1985 *Cultural Resource Inventory for the Stanley Canyon Project, U.S. Air Force Academy, Colorado.* Nickens & Associates, Montrose, Colorado.

1986 *Cultural Resource Inventory for the Stanley Canyon Hydroelectric Project Pipeline, U.S. Air Force Academy, Colorado.* Nickens & Associates, Montrose, Colorado.

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Walter Reed Army Medical Center

Washington, D.C.

Collections Summary

Collections Total: 1.9 ft^3 of archaeological materials; No associated record.

Volume of Artifact Collections: 1.9 ft^3
On Post: None
Off Post: 1.9 ft^3 at the U.S. Army Engineer District, Baltimore (Chapter 63, Volume 2)
Compliance Status: Collections require complete rehabilitation to comply with existing federal guidelines and standards for archaeological curation.

Human Skeletal Remains: None

Linear Feet of Records: None

Status of Curation Funding: There is no funding for curation activities.

By congressional legislation, construction of the Walter Reed General Hospital was authorized on May 1, 1909. The medical center, named in Major Reed's honor, was founded on principles that would integrate patient care, teaching, and research. World War I saw the hospital's capacity grow from 80 patient beds to 2,500 in a matter of months. Through World War II, the Korean conflict, and the Vietnam War, hundreds of thousands of soldiers were treated here. In nine decades, the hospital has grown to a vast medial complex, treating hundreds of thousands of patients (Evinger 1991, 1995).

In June 1996, St. Louis District personnel performed background research at the Department of Consumer Affairs, Historic Preservation Division in the District of Columbia. Research included a review of all pertinent archaeological site forms, records, and manuscripts for Walter Reed Army Medical Center. A few historic sites have been recorded and a small number of reports have been generated as the result of archaeological investigations. Archaeological collection are currently housed at one repository in Maryland.

Reports Relating to Archaeological Investigations at Walter Reed Medical Center

Custer, Jay F.
1994 *Main Section Walter Reed Army Medical Center Washington, D.C., Section 106 Report.* KFS Historic Preservation Group and Kise, Franks & Straw, Philadelphia. Submitted to U.S. Army Corps of Engineers, Baltimore District.

KFS Historic Preservation Group

1992 *Forest Glen Section, Walter Reed Army Medical Center: Architectural Survey of a Log Cabin.* Kise Franks & Straw, Philadelphia. Submitted to U.S. Army Corps of Engineers, Baltimore District.

1992 *Forest Glen Section, Walter Reed Army Medical Center: Cultural Resource Management Plan.* Kise Franks & Straw, Philadelphia. Submitted to U.S. Army Corps of Engineers, Baltimore District.

Meyer, Richard, and Charles D. Cheek

1990 *Main Section, Walter Reed Army Medical Center Cultural Resources Reconnaissance Survey.* Rogers, Golden & Halpern, Philadelphia. Submitted to U.S. Army Corps of Engineers, Baltimore District.

Rogers, Golden & Halpern

1991 *Environmental Assessment Master Plan for Main Section Walter Reed Army Medical Center Washington, D.C.* Rogers, Golden & Halpern, Philadelphia. Submitted to U.S. Army Corps of Engineers, Baltimore District.

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Naval Air Station Barbers Point

Barbers Point, Hawaii

Collections Summary

Collections Total: 314.1 ft^3 of archaeological materials and human skeletal remains; 7.4 linear feet of associated records.

Volume of Artifact Collections: 311.2 ft^3

On Post: None

Off Post: 53.4 ft^3 at the Bernice P. Bishop Museum (Chapter 7, Volume 2); 5.5 ft^3 at International Archaeological Research Institute (Chapter 25, Volume 2); 1.0 ft^3 at Ogden Environmental and Energy Services (Chapter 42, Volume 2); and 251.3 ft^3 at Paul H. Rosendahl (Chapter 44, Volume 2)

Compliance Status: Collections require partial-to-complete rehabilitation to comply with existing federal guidelines and standards for archaeological curation.

Human Skeletal Remains: 2.9 ft^3

On Post: None

Off Post: 2.6 ft^3 at the Bernice P. Bishop Museum (Chapter 7, Volume 2) and 0.3 ft^3 at International Archaeological Research Institute (Chapter 25, Volume 2)

Compliance Status: An unknown number of individuals at the Bernice P. Bishop Museum are in good condition. A minimum number of three individuals at International Archaeological Research Institute are included in the Family Housing Project collections. Qualified personnel need to take measures to manage these remains as outlined in NAGPRA.

Linear Feet of Records: 7.4 linear feet (89.25 linear inches)

On Post: None

Off Post: 11 linear inches at the Bernice P. Bishop Museum (Chapter 7, Volume 2); 1.3 linear feet (16 linear inches) at International Archaeological Research Institute (Chapter 25, Volume 2); 5.75 linear inches at Ogden Environmental and Energy Services (Chapter 42, Volume 2); and 4.7 linear feet (56.5 linear inches) at Paul H. Rosendahl (Chapter 44, Volume 2)

Compliance Status: Records require partial rehabilitation to comply with existing federal guidelines and standards for archival preservation.

Status of Curation Funding: Curation activities are not currently funded.

Prompted by World War II, NAS Barbers Point was commissioned in April 1942. It was immediately used to train pilots and service planes from aircraft carriers in the Pacific theater. Following the war, it served as a rapid demobilization center and supported functions of all area aviation activities. The adjacent Ewa Marine Corps Air Station was incorporated into the NAS Barbers Point boundary in 1949. NAS Barbers Point was established as a major antisubmarine warfare aviation center. During the Korean War, the installation served as a cargo forwarding and personnel replacement center for

United Nation forces. Known as the Crossroads of the Pacific and Home of the Rainbow Fleet, it currently is the home port for 28 tenant commands including Command, Patrol Wing 2, six patrol squadrons, a helicopter antisubmarine, and the Army's 214th Aviation Company (Cragg 1994; Evinger 1995).

In July 1996, St. Louis District personnel performed background archaeological research at the Department of Land and Natural Resources in Honolulu. This research included a review of all pertinent archaeological site forms, reports, and manuscripts for NAS Barbers Point. Archaeological sites have been recorded and reports have been generated as the result of archaeological investigations. Archaeological collections are currently housed in four repositories in Hawaii.

Reports Related to Archaeological Investigations at NAS Barbers Point

Belt, Collins and Associates
1994 *Environmental Assessment for the Construction of FY93 H-303 and FY94 H-208 Family Housing Projects and an Interpretive Trail at Naval Air Station, Barbers Point, Oahu, Hawaii.* Belt, Collins and Associates, Honolulu. Submitted to Pacific Division, Naval Facilities Engineering Command, Pearl Harbor.

Burgett, Berdena, and Paul H. Rosendahl
1992 *Archaeological Inventory Survey Contaminated Soil Stockpile/Remediation Facility Naval Air Station, Barbers Point, Oahu, Hawaii (TMK 9-1-13).* Paul H. Rosendahl, Hilo. Submitted to Helber, Hastert & Fee, Planners, Honolulu.

Dye, Tom
1995 *Burial Report: Inadvertent Discovery of Human Remains at Barbers Point Naval Air Station Nimitz Beach.* Hawaii State Historic Preservation Division, Honolulu. Submitted to Naval Air Station Barbers Point.

Erkelens, Conrad
1992 *Interpretive Trail Development Study, NAS Barbers Point Archaeological Survey Site 1719 (Draft).* International Archaeological Research Institute, Honolulu. Submitted to Belt, Collins and Associates, Honolulu.

Haun, Alan E.
1991 *An Archaeological Survey of the Naval Air Station, Barbers Point, Oahu, Hawaii.* Applied Research Group, Bishop Museum, Honolulu. Submitted to Naval Facilities Engineering Command, Pearl Harbor.

Kaneshiro, R.
1994 Summary of Archaeological Inventory Survey for Base Realignment and Closure (BRAC) and Comprehensive Long-Term Environmental Action Navy (CLEAN) Program at 13 Sites Within the Naval Air Station, Barbers Point, Hawaii. Letter report, Department of the Navy.

Landrum, Jim
1992 Letter Regarding Post-Field Summary of Archaeological Reconnaissance and Limited Testing at Naval Air Station Barbers Point. Ogden Environmental and Energy Services Co., Honolulu.

1993 *Archaeological Reconnaissance and Limited Subsurface Testing at the Proposed Family Housing Construction Area, Project No. 34863, Barbers Point Naval Air Station, Honouliuli Ahupuaa, Ewa, Oahu Island (Draft).* Ogden Environmental and Energy Services Co., Honolulu. Submitted to U.S. Army Corps of Engineers, Honolulu, Fort Shafter.

Miller, Linda
1993 *Archaeological Data Recovery of State Sites 50-80-12-2710 and 50-80-12-2711 at Barbers Point, Honouliuli Ahupuaa Ewa District, Oahu Island.* Anthropology Department, Bishop Museum, Honolulu. Submitted to R. H. S. Lee, Pearl City.

O'Hare, Constance R., Thomas R. Wolforth and Paul H. Rosendahl
1996 *Phase II-Intensive Survey and Testing Naval Air Station Barbers Point. Land of Honouliuli, Ewa District, Island of Oahu, Hawaii (Prefinal Report).* Paul H. Rosendahl, Hilo. Submitted to Naval Facilities Engineering Command, Pearl Harbor.

Schilz, Allan
1996 *Archaeological Monitoring of Construction Excavation at Nimitz Beach, Naval Air Station Barbers Point, Hawaii.* Ogden Environmental and Energy Service Co., Honolulu.

Tuggle, H. David
1995 *Archaeological Inventory Survey for Construction Projects at Naval Air Station Barbers Point, Oahu, Hawaii (Prefinal Report).* International Archaeological Research Institute, Honolulu. Submitted to Belt, Collins and Associates, Honolulu.

Tuggle, H. David, and M. J. Tomonari-Tuggle
1994 *Cultural Resources of Naval Air Station, Barbers Point: Summary Assessment, and Inventory Research Design Task 1b: Archaeological Research Services for the Proposed Cleanup, Disposal, and Reuse of Naval Air Station, Barbers Point, Oahu, Hawaii.* International Archaeological Research Institute, Honolulu. Submitted to Belt, Collins and Associates, Honolulu.

1994 *Synthesis of Cultural Resource Studies of the Ewa Plain. Task 1a: Archaeological Research Services for the Proposed Cleanup, Disposal and Reuse of Naval Air Station Barbers Point, Oahu, Hawaii (Draft).* International Archaeological Research Institute, Honolulu. Submitted to Belt, Collins and Associates, Honolulu.

1995 *A Cultural Resource Inventory of Naval Air Station, Barbers Point, Oahu, Hawaii: Part I: Phase I Survey and Inventory Summary (Prefinal).* International Archaeological Research Institute, Honolulu. Submitted to Belt, Collins and Associates, Honolulu.

Welch, David J.
1987 *Archaeological Reconnaissance of the Former Ewa Marine Corps Air Station, Barbers Point Naval Air Station, Oahu, Hawaii (Prefinal Report).* International Archaeological Research Institute, Honolulu. Submitted to Pacific Division, Naval Facilities Engineering Command, Pearl Harbor.

Welch, David, and H. David Tuggle
1996 NAS Barbers Point Cultural Resource Management Plan: Interim Recommendations for Archaeological Site Significance and Historic Preservation Treatment. Letter report, International Archaeological Research Institute, Honolulu. Submitted to Belt, Collins and Associates, Honolulu.

Wicker, Stephen K., and H. David Tuggle
1996 *A Cultural Resource Inventory of Naval Air Station, Barbers Point, Oahu, Hawaii. Part II: Phase II Inventory Survey of Selected Sites (Prefinal).* International Archaeological Research Institute, Honolulu. Submitted to Belt, Collins and Associates, Honolulu.

Wulzen, Warren, and Paul H. Rosendahl
1995 *Archaeological Assessment of Seven BRAC 93 Project Areas at Lualualei Naval Weapons Magazine West Loch Station, Naval Air Station Barbers Point, and Marine Corps Air Base Hawaii, Kaneohe Bay (Prefinal Report).* Paul H. Rosendahl, Hilo, Hawaii. Submitted to Belt, Collins and Associates, Honolulu.

1996 *Subsurface Testing and Data Recovery Excavations, Site 50-80-12-2220, Nimitz Beach, Naval Air Station Barbers Point, Land of Honouliuli, Ewa District, Island of Oahu, Hawaii (Prefinal Report).* Paul H. Rosendahl, Hilo, Hawaii. Submitted to Pacific Division, Naval Facilities Engineering Command, Pearl Harbor.

26

Bellows Air Force Station

Waimanalo, Hawaii

Collections Summary

Collections Total: 13 ft^3 of archaeological materials and human skeletal remains; 5.1 linear feet of associated records.

Volume of Artifact Collections: 11.7 ft^3

On Post: None

Off Post: 5.7 ft^3 at the Bernice P. Bishop Museum (Chapter 7, Volume 2); 3 ft^3 at International Archaeological Research Institute (Chapter 25, Volume 2); 1 ft^3 at Ogden Environmental and Energy Services (Chapter 42, Volume 2); and 2 ft^3 at Scientific Consultants Services (Chapter 50, Volume 2).

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

Human Skeletal Remains: 1.3 ft^3

On Post: None

Off Post: 1.3 ft^3 at the Bernice P. Bishop Museum (Chapter 7, Volume 2)

Compliance Status: An unknown number of individuals are located at the Bernice P. Bishop Museum and are good condition. Qualified personnel need to take measures to manage these remains as outlined in NAGPRA.

Linear Feet of Records: 5.1 linear feet (61.75 linear inches)

On Post: None

Off Post: 8 linear inches at the Bernice P. Bishop Museum (Chapter 7, Volume 2); 1.3 linear feet (16 linear inches) at International Archaeological Research Institute (Chapter 25, Volume 2); 4 linear inches at Ogden Environmental and Energy Services (Chapter 42, Volume 2); 4.75 linear inches at Paul H. Rosendahl (Chapter 44, Volume 2); 2 linear inches at Scientific Consultants Services (Chapter 50, Volume 2); and 2.3 linear feet (27 linear inches) at U.S. Army Engineer District, Honolulu (Chapter 65, Volume 2)

Compliance Status: Records require partial rehabilitation to comply with existing federal guidelines and standards for archival preservation.

Status of Curation Funding: Curation activities are currently not funded.

A Presidential Order in 1917 claimed 1,500 acres of land in Waimanalo for military use. The Waimanalo Military Installation was established, and was later renamed Bellows Field after a World War I navigator, F. B. Bellows. During World War II, an air unit operated out of Bellows. The personnel stationed at the base were credited with capturing the first prisoners of war of World War II. After 1945, Bellows Field's primary military function was recreational, many of its buildings being sold off or rented to private businesses for storage. The airfield itself remained open only as an emergency landing field until 1956, when an Air Force Communications Center was established there. By 1958, flying activities were terminated at the field, and the Air Force granted grazing leases for certain areas of the

property. Presently, the installation serves as a recreational facility for the military, an interference-free site for Air Force Communications Command Transmitter Complex, a training area for the Marine Corps, and the site of the Hawaii Army National Guard Academy. The Waimanalo area is rich in cultural resources. Representation of the earliest occupation in the Hawaiian Islands has been identified at the Bellows Sand Dune Site, an archaeological site located on this military property (Evinger 1991, 1995).

In July 1996, St. Louis District personnel performed background archaeological research at the Department of Land and Natural Resources in Honolulu. This research included a review of all pertinent archaeological site forms, reports, and manuscripts for Bellows AFS. Archaeological sites have been recorded and a number of reports have been generated as the result of archaeological investigations. Archaeological collections are currently housed at six repositories in Hawaii.

Reports Related to Archaeological Investigations at Bellows AFS

Anonymous

1973 *Kaupo Cave Shelter, Site 3000, Feature 1: A Preliminary Report on Artifact Analysis.* Unpublished Master's thesis, Department of Anthropology, University of Hawaii, Honolulu.

Athens, J. Stephen

1985 Archaeological Monitoring for Soil Caring, Bellows Air Station, Waimanalo, Oahu. Letter report. Submitted to Nakamura, Oyama and Associates, Honolulu.

1986 Preliminary Report: Archaeological Reconnaissance Survey for Proposed Omni Antenna, Bellows A.F.S., Oahu, Hawaii (Preliminary Report). Letter report, International Archaeological Research Institute, Honolulu. Submitted to Environmental Planning, Hickam Air Force Base, Hawaii.

1986 Site Summary: Archaeological Deposits at the Bellows AFS Omni Antenna Pad & Cable Trench, Project KNMD 852271, Waimanalo, Oahu. Letter report, International Archaeological Research Institute, Honolulu. Submitted to Environmental Planning, Hickam Air Force Base, Hawaii.

1987 *Archaeological Survey and Testing for Airfield Perimeter Fence Project Bellows Air Force Station, Oahu, Hawaii (Draft).* Final Report. International Archaeological Research Institute, Honolulu. Submitted to U.S. Army Engineer District, Pacific Ocean Division, Fort Shafter, Hawaii.

1987 Archaeological Reconnaissance Survey for Proposed Omni Antenna, Bellows AFS, Oahu, Hawaii (Draft Final). Letter report, International Archaeological Research Institute, Honolulu. Submitted to Environmental Planning, Hickam Air Force Base, Hawaii.

1988 *Archaeological Reconnaissance and Subsurface Testing, Proposed Omni Antenna and Cable Trench, Bellows Air Force Station, Waimanalo, Oahu, Hawaii.* Final Report. International Archaeological Research Institute, Inc., Honolulu, Hawaii. Submitted to Environmental Planning, Hickam Air Force Base, Hawaii.

1988 *Archaeological Survey and Testing for Airfield Perimeter Fence Project Bellows Air Force Station, Oahu, Hawaii.* Final Report. International Archaeological Research Institute, Honolulu. Submitted to U.S. Army Engineer District, Pacific Ocean Division, Fort Shafter, Hawaii.

Barrera, William, Jr.

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Carter, L. A.
1979 *Archaeological Monitoring of Selected Areas at Bellows Air Force Station Oahu Island.* Department of Anthropology, Bernice P. Bishop Museum, Honolulu. Submitted to Department of the Air Force, Air Force Construction Command, Hickam Air Force Base, Honolulu.

Cordy, Ross H.
1975 *O18: (Oahu Island) New Work and New Interpretations.* Department of Anthropology, University of Hawaii, Honolulu.

Cordy, Ross H., and H. David Tuggle
1976 *Bellows, Oahu, Hawaiian Islands: New Work and New Interpretation.* Archaeology and Physical Anthropology in Oceania Vol. XI, No. 3.

Davis, Bertell
1978 *Subsurface Archaeological Reconnaissance of Selected Areas at Bellows Air Force Station, Oahu Island.* Archaeological Research Center Hawaii, Inc., Honolulu.

Douglas, Michael T., and Michael Pietrusewsky
1990 Human Skeletal Remains Discovered at 41-042 Manana Street Waimanalo, Oahu, Hawaii. University of Hawaii, Manoa.

Dower
1984 Archaeological Report Review: Bellows Dune Site. Letter report, Advisory Council on Historic Preservation, Washington, D.C.

Eidsness, Janet
1993 *Cultural Resource Management Plan for Native Hawaiian Archaeological Resources, Bellows Air Force Station.* BioSystems Analysis, Kailua. Submitted to U.S. Army Corps of Engineers, Pacific Ocean Division, Fort Shafter, Hawaii.

Erkelens, Conrad
1995 *Preliminary Report on Archaeological Monitoring and Data Recovery of Underground Storage Tank Removal, Bellows Air Force Station, Waimanalo, Hawaii.* International Archeological Research Institute, Honolulu. Submitted to U.S. Army Corps of Engineers, Pacific Ocean Division, Fort Shafter, Hawaii.

Finsch, Otto (translated by A. D. Alexander)
1879 Bericht Uber die Insel Oahu. Verhandl der Berliner Gesell. *F. Antro., Ethn. u. Urgeschichte, Jahrg,* pp. 326–331.

Griffin, P. Bion
1985 *Test Excavations at the SEAREX Tower Site, Bellows Field Archaeological Area, Bellows Air Force Station, Waimanolo, Oahu.* Department of Anthropology, University of Hawaii, Manoa.

Hammatt, Hallett
1985 Archaeological Monitoring for Fuel Tank Trench at Bellows Air Force Station, Waimanalo, Oahu. Letter report, Cultural Surveys Hawaii, Kailua. Submitted to Tower Construction, Honolulu.

Hammatt, Hallett H., and David W. Shideler
1989 *Archaeological Reconnaissance and Subsurface Testing of Proposed Project KNMD 773133, Park Complex, North Coastal Region of Bellow AFS, Waimanalo, Oahu, Hawaii* (Prefinal and Final Reports). Cultural Surveys Hawaii, Kailua, Hawaii. Submitted to U.S. Air Force Contracting Officer, Bellows Air Force Station, Hawaii.

1989 *Archaeological Survey and Testing at Bellows Air Force Station for New Antennas and Trench Lines Waimanalo, Koolaupoko Oahu* (Final Report). Cultural Surveys Hawaii, Kailua. Submitted to U.S. Army Corps of Engineers, Pacific Ocean Division, Fort Shafter, Hawaii.

Harland Bartholomew and Associates

1959 *A General Plan for Waimanalo Valley Island of Oahu Territory of Hawaii.* Harland Bartholomew and Associates, St. Louis. Submitted to the Commission of Public Lands, Honolulu.

Hurlbett, Robert E.

1985 *Archaeological Reconnaissance, Subsurface Testing and Monitoring of Proposed Projects HIC 84-1269, Recreation Library and HIC 86-3221, Recreation Library Utilities Support Project Sites at Bellows AFS, Waimanalo, Koolaupoko District Island of Oahu, Hawaii, (TKM:1-4-1-15:1).* Paul H. Rosendahl, Hilo. Submitted to United States Air Force, Hickam Air Force Base, Hawaii.

1985 Preliminary Report Upon Completion of Fieldwork: Archaeological Reconnaissance and Testing for Recreation Library Project Sites, Bellows AFS. Letter report, Paul H. Rosendahl, Hilo. Submitted to 15th Airbase Wing, Hickam Air Force Base, Hawaii.

1987 *Task Product 1: Approach and Methodology Cultural Resources Management Plan (CRMP) Bellows Air Force Station, Oahu, Hawaii.* Paul H. Rosendahl, Hilo. Submitted to PACAF Contracting Center, Hickam Air Force Base, Hawaii.

1987 *Task Product 2: Extensive Literature Search Cultural Resource Management Plan (CRMP) Bellows Air Force Station, Oahu, Hawaii.* Paul H. Rosendahl, Hilo. Submitted to PACAF Contracting Center, Hickam Air Force Base, Hawaii.

Hurlbett, Robert E., and Alan E. Haun

1987 *Task Product 4: Cultural Resources Inventory, Evaluation, and Recommendations Subtask 4A: Inventory and Evaluation Cultural Resources Management Plan (CRMP) Bellows Air Force Station, Oahu, Hawaii.* Paul H. Rosendahl, Hilo. Submitted to PACAF Contracting Center, Hickam Air Force Base, Hawaii.

1988 *Task Product 4-Subtask 4B: Historic Preservation Treatments Cultural Resources Management Plan (CRMP) Bellows Air Force Station, Oahu, Hawaii.* Paul H. Rosendahl, Hilo. International Archaeological Research Institute, Honolulu, Hawaii. Submitted to PACAF Contracting Center, Hickam Air Force Base, Hawaii.

International Archaeological Research Institute

1988 *Intensive Archaeological Survey and Data Recovery at a Prehistoric Cultural Deposit Site, Bellows Air Force Station, Waimanalo, Oahu.* International Archaeological Research Institute, Honolulu, Hawaii. Submitted to U.S. Army Engineers District, Honolulu.

Jackson, Thomas L.

1993 *Cultural Resource Management Plan for Native Hawaiian Archaeological Resources, Bellows Air Force Station. Appendix 1: A Research Design for the Investigations of Prehistoric Archaeological Remains in Windward Settings of the Hawaiian Islands: Some Suggested Approaches, Research Topics, and Methods* (Draft Summary). BioSystems Analysis, Kailua. Submitted to the U.S. Army Corps of Engineers, Pacific Ocean Division, Fort Shafter, Hawaii.

Jensen, Peter

1988 *Task Product 5: Recommendations for National Historic Site (BFAA) Boundary Update.* Paul H. Rosendahl, Hilo. Submitted to PACAF Contracting Center, Hickam Air Force Base, Hawaii.

1988 *Task Product 6: Revision to the Master Plan (MP) Bellows Air Force Station, Oahu, Hawaii.* Paul H. Rosendahl, Hilo. Submitted to PACAF Contracting Center, Hickam Air Force Base, Hawaii.

Kam, Wendell

1985 Field Inspection of Bellows AFB Picnic Area #6, Waimalo, Koolaupoko, Oahu. Memorandum. Historic Preservation Office, Honolulu.

1986 *Bellows Fence Repair Burial.* Memorandum.

1986 *Investigation of Discovery of Human Skeletal Remains at Bellows AFS, Koolaupoko, Oahu.*

Laudrum, Jim, and Allan Schilz
1993 *Archaeological Reconnaissance Survey, Monitoring, and Subsurface Testing At the Proposed Mini-Putt Golf Course Site, Project KNMD 929122, Bellows Air Force Station, Waimanalo Ahupuaa, Koolaupoko District, Island of Oahu, Hawaii* (Draft). Ogden Environmental and Energy Services Co., Honolulu. Submitted to U.S. Army Corps of Engineers, Pacific Ocean Division, Fort Shafter, Hawaii.

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1983 *Archaeological Monitoring of Vegetation Clearance on Antenna Fields at Bellows Air Force Station, Oahu, Hawaii.* Department of Anthropology, Bernice P. Bishop Museum Honolulu. Submitted to U.S. Air Force, Bellows Air Force Station, Hawaii.

Manable, T. N., and H. David Tuggle (editors)
1976 *Archaeological Monitoring of Drip Irrigation Line Construction: Bellows Air Force Station.* H. David Tuggle, consulting archaeologist. Submitted to U.S. Air Force Base Procurement, San Francisco.

McNeill, J. R.
1985 *Archaeological Reconnaissance and Monitoring of Obstacle Course Construction at Bellows Air Force Station, Oahu, Hawaii.* J. Stephen Athens, Ph.D., Archaeological Consultant. Submitted to PACAF Contracting Center, Hickam Air Force Base, Hawaii.

1988 *Intensive Archaeological Investigations at Site 50-80-15-3709 Bellows Air Force Station, Oahu, Hawaii* (Final). International Archaeological Research Institute, Honolulu, Hawaii. Submitted to U.S. Army Corps of Engineers, Pacific Ocean Division, Fort Shafter, Hawaii.

1988 *Intensive Archaeological Investigations at Site 50-80-15-3709 Bellows Air Force Station, Oahu, Hawaii.* International Archaeological Research Institute, Honolulu, Hawaii. Submitted to U.S. Army Corps of Engineers, Pacific Ocean Division, Fort Shafter, Hawaii.

1989 *Intensive Archaeological Survey and Data Recovery at Site 50-80-15-3709 Bellows Air Force Station, Oahu, Hawaii.* International Archeological Research Institute, Honolulu, Hawaii. Submitted to U.S. Army Corps of Engineers, Pacific Ocean Division, Fort Shafter, Hawaii.

Miller, Lynn O.
1991 *Archaeological Monitoring of the Tinker Road Bridge Repair (Replacement) Project Bellows Air Force Station Waimanalo, Oahu Island, Hawaii.* Public Archaeology Section, Applied Research Group, Bishop Museum, Honolulu, Hawaii. Submitted to T. Iida Contracting, Ltd., Kaneohe, Hawaii.

Nakama, Stella K., and H. David Tuggle (editors)
1975 *Archaeological Surveillance of a Drip Irrigation Line: Bellows Air Force Station, Oahu, Hawaii.* H. David Tuggle, consulting archaeologist. Submitted to U.S. Air Force Base Procurement, San Francisco.

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1991 Collection of Student Papers for U.H. Archaeological Field School Site 50-80-15-330, Summer 1989, Bellows AFS, Waimanalo, Oahu. University of Hawaii, Manoa.

Pearson, Richard J., Patrick Vinton Kirch, and Michael Pietrusewsky
1967 *An Early Prehistoric Site at Bellows Beach, Waimanalo, Oahu, Hawaiian Islands.*

Riley, Thomas J.
1980 *Archaeological Reconnaissance and Subsurface Testing of Proposed Boathouse Project Site at Bellows Air Force Station, Hawaii*. Department of Anthropology, Bernice P. Bishop Museum, Honolulu. Submitted to U.S. Air Force, Bellows Air Force Station, Hawaii.

Rolett, Barry V.
1989 *Origin of Hawaiian Culture*. University of Hawaii Archaeological Field School, Honolulu.

1990 *University of Hawaii Archaeological Research on Bellows Air Force Station: Report of the 1989 Field School and a Proposal for Further Research in 1990.* University of Hawaii Archaeological Field School, Honolulu. Submitted to Bellows Air Force Station, Hawaii.

1992 *1990 Archaeological Excavation at Site 50-18-15-3300 (Bellows Air Force Station, Oahu) Conducted by the University of Hawaii Archaeological Field School*. University of Hawaii Archaeological Field School, Honolulu.

Rosendahl, Paul H.

1981 *Archaeological Reconnaissance Survey of Proposed Additional Marine Corps Training Areas Bellows Air Force Station, Oahu, Hawaii*. Archaeological Research Associates, Kurtistown, Hawaii. Submitted to Naval Facilities Engineering Command, Pearl Harbor, Hawaii.

1985 *Bibliography: Bellows Site Area. Letter Report.* Paul H. Rosendahl, Hilo. Submitted to State of Hawaii, Department of Land and Natural Resources, Honolulu.

Shun, Kanalei

1992 *Archaeological Reconnaissance Survey and Subsurface Testing for Proposed Electric Tie Circuit Bellows Air Force Station Waimanalo, Koolaupoko District, Island of Oahu, Hawaii.* Archaeological Associates Oceania, Kaneohe. Submitted to U.S. Army Corps of Engineers, Pacific Ocean Division, Fort Shafter, Hawaii.

1993 *Archaeological Monitoring and Sampling During Emergency Flood Repair Construction Waimanalo and Inoaole Streams, Bellows Air Force Station, Waimanalo, Koolaupoko District, Island of Oahu, Hawaii.* Archaeological Associates Oceania, Kaneohe. Submitted to U.S. Army Corps of Engineers, Pacific Ocean Division, Fort Shafter, Hawaii.

Spriggs, Matthew

1987 *Report on Radiocarbon Dating Analysis.* Beta Analysis. Submitted to University of Hawaii, Manoa.

Streck, Charles F., Jr., and Farley K. Watanabe

1988 Archaeological Reconnaissance of Areas Proposed for Emergency Flood Repair and Replacement of Structures, Bellows AFS (BAFS), Waimanalo, Oahu Island. Letter report, U.S. Army Corps of Engineers, Pacific Ocean Division, Fort Shafter, Hawaii.

1988 Archaeological Reconnaissance of Areas Proposed for Emergency Flood Repair and Replacement of Structures, Bellows AFS (BAFS), Waimanalo District, Oahu Island. Memoradum for record, U.S. Army Corps of Engineers, Pacific Ocean Division, Fort Shafter, Hawaii.

Tuggle, H. David

1974 *Surface and Subsurface Survey of Selected Zones of Bellows Field Archaeological Area.* H. David Tuggle. Submitted to U.S. Air Force. PACAF Procurement Center, San Franscisco.

1975 Archaeological Examination of Areas of Bellows Air Force Base Subject to Construction Activities. Letter report, H. David Tuggle. Submitted to Base Procurement Office, San Francisco, California.

1975 *Archaeological Surveillance of Construction Excavation in Bellows Field Archaeological Zone of the Bellows Air Force Station.* H. David Tuggle, Consulting Archaeologist. Submitted to U.S. Air Force, PACAF Procurement Center, San Francisco.

1975 *Report on Archaeological Investigations of the Bellows Archaeological Zone National Register Site and Adjoining Portions of Bellows Air Force Station*. Submitted to U.S. Air Force and Department of Land and Natural Resources, State of Hawaii.

1982 *Archaeological Reconnaissance: Bellows Air Force Station Waimanalo, Oahu.*

1994 *Archaeological Research of Areas Proposed for Development of Military Family Housing and Expansion of Military Training at Bellows Air Force Station, Oahu* (Draft Final Report). International Archaeological Research Institute, Honolulu. Submitted for Belt, Collins and Associates, Honolulu.

1995 *Archaeological Monitoring Plan: Underground Storage Tank Removal, Bellows Air Force Station, Oahu, Hawaii.* International Archaeological Research Institute, Honolulu. Submitted to U.S. Army Corps of Engineers, Pacific Ocean Division, Fort Shafter, Hawaii.

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1976 *A Report on Archaeological Monitoring of Repair of Water Distribution Systems, Bellows AFS.* H. David Tuggle. Submitted to U.S. Air Force, PACAF Procurement Center, San Franscisco.

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27

Camp H. M. Smith

Camp H. M. Smith, Hawaii

Collections Summary

Collections Total: No archaeological materials or human skeletal remains; 0.1 linear feet of associated records.

Volume of Artifact Collections: None

Human Skeletal Remains: None

Linear Feet of Records: 0.1 linear feet (1.75 linear inches)

On Post: None

Off Post: 1 linear inch at Garcia and Associates (Chapter 18, Volume 2) and 0.75 linear inches at Scientific Consultants Services (Chapter 50, Volume 2)

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

Status of Curation Funding: Curation activities are currently not funded.

Camp H. M. Smith is a 220.5-acre facility located on the northeast edge of Pearl Harbor. It was established as a naval hospital in 1942. The Marines acquired the facility in 1955, and it was dedicated in 1956 after its first commander, Lieutenant. General Holland M. "Hollin' Mad" Smith. Today, Camp H. M. Smith serves as headquarters for Commander in Chief, Pacific, Marine Force, Pacific, and other commands (Evinger 1995; Cragg 1994).

In July 1996, St. Louis District personnel performed background archaeological research at the Department of Land and Natural Resources in Honolulu. This research included a review of all pertinent archaeological site forms, reports, and manuscripts. There are no records of archaeological sites on Camp H. M. Smith. Associated documentation is housed at two repositories in Hawaii.

Reports Related to Archaeological Investigations at Camp H. M. Smith

Cleghorn, Paul L. and Nancy Farrell
1994 *Archaeological Intensive Survey for the Proposed Family Housing Area at Camp Smith, Oahu Island, Hawaii* (Final). BioSystems Analysis, Kailua. Submitted to U.S. Army Corps of Engineers, Pacific Ocean Division, Fort Shafter, Hawaii.

28

Dillingham Military Reservation

Dillingham Air Force Base, Hawaii

Collections Summary

Collections Total: No archaeological materials or human skeletal remains; 0.75 linear inches of associated records.

Volume of Artifact Collections: None

Human Skeletal Remains: None

Linear Feet of Records: 0.75 linear inches

On Post: None

Off Post: 0.75 linear inches at Scientific Consultants Services (Chapter 124, Volume 2)

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

Status of Curation Funding: Curation activities are currently not funded.

Dillingham Military Reservation is located on the northwest coast of the island of Oahu. The installation was established in 1927 and encompasses 628 acres. Mokuleia Army Beach is situated on the western edge of Dillingham (Department of the Army, Office of the Chief of Engineers 1992).

In July 1996, St. Louis District personnel performed background archaeological research at the Department of Land and Natural Resources in Honolulu. This research included a review of all pertinent archaeological site forms, reports, and manuscripts for Dillingham Military Reservation. Several archaeological investigations have been conducted on both Dillingham Military Installation and Mokuleia Army Beach. Associated documentation is housed at one repository in Hawaii.

Reports Related to Archaeological Investigations at Dilingham Military Reservation

Rosendahl, Paul H.
1977 *Archaeological Inventory and Evaluation Report for U.S. Army Support Command, Hawaii (USASCH). Two parts.* Department of Anthropology, Bernice P. Bishop Museum, Honolulu. Submitted to U.S. Army Corps of Engineers, Pacific Ocean Division, Fort Shafter, Hawaii.

Streck, Charles F., Jr.
1986 *Archaeological Investigations at Mokuleia Army Beach, Oahu, Hawaii.* U.S. Army Corps of Engineers, Pacific Ocean Division, Fort Shafter, Hawaii. Submitted to Directorate of Personnel and Community Affairs/U.S. Army Support Command, Honolulu.

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Fort DeRussy

Honolulu, Hawaii

Collections Summary

Collections Total: 25.8 ft^3 of archaeological materials; 1.9 linear feet of associated records.

Volume of Artifact Collections: 25.8 ft^3

On Post: None

Off Post: 23.8 ft^3 at Garcia and Associates (Chapter 18, Volume 2) and 2 ft^3 at International Archaeological Research Institute (Chapter 25, Volume 2)

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

Human Skeletal Remains: None

Linear Feet of Records: 1.9 linear feet (22.25 linear inches)

On Post: None

Off Post: 4.75 linear inches at Garcia and Associates (Chapter 18, Volume 2); 6 linear inches at International Archaeological Research Institute (Chapter 25, Volume 2); 2.5 linear inches at Ogden Environmental and Energy Services (Chapter 42, Volume 2); and 9 linear inches at U.S. Army Engineer District, Honolulu (Chapter 65, Volume 2)

Compliance Status: Records require partial-to-complete rehabilitation to comply with existing federal guidelines and standards for archival preservation.

Status of Curation Funding: Curation activities are not funded.

Fort DeRussy occupies 72 acres on the beach at Waikiki, which is located on the southeast shore of the island of Oahu. The land was once used as duck ponds for Hawaiian royalty and fell under U.S. military ownership in the early 1900s. Work on the Fort began in 1910 with the construction of coastal batteries. The coastal defense system remained in service through World War II, when strategic air power rendered the batteries obsolete. Shortly after the war, they were decommissioned and razed. Battery Randolph was restored in 1970 to exhibit the history of the U.S. military in Hawaii and was placed on the National Register of Historic Places in 1984 as part of the Military District of Honolulu. Today Fort DeRussy serves as an Armed Forces Recreational Center. The Hale Koa Hotel, a first class resort, is reserved for military personnel (Cragg 1994; Evinger 1991, 1995).

In July 1996, St. Louis District personnel performed background archaeological research at the Department of Land and Natural Resources in Honolulu. This research included a review of all pertinent archaeological site forms, reports, and manuscripts. Archaeological sites have been recorded at Fort DeRussy and numerous reports have been generated as a result of archaeological investigations. Collections are housed at four repositories in Hawaii.

Reports Related to Archaeological Investigations at Fort DeRussy

BioSystems Analysis

1993 *Report on Human Remains Found During the Realignment of Kalia Road, Fort DeRussy, Waikiki, Oahu.* BioSystems Analysis, Kailua. Submitted to Hawaiian Dredging and Construction Co., Honolulu.

1993 *Summary Report of Human Remains Found at Fort DeRussy, Waikiki During Phase I Construction of the Hale Koa Hotel on Kalia Road.* BioSystems Analysis, Kailua. Submitted to Hawaiian Dredging and Construction Co., Honolulu.

Carlson, Ingrid K.

1994 *Summary Report at the Completion of Laboratory Analysis for the Phase I Monitoring of Kalia Road Realignment, Fort DeRussy, Waikiki, Oahu.* BioSystems Analysis, Kailua. Submitted to U.S. Army Corps of Engineers, Pacific Ocean Division, Fort Shafter, Hawaii.

Carlson, Ingrid, Sara Collins, and Paul Cleghorn

1994 *Report on Human Remains Found During the Realignment of Kalia Road, Fort DeRussy, Waikiki, Oahu* (Final). BioSystems Analysis, Kailua. Submitted to Hawaiian Dredging and Construction Co., Honolulu.

Carlson, Ingrid K., Francis Eble, James McIntosh, and Paul L. Cleghorn

1995 *Archaeological Monitoring and Investigations During Phase I: Kalia Road Realignment and Underground Utilities, Fort DeRussy, Waikiki, Oahu* (Draft). BioSystems Analysis, Kailua. Submitted to U.S. Army Corps of Engineers, Pacific Ocean Division, Fort Shafter, Hawaii.

Cleghorn, Paul L.

1992 *Summary Report at the Completion of Laboratory Processing for the Archaeological Data Recovery Project, Fort DeRussy, Oahu.* BioSystems Analysis, Kailua. Submitted to U.S. Army Corps of Engineers, Honolulu District, Fort Shafter, Hawaii.

Cummings, Linda Scott

1995 Stratigraphic Pollen Analysis of Pond Sediments at Fort DeRussy, Waikiki, Oahu, Hawaii. In *Archaeological Data Recovery at Fort DeRussy* by Simons et al. Paleo Research Laboratories. Submitted to BioSystems Analysis, Kailua.

Davis, Bertell D.

n.d. Memo to Dr. Joyce Bath, SHPO Office, RE: Reports on Archaeological Surface Reconnaissance at Fort DeRussy, PHRI, Hilo.

1989 *Subsurface Archaeological Reconnaissance Survey and Historical Research at Fort DeRussy, Waikiki, Island of Oahu, Hawaii.* International Archaeological Research Institute, Honolulu. Submitted to U.S. Army Corps of Engineers, Pacific Ocean Division, Fort Shafter, Hawaii.

1992 *Archaeological Monitoring of Environmental Baseline Survey and Excavations in Hawaiian Land Commission Award 1515 (Apana 2), Fort DeRussy, Waikiki, Oahu* (Final Report). International Archaeological Research Institute, Honolulu. Submitted to U.S. Army Corps of Engineers, Pacific Ocean Division, Fort Shafter, Hawaii.

1992 Excavation in Hawaiian Land Commission Award 1515 (Apana 2) at Fort DeRussy, Waikiki, Oahu. Paper presented at the Society for Hawaiian Archaeology Conference.

Denham, Tim

n.d. *Chronological Interpretation of Use and Abandonment at Loko Kalhikapu Kalia Fish Pond Complex, Waikiki Ahupuaa, Kona District, Island of Oahu.* BioSystems Analysis, Kailua.

Garcia and Associates
1997 *Final Report for Fort Archaeological Data Recovery Excavations at Fort DeRussy, Waikiki, Oahu, Hawaii.* BioSystems Analysis, Kailua. Submitted to U.S. Army Corps of Engineers, Pacific Ocean Division, Fort Shafter, Hawaii.

Johnson, Robert J., Paul L. Cleghorn, and Thomas L. Jackson
1992 *Data Recovery Plan for Archaeological Investigations at Fort DeRussy, Oahu Island, Hawaii.* BioSystems Analysis, Kailua. Submitted to U.S. Army Corps of Engineers, Pacific Ocean Division, Fort Shafter, Hawaii.

Rosendahl, Paul H.
1977 *Archaeological Inventory and Evaluation Report for U.S. Army Support Command, Hawaii (USASCH). Two Parts*. Department of Anthropology, Bernice P. Bishop Museum, Honolulu. Submitted to U.S. Army Corps of Engineers, Pacific Ocean Division, Fort Shafter, Hawaii.
1989 Interim Report Upon Completion of Field Work, Hale Koa Hotel Subsurface Inventory Survey-Luan Facility, Kalia, Land of Waikiki, District of Kona, Island of Oahu. Letter report, Paul H. Rosendahl, Hilo. Submitted to USACFSC, Hale Koa Hotel, Fort DeRussy, Honolulu.

Simons, Jeanette, Paul L. Cleghorn, Robert J. Jackson, and Thomas L. Jackson
1995 *Archaeological Data Recovery Excavations at Fort DeRussy, Waikiki, Oahu, Hawaii* (Draft). BioSystems Analysis, Kailua. Submitted to U.S. Army Corps of Engineers, Pacific Ocean Division, Fort Shafter, Hawaii.

Streck, Charles F., Jr.
1992 Human Burial Discovery During Archaeological Data Recovery Excavations at Fort DeRussy, Waikiki, Oahu Island, Hawaii, 20 May 1992. Letter report, U.S. Army Corps of Engineers, Pacific Ocean Division, Fort Shafter, Hawaii.

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Fort Kamehameha

Fort Kamehameha, Hawaii

Collections Summary

Collections Total: 77.2 ft^3 of archaeological material and human skeletal remains; 1.5 linear feet of associated records.

Volume of Artifact Collections: 42.4 ft^3

On Post: None

Off Post: 0.9 ft^3 at Cultural Surveys Hawaii (Chapter 15, Volume 2) and 41.5 ft^3 at Ogden Environmental and Energy Services (Chapter 42, Volume 2)

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

Human Skeletal Remains: 34.8 ft^3

On Post: None

Off Post: 1.3 ft^3 at the Bernice P. Bishop Museum (Chapter 7, Volume 2) and 33.5 ft^3 at Ogden Environmental and Energy Services (Chapter 42, Volume 2)

Compliance Status: A minimum of one individual at the Bernice P. Bishop Museum is in good condition. A minimum of 90 individuals are currently located with collections at Ogden Environmental and Energy Services. Qualified personnel need to take measures to manage these remains as outlined in NAGPRA.

Linear Feet of Records: 1.5 linear feet (18.13 linear inches)

On Post: None

Off Post: 0.13 linear inches at the Bernice P. Bishop Museum (Chapter 7, Volume 2); 1.0 linear inch at International Archaeological Research Institute (Chapter 25, Volume 2); 4.0 linear inches at Ogden Environmental and Energy Services (Chapter 42, Volume 2); and 1.1 linear feet (13 linear inches) at U.S. Army Engineer District, Honolulu (Chapter 65, Volume 2)

Compliance Status: Records require partial-to-complete rehabilitation to comply with existing federal guidelines and standards for archival preservation.

Status of Curation Funding: Curation activities are not funded.

Pearl Harbor, located on the island of Oahu, is a strategic military stronghold that has played a significant role since early in the history of the United States' association with Hawaii. The Reciprocity Treaty of 1875 granted the U.S. sole rights to the entrance of Pearl Harbor. Fort Kamehameha which is located on the east side of Pearl Harbor, became a military installation in 1901. The installation was originally known as Queen Emma Military Reservation, named after its former resident Emma Rooke, wife of Kamehameha IV (Rosendahl 1977; Watanabe 1991).

In July 1996, St. Louis District personnel performed background archaeological research at the Department of Land and Natural Resources in Honolulu. This research included a review of all pertinent archaeological site forms, reports, and manuscripts for Fort Kamehameha. Archaeological sites have been recorded and a number of reports have been generated as the result of archaeological investigations. Archaeological collections are currently housed at five repositories in Hawaii.

Reports Related to Archaeological Investigations at Fort Kamehameha

Byars, Sara
1988 Archaeologists Study Fort Kam Burial Site. *Aloha Ohang* Vol. IV, No. 2. Oahu Consolidated Family Housing Office, Fort Shafter, Hawaii.

Drolet, Robert P.
1993 *Phase II Archaeological Subsurface Testing and Data Recovery at Fort Kamehameha Wastewater Treatment Plant, Pearl Harbor, Oahu, Hawaii.* Ogden Environmental and Energy Services Co., Honolulu, Delivery Order 14, Contract N62742-91-D-0507. Submitted to Department of Navy, PACDIVNAVFACENGCOM, Pearl Harbor, Hawaii.

1994 *End of Fieldwork Report, CTO-166: Archaeological Testing Beneath Roadways at Fort Kamehameha, Oahu.* Ogden Environmental and Energy Service Co., Honolulu. Submitted to U.S. Department of the Navy, PACDIVNAVFACENGCOM, Pearl Harbor, Hawaii.

1995 *Phase III Archaeological Subsurface Testing and Data Recovery at Fort Kamehameha Wastewater Treatment Plant, Pearl Harbor, Oahu, Hawaii.* Ogden Environmental and Energy Services Co., Honolulu, Delivery Order 26, Contract N62742-91-D-0507. Submitted to Department of Navy, PACDIVNAVFACENGCOM, Pearl Harbor, Hawaii.

1996 *Phase I Archaeological Subsurface Testing and Data Recovery at Fort Kamehameha Wastewater Treatment Plant, Pearl Harbor, Oahu, Hawaii* (Final). Ogden Environmental and Energy Service Co., Honolulu.

Drolet, Robert P., and Allen Schilz
1992 *Emergency Data Recovery Project for Fort Kamehameha Wastewater Treatment Plant, Pearl Harbor, Oahu, Hawaii.* Ogden Environmental and Energy Services Co., Honolulu.

Erkelens, Conrad, and J. Stephen Athens
1992 *Archaeological Review and Recommendations for the Fort Kamehameha Sewage Treatment Plant Expansion and Housing Relocation Plans.* International Archaeological Research Institute, Honolulu. Submitted to Belt, Collins and Associates, Honolulu.

Eulberg, Delwyn
1995 *Inadvertent Discovery Alongside Battery Hasbrouck in Fort Kamehameha, at Hickam AFB.* U.S. Department of the Air Force, Hickam Air Force Base, Hawaii.

Hammatt, Hallett H., and Douglas Borthwick
1987 *Archaeological Subsurface Testing for a Proposed Apron Addition.* Cultural Surveys Hawaii, Honolulu. Submitted to Hawaii Air National Guard, Hickam Air Force Base, Hawaii.

1987 *Archaeological Subsurface Testing for a Proposed Composite Avionics/Weapons Release Facility and New By-Pass Road.* Cultural Surveys Hawaii, Honolulu. Submitted to Hawaii Air National Guard, Hickam Air Force Base, Hawaii.

1987 *Archaeological Subsurface Testing for a Proposed Power Check Pad with Noise Suppressor and Related Improvements.* Cultural Surveys Hawaii, Kailua, Hawaii. Submitted to Hawaii Air National Guard, Hickam Air Force Base, Hawaii.

Hammatt, Hallett H., Douglas Borthwick, and David Shideler
1986 *Archaeological Testing for a Proposed Water Main Replacement, Fort Kamehameha, Oahu, Hawaii.* Cultural Surveys Hawaii, Kailua. Submitted to U.S. Army Corps of Engineers, Pacific Ocean Division, Fort Shafter, Hawaii.

1988 *Archaeological Monitoring of Water Main Replacement, Ft. Kamehameha, Halawa, Oahu, Hawaii.* Cultural Surveys Hawaii, Kailua. U.S. Army Corps of Engineers, Pacific Ocean Division, Fort Shafter, Hawaii.

Hinkes, Madeline J.
1988 *Skeletal Remains Recovered from Fort Kamehameha.*

Kaku, Melvin N.
1992 Letter to Mr. Paty (DLNR) Regarding Phase II Scope of Work for Data Recovery, Phase II Burial Treatment Plan, and M.O.A. for Fort Kamehameha Sewage Treatment Plan Expansion Project. Submitted to Department of Navy, PACDIVNAVFACENGCOM, Pearl Harbor, Hawaii.

Masse, W. Bruce
1992 Weekly Status Reports for Phase I Archaeological Fieldwork Conducted in Conjunction with the Fort Kamehameha Sewage Treatment Plant Expansion Project. Status Reports 1-5. Department of Navy, PACDIVNAVFACENGCOM, Pearl Harbor, Hawaii.

McAllister, J. Gilbert
1933 *Archaeology of Oahu.* Bernice P. Bishop Museum Bulletin 104. Honolulu.

Rosendahl, Paul H.
1977 *Archaeological Inventory and Evaluation Report for U.S. Army Support Command, Hawaii (USASCH).* Two parts. Department of Anthropology, Bernice P. Bishop Museum, Honolulu. Submitted to U.S. Army Corps of Engineers, Pacific Ocean Division, Fort Shafter, Hawaii.

Streck, Charles F., Jr.
1988 Trip Report: Excavation of Human Bone Remains from Under Quarters #14, Fort Kamehameha, Oahu Island, Hawaii, 12-15 January 1988. U.S. Army Corps of Engineers, Pacific Ocean Division, Honolulu.

Streck, Charles F., Jr., and Farley Watanabe
1988 *Excavation of Human Bone Remains from Under Quarters #14, Fort Kamehameha, Oahu Island, Hawaii, 12-15 January 1988.* U.S. Army Corps of Engineers, Pacific Ocean Division, Fort Shafter, Hawaii.

1989 Trip Report for Emergency Archaeological Assistance at Fort Kamehameha, Oahu Island, Hawaii, 8 May 1989. U.S. Army Corps of Engineers, Pacific Ocean Division, Fort Shafter, Hawaii.

Watanabe, Farley K.
1989 Memorandum for Record: Skeletal Remains for Fort Kamehameha. U.S. Army Corps of Engineers, Pacific Ocean Division, Fort Shafter, Hawaii.

1991 *Archaeological Site Survey and Subsurface Testing for Midpac T-1 Network Project Fort Kamehameha, Oahu Island* (Draft). U.S. Army Corps of Engineers, Pacific Ocean Division, Fort Shafter, Hawaii. Submitted to Defense Communications Agency, Pacific Area, Wheeler Air Force Base, Hawaii.

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Fort Shafter

Fort Shafter, Hawaii

Collections Summary

Collections Total: 8.7 ft^3 of archaeological materials and human skeletal remains; 1.3 linear feet of associated records.

Volume of Artifact Collections: 7.4 ft^3

On Post: None

Off Post: 1.3 ft^3 at Garcia and Associates (Chapter 18, Volume 2); 1.1 ft^3 at International Archaeological Research Institute (Chapter 25, Volume 2); and 5.0 ft^3 at Ogden Environmental and Energy Services (Chapter 42, Volume 2)

Compliance Status: Collections require complete rehabilitation to comply with existing federal guidelines and standards for archaeological preservation.

Human Skeletal Remains: 1.3 ft^3

On Post: None

Off Post: 1.3 ft^3 at the Bernice P. Bishop Museum (Chapter 7, Volume 2)

Compliance Status: A minimum of five individuals is located at the Bishop Museum. Qualified personnel need to take measures to manage these remains as outlined in NAGPRA.

Linear Feet of Records: 1.3 linear feet (16.1 linear inches)

On Post: None

Off Post: 0.13 linear inches at Bernice P. Bishop Museum (Chapter 7, Volume 2); 0.25 linear inches at Garcia and Associates (Chapter 18, Volume 2); 10.25 linear inches at International Archaeological Research Institute (Chapter 25, Volume 2); 1.0 linear inch at Ogden Environmental and Energy Services (Chapter 42, Volume 2); and 4.5 linear inches at U.S. Army Engineer District, Honolulu (Chapter 65, Volume 2)

Compliance Status: Records require partial-to-complete rehabilitation to comply with existing federal guidelines and standards for archival preservation.

Status of Curation Funding: Curation activities are not funded.

Fort Shafter was established as a military reservation in 1899 under the name Kahauiki. It was briefly renamed Camp McKinley and received its present name in 1907. It was the first permanent military reservation established in Hawaii. Today Fort Shafter serves as Headquarters, U.S. Army Pacific (USARPAC) and is responsible for providing Army ground combat forces throughout the Pacific region (except Korea), support for those forces administratively and logistically, and reserve contingency plans to meet any ground threats to the United States' interests in the Pacific. Richardson Hall, on the grounds of Fort Shafter, is known as the "Pineapple Pentagon" (Cragg 1994).

In July 1996, St. Louis District personnel performed background archaeological research at the

Department of Land and Natural Resources in Honolulu. This research included a review of all pertinent archaeological site forms, reports, and manuscripts. Archaeological sites have been recorded on Fort Shafter and reports have been generated as a result of archaeological investigations. Collections are housed at five repositories in Hawaii.

Reports Related to Archaeological Investigations at Fort Shafter

Anderson, Lisa
1996 *Historic Preservation Measures for Proposed Demolition of Two Historic Structures at Fort Shafter Military Reservation, Oahu, Hawaii.*(Draft Final). Ogden Environmental and Energy Service Co., Honolulu.

Athens, J. Stephen, and M. J. Tomonari–Tuggle
1995 *Research Design: Archaeological Subsurface Testing and Sampling for U.S. Army Reserve Training Facilities Construction Project PN3600, Fort Shafter Flats, Oahu Island, Hawaii.* International Archeological Research Institute, Honolulu. Submitted to U.S. Army Engineer District, Honolulu.

Erkelens, Conrad, and M. J. Tomonari–Tuggle
1996 *Archaeological Subsurface Testing, U.S. Army Reserve Training Facility, Fort Shafter Flats, Kahauiki, Oahu, Hawaii.*(Draft). International Archeological Research Institute, Honolulu. Submitted to U.S. Army Corps of Engineers, Pacific Ocean Division, Fort Shafter, Hawaii.

International Archeological Research Institute
1995 *Safety Plan for the Conduct of Archaeological Subsurface Testing and Sampling for the U.S. Army Reserve Training Facilities Construction Project PN3600 Fort Shafter Flats, Oahu, Hawaii.* International Archeological Research Institute, Honolulu. Submitted to U.S. Army Corps of Engineers, Pacific Ocean Division, Fort Shafter, Hawaii.

Office of the Deputy Installation Commander
1974 *A History of Fort Shafter, 1898–1974.* Office of the Deputy Installation Commander, Fort Shafter Area, HQUSA Support Command, Hawaii.

Jackson, Thomas L., Kanalei Shun, and Marshall Weisler
1992 *Data Recovery Plan for Archaeological Investigations at Proposed Child Development Center, Fort Shafter, Kalihi, Island of Oahu, Hawaii.* BioSystems, Kailua. Submitted to U.S. Army Corps of Engineers, Pacific Ocean Division, Fort Shafter, Hawaii.

Jackson, Thomas L., William A. Shapiro, and Carol Silva
1994 *Archaeological Data Recovery Excavations Proposed Child Development Center, Fort Shafter, Kalihi, Oahu, Hawaii.* (Draft Summary Report). BioSystems Analysis, Kailua. Submitted to U.S. Army Corps of Engineers, Pacific Ocean Division, Fort Shafter, Hawaii.

McAllister, J. Gilbert
1933 *Archaeology of Oahu.* Bernice P. Bishop Museum Bulletin 104, Honolulu.

Rosendahl, Paul H.
1977 *Archaeological Inventory and Evaluation Report for U.S. Army Support Command, Hawaii (USACASCH).* Two parts. Department of Anthropology, Bernice P. Bishop Museum, Honolulu. Submitted to U.S. Army Corps of Engineers, Pacific Ocean Division, Fort Shafter, Hawaii.

Shun, Kanalei, and Thomas L. Jackson
1992 *Port Field Summary Report of Archaeological Data Recovery Operations at Kahauki Terraces, Fort Shafter, Kaliki, Oahu.* BioSystems Analysis, Kailua. Submitted to U.S. Army Support Command, Hawaii.

Tomonari–Tuggle, M. J., Stephen Hamilton, and Katherine Bouthillier
1996 *Fort Shafter: Cultural Resource Investigations at Hawaii's First Military Post.* International Archaeological Research Institute, Honolulu. Submitted to U.S. Army Corps of Engineers, Pacific Ocean Division, Fort Shafter, Hawaii.

Williams, Scott, Lisa Anderson, and James Landrum
1996 *Archaeological Monitoring and Sampling During Construction for FY88 SR DN67 Warehouse Administration Facility, Shafter Flats.* Ogden Environmental and Energy Service Co., Honolulu.

32

Radio Station

Helemano, Hawaii

Collections Summary

Collections Total: 3 ft^3 of archaeological materials; 0.2 linear feet of associated records.

Volume of Artifact Collections: 3 ft^3

On Post: None

Off Post: 3 ft^3 at the Bernice P. Bishop Museum (Chapter 7, Volume 2)

Compliance Status: Collections require partial rehabilitation to comply with existing federal guideline and standards for archaeological curation.

Human Skeletal Remains: None

Linear Feet of Records: 0.2 linear feet (2.0 linear inches)

On Post: None

Off Post: 2.0 linear inches at the Bernice P. Bishop Museum (Chapter 7, Volume 2)

Compliance Status: Records require partial rehabilitation to comply with existing federal guidelines and standards for archival preservation.

Status of Curation Funding: Curation activities are currently not funded.

Radio Station, Helemano is located in the center of the island of Oahu. In July 1996, St. Louis District personnel performed background archaeological research at the Department of Land and Natural Resources in Honolulu. This research included a review of all pertinent archaeological site forms, reports, and manuscripts for Helemano Radio Station. Several archaeological investigations have been conducted on Helemano. Collections are housed at one repository in Hawaii.

Reports Related to Archaeological Investigations at Radio Station, Helemano

Anonymous

1994 *Draft Environmental Assessment and Finding of No Significant Impact for New Family Housing Construction at Helemano Military Reservation, Central Oahu, Hawaii.* U.S. Army Corps of Engineers, Pacific Ocean Division, Honolulu Engineer District, Fort Shafter, Hawaii.

Faunkhauser, Barry L.
1987 *Archaeological Reconnaissance Survey of Helemano Military Reservation, Waialua, Oahu Island, Hawaii*. Public Archaeology Section Applied Research Group, Bernice P. Bishop Museum, Honolulu. Submitted to U.S. Army Corps of Engineers, Pacific Ocean Division, Fort Shafter, Hawaii.

Rosendahl, Paul H.
1977 *Archaeological Inventory and Evaluation Report for U.S. Army Support Command, Hawaii (USASCH).* Two parts. Department of Anthropology, Bernice P. Bishop Museum, Honolulu. Submitted to U.S. Army Corps of Engineers, Pacific Ocean Division, Fort Shafter, Hawaii.

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Hickam Air Force Base

Hickman Air Force Base, Hawaii

Collections Summary

Collections Total: 8.8 ft^3 of archaeological materials and human skeletal remains; 2.5 linear feet of associated records.

Volume of Artifact Collections: 7.5 ft^3

On Post: None

Off Post: 2.6 ft^3 Garcia and Associates (Chapter 18, Volume 2); 3.9 ft^3 at Paul H. Rosendahl (Chapter 44, Volume 2); and 1.0 ft^3 at Scientific Consultants Services (Chapter 50, Volume 2)

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

Human Skeletal Remains: 1.3 ft^3

On Post: None

Off Post: 1.3 ft^3 at the Bernice P. Bishop Museum (Chapter 7, Volume 2)

Compliance Status: An undetermined number of individuals is located in the Osteology Laboratory at the Bishop Museum. Qualified personnel need to take measures to manage these remains as outlined in NAGPRA.

Linear Feet of Records: 2.5 linear feet (30.25 linear inches)

On Post: None

Off Post: 1.75 linear inches at Archaeological Consultants of the Pacific (Chapter 3, Volume 2); 2.25 linear inches at Garcia and Associates (Chapter 18, Volume 2); 1.5 linear inches at International Archaeological Research Institute (Chapter 25, Volume 2); 9.0 linear inches at Ogden Environmental and Energy Services (Chapter 42, Volume 2); 8.0 linear inches at Paul H. Rosendahl (Chapter 44, Volume 2); 3.75 linear inches at Scientific Consultants Services (Chapter 50, Volume 2); and 4.0 linear inches at U.S. Army Engineer District, Honolulu (Chapter 65, Volume 2)

Compliance Status: Records require partial rehabilitation to comply with existing federal guidelines and standards for archival preservation.

Status of Curation Funding: Curation activities are not funded.

Hickam Field, was cut from sugar cane fields and brush on the eastern shore of Pearl Harbor beginning in 1934 by the Quartermaster Corps and was completed in 1938. Hickam AFB was named after Lieutenant Colonel Horace M. Hickam, who died in an air crash in 1934. Hickam AFB served as the hub of the Pacific aerial network during World War II. It supported aircraft transporting troop and supplies to forward areas. When Pearl Harbor was attacked by the Japanese on December 7, 1941, 124 people were killed, 37 were missing, and 274 were wounded at Hickam AFB. In 1957, Far East Air Forces, Headquarters moved from Japan to Hawaii and was redesignated as Pacific Air Forces, Headquarters.

Hickam AFB was recognized with the designation of National Historic Landmark in 1985. (Cragg 1994; Evinger 1995)

In July of 1996, St. Louis District personnel performed background archaeological research at the Department of Land and Natural Resources in Honolulu. This research included a review of all pertinent archaeological site forms, reports, and manuscripts. Archaeological sites have been recorded and several reports have been generated as a result of archaeological investigations. Collections are housed at eight repositories in Hawaii.

Reports Related to Archaeological Investigations at Hickam AFB

Anderson, Lisa
1997 *Historic Window Glazing and Replacement at Building 2050 Hickam Air Force Base* (Draft). Ogden Environmental and Energy Service Co., Honolulu.

Anderson, Lisa, and Katherine Bouthillier
1994 *Assessments and Analysis of Historic Properties at Hickam Air Force Base, Honolulu, Hawaii for Preparation of a Historic Preservation Plan* (Draft). Ogden Environmental and Energy Services Co., Honolulu. Submitted to U.S. Army Corps of Engineers, Pacific Ocean Division, Fort Shafter, Hawaii.

Denham, Tim, and Paul L. Cleghorn
1994 *Report of Archaeological Inventory Survey and Limited Subsurface Testing for the Proposed Family Housing Revitalization Projects, Work Areas B and C, Hickam Air Force Base, Oahu, Hawaii* (Draft). BioSystems, Kailua. Submitted to U.S. Army Corps of Engineers, Pacific Ocean Division, Fort Shafter, Hawaii.

Erkelens, Conrad
1996 *Archaeological Monitoring of Underground Storage Tank Removals, Hickam Air Force Base and Pearl City Peninsula Victor Dock, Oahu, Hawaii.* (Draft). International Archaeological Research Institute, Honolulu. Submitted to U.S. Army Corps of Engineers, Pacific Ocean Division, Fort Shafter, Hawaii.

Hammatt, Hallett H., and Douglas Borthwick
1987 *Archaeological Subsurface Testing for a Proposed F-15 Flight Simulator.* Cultural Surveys Hawaii, Honolulu. Submitted to Hickam Air Force Base, Honolulu.

Kennedy, Joseph, and Tim P. Denham
1991 *Archaeological Monitoring Report for Fiber-Optic Cable, MIDPAC T-1 Network Project Located at Hickam AFB, Island of Oahu.* Archaeological Consultants of Hawaii, Haleiwa. Contract # OCA-200-87-H-0024/ AT-OCY-43006 Defense Communication Agency Pacific Area.

Tomonari–Tuggle, M. J., and Ann Yoklavich
1996 *Cultural Resource Management Plan for Five Satellite Installations of the 15th Air Base Wing Hickam Air Force Base, Hawaii. Hickam Petroleum, Oil, and Lubricants Pipeline and Storage Areas, Kaena Point Satellite Tracking Station Kokee Air Force Station, Mt. Kaala Air Force Station, and Palehua Solar Observation* (Draft). International Archaeological Research Institute, Honolulu and Spencer Mason Architects, Honolulu. Submitted to U.S. Army Corps of Engineers, Pacific Ocean Division, Fort Shafter, Hawaii.

Tuggle, H. David
1995 *Archaeology Monitoring Plan for Removal of Underground Storage Tanks at Hickam Air Force Base, Victor Dock, and Kaena Point, Oahu, Hawaii.* International Archaeological Research Institute, Inc., Honolulu, Hawaii. Submitted to U.S. Army Corps of Engineers, Pacific Ocean Division, Fort Shafter, Hawaii.

Usha, Pradsad
1996 *Research Design: Cultural Resource Management Plan for Hickam Air Force Base Halawa and Moanalua Ahupuaa Ewa and Kona Districts, Oahu, Hawaii.* Ogden Environmental and Energy Service Co., Honolulu.

34

Kaena Point Tracking Station

Kaena Point, Hawaii

Collections Summary

Collections Total: 1.5 ft^3 of archaeological materials; 0.5 linear feet of associated records.

Volume of Artifact Collections: 1.5 ft^3

On Post: None

Off Post: 1.0 ft^3 at the Bernice P. Bishop Museum (Chapter 7, Volume 2) and 0.5 ft^3 at Cultural Surveys Hawaii (Chapter 15, Volume 2)

Compliance Status: Collections require partial-to-complete rehabilitation to comply with existing federal guidelines and standards for archaeological curation.

Human Skeletal Remains: None

Linear Feet of Records: 0.5 linear feet (6.1 linear inches)

On Post: None

Off Post: 6.1 linear inches at Cultural Surveys Hawaii (Chapter 15, Volume 2)

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

Status of Curation Funding: Curation activities are not funded.

Kaena Point Tracking Station was created under Executive Order 4679 in July 1923. The installation was mapped for full-scale construction in 1946. The Army built a satellite tracking station for the Air Force at Kaena Point in the 1950s, which is its current use by the Air Force (Hammatt and Borthwick 1987).

In July 1996, St. Louis District personnel performed background archaeological research at the Department of Land and Natural Resources in Honolulu. This research included a review of all pertinent archaeological site forms, reports, and manuscripts. Archaeological sites have been recorded on Kaena Point Tracking Station and reports have been generated as a result of archaeological investigations. Collections are housed at two repositories in Hawaii.

Reports Related to Archaeological Investigations at Kaena Point Tracking Station

Anonymous
1993 *Natural Resources Management Plan.* Higginbotham/Briggs & Associates, Colorado Springs, Colorado.

Hammatt, Hallett H., and Douglas Borthwick
1987 *Archaeological Survey and Testing at the Kaena Point Satellite Tracking Station, Waianae and Waihua, Oahu.* Cultural Surveys Hawaii, Honolulu. Submitted to U.S. Army Corps of Engineers, Pacific Ocean Division, Fort Shafter, Hawaii.

Rosendahl, Paul H.
1977 *Archaeological Inventory and Evaluation Report for U.S. Army Support Command, Hawaii (USASCH).* Two parts. Department of Anthropology, Bernice P. Bishop Museum, Honolulu. Submitted to U.S. Army Corps of Engineers, Pacific Ocean Division, Fort Shafter, Hawaii.

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Kahuku Training Area

Kahuku, Hawaii

Collections Summary

Collections Total: 0.4 ft^3 of archaeological materials; 0.1 linear feet of associated records.

Volume of Artifact Collections: 0.4 ft^3

On Post: None

Off Post: 0.4 ft^3 at Ogden Environmental and Energy Services (Chapter 42, Volume 2)

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

Human Skeletal Remains: None

Linear Feet of Records: 0.1 linear feet (1.0 linear inch)

On Post: None

Off Post: 1.0 linear inch at Ogden Environmental and Energy Services (Chapter 42, Volume 2)

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

Status of Curation Funding: Curation activities are not funded.

Kahuku Training Area is located near Kahuku Point, on the north shore of Oahu. Military use in the area began after the onset of World War II. The installation is currently comprised of land parcels leased from the State of Hawaii and from the Campbell Estate (Davis 1981).

In July 1996, St. Louis District personnel performed background archaeological research at the Department of Land and Natural Resources in Honolulu. This research included a review of all pertinent archaeological site forms, reports, and manuscripts. Archaeological sites have been recorded on Kahuku Training Area and reports have been generated as a result of archaeological investigations. Collections are housed at one repository in Hawaii.

Reports Related to Archaeological Investigations at Kahuku Training Area

Davis, Bertell
1981 *Archaeological Reconnaissance Survey of Hawaii Wind Farm Project Area at Kahuku, Oahu, Hawaii.* Department of Anthropology, Bernice P. Bishop Museum, Honolulu, Hawaii. Submitted to Bechtel Power Corporation, Los Angeles.

Farrell, Nancy, and Paul Cleghorn
1995 *Archaeological and Historical Investigations at U.S. Air Force Punamano Communication Station Kahuku, Oahu Island, Hawaii.* BioSystems Analysis, Kailua. Submitted to U.S. Army Corps of Engineers, Pacific Ocean Division, Fort Shafter, Hawaii.

McAllister, J. Gilbert
1933 *Archaeology of Oahu.* Bernice P. Bishop Museum Bulletin 104.

Pfeffer, Michael, and Hallett H. Hammett
1992 *Waialua to Kahuku Power Line.* Cultural Surveys Hawaii, Kailua.

Rosendahl, Paul H.
1977 *Archaeological Inventory and Evaluation Report for U.S. Army Support Command, Hawaii (USASCH).* Two parts. Department of Anthropology, Bernice P. Bishop Museum, Honolulu Submitted to U.S. Army Corps of Engineers, Pacific Ocean Division, Fort Shafter, Hawaii.

Sterling, Elspeth P., and Catherine C. Summers
1978 *Sites of Oahu.* Department of Anthropology, Department of Education, Bernice P. Bishop Museum, Honolulu.

Williams, Scott, and Jim Landrum
1995 *Historic Preservation Plan for the Kahuku Training Area, Hawaii.* Draft. Ogden Environmental and Energy Services Co., Honolulu. Submitted to U.S. Army Corps of Engineers, Pacific Ocean Division, Fort Shafter, Hawaii.

Williams, Scott, and Tomasi Patolo
1995 *Archaeological Inventory Survey of the Kahuku Training Area and Preparation of a Historic Preservation Plan for the Legacy Resource Management Program, Oahu Island, Hawaii.* Draft. Ogden Environmental and Energy Service Co., Honolulu. Submitted to U.S. Army Corps of Engineers, Pacific Ocean Division, Fort Shafter, Hawaii.

36

Kawailoa Training Area

Kawailoa, Hawaii

Collection Summary

Collections Total: 1.0 ft^3 of archaeological materials; 0.3 linear feet of associated records.

Volume of Artifact Collections: 1.0 ft^3
On Post: None
Off Post: 1.0 ft^3 at Scientific Consultants Services (Chapter 50, Volume 2)
Compliance Status: Collections require complete rehabilitation to comply with existing federal guidelines and standards for archaeological curation.

Human Skeletal Remains: None

Linear Feet of Records: 0.3 linear feet (3.25 linear inches)
On Post: None
Off Post: 3.25 linear inches at Scientific Consultants Services (Chapter 50, Volume 2)
Compliance Status: Records require complete rehabilitation to comply with existing federal guideline and standards for archival preservation.

Status of Curation Funding: Curation activities are not funded.

Kawailoa Training Area is a 23,348-acre installation located on the island of Hawaii (Rosendahl 1977). In July 1996, St. Louis District personnel performed background archaeological research at the Department of Land and Natural Resources in Honolulu. This research included a review of all pertinent archaeological site forms, reports, and manuscripts. Collections are housed at one repository in Hawaii.

Reports Related to Archaeological Investigations at Kawailoa Training Area

Rosendahl, Paul H.
1977 *Archaeological Inventory and Evaluation Report for U.S. Army Support Command, Hawaii (USASCH).* Two parts. Department of Anthropology, Bernice P. Bishop Museum, Honolulu. Submitted to U.S. Army Corps of Engineers, Pacific Ocean Division, Fort Shafter, Hawaii.

37

Kipapa Ammunition Storage Area

Kipapa, Hawaii

Collection Summary

Collections Total: 0.3 ft^3 of archaeological materials; No associated records.

Volume of Artifact Collections: 0.3 ft^3

On Post: None

Off Post: 0.3 ft^3 at Cultural Surveys Hawaii (Chapter 15, Volume 2)

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

Human Skeletal Remains: None

Linear Feet of Records: None

Status of Curation Funding: Curation activities are not funded.

Kipapa Ammunition Storage Area is located on the island of Oahu, north of Pearl Harbor. It was established in 1944, but is now reported as inactive. It served as an ammunition storage site.

In July 1996, St. Louis District personnel performed background archaeological research at the Department of Land and Natural Resources in Honolulu. This research included a review of all pertinent archaeological site forms, reports, and manuscripts. Collections are housed at one repository in Hawaii.

Reports Related to Archaeological Investigations at Kipapa Ammunition Storage Area

Hammatt, Hallett H., and Douglas Borthwick
1988 *Archaeological Reconnaissance and Subsurface Testing in Upper and Lower Kipapa Gulch, Waipio, Oahu.* Cultural Surveys Hawaii, Kailua. Submitted to U.S. Army Corps of Engineers, Pacific Ocean Division, Fort Shafter, Hawaii.

Rosendahl, Paul H.
1977 *Archaeological Inventory and Evaluation Report for U.S. Army Support Command, Hawaii (USASCH).* Two parts. Department of Anthropology, Bernice P. Bishop Museum, Honolulu. Submitted to U.S. Army Corps of Engineers, Pacific Ocean Division, Fort Shafter, Hawaii.

38

Naval Magazine, Lualualei

Waianae, Hawaii

Collections Summary

Collections Total: 19.0 ft^3 of archaeological materials and human skeletal remains; 1.2 linear feet of associated records.

Volume of Artifacts Collections: 13.8 ft^3
On Post: None
Off Post: 13.8 ft^3 at the Bernice P. Bishop Museum (Chapter 7, Volume 2)
Compliance Status: Collections require partial rehabilitation to comply with existing federal guidelines and standards for archaeological curation.

Human Skeletal Remains: 5.2 ft^3
On Post: None
Off Post: 5.2 ft^3 at the Bernice P. Bishop Museum (Chapter 7, Volume 2)
Compliance Status: An undetermined number of individuals is located in the Bishop Museum Osteology Laboratory. Qualified personnel need to take measures to manage these remains as outlined in NAGPRA.

Linear Feet of Records: 1.2 linear feet (14.25 linear inches)
On Post: None
Off Post: 10.5 linear inches at Bernice P. Bishop Museum (Chapter 7, Volume 2) and 3.75 linear inches at International Archaeological Research Institute (Chapter 25, Volume 2)
Compliance Status: Records require partial rehabilitation to comply with existing federal guidelines and standards for archival preservation.

Status of Curation Funding: Curation activities are not funded.

The land on which Naval Magazine, Lualualei is located was acquired in 1929 from the McCandles Estate and from land set aside from Pearl Harbor Reservation. It was commissioned as Naval Ammunition Depot, Oahu in 1934. It served as an ammunition depot until 1974, when it was reestablished as a triservice facility, Naval Magazine, Lualualei. The facility receives, renovates, maintains, stores, and issues ammunition, explosives, expendable ordnance items, and weapons and technical ordnance materiels. The command is composed of Headquarters at Lualualei, West Loch Branch, which is shipping and receiving, and Waikele, which is a storage branch (Evinger 1995).

In July 1996, St. Louis District personnel performed background archaeological research at mthe Department of Land and Natural Resources in Honolulu. This research included a review of all pertinent archaeological site forms, reports, and manuscripts. Archaeological sites have been recorded on Lualualei Naval Magazine and numerous reports have been generated as a result of archaeological investigations. Collections are housed at two repositories in Hawaii.

Reports Related to Archaeological Investigations at Naval Magazine, Lualualei

Davis, Bertell D., and Greg C. Burtchard
1991 *Archaeological Inventory Survey of the Proposed PPV Housing Area, West Loch Unit of the Lualualei Naval Ammunition Depot, Puuloa, Ewa, Oahu, Hawaii.* International Archaeological Research Institute, Honolulu. Submitted to Belt, Collins and Associates, Honolulu.

Haun, Alan E.
1991 *An Archaeological Survey of the Naval Magazine and Naval Communications Area Transmission Facility Lualualei, Oahu, Hawaii.* Public Archaeology Section, Applied Research Group, Bishop Museum, Honolulu. Submitted to Pacific Division, Naval Facilities Engineering Command, Pearl Harbor, Hawaii.

Jensen, Peter M., and Katherine Bouthillier
1995 *Cultural Resources Management Plan Naval Magazine Lualualei, Lands of Puuloa, Honauliuli, Waikele, Waipio, and Lualualei Districts of Ewa and Waianae, Island of Oahu.* (Prefinal Report). Paul H. Rosendahl, Hilo. Submitted to Department of the Navy, Pacific Division, Naval Facilities Engineering Command, Pearl Harbor, Hawaii.

Jensen, Peter M., and James Head
1995 *Phase I Archaeological Reconnaissance Survey Naval Magazine Lualualei NAVMAG-West Loch, Land of Puuloa, Honouliuli, Waikele and Waipio, Island of Hawaii.* (Prefinal Report). Paul H. Rosendahl, Hilo. Submitted to Department of the Navy, Pacific Division, Naval Facilities Engineering Command, Pearl Harbor, Hawaii.

Landrum, James, Robert Drolet, and Katherine Bouthillier
1995 *Cultural Resources Overview Survey Naval Magazine Lualualei, Island of Oahu, Hawaii In Conjunction with Department of Defense Legacy Resource Management Program: Demonstration Project #70.* (Prefinal Report). Ogden Environmental and Energy Services Co., Honolulu. Submitted to Department of the Navy, Pacific Division, Naval Facilities Engineering Command, Pearl Harbor, Hawaii.

Nees, Richard
1995 *Archaeological Reconnaissance Survey at NCTAMS Wahiawa and NRTF Lualualei, NCTAMS Wahiawa and NRTF Lualualei, NCTAMS EASTPAC, Oahu Island.* Ogden Environmental and Engineering Services Co., Honolulu. Submitted to Pacific Division, Naval Facilities Engineering Command, Pearl Harbor, Hawaii.

Riford, Mary F.
1986 *Archaeological Survey of Portions of Lualualei Naval Magazine, Waikele Branch.* Department of Anthropology, Bernice P. Bishop Museum, Honolulu. Submitted to Department of the Navy, Pacific Division, Naval Facilities Engineering Command, Pearl Harbor, Hawaii.

Sinoto, Aki
1978 *Archaeological Reconnaissance Survey and Salvage of Burial at NAVMAG Lualualei, West Loch Branch, Oahu, Hawaii.* Department of Anthropology, Bernice P. Bishop Museum, Honolulu. Submitted to Department of the Navy, Pacific Division, Naval Facilities Engineering Command, Pearl Harbor, Hawaii.

39

Makua Military Reservation

Kaena, Hawaii

Collections Summary

Collections Total: 5.3 ft^3 of archaeological materials; 0.6 linear feet of associated records.

Volume of Artfact Collections: 5.3 ft^3

On Post: None

Off Post: 0.3 ft^3 at Garcia and Associates (Chapter 18, Volume 2); 4.0 ft^3 at Ogden Environmental and Energy Services (Chapter 42, Volume 2); and 1.0 ft^3 at Scientific Consultants Services (Chapter 50, Volume 2)

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

Human Skeletal Remains: None

Linear Feet of Records: 0.6 linear feet (7.5 linear inches)

On Post: None

Off Post: 0.5 linear inches at Garcia and Associates (Chapter 18, Volume 2); 6.0 linear inches at Ogden Environmental and Energy Services (Chapter 42, Volume 2); and 1.0 linear inch at Scientific Consultants Services (Chapter 50, Volume 2)

Compliance Status: Records require complete rehabilitation to comply with existing federal guidelines and standards for modern archival preservation.

Status of Curation Funding: Curation activities are not funded.

Makua Military Installation is located in the Makua Valley on the west coast of Oahu. That area of Oahu was used widely for farming and ranching. Military use began in the late 1920s when Makua was acquired for howitzer encampments. Use of the area for military purposes intensified in the 1930s with large-scale amphibious landings and the digging of signal corps cable lines. The 1941 attack of Pearl Harbor led to the takeover of the area for military use. During World War II, the entire Waianae Coast was used for military training. After the war, the army retained hold of Makua, and in 1964, a long-term lease of 65 years was agreed upon by the State of Hawaii and the U.S. Government for land in Hawaii, including Makua (Hammatt, Borthwick, and Shideler 1986).

In July 1996, St. Louis District personnel performed background archaeological research at the Department of Land and Natural Resources in Honolulu. This research included a review of all pertinent archaeological site forms, reports, and manuscripts. Archaeological sites have been recorded on Makua Military Reservation and numerous reports have been generated as a result of archaeological investigations. Collections are housed at three repositories in Hawaii.

Reports Related to Archeological Investigations at Makua Military Reservation

Burgett, Bee, Amy Dunn, Suzana Powell, Leann McCarthy, and Paul Spear
1995 *Archaeological Monitoring and Sampling at Dip Pond Excavations, Makua Military Reservation, Makua, Oahu Island, Hawaii.* Scientific Consultants Cultural Resource Management Services, Honolulu. Submitted to U.S. Army Engineer District, Pacific Ocean Division, Fort Shafter, Hawaii.

Carlson, Ingrid K., Paul Cleghorn, Frank Eble, Tom Jackson, and Marshall Weisler
1993 *Archaeological Reconnaissance Survey of Proposed Firebreak Road at Makua Valley, Waianae District, Island of Oahu, Hawaii.* (Final). BioSystems Analysis, Kailua. Submitted to U.S. Army Corps of Engineers, Pacific Ocean Division, Fort Shafter, Hawaii.

Cox, David W.
1983 *Trip Report of Field Reconnaissance to Makua Military Reservation, Makua Valley, Oahu, to Investigate Possible Archaeological Resources.*

Eble, Francis, Paul Cleghorn, and Thomas L. Jackson
1993 *Archaeological Investigations at Proposed MK-19 Range, Makua Military Reservation, Waianae District, Oahu, Hawaii.* (Draft). BioSystems Analysis, Kailua. Submitted to U.S. Army Corps of Engineers, Pacific Ocean Division, Fort Shafter, Hawaii.

Hammatt, Hallett H.
1986 *Archaeological Reconnaissance of Four Target Areas, U.S. Army Makua Military Reservation, Makua Valley, Waianae, Oahu (Proposed Company Combined Arms Assault Course).* Cultural Surveys Hawaii, Kailua. Submitted to U.S. Army Corps of Engineers, Pacific Ocean Division, Fort Shafter, Hawaii.

Hammatt, Hallett H., Douglas Borthwick, and David Shideler
1986 *Archaeological Sub-surface Testing for a Four-Inch Water Main Keaau Beach Park to Makua Military Reservation, Waianae, Oahu.* Cultural Surveys Hawaii, Kailua. Submitted to the U.S. Army Corps of Engineers, Pacific Ocean Division, Fort Shafter, Hawaii.

1987 *Archaeological Monitoring and Sampling for a Water Main Installation, Ohikilolo Valley, Waianae, Oahu.* Cultural Surveys Hawaii, Kailua. Submitted to U.S. Army Corps of Engineers, Pacific Ocean Division, Fort Shafter, Hawaii.

Hommon, Robert J.
1980 *An Intensive Cultural Survey of Ukanipo Heiau and Kahanahaiki Terrace, Makua Military Reservation, Oahu.* Hawaii Marine Research, Submitted to U.S. Army Corps of Engineers, Pacific Ocean Division, Fort Shafter, Hawaii.

Kelly, Marion, and Sidney Michael Quintal
1977 *Cultural History Report of Makua Military Reservation and Vicinity, Makua Valley, Oahu, Hawaii.* Department of Anthropology, Bernice P. Bishop Museum, Honolulu. Submitted to U.S. Army Corps of Engineers, Pacific Ocean Division, Fort Shafter, Hawaii.

McAllister, J. Gilbert
1933 *Archaeology of Oahu.* Bernice P. Bishop Museum Bulletin 104.

Ogden Environmental and Energy Services Co.
1994 *Intensive Archaeological Survey and Monitoring for Proposed Modification to the Company Combined Assault Course (CCAAC) and Construction of a Fire Access Trail at the U.S. Army Makua Military Reservation, Makua Valley, Island of Oahu.* (Research Design). Odgen Environmental and Energy Services Co., Honolulu. Submitted to U.S. Army Corps of Engineers, Pacific Ocean Division, Fort Shafter, Hawaii.

Rosendahl, Paul
1977 *Archaeological Inventory and Evaluation Report for U.S. Army Support Command, Hawaii (USASCH).* Two parts. Department of Anthropology, Bernice P. Bishop Museum, Honolulu. Submitted to U.S. Army Corps of Engineers, Pacific Ocean Division, Fort Shafter, Hawaii.

Sterling, Elspeth P., and Catherine C. Summers
1978 *Sites of Oahu.* Department of Anthropology, Department of Education, Bernice P. Bishop Museum, Honolulu.

Waianae Hawaiian Civic Club
1981 *Waianae Historic Preservation Plan.* Waianae Hawaiian Civic Club Historic Preservation Committee, Waianae.

Watanabe, Farley K.
1993 Trip Report: Site Inspection of Two Proposed Dip Ponds for Firefighting, U.S. Army Makua Military Reservation (MMR), Waianae District, Oahu Island. U.S. Army Corps of Engineers, Pacific Ocean Division, Honolulu, Fort Shafter, Hawaii.

Yent, Martha
1987 Archaeological Monitoring of Makua Well Construction Project, Kaena Point State Park, Waianae, Oahu. Letter report, Department of Land and Natural Resources, Division of State Parks, State of Hawaii, Honolulu.

40

Marine Corps Base

Kaneohe Bay, Hawaii

Collections Summary

Collections Total: 677.5 ft^3 of archaeological materials and human skeletal remains; 7.3 linear feet of associated records.

Volume of Artifact Collections: 27.5 ft^3

On Post: None

Off Post: 0.8 ft^3 at Cultural Surveys Hawaii (Chapter 15, Volume 2); 2.6 ft^3 at Garcia and Associates (Chapter 18, Volume 2); 10.0 ft^3 at Ogden Environmental and Energy Services (Chapter 42, Volume 2); 11.1 ft^3 at Paul H. Rosendahl (Chapter 44, Volume 2); and 3.0 ft^3 at Scientific Consultants Services (Chapter 50, Volume 2)

Compliance Status: Collections require complete rehabilitation to comply with federal guidelines and standards for archaeological curation.

Human Skeletal Remains: 650 ft^3

On Post: None

Off Post: 650 ft^3 at the Bernice P. Bishop Museum (Chapter 7, Volume 2)

Compliance Status: A minimum of 1,534 individuals is located in the Bishop Museum Osteology Laboratory. Qualified personnel need to take measures to manage these remains as outlined in NAGPRA.

Linear Feet of Records: 7.3 linear feet (87.75 linear inches)

On Post: None

Off Post: 10.5 linear inches at the Bernice P. Bishop Museum (Chapter 7, Volume 2); 1.75 linear inches at Garcia and Associates (Chapter 18, Volume 2); 1.75 linear inches at International Archaeological Research Institute (Chapter 25, Volume 2); 1.5 linear feet (17.5 linear inches) at Ogden Environmental and Energy Services (Chapter 42, Volume 2); 3.9 linear feet (47 linear inches) at Paul H. Rosendahl (Chapter 44, Volume 2); 2.25 linear inches at Scientific Consultants Services (Chapter 50, Volume 2); and 7.0 linear inches at U.S. Army Engineer District, Honolulu (Chapter 65, Volume 2)

Compliance Status: Records require partial-to-complete rehabilitation to comply with existing federal guidelines and standards for archival preservation.

Status of Curation Funding: Curation activities are not funded.

Marine Corps Base, Hawaii is located on the Mokapu Peninsula on the windward (north) side of the island of Oahu. Military use in the area began with the creation of a U.S. Army camp, Kuwaaohe Military Reservation, in 1918. After World War I, the land was leased for ranching. It was reactivated in 1939, and a small seaplane base for the Navy was constructed. The role of the Naval Air Station expanded to the administration of Kaneohe Bay Naval Defense Sea Area. In 1941, Army artillery was moved to the base. Kaneohe Bay was the first area attacked on December 7, 1941. After the war, the

installation's role included small air operations, a small security detachment, and a federal communications center. In 1952, the whole peninsula was designated the Marine Corps Air Station, and naval operations moved to Barbers Point. The Mokapu area served as both precontact and postcontact native Hawaiian burial ground, and numerous remains and objects have been discovered and recovered from the area (Evinger 1991 and 1995).

In July 1996, St. Louis District personnel performed background archaeological research at the Department of Land and Natural Resources in Honolulu. This research included a review of all pertinent archaeological site forms, reports, and manuscripts. Archaeological sites have been recorded on MCB Hawaii and numerous reports have been generated as a result of archaeological investigations. Collections are housed at eight repositories in Hawaii.

Reports Related to Archaeological Investigations at MCB Hawaii

Adams, Jim
1995 *PBY Wreck Site, Kaneohe Bay, Informal Description and Recommendation.* Underwater Field School, University of Hawaii, Manoa. Submitted to U.S.S. Arizona Memorial, Pearl Harbor.

Allen, Jane, and Allan J. Schilz
1995 *Archaeological Monitoring and Emergency Data Recovery, Repair Water Lines and Install Water Pumping Station for Weapons Range (REWAT) Marine Corps Base Hawaii Kaneohe Bay, Hawaii* (Preliminary Report). Ogden Environmental and Energy Service Co., Honolulu. Submitted to Department of the Navy, Pacific Division, Naval Facilities Engineering Command, Pearl Harbor.

1995 *Archaeological Monitoring for Negation of Adverse Effect of Project KB216 R (MROWS-216R), Modification and Replacement of Oil/Water Separators at Marine Corps Base Hawaii, Kaneohe Bay, Hawaii* (Preliminary Report). Ogden Environmental and Energy Services Co., Honolulu. Submitted to Department of the Navy, Pacific Division, Naval Facilities Engineering Command, Pearl Harbor.

1996 *Archaeological Subsurface Testing in Conjunction with Project KB-850MS Retrofit Test Cell Building 1678 (Retrofit) at Marine Corps Base Hawaii Kaneohe Bay, Mokapu Peninsula.* Ogden Environmental and Energy Services Co., Honolulu.

Anderson, Lisa
1992 *Archaeological Survey and Intensive Survey and Limited Subsurface Sampling within the Proposed Ulupau Crater Vicinity, Mokapu Peninsula, Kaneohe Ahupuaa, Koolau Poko District, Oahu.* Ogden Environmental and Energy Services Co., Honolulu. Submitted to U.S. Army Corps of Engineers, Pacific Ocean Division, Fort Shafter, Hawaii.

1993 *Inventory Survey with Limited Testing within the Ulupau Crater Vicinity, Kaneohe Marine Corps Air Station, Koolau Poko District, Oahu Island* (Draft). Ogden Environmental and Energy Services Co., Honolulu. Submitted to U.S. Army Corps of Engineers, Pacific Ocean Division, Fort Shafter, Hawaii.

Athens, J. Stephen
1985 *Archaeological Reconnaissance at the Mokapu Burial Area, Marine Corps Air Station, Kaneohe Bay, Hawaii.* J. Stephen Athens, Honolulu. Submitted to M & E Pacific, Honolulu.

Barrera, William, Jr.
1982 *Mokapu Peninsula [Marine Corps Air Station, Kaneohe Bay] Archaeological and Ethno-Historic Reconnaissance and Assessment.* Chiniago, Honolulu. Submitted to Department of the Navy, Pacific Division, Naval Facilities Engineering Command Pearl Harbor.

Charvet-Pond, Ann, and Paul H. Rosendahl

1992 *Archaeological Monitoring at Mokapu Peninsula Fishpond Complex (Site 50-80-11-1002) Marine Corps Air Station, Kaneohe Bay (TMK:4:4:08, 10) Land of Kaneohe, Koolaupoko District, Island of Oahu.* Paul H. Rosendahl, Hilo. Submitted to Pacific Division, Naval Facilities Engineering Command, Pearl Harbor.

1992 *Archaeological Monitoring Excavations Associated with the Construction of an Electronics/Communication Shop, Former Marshlands North of Nuupia Ponds, Marine Corps Air Station, Kaneohe Bay (TMK 4:4:08).* Paul H. Rosendahl, Hilo. Submitted to Pacific Division, Naval Facilities Engineering Command, Pearl Harbor.

1992 *Archaeological Monitoring Excavations Associated with the Construction of Combat Field Maintenance Shops (Part B) Former Marshlands North of Nuupia Ponds, Marine Corps Air Station, Kaneohe Bay (TMK 4:4:08).* Paul H. Rosendahl, Hilo. Submitted to Pacific Division, Naval Facilities Engineering Command, Pearl Harbor.

1992 *Archaeological Monitoring of an Electrical Ductline Trench Excavation Between Building 1365 and Building 3055, Marine Corps Air Station, Kaneohe Bay, Keawenui (Pali Kilo) Mokapu Burial Area, (Site 50-80-11-1017), (TMK:4:4:08).* Paul H. Rosendahl, Hilo. Submitted to Pacific Division, Naval Facilities Engineering Command, Pearl Harbor.

1992 *Archaeological Monitoring of an Electrical Ductline Trench Excavation Between the Site of an AN/TPS-59 Radar Dome and Building 1366 Keawenui (Palikilo) Mokapu Burial Area (Site 50-80-11-1017) Marine Corps Air Station, Kaneohe Bay (TMK:4:4:08) Land of Heeia, Koolaupoko District, Island of Oahu.* Paul H. Rosendahl, Hilo. Submitted to Pacific Division, Naval Facilities Engineering Command, Pearl Harbor.

1992 *Archaeological Monitoring of Construction Excavations Associated with Airfield Pavement Improvement (Phase III), Marine Corps Air Station, Kaneohe Bay. Land of Heeia, Koolaupoko District, Island of Oahu.* Paul H. Rosendahl, Hilo. Submitted to Pacific Division, Naval Facilities Engineering Command, Pearl Harbor.

1992 *Archaeological Monitoring of Construction Excavations Associated with an Electronic/ Communications Facility (Site A) and a Maintenance Shop (Site B) Marine Corps Air Station, Kaneohe Bay, Keawanue (Pali Kilo) TMK:4:4:08. Land of Huia, Koolaupoko District, Island of Oahu.* Paul H. Rosendahl, Hilo. Submitted to Pacific Division, Naval Facilities Engineering Command, Pearl Harbor.

1992 *Archaeological Monitoring of Construction Excavations at Hanger 105, and Building 373, 399, and 1565 within Archaeologically Sensitive Area Category 2 Marine Corps Air Station, Kaneohe Bay, Lands of Heeia and Kaneohe, Koolaupoko District, Island of Oahu.* Paul H. Rosendahl, Hilo. Submitted to Pacific Division, Naval Facilities Engineering Command, Pearl Harbor.

1992 *Archaeological Monitoring Southwest Periphery of Nuupia Pond and Lawrence Road, Third Street, and Selden Street, Marine Corps Air Station, Kaneohe Bay, TMK 4:4:08.* Paul H. Rosendahl, Hilo. Submitted to Pacific Division, Naval Facilities Engineering Command, Pearl Harbor.

Clark, Jeffrey T.

1980 *Mokapu Burial: Ulupau Dune Site, Kaneohe Marine Corps Air Station, Oahu.* Department on Anthropology, Bernice P. Bishop Museum, Honolulu. Submitted to Kaneohe Marine Corps Air Station, Oahu.

Cleghorn, Paul L., Joseph Farrugia, Francis Eble, and Tim Denham

1994 *Archaeological Survey and Testing and Oral History Investigations Conducted at Puu Hawaii Loa Marine Corps Base Hawaii, Kaneohe, Hawaii.* Parametrix, Honolulu. Submitted to BioSystems Analysis, Kailua.

Collins, Sara, Toni Han, and Lisa Armstrong
1994 *Inventory of Human Skeletal Remains from Mokapu Peninsula, Koolau Poko District, Kaneohe and Heeia Ahupuaa, Oahu Island, Hawaii.* Anthropology Department, Bernice P. Bishop Museum, Honolulu. Submitted to Department of the Navy, Naval Facilities Engineering Command, Pacific Division, Pearl Harbor.

Cordy, Ross
1984 *Archaeological Monitoring, Dredging of Sand-Clogged Channel Between Paakai Pond and Kailua Bay Marine Corps Air Station, Kaneohe Bay.* State Historic Preservation Office, Honolulu. Submitted to Kaneohe Marine Corps Air Station, Oahu.

Davis, Bertell
1975 *Progress Reports on the Archaeological Survey and Salvage at the Kailua Effluent Force Main Project.* Bernice P. Bishop Museum, Honolulu. Submitted to Board of Water Supply, Department of Public Works, City and County of Honolulu.

Davis, Bertell, Tom Dye, and Wendell Kam
1976 *Archaeological Investigations at the Kailua Effluent Force Main, Kaneohe, Oahu Island.* Bernice P. Bishop Museum, Honolulu. Submitted to Board of Water Supply, Department of Public Works, Honolulu.

Drolet, Robert, Patricia A. Drolet, and Allan J. Schilz
1993 *Archaeological Inventory Survey of Pali Kilo and Ulupau Crater Parcels, Marine Corps Air Station, Kaneohe Bay, Oahu, Hawaii.* (Preliminary Report). Ogden Environmental and Energy Service Co., Honolulu. Submitted to Department of the Navy, Naval Facilities Engineering Command, Pacific Division, Pearl Harbor.

Drolet, Robert, and Tomasi Patolo
1995 *Archaeological Reconnaissance Subsurface Testing and Sampling for Revitalization/ Replacement of 230 Dwelling Units for Family Housing Quarters U.S. Marine Corps Base Hawaii, Kaneohe Bay Oahu Island, Hawaii.* (Research Design). Ogden Environmental and Energy Services Co., Honolulu. Submitted to U.S. Army Corps of Engineers, Pacific Ocean Division, Fort Shafter, Hawaii.

Hammatt, Hallett, Douglas K. Borthwick, and David Shideler
1985 *Archaeological Coring and Testing at Nuupia Ponds: Kaneohe Marine Corps Air Station, Mokapu, Oahu.* Cultural Surveys Hawaii, Honolulu. Submitted to U.S. Army Corps of Engineers, Pacific Ocean Division, Fort Shafter, Hawaii.

Hammatt, Hallett H., and Brian L. Colin
1995 *An Archaeological Assessment of 150.08 Acres for Proposed Family Housing Construction, Kaneohe Marine Corps Base Hawaii, Mokapu Peninsula, Koolaupoko District, Island of Oahu, Hawaii.* Cultural Surveys Hawaii, Kailua.

Hommon, Robert
1985 Archaeological Research at the Proposed Construction Site for the Tactical Air Navigation (TACAN) Facility, Marine Air Corps Station, Kaneohe Bay. Letter report, Department of the Navy, Naval Facilities Engineering Command, Pacific Division, Pearl Harbor.

Hunter, Charlotte A.
1995 *Inadvertent Discovery of Human Remains at Marine Corps Base Hawaii (MCBH) Kaneohe, Oahu, Hawaii.* Department of the Navy, Naval Facilities Engineering Command, Pacific Division, Pearl Harbor.

Jackson, Thomas L. et al.
1993 *Archaeological Monitoring Reconnaissance, and Test Excavations at Nuupia Fishpond, Kaneohe, Oahu.* (Draft Summary Report). BioSystems Analysis, Kailua. Submitted to U.S. Army Corps of Engineers, Pacific Ocean Division, Fort Shafter, Hawaii.

Kaschko, Michael W.
1996 *Archaeological Monitoring for Soil Investigation Work (Soils Borings) FY96 BRAC Project P-268T Aircraft Apron, Marine Corps Base Hawaii, Kaneohe Bay, Hawaii.* (Draft Prefinal Report). Scientific Consultant Services, Honolulu. Submitted to SSFM Engineers, Honolulu.

Maly, Kepa
1995 *Mokapu Peninsula Oral History Study, Puu Hawaii Loa Family Housing Project Site.* (Final Report). Paul H. Rosendahl, Hilo. Submitted to Department of the Navy, Pacific Division, Naval Facilities Engineering Command, Pearl Harbor.

Masse, W. Bruce
1991 *Data Recovery Plan for Negation of Adverse Effect of KB163MS Repairs to Sanitary Sewer System, MCAS, Kaneohe Bay Hawaii.*

1994 *Survey and Testing at Building 1614, in Conjunction with Beach Cottage Remodeling at Pali Kilo on Marine Corps Air Station, Kaneohe Bay, Oahu.* Department of the Navy, Pacific Division, Naval Facilities Engineering Command, Pearl Harbor.

Neller, Earl
1981 *Emergency Excavation of Human Bones at Kaneohe Marine Corps Air Station, Oahu.* State Historic Preservation Office, Honolulu. Submitted to Marine Corps Air Station, Kaneohe, Hawaii.

1982 *An Archaeological Reconnaissance Survey of the Ulupau Dunes Site (50-Oa-G5-67) Marine Corps Air Station, Kaneohe Bay, Oahu.* State Historic Preservation Office, Honolulu.

O'Hare, Constance R., and Paul H. Rosendahl
1995 *Final Report Archaeological Monitoring of Installation of an Oil/Water Separator and Washpad at Building 1168, Marine Corps Base Hawaii (MCBH), Kaneohe Bay, Oahu, Hawaii*. Paul H. Rosendahl, Hilo. Submitted to Department of the Navy, Pacific Division, Naval Facilities Engineering Command, Pearl Harbor.

Pietrusewsky, Michael
1992 *A Human Cranium and Associated Remains Recovered Near Ulupau Crater, Kaneohe Marine Corps Air Station, Kaneohe, Oahu.*

Price–Beggerly, Patricia
1987 *Archaeological Monitoring at Nuupia Ekolu Pond and Paakai Pond/Salt Works, During Nuupia Pond Improvement Project, Kaneohe Marine Corps Air Station, Kaneohe, Oahu, Hawaii.* International Archaeological Research Institute, Honolulu. Submitted to Department of the Navy, Pacific Division, Naval Facilities Engineering Command, Pearl Harbor.

1988 Data Recovery Plan for Negation of Adverse Effect of Airfield Pavement Improvement (Phase III) at MCAS Kaneohe Bay, Hawaii. MCON Project P-492. Letter report, Department of the Navy, Pacific Division, Naval Facilities Engineering Command, Pearl Harbor.

Riley, Tom
1980 *Fence Site Monitoring at Kaluapuhi Fishpond, Kaneohe Marine Corps Air Station, Kaneohe, Oahu.* Bernice P. Bishop Museum, Honolulu. Submitted to Pacific Fence, Honolulu.

Rosendahl, Paul H. (editor)
1976 *Archaeological Investigations in Upland Kaneohe, Survey and Salvage Excavations in the Upper Kamoolli Stream Drainage Area Kaneohe, Koolaupoko, Oahu, Hawaii.* Department of Anthropology, Bernice P. Bishop Museum, Honolulu. Submitted to U.S. Army Corps of Engineers, Pacific Ocean Division, Fort Shafter, Hawaii.

Rosendahl, Paul H.
1989 *Archaeological Monitoring Airfield Pavement Improvement (Phase III) Marine Corps Air Station, Kaneohe Bay, Hawaii.* Letter Report. Paul H. Rosendahl, Hilo. Submitted to Pacific Division, Naval Facilities Engineering Command, Pearl Harbor.

Schausboe, Ragnar

1982 *Emergency Archaeological Data Recovery from an Exposed Cultural Deposit at Ulupau Dune, Mokapu Peninsula, Marine Corps Air Station, Kaneohe Bay Koolaupoko, Kaneohe, Oahu Island.* Department of Anthropology, Bernice P. Bishop Museum, Honolulu. Submitted to Department of the Navy, Pacific Division, Naval Facilities Engineering Command, Pearl Harbor.

Schilz, Allan J.

1994 *Investigations for Emergency Recovery of Human Bone Remains and Monitoring for Family Housing Construction, Marine Corps Air Station, Kaneohe Bay, Oahu Island Hawaii.* (Preliminary Report). Ogden Environmental and Energy Services Co., Honolulu. Submitted to U.S. Army Corps of Engineers, Pacific Ocean Division, Fort Shafter, Hawaii.

1994 *Data Recovery for Negation and Adverse Effect of FY90 MCON P-618 Special Compartmented Information Facility at MCBH Kaneohe Bay Hawaii.* (Final Report). Ogden Environmental and Energy Services Co.,Honolulu.

Schilz, Allan J., and Jane Allen

1994 *Archaeological Survey and Testing for Rappel Training Tower, Monitoring of Construction for Leadership Reaction Course/Gas Chamber and Survey and Monitoring for AAV Access Road L2 Boon Docker and Marine Corps Base Hawaii, Kaneohe Bay.* Ogden Environmental and Energy Services Co., Honolulu.

1995 *Archaeological Monitoring for Negation of Adverse Effect of Project KB-131R, Modification and Replacement of Oil/Water Separators at Building 3014 (MROWS-131R), Marine Corps Base Hawaii Kaneohe Bay, Hawaii.* (Preliminary Report). Ogden Environmental Services, Co., Honolulu. Submitted to Department of the Navy, Pacific Division, Naval Facilities Engineering Command, Pearl Harbor.

1996a *Archaeological Monitoring and Data Recovery for Negation of Adverse Effect of KB-038M, Replace Portable Water Mains, and Site 50-80-11-4933, Marine Corps Base Hawaii Kaneohe Bay, Oahu, Hawaii.* Ogden Environmental Services, Co., Honolulu. Submitted to Department of the Navy, Pacific Division, Naval Facilities Engineering Command, Pearl Harbor.

1996b *Archaeological Subsurface Testing in Conjunction with Project KB-85OMS, Retrofit Test Cell Building 1178 (RETROFIT) at Marine Base Hawaii Kaneohe Bay, Mokapu Peninsula, Oahu, Hawaii.* (Preliminary Report). Ogden Environmental and Energy Services Co., Honolulu. Submitted to Department of the Navy, Pacific Division, Naval Facilities Engineering Command, Pearl Harbor.

Schilz, Allan J., et al.

1995 *Cultural Resource Management Plan Marine Corps Base Hawaii Kaneohe Bay, Island of Oahu, Hawaii.* (Prefinal report). Ogden Environmental and Energy Services Co., Honolulu. Submitted to Department of the Navy, Pacific Division, Naval Facilities Engineering Command, Pearl Harbor.

Schilz, Allan, and Steven Dies

1991 *Archaeological Monitoring Program, Fort Hase Beach Kaneohe Marine Corps Air Station, Oahu, Hawaii.* ERC Environmental and Energy Services Company, Honolulu. Submitted to GTE Hawaiian Telephone Company, Honolulu.

Shun, Kanalei

1991 *Archaeological Subsurface Investigations for Proposed Family Housing Construction Kaneohe Marine Corps Air Station Koolaupoko District, Island of Oahu, Hawaii.* Archaeological Associates Oceania, Keaeohe. U.S. Army Corps of Engineers, Pacific Ocean Division, Fort Shafter, Hawaii.

Spear, Robert L.
1995 *Archaeological Monitoring Plan for Monitoring and Sampling Operations During Removal of Underground Storage Tanks, Marine Corps Air Base Hawaii, Kaneohe Bay, Koolaupoko District, Oahu Island, Hawaii.* Scientific Consultant Services, Honolulu. Submitted to U.S. Army Corps of Engineers, Pacific Ocean Division, Fort Shafter, Hawaii.

Tuggle, H. David
1983 *Archaeological Examination of Golf Course Paths, Kaneohe Marine Corps Air Station, Kaneohe, Oahu.* Department of the Navy, Pacific Division, Naval Facilities Engineering Command, Pearl Harbor.

1986 *Historic Property Inventory, Marine Corps Air Station, Kaneohe Bay: Management and Recommendations.* Submitted to Pacific Division, Naval Facilities Engineering Command, Pearl Harbor.

Tuggle H. David, and Robert J. Hommon
1986 *Historic Property Inventory Marine Corps Air Station, Kaneohe Bay, History, Survey, and Site Descriptions.* Pacific Division, Naval Facilities Engineering Command, Pearl Harbor.

Van Tilburg, Hans and Jim Adams (editors)
1994 *The History and Archaeology of PBY Flying Boats and Kaneohe Naval Air Station.* Maritime Archaeology Field School, University of Hawaii, Manoa, East Carolina University, and the USS Arizona Memorial, Pearl Harbor.

Watanabe, Farley
1990 *Archaeological Subsurface Reconnaissance Survey for FY90 AFH PN9224690 Construct Family Housing Project, Kaneohe Marine Corps Air Station, Kaneohe, Oahu Island, Hawaii.* U.S. Army Corps of Engineers, Pacific Ocean Division, Fort Shafter, Hawaii.

Welsh, David J.
1991 *Archaeological Reconnaissance of the Ulupau Crater Wildlife Management Area, Kaneohe Marine Corps Air Station, Mokapu, Kaneohe, Oahu.* International Archaeological Research Institute, Honolulu. Submitted to Belt, Collins, and Associates, Honolulu.

Williams, Scott
1994 Completion of Medium Intensity Archaeological Survey at Marine Corps Air Station, Kaneohe Bay, For Amendment No. 37, Subsurface Survey and Boundary Delimitation of the Mokapu Dune Burial Area. Letter report, Odgen Environmental and Energy Services Co., Honolulu. Submitted to Naval Facilities Engineering Command, Makalapa, Pearl Harbor.

41

Pacific Missile Range Facility

Barking Sands, Hawaii

Collections Summary

Collections Total: 12.0 ft^3 of archaeological materials and human skeletal remains; 2.1 linear feet of associated records.

Volume of Artifact Collections: 8.1 ft^3

On Post: None

Off Post: 8.1 ft^3 at Ogden Environmental and Energy Services (Chapter 42, Volume 2)

Compliance Status: Collections require complete rehabilitation to comply with existing federal guidelines and standards of archaeological curation.

Human Skeletal Remains: 3.9 ft^3

On Post: None

Off Post: 3.9 ft^3 at the Bernice P. Bishop Museum (Chapter 7, Volume 2)

Compliance Status: An undetermined number of individuals is located at the Bishop Museum in the Osteology Laboratory. Qualified personnel need to take measures to manage these remains as outlined in NAGPRA.

Linear Feet of Records: 2.1 linear feet (25.25 linear inches)

On Post: None

Off Post: 1.25 linear inches at Archaeological Consultants of the Pacific (Chapter 3, Volume 2); 1.3 linear feet (15.25 linear inches) at International Archaeological Research Institute (Chapter 25, Volume 2); 0.5 linear inches at Ogden Environmental and Energy Services (Chapter 42, Volume 2); and 8.25 linear inches at Paul H. Rosendahl (Chapter 44, Volume 2)

Compliance Status: Records require partial to complete rehabilitation to comply with existing federal guidelines and standards of archival preservation.

Status of Curation Funding: Curation activities are not funded.

PMRF, Barking Sands encompasses 1,885 acres of land on the west side of the island of Kauai. In 1928, land south of the Nohili Barking Sands was set aside for the development of an air strip. In 1940, an executive order of the Territorial Governor conditionally transferred 548.6 acres of Crown (government) land to the War Department. The land was used to establish the Mana Airport Military Reservations. In 1941, an executive order added 1,508 acres to the facility. During World War II, the facility was heavily used by the military. From 1941 to 1948, the airfield was also used by commercial aviation, Hawaiian Airlines and Pan American clippers. The facility became the Bonham Auxiliary Airfield in 1954 under the Air Force. In 1964, 1,885 acres of the land were officially transferred to the Department of the Navy. The installation became Pacific Missile Range, Barking Sands in 1965, when responsibility for the facility transferred from Commanding Officer, Naval Air Station, Barbers

Point to the Commander, Pacific Missile Range. Today, the facility is one of the foremost centers in the world for the detection of aircraft or vessels in the Pacific. It conducts combat training of fleets under realistic open-ocean war-at-sea scenarios using its extensive resources. (Evinger 1991, 1995)

In July 1996, St. Louis District personnel performed background archaeological research at the Department of Land and Natural Resources in Honolulu. This research included a review of all pertinent archaeological site forms, reports, and manuscripts. Archaeological sites have been recorded on PMRF Barking Sands and numerous reports have been generated as a result of archaeological investigations. Collections are housed at five repositories in Hawaii.

Reports Related to Archaeological Investigations at PMRF Barking Sands

Anonymous
1993 *Draft Restrictive Easement Environmental Impact Statement, Kauai, Hawaii.* U.S. Army Space and Strategic Defense Command, Environmental Office, Huntsville, Alabama.

1992 *Evaluation of Changes to the Existing Environment Described in the Strategic Target System Environmental Impact Statement and of Damage to Mission-Related Equipment and Facilities Due to the Effects of Hurricane Iniki.*(Preliminary Final). U.S. Army Space and Strategic Defense Command, Environmental Office, Huntsville, Alabama.

Doolittle, James A.
1992 Ground-Penetrating Radar Survey, Navy Pacific Missile Range Facility. Trip report, Advanced Sciences, San Diego. Submitted to U.S. Army Strategic Defense Command, Huntsville, Alabama.

1993 *Ground-Penetrating Radar Legacy Project Detection of Buried Cultural Features in Areas of Coarse-Textured Soils on Kauai and Oahu, Hawaii.* U.S. Department of Agriculture, Soil Conservation Service, National Soil Survey Center, Lincoln, Nebraska. Submitted to U.S. Department of the Navy, Naval Facilities Engineering Command, Pearl Harbor.

Drolet, Robert P.
1993 End of Field Report about Archaeological Monitoring of Test Trenches at the Pacific Missile Range Facility (PMRF) on Kauai, Hawaii. Letter report, Ogden Environmental and Energy Services Co., Honolulu.

Gonzalez, Tirzo
1991 *Archaeological Survey of Brush-Clearing Areas on Nohili Dune, PMRF, Mana, Waimea, Kauai.* Advanced Sciences, San Diego.

Gordon, Elizabeth A.
1993 *End of Field Report for Archaeological Monitoring at PACMISRANGAC, Kauai, Hawaii.* U.S. Department of the Navy, Pacific Naval Facilities Engineering Command, Pearl Harbor.

Jarrell, D. A.
1991 Inadvertent Discovery of Native Hawaiian Remains and Objects. Letter report, ERC Engineering and Environmental Services, Honolulu. Submitted to Department of the Navy, Pacific Division, Naval Facilities Engineering Command, Pearl Harbor.

Jones, Bruce A.
1992 *Archaeological Survey and Subsurface Testing for the Tactical Control Squadron Forwarded Air Control Post Project, Pacific Missile Range Facility, Barking Sands, Kauai, Hawaii.* International Archaeological Research Institute, Honolulu. Submitted to Belt, Collins, and Associates, Honolulu.

Kennedy, Joseph

1991 *Archaeological Subsurface Testing Results for the Proposed Family Housing Project Area, Pacific Missile Range Facility, Barking Sands, Island of Kauai, TMK 1-2-02: 12, POR. 25.* Archaeological Consultants of Hawaii, Haleiwa. Submitted to Department of the Navy, Pacific Division, Naval Facilities Engineering Command, Pearl Harbor and Belt, Collins and Associates, Honolulu.

1991 *Supplement to Archaeological Testing Results for the Proposed Family Housing Project Area, Pacific Missile Range Facility, Barking Sands, Island of Kauai, TMK: 1-2-02:13, POR. 25.* Archaeological Consultants of Hawaii, Haleiwa. Submitted to Department of the Navy, Pacific Division, Naval Facilities Engineering Command, Pearl Harbor and Belt, Collins and Associates, Honolulu.

Kikuchi, William K.

1979 *Survey Report, Underwater Communications Project, Nohili Ditch Area, Pacific Missile Range Facility, District of Waimea, Island of Kauai.* University of Hawaii and Kauai Community College. Submitted to Department of the Navy, Pacific Missile Range Facility, Kekaha, Kauai.

Nagata, Ralson

1994 Archaeological Site on PMRF Lands Located During State Parks Survey. Letter report, Ralson Nagata, State Parks Administrator. Submitted to Robert Inouye, PMRF Public Works Department.

O'Hare, Constance R., and Paul H. Rosendahl

1993 *Archaeological Subsurface Inventory Survey IMA Target Facility Project Site, Pacific Missile Range Facility, Barking Sands, Kauai.* Paul H. Rosendahl, Hilo. Submitted to Department of the Navy, Pacific Division, Naval Facilities Engineering Command, Pearl Harbor.

Price–Beggerly, Patricia

1987 *Archaeological Investigations at Morse Field and Pacific Missile Range Facility South Point, Kamoa, Kau Island of Hawaii.* International Archaeological Research Institute, Honolulu. Submitted to U.S. Army Engineer District, Pacific Ocean Division, Fort Shafter, Hawaii.

Welsh, David J.

1990 *Archaeological Survey and Testing, Department of Energy Kauai Testing Facility, Barking Sands, Kauai, Hawaii.* (Preliminary Report). International Archaeological Research Institute, Honolulu. Submitted to Advanced Sciences, San Diego.

1990 *Phase II Archaeological Survey and Auger Testing, EDX Missile Project, Pacific Missile Range Facilities, Barking Sands, Kauai, Hawaii.* (Preliminary Report). International Archaeological Research Institute, Honolulu. Submitted to Advanced Sciences, Albuquerque, and San Diego.

Williams, Scott S.

1993 *Evaluation and Assessment of Ground-Penetrating Radar (GPR) and its Application for Archaeological Survey in the Hawaiian Islands.* (Preliminary Report). Ogden Environmental and Energy Services Co., Honolulu. Submitted to Department of the Navy, Pacific Division, Naval Facilities Engineering Command, Pearl Harbor.

Wulzen, Warren and Peter M. Jensen

1995 *Archaeological Reconnaissance Survey, Pacific Missile Range Facility, Hawaiian Area.* (Prefinal Report).Paul H. Rosendahl, Hilo. Department of the Navy, Pacific Division, Naval Facilities Engineering Command, Pearl Harbor.

42

Naval Complex

Pearl Harbor, Hawaii

Collections Summary

Collections Total: 37.3 ft^3 of archaeological materials; 4.1 linear feet of associated records.

Volume of Artifact Collections: 37.3 ft^3

On Post: None

Off Post: 37.3 ft^3 at Paul H. Rosendahl (Chapter 44, Volume 2)

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

Human Skeletal Remains: None

Linear Feet of Records: 4.1 linear feet (49.75 linear inches)

On Post: None

Off Post: 4.0 linear inches at International Archaeological Research Institute (Chapter 25, Volume 2) and 3.8 linear feet (45.75 linear inches) at Paul H. Rosendahl (Chapter 44, Volume 2)

Compliance Status: Records are generally in very good condition and require minimal rehabilitation to comply with existing federal guidelines and standards for archival preservation.

Status of Curation Funding: Curation activities are not funded.

Pearl Harbor, located on the island of Oahu, is a strategic military stronghold. It is named for the pearl oysters that once grew in those waters. The Reciprocity Treaty of 1875 granted the United States sole rights to the entrance of Pearl Harbor. In 1902 a coaling station was established in the harbor, and in 1908 Congress authorized the establishment of a naval station in Pearl Harbor. The history of Pearl Harbor is marked by the date December 7, 1941, when the surprise attack by the Japanese sunk four battleships, badly damaged four more, and permanently or temporarily put other warships out of commission. During that attack 2,113 military personnel were killed and 987 were wounded. The USS Arizona remains on the floor of Pearl Harbor and serves as a memorial and the grave of the sailors of the Arizona that were killed during the attack. The facility remains the Navy's most important base in the Pacific with 50 home-ported fleet units and 116 tenant commands (Evinger 1995).

In July 1996, St. Louis District personnel performed background archaeological research at the Department of Land and Natural Resources in Honolulu. This research included a review of all pertinent archaeological site forms, reports, and manuscripts. Archaeological sites have been recorded on Pearl Harbor Naval Complex and numerous reports have been generated as a result of archaeological investigations. Collections are housed at two repositories in Hawaii.

Reports Related to Archaeological Investigations at Pearl Harbor Naval Complex

Allan, Jane, and Allan J. Schilz

1996 *Paleoenvironmental Investigations in Loko Weloka, Manana Ewa: Archaeological Subsurface Testing in Conjunction with the Surveillance Towed Array Sensor System (SURTASS) Support Center, Pearl Harbor Complex, Pearl City Peninsula, Pearl Harbor, Oahu, Hawaii.* (Preliminary Report). Ogden Environmental and Energy Services, Co., Honolulu. Submitted to Department of the Navy, Naval Facilities Engineering Command, Pearl Harbor.

Anderson, Lisa K.

1995 *Archaeological Monitoring of Construction Activities in Conjunction with Sewer Installation (MILCON P-115), Kuahua Peninsula, Naval Submarine Base, Pearl Harbor, Oahu.* Ogden Environmental and Energy Services, Co., Honolulu. Submitted to Nova Group, Napa, California.

CH2M Hill

1994 *Environmental Assessment for the Granting of U.S. Navy Easements to Hawaiian Electric Company, Inc. for the Waiau-Campbell Industrial Park 138-kV Transmission Line, Part 2, Project Near Pearl Harbor.* CH2M Hill, Honolulu.. Submitted to the Department of the Navy Public Works Center and Department of the Navy, Pacific Division, Naval Facilities Engineering Command, Pearl Harbor.

Davis, Bertell D.

1990 *Archaeological Assessment of Proposed Developments at the U.S. Naval Base, Pearl Harbor, Oahu, Hawaii.* International Archaeological Research Institute, Honolulu. Submitted to Belt, Collins and Associates, Honolulu.

Environmental Communications, Park Engineering

1995 *3rd Working Copy Environmental Assessment for the Construction/Operation/ Maintenance of a Drainage Channel, Detention Basin, and Outlet Structure on Navy Lands at Ewa, Oahu, Hawaii.* Aki Sinoto Consulting, Honolulu. Submitted to Parametrix, Inc., Honolulu.

1995 *Final Environmental Impact Statement: Ewa By Gentry-East Offsite Drainage Plan. Construction/Operation/Maintenance of a Drainage Channel, Detention Basin, and Outlet Structure on Navy Lands, Ewa, Oahu, Hawaii.* Environmental Communications, Park Engineering, Submitted to the City and County of Honolulu, Department of Land Utilization.

Erkelens, Conrad

1995 *Archeological Study of the Proposed Ford Island Golf Park and Saratoga Boulevard Relocation, Ford Island Bridge Project, Oahu, Hawaii.* International Archeological Research Institute, Honolulu. Submitted to Belt, Collins and Associates, Honolulu.

Henry, Jack D., Susan T. Goodfellow, and Paul H. Rosendahl

1993 *Archaeological Inventory Survey Waiawa Floodplain Feasibility Study Project Area, Land of Manana, Ewa District, Island of Oahu.* Paul H. Rosendahl, Hilo. Submitted to Herbert, Hastert & Fee, Planners, Honolulu.

Ogden Environmental and Energy Services Co.

1992 *Comprehensive Long-Term Environmental Action Navy (CLEAN) for Pacific Division, Naval Facilities Engineering Command Pearl Harbor, Hawaii.* Ogden Environmental and Energy Services Co., Honolulu. Submitted to Department of the Navy Public Works Center and Pacific Division, Naval Facilities Engineering Command, Pearl Harbor.

1994 *Comprehensive Long-Term Environmental Action Navy (CLEAN) for Pacific Division, Naval Facilities Engineering Command Pearl Harbor, Hawaii. Removal Action Final Work Plan for Building 8 Naval Shipyard Pearl Harbor, Hawaii.* Ogden Environmental and Energy Services Co., Honolulu. Submitted to Department of the Navy Public Works Center and Pacific Division, Naval Facilities Engineering Command, Pearl Harbor.

Sinoto, Aki
1989 *Cultural Resources Reassessment for the 1989 Ford Island Causeway Study.* Public Archaeology Section, Applied Research Group, Bernice P. Bishop Museum, Honolulu. Submitted to Belt, Collins & Associates, Honolulu.

Tomonari–Tuggle, M. J., and Conrad Erkelens
1995 *Archaeological Survey of a 46kV Sub-Transmission Line Through NAVMAG, Waikele, Waikele, Oahu.* International Archeological Research Institute, Honolulu. Submitted to CH2M Hill, Honolulu.

Williams, Scott S.
1993 *End of Field Summary for Monitoring and Testing of CTO-039 Trenching at Pearl Harbor, Oahu, Hawaii.* Ogden Environmental and Energy Services, Honolulu.

1994 *Results of Subsurface Archaeological Investigations at Pearl Harbor.* Ogden Environmental and Energy Services, Honolulu. Submitted to Department of the Navy, Public Work Center and Pacific Division, Naval Facilities Engineering Command, Pearl Harbor.

43

Pohakuloa Training Area

Hawaii

Collections Summary

Collections Total: 45.8 ft^3 of archaeological materials and human skeletal remains; 2.7 linear feet of associated records.

Volume of Artifact Collections: 45.8 ft^3

On Post: None

Off Post: 2.6 ft^3 at Garcia and Associates (Chapter 18, Volume 2); 3.0 ft^3 at International Archaeological Research Institute (Chapter 25, Volume 2); 20.0 ft^3 at Ogden Environmental and Energy Services (Chapter 42, Volume 2); 5.2 ft^3 at Paul H. Rosendahl (Chapter 44, Volume 2); and 15.0 ft^3 at the University of Hawaii-Hilo (Chapter 60, Volume 2)

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

Human Skeletal Remains: 0.01 ft^3

On Post: None

Off Post: 0.01 ft^3 at Paul H. Rosendahl (Chapter 44, Volume 2)

Compliance Status: A minimum number of one individual is currently located in the offices of Paul H. Rosendahl. Qualified personnel need to take measures to manage these remains as outlined in NAGPRA.

Linear Feet of Records: 2.7 linear feet (32.75 linear inches)

On Post: None

Off Post: 0.75 linear inches at Garcia and Associates (Chapter 18, Volume 2); 4.5 linear inches at International Archaeological Research Institute (Chapter 25, Volume 2); 6.75 linear inches at Ogden Environmental and Energy Services (Chapter 42, Volume 2); 10.75 linear inches at Paul H. Rosendahl (Chapter 44, Volume 2); and 10.0 at U.S. Army Engineer District, Honolulu (Chapter 65, Volume 2)

Compliance Status: Records are generally in very good condition and require minimal rehabilitation to comply with existing federal guidelines and standards for archival preservation.

Status of Curation Funding: Curation activities are not funded.

Pohakuloa Training Area is located in the north-central portion of the island of Hawaii in the saddle region between the mountains of Mauna Kea, Mauna Loa, and Haulalai. In 1955, cantonment facilities were constructed from World War II quonset huts. Pohakuloa Training Area is the largest subinstallation of U.S. Army Support Command, Hawaii. This interior plateau can accommodate all live fire of a light infantry division and can support a brigade task force. The mountainous training area serves approximately 27,000 troops a year (Evinger 1995).

In July 1996, St. Louis District personnel performed background archaeological research at the Department of Land and Natural Resources in

Honolulu. This research included a review of all pertinent archaeological site forms, reports, and manuscripts. Archaeological sites have been recorded on Pohakuloa Training Area and mnumerous reports have been generated as a result of archaeological investigations. Collections are housed at six repositories in Hawaii.

Reports Related to Archaeological Investigations at Pohakuloa Training Area

Anonymous
1988 MPRC Project Information-Pohakuloa Training Center, Hamakua, Big Island. Picture and maps on file.

Athens, J. Stephen, and Michael W. Kaschko
1988 *Prehistoric Upland Bird Hunters: Archaeological Inventory Survey and Testing for the MRPC Project Area and the Bobcat Trail Road, Pohakuloa Training Area, Island of Hawaii.* International Archaeological Research Institute, Honolulu. Submitted to U.S. Army Corps of Engineers, Pacific Ocean Division, Fort Shafter, Hawaii.

Barrera, William, Jr.
1983 *Saddle Road, Hawaii Island: Archaeological Reconnaissance.* Chiniago, Honolului. Submitted to EDAW, Honolulu.

1987 *Saddle Road, Hawaii Island: Archaeological Survey of 138kV Powerline.* Chiniago, Honolulu. Submitted to R. M. Towill Corporation, Honolulu.

Cleghorn, June N. J.
1995 Initial Consultation with Native Hawaiians. Appendix 2. In *Historic Preservation Plan for Pohakuloa Training Area, Island of Hawaii, Hawaii (Draft),* by Janet P. Eidness. Pacific Legacy, Aptos, California. Submitted to BioSystems Analysis, Santa Cruz, California.

Cleghorn, Paul L.
1995 Research Design for Native Hawaiian Archaeological Resources at Pohakuloa Training Area, Appendix B. In *Historic Preservation Plan for Pohakuloa Training Area, Island of Hawaii, Hawaii (Draft),* by Janet Eidness. Pacific Legacy, Aptos, California. Submitted to BioSystems Analysis, Santa Cruz, California.

1996 *Site Protection Plan for the Bobcat Trail Habitation Cave Site (50-10-30-5004) Pohakuloa Training Area, Hawaii.* (Draft). Ogden Environmental and Energy Service Co., Honolulu.

Cordy, Ross
1994 *A Regional Synthesis of Hamakua District, Island of Hawaii.* Historic Preservation Division, Department of Land and Natural Resources, State of Hawaii, Honolulu.

Cox, David
1983 *Preliminary Cultural Resources Reconnaissance Report for Tank Trail from Kawaihae to Pohokuloa Training Area, Island of Hawaii.* U.S. Army Corps of Engineers, Pacific Ocean Division, Fort Shafter, Hawaii. Submitted to Directorate of Facilities Engineering, Pohakuloa Training Area, Hawaii.

1983 *Preliminary Field Check of the Possible Site for the Proposed PTA Multi-Purpose Firing Range.* U.S. Army Corps of Engineers, Pacific Ocean Division, Fort Shafter, Hawaii. Submitted to Directorate of Facilities Engineering, Pohakuloa Training Area, Hawaii.

1983 *Site Visit and Archaeological Reconnaissance of the Firebreak Route Along Puu Kulua Road, Pohakuloa Training Area (PTA), Island of Hawaii.* U.S. Army Corps of Engineers, Pacific Ocean Division, Fort Shafter, Hawaii.

1983 *Site Visit and Preliminary Assessment of Two Sites at PTA Being Considered for Nomination to the National Register of Historic Places.* U.S. Army Corps of Engineers, Pacific Ocean Division, Fort Shafter, Hawaii. Submitted to Directorate of Facilities Engineering, Pohakuloa Training Area, Hawaii..

1983 Trip Report and Findings for Three Related Cultural Resource/Archaeological Projects at Pohokuloa Training Area, Island of Hawaii. U.S. Army Corps of Engineers, Pacific Ocean Division, Fort Shafter, Hawaii. Submitted to Directorate of Facilities Engineering, Pohakuloa Training Area, Hawaii.

Eidsness, Janet P.

1995 Annotated Bibliography of Archaeological Studies for Pohakuloa Training Area, Appendix A. In *Historic Preservation Plan for Pohakuloa Training Area, Island of Hawaii, Hawaii (Draft), by Janet P. Eidsness.* Pacific Legacy, Aptos, California. Submitted to BioSystems Analysis, Santa Cruz, California.

1995 *Historic Preservation Plan for Pohakuloa Training Area, Island of Hawaii, Hawaii (Draft).* BioSystems Analysis, Santa Cruz, California. Submitted to U.S. Army Corps of Engineers, Pacific Ocean Division, Fort Shafter, Hawaii.

ERC Environmental and Energy Services Co.

1990 *Research Proposal for Archaeological Data Recovery at the Multi-Purpose Range Complex, Pohakuloa Training Area, Island of Hawaii, Hawaii.* ERC Environmental and Energy Services Co., Western Region, Environmental Sciences Division, Honolulu. Submitted to the U.S. Army Corps of Engineers, Pacific Ocean Division, Fort Shafter, Hawaii.

Hammatt, Hallett H., and David W. Shideler

1991 *Archaeological Assessment and Sensitivity Map of the Pohokuloa Training Area (PTA), Hawaii Island, State of Hawaii. Final Report.* Cultural Surveys Hawaii, Kailua. Submitted to Richard Soto and Associates.

Haun, Alan E.

1986 *Archaeological Survey and Testing of the Bobcat Trail Habitation Cave Site (50-10-30-5004), Pohakuloa Training Area, Island of Hawaii, Hawaii.* Paul H. Rosendahl, Hilo. Submitted to U.S. Army Corps of Engineers, Pacific Ocean Division, Fort Shafter, Hawaii.

Hommon Robert J.

1982 *An Aerial Cultural Resources Reconnaissance of Two Area Near Pohakuloa Training Area, Island of Hawaii.* Science Management, Honolulu. Submitted to U.S. Army Corps of Engineers, Pacific Ocean Division, Fort Shafter, Hawaii.

Hommon, Robert J. and Hamilton M. Ahlo, Jr.

1983 *A Research Design for Archaeological Studies at the Pohakuloa Training Area, Island of Hawaii.* Science Management, Honolulu. Submitted to U.S. Army Corps of Engineers, Pacific Ocean Division, Fort Shafter, Hawaii.

Hunt, Terry L.

n.d. *Archaeological Survey of Proposed Water Transmission Lines and Pump Stations, Saddle Road and Waimea, Island of Hawaii.*

James, Helen F.

1991 Notes on a Visit to MPRC Site 10658, 10 July 1990. Letter report, National Museum of Natural History, Smithsonian Institution, Washington D.C.

Kalima, Lehua, and Paul H. Rosendahl

1991 *Supplemental Environmental Report, Archaeological Survey of 138kV Transmission Line No. 2, Districts of North and South Hilo, Hamakua, and South Kohala, Island of Hawaii.* (Draft). Paul H. Rosendahl, Hilo. Submitted to CH2M, Honolulu.

Kam, Wendell

1982 *Inspection of Fire Break Route at Pohakuloa Training Area.*

Nees, Richard, Scott Williams, and Paul Cleghorn
1997 *Research Design: For an Archaeological Inventory Survey, U.S. Army Pohakuloa Training Area for the U.S. Army Garrison, Hawaii Ecosystem Management Program Hawaii.* Ogden Environmental and Energy Service Co., Honolulu.

Ono, Susumu
n.d. Staff Inspection of Proposed Jeep Trail and Firebreak at Pohakuloa Training Area (June 2-4, 1982), Kaohe, Hamakua, Hawaii, TMK 4-4-15; various. Letter report.

Reinman, Fred M.
1991 *Research Strategy for an Archaeological Inventory Survey, Multi-Purpose Range Complex, Pohakuloa Training Area, Island of Hawaii, Hawaii.* ERC Environmental and Energy Service Co., Honolulu. Submitted to U.S. Army Corps of Engineers, Pacific Ocean Division, Fort Shafter, Hawaii.

Reinman, Fred M., and Allan J. Schilz
1992 *Archaeological Data Recovery at the Multi-Purpose Range Complex, Pohakuloa Training Area, Island of Hawaii, Hawaii.* (Draft). Ogden Environmental and Energy Services Co., Honolulu. Submitted to U.S. Army Corps of Engineers, Pacific Ocean Division, Fort Shafter, Hawaii.

1993 *Aerial and Ground Archaeological Inventory Survey for Compilation of Environmental Impact Statement, Multi-Purpose Range Complex, Pohakuloa Training Area, Island of Hawaii.* (Draft). Ogden Environmental and Energy Services Co., Honolulu. Submitted to U.S. Army Corps of Engineers, Pacific Ocean Division, Fort Shafter, Hawaii.

1994 *Aerial and Ground Archaeological Inventory Survey for Completion of Environmental Impact Statement, Multi-Purpose Range Complex, Pohakuloa Training Area, Island of Hawaii.* Draft. Ogden Environmental and Energy Services Co., Inc., Honolulu, Hawaii. Submitted to U.S. Army Corps of Engineers, Pacific Ocean Division, Fort Shafter, Hawaii.

Rosendahl, Margaret L. K.
1983 *Cultural Survey for Documentation of National Register Nomination of Bobcat Trail Habitation Cave Site 50-10-30-5004.* Paul H. Rosendahl, Ph.D., Hilo. Submitted to U.S. Army Corps of Engineers, Pacific Ocean Division, Fort Shafter, Hawaii.

Rosendahl, Margaret L. K., and Paul H. Rosendahl
1986 Archaeological Reconnaissance Survey, Saddle Road Shoulder Project, Lands of Punahoa 2 and Pilhouua, District of South Hilo; Land of Humuula, District of North Hilo; Land of Kaohe, District of Hamakua; and Land of Waikoloa, District of South Kahola, Island of Hawaii. Letter report, Paul H. Rosendahl, Hilo. Submitted to Juvik and Juvik Environmental Consultants, Hilo.

Rosendahl, Paul H.
1977 *Archaeological Inventory and Evaluation Report for U.S. Army Support Command, Hawaii (USASCH),* Two parts. Department of Anthropology, Bernice P. Bishop Museum, Honolulu. Submitted to U.S. Army Corps of Engineers, Pacific Ocean Division, Fort Shafter, Hawaii.

Shapiro, Lisa, and Paul L. Cleghorn
1995 *Archaeological Investigations of Two Work Areas for The Legacy Resource Management Program at Pohakuloa Training Area, Hawaii Island, Hawaii.* Draft. BioSystems, Kailea. U.S. Army Corps of Engineers, Pacific Ocean Division, Fort Shafter, Hawaii.

Shapiro, Lisa, William A. Shapiro, and Paul L. Cleghorn
1995 *Redleg Trail Archaeological Investigations for the Legacy Resource Management Program at Pohakuloa Training Area, Hawaii Island, Hawaii.* Draft. BioSystems Analysis, Inc., Kailea, Hawaii. Submitted to U.S. Army Corps of Engineers, Pacific Ocean Division, Fort Shafter, Hawaii.

Shapiro, William A.

1993 *Summary Report at the Completion of Laboratory Analysis for the Archaeological Survey at the Pohakuloa Training Area, Hawaii Island, Hawaii.* BioSystems Analysis, Kailua. Submitted to U.S. Army Corps of Engineers, Pacific Ocean Division, Fort Shafter, Hawaii.

Streck, Charles F., Jr.

1984 *Archaeological Reconnaissance Site Survey of Five Parcels at Pohakuloa Training Area (PTA), Hawaii.* U.S. Army Corps of Engineers, Pacific Ocean Division, Fort Shafter, Hawaii.

1984 Summary of Archaeological Survey of Four Land Parcels at the Pohakuloa Training Area (U.S. Army), Hawaii Island, Hawaii. Trip report, U.S. Army Corps of Engineers, Pacific Ocean Division, Fort Shafter, Hawaii.

1985 Trip Report for Aerial Archaeological Reconnaissance Survey of Proposed Site for Multi-Purpose Range Complex, Pohakuloa Training Area, Island of Hawaii, Hawaii, 3-5 April 1985. U.S. Army Corps of Engineers, Pacific Ocean Division, Fort Shafter, Hawaii. Submitted to U.S. Army Support Command Hawaii, Fort Shafter.

1986 *Aerial Archaeological Reconnaissance Site Survey for Proposed Artillery Firing Points, Firebreak/Road Route, and Other Facilities at Pohakuloa Training Area (PTA), Island of Hawaii, Hawaii.* U.S. Army Corps of Engineers, Pacific Ocean Division, Fort Shafter, Hawaii. Submitted to U.S. Army Support Command Hawaii, Fort Shafter.

1986 *Aerial Archaeological Reconnaissance Survey for Revised Proposed Site for Multi-Purpose Range Complex, Pohakuloa Training Area, Hamakua, Hawaii.* Trip report, U.S. Army Corps of Engineers, Pacific Ocean Division, Fort Shafter, Hawaii. Submitted to U.S. Army Support Command Hawaii, Fort Shafter.

1990 Discovery of Potential Nesting Site for Threatened Bird Species and Prehistoric Hawaiian Archaeological Sites During Field Investigations at Pohakuloa Training Area, Hawaii Island, Hawaii, February 1990. Letter report, U.S. Army Corps of Engineers, Pacific Ocean Division, Fort Shafter, Hawaii.

1990 Trip Report for Archaeological Survey of New Baseline Area, Multi-Purpose Range Complex (MPRC), U.S. Army Pohakuloa Training Area, Island of Hawaii. U.S. Army Corps of Engineers, Pacific Ocean Division, Fort Shafter, Hawaii. Submitted to U.S. Army Support Command Hawaii, Fort Shafter.

1992 Prehistoric Settlement in the Upland Portions of the Island of Hawaii. *New Zealand Journal of Archaeology.* Vol. 14: 99–111.

Watanabe, Farley K.

1986 *Final Report of Archaeological Aerial and Limited Ground Reconnaissance of Various Parcels Situated at Hawaii Island Selected as Potential Military Training Areas.* U.S. Army Corps of Engineers, Pacific Ocean Division, Fort Shafter, Hawaii. Submitted to U.S. Army Support Command Hawaii, Fort Shafter.

1986 Aerial Archaeological Reconnaissance Survey for the Revised Proposed Site for the Multi-Purpose Range Complex, Pohakuloa Training Area, Hamakua, Island of Hawaii, 31 Mar thru 4 Apr (Memorandum). Appendix F in Environmental Assessment for Multi-Purpose Range Complex at Pohakuloa Training Area, Island of Hawaii, Hawaii. Trip report, U.S. Army Corps of Engineers, Pacific Ocean Division, Fort Shafter, Hawaii. Submitted to U.S. Army Support Command Hawaii, Fort Shafter.

1987 Site Inspection of Archaeological Investigations Performed by International Archaeological Research Institute, Inc. at MPRC, Pohakuloa Training Area, Island of Hawaii, 16-18 September 1987. Trip report, International Archaeological Research Institute, Honolulu. Submitted to U.S. Army Corps of Engineers, Pacific Ocean Division, Fort Shafter, Hawaii.

Welch, David J.
1992 *Archaeological Survey and Testing for the Saddle Road Improvement Project, Pohakuloa Area, Island of Hawaii, Hawaii.* International Archaeological Research Institute, Honolulu. Submitted to U.S. Department of the Interior, National Park Service, Western Region, Interagency Archaeological Service Branch, San Francisco, California.

44

Schofield Barracks

Schofield Barracks, Hawaii

Collections Summary

Collections Total: 5.0 ft^3 of archaeological materials; 0.7 linear feet of associated records.

Volume of Artiact Collections: 5.0 ft^3

On Post: None

Off Post: 4.0 ft^3 at Ogden Environmental and Energy Services (Chapter 42, Volume 2) and 1.0 ft^3 at Scientific Consultants Services (Chapter 50, Volume 2)

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

Human Skeletal Remains: None

Linear Feet of Records: 0.7 linear feet (8.75 linear inches)

On Post: None

Off Post: 1.25 linear inches at International Archaeological Research Institute (Chapter 25, Volume 2); 2.25 linear inches at Ogden Environmental and Energy Services (Chapter 42, Volume 2); 3.25 linear inches at Paul H. Rosendahl (Chapter 44, Volume 2); and 2.0 linear inches at U.S. Army Engineer District, Honolulu (Chapter 65, Volume 2)

Compliance Status: Records require partial to complete rehabilitation to comply with existing federal guidelines and standards for archival preservation.

Status of Curation Funding: Curation activities are not funded.

Schofield Barracks was established in 1909 and named for Civil War veteran Lieutenant General John M. Schofield. The installation currrently serves as home to the 25th Infantry Division (Light), known as "Tropic Lightning," and has since its establishment in 1941. Subinstallations of Schofield Barracks include Wheeler Army Air Field and Helemano Military Reservation (Cragg 1994).

In July 1996, St. Louis District personnel performed background archaeological research at the Department of Land and Natural Resources in Honolulu. This research included a review of all pertinent archaeological site forms, reports, and manuscripts. Archaeological sites have been recorded at Schofield Barracks and numerous reports have been generated as a result of archaeological investigations. Collections are housed at five repositories in Hawaii.

Reports Relating to Archaeological Investigations at Schofield Barracks

Department of the Army

1993 *Environmental Assessment for FY92-93 Construct New Family Housing at Schofield Barracks and Wheeler Army Airfield, Oahu, Hawaii.* Department of the Army, Pacific Ocean Division, Corps of Engineers, Fort Shafter, Hawaii. Submitted to Department of the Army, Headquarters, U.S. Army Support Command, Hawaii, Directorate of Oahu Consolidated Family Housing, Fort Shafter, Hawaii.

1993 *Environmental Assessment for New Family Housing Construction at McMahon and Ayres Sites, Schofield Barracks, Oahu, Hawaii.* (Draft). Department of the Army, Pacific Ocean Division, Corps of Engineers, Fort Shafter, Hawaii. Submitted to Department of the Army, Headquarters, U.S. Army Support Command, Hawaii, Directorate of Oahu Consolidated Family Housing, Fort Shafter, Hawaii.

Henry, Jack D., Alan T. Walker, and Paul H. Rosendahl

1992 *Archaeological Inventory Survey Glabraith Trust Lands, Lands of Kanmanaui and Wahiawa, Waialua and Wahiawa District, Island of Oahu, Hawaii.* Hiber, Hastert and Fee, Planners. Submitted to Paul H. Rosendahl, Hilo.

McAllister, J. Gilbert

1933 *Archaeology of Oahu.* Bernice P. Bishop Museum Bulletin 104. Honolulu.

McIntosh, James, Paul Cleghorn, and Joseph Farrugia

1994 *Interim Report for Archaeological Investigation for the Family Housing Areas at Schofield Barracks Military Reservation and Wheeler Army Airfield, Oahu Island, Hawaii.* BioSystems Analysis, Kailua. Submitted to U.S. Army Corps of Engineers, Pacific Ocean Division, Fort Shafter, Hawaii.

McIntosh, James, Joseph Farrugia, Timothy Denham and Paul L. Cleghorn

1994 *Report of Archaeological Investigations for the Proposed Family Housing Area at Wheeler Army Airfield and Schofield Barracks Military Reservation Oahu Island, Hawaii*. (Draft). BioSystems Analysis, Kailua. Submitted to U.S. Army Corps of Engineers, Pacific Ocean Division, Fort Shafter, Hawaii.

McIntosh, James, Timothy Denham, and Paul L. Cleghorn

1995 *Final Report of Archaeological Inventory Survey with Subsurface Testing for Work Area 2 of the Proposed Family Housing Project at Schofield Barracks.* BioSystems Analysis, Kailua. Submitted to U.S. Army Corps of Engineers, Pacific Ocean Division, Fort Shafter, Hawaii.

1995 *Final Report of Archaeological Inventory Survey with Subsurface Testing for Work Area I of the Proposed Family Housing Project at Wheeler Army Airfield and Schofield Barracks Military Reservation, Wahiawa District, Oahu Island, Hawaii.* BioSystems Analysis, Kailua. Submitted to U.S. Army Corps of Engineers, Pacific Ocean Division, Fort Shafter, Hawaii.

Powell, Gary A.

1984 *Archaeological and Botanical Notes: Schofield Barracks Forest Reserve, Wahiawa, Oahu.* Waimea Arboretum and Botanical Garden, Haleiwa.

Rosendahl, Paul H.
1977 *Archaeological Inventory and Evaluation Report for U.S. Army Support Command, Hawaii (USASCH).* Two parts. Department of Anthropology, Bernice P. Bishop Museum, Honolulu. Submitted to U.S. Army Corps of Engineers, Pacific Ocean Division, Fort Shafter, Hawaii.

Shideler, Barbara, Scott Williams, and Tomasi Patolo
1994 *Historic Preservation Measures FY 1995–2006 Whole Barracks Renewal Program at Various U.S. Army Installations and the FY 95/96 New Infantry Brigade Complex, Schofield Barracks, Oahu Island, Hawaii. (Preliminary Report).* Ogden Environmental and Energy Services, Honolulu. Submitted to U.S. Army Corps of Engineers, Pacific Ocean Division, Fort Shafter, Hawaii.
1995 *Historic Preservation Measures FY 1995–2006 Whole Barracks Removal Program at Various U.S. Army Installations and the New Infantry Brigade Complex Schofield Barracks, Oahu, Hawaii.* (Final). Ogden Environmental and Energy Service Co., Honolulu. Submitted to U.S. Army Corps of Engineers, Pacific Ocean Division, Fort Shafter, Hawaii.

Tomonari–Tuggle, M. J.
1997 *Upland Settlement Leilehua Ranch and the Military: An Assessment of the Archaeology of the Schofield Barracks Cantonment.* Draft Report. International Archeological Research Institute, Honolulu. Submitted to Belt, Collins and Associates, Honolulu.

Watanabe, Farley
1988 Trip Report for Archaeological Surface Reconnaissance of FY90 Mout Range Project Areas, Schofield Barracks, Oahu Island. U.S. Army Corps of Engineers, Pacific Ocean Division, Fort Shafter, Hawaii.

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Army Recreation Center

Waianae, Hawaii

Collections Summary

Collections Total: 57.5 ft^3 of archaeological materials and human skeletal remains; 3.9 linear feet of associated records.

Volume of Artifact Collections: 54.8 ft^3

On Post: None

Off Post: 35.9 ft^3 at the Bernice P. Bishop Museum (Chapter 7, Volume 2); 14.5 ft^3 at Cultural Surveys Hawaii (Chapter 15, Volume 2); and 4.4 ft^3 at Ogden Environmental and Energy Services (Chapter 42, Volume 2)

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

Human Skeletal Remains: 2.7 ft^3

On Post: None

Off Post: 0.1 ft^3 at the Bernice P. Bishop Museum (Chapter 7, Volume 2); 0.1 ft^3 at Cultural Surveys Hawaii (Chapter 15, Volume 2); and 2.5 ft^3 at Ogden Environmental and Energy Services (Chapter 42, Volume 2)

Compliance Status: A minimum of one individual is located at the Bishop Museum Osteology Laboratory. A minimum of one individual is located in the offices of Cultural Surveys Hawaii. Skeletal remains from an undetermined number of individuals are located in the offices of Ogden Environmental and Energy Services. Qualified personnel need to take measures to manage these remains as outlined in NAGPRA.

Linear Feet of Records: 3.9 linear feet (46.6 linear inches)

On Post: None

Off Post: 2.0 linear inches at the Bernice P. Bishop Museum (Chapter 7, Volume 2); 1.0 linear foot (12.1 linear inches) at Cultural Surveys Hawaii (Chapter 15, Volume 2); 2.1 linear feet (25.5 linear inches) at Ogden Environmental and Energy Services (Chapter 42, Volume 2); and 7.0 linear inches at U.S. Army Engineer District, Honolulu (Chapter 65, Volume 2)

Compliance Status: Records require partial-to-complete rehabilitation to comply with existing federal guidelines and standards for archival preservation.

Status of Curation Funding: Curation activities are not funded.

Waianae Army Recreation Center is located along the shoreline of Pokai Bay on the west, or leeward, coast of Oahu. The Waianae District had a prehistoric population because of the abundant marine resources. Historically the area was a center of sandalwood trade, and it supported sugar plantations and ranching. The Waianae vicinity was heavily used for military training activities during World War II, and the Waianae ARC was established as a beach vacation camp for soldiers during that time. It continues to operate today as a vacation spot for Army members and their families, other service

members, retired military personnel, and DoD civilians (Evinger 1991, 1995).

In July 1996, St. Louis District personnel performed background archaeological research at the Department of Land and Natural Resources in Honolulu. This research included a review of all pertinent archaeological site forms, reports, and manuscripts. Archaeological sites have been recorded at Waianae ARC and numerous reports have been generated as a result of archaeological investigations. Collections are housed at four repositories in Hawaii.

Reports Related to Archaeological Investigations at Waianae Army Recreation Center

Hammatt, Hallett H.
1985 End of Field Work Letter Report, Waianae Army Recreation Center. Cultural Surveys Hawaii, Kailua. Submitted to U.S. Army Corps of Engineers, Pacific Ocean Division, Fort Shafter, Hawaii.

Hammatt, Hallett H., Douglas Borthwick, and David Shideler
1985 *Archaeological Excavations at the Waianae Army Recreation Center, Pokai Bay, Waianae, Oahu, Hawaii.* Cultural Surveys Hawaii, Kailua. Submitted to U.S. Army Corps of Engineers, Pacific Ocean Division, Fort Shafter, Hawaii.

Kam, Wendell
1984 *Burial Recovery at Waianae, Oahu (TMK8-5-01:9), 1984.* State Historic Preservation Office, Honolulu.

Kam, Wendell, and Jason Ota
1984 *Burial Report: Waianae Army Recreation Center, Waianae, Oahu*. State Historic Preservation Division, Honolulu.

Pietrusewsky, Michael, and Michele T. Douglas
1990 *An Osteological Study of Human Remains Recovered in 1988–89 from the Waianae Army Recreation Center, Waianae, Oahu, Hawaii.* University of Hawaii, Manoa. Submitted to Ogden Environmental and Energy Services Co., Inc., Honolulu, Hawaii.

Pietrusewsky, Michael, and Rona Ikehana
1985 *Human Skeletal Remains from Pokai Bay, Waianae Army Recreation Center, Waianae, Oahu, in Archaeological Investigations at the Waianae Army Recreation Center, Pokai Bay, Waianae, Oahu, Hawaii.* University of Hawaii, Manoa. Submitted to Ogden Environmental and Energy Services Co., Honolulu.

Riford, Mary R.
1984 *Report of Archaeological Consulting Services During Repair of Sewer Lines and Replacement of Water Main Lines at Waianae Army Recreation Center, Oahu, Hawaii.* Department of Anthropology, Bernice P. Bishop Museum, Honolulu. Submitted to U.S. Army Corps of Engineers, Pacific Ocean Division, Fort Shafter, Hawaii.

Rosendahl, Paul H.
1977 *Archaeological Inventory and Evaluation Report for U.S. Army Support Command, Hawaii (USASCH),* Two parts. Department of Anthropology, Bernice P. Bishop Museum, Honolulu. Submitted to U.S. Army Corps of Engineers, Pacific Ocean Division, Fort Shafter, Hawaii.

Schilz, Allan
1994 *Subsurface Archaeological Intensive Survey and Data Recovery and Construction Monitoring and Sampling at Waianae Army Recreation Center (WARC), Waianae, Oahu Island, Hawaii.* Preliminary Draft. Ogden Environmental and Energy Services, Co., Honolulu. Submitted to U.S. Army Corps of Engineers, Pacific Ocean Division, Fort Shafter, Hawaii.

Sox, David G.
1986 *Environmental Assessment for Seawall Addition at Waianae Army Recreation Center, Waianae, Oahu, Hawaii.* U.S. Army Corps of Engineers, Pacific Ocean Division., Fort Shafter, Hawaii. Submitted to U.S. Army Support Command, Hawaii, Fort Shafter, Hawaii.

Streck, Charles F., Jr.
1986 *Archaeological Investigations for Construction of a New Seawall at Waianae Army Recreation Center (WARC), Waianae, Island of Oahu, Hawaii.*U.S. Army Corps of Engineers, Pacific Ocean Division, Fort Shafter, Hawaii. Submitted to U.S. Army Support Command, Hawaii, Fort Shafter, Hawaii.

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Wheeler Army Air Field

Hawaii

Collections Summary

Collections Total: 1.0 ft^3 of archaeological materials; 0.8 linear feet of associated records.

Volume of Artifact Collections: 1.0 ft^3

On Post: None

Off Post: 1.0 ft^3 at Ogden Environmental and Energy Services (Chapter 42, Volume 2)

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

Human Skeletal Remains: None

Linear Feet of Records: 0.8 linear feet (10.0 linear inches)

On Post: None

Off Post: 5.0 linear inches at International Archaeological Research Institute (Chapter 25, Volume 2) and 5.0 linear inches at U.S. Army Engineer District, Honolulu (Chapter 65, Volume 2)

Compliance Status: Records require partial rehabilitation to comply with federal guidelines and standards for modern archival preservation.

Status of Curation Funding: Curation activities are not funded.

Wheeler Army Air Field, named for Major Sheldon H. Wheeler, was established in 1922 as part of Schofield Barracks. During World War II and until 1949 it was under the command of the 7th Air Force. In 1941, during the attack on Pearl Harbor, the field sustained extensive damage. From 1949 to 1951, it was inactivated on minimum caretaker status, only to be reactivated during the Korean War. At that time, the Army was responsible for airfield operations and the Navy was responsible for rescue operations. In 1991, the Army again assumed operational control of the installation (Evinger 1991, 1995).

In July 1996, St. Louis District personnel performed background archaeological research at the Department of Land and Natural Resources in Honolulu. This research included a review of all pertinent archaeological site forms, reports, and manuscripts for Wheeler AAF. Collections are housed at three repositories in Hawaii.

Reports Related to Archaeological Investigations at Wheeler AAF

Department of the Army
1995 *Environmental Assessment and Finding of No Significant Impact for Construction of CH-47 Hanger and Parking Apron (PN 19151), Wheeler Army Airfield, Wahiawa, Oahu, Hawaii.* Department of the Army, U.S. Army Corps of Engineers, Pacific Ocean Division, Fort Shafter, Hawaii. Submitted to Department of the Army, Headquarters, 25th Infantry Division & U.S. Army, Schofield Barracks, Hawaii.

Bouthillier, Katherine
1994 *Appendix B. Historical Resources Study of Wheeler Army Airfield, 1920–1952 TN. Archaeology and History on the Central Oahu Plateau: A Cultural Resource Assessment of Wheeler Army Airfield.* Spensor Mason Architects.

McIntosh, James, Timothy Denham, and Paul L. Cleghorn
1995 *Final Report of Archaeological Inventory Survey with Subsurface Testing for Work Area I of the Proposed Family Housing Project at Wheeler Army Airfield and Schofield Barracks Military Reservation, Wahiawa District, Oahu Island, Hawaii.* BioSystems Analysis, Kailua. Submitted to U.S. Army Corps of Engineers, Pacific Ocean Division, Fort Shafter, Hawaii.

Tomonari–Tuggle, M. J.
1994 *Archaeology and History on the Central Oahu Plateau: A Cultural Resources Assessment of Wheeler Army Airfield.* International Archaeological Research Institute, Honolulu. Submitted to Belt, Collins and Associates, Honolulu.

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Fort Leavenworth

Kansas

Collection Summary

Collections Total: 85.1 ft^3 of archaeological materials and human skeletal remains; 1.9 linear feet of associated records.

Volume of Artifact Collections: 84.1 ft^3

On Post: 32.3 ft^3

Off Post: 1.8 ft^3 at Kansas Historical Museum, Center for Archaeological Research (Chapter 27, Volume 2) and 50.0 ft^3 at the University of Kansas, Museum of Anthropology (Chapter 61, Volume 2)

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

Human Skeletal Remains: 1.0 ft^3

On Post: None

Off Post: 1 ft^3 at the Kansas Historical Museum, Center for Archaeological Research (Chapter 27, Volume 2)

Compliance Status: A minimum of one individual is located at the Kansas Historical Museum, Center for Archaeological Research. Qualified personnel need to take measures to manage these remains as outlined in NAGPRA.

Linear Feet of Records: 1.9 linear feet (23.25 linear inches)

On Post: 1.0 linear feet (12.5 linear inches)

Off Post: 10.75 linear inches at the University of Kansas, Museum of Anthropology (Chapter 61, Volume 2)

Compliance Status: Records require partial rehabilitation to comply with existing federal guidelines and standards for archival preservation.

Status of Curation Funding: The Army provides maintenance on the building, the heating system, staff salaries, and a budget of $5,000 a year. Private associations such as the Musettes and the Fort Leavenworth Historical Society raise funds for upgraded storage and conservation of the collections on post.

Fort Leavenworth, named after General Henry Leavenworth, was established in 1827. The fort is located on the northwest corner of the greater Kansas City metropolitan area. Notable historic sites are located on base, including the oldest building in Kansas and one of the first of 12 cemeteries established by President Lincoln in 1862. In 1881, the School of Application for Infantry and Cavalry (since evolved into the U.S. Army Command and General Staff College) was founded. Students are taught to lead fighting units at the tactical and operational levels of war. Command and General Staff School, School of Advanced Military Studies, Combined Arms and Services Staff School, School for Command Preparation, and School of Corresponding Studies make up the college. The college also develops Combined Arms doctrine for Army divisions and corps (Fort Leavenworth, Kansas 1996).

In May 1996, St. Louis District personnel performed background research at the Kansas State Historical Society in Topeka, which included a review of the pertinent archaeological site forms, reports, and manuscripts for Fort Leavenworth. Archaeological sites have been recorded and a number of reports have been generated as the result of archaeological investigations. Archaeological collections are currently housed at three repositories in Kansas, including the Frontier Army Museum on post.

Assessment

Date of Visit: August 20–21, 1996

Point of Contact: Steve Allie

The Frontier Army Museum is a military museum at Fort Leavenworth, dedicated to preserving collections for use in educating the public of the Army's role during the days of western expansion (Figure 12). Most of the collections are historic military objects; however, the museum also preserves and exhibits a large collection of horse-drawn vehicles.

Frontier Army Museum is currently curating 32.3 ft^3 of archaeological materials and 1.0 linear foot of documentation resulting from archaeological work conducted on post. The museum is not currently curating human skeletal remains associated with archaeological research projects.

Figure 12. Front exterior of the Frontier Army Museum at Fort Leavenworth.

The 55-year-old Building 801 was formerly used for classrooms. Current space use includes exhibits, a gift shop, staff offices, and collection storage areas. The museum has been renovated to contain a collections storage room, which is essentially a building within a building. This interior repository was constructed between three and four years prior to the St. Louis District visit.

Structural Adequacy

The main structure has a concrete slab foundation and wood frame exterior walls. It has one level above ground, with a partial mezzanine, and no floors below grade. The rubber roof is six years old. The roof and foundation are structurally solid; however, water has leaked into the building in the past outside the collection storage area. Windows covered with shades are located on the east and west walls. Windows on the north and south walls have been permanently blocked off. The wood-framed windows are original to the structure and measure 3 x 4 feet (w x h). Most of the windows appear airtight.

Environmental Controls

The facility utilizes a chilled water cooling system and a low-temperature gas-fired heating system. The temperature and relative humidity is automatically monitored and regulated. An alarm sounds if the temperature or relative humidity goes beyond the set range. Dust filters are present on the systems. The facility is illuminated with filtered fluorescent lamps. The building is regularly maintained by the Army staff.

Pest Management

No integrated pest management system for the museum as a whole is in place; however, the building is monitored on a regular basis. Monitoring includes visual inspections and insect and rodent traps. Pest control methods are employed in the collections storage area, but they were not specified at the time of the assessment. Insects or rodents quickly die after entering the building and coming in contact with residual DDT from years of monthly spraying. The assessment team found no evidence of current pest infestation.

Security

Security measures include key locks, dead-bolt locks, controlled access, motion detectors, an intrusion alarm wired to post security, and multiple video monitors that record to tape (Figure 13). All windows are barred on the outside and are permanently welded shut. Each exterior door has a security gate that is closed and locked after hours. No unauthorized entry has been documented, nor was there any evidence of forced entry at the time of the assessment.

The collection storage room has no windows. Access is strictly controlled and monitoried with a key lock, intrusion alarm, and motion detectors. Collections are housed in unlocked metal cabinets. Special collections are kept in specimen cabinets or in a safe. None of these special collections are archaeological in nature. The collection storage room doors are metal with metal frames.

Figure 13. The museum is monitored with security cameras.

Fire Detection and Suppression

Fire protection includes manual fire alarms, a wet-pipe sprinkler system, heat sensors, smoke detectors, and fire extinguishers. The fire department conducts monthly inspections. Fire alarms are wired directly into the fire department, which has an estimated two-minute response time. Plasterboard construction in this room meets the national code for fire protection.

Artifact Storage

Storage Units

Storage units consist of four enameled-steel, two-door, double-handle, storage cabinets or lockers with adjustable shelves and locking doors. A five-shelved locker and a six-shelved locker are both filled with collections in Hollinger® boxes. One cabinet contains special collections; some of the artifacts are loose on a shelf and others are stored in archival containers that have dividers to keep each item separate. The fourth cabinet is without shelves and contains only a small collection that has not been rehabilitated. Each cabinet, which measures 1.5 x 3 x 6.35 feet (l x w x h), is labeled with the letter of the row and the cabinet number within that row. The percentages of material classes are outlined in Table 11.

Primary Containers

Collections are stored in upright, acid-free document storage cases measuring 10 x 5 x 15 inches (l x w x h). These clamshell boxes are reinforced with metal cornices and have string pulls attached to the bottom for ease of access (Figure 14). Labels are typed on

Table 11.
Summary of Material Classes Present in the Archaeological Collections Housed at the Frontier Army Museum

Material Class	%
Prehistoric	
Lithics	3
Flotation	1
Other	1
Historical Period	
Ceramics	14
Glass	26
Metal	20
Faunal remains	18
Masonry	4
Matrix/residue	5
Other	8
Total	100

Note: Percentages of material classes are based on volume. Other prehistoric material includes ceramic archaeological materials, shell, and ^{14}C samples. Other historical-period material includes coal cinders, buttons, ^{14}C, shell, stone, lithic, plastic, textile, soil, leather, toothbrush handle, gaming die, a marble, and a clay pipe bowl.

acid-free paper that are then taped to the side of each box. Additionally, special collections are stored in acid-free corrugated boxes with internal dividers for individual objects and have telescoping lids. The bottoms and tops of these boxes are additionally reinforced with metal hinges. A few of the items are stored loose on shelves in the storage units. A small portion of the collection is stored in clear plastic boxes with telescoping lids. Unrehabilitated collections are stored in acidic boxes with telescoping lids.

Secondary Containers

Secondary containers consist of archival zip-lock bags directly labeled in permanent marker. Special collections stored in the divided boxes have no secondary containers. Unrehabilitated collections are stored in paper bags directly labeled with marker. Bags are often secured with rubber bands.

Figure 14. Artifacts are stored in acid-free cardboard box, plastic boxes, and loose on shelves in a steel cabinet.

Laboratory Processing and Labeling

Collections have all been cleaned and sorted. Only a small portion is directly labeled in india ink and covered with a clear sealant.

Human Skeletal Remains

The are no human skeletal remains at the museum.

Records Storage

Records are stored with the artifact collections. None of the records have been rehabilitated, and all of them are stored in the materials and method of organization prepared by the project contractor.

Paper Records

Paper records include field forms, laboratory analysis forms, field notebooks, flotation sample records, grid drawings of sites, administrative records, artifact catalogs, feature forms, and profile drawings all totaling 7.4 linear inches. None of the paper records are acid free. Some are stored in acidic manila envelopes. Contaminants such as metal clips and staples are present.

Report Records

Report records total 1.9 linear inches and are bound and unbound in a three-ring, nonarchival binder.

Photographic Records

Photographic records, totaling 2.0 linear inches, include color slides and color photographs, black-and-white photographs, contact sheets, and negatives. These have been stored in archival sleeves. Slides have been directly labeled in marker. Photograph logs have been stapled to each sleeve. Original records are marked in pencil and ink.

Maps and Oversized Documents

Maps, totaling 1.25 linear inches, include survey sketch maps, field maps, and photocopies of maps modified with added project information. Some of the maps are in poor condition and are torn, folded, stained, and unlabeled.

Collections-Management Standards

Registration Procedures

Accession Files

Archaeological collections are not accessioned into the collections.

Location Identification

There is no location information for the archaeological collections.

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 site-numbering system is used.

Computerized Database Management

All of the historical-period collections, excluding the archaeological collections, are managed using a computerized database system.

Written Policies and Procedures

Minimum Standards for Acceptance

Collections must have proper significance in accordance with the Museum's mission, a clear title, and provenience before being considered for acceptance by the Frontier Army Museum.

Curation Policy

The written curation policy describes the acquisition and registration procedures, as well as processing, storage, and conservation of materials.

Records-Management Policy

The written policy describes the acquisition, processing, and storage of materials.

Field-Curation Guidelines

There are no field-curation guidelines.

Loan Procedures

The curator, with the concurrence of the Center for Military History, will approve a written loan request by specific nonprofit institutions. Upon approval, the borrower must agree in writing to specific conditions regarding use and handling, photography and copyrights, transportation and insurance responsibility, and the acknowledgment of ownership when writing exhibition text.

Deaccessioning Policy

Items may only be kept under the control of the Chief of Military History, unless approval is given. The policy also describes the need for documenting all processes involved in deaccessioning or transferring artifacts. Such documentation will be retained in the museum's permanent records.

Inventory Policy

Collections are inventoried every two years.

Latest Collection Inventory

The most recent collection inventory prior to the St. Louis District visit was in 1995.

Curation Personnel

Museum staff include a director, a curator of collections, an exhibit specialist, a museum technician, and a museum aide.

Curation Financing

The Army pays for the upkeep of the building, the heating system, staff salaries, and a budget of $5,000.00 a year. Private associations such as the Musettes and the Fort Leavenworth Historical Society raise funds for upgraded storage and conservation of the collections.

Access to Collections

Access to the collections is controlled by the museum staff. Interested researchers with proper credentials may gain access by prearranging an appointment with the director or curator.

Future Plans

The museum intends to replace older cabinetry with new, hermetically sealed cabinets.

Comments

1. The building is structurally sound.

2. There are proper temperature and relative humidity monitoring and control devices solely for the collection storage room. A separate environmental control system is used for the rest of the repository.

3. No standard pest-management system has been implemented in the building but is considered to be unnecessary by staff due to the amounts of residual pesticide remaining from previous eradication and control measures.

4. Intrusion detection and deterrent measures for the facility meet the guidelines established in 36 CFR Part 79.

5. Fire detection and suppression devices within the facility as a whole, and especially within the collection storage room, are adequate.

6. The majority of collection materials are housed in archival-quality, nonacidic cardboard primary containers and 4-mil, zip-lock plastic bags. Only materials that have been received recently from ongoing projects are housed in acidic cardboard primary containers and acidic paper bag secondary containers.

7. Label information on primary and secondary containers is consistent.

8. Not all artifacts have been directly labeled in india ink.

9. Human skeletal remains recovered from Fort Leavenworth are housed at the Kansas Historical Museum in Topeka.

10. Storage of associated records does not meet modern archival standards. In some cases, original project documentation is stored in the same boxes as the artifacts.

Recommendations

1. Employ an integrated pest management program, including methods for monitoring and control.

2. Label all artifacts with indelible ink to prevent information loss if artifacts are separated from provenience data.

3. Rehabilitate recently acquired materials to conform with modern curation standards.

4. Apply adhesive polyethylene plastic label holders, with acid-free inserts, to the boxes. Labels should no longer be permanently affixed to the boxes. By using label holders, when label information or box content changes, inserts can be replaced, thus reducing the chance for conflicting and confusing information.

5. Replace acidic paper secondary containers with appropriate zip-lock, polyethylene plastic bags, and label with indelible ink. Labels for secondary containers should be made from spun-bonded, polyethylene paper (e.g., Nalgene polypaper), labeled in indelible ink, and inserted into the secondary containers.

6. Arrange associated documentation according to modern archival procedures, and create a finding aid for the documentation.

7. Remove all contaminants (e.g., staples, paper clips, and rubber bands) from the documents.

8. Duplicate all paper records onto acid-free paper, and place in acid-free folders labeled in indelible ink. Place all folders in acid-free cardboard boxes, and apply adhesive, polyethylene plastic label holders, with acid-free inserts, to the boxes or use file cabinets.

9. Make a duplicate copy of all associated documentation, and store these materials in a separate, fire-safe, secure location.

10. Ensure NAGPRA compliance for the human skeletal remains at the Kansas State Historical Museum.

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Sunflower Army Ammunition Plant

Desoto, Kansas

Collection Summary

Collections Total: 0.1 ft^3 of archaeological materials; 0.1 linear feet of associated records.

Volume of Artifact Collections: 0.1 ft^3

On Post: None

Off Post: 0.1 ft^3 at The Kansas City Museum (Chapter 26, Volume 2)

Compliance Status: Collections comply with existing federal guidelines and standards for archaeological curation.

Human Skeletal Remains: None

Linear Feet of Records: 0.1 linear feet (1.7 linear inches)

On Post: None

Off Post: 1.2 linear inches at the Kansas City Museum (Chapter 26, Volume 2) and 0.5 linear inches at the University of Kansas, Museum of Anthropology (Chapter 61, Volume 2)

Compliance Status: Records require partial rehabilitation to comply with existing federal guidelines and standards for archival preservation.

Status of Curation Funding: Curation activities are not funded.

When Sunflower Army Ammunition Plant (SAAP) opened in 1942 on 9,000–9500 acres in Desoto, Kansas, it became the world's largest powder plant. Since then, SAAP has manufactured various smokeless powders and other propellant products used in small arms, cannons, and rockets. Nitrocellulose and nitroglycerine are two base explosives that had been prepared at the plant. Additionally, nitric and sulfuric acid, each essential in large quantities for the production of base explosives, also have been produced and regenerated. A third base explosive, nitroguanidine, and a main ingredient, calcium cyanamide, were eventually produced at SAAP beginning as late as 1989 or as early as 1977, according to two different sources. The final year of production operation was 1992.

During World War II, 12,000 employees worked at SAAP, the highest level of employment. Since then, the installation status has fluctuated in response to the changing political climate. Beginning in 1946, SAAP was put on partial standby, then complete standby in 1948, only to be reactivated three years later for the Korean War. This pattern continued after the Korean War through the Vietnam War and various other missions. Today, SAAP is inactive and on standby status. The majority of the land has been leased and is now used for livestock grazing and hay production. SAAP is still government owned and contractor operated with a mission to maintain nitroguanidine production facilities in standby status for replenishment emergency production (Sunflower Army Ammunition Plant, 1996).

In May 1996, St. Louis District personnel performed background research at the Kansas State Historical Society in Topeka, which included a review of the pertinent archaeological site forms, reports, and manuscripts for SAAP. Archaeological sites have been recorded and a number of reports have been generated as the result of archaeological investigations. Archaeological collections are currently housed at two repositories; one in Kansas and one in Missouri.

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Feagins, Jim D.
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Fort Polk

Fort Polk, Louisiana

Collections Summary

Collections Total: 411.0 ft^3 of archaeological materials and human skeletal remains; 136.2 linear feet of associated records.

Volume of Artifact Collections: 411.0 ft^3

On Post: 318.9 ft^3

Off Post: 52.0 ft^3 at the Center for Archaeological Research, University of Texas at San Antonio (Chapter 13, Volume 2); 5.0 ft^3 at Gulf South Research Corporation (Chapter 21, Volume 2); 35 ft^3 at New South Associates (Chapter 36, Volume 2); and 0.1 ft^3 at Northwestern State University (Chapter 39, Volume 2)

Compliance Status: Collections require partial-to-complete rehabilitation to comply with existing federal guidelines and standards for archaeological curation.

Human Skeletal Remains: <1 ft^3

On Post: <1 ft^3

Off Post: None

Compliance Status: A single human tooth, identified as a surface find from site 16SA98, was included among Fort Polk collection materials. Qualified personnel need to take measures to manage these remains as outlined in NAGPRA.

Linear Feet of Records: 136.2 linear feet (1,634.1 linear inches)

On Post: 111.8 linear feet (1,341.6 linear inches)

Off Post: 18.4 linear feet (220.8 linear inches) at the Center for Archaeological Research, University of Texas at San Antonio (Chapter 13, Volume 2); 4.5 linear inches at Gulf South Research Corporation (Chapter 21, Volume 2); and 5.6 linear feet (67.2 linear inches) at New South Associates (Chapter 39, Volume 2)

Compliance Status: Records require partial-to-complete rehabilitation to comply with federal guidelines and standards for archival preservation.

Status of Curation Funding: Curation activities are financed and budgeted through FORSCOM. Annual funding is $65,000.

Fort Polk, an army post that has provided service for every U.S. military crisis, is located on 198,134 acres in central-western Louisiana. More than half, 100,009 acres, of this land is owned by the post. The rest belongs to the Forest Service. The property has been divided into three levels of utilization: intensive, special, and limited use. The terrain varies greatly from jungle-type vegetation to broad, rolling plains.

Currently Fort Polk is the home of the Warrior Brigade and affiliates of the XVIII Airborne Corps, the 2nd Armored Calvary Regiment, and the 108th Air Defense Artillery Brigade. Each have rapid deployment missions. The post also has medical, dental, and military police commands.

Over a million soldiers have passed through Fort Polk for some type of military training. Training

has been a part of the post's mission from the beginning in 1941. From World War II and again through the Korean War thousands of soldiers were prepared for combat. During the 1960s and early 1970s, Fort Polk was an infantry training center, held advanced Vietnam-oriented training, and later was chosen to be the sole infantry training center, which lasted until 1976 (Fort Polk, 1996).

In May 1996, St. Louis District personnel performed background research at the Office of Cultural Development, in the Department of Culture, Recreation, and Tourism in Baton Rouge. Research included a review of the pertinent archaeological site forms, reports, and manuscripts for Fort Polk. Numerous archaeological sites have been recorded and a number of reports have been generated as a result of archaeological investigation. Currently, most of the archaeological collections are housed on post. In addition, collections are housed at four repositories in Louisiana and Texas.

Assessment

Date of Visit: October 28–November 8, 1996

Point of Contact: James Grafton and Gina Lay

The Fort Polk Environmental Learning Center is located in Building 2531 on Fort Polk (Figure 15). Approximately 318.9 ft^3 of archaeological collection materials and 111.8 linear feet of project documentation for Fort Polk, including final report distribution copies, are housed in the Center's collection storage room. The Fort Polk Environmental Learning Center houses one human skeletal element, an unassociated tooth.

Figure 15. Building 2531 serves as a curation facility on Fort Polk.

Structural Adequacy

Building 2531, the Fort Polk Environmental Learning Center, was constructed in 1941 to serve as a temporary barracks for military training during World War II. It is a two-story wood structure with a total of area of 8,800 ft^2— 4,400 ft^2 per floor. The entire building is elevated above ground level on a pillar foundation. The foundation is considered to be solid, although it is reported to have minor cracks. The building exterior is covered with aluminum siding (over the original wood siding) and the roof is constructed with shingles. The roof was reported to be approximately 10 years old, and no indication of water leaks were reported or observed.

There are three exterior entrance doors. Two exterior doors are located side-by-side on the east face of the building. One of these entrances leads directly to the second floor stairway and the upstairs conference room, and the other door enters into a hallway that leads into the office area and collections storage room. The third exterior door is located on the south face of the building and is kept permanently locked. Twenty-four windows are located throughout the facility. Each of these windows is approximately 3.5 x 4.5 feet (w x h). All windows have had the original wooden framing replaced with aluminum, and all appear to be airtight. All windows are equipped with shades and an adhesive layer of ultraviolet film.

The collections storage room, located on the south end of the first floor, has a total area of 1,100 ft^2. The interior walls are constructed with painted plasterboard, the floor is linoleum-covered wood, and there is an acoustical-tile drop ceiling. Within the collections storage area, four windows on the east wall and four on the west wall have been permanently boarded over with one-inch plywood that has been chemically sealed. There are two solid wood doors in the storage room, one in the south end and one in the north end. Both doors are internal to the facility, and there is no means of direct access to the collections storage area from the building exterior.

In addition to artifact storage, the curation room also serves as an artifact holding area, a curation materials/supply holding area, and a records storage room. Stored items were arranged on shelves in a neat, organized fashion, and the open spaces between shelving units were clean and uncluttered. Artifact collection materials occupy approximately 70–80% of the available shelving capacity.

Environmental Controls

The facility is heated with an electric heat-pump that is set to a target temperature of 68° F. Cooling is provided by window-unit air conditioners. Both heating and air conditioning units are equipped with dust filters. Within the collections storage room, the relative humidity is monitored by hygrothermograph, and a dehumidifier is used to maintain a target humidity of less than 50%. Filtered overhead fluorescent lighting is utilized throughout the facility, including the collections storage area. Building utilities, including plumbing, electrical, and heating, were upgraded in 1991. There is no asbestos present within the building structure, and there are no overhead pipes within the collections storage area. The facility is cleaned on a weekly or an as-needed basis by the curatorial staff.

Pest Management

A professional pest management company is employed on an as-needed basis to provide pest monitoring and control within the collections storage area and the facility in general. There was no reported or observed evidence of pest infestation or related damage to collection materials.

Security

Building security is provided by key locks and dead-bolt locks on all exterior doors, and all windows are considered to be too high above the ground to allow entry from the outside. Interior doors into the collections storage area also are equipped with both key and dead-bolt locks, and access into this area is controlled by the curatorial staff. In general, entry into the collections storage area is limited to office personnel and outside researchers upon request. There was no reported evidence of previous unauthorized entry into the facility, and no signs of break-in were observed during the building assessment. The curatorial staff indicated that there would not be a high market value associated with collection materials which consist primarily of lithic flakes and ceramic sherds.

Fire Detection and Suppression

There were no smoke detectors, heat detectors, or any other system for fire detection present within the Environmental Learning Center, which, according to cultural resources manager Jim Grafton, has an estimated burn time of about three minutes. Dry chemical fire extinguishers positioned throughout the facility (particularly near interior doorways) are the only fire suppression devices present. There are three fire extinguishers located within the collections storage room.

Artifact Storage

Storage Units

Collection materials are stored on baked-enamel open metal shelving units and in metal flat file cabinet drawers (Figures 16 and 17). Each open metal shelving units measures 17.5 x 48 x 74.5 inches (l x w x h), and each provides approximately 36 ft^3 of storage space. The 36 units present provide approximately 1,300 ft^3 storage space, which is filled to approximately eighty percent of capacity with collection artifacts, documentation, and curation supplies. Table 12 summarizes the material classes

Figure 16. Artifacts are housed in cardboard boxes stored on metal shelving units in Building 2531.

Figure 17. Special artifacts and type collection are stored in a flat file cabinet.

and the approximate percentages of each that are present in the collections housed at the Environmental Learning Center.

Primary Containers

Approximately eighty-two percent of the total volume of collection materials curated at the Fort Polk facility are packaged in acid-free cardboard primary containers that have a folded construction and telescoping lid security. Approximately six percent is packaged in acidic cardboard containers that have a glued or taped construction with folding flap security. Approximately eleven percent, primarily a 35-ft^3 sectioned mural, is packaged in polyester felt padding or plastic, but not boxed. A few artifacts, (<1%), have been placed, unpackaged, on the open metal shelving. Table 13 indicates each type of primary container and the percentage by volume of the total collection packaged in each type of primary container.

Table 12.
Material Classes in the Fort Polk Artifact Collections Housed at the Fort Polk Environmental Learning Center

Material Class	%
Prehistoric	
Ceramic	2
Lithics	72
Soil	1
^{14}C	3
Other	3
Historical-Period	
Ceramic	5
Glass	5
Metal	7
Brick	1
Other	1
Total	100

Note: Percentages of material classes are based on volume. Other prehistoric materials include faunal remains, shell, and flotation samples. Other historical-period materials include wood and faunal remains.

Table 13.
Primary Container Types by Volume Housed at the Fort Polk Environmental Learning Center

Primary Container Type	Volume of Material (ft^3)	%
Acid-free cardboard box	261.5	82
Acidic cardboard box	20.0	6
Felt wrapping or plastic	36.4	11
No primary container	1.0	< 1
Total	318.9	100

Primary container labels also vary. The boxes containing the rehabilitated portions of the collection are labeled with a box number only in pencil. Other primary containers have adhesive, computer-generated labeling or direct labeling (in ink) that identifies the project contractor and the site numbers of origin for the enclosed artifacts.

Secondary Containers

Collection materials are also packaged in variety of secondary containers. Among the collections that have been rehabilitated, all artifacts are packaged in archival-quality, zip-lock plastic bag secondary and tertiary containers. The boxes containing nonrehabilitated collections have a mixture of nonarchival-quality zip-lock plastic bag and acidic paper bag secondary and tertiary containers. There are also a small number of amber-colored, plastic medicine bottles being used as tertiary containers. Metal artifacts have been stored with a bag of blue silica gel to absorb excess moisture. Most of the crystals are saturated; however, they can be removed, dried, and reused.

Laboratory Processing and Labeling

All boxes for the rehabilitated portion of the collection contain an acid-free inventory sheet. The inventories have been computer generated and are in zip-lock plastic bags. All artifacts have been sorted and cleaned, and approximately forty percent of the artifacts are directly labeled in black ink.

Human Skeletal Remains

A single human tooth is the only human skeletal element that was identified among the collections at Fort Polk. The tooth is stored on the collection shelves inside an archival cardboard box primary container labeled only with the number 8. The tooth itself is wrapped in aluminum foil and placed inside a zip-lock, plastic bag. A label inside the zip-lock bag states that the enclosed artifact is a human tooth from site 16SA98 (the knoll at the end of Eagle Hill Training Site) and that it was collected as a "surface find by Servello ca.1976–77." This plastic bag is further enclosed in a polyester, felt-lined archival box inside a larger zip-lock, plastic bag (the secondary container) labeled "8-14a" with permanent black marker ink.

Records Storage

Project documentation records are stored in several ways. Some materials are boxed on shelves and often located with archaeological material collections, some are placed flat on the shelves with no container, and some are stored in a metal file cabinet. There is a collection of final reports in a metal, flat file cabinet.

Paper Records

There are 42.6 linear feet of paper records that include a combination of reports, field notes, maps, and project correspondence. The paper records are in good condition, although contaminants such as staples, rubber bands, and metal clips are present.

Report Records

Report records include 63.8 linear feet of draft reports, camera-ready final reports, and bound and unbound final reports for distribution.

Photographic Records

There are 2.6 linear feet of photographic records that include slides, negatives, contact sheets, and print materials. Some of these records are archivally processed and labeled, and others are stored inside the original commercial processing envelopes and negative sleeves.

Maps and Oversized Documentation

Fort Polk houses 2.8 linear feet of map records in several places in a variety of ways. Many have been placed flat in two metal map cabinets—one with 10 drawers measures 46.5 x 36.25 x 16.25 inches (l x w x h) and the other with 17 drawers measures 46.5 x 35.25 x 49.5 inches (l x w x h). Adjacent to these are 12 maps that have been rolled and are standing in a shallow wooden box. Other maps are folded in acidic cardboard boxes. Maps also are stored in a hanging map case constructed of plywood.

Collections Management Standards

Registration Procedures

Accession Files

All materials are accessioned upon receipt.

Location Identification

The location of the collection is identified in 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

Site records are maintained for Fort Polk sites only.

Computerized Database Management

Collections are managed using a database management system.

Written Policies and Procedures

Minimum Standards for Acceptance

Fort Polk uses the Louisiana State Guidelines as the minimum standards for acceptance.

Curation Policy

The policy addresses receipt, processing, use of materials, and future preservation. The policy reflects the guidelines presented in *Fort Polk Historic Preservation Plan: Technical Synthesis of Cultural Resource Investigations, Fort Polk, Louisiana* (Anderson, et.al. 1988).

Records-Management Policy

The facility has a records-management policy that addresses maps, other paper records, photographic materials, and the future preservation of the collection.

Field-Curation Guidelines

Field-curation guidelines exist.

Loan Procedures

There is no written loan policy.

Deaccessioning Policy

There is no written deaccessioning policy.

Inventory Policy

There is an inventory policy.

Latest Collection Inventory

The collections were last inventoried in 1995.

Curation Personnel

Curation personal include James D. Grafton, cultural resource manager, and Gina Lay, curation and collections management assistant.

Curation Financing

Curation is financed through FORSCOM, with $65,000 budgeted for curation.

Access to Collections

Individuals authorized by the cultural resource manager are allowed access to the collections.

Future Plans

The curation and collections management assistant was recently hired to handle the full responsibilities of upgrading and maintaining the archaeological materials and records. More shelves will be added to the room to accommodate more boxes. The cultural resource manager hopes to receive funding to build a state-of-the-art curation facility.

Comments

1. Temperature and humidity levels are monitored and controlled.

2. The dehumidifier often shuts off over the weekend, after it fills to capacity.

3. Pest management is employed on an as-needed basis.

4. Security measures do not meet minimum federal standards.

5. Currently rehabilitated collections, both records and archaeological materials, have been properly processed and packaged.

6. The wooden building has no smoke or heat detectors and only manual fire extinguishers for fire suppression.

7. The silica gel desiccant placed with the metal objects is saturated.

8. Incoming collections have no holding area before they are integrated with the rest of the collections.

9. The processing and rehabilitation of materials completed by three different groups of individuals is inconsistent.

10. There are contaminants within the paper documents including staples, rubber bands, and metal clips.

11. Photocopies of records are stored with the originals.

Recommendations

1. Improve fire safety by adding smoke and or heat sensors wired to the local fire department throughout the building, and if possible, install a sprinkler system.

2. Reactivate the silica gel by drying it for three hours at 300° F.

3. Inspect the previously rehabilitated collections to ensure consistent processing. Label all artifacts with indelible ink to prevent information loss if artifacts are separated from provenience data.

4. Remove any contaminants from the records. If paper clips are needed, archival alternatives do exist.

5. Arrange associated documentation according to archival procedures and create a finding aid for the documentation.

6. Purchase an additional dehumidifier to avoid fluctuations in relative humidity.

7. Employ an integrated pest management system that includes the use of monitoring and control.

8. Maintain security copies of the records in a separate, fire-safe location.

9. Ensure NAGPRA compliance for the human tooth located with the collections.

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1992 *A Cultural Resources Survey of 80 Acres at Fort Polk, Vernon Parish, Louisiana.* R. Christopher Goodwin & Associates, New Orleans.

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1992 *A Cultural Resources Survey of 282 Acres Along Four Re-Routes of the Fullerton Training Road Network, Fort Polk, Vernon Parish, Louisiana.* R. Christopher Goodwin & Associates, New Orleans.

1992 *A Cultural Resources Survey of 340 Acres in the Vicinity of Peason Ridge Cantonment Area, Fort Polk, Vernon Parish, Louisiana.* R. Christopher Goodwin & Associates, New Orleans.

1993 *A Cultural Resources Survey of 665 Acres on the Peason Ridge and Fort Polk Military Reservations, Fort Polk, Vernon Parish, Louisiana.* R. Christopher Goodwin & Associates, New Orleans.

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1992 *A Cultural Resources Survey of 718 Acres on the Fullerton Training Road Network, Fort Polk, Vernon Parish, Louisiana.* R. Christopher Goodwin & Associates, New Orleans.

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1992 *A Cultural Resources Survey of Joint Readiness Training Center (JTRC) Project: Fullerton Forward Landing Strip/Drop Zone (FLS/DZ) at Fort Polk, Vernon Parish, Louisiana.* R. Christopher Goodwin & Associates, New Orleans.

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1993 *Fort Polk Delivery Order 19: A Cultural Resources Survey of 189 Acres Along the Peason Ridge Training Road Network, Fort Polk, Vernon and Sabine Parishes, Louisiana.* R. Christopher Goodwin & Associates, New Orleans.

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1993 *Fort Polk Delivery Order 13: A Cultural Resources Survey of 345 Acres Along Contact Lanes for the Joint Readiness Training Center Interim Live Fire Complex, Fort Polk, Vernon Parish, Louisiana.* R. Christopher Goodwin & Associates, New Orleans,.

Mathews, James H., L. Janice Campbell, Prentice M. Thomas, Jr., James R. Morehead, and Joseph Meyer

1995 *Fort Polk 19: The Results of a Nineteenth Program of Site Testing at Ten Sites, Fort Polk Military Reservation, Natchitoches and Vernon Parish, Louisiana.* Prentice Thomas & Associates, Fort Walton Beach, Florida.

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1995 *Fort Polk - 20: The Results of a Twentieth Program of Site Testing at Ten Sites, Fort Polk Military Reservation, Natchitoches and Vernon Parishes, Louisiana.* Prentice Thomas & Associates, Fort Walton Beach, Florida.

Meyer, Joseph, James R. Morehead, James H. Mathews, Prentice M. Thomas, Jr., and L. Janice Campbell
1995 *Fort Polk - 16: The Results of a Sixteenth Program of Site Testing at Ten Sites, Fort Polk Military Reservation, Vernon Parish, Louisiana.* Prentice Thomas & Associates, Fort Walton Beach, Florida.

1996 *Fort Polk-18: The Results of a Eighteenth Program of Site Testing at Ten Sites, Fort Polk Military Reservation, Vernon Parish, Louisiana.* Prentice Thomas and Associates, Fort Walton Beach, Florida.

Morehead, James R., L. Janice Campbell, Joseph Meyer, James H. Mathews, and Prentice Thomas, Jr.
1995 *Fort Polk - 17: The Results of a Seventeenth Program of Site Testing at Ten Sites, Fort Polk Military Reservation, Vernon Parish, Louisiana.* Prentice Thomas & Associates, Fort Walton Beach, Florida.

Morehead, James R., L. Janice Campbell, Prentice M. Thomas, Jr., James Mathews, and Joseph Meyer
1995 *Fort Polk - 13: The Results of a Thirteenth Program of Site Testing at Ten Sites, Fort Polk Military Reservation, Vernon Parish, Louisiana.* Prentice Thomas & Associates, Fort Walton Beach, Florida.

1994 *Fort Polk 14: The Results of a Fourteenth Program of Site Testing at Ten Sites, Fort Polk Military Reservation, Vernon Parish, Louisiana.* Prentice Thomas & Associates, Fort Walton Beach, Florida.

Morehead, James R., Joseph Meyer, James H. Mathews, L. Janice Campbell, and Prentice M. Thomas, Jr.
1995 *Fort Polk - 15: The Results of a Fifteenth Program of Site Testing at Ten Sites, Fort Polk Military Reservation, Vernon Parish, Louisiana.* Prentice Thomas & Associates, Fort Walton Beach, Florida.

Morehead, James R., Prentice M. Thomas, Jr., L. Janice Campbell, James H. Mathews, and Joseph Meyer
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1987 *Cultural Resources Survey of the North Fort Polk Family Housing Area, Fort Polk, Vernon Parish, Louisiana.* R. Christopher Goodwin & Associates, New Orleans.

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1992 *Site Testing at Ten Sites on Peason Ridge, Fort Polk Military Reservation, Sabine Parish Louisiana.* Prentice Thomas & Associates, Fort Walton Beach, Florida.

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1977 *An Archaeological Reconnaissance of Portions of Kisatchie National Forest, Louisiana (Rapides, Grant Parishes).* The Research Institute, College of Pure and Applied Sciences, Northeast Louisiana University,.

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1995 *Fort Polk Delivery Order 1: A Cultural Resources Survey of 313 Acres of Proposed Perimeter Fenceline on Peason Ridge, Fort Polk, Natchitoches, Sabine, and Vernon Parishes, Louisiana.* Gulf South Research, Baton Rouge.

Shuman, Malcolm, Dennis Jones, Melissa Wiedenfeld, and John Lindemuth

1996 *Fort Polk Delivery Order 2: A Cultural Resources Survey of 1,930 Acres in Peason Ridge Training Area (Sabine and Vernon Parishes), Fort Polk, Louisiana.* Gulf South Research, Baton Rouge.

1996 *Fort Polk Delivery Order 3: A Cultural Resources Survey of 319 Acres on the North Boundary of Peason Ridge Training Area, Sabine Parish, Louisiana.* Gulf South Research, Baton Rouge.

1996 *Fort Polk Delivery Order 4: A Cultural Resources Survey of 1,002 Acres in the North Fort, Main Fort, Fort Polk, Vernon Parish, Louisiana* (Revised Draft). Gulf South Research, Baton Rouge.

Smith, Rhonda L.

1991 *Archaeological Survey of 15 Acres on the Main Fort (Vernon Parish), Fort Polk, Louisiana (1991).* Earth Search, New Orleans.

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1993 *Fort Polk - 6: The Results of a Sixth Program of Site Testing at 10 Sites, Fort Polk Military Reservation, Natchitoches and Vernon Parishes, Louisiana.* Prentice Thomas & Associates, Fort Walton Beach, Florida.

1993 *Fort Polk - 8: The Results of an Eighth Program of Site Testing at Ten Sites, Fort Polk Military Reservation, Sabine and Vernon Parishes, Louisiana.* Prentice Thomas & Associates, Fort Walton Beach, Florida.

Thomas, Prentice M., Jr., L. Janice Campbell, James R. Morehead, James H. Mathews, Joseph Meyer

1993 *Fort Polk - 5: The Results of a Fifth Program of Site Testing at 10 Sites, Fort Polk Military Reservation, Vernon Parish, Louisiana.* Prentice Thomas & Associates, Fort Walton Beach, Florida.

1994 *Fort Polk - 10: The Results of a Tenth Program of Site Testing at Ten Sites, Fort Polk Military Reservation, Vernon Parish, Louisiana.* Prentice Thomas & Associates, Fort Walton Beach, Florida.

Thomas, Prentice M., Jr., Joseph Meyer, James R. Morehead, L. Janice Campbell, and James H. Mathews

1992 *Fort Polk - 3: The Results of a Third Program of Site Testing at Ten Sites, Fort Polk Military Reservation, Natchitoches Parish, Louisiana.* Prentice Thomas & Associates, Fort Walton Beach, Florida.

1993 *Fort Polk - 4: The Results of a Fourth Program of Site Testing at Ten Sites, Fort Polk Military Reservation, Natchitoches and Vernon Parishes, Louisiana.* Prentice Thomas & Associates, Fort Walton Beach, Florida.

Thomas, P. M., Jr., J. R. Morehead, L. J. Campbell, J. H. Mathews, and J. Meyer
1994 *Fort Polk - 11: The Results of an Eleventh Program of Site Testing at Ten Sites, Fort Polk Military Reservation, Vernon Parish, Louisiana.* Prentice Thomas & Associates, Fort Walton Beach, Florida.

Thomas, P. M., Jr., J. R. Morehead, J. H. Mathews, and J. L. Campbell
1992 *The Results of a Second Program of Site Testing at Ten Sites on Fort Polk Military Reservation, Vernon Parish, Louisiana.* Prentice Thomas & Associates, Fort Walton Beach, Florida.

Thomas, Prentice M., Jr., Steven Shelly, L. Janice Campbell, Mark T. Swanson, Carol S. Weed, and John P. Lenzer
1982 *Cultural Resources Investigations at the Fort Polk Military Reservation, Vernon, Sabine, and Natchitoches Parishes, Louisiana.* New World Research, Fort Walton Beach, Florida.

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1994 *Fort Polk Delivery Order 14: A Cultural Resources Survey of 985 Acres in the South Fullerton Remote Village and North Fullerton Maneuver Block, Fort Polk, Vernon Parish, Louisiana.* R. Christopher Goodwin & Associates, New Orleans.

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1994 *Fort Polk Delivery Order 18: A Cultural Resources Survey of 980 Acres Along the Peason Ridge Area, Fort Polk, Vernon and Natchitoches Parishes, Louisiana.* R. Christopher Goodwin & Associates, New Orleans.

Williams, Luis M., Jr., Paul V. Heinrich, Ralph Draughon, Jr., Thomas Fenn, William P. Athens
1994 *Fort Polk Delivery Order 15: A Cultural Resources Survey of 995 Acres in the East Fullerton Maneuver Block, Fort Polk, Vernon Parish, Louisiana.* R. Christopher Goodwin & Associates, New Orleans.

1994 *Fort Polk Delivery Order 17: A Cultural Resources Survey of 1000 Acres in the North Fullerton Maneuver Block, Fort Polk, Vernon Parish, Louisiana.* R. Christopher Goodwin & Associates, New Orleans.

1995 *Fort Polk Delivery Order 16: A Cultural Resources Survey of 998 Acres in the North Fullerton Maneuver Block of Fort Polk, Vernon Parish, Louisiana.* R. Christopher Goodwin & Associates, New Orleans.

Wilson, James R., David G. Anderson, and J. W. Joseph
1988 *Fort Polk Historic Preservation Plan: Cultural Resources Planning Manual.* Garrow and Associates, Atlanta.

Yakubil, Jill-Karen, and Herschel A. Franks
1990 *Archaeological Survey of 65 Acres on the Main Fort, Fort Polk, Vernon Parish, Louisiana, Including an Assessment of 16VN1076 and Recordation at Cemetery No 2. (16VN1009).* Earth Search, New Orleans.

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Louisiana Army Ammunition Plant

Shreveport, Louisiana

Collections Summary

Collections Total: 16.0 ft^3 of archaeological materials; 7.7 linear feet of associated records.

Volume of Artifact Collections: 16.0 ft^3

On Post: None

Off Post: 16.0 ft^3 at Northwestern Louisiana State University (Chapter 39, Volume 2)

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

Human Skeletal Remains: None

Linear Feet of Records: 7.7 linear feet (92.5 linear inches)

On Post: None

Off Post: 7.7 linear feet (92.5 linear inches) at Northwestern Louisiana State University (Chapter 39, Volume 2)

Compliance Status: Records require partial-to-complete rehabilitation to comply with federal guidelines and standards for archival preservation.

Status of Curation Funding: Curation activities are not funded.

Louisiana Army Ammunition Plant opened on July 10, 1941, east of Shreveport in the Louisiana Parishes of Bossier and Webster. Since the beginning, this approximately 15,000 acre facility has remained government owned and contractor operated. LAAP has produced approximately 65 different ammunition items, including artillery shell metal parts, mines, rockets, fuzes, mortar rounds, and demolition blocks. At first, LAAP had eight ammunition lines and one ammonium nitrate graining plant. Today, the production mission of the plant has been limited to only the metal parts facility for emergencies; however, it must maintain the capability to accommodate the receipt and shipment of containerized cargo.

In 1989 LAAP was placed on the National Priorities List by EPA for several sites including—lagoons, landfills, manufacturing areas, a burning or open detonation ground, a land farm, and test areas. The burning/detonation ground will remain open until all stock is depleted (Louisiana Army Ammunition Plant 1996).

In May 1996, St. Louis District personnel performed background archaeological research in Baton Rouge at the Louisiana Office of Cultural Development in the Department of Culture, Recreation, and Tourism. This research included a review of all pertinent archaeological site forms, reports, and manuscripts for LAAP. Archaeological sites have been recorded and a number of reports generated as a result of archaeological investigations. Collections are housed at one repository in Louisiana.

Reports Related to Archaeological Investigations at Louisiana Army Ammunition Plant

Bennet, W. J.
1984 *Intensive Cultural Resources Survey of Selected Locations in the Longhorn Army Ammunition Plant and the Louisiana Army Ammunition Plant.* U.S. Army Corps of Engineers, Fort Worth District, and Archaeological Assessments, Nashville, Arkansas.

Cliff, Maynard B.
1990 *Cultural Resources Survey of the Remaining Areas of the Louisiana Army Ammunition Plant, Webster and Bossier Parishes, Louisiana.* U.S. Army Corps of Engineers, Fort Worth District, and Geo-Marine, Plano, Texas.

Cliff, Maynard B., and Duane E. Peter
1989 *Test Excavation at Sites 16 WE 233 and 16 WE 236, Louisiana Army Ammunition Plant, Webster Parish, Louisiana.* U.S. Army Corps of Engineers, Fort Worth District, and Geo-Marine, Plano, Texas.

1994 *Test Excavations at the Caney Branch I and Caney Branch II sites (16 BO 198 and 16 BO 200), Louisiana Army Ammunition Plant, Bossier Parish, Louisiana.* U.S. Army Corps of Engineers, Fort Worth District, and Geo-Marine, Plano, Texas.

Cliff, M. B., D. E. Peter, R. Nathan, T. K. Perttula, and C. A. Pegues.
1988 *Cultural Resources Survey Within Seven Timber Cutting Areas, Louisiana Army Ammunition Plant, Webster Parish, Louisiana.* U.S. Army Corps of Engineers, Fort Worth District, and Geo-Marine, Plano, Texas.

Cliff, Maynard B., Duane Peter, Cynthia Stiles-Hanson, Martha Doty Freeman, and Steven Hunt.
1989 *Cultural Resources Survey within Twelve Timber Cutting Areas, Louisiana Army Ammunition Plant, Webster and Bossier Parishes, Louisiana.* U.S. Army Corps of Engineers, Fort Worth District, and Geo-Marine, Plano, Texas.

Driskell, Boyce N., and Margaret Ann Howard
1988 *Inventory, Assessment, and Natural Register Testing of Selected Tracks at the Louisiana Army Ammunition Plant, Webster Parish, Louisiana.* U.S. Army Corps of Engineers, Fort Worth District, and Prewitt and Associates, Austin, Texas.

Fields, Ross C.
1989 *Archaeological Survey and Testing Along Boone Creek, Louisiana Army Ammunition Plant, Webster Parish, Louisiana.* U.S. Army Corps of Engineers, Fort Worth District, and Prewitt and Associates, Austin, Texas.

Heartfield, Lorraine, Tony Dieste, William Moore, Edward Beene, and Gary Stringer
1984 *An Archaeological Overview and Management Plan for the Louisiana Army Ammunition Plant, Bossier and Webster Parishes, Louisiana.* National Park Service, Southeast Region Office, Atlanta, Woodward-Clyde Consultants, and Heartfield, Price and Greene, Monroe, Louisiana.

Kelley, David B., Sally S. Victor, and Martha Doty Freeman
1988 *Archaeology in the Flatwoods: An Intensive Survey of Portions of the Louisiana Army Ammunition Plant, Bossier and Webster Parishes, Louisiana.* U.S. Army Corps of Engineers, Fort Worth District, Prewitt and Associates, Austin, Texas, and Coastal Environments, Baton Rouge.

MacDonald, Stuart E., and David A. Fey
1984 *Historic Properties Report, Louisiana Army Ammunition Plan, Shreveport, Louisiana.* Historic American Building Survey/Historic American Engineering Record, National Park Service, Washington D.C., Building Technology Silver Spring, Maryland, and MacDonald and Mack Partnership, Minneapolis.

McGruff, Paul R., and Jay R. Newman
1987 *An Archaeological Inventory of a Proposed Incinerator Construction at the Louisiana Army Ammunition Plant, Webster Parish, Louisiana.* U.S. Army Corps of Engineers, Fort Worth District.
1988 *An Archaeological Study of a Proposed Pipeline Right of Way at the Louisiana Army Ammunition Plant, Webster Parish, Louisiana.* U.S. Army Corps of Engineers, Fort Worth District.

Peter, Duane E., Maynard B. Cliff, and Steven M. Hunt.
1989 *Intensive Archaeological Survey of a Proposed Borrow Pit Area and Power Line Route within the Louisiana Army Ammunition Plant, Webster Parish, Louisiana.* U.S. Army Corps of Engineers, Fort Worth District and Geo-Marine, Plano, Texas.
1990 *Louisiana Army Ammunition Plant Cultural Resource Management Plan*. U.S. Army Corps of Engineers, Fort Worth District, and Geo-Marine, Plano, Texas.

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Hawthorne Army Depot

Nevada

Collections Summary

Collections Total: 14.6 ft^3 of archaeological materials; 4.9 linear feet of associated records.

Volume of Artifact Collections: 14.6 ft^3

On Post: None

Off Post: 12.6 ft^3 at Harry Reid Center for Environmental Studies, University of Nevada, Las Vegas (Chapter 22, Volume 2) and 2.0 ft^3 at the Nevada State Museum (Chapter 34, Volume 2)

Compliance Status: Collections require partial-to-complete rehabilitation to comply with existing federal guidelines and standards for archaeological curation.

Human Skeletal Remains: None

Linear Feet of Records: 4.9 linear feet (58.3 linear inches)

On Post: None

Off Post: 2.8 linear feet (33.3 linear inches) at Harry Reid Center for Environmental Studies, University of Nevada, Las Vegas (Chapter 22, Volume 2); 1.25 linear inches at the Nevada State Museum (Chapter 34, Volume 2); 1.2 linear feet (14.25 linear inches) at Sagebrush Archaeological Consultants (Chapter 48, Volume 2); and 9.5 linear inches at U.S. Army Engineer District, Sacramento (Chapter 66, Volume 2)

Compliance Status: Records require partial to complete rehabilitation to comply with existing federal guidelines and standards

Status of Curation Funding: Curation activities are not funded.

Hawthorne Army Depot, the world's largest ammunition plant, is located approximately 135 miles southeast of Reno.Estimated to encompass 147,000 to approximately 148,500 acres, the installation first opened in 1928 as a U.S. Naval Ammunition Depot. It was transferred to the U.S. Army in 1977 and renamed Hawthorne Army Ammunition Plant. In three years, the installation was redesignated as a government-owned and contractor-operated facility. In 1994, it reverted back to the name, Hawthorne Army Depot.

The mission of Hawthorne Army Depot has changed over the years. As a Naval Ammunition Depot it stored, serviced, and issued ammunition to the Pacific area. Demolition of allied and enemy ammunition became a major mission following World War II. The Depot currently has an ammunition surveillance program and is one of only four national Tier II facilities. This designation allows it to be partially staffed in peacetime, having the potential to increase staffing if needed. Tier II installations store War Reserve ammunition for use after the first 30 days when Tier I stockpiles are depleted. The current

contractor, Day & Zimmerman/Basil Corporation, is responsible for supporting the current mission. (Hawthorne Army Depot, Nevada 1996).

In August 1996, St. Louis District personnel performed background archaeological research at the Nevada State Museum in Carson City. This research included a review of all pertinent archaeological site forms, reports, and manuscripts for Hawthorne Army Depot. Archaeological sites have been recorded and a number of reports have been generated as a result of archaeological investigations on Hawthorne Army Depot. A small archaeological collection had been stored at Hawthorne; however, the cultural resource manager informed the St. Louis District that the collection had been given to the Walker Lake Paiute Tribe as a long-term loan. This collection was not assessed by the St. Louis District. In addition, collections are located in four repositories in Nevada, Utah, and California.

Reports Related to Archaeological Investigations at Hawthorne Army Depot

Blair, Lynda
1995 *Treatment Plan for Archaeological Site 26 MN 1208 at the USMC Lance-Corporal Timothy G. Carter Mortar Range, Hawthorne AAP, Mineral County, Nevada.* Day and Zimmerman/Basil Corporation, Hawthorne, Nevada.

Blair, Lynda, and Monique Kimball
1991 *A Cultural Resource Investigation of the Proposed M252 Mortar Test Range, Hawthorne AAP, Mineral County, Nevada.*Day and Zimmerman/Basil Corporation, Hawthorne, Nevada.

Cleland, James H., David Johnson, Clyde M. Woods, Edward C. Johnson, and Christina Smith.
1984 *An Archaeological Overview and Management Plan for the Hawthorne Army Ammunition Plant, Hawthorne, Nevada, "Unclass" Appendix.* U.S. Army, Hawthorne Army Ammunition Plant, National Park Service, U.S. Department of the Interior, Atlanta, and WIRTH Environmental Services, San Diego.

1984 *An Archaeological Overview and Management Plan for the Hawthorne Army Ammunition Plant, Hawthorne Nevada.* Draft. U.S. Army, Hawthorne Army Ammunition Plant, National Park Service, U.S. Department of the Interior, Atlanta, and WIRTH Environmental Services, San Diego.

Matranga, Peter F., Jr.
1993 *Class III Cultural Resource Inventory of the North and South Magazine Areas, Hawthorne AAP.* Day and Zimmerman/Basil Corporation, Hawthorne, Nevada.

Montgomery, Jacki A., and Sheri L. Murray
1995 *A Cultural Resources Overview of the Hawthorne Army Depot, Mineral County Nevada.* Draft. U.S. Army, Hawthorne Army Ammunition Plant, Geo-Marine, Plano, Texas, and Sagebrush Archaeological Consultants, Odgen Utah.

Stornetta, Susan
1985 *The Archaeological Reconnaissance of 8.5 Miles of Proposed Water Pipeline Route Near Hawthorne, Mineral County, Nevada.* Board of Mineral County Commissioners, Hawthorne, Nevada, and Intermountain Research, Silver City, Nevada.

Weaver, Richard A.
1990 *A Cultural Resources Inventory and Evaluation of Two Walker Lake Shoreline Sites (26-MN-907 and 26-MN-908), Hawthorne Army Ammunition Plant, Mineral County, Nevada.* U.S. Army, Hawthorne Army Ammunition Plant and U.S. Army Corps of Engineers, Sacramento District.

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Fort Wingate Army Depot Activity

Gallup, New Mexico

Collections Summary

Collections Total: 25.2 ft^3 of archaeological materials and human skeletal remains; 11.5 linear feet of associated records.

Volume of Artifact Collections: 20 ft^3

On Post: None

Off Post: 17.6 ft^3 at the Museum of Indian Arts and Culture/Archaeological Records Management Section (Chapter 30, Volume 2) and 2.4 ft^3 at the Office of Contract Archaeology, University of New Mexico (Chapter 40, Volume 2)

Compliance Status: Collections require minimal-to-partial rehabilitation to comply with existing federal guidelines and standards for archaeological curation.

Human Skeletal Remains: 5.2 ft^3

On Post: None

Off Post: 5.2 ft^3 at the Maxwell Museum of Anthropology, University of New Mexico (Chapter 29, Volume 2)

Compliance Status: An unknown number of individuals is located in the Osteology Laboratory at the Maxwell Museum of Anthropology. Qualified personnel need to take measures to manage these remains as outlined in NAGPRA.

Linear Feet of Records: 11.5 linear feet (138.5 linear inches)

On Post: None

Off Post: 1.25 linear inches at Museum of New Mexico, Laboratory of Anthropology, Archaeological Records Management Section (Chapter 30, Volume 2); 1.9 linear feet (22.75 linear inches) at Office of Contract Archaeology, University of New Mexico (Chapter 40, Volume 2); and 9.5 linear feet (114.5 linear inches) at U.S. Army Engineer District, Albuquerque (Chapter 62, Volume 2).

Compliance Status: Records require minimal-to-partial rehabilitation to comply with existing federal guidelines and standards for archival preservation.

Status of Curation Funding: Curation activities are not funded.

In 1860 Fort Wingate was established east of its present boundaries, as Fort Lyon. The fort was used for confinement of Native Americans that were being relocated west in the late 1860s. A 10-square mile boundary was established in 1870, and at that time the garrison officially became named Fort Wingate Military Reservation. The fort deactivated between 1911 and 1918 and reopened with an ammunition mission during World War I. It continued to be used for munitions storage through World War II. In 1941, the majority of the present facilities at Fort Wingate were constructed on the installation. The present boundaries, which encompass approximately 22,120 acres, were not established until 1950, at which time

the installation was renamed Fort Wingate Depot Activity. In 1976 Fort Wingate was reassigned to Tooele Army Complex, and in 1993 the installation was closed and put under caretaker status (Evinger 1991, 1995).

In May 1996, St. Louis District personnel performed background archaeological research at the Archaeological Records Management Section of the New Mexico Historic Preservation Division that included a review of all pertinent archaeological site forms, reports, and manuscripts. Archaeological sites have been recorded on Fort Wingate and numerous reports have been generated as a result of archaeological investigations. Archaeological collections are housed in four repositories in New Mexico.

Reports Related to Archaeological Investigations at Fort Wingate

Anonymous
1989 *Assessment of Significant and Effect: Old Fort Wingate Trading Post, Fort Wingate, McKinley County, New Mexico.* Submitted to Department of the Interior, Bureau of Indian Affairs, Navajo Area Office, Window Rock, Arizona.

Bannister, Bryant, William J. Robinson, and Richard L. Warren
1970 *Tree-Ring Dates from New Mexico A, G-H.* Laboratory of Tree-Ring Research, University of Arizona, Tucson.

Beal, John D.
1978 *Archaeological Survey of the Amcoal Electrical Transmission Line Near Fort Wingate Military Reservation.* The School of American Research, Contract Archaeology Program, Santa Fe, New Mexico. Submitted to Earth Environmental Consultants, and Amcoal.

1978 *Archaeological Survey of the Revised Amcoal Electrical Transmission Line Near Fort Wingate Military Reservation.* The School of American Research, Contract Archaeology Program, Santa Fe, New Mexico. Submitted to Earth Environmental Consultants, and Amcoal.

Brandt, Carol B.
1988 *Monitoring of a Gas Pipeline Trench at Fort Wingate, McKinley County, New Mexico.* Zuni Archaeological Program, Pueblo of Zuni. Submitted to Western Canyon Construction, Flagstaff, Arizona.

Breternitz, Cory Dale, and Leslie R. Ash
1984 *A Cultural Resources Overview and Management Plan for the Fort Wingate Depot Activity.* Soil System, Phoenix. Submitted to U.S. Department of the Interior, National Park Service, San Francisco.

Chapman, Richard C., Carolyn L. Daniel, and Jeanne A. Schutt
1994 *Cultural Resources Inventory of Fort Wingate Depot Activity, New Mexico.* Office of Contract Archaeology, University of New Mexico, Albuquerque. Submitted to U.S. Army Corps of Engineers, Albuquerque District.

Copeland, James M.
n.d. *Archaeological Survey of the Fort Wingate Wildlife Burn.* Mount Taylor Ranger District, Cibola National Forest, Grants, New Mexico.

1987 *Archaeological Survey: Cibola National Forest Road 546 Easement, Fort Wingate, New Mexico.* Navajo Nation Cultural Resource Management Program. Submitted to Mt. Taylor Ranger District, Cibola National Forest, Grants, New Mexico.

Fryar, John H., and Linda Popelish
1985 *A Cultural Resources Survey of the Fort Wingate Green Firewood Sale, Mt. Taylor Ranger District, Cibola National Forest, McKinley County, New Mexico.* Submitted to Mt. Taylor Ranger District, Cibola National Forest, Grants, New Mexico.

Haecker, Charles M.
1987 *Cultural Resource Survey of Two Proposed Borrow Pits Near Fort Wingate.* New Mexico State Highway Department, Santa Fe. Submitted to McKinley County, New Mexico.

Hamilton, M. Colleen
1995 *A Cultural Resource Survey Preliminary to the Issuance of a Use Permit in Fort Wingate, New Mexico.* Navajo Nation Historic Preservation Department. Submitted to Bureau of Inidan Affairs-Navajo Area Office, Branch of Facility Management, Gallup, New Mexico.

Hunt, Suzanne
1991 *Several Gates and Fences in the Fort Wingate Habitat Area Request for Archaeological Clearance Based on Previous Surveys.* Mt. Taylor Ranger District, Cibola National Forest, Grants, New Mexico.

Jacklin, Marian
1985 *Archaeological Survey of the Thermex Explosive Magazine Storage Location, Fort Wingate, NM.* NMCRMP, Window Rock, Arizona. Submitted to Thermex Corporation, Gallup, New Mexico.

Marshall, Michael P., John R. Stein, Richard W. Loose, and Judith E. Novotny
1979 *Anasazi Communities of the San Juan Basin.* Public Service Company of New Mexico. Submitted to the Heritage Conservation and Recreation Service, Department of the Interior.

Marshall, Sandra L., and Lynne Drake
1991 *A Cultural Resource Survey on NM 400 at Fort Wingate District Six Project.* New Mexico State Highway and Transportation Department, Santa Fe.

Moore, Roger A., Jr.,
1993 *Archaeological Oversight Activities at Fort Wingate Depot Activity, McKinley County, New Mexico.* Moore Anthropological Research. Submitted to ERM Program Management Company.

Nelson, Norman B.
1987 *Cultural Resource Survey of Interstate 40 from Milepost 31 to Milepost 35 at Fort Wingate.* New Mexico State Highway Department, Santa Fe.

Perlman, Susan E.
1995 *Fort Wingate Depot Activity Ethnographic Study.* Draft. Office of Contract Archaeology, University of New Mexico, Albuquerque. Submitted to U.S. Army Corps of Engineers, Albuquerque District.

Popelish, Linda
1988 *Maintenance at the Fort Wingate Work Center/Noncompliance.* Mt. Taylor Ranger District, Cibola National Forest, Grants, New Mexico.

1994 *The FY1987 Through 1990 Para Archaeologist Training on the Mt. Taylor Range District Heritage Resources Inventory of Areas Near Fort Wingate.* Mt. Taylor Ranger District, Cibola National Forest, Grants, New Mexico.

Schutt, Jeanne A., and Richard C. Chapman
1995 *Cultural Resources Inventory of Fort Wingate Depot Activity, New Mexico: 1991–1994 Survey Results.* Office of Contract Archaeology, University of New Mexico, Albuquerque. Submitted to U.S. Army Corps of Engineers, Albuquerque District.

Stuart, Trace
1987 *An Archaeological Clearance Survey of a Proposed Borrow Pit and Contractor's Yard Near Fort Wingate, New Mexico.* Batchco & Kauffman Associates. Submitted to James Hamilton Construction Company, Silver City, New Mexico.

Stucky, Richard
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Kirtland Air Force Base

Albuquerque, New Mexico

Collections Summary

Collections Total: 50.1 ft^3 of archaeological materials; 11.7 linear feet of associated records.

Volume of Artifact Collections: 50.1 ft^3

On Post: None

Off Post: 0.4 ft^3 at the Laboratory of Anthropology, Museum of Indian Arts and Culture (Chapter 30, Volume 2) and 49.7 ft^3 at TRC-Mariah Associates (Chapter 55, Volume 2)

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

Human Skeletal Remains: None

Linear Feet of Records: 11.7 linear feet (140.68 linear inches)

On Post: 4.7 linear feet (56 linear inches)

Off Post: 1.0 linear inch at the Museum of New Mexico, Laboratory of Anthropology, Archaeological Records Management Section (Chapter 30, Volume 2); 1.0 linear inch at the Public Service Company (Chapter 46, Volume 2); 1.75 linear inches at Quivera Research Center (Chapter 47, Volume 2); 0.63 linear inches at Tetra Tech (Chapter 53, Volume 2); and 6.7 linear feet (80.3 linear inches) at TRC-Mariah Associates (Chapter 55, Volume 2)

Compliance Status: Records require partial rehabilitation to comply with existing federal guidelines and standards for archival preservation.

Status of Curation Funding: Curation activities are funded through Sections 106 or 110 compliance activities.

Kirtland Air Force Base took its present name in 1948 in honor of Colonel Roy Carrington Kirtland, a military aviation pioneer. Military aviation was established in 1939 in Albuquerque as a point to service transient military aircraft. The present 52,000-acre that comprises Kirtland AFB was created in 1971 through the consolidation of already existing Army and Air Force bases, along with U.S. Forest Service (USFS) Withdrawn Lands. A total of 15,891 acres of USFS Withdrawn Lands was allocated to the Department of Defense for Kirtland AFB facilities in 1954; at the same time 4,595 acres were assigned to the Department of Energy (DoE). The base has 150 tenant organizations, the largest being the Sandia National Laboratory, which is controlled by the DoE. Under separate Memorandums of Agreement with both the DoD and DoE, USFS retains jurisdiction of cultural resources on the withdrawn lands. Kirtland AFB retains ultimate control over cultural resource management for these properties and is responsible for review and consultation (Cragg 1994; Evinger 1995).

In May 1996, St. Louis District personnel performed background archaeological research at the Archaeological Records Management Section of the New Mexico Historic Preservation Division, which

included a review of all pertinent archaeological site forms, reports, and manuscripts. Archaeological sites have been recorded on Kirtland AFB and numerous reports have been generated as a result of archaeological investigations. Collections are located in six repositories in New Mexico and California.

Assessment

Date of Visit: October 22, 1996

Point of Contact: Christine Tuttle

Structural Adequacy

The Environmental Management Section offices of Kirtland AFB are located in Building 20204, the base Headquarters Building (Figure 18). The single-story building was constructed in 1966 as a weapons assembly building and has 111,783 ft^2 of total available space. The building is constructed with a cement foundation and built-up asphalt roof. Offices have poured concrete walls, suspended acoustical-tile ceiling, carpeted floors, and wood panel doors. Functioning pipes run overhead in the office but are concealed by the ceiling tiles. An area of the roof above Christine Tuttle's office space has a leak and a bucket is suspended to collect the water, but collections have not been effected by the leak. A telephone line box is also located in this space. Asbestos is present in the walls, ceiling, floors, and piping insulation, none of which is scheduled for removal. No windows are present in these offices. Lighting is nonfiltered fluorescent tubes. Utility systems are updated on an as-needed basis.

Figure 18. Headquarters Building of the 377th Air Base Wing, Kirtland Air Force Base houses the office of the Environmental Management Section.

Environmental Controls

The building is kept at 68–70° F through individual heating and air-conditioning units, which are controlled separately. A central steam plant provides heat for the entire base. Dust filters are present on the vents. Offices are maintained weekly by a contracted cleaning company.

Pest Management

There is no scheduled spraying of the Headquarters Building, and it is not monitored for pest infestation. If an infestation is noted, a work order is put in to the Civil Engineering, Pest Management Section, and they respond with an investigation. No present signs of infestation were noted, but there have been problems with roaches in the past.

Security

Access to Kirtland AFB is controlled and visitors to the base must register and receive written authorization at the front gate. The Headquarters Building has an intrusion alarm that is wired to the base security station. Admission to the Environmental Management Section offices is monitored by the administrative assistant whose work station is at the entrance to the offices.

Fire Detection and Suppression

Smoke detectors and a wet-sprinkler fire-suppression system are present in the building. The fire alarm is wired to the base fire department. There are no fire extinguishers present in the Environmental Management Section offices, but there is one located in the hall directly outside the door to the offices.

Artifact Storage

No archaeological materials are housed on Kirtland AFB.

Human Skeletal Remains

No human skeletal remains are housed on Kirtland AFB.

Records Storage

Approximately 4.7 linear feet of records are housed in the Environmental Management Section offices of Kirtland AFB. Records are stored in three areas of this office. Open, painted-metal shelves above the cultural resource manager's desk houses a large number of reports, as well as administrative, survey, photographic, and cartographic records. Working files are housed in a metal file cabinets labeled "Tuttle." This cabinet holds legal-size hanging files that contain administrative, report, photographic, analysis, and cartographic records. The Cultural Resource Management Plan for Kirtland AFB is maintained in two binders that are stored in a metal compact storage unit.

Paper Records

Paper records constitute 2.3 linear feet (28 linear inches) of the total records volume housed at Kirtland AFB. Much of these records consist of administrative documents, including budgets, contracts, and guidance outlines. Other paper records include some site forms and research analysis results. All hanging file folders are labeled with plastic tabs. Contaminants on these documents include paper clips, staples, rubber bands, and tape.

Report Records

There are 1.8 linear feet (21 linear inches) of spiral-, three-ring, and perfect-bound reports in the Kirtland AFB Environmental Management offices. Copies of reports can be found in all three of the areas previously mentioned.

Photographic Records

Photographic records, including color prints, black-and-white prints, negatives, slides, and contact sheets, amount to 0.4 linear feet (4.5 linear inches) of the total volume of records at Kirtland AFB. These records are stored both in the hanging files and in files above the cultural resource manager's desk. Some of the prints are labeled directly in black ink and are stored in acidic envelopes. The slides are labeled directly in pencil and ink.

Maps and Oversized Documents

Several topographic maps are stored in the hanging files. Large topographic maps and blueprints are folded and stored in the cultural resource manager's work space. Maps total less than one linear foot (2.5 linear inches) of the total documentation present.

Collections Management Standards

This facility is not a permanent repository; therefore, collections management standards are not addressed in this report.

Curation Personnel

Kirtland AFB does not have a curation facility on base, therefore there is no curator. Christine Tuttle is the cultural resource manager for the base and works in the Environmental Management Section. She oversees the contractors that perform archaeological work, and she has the responsibility for securing space in a curation facility for archaeological collections generated from that work. Presently, collections are being sent to the Maxwell Museum of Anthropology at the University of New Mexico in Albuquerque for curation. Ms. Tuttle coordinates between the contractors and the staff of the Maxwell Museum. The contractor processes collections to the acceptable standards of the Maxwell Museum before they are submitted for curation.

Curation Financing

Contracted archaeological work conducted on Kirtland AFB and curation fees for the housing of collections are financed through the budget of the Environmental Management Section.

Access to Collections

Access to collections follows the procedures of the Maxwell Museum, which is to allow access for legitimate uses of the collections, including scholarly and educational use, commercial use, and inspection and inventories. Each individual must submit requests to the curator for approval. Each request is considered on its own merit. The process generally takes one-to-two months for approval is granted.

Future Plans

At the time of the assessment, collections from the most recent archaeological work conducted on Kirtland AFB were being processed at the contractor, TRC-Mariah Associates. The plan is that these collections are to be submitted to the Maxwell Museum for curation. Kirtland AFB has purchased 125 units of storage at 0.6 ft^3 per unit at the Maxwell Museum. It is intended for the Maxwell Museum be the designated repository for collections from Kirtland AFB.

Comments

1. The building has proven to be structurally sound.

2. An HVAC system is not in place at this facility. Heating and air conditioning are controlled through separate systems.

3. Temperature levels can be controlled, but humidity levels are neither monitored nor controlled.

4. Ultraviolet filters are not in place for the light bulbs and windows.

5. A leak in the ceiling needs to be repaired, and although it has not caused any damage to the documentation that is stored near, there is immediate potential for damage.

6. Associated documentation requires partial rehabilitation to meet federal guidelines and standards for archival preservation.

7. The current cultural resource manager takes an active role in coordinating with the contractors and the Maxwell Museum.

Recommendations

1. Transfer archaeological collections, including associated documentation, to a permanent repository that meets the curation standards outlined in 36 CFR Part 79.

2. The leak in the roof in the offices of the Environmental Management Section should be repaired. Until the time it is repaired, documentation that is in danger of becoming damaged should be removed to a drier area.

3. Place all photographic materials in archival-quality polypropylene sleeves, and place sleeves in acid-free, three-ring photographic binders. Photologs should be on acid-free paper in indelible ink.

4. Original documentation that is housed in the Environmental Management Section offices should be duplicated and the copy stored in another secure, fire-safe location.

5. A retention and disposition plan for records should be implemented.

Reports Related to Archaeological Investigations at Kirtland AFB

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1989 *Cultural Resource Testing of LA 69885 Located on Kirtland Air Force Base Bernalillo County, New Mexico.* Chambers Group, Albuquerque. Submitted to Rockwell International, Kirtland Air Force Base, Albuquerque.

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White Sands Missile Range

New Mexico

Collections Summary

Collections Total: 264.7 ft^3 of archaeological materials and human skeletal remains; 120.5 linear feet of associated records.

Volume of Artifact Collections: 264.4 ft^3

On Post: 1.0 ft^3

Off Post: 1.3 ft^3 at the Agency for Conservation Archaeology, Eastern New Mexico University (Chapter 2, Volume 2); 1.0 ft^3 at the Centennial Museum, University of Texas, El Paso (Chapter 12, Volume 2); 106.6 ft^3 at Human Systems Research, Las Cruces (Chapter 23, Volume 2); 54 ft^3 at Human Systems Research, Tularosa (Chapter 24, Volume 2); 42.8 ft^3 at the Maxwell Museum, University of New Mexico (Chapter 29, Volume 2); 36.9 ft^3 at the Laboratory of Anthropology, Museum of Indian Arts and Culture (Chapter 30, Volume 2); and 20.8 ft^3 at New Mexico State University Museum (Chapter 35, Volume 2)

Compliance Status: Collections require partial-to-complete rehabilitation to comply with existing federal guidelines and standards for archaeological curation.

Human Skeletal Remains: 0.3 ft^3

On Post: None

Off Post: 0.3 ft^3 at New Mexico State University Museum (Chapter 35, Volume 2)

Compliance Status: A minimum number of one individual thought to have been recovered from White Sands Missile Range is located in the Basement of Kent Hall. Qualified personnel need to take measures to manage these remains as outlined in NAGPRA.

Linear Feet of Records: 120.5 linear feet (1446.4 linear inches)

On Post: 56.9 linear feet (682.8 linear inches)

Off Post: 1.2 linear feet (14.25 linear inches) at the Agency for Conservation Archaeology, Eastern New Mexico University (Chapter 2, Volume 2); 39.8 linear feet (477.6 linear inches) at Human Systems Research, Las Cruces (Chapter 23, Volume 2); 20.1 linear feet (240.75 linear inches) at Human Systems Research, Tularosa (Chapter 24, Volume 2); 1.5 linear inches at the Maxwell Museum, University of New Mexico (Chapter 29, Volume 2); 2.0 linear feet (24.25 linear inches) at the Laboratory of Anthropology, Archaeological Records Management Section (Chapter 30, Volume 2); 3.0 linear inches at New Mexico State University Museum (Chapter 35, Volume 2); and 2.25 linear inches at Tetra Tech (Chapter 53, Volume 2)

Compliance Status: Records require partial-to-complete rehabilitation to comply with existing federal standards and guidelines for archival preservation.

Status of Curation Funding: Curation of collections is funded through the White Sands Missile Range Environmental Office's budget.

White Sands Missile Range (WSMR), located in south-central New Mexico, encompasses approximately 2,000,000 acres in a region known as the Tularosa Basin. Most of the range was once a part of the San Augustin Ranch, which had been owned by the Cox family since the late 1800s. This family still occupies a house a few miles west of the main post. The range, which opened in 1945, was named White Sands Proving Ground and was used to test the feasibility of using missiles in warfare. The world's first atomic bomb was detonated in an area known as the Trinity Site. Missile testing began in September 1945 with Tiny Tim firings. An Army airfield, Condron Field, is located southeast of the main post in a dry lake bed.

WSMR is designated as a national test range, the largest over land test facility in the U.S. The range supports missile development and test programs for the Department of Defense, other government agencies, some foreign governments, and private companies. White Sands Space Harbor is an alternate landing site for the space shuttle and a training site for the National Aeronautics and Space Administration shuttle pilots. In March 1982, the Space Shuttle *Columbia* ended its third mission at WSMR's Northrup Strip. (Cragg 1994; Evinger 1991, 1995)

In May 1996, St. Louis District personnel performed background archaeological research at the Archaeological Records Management Section of the New Mexico Historic Preservation Division, which included a review of all pertinent archaeological site forms, reports, and manuscripts. Archaeological sites have been recorded on WSMR and numerous reports have been generated as a result of archaeological investigations. Collections are located in nine repositories in New Mexico, Texas, and California.

Assessment

Date of Visit: September 17, 1996

Points of Contact: Robert Burton and Mike Mallouf

White Sand Missile Range occupies approximately 3,200 square miles of desert and mountainous terrain in southern New Mexico. The land was acquired for military use in 1942 and contains both prehistoric archaeological and historical-period sites (including the famous Trinity Site as well as those resulting from premilitary ranching and mining activities). Current Department of Defense holdings include an estimated 1.0 ft^3 of archaeological artifacts from WSMR and 56.9 linear feet of associated documentation.

Building T-149 (hereafter referred to as Repository 1) currently houses the Natural and Cultural Resources offices (Figure 19). Within Repository 1, one room on the second floor (Room 26) is devoted specifically to records and maps storage, while two other offices (Burton's and Mallouf's) contain additional files, reports, and a very limited quantity of artifacts.

Figure 19. Building T-149 (repository 1), originally built during World War II as temporary barracks, presently houses offices of the Natural and Cultural Resources Division.

Additional documentation, along with a few prehistoric and historical-period artifacts, are stored in a separate facility known as Building 1851 (hereafter designated Repository 2) (Figure 20). However, due to time constraints and unfavorable assessment conditions, an estimate of the volume of artifacts and records could not be reached. The structure also accommodates a variety of miscellaneous equipment and materials from the base.

In addition, it was discovered that the White Sands Missile Range Museum and Gift Shop is

Figure 20. Building 1851 (repository 2), a concrete excess storage structure, houses prehistoric and historical-period artifacts, as well as a variety of equipment.

currently exhibiting a range of historic artifacts in one locked display case in the "Early Room" (Figure 21). Because this is considered to be a temporary exhibit, the standard building evaluation was not conducted.

Structural Adequacy

Repository 1—Building T-149

Building T-149 was originally built during World War II as temporary barracks. The entire building encompasses approximately 4,760 ft^2 of floor space on two levels above grade. Room 26 occupies an estimated 94.5 ft^2 on the second floor. Both the foundation, of pier-and-beam construction, and the exterior walls are wooden. The roof of the building is composed of tar paper shingles, which were last replaced in the mid-1980s. Windows have aluminum frames and are equipped with rolling shades inside. Overall, the building is considered to be structurally solid, with neither cracks nor leaks reported. However, there is the potential for wind damage; this has occurred in the past, as evidenced by some loose shingles on the exterior walls of the structure.

Figure 21. Historical-period artifacts on exhibition in the Museum and Gift Shop on post.

Repository 2—Building 1851

Building 1851 appears to be solidly constructed with concrete blocks over a concrete foundation. The roof is flat. No windows are present.

Environmental Controls

Repository 1—Building T-149

Temperatures for Repository 1 range from 70° F in the winter to 80° F in the summer. Temperatures are alternately controlled by swamp coolers and boiler steam heating. Humidity is neither regulated nor monitored, and the heating/cooling systems are not set up for use with dust filters. The building is regularly cleaned and maintained by the Department of Public Works.

Repository 2—Building 1851

Temperature and humidity are neither monitored nor controlled in Repository 2.

Pest Management

Repository 1—Building T-149

Pest control measures are taken against insects and rodents only on an as-needed basis by in-house personnel.

Repository 2—Building 1851

Pest management measures are not used in this building. The assessment team was informed of the possibility of the existence of brown recluse spiders inside this storage area.

Security

Repository 1—Building T-149

Steel security doors with key locks are in place at the entrance/exit doors. Military police make regular patrols throughout the night. Locks are installed on the first floor windows. No past episodes of unauthorized entry have occurred. Access to the post is tightly controlled.

Repository 2—Building 1851

There are three possible entrances on the front side of the building. They consist of a set of double metal doors and two garage doors. This building is also used by other offices on post.

Fire Detection and Suppression

Repository 1—Building T-149

The historic, wooden structure poses a high-risk fire hazard. There are no fire detection measures in this building. Fire extinguishers provide the only means of suppression. Fortunately, the fire station is located only one block away. As a precautionary measure, an archaeological contracting firm, Human Systems Research in Tularosa, keeps a duplicate set of documentation in their offices.

Repository 2—Building 1851

One fire extinguisher was noted in the building.

Artifact Storage

Storage Units

Repository 1—Building T-149

Mike Mallouf's office (Room 30) has one wooden shelving unit housing reports, a box containing artifacts (approximately 0.3 cubic feet), and 0.25 inches of other documentation. Room 26 has an estimated 0.68 cubic feet of artifacts housed in two boxes, one of which is located on top of a metal filing cabinet (Figure 22) and the other on a painted wooden shelving unit. In addition, some loose barbed wire from a historical-period collection is stacked above two boxes that are stacked on top of a metal filing cabinet. In total, these artifacts add up to approximately one cubic foot in volume. Percentages of material classes are outlined in Table 14.

Figure 22. Large historical-period artifacts are housed with excess equipment in Building 1851.

Repository 2—Building 1851

This structure currently houses several large, freestanding metal artifacts (such as a paraffin stove). During the cursory examination, a few glass bottles and ground stone artifacts also were noted sitting loose on metal shelves; however, these artifacts are not included in Table 14.

Table 14.
Summary of Material Classes Present at White Sands Missile Range

Material Classes	%
Prehistoric	
Lithics	11
Soil	21
Botanical	4
Gypsum/Fossil Hearth	15
Historical-Period	
Glass	15
Metal	17
Wood	17
Total	100

Note: Percentages of material classes are based on volume.

The small collection of historical-period artifacts on temporary exhibit at the White Sands Missile Range Museum was estimated to break down into the following material classes: 60% glass, 25% metal, 10% ceramic/crockery, and 5% wood/plastic.

Primary Containers

All artifacts are housed either in acidic cardboard boxes or are loose on shelves and filing cabinet tops. Boxes are directly labeled with marker.

Secondary Containers

Only the lithics in one box of artifacts in Room 26 have been packaged in zip-lock bags. The bags are labeled directly with both marker and contain paper label inserts as well.

Laboratory Processing and Labeling

The majority of the artifacts appear to have been cleaned, but none are labeled directly. The loose barbed wire has string tag labels directly attached.

Human Skeletal Remains

Human skeletal remains, specifically a jar of teeth, have been reported previously in a NAGPRA inventory among the archaeological material collections at WSMR. The assessment team was unable to locate or examine them during the visit.

Records Storage

Most of the documentation is stored primarily in Room 26 on the second floor of Repository 1, with a few additional records located in Room 27 and Room 30. Room 26 measures 10.5 x 9 feet, and the floor consists of wood coated with a tile and asbestos paste. Interior walls are constructed of plasterboard. Asbestos tiles line the ceiling. One window is present and is fitted with an aluminum frame with a rolling shade. The interior, solid wood door is fitted with both a key lock and a combination (push) lock.

The records storage room is cluttered. A variety of storage units line the walls, including a hanging map file, two metal filing cabinets (one letter-size, one legal-size), one metal lateral file, and two wooden bookshelves. Assorted acidic cardboard boxes are stacked both on the floor and on top of cabinets. There are no finding aids available.

Repository 2 houses some additional documentation in metal filing cabinets, one metal map case, metal shelves, and acidic cardboard boxes. Due to time constraints and unfavorable assessment conditions, only a cursory examination could be made and exact measurements were not taken.

Paper Records

Of the estimated 21.2 linear feet of associated project paper records total, approximately 15.6 linear feet are present in Room 26. This includes site survey forms, administrative records, field and analysis records, background research material, and artifact inventories. Records are primarily contained in nonarchival manila folders within the lateral file or the two filing cabinets in Repository 1. A few records are housed in cardboard boxes. Room 27 houses additional paper records in a letter-size metal filing cabinet, and a box. Room 30 contains a mix of artifacts and some site records. Finally, an estimated two feet of additional paper project records were noted in metal filing cabinets in Repository 2.

Report Records

Reports measure an estimated 16.9 linear feet. These include draft reports but not every single box of circulated reports encountered in both Repository 1 and 2. Reports are stored primarily in the same manner as the paper records. Additional shelves and boxes of duplicate reports were observed, but not measured, in Repository 2.

Photographic Records

Black-and-white photographs, color prints, slides, contact sheets, and negatives total approximately 6.6 linear feet. Most of the negatives are stored in archival sleeves, but the majority of photographs are stored loose, either in acidic manila folders or in acidic cardboard boxes of varying sizes. However, three acid-free cardboard boxes with telescoping lids were noted containing microfilm, negatives in acid-free envelopes, photograph inventories, and color prints in sleeves with adhesive labels. In Repository 2, two 3-inch plastic binders containing photographs and negatives in archival-quality sleeves

were noted, along with three inches of negatives in acidic paper envelopes.

Maps and Oversized Documents

There are approximately 6.3 linear feet of maps (paper, Mylar, blueline) stored either flat, rolled or folded. There is one lockable, baked-enamel metal hanging map file that contains 3.5 inches of U.S.G.S. topographic maps suspended on runners. Many of the rolled maps are stored standing on end on the floor or loose in boxes and, as a result, have frayed ends. In addition, some large aerial maps were noted in a flat metal map case in Repository 2.

Audiovisual Records

In Repository 1, audiovisual records consist of audiocassettes, videocassettes, transparencies, computer disks, and microfilm and comprise approximately 5.9 linear feet. Microfilm comprises about half of this total and is stored in acid-free paper envelopes inside several acid-free cardboard boxes. Ten videocassettes are stored loose on one of the wooden bookshelves, along with 30 audiocassettes (from an oral history project) in an open plastic tray. Additional audiocassettes (duplicates) were seen housed in seven small boxes with telescoping lids in Repository 2.

Collections-Management Standards

At the time of the evaluation, WSMR had not yet finished renovating their planned storage facility; therefore, collections management standards were not evaluated.

Curation Personnel

Robert Burton and Mike Mallouf are the two staff members in the Cultural Resources office at WSMR responsible for the curation of artifacts and associated documentation.

Curation Financing

Financing for collection rehabilitation (by Human Systems Research in Tularosa and Las Cruces) is funded by WSMR.

Access to Collections

Access to the collections is acquired through Robert Burton.

Future Plans

By November 1996, Robert Burton is planning to begin moving the WSMR archaeological collections, including the boxes currently being stored at the two Human Systems Research offices, into Building 19300, originally a 100K Test Stand, a solid concrete rocket testing facility built in 1946.

Comments

1. Human Systems Research has begun rehabilitating and repackaging part of the collections in archival-quality materials. The collections await transfer to the permanent curation facility in November 1996.

2. None of the collections and records storage areas on WSMR are equipped with adequate temperature and humidity monitoring and control measures.

3. There is currently no integrated pest management program in place at WSMR.

4. Security for the buildings is minimal (key locks); however, access to the post itself is highly restricted.

5. Both fire detection and suppression measures are below adequate. Only fire extinguishers are present.

6. Artifact collections are not properly stored according to federal curation guidelines and are currently scattered in Buildings T-149 and 1851.

7. Records pertaining to White Sands Missile Range collections are currently housed in acidic manila folders and other nonarchival secondary containers.

Recommendations

1. Building 19300, where the collections were planned to be moved by November 1996, should be viewed only as a temporary on-base curation facility.

2. Transfer archaeological collections to a permanent repository that meets the curation standards outlined in 36 CFR Part 79. Coordinate with applicable repositories to establish agreements for the permanent disposition of the collections.

3. Coalesce all archaeological collections currently in Buildings T-149 and 1851, and repackage them into acid-free cardboard boxes containing archival plastic bags with acid-free paper labels, before moving them to Building 19300.

4. Records should be removed from current acidic manila folders and placed in archival-quality containers. Duplicate copies of the records are currently stored at a separate and secure location (Human Systems Research offices in Las Cruces and Tularosa).

5. Produce multiple copies of all documentation on acid-free paper and store in separate, secure locations. Documentation should be placed in acid-free folders, and lightly packed into fire-resistant file cabinets. Arrange documentation in a logical order, and provide a finding aid to the collection. Records should be free of metal binder clips, staples, paper clips, and other contaminants. Photographic materials should be placed in archival-quality photographic sleeves, labeled properly, and stored in a secure storage unit.

Reports Related to Archaeological Investigations at White Sands Missle Range

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Anonymous

1979 *An Archaeological Survey of a Proposed Core Testing Location for W.S.M.R.*

1993 *Supplemental Information for Proposed Mitigation of Adverse Effects at Three Sites in the Red Rio Bombing Range Socorro County, White Sands Missile Range, New Mexico.* Human Systems Research, Las Cruces, New Mexico.

Beck, Colleen M.

1982 *Archaeological Survey of One Proposed Military Use Area on the White Sands Missile Range Southcentral New Mexico, Ten Thousand Foot Slope Range.* Agency for Conservation Archaeology, Eastern New Mexico University, Portales. Submitted to White Sands Missile Range, New Mexico.

1982 *Archaeological Survey of Six Proposed Construction Areas on the White Sands Missile Range Southwestern New Mexico, Stallion Fence Project, MLRS Uprange Launch (Miracle) Site, East Boundary Fence Project, Simulated Runway Target Site, UH-1B Drone Helicopter Operation Site, Mars Site Parking Lot.* Agency for Conservation Archaeology, Eastern New Mexico University, Portales. Submitted to White Sands Missile Range, New Mexico.

Beckett, Patrick H., and Phillip H. Shelley

1977 *An Archaeological Survey of the Roland Test Facilities Complex and the CE 1-3 Aerial Launcher Site, White Sands Missile Range, Dona Ana and Socorro Counties, New Mexico.* Cultural Resources Management Division, New Mexico State University, Portales. Submitted to White Sands Missile Range, New Mexico.

Bertram, Jack, and Peter L. Eidenbach

1994 *Data Recovery at Sites LA 59141, LA 59150, and LA 59151 in the Red Rio Bombing Range, Socorro County, White Sands Missile Range, New Mexico.* Preliminary Report. Human Systems Research, Tularosa, New Mexico. Submitted to White Sands Missile Range, New Mexico.

Bond, Mark

1987 *Archaeological Survey of a Six-Mile Fenceline on White Sands Missile Range North of Organ, Dona Ana County, New Mexico.* Human Systems Research, Tularosa, New Mexico. Submitted to Office of Installation Support, White Sands Missile Range, New Mexico.

Brenternitz, Cory Dale, and David E. Doyel

1983 *Cultural Resources Overview and Management Plan for White Sands Missile Range.* Soil Systems, Phoenix. Submitted to U.S. Department of the Interior, National Park Service, San Francisco.

Brethauser, Douglas Paul

1979 *An Archaeological Survey of a Proposed Borrow Pit on White Sands Missile Range, New Mexico.* Cultural Resources Management Division, New Mexico State University, Las Cruces. Submitted to White Sands Missile Range, Facilities Engineering Section, New Mexico.

Browning, Cody Bill

1990 *Archaeological Clearance Survey for an Impact Assessment at the Orogrande Railroad Spur, Otero County, New Mexico.* Human Systems Research, Tularosa, New Mexico. Submitted to Office of Installation Support, White Sands Missile Range, New Mexico.

1990 *Archaeological Investigations at the Richardson Ranch Training Facility, White Sands Missile Range, Lincoln County, New Mexico.* Human Systems Research, Tularosa, New Mexico. Submitted to Office of Installation Support, White Sands Missile Range, New Mexico.

1990 *A Cultural Resource Survey for Nineteen Camera Locations on White Sands Missile Range, Dona Ana and Otero Counties, New Mexico.* Human Systems Research, Tularosa, New Mexico. Submitted to Office of Installation Support, White Sands Missile Range, New Mexico.

1991 *A Cultural Resources Survey for Eight Locations for the Non-Line-of-Sight (NLOS) Exercise on White Sands Missile Range, Dona Ana and Otero Counties, New Mexico.* Human Systems Research, Tularosa, New Mexico. Submitted to Office of Installation Support, White Sands Missile Range, New Mexico.

1991 *An Archaeological Clearance Survey for a Proposed Buried Cable Line to the Search Site Near Stallion Range Center, White Sands Missile Range, Socorro County, New Mexico.* Human Systems Research, Tularosa, New Mexico. Submitted to Office of Installation Support, White Sands Missile Range, New Mexico.

1993 *Archaeological Investigations for the Safe Air Project East of White Sands Missile Range Headquarters, New Mexico.* Human Systems Research, Tularosa, New Mexico. Submitted to Office of Installation Support, White Sands Missile Range, New Mexico.

1993 *Archaeological Survey at the BAT Test Area, White Sands Missile Range, Socorro and Sierra Counties, New Mexico.* Phase I. Human Systems Research, Tularosa, New Mexico. Submitted to White Sands Missile Range, New Mexico.

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1989 *Archaeological Survey of Atmospheric Sciences Laboratory Proposed Meteorological Station in Monte Carlo Gap, Otero County, New Mexico.* Submitted to the U.S. Department of Defense.

Camilli, Eileen

1980 *Final Report Archaeological Assessment White Sands Missile Range Section U.S. 70 Corridor Environmental Assessment.* Bohannan-Huston, Albuquerque.

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1984 *Proposal for Cultural Resources Survey and Analysis: Border Star-85 to U.S. Army Engineer District, Fort Worth.* Office of Contract Archaeology, University of New Mexico, Albuquerque. Submitted to U.S. Army Corps of Engineers, Fort Worth District.

Clifton, Donald E.

1985 *Red Rio I: An Archaeological Survey of 1,280 Acres Near Chupadera Mesa, White Sands Missile Range, Socorro County, New Mexico.* Human Systems Research, Tularosa, New Mexico. Submitted to White Sands Missile Range, Office of Installation Support, New Mexico.

1986 *An Archaeological Survey of the Greaswood Site, The Navy Ordnance Storage Area, and HELSTF Area, White Sands Missile Range, Otero and Lincoln Counties, New Mexico.* Human Systems Research, Tularosa, New Mexico. Submitted to Office of Installation Support, White Sands Missile Range, New Mexico.

1986 *The Misty Pictures Archaeological Project: An Archaeological Survey of 10 Acres Near the Trinity Site, White Sands Missile Range, Socorro County, New Mexico.* Human Systems Research, Tularosa, New Mexico. Submitted to Office of Installation Support, White Sands Missile Range, New Mexico.

1986 *The MLRS Cine Project: Archaeological Survey of Three Areas on White Sands Missile Range, Socorro County, New Mexico.* Human System Research, Tularosa, New Mexico. Submitted to Office of Installation Support, White Sands Missile Range, New Mexico.

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1987 *An Archaeological Survey of 75 Acres for a Precision Test Bed, White Sands Missile Range, Socorro County, New Mexico.* Human Systems Research, Tularosa, New Mexico. Submitted to Office of Installation Support, White Sands Missile Range, New Mexico.

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1987 *Cultural Resource Surveys of Five Projects on White Sands Missile Range, Dona Ana and Otero Counties, New Mexico.* Human Systems Research, Tularosa, New Mexico. Submitted to Office of Installation Support, White Sands Missile Range, New Mexico.

1987 *The Range Road Fat Sheep Mountain Project: An Archaeological Survey of 830 Acres on White Sands Missile Range, Sierra County, New Mexico.* Human Systems Research, Tularosa, New Mexico. Submitted to Office of Installation Support, White Sands Missile Range, New Mexico.

1988 *An Archaeological Survey of a Proposed FAADS II Area, An Access Road, and Two Antenna Locations Near the Dog Site, White Sands Missile Range, Dona Ana County, New Mexico.* Human Systems Research, Tularosa, New Mexico. Submitted to Office of Installation Support, White Sands Missile Range, New Mexico.

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1989 *Archaeological Investigations of an Underground Fiber Optics Line Along Range Road 1, White Sands Missile Range, Dona Ana County, New Mexico.* Human Systems Research, Tularosa, New Mexico. Submitted to Office of Installation Support, White Sands Missile Range, New Mexico.

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Fort Sill

Oklahoma

Collections Summary

Collections Total: 248.8 ft^3 of archaeological materials and human skeletal remains; 0.26 linear inches of associated records.

Volume of Artifact Collections: 248.6ft^3
On Post: 241.3 ft^3
Off Post: 7.3 ft^3 at Geo-Marine (Chapter 20, Volume 2)
Compliance Status: Collections require partial to complete rehabilitation to comply with existing federal guidelines and standards for archaeological curation.

Human Skeletal Remains: 0.2 ft^3
On Post: 0.2 ft^3
Off Post: None
Compliance Status: A minimum number of one individual is located with the collections at Fort Sill. Qualified personnel need to take measures to manage these remains as outlined in NAGPRA.

Linear Feet of Records: 0.26 linear inches
On Post: Unknown
Off Post: 0.26 linear inches at Geo-Marine (Chapter 20, Volume 2)
Compliance Status: Records located at Fort Sill were not available for an assessment. Records at Geo-Marine require partial rehabilitation to comply with federal guidelines and standards for archival preservation.

Status of Curation Funding: Environmental funds are used for equipment, archival supplies, and facility improvement. Nonappropriated funds are acquired through donations.

Fort Sill was founded in the winter of 1869 when Oklahoma was still designated Indian Territory. The installation's first mission was to control the southern plains tribes, including the Comanche, Cheyenne, Kiowa, and other tribes, that hunted buffalo or raided Texas settlements for captives, horses, and other goods. The installation also protected Indian lands from illegal settlers, whiskey peddlers, and horse thieves. General Philip H. Sheridan, who lead that first winter campaign, named the post in honor of a deceased West Point classmate, Brigadier General Joshua Sill. Formerly called Camp Wichita, the post was built by the distinguished Buffalo Soldiers of the 10th Cavalry.

After only a few months, a peace policy prevented Fort Sill soldiers from taking punitive damage against the Indians. By default, this policy turned Fort Sill into a sanctuary for Indian raiders and served as an encouragement for raiding. Indian warfare continued in the southern plains until the end of the Red River campaign in the summer of 1875. During the late nineteenth century, Fort Sill played a vital role in the Indian Wars by serving as an Indian War post until 1905 when the last section of Oklahoma Indian Territory was divided and settled by

homesteaders. In light of these changes, Fort Sill shifted its mission from cavalry to field artillery. Since 1910, the U.S. Army Field Artillery Center and School has trained field artillerymen in the art of tube, missile, and aerial gunnery on the 94,000 acres of military reservation. Fort Sill continues to be the only active Army installation built during the Indian Wars in the southern plains.

Many famous people have been associated with Fort Sill. Sheridan's campaign during that first winter involved some famous frontier scouts including Buffalo Bill Cody, Wild Bill Hickok, Ben Clark, and Jack Stilwell. Geronimo lived and died on the installation. He and over 300 of his Apache tribesman were allowed to live in villages on the range until 1913. The first Indian agent was the grandson of Daniel Boone.

Today, Fort Sill has a unique relationship with the many Native American tribes living in the area. The museum represents the post on all Native American issues. Museum staff have negotiated the use of Fort Sill property for ceremonies and have drafted policies granting Native American use of cemeteries on post. On a lighter note, soldiers and Native Americans participate in activities that illustrate the connected history of the post and the local tribes. Baseball tournaments between Soldiers and Native Americans are reenacted with the Fort Sill soldiers of today and local Native Americans forming teams. Heritage fairs held on post by the museum feature tribal representatives performing ceremonial dances for the public (Fort Sill 1996).

In June 1996, St. Louis District personnel performed background archaeological research at the Oklahoma Archaeological Survey, which included a review of all pertinent archaeological site forms, reports, and manuscripts. Archaeological sites have been recorded on Fort Sill and numerous reports have been generated as a result of archaeological investigations. Collections are located at two repositories in Oklahoma and Texas.

Assessment

Date of Visit: March 18, 1997

Point of Contact: Towana Spivey

Fort Sill operates a newly remodeled facility on post (Figure 23). Meyers and Trimble (1993) of the St. Louis District, assessed the collections in the same storage facility before it was renovated. Since that time, the exterior and interior have been drastically changed, bringing it closer to its original historic facade, while improving the interior for compliance with 36 CFR Part 79 standards. Because most of the archaeological material collections were assessed by Meyers and Trimble, they were not assessed in detail for this report.

Figure 23. The Quartermaster Granary on Fort Sill has been converted to serve as an artifact repository.

Structural Adequacy

The repository, Building 326, is a former granary constructed in 1902. It is a wood frame structure on a stone foundation with one floor above grade and one below. A new historically correct corrugated sheet metal roof will replace the thirty-year-old composition roof in the summer of 1997. The foundation and roof are structurally sound; however, a vent leaks rain.

Many changes have been made to the building over time. In their efforts to return the building to its original exterior, a porch, a doorway and several windows were removed. A door was moved to its original location, and an interior wall

was removed. In order to make the place more well suited for collection storage, windows were replaced with double-paned, insulated windows that maintained the historic style of the original windows.

Environmental Controls

The building has environmental controls for both relative humidity and temperature. The relative humidity is set for 50% and the temperature range is 70° F ± 5°. There are dust filters on the environmental system. The interior is cleaned by staff as necessary.

Pest Management

The collections are inspected monthly for signs of any pest infestation. Pests are controlled through regular baseboard spraying. Fumigation is used only when necessary. No evidence of pests was noted during the assessment.

Security

The repository employs several methods to ensure the security of the collections. An intrusion alarm is wired to the Military Police. Access is controlled by a select number of staff. Motion detectors, sash locks for the windows, and dead-bolt and key locks for the doors are present. No evidence or report of unauthorized entry has ever been noted.

Fire Detection and Suppression

The facility has manual fire alarms, heat sensors, smoke detector, fire extinguishers, and an alarm wired into the post's fire department. Fire walls and the use of noncombustible insulation help fireproof the building.

Artifact Storage

Archaeological materials are stored, either on the floor or on shelves, in two different rooms. In the central room of the repository, 20% of storage space (by volume) is utilized. Percentages of material classes are outlined in Table 15.

Table 15.
Summary of Material Classes in the Fort Sill Collection

Material Class	%
Prehistoric	
Ceramic	15
Stone	5
Shell Samples	5
Historical-Period	
Metal	45
Glass	30
Total	100

Note: Percentages of materials are based on volume.

Storage Units

Storage units, which can store 43 ft^3 (Figure 24) of artifacts, consist of 29 immovable, metal shelving units measuring 48 x 24 x 75 inches (l x w x h) and . Each unit has six shelves. All except the bottom shelf are one foot apart; the bottom shelf has five additional inches in height. The units are arranged in blocks of eight. Five single units are lined against the wall.

Figure 24. Artifacts are housed in cardboard boxes on steel shelving units.

Primary Containers

Collection materials are stored both with and without primary containers. A volunteer has begun the rehabilitation process. Archival boxes of various sizes (Figure 25) total 165.5 ft^3, and acidic boxes total 75.8 ft^3. Of this 241.3 ft^3, the estimated material class percentages are lithics, 5%; ceramics, 15%;

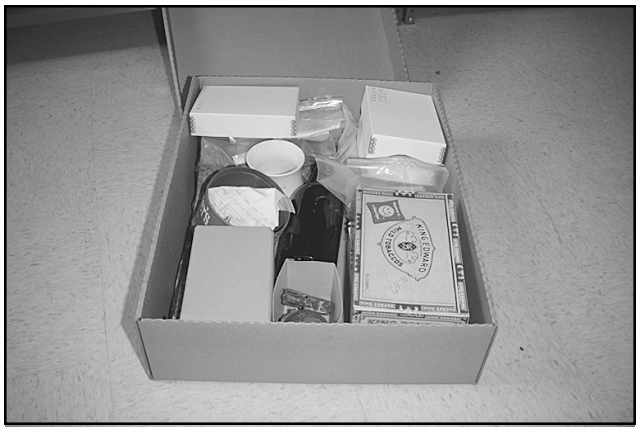

Figure 25. A variety of secondary containers are used in box #GM54.

shell, 5%; metal, 45%; and glass, 30%. The rehabilitated collections in the new boxes have temporary labels on square, yellow Post-it® notes listing the contractor's name and the box number in marker. All containers have a folded construction with a telescoping lid. None are damaged. Approximately eight cubic feet of large metal objects have been placed on the shelves without a primary container.

Secondary Containers

Secondary containers consist of smaller archival boxes. Zip-lock bags are used primarily for glass fragments. Many boxes have no secondary containers. Among the nonrehabilitated materials, the secondary containers are thin plastic bags secured with a twist tie containing packing material with the artifacts. Film canisters and medicine bottles are also used as secondary containers.

Laboratory Processing and Labeling

Methods of laboratory processing and the percentages of materials that were labeled were not assessed.

Human Skeletal Remains

Human remains were found in a container measuring 0.2 ft^3. The container is labeled "6100 camp eagle GM24."

Records Storage

Records are awaiting permanent storage. Associated records are currently in nonarchival boxes on the floor in the laboratory/records study room where they will be rehabilitated. Records were not measured or assessed.

Collections Management Standards

Registration Procedures

Accession Files

Collections are accessioned upon receipt.

Location Identification

Collections have not been placed in their permanent positions; therefore, a location has not been recorded.

Cross-Indexed Files

Files are cross indexed.

Published Guide to Collections

No published guide to the collection exists.

Site-Record Administration

The Smithsonian Institutiojn trinomial site-numbering system is employed.

Computerized Database Management

Collections are managed using a computerized database.

Written Policies and Procedures

Minimum Standards for Acceptance

Archaeological collections must be from Fort Sill.

Curation Policy

The written curation policy describes the acquisition and registration procedures as well as processing, storage, and conservation of materials.

Records-Management Policy

The written policy details the acquisition, processing, and storage of materials.

Field-Curation Guidelines

There are no specific field-curation guidelines.

Loan Procedures

The curator, with the concurrence of the Center for Military History, can approve a written loan request. The borrower must sign a form detailing conditions such as proper use and handling, photography and copyrights, transportation, insurance responsibility, and credit on exhibit labels.

Deaccessioning Policy

According to policy, the deaccession or transfer of an object must remain as a part of the permanent record. The Chief of Military History must approve the status of an archaeological object.

Inventory Policy

Collections are inventoried every two years.

Latest Collection Inventory

The last collection inventory prior to the St. Louis District visit took place in 1995.

Curation Personnel

Six civilian employees include a director/curator, a registrar, an archivist, an administrative assistant, and two museum specialists. There are six military employees—five provide security and one is responsible for supplies.

Curation Financing

Environmental funds are used for equipment, archival supplies, and facility improvement. Nonappropriated funds are acquired through donations.

Access to Collections

To gain access to a collection, the director must first be contacted. If the request is legitimate, he will request a letter with more details so he can make his final decision.

Future Plans

Future plans include adding more shelving units, organizing and rehabilitating the original documentation, and acquiring equipment for processing archaeological materials in the laboratory. The roof will be replaced during the summer of 1997. The exterior will be painted, and the leaking vent will be repaired. Boxes will be given permanent numbers employing a new system for integrating collections. Records and archaeological materials will be consolidated and managed using a separate system.

Comments

1. The building is structurally solid.

2. A ceiling vent leaks water.

3. Regular cleaning has recently ended due to budget cuts.

4. Pest management procedures satisfy 36 CFR Part 79 standards.

5. Security measures fulfill the standard requirements.

6. Fire detection is adequate; however, fire suppression is not.

7. Environmental controls are sufficient.

Recommendations

1. Isolate new collections for several weeks to ensure that no pests will contaminate the collection storage area. Use sticky traps to aid in monitoring.

2. Install an appropriate fire-suppression system.

3. Museum staff should ensure that regular cleaning is continued.

4. Repair leaking vent as planned. Meanwhile, ensure that collections are protected from water.

5. Ensure that records and archaeological materials are rehabilitated in a timely fashion using proper archival materials.

6. Produce multiple copies of all documentation on acid-free paper and store in separate, secure locations. Documentation should be placed in acid-free folders, and lightly packed into fire-resistant file cabinets. Arrange documentation in a logical order, and provide a finding aid to the collection. Records should be free of metal binder clips, staples, and paper clips, or other contaminants. The photographic material should be placed in archival quality photographic sleeves, labeled properly, and stored in a secure storage unit.

Reports Related to Archaeological Investigations at Fort Sill

Anderson, Joseph K. et al.
1991 *An Archaeological Survey of Approximately 960 Acres on the Wichita Mountains Wildlife Refuge and Adjacent Fort Sill Military Reservation, Comanche County, Oklahoma.* Submitted to GEI Consultants, Eaglewood, Colorado. Museum of the Great Plains, Lawton, Oklahoma.

Austin, Stephen P. et al.
1993 *Fort Sill Military Reservation Draft Cultural Management Plan.* Gulf Engineers and Consultants, Baton Rouge.

Bastian, Tyler
1965 *An Archaeological Survey of the East Cache Creek Local Flood Protection Project, Comanche County, Oklahoma.* Museum of the Great Plains, Lawton, Oklahoma.

Crouch, Daniel J.
1978 *Archaeological Investigations of the Kiowa and Comanche Indian Agency Commissaries 34-CM-232.* Contributions of the Museum of the Great Plains Number 7. Lawton, Oklahoma.

Durham, Dale
1974 The Oklahoma Anthropological Society Fall Dig at Fort Sill in Oklahoma. *Anthropological Society Newsletter*, Vol. 22.

Ferring, C. Reid
1978 *An Archaeological Reconnaissance of Fort Sill, Oklahoma.* Contributions to the Museum of the Great Plains Number 6, Lawton, Oklahoma.

Harden, Patrick
1976 *Archeological Perspective of the Oklahoma Portion of the Red River Basin Above Denison Dam (Special Report).* Environmental Assessment, Oklahoma City.

Jackson, J. Brantley
1972 The Jared Site: A Comanche Burial at Fort Sill, Oklahoma. Plains Anthropologist, 17(58):316–325.

Jones, Walter H.
1966 Cartridge Cases and Projectiles from the Tyree Site, 34CM132. *Bulletin of the Oklahoma Anthropological Society*, 14:87–92.

Largent, Jr., Floyd B. (editor)
1995 *A Cultural Resources Survey of Approximately 5625 Acres Within the Fort Sill Military Reservation, Fort Sill, Oklahoma.* Fort Sill Military Reservation Technical Series Report of Investigation Number 3. Cultural Resources Division, Geo-Marine, Plano, Texas.

Northcutt, John D.
1980 *An Archeological Monitor Report for Underground Telephone Cable Installation on the Fort Sill Old Post Historic Landmark.* Museum of the Great Plains, Lawton, Oklahoma.

Pearson, Charles E.
1978 The Rabbit Hill Site: A Late Nineteenth Century Southern Plains Indian Burial at Fort Sill, Oklahoma. In *Bulletin of the Oklahoma Anthropological Society*,

Peter, Duane E. et al.
1993 *1990–1991 Archeological Survey of Selected Parcels of Fort Sill, Oklahoma.* Draft II and Final Report. Fort Sill Military Reservation Technical Series Report of Investigation No. 1. Geo-Marine, Plano, Texas.

Shaeffer, James B.
1966 Archaeological Survey of Fort Sill Military Reservation in Salvage Archaeology in Oklahoma, Volume II. Papers of the Oklahoma Archaeological Salvage Project, Number 18 to 21. *Bulletin of Oklahoma Anthropological Society.*

Shaeffer, James B.
1961 Six Sites on the Fort Sill Military Reservation. *Plains Anthropologist* 1961, 6–12, Part 2.

Schott, G. C., Jr. et al.
1978 *Archaeological Reconnaissance of Proposed Sanitary Sewer Route, Fort Sill, Oklahoma.* Archaeological Resources, Tuscon.

Spivey, Towana
1980 *An Archaeological Survey of the Fort Sill Barracks-Trainee Complex Water Pipeline.* Museum of the Great Plains, Lawton, Oklahoma.

Spivey, Towana et al.
1977 *Archaeological Investigations Along the Waurika Pipeline.* Contributions of the Museum of the Great Plains Number 5, Lawton, Oklahoma.

Sudbury, Byron
1978 Comments of Small Metal Horseshoes Shaped Decorations Recovered from Fort Sill Dump Site (34-CM-9). *Oklahoma Anthropology Society Newsletter* 26(3).

Wycoff, Don G. et al.
1983 *Oklahoma Archeology: A 1981 Perspective of the State's Archeological Resources, Their Significance, Their Problems and Some Proposed Solutions.* Archeological Resource Survey Report No. 16. Oklahoma Office of Historic Preservation and The Oklahoma Archeological Survey, Oklahoma City.

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Bergstrom Air Force Base

Austin, Texas

Collections Summary

Collections Total: 1.5 ft^3 of archaeological materials; 1.0 linear feet of associated records.

Volume of Artifact Collections: 1.5 ft^3

On Post: None

Off Post: 1.5 ft^3 at the Texas Archaeological Research Laboratory (Chapter 54, Volume 2)

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

Human Skeletal Remains: None

Linear Feet of Records: 1.0 linear feet (11.5 linear inches)

On Post: None

Off Post: 1.5 linear inches at Tetra Tech (Chapter 53, Volume 2) and 10.0 linear inches at the Texas Archaeological Research Laboratory (Chapter 54, Volume 2)

Compliance Status: Records require partial rehabilitation to comply with existing federal guidelines and standards for archival preservation.

Status of Curation Funding: Curation activities are not funded.

Bergstrom AFB comprises 3,971 acres in Travis County, Texas, and was activated in 1942 as Del Valle Army Air Base. At the suggestion of then Congressman Lyndon B. Johnson, the installation was renamed Bergstrom Army Air Field in 1943 for Captain John Augus Earl Bergstrom, who is believed to be to first man from Austin killed in World War II. The base was transferred back and forth between Strategic Air Command and Tactical Air Command commands from 1945 to 1968. In 1971 it became the headquarters for the 12th Air Force and 67th Tactical Reconnaissance Wing. It remained in this configuration and was considered the home of tactical reconnaissance (Evinger 1991, 1995).

In July of 1996, St. Louis District personnel performed archaeological literature reviews at the University of Texas at Austin and at the Texas Historical Commission that included a review of all pertinent site forms, reports, and manuscripts for Bergstrom AFB. Collections are located at two repositories in Texas and California.

Reports Relating to Archaeological Investigations at Bergstrom AFB

Maslyk, Paul, Solveig Turpin, and S. Christopher Caran
1993 *Test Excavations at 41TV435 and 41TV436: Cultural Resource Investigation at Bergstrom Air Force Base, Travis County, Texas.* Texas Archaeological Research Laboratory, Austin, Texas.

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Naval Air Station Corpus Christi

Corpus Christi, Texas

Collections Summary

Collections Total: 1.2 ft^3 of archaeological materials; 0.7 linear feet of associated records.

Volume of Artifact Collections: 1.2 ft^3

On Post: None

Off Post: 1.2 ft^3 at Garrow and Associates (Chapter 19, Volume 2)

Compliance Status: Collections require minimal rehabilitation to comply with existing federal guidelines and standards for archaeological curation.

Human Skeletal Remains: None

Linear Feet of Records: 0.7 linear feet (8.4 linear inches)

On Post: None

Off Post: 8.4 linear inches at Garrow and Associates (Chapter 19, Volume 2)

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

Status of Curation Funding: Curation activities are not funded.

NAS Corpus Christi comprises 4,400 acres in Nueces County, Texas. The base has served mostly as a training facility. Naval Auxiliary Landing Field, Waldron is a part of the NAS Corpus Christi purview (Evinger 1995).

In July of 1996, St. Louis District personnel performed archaeological literature reviews at the University of Texas at Austin and at the Texas Historical Commission that included a review of all pertinent site forms, reports, and manuscripts for NAS Corpus Christi. Collections are located at one repository in North Carolina.

Reports Related to Archaeological Investigations at NAS Corpus Christi

Gunn, Joel, and Thomas Lilly
1994 *Phase I Archaeological Investigations of the Naval Air Station Corpus Christi, and Waldron and Cabaniss Naval Auxiliary Landing Fields, Nueces County, Texas.* Garrow and Associates, Raleigh, North Carolina.

U.S. Army Corps of Engineers, Mobile District
1986 *Cultural Resource Investigation of the Proposed Corpus Christi, Texas, Navy Homeport Site.* U.S. Army Corps of Engineers, Mobile District.

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Fort Bliss

El Paso, Texas

Collections Summary

Collections Total: 1,530.6 ft^3 of archaeological materials and human skeletal remains; 240 linear feet of associated records.

Volume of Artifact Collections: 1,505.4 ft^3

On Post: 1,281.4 ft^3

Off Post: 27.1 ft^3 at Centennial Museum, University of Texas, El Paso (Chapter 12, Volume 2); 31 ft^3 at the Center for Archaeological Research, University of Texas, San Antonio (Chapter 13, Volume 2); 5.9 ft^3 at Geo-Marine (Chapter 20, Volume 2); 0.1 ft^3 at the Museum of New Mexico Laboratory of Anthropology, Museum of Indian Arts and Culture (Chapter 30, Volume 2); 3.5 ft^3 at the Natural History Museum of Los Angeles County (Chapter 33, Volume 2); and 156.4 ft^3 at the Wilderness Park Museum, El Paso Archaeological Society Laboratory (Chapter 71, Volume 2)

Compliance Status: Collections require partial-to-complete rehabilitation to comply with existing federal guidelines and standards for archaeological curation.

Human Skeletal Remains: 25.2 ft^3

On Post: 18.6 ft^3

Off Post: 0.3 ft^3 at Centennial Museum, University of Texas, El Paso (Chapter 12, Volume 2); 4.0 ft^3 at the Natural History Museum of Los Angeles County (Chapter 33, Volume 2); and 2.3 ft^3 at the Wilderness Park Museum, El Paso Archaeological Society Laboratory (Chapter 71, Volume 2)

Compliance Status: Fort Bliss is housing the remains of at least 15 individuals as well as associated and unassociated funerary objects. Additional Section 5 materials for which Fort Bliss is responsible presently are housed at other facilities. Fort Bliss is attempting to retrieve these materials so that the Section 5 inventories can be completed in house. An undetermined number of individuals is located at the Natural History Museum of Los Angeles County. A minimum of two, possibly three, individuals is located at the Wilderness Park Museum. Qualified personnel need to take measures to manage these remains as outlined in NAGPRA.

Linear Feet of Records: 240 linear feet (2,879.5 linear inches)

On Post: 226 linear feet (2,712 linear inches)

Off Post: 6.7 linear feet (80.4 linear inches) at the Centennial Museum, University of Texas, El Paso (Chapter 12, Volume 2); 6.0 linear inches at the Center for Archaeological Research, University of Texas, San Antonio (Chapter 13, Volume 2); 1.3 linear feet (15.5 linear inches) at Geo-Marine (Chapter 20, Volume 2); 4.4 linear inches at the Natural History Museum of Los Angeles County (Chapter 33, Volume 2); and 5.1 linear feet (61.2 linear inches) at the Wilderness Park Museum, El Paso Archaeological Society Laboratory (Chapter 71, Volume 2)

Compliance Status: Records require partial rehabilitation to comply with existing federal guidelines and standards for archival preservation.

Status of Curation Funding: Curation of archaeological collections is currently funded by the Department of Defense Environmental Services.

Fort Bliss comprises 1.2 million acres in El Paso County, Texas. Fort Bliss was established in 1848 as an infantry post in what is now downtown El Paso. Its importance was realized later as it became a useful deterrent to marauder attacks from across the Mexican border. In 1868 the shifting Rio Grande River forced the post to relocate, and for a short time it was named Camp Concordia. In 1877 Fort Bliss was abandoned, and a new post was established in 1879. During the Civil War the post was used by Confederate troops and was later retaken by the Union army. Construction of the railroad forced the post to move to its current location. In 1993 it celebrated the centennial of its move from its original location to its present position near El Paso, Texas (Evinger 1991, 1995).

In July of 1995, St. Louis District personnel performed archaeological literature reviews at Fort Bliss that included a review of all pertinent site forms, reports, and manuscripts for the installation. Archaeological collections from Fort Bliss are curated on post. A portion of these collections were assessed by personnel from the St. Louis District in 1997 (Bade 1996). Here, St. Louis District documents the assessment made in March 1997. During fieldwork for this report, Fort Bliss collections were also located at six repositories at Texas, New Mexico, and California.

Assessment

Date of Visit: March 24–April 2, 1997

Point of Contact: Amy Marshall

The Fort Bliss Environmental Center (FBEC) is housed in Building 624 at the corner of Taylor and Pleasanton on Fort Bliss (Figure 26). The mission of this office is to conduct environmental and cultural compliance for Fort Bliss and to serve as a physical repository for cultural materials recovered during compliance activities. Approximately 1,280 ft^3 of artifacts and 226 linear feet of documentation from the installation are housed at FBEC, including human skeletal remains and associated funerary objects from at least 15 prehistoric burials.

The FBEC building was originally constructed for use as a calvary stable in 1939, and has one-and-one-half levels above grade. There are two lofts on each end of the structure, accessible only from the outside, with a low walkway between them that originally served as feed storage and distribution. This facility was completely renovated specifically for its current function in 1996. Although the exterior of the building was retained as originally constructed, there have been numerous internal renovations.

Figure 26. The Fort Bliss Environmental Center is housed in Building 624, which was originally constructed as a calvary stable in 1939.

Current space use includes an archaeological material holding area, washing and storage areas, a processing laboratory, a conservation laboratory, supplies storage, an exhibit area (located in the conference room), archaeological material and records study rooms, a cold storage room for photographic media and paper records, several offices, a library, and a mechanical maintenance room. Full utilities are present and were completely upgraded during the 1996 renovation. This facility has 13,292 ft^2 of usable space, including the lofts or room for 112 horses plus feed. The collections storage rooms occupy 7,000 ft^2 of the available space in the FBEC building.

Structural Adequacy

The FBEC foundation is comprised of concrete slab footings and columns. Exterior walls are concrete block and masonry construction with a red brick aspect. The single-gable, wooden-frame roof is covered with asphalt tiles and was renovated with the rest of the structure in 1996. Historic photographs were used to keep the roof's appearance as close as

possible to that of the original building plans. No cracks or leaks in the foundation or roof have been noticed or reported by FBEC staff.

The original floor was compacted earth but is currently poured concrete. Floor coverings in the public areas and offices are a combination of linoleum tiles and industrial carpeting. Collections rooms floors are bare concrete. All ceilings and interior walls are constructed of wood studs and plasterboard. The 4 x 4 feet (w x h) steel-framed windows are replacements for the original stable windows.

Exterior doors are steel, two of which are fitted with security glass viewing panels. Interior doors to the collections areas are steel fire doors. Office doors are solid-core, paneled wood. The original stable doors have been replaced with steel doors that are secured with a full-width steel sliding bolt that is six inches in diameter and mounted on brackets fitted with security pins. This entrance is used only as a receiving bay and cannot be opened from the outside. The collections rooms are currently filled to 50% of available capacity.

Environmental Controls

The FBEC building in equipped with an evaporative cooling and gas, forced-air heating system fitted with filters. The main artifact storage room is maintained at 65–70° F and 50%–55% relative humidity. The cold storage room for the records is maintained at 55–60° F and 20%–30% relative humidity. The remainder of the repository is maintained at 70° F; humidity is not monitored or maintained outside the collections storage rooms. Regularly monitored digital hygrothermographs are used to track environmental changes.

Windows are not currently shaded—except for the library—and show no evidence of air or water leakage. There are no windows in the collections storage rooms. Artificial lighting throughout the building is accomplished with nonfiltered fluorescent tube fixtures.

The FBEC Wildlife and Herbarium Laboratory, which is also used as a conservation laboratory for artifacts, does house hydrochloric and formic acid as well as a live rattlesnake (in an aquarium). This laboratory is well away from the collections rooms and is equipped with a fume hood that ventilates directly to the outside of the building.

Most of the building is maintained on a daily basis by personnel assigned from the Directorate of Planning, Works and Logistics (DPWL) office on post. Collections rooms are cleaned as needed by FBEC staff.

Pest Management

There is no integrated pest management program in place at this time, but regular spraying is conducted as a preventive measure. Spraying is done by post personnel assigned by the DPWL; boric acid is used as a pesticide in the collections areas. Some evidence of roach feces and insect remains were noted by the assessment team in a few primary containers, but these appear to be from past infestations at the old facility that were brought in with the drawers from original storage units. Insects reported by Fort Bliss staff, as former inhabitants of the FBEC include roaches, fire ants, and black widow spiders. No evidence of any active infestation was seen at the time of the assessment, and no current infestation problems were reported by FBEC staff.

Security

Security systems at FBEC consist of dead-bolt locks on exterior and collections rooms doors, key locks on office doors and processing areas, staff controlled access, and 24-hour security patrols by the post's military police. There are five windows at the facility that are considered accessible from the ground, but no incidents of unauthorized access were reported by FBEC staff, and no evidence of past intrusion was seen by the assessment team.

Fire Detection and Suppression

Fire detection and suppression for FBEC consists of a wet-pipe, heat-activated sprinkler system. None of the sprinkler pipes are located directly over the collections storage units. Six fire extinguishers are also in the process of being installed in key areas throughout the building. The areas scheduled to receive fire extinguishers include the archaeological material collections room, the cold storage/records room, the conservation laboratory, and the hallway.

Artifact Storage

Storage Units

Fort Bliss archaeological material collections are stored on 68 open, enameled metal shelving units measuring 84 x 36 x 64 inches (l x w x h) (Figure 27). Every unit has six evenly spaced shelves. One very large ground stone artifact that does not fit on the shelves is resting on the floor in a corner of the collections room. Shelves are not yet labeled, but a system has been developed to locate archaeological materials by row, shelf, and box number. Percentages of archaeological material classes by volume are shown in Table 16.

Figure 27. Collections are housed on steel shelving units in a variety of primary containers including wooden drawers and acid-free cardboard boxes.

Primary Containers

There are 85 different sizes of primary containers presently in use varying from 1.3 x 0.9 x 0.2 feet (l x w x h) and 0.2 ft^3 in volume to 3.1 x 2.1 x 1 feet (l x w x h) and 6.5 ft^3 in volume (Figure 28). Container types are highly variable as well and include open wooden drawers (from the previous storage units), coroplast boxes, acid-free archival boxes with enameled metal cornices, and acidic cardboard boxes. Security for the boxes include folding flap closures and telescoping lids.

Labels for the primary containers also vary and include acidic and acid-free paper inserts, foil-backed adhesive archival labels, and nonarchival adhesive labels. Information on the labels is handwritten in marker, typewritten or computer generated. Data on the labels include the Fort Bliss or

Table 16.
Summary of Material Classes in the Archaeological Collections Housed at the Fort Bliss Environmental Center

Material Class	%
Prehistoric	
Lithics	46
Ceramics	13
Faunal Remains	4
Shell	1
Human Remains	1
Soil	8
Botanical	3
^{14}C	2
Immunological (Soil) Samples	1
Flotation Samples	4
Other	2
Historical-Period	
Metal	5
Ceramics	2
Glass	5
Brick	1
Wood	1
Other	1
Total	100

Notes: Percentages of material classes are based on volume.

Other prehistoric materials includes pollen samples, worked turquoise, worked shell, worked bone, burned clay, non-vessel ceramic archaeological materials, cordage, fur, feathers, animal coprolites, manuported fossils, and manuported and worked crystals.

Other historical-period materials includes leather, textiles, paper, plastic, rubber, faunal remains, shell, cinders, asphalt tile, cork, coal, worked bone, worked shell, aluminum foil, slate, and tin shingles.

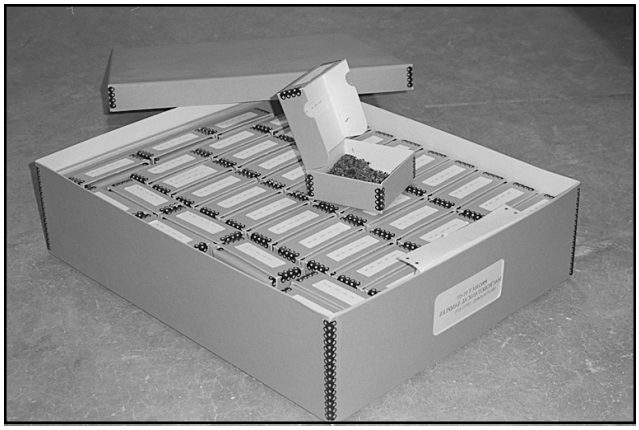

Figure 28. Macrobotanical samples are housed in small acid-free cardboard boxes within larger acid-free cardboard boxes, one of the many types of primary containers used at FBEC.

El Paso Archaeology Society site number, a series of catalog numbers, an accession number, provenience information, the date the collection was made, the project number, the site name, and/or name of the collecting individual or agency. Most of the ground stone archaeological materials are stored loose, and many are currently stacked on top of each other on the bottom shelves of four different storage units.

Secondary Containers

Secondary containers for the archaeological material collections consist predominately of 4-mil, polyethylene zip-lock bags and acid-free specimen boxes. The remaining secondary containers are somewhat varied; see Table 17 for a breakdown of types and percentages of all secondary containers present.

Table 17.
Summary of Secondary Container Types at the Fort Bliss Environmental Center

Secondary Container	%
4-mil, polyethylene zip-lock bags	80
Acid-free cardboard boxes	15
Plastic or glass vials in zip-lock bags	4
Other	1
Total	100

Other includes loose archaeological materials, paper bags, acid-free tissue paper, aluminum foil, a food tin with pry lid, an acidic cardboard box, an acidic cardboard tray, plastic film canisters, and manila envelopes.

The collections are presently being rehabilitated, and since the original secondary containers are often retained, labeling of them is frequently a mixture of at least two methods. Secondary containers for collections that have not been rehabilitated (about half) are nearly always directly labeled in marker. Rehabilitated collections show a mixture of the former method and the addition of foil-backed, archival adhesive labels. New collections are labeled using only foil-backed, archival adhesive labels. Acidic paper tag inserts were present in about seventy percent of the containers for collections in all stages of processing.

Information on the adhesive labels is either typed or computer generated and consists of the following information: Fort Bliss site number, project number, archaeological material type or code number, accession number, the date the collection was made, and the provenience. Information recorded in marker is nearly the same as for the other label type, but also includes the name of the collecting individual or agency and omits the accession number. Accessioning of the collections began in 1996, regardless of when the collection was originally made. Paper tag inserts have information both typewritten and handwritten in marker, pen, or pencil.

Laboratory Processing and Labeling

All of the collections at FBEC have been sorted by project, site number, material type and/or provenience. Slightly more than ninety percent of the artifacts have been cleaned. Diagnostic artifacts large enough to label (about forty percent of the total collection) are directly labeled with a catalog number in black ink on a clear or white base coat. These catalog numbers are not consistent, but all are valid catalog numbers that are very specific to a certain project, analysis, or sorting exercise conducted on the artifacts. Remaining materials were collected as lots or samples destined for destructive analysis and do not require labeling.

Human Skeletal Remains

Fort Bliss staff are working to complete NAGPRA Section 5 compliance. They currently have within their physical control 18.6 ft^3 (minimum number of individuals present at FBEC is 15) of the Section 5 materials for which Fort Bliss is responsible, and are they attempting to retrieve the remaining collections so that the physical inventories for NAGPRA can be performed in house. The remains seen by St. Louis District staff are deteriorating or in fragmentary condition. Review of the associated documentation seems to indicate that the majority of these materials were very likely fragmented when collected.

The human skeletal remains at FBEC are all housed in the artifact storage room. Most of the remains (at least 13 individuals) and associated artifacts have been separated from the rest of the collections and are stored together on one shelving unit. An additional 0.4 ft^3 of remains (representing at least two individuals) were found among the unrehabilitated portion of the collections. Primary

containers for the remains and associated objects are a mixture of archival and nonarchival cardboard boxes. One human mandible is currently resting on top of a box. Primary containers are labeled directly in marker with information such as burial numbers, site names, project names, catalog numbers, or simply "Human Remains."

Secondary containers for human skeletal remains are quite variable. Many of the remains or associated objects are nested or wrapped in materials such as archival or nonarchival plastic vials, fabric, acid-free tissue paper, tin foil, or foam. Labeling methods consist of directly applied marker, as well as a few acidic paper tag inserts with data written on them in pen or pencil. Data on the labels generally include such information as burial numbers, site names, site numbers, or conditions of the remains. All of the Section 5 materials appear to have been cleaned. None of them are directly labeled, but all have been sorted by material class. In some instances the remains have been sorted by body part (i.e., long bones together, hand bones together, ribs together, vertebrae together, skulls in separate containers).

Records Storage

Documentation at FBEC is stored in two rooms. The site files, as well as most of the maps, photographic media, computer media, and paper records are in the aforementioned cold storage room. Records in this room are predominately housed in enameled, fire-resistant, legal-size file cabinets; in standard-size enameled-metal map cabinets; and on revolving, enameled metal space-saving units that self-seal against dust and light. Most of these storage units are currently labeled with acidic paper tag inserts in holders on the fronts of the units or with Post-It® notes. Labels are both typed and handwritten, and generally state the contents of the unit. It should be noted that the record collections also are being rehabilitated, so any apparent disorganization or lack of appropriate labels on storage units and primary containers at the time of the assessment are a result of this ongoing process.

In addition to the records housed in the storage units, there are 15 miscellaneous boxes of records, 75 binders, and about two linear feet of loose records—including rolled copies of maps—stored on the floor and along the tops of the storage units. Most of the binders contain finding aides or master catalogs of site inventories. There are also about three linear feet of records currently being kept in the archaeological material storage room that are housed on the same shelving units and in the same primary containers as the artifacts.

Environment, pest management, security, fire detection, and fire suppression systems for the records storage room are as previously noted. There is a total of 226 linear feet of documentation housed at FBEC.

Paper Records

Paper records total 149 linear feet. Records not housed in filing or map cabinets are in a variety of primary containers including archival and nonarchival binders, archival document boxes, miscellaneous odd-sized acidic cardboard boxes, and sometimes loose in open wooden drawers. The latter two generally house associated artifacts as well, and, as previously noted, some of these primary containers are located in the archaeological material storage room.

Archival secondary containers consist of acid-free file folders, acid-free document boxes, and archival polyethylene page protectors. All archival containers—primary and secondary—are labeled using typed or computer-generated foil-backed adhesive labels or acid-free paper tag inserts. Nonarchival secondary containers consist of acidic envelopes and manila folders that are labeled directly in marker or have acidic paper tags labeled in marker taped to the containers.

Photographic Records

There are 17.2 linear feet of photographic records, including color prints, black-and-white prints, slides, negatives, and contact sheets. Primary containers consist of archival and nonarchival binders, archival and nonarchival boxes, and some plastic boxes. Photographic media are sometimes loose in folders and acidic boxes with other records but for the most part have been processed into archival polyethylene sleeves and archival photograph binders or document boxes. Archival containers are labeled with foil-backed adhesive labels or acid-free paper tag inserts that are typed or computer generated. Data on the labels generally consist of a site number or project

number and the year. Nonarchival containers are directly labeled in marker with a site number and project name.

Secondary containers consist of polyethylene plastic sleeves and acid-free paper envelopes. Sleeves, photographs and slide mounts are all labeled directly—using an archival marking pen—with the site number, installation name, project name, roll number, exposure number, and year. A copy of the relevant photograph log is included in each box or binder.

Maps and Oversized Documents

Almost all full-sized maps and bluelines (copies of aerial photographs) which measure about 30.2 total linear feet are stored in file and map cabinets in the cold storage room. Maps are generally stored flat in the map cabinets, but there is about one linear foot of rolled maps stored loose along the tops of the storage units. A few maps are in acidic cardboard tubes labeled directly in marker, but most maps do not have secondary containers.

Most bluelines are folded into quarters and stored loose in legal-size file cabinets. A few bluelines are stored on the floor in the previously noted acidic boxes with other paper records. When present, secondary containers for bluelines are manila folders directly labeled in pencil or marker with project names or site numbers. All maps and bluelines have site or project data handwritten on them in pen or pencil.

Reports

Reports comprise 3.3 linear feet of the total record volume and are housed in a variety of nonarchival primary and secondary containers in the cold storage room. They are widely scattered among the other paper records and appear to be first drafts of reports seen by St. Louis District staff during the site file search for Fort Bliss. A few of these reports contain original photographs that have been glued or taped in place. Primary and secondary containers and labels are as previously noted for the paper records.

Computer Media

About 26.3 linear feet of computer disks are presently stored in the legal-size file cabinets in the cold storage room. Most of the disks are loose and do not appear to be in any particular order or arrangement. Some are stored in nonarchival plastic bags, a few are in plastic storage boxes, and many are simply secured into bundles with rubber bands. The only labels present are standard adhesive disk labels, and all information on them is directly written in pen or marker. There are both 5- and 3.5-inch disks in the file drawers.

Collections-Management Standards

Registration Procedures

Accession Files

Archaeological materials are presently accessioned upon receipt. There are written protocols for the procedure and a standard form that is used. Accessioning of Fort Bliss' collections began in 1996, so there is currently a backlog of artifacts that are being processed. Accession numbers for backlogged collections will reflect the date they were brought into compliance, not the date they were collected.

Location Identification

Each shelving unit, shelf, and box position has an assigned number. These three sets of information, plus the letter designation for the storage room, is the location of the archaeological material within the repository. The number is identified in both the computer database and the accession files.

Cross-Indexed Files

Files are cross indexed by site number and accession number.

Published Guide to Collections

There is no published guide to collections.

Site-Record Administration

FBEC retains all original site records relevant to Fort Bliss land holdings. These files are organized sequentially by the designated Fort Bliss number.

Computerized Database Management

There is a computerized system for database management in place, and staff are currently

cataloging collections as they are rehabilitated or accessioned. The system is backed up weekly on 3.5-inch disks.

Written Policies and Procedures

Minimum Standards for Acceptance

There is no minimum standard for acceptance, but policy states that any collection submitted must be from Fort Bliss lands. This policy may change if agreements are signed with outlying agencies for curation of their collections.

Curation Policy

There are written standards for curation activities that cover receipt, processing, use and future preservation of materials. A collections management policy is in draft form for FBEC.

Records-Management Policy

There is a written policy addressing the guidelines and standards for the curation of documentation.

Field-Curation Guidelines

There are written guidelines for field curation that address field conservation, processing, and collecting.

Loan Procedures

There are written loan procedures and standard loan forms for the procedure, but loans are only made to institutions not individuals.

Deaccessioning Policy

There is a written deaccessioning policy and a standard form for the procedure.

Inventory Policy

Collections are inventoried upon receipt, and spot checked when new collections are integrated into the collection.

Latest Collection Inventory

Collections at FBEC were undergoing a complete inventory at the time of the assessment.

Curation Personnel

There is a full-time curator of collections and a full-time collections assistant.

Curation Financing

Curation of archaeological collections is currently funded by the Department of Defense Environmental Services.

Access to Collections

Access to the collections is granted to qualified researchers and institutions who wish to conduct on-site research. Arrangements for a visit should be completed at least one week in advance of the visit date. FBEC staff request a letter detailing the collections wanted, a scope of research, and any photocopying or photographic reproduction services needed by the researcher, although these arrangements can be made over the telephone. Collections are pulled by FBEC staff, and research is conducted in space set aside for that purpose.

Future Plans

An infrared motion detector has been ordered for FBEC; when installed, this alarm system will be wired directly to the post's military police.FBEC staff are continuing attempts to coalesce all collections from Fort Bliss lands for long-term storage at FBEC. Rehabilitation of existing collections continues, and all materials are simultaneously being entered into a computerized database management system. Long-term loan agreements are in progress for Fort Bliss collections that cannot be retrieved easily from their current storage facilities.

The collections policies and management plan document—now in draft form—is slated for completion by the end of the summer 1997. Staff are also actively pursuing agreements with other federal agencies such as the Bureau of Land Management and White Sands Missile Range, New Mexico, that are interested in housing collections at FBEC.

Comments

1. FBEC current policies of standard care of collections follow curation standards as outlined by the American Association of Museums and 36 CFR

Part 79. Security, fire protection, and environmental conditions meet or exceed the guidelines.

2. There is no integrated pest management program. Regular spraying is used as a preventive measure.

3. Some of the archaeological materials and approximately two-thirds of the documentation are still in need of rehabilitation as of the date of the assessment.

4. NAGPRA Section 5 materials that are the responsibility of Fort Bliss are currently located at a minimum of five other repositories.

Recommendations

1. Continue work on collections and documentation rehabilitation. Prioritize and concentrate on rehabilitating the NAGPRA Section 5 materials first.

2. Coalesce at FBEC all known NAGPRA Section 5 materials from the five other repositories as soon as possible so that NAGPRA compliance inventories for Section 5 can be conducted and consultation begun.

3. All Section 5 materials at FBEC should be isolated from other collections and repackaged using more stable materials.

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Fort Hood

Fort Hood, Texas

Collections Summary

Collections Total: 345.7 ft^3 of archaeological materials and human skeletal remains; 111.6 linear feet of associated records.

Volume of Artifact Collections: 345.3 ft^3
On Post: 345.3 ft^3
Off Post: None
Compliance Status: Collections require partial rehabilitation to comply with existing federal guidelines and standards for archaeological curation.

Human Skeletal Remains: 0.4 ft^3
On Post: 0.4 ft^3
Off Post: None
Compliance Status: A minimum number of three individuals is included in the Fort Hood collections. These remains have been isolated and are scheduled for repatriation. Qualified personnel need to take measures to manage these remains as outlined in NAGPRA.

Linear Feet of Records: 111.6 linear feet (1339.1 linear inches)
On Post: 111.6 linear feet (1339.1 linear inches)
Off Post: None
Compliance Status: Records require partial rehabilitation to comply with existing federal guidelines and standards for archival preservation.

Status of Curation Funding: Curation of archaeological collections is provided for through the budget for cultural resource investigations.

Fort Hood comprises 217,337 acres in Coryell and Bell Counties, Texas. Construction of South Camp Hood began in 1942, and North Camp Hood was established just after this date. In 1950 South Camp Hood was redesignated Fort Hood while North Camp Hood became North Fort Hood. Present day Fort Hood is located midway between Waco and Austin, just west of the city of Killeen (Evinger 1995).

In July of 1996, St. Louis District personnel performed archaeological literature reviews at the University of Texas at Austin and at the Texas Historical Commission that included a review of all pertinent site forms, report, and manuscripts for Fort Hood. Archaeological sites have been recorded on Fort Hood and numerous reports have been generated as a result of archaeological investigations. Collections are located only on post.

Assessment

Date of Visit: 7 January 1997

Point of Contact: Robert Kimball Smith

The Fort Hood repository is in Building 4249 located at 78th and Warehouse Streets on Fort Hood. The repository is owned and operated by the Federal

Government. The building holds offices for staff, a small work/processing area, and the collections storage area. This repository holds all archaeological documentation and artifacts recovered from archaeological investigations conducted on the subject property.

Structural Adequacy

Constructed in 1942, the building that now houses the installation curation repository is in good structural condition overall. The foundation is divided into two portions, the older being made of wood and the newer portion of concrete. The newer section of the foundation is located beneath the collections area. Exterior walls of the building are wood siding, and the roof is shingled. No structural problems such as cracks or leaks in the roof or the foundation have been noticed by the installation staff or by the assessment team during their survey.

The building has plasterboard interior walls and a plaster ceiling. The floors are a tile covering over a wood or concrete foundation. Windows throughout the repository have aluminum frames and no blinds or shades. None of the repository staff have noticed that the windows leak. Interior doors in the repository are wood panel, and exterior doors are glass and metal.

The collections storage area is located in the rear of the building. The foundation of the room that holds the collections is concrete. Fort Hood collections are stored within a 600-ft^2 walk-in freezer that has been converted into a storage area (Figure 29).

Figure 29. Collections are housed in a walk-in freezer that has been converted into a storage room.

Collection capacity is currently at 50%, and the collections area is extremely well maintained.

Environmental Controls

The building uses a gas, forced-air heating system and window air-conditioning units. The temperature is targeted for 72° F, but it is not monitored on a regular schedule. Illumination in the repository consists of nonfiltered, fluorescent lights. The utilities include plumbing, electrical, and heat. According to the staff these systems all underwent renovations in January 1996. Janitorial services in the building are provided every other day by a professional organization.

The collections area has a window unit for temperature control and nonfiltered fluorescent lights. Janitorial service is provide by the staff on an as-needed basis.

Pest Management

Pest management is contracted to a professional company. This service occurs every three months. The staff has not encountered any infestations since moving into the building. The assessment team did not notice any type of infestation during the building survey. The collections area is maintained on an as-needed basis. To date, no problems have been noticed in the collections area.

Security

The repository possesses an intrusion alarm wired to the post police department. The grounds are also patrolled by post security. Interior doors use only a common push-lock mechanism, while exterior doors are dead bolted. There is one exterior door that enters directly into the collections area. Windows in the facility use a standard window lock for security.

The collection area is further secured through use of a key lock on the main door to the freezer unit. The key is held by the curator, and all access in controlled.

Fire Detection and Suppression

The repository possesses a fire alarm that is wired to local fire departments. In addition, there is a wet-

pipe, sprinkler/suppression system located throughout the building. Manual fire alarms and heat and smoke detectors are likewise placed throughout the building. Two fire extinguishers are available in the repository, one was last inspected in April 1993, the other in April 1994. The building also has lighted emergency exit signs and emergency lighting units placed in the corridors.

The collections area (freezer unit) possesses a CO_2 fire suppression system that is designed especially for the safety of the collections. The room in which the freezer is housed is maintained by the same fire system as the rest of the repository.

Artifact Storage

Storage Units

Fort Hood artifacts are stored on immovable metal shelving units that measure 30 x 78 x 79 inches (l x w x h) (Figure 30). Additional materials are stored on the floor of the collections area (freezer unit) and in a specimen cabinet located just outside the freezer unit. The cabinet measures 34 x 55 x 60 inches (l x w x h). Only one drawer of the cabinet holds artifacts. Percentages of material classes are outlined in Table 18.

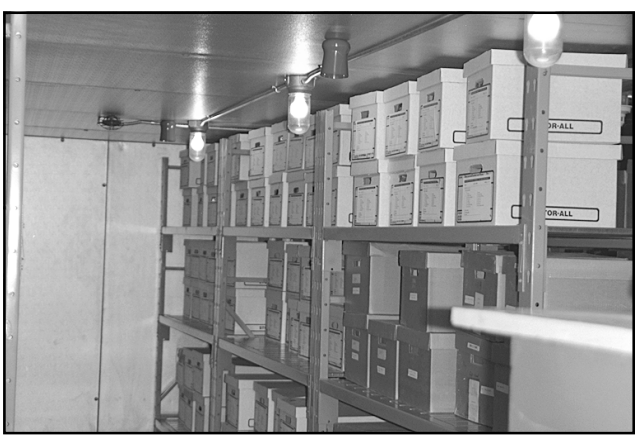

Figure 30. Collections are housed in standard-sized boxes on metal storage units in the collections room.

Primary Containers

Primary containers for the Fort Hood materials are varied. They consist of 155 archival boxes, 153 acidic boxes, and 1 wooden drawer. Some boxes show some evidence of damage and use telescoping lids or folding flaps for security. The single drawer is not secured.

Table 18.
Summary of Material Classes in the Fort Hood Archaeological Collections

Material Class	%
Prehistoric	
Lithics	47
Faunal Remains	6
Shell	8
Flotation	6
Soil	1
^{14}C	1
Other	2
Historical-Period	
Ceramics	5
Glass	11
Metal	10
Brick	1
Other	2
Total	100

Notes: Percentages of material classes are based on volume.

Other prehistoric materials include burned earth, ochre, petrographic samples, wood, hematite, pollen, fossils, and a bead.

Other historical-period materials include rubber, plastic, red sandstone, tile, wood, paper, leather, concrete, and stone.

One archaeological object, a historic metal wheel, was not included in the above percentages. The wheel measures 48 inches in diameter.

Each container is labeled either directly or with an adhesive tag. In some cases labels are computer generated and others have been directly applied to the box in marker or pen. Label information consists of some combination of the following information: project, site number, box number, accession number, contents, carton number, installation, date, quad number.

Secondary Containers

Secondary containers consist of plastic bags, archival boxes, acidic boxes, paper bags, small yellow envelopes, and plastic jars. Security for secondary containers consists of zip-locks for the plastic bags and lids for the boxes. Paper bags are either open or are secured with a rubber band or string. All exhibit some puncturing and tearing and some are overpacked. In general, however, they are in fair condition.

Secondary container labels are adhesive, direct, or paper inserts. In some cases they also consist of index cards affixed to box fronts. They are written in marker, pen, or pencil. Additionally, some are computer generated or stamped in ink. Label information consists of site number, artifact type, bag number, box number, collection number, provenience, location, project, investigator, date, and accession number.

Laboratory Processing and Labeling

Ninety-nine percent of Fort Hood artifacts have been cleaned in some manner, and 75% have been labeled in india ink, pen, or marker. Labeling is applied directly to the artifact in most cases, but some also use adhesive tags or inserts.

Human Skeletal Remains

Three individuals—two adults (sex undetermined) and one infant—were examined during the course of the assessment. These materials (0.4 ft^3) were removed from the artifact collections by the staff archaeologist at the time of the assessment and are scheduled for repatriation.

Records Storage

Fort Hood archaeological records are stored in fireproof, metal file cabinets that measure 31 x 21 x 51 inches (l x w x h). Four of these units are used to hold site forms. Additionally, one standard letter-size file cabinet is used to hold in-house documents. Topographic maps and aerial photographs are stored in a standard, metal map case. Other records, which include field notes, draft reports, photographs, slides, and videocassettes, are stored on six varieties of immovable, metal shelving units that measure 13 x 33 x 17 inches, 11 x 4 x 44.3 feet, 12 x 12 x 13 inches, 13 x 33 x 14.8 inches, 30 x 78 x 79 inches, and 13 x 33 x 32 inches (l x w x h). Except for some very old project records stored with the artifacts, all records are in good condition and are arranged by site number, quad number, or report number.

Paper Records

Paper records consist of administrative, background, analysis records, and site forms. Paper records total 74.7 linear feet, of which 8 linear feet consist of CRM report documents. Primary containers consist of manila folders and envelopes and plastic binders. They are labeled using adhesive paper labels and paper inserts. Labels are usually directly marked in pen, pencil, or marker, but some are typed. All labels are legible and consistent.

Photographic Records

Fort Hood photographic records consist of color prints (0.5 linear feet); aerial photos (2 linear feet), black-and-white prints (2.5 linear feet), negatives (0.02 linear feet), slides (19.6 linear feet), and contact sheets (0.02 linear feet). Photographs are stored in plastic binders that are labeled using typewritten paper inserts. Slides are stored in a slide cabinet, each drawer of which is labeled in ink with a paper insert. All records except site forms are stored in the walk-in freezer/collection storage area.

Map Records

Topographic maps account for 1.25 linear feet of the total collection and are stored flat in standard metal map cases. They are in good condition and are easily accessible.

Audiovisual Records

Approximately 11 linear feet of videocassettes are part of the Fort Hood archaeological collections. These tapes hold information on excavations that occurred on installation property and are in very good condition. They are also easily accessible for viewing.

Collections Management Standards

Fort Hood does not currently maintain any written procedures for curation. The curator does follow curation methods that are used by contractors and universities throughout Texas when processing all incoming additions to the collections. These methods include, but are not limited to, the following: placing archaeological materials in archival plastic bags and boxes and identifying archaeological materials with archival paper inserts.

Registration Procedures

Accession Files

There is an accession procedure currently in place.

Location Identification

Project files and collections are identified by project and/or accession number.

Cross-Indexed Files

Project files are cross indexed by project number to the artifacts.

Published Guide to Collections

There is no published guide to collections.

Site-Record Administration

Pertinent site records are maintained.

Computerized Database Management

There is a database for collections in place.

Written Policies and Procedures

Minimum Standards for Acceptance

There is no written policy.

Curation Policy

There is no written policy. The staff archaeologist uses personal experience when curating collections.

Records-Management Policy

There is no written policy. The staff archaeologist uses personal experience when curating collections.

Field-Curation Guidelines

There is no written policy. The staff archaeologist uses personal experience when curating collections.

Loan Procedures

Fort Hood does not loan materials.

Deaccessioning Policy

Fort Hood has not deaccessioned any material to date.

Inventory Policy

There is no written policy.

Latest Collection Inventory

A complete inventory of the collections has never been performed.

Curation Personnel

Fort Hood employs one full-time curator that is responsible for all archaeological collections recovered from installation property.

Curation Financing

Curation is financed through individual project budgets.

Access to Collections

Access to Fort Hood archaeological collections is restricted by the curator. Access is granted, upon written request to the curator, to bona fide researchers.

Comments

1. Adequate environmental controls are in place at the Fort Hood curation repository.

2. Fire extinguishers in the facility have not been updated for some time.

3. Forty percent of all collections are in archival boxes and plastic bags.

4. Some records are stored with collections in the collections area.

Recommendations

1. Fire extinguishers should be updated and replaced if necessary.

2. All artifacts should be placed in archival-quality primary containers and inert plastic secondary containers.

3. All primary containers should be labeled using archival paper inserts and inert plastic sleeves.

4. Separate all associated records from the collections. Do not store records in same boxes as artifacts unless the insert is a copy of an artifact catalog.

5. Produce multiple copies of all documentation on acid-free paper and store in separate, secure locations. Documentation should be placed in acid-free folders, and lightly packed into fire-resistant file cabinets. Arrange documentation in a logical order, and provide a finding aid to the collection. Records should be free of metal binder clips, staples, and paper clips, or other contaminants. Photographic material should be placed in archival-quality photographic sleeves, labeled properly, and stored in a secure storage unit.

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Fort Sam Houston

San Antonio, Texas

Collections Summary

Collections Total: 43.5 ft^3 of archaeological materials; 2.1 linear feet of associated records.

Volume of Artifact Collections: 43.5 ft^3
On Post: 2.5 ft^3
Off Post: 41 ft^3 at the Center for Archaeological Research, University of Texas, San Antonio (Chapter 87, Volume 2)
Compliance Status: Collections require partial-to-complete rehabilitation to comply with existing federal guidelines and standards for archaeological curation.

Human Skeletal Remains: None

Linear Feet of Records: 2.1 linear feet (25.45 linear inches)
On Post: 0.25 linear inches
Off Post: 2.1 linear feet (25.2 linear inches) at the Center for Archaeological Research, University of Texas, San Antonio (Chapter 87, Volume 2)
Compliance Status: Records require complete rehabilitation to comply with existing federal guidelines and standards for archival preservation.

Status of Curation Funding: Curation of archaeological collections is allocated through funds in the Fort Sam Houston budget.

Fort Sam Houston encompasses 3,000 acres adjacent to San Antonio in Bexar County, Texas. This installation can trace its roots back to the first troops to arrive in San Antonio in 1870. The mission of Fort Sam Houston has gone from supplying frontier outposts as a Quartermaster Depot to one of providing medical training to meet the Army's mission needs worldwide (Evinger 1995).

In July of 1996, St. Louis District personnel performed archaeological literature reviews at the University of Texas at Austin and at the Texas Historical Commission that included a review of all pertinent site forms, report, and manuscripts for Fort Sam Houston. Archaeological sites have been recorded at Fort Sam Houston and several reports have been generated as a result of archaeological investigations. Collections are located at two repositories in Texas.

Assessment

Date of Visit: October 24, 1996

Point of Contact: Mike Hilgar and John Manguso

The Fort Sam Houston Military Museum is the official military museum for the installation (Figure 31). They display a wide array of uniforms, weapons, and military accoutrements from various epochs of U.S. history. They also curate a small amount of archaeological material from several investigations

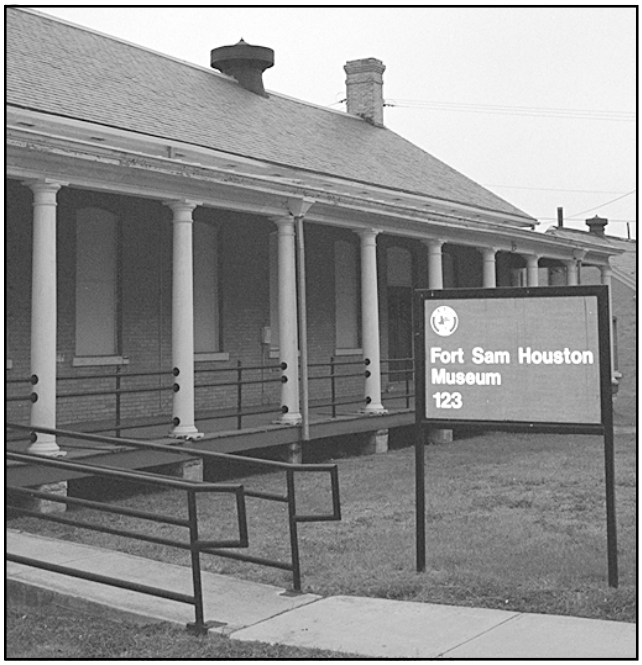

Figure 31. Exterior of the Fort Sam Houston Military Museum.

that have been conducted on post property through the years. Approximately 2.5 ft^3 of artifacts are housed at the Fort Sam Houston Military Museum.

Structural Adequacy

The Fort Sam Houston Military Museum occupies Building 123, a historic building located on installation property. The structure was built in the early 1920s for use as a mess hall. Following this, it was eventually made into the installation military museum.

The 6,000-ft^2 structure has a slate tile roof that is less than five years old. It has a concrete foundation and a wood and concrete frame. Exterior walls of the structure are brick, and the interior walls are plasterboard. According to the staff, none of the windows, nor any areas of the foundation, have experienced any leaks that resulted in substantial damage to the building or anything held within the structure.

The floor of the building is covered with tile, and the ceilings are suspended acoustical tiles. All windows in the facility have wooden frames and have been sealed with a covering of plywood. The museum currently has the following defined areas: material/supply storage, exhibit area, security area, and a kitchen/break room. There are also certain areas that are used for artifact holding and temporary storage. This same area is used for exhibit construction and artifact and record study. Some space also is provided for record and photograph storage.

Approximately 1,500 ft^2 of space is devoted to collections storage. The collections area is identical to the rest of the repository regarding structure.

Environmental Controls

The museum building is equipped with gas forced air and heat. Temperature is held between 70–75° F and humidity is maintained between 45% and 55%. The humidity level is monitored daily by museum staff and is controlled on a monthly basis with a dehumidifier. The museum receives janitorial service by a professional contractor on a weekly basis. In addition, the museum maintains dust filters on ventilation ducts throughout the building.

Lighting in the facility is fluorescent and most bulbs have ultraviolet filters. The plumbing system for the building has been updated within the last ten years, and all other systems were renovated between 1975 and 1980. There have been no major episodes of failure with regard to any of the utility systems. The collections area maintains the same environmental controls as does the rest of the repository.

Pest Management

All pest management for the museum is handled by the installation entomologist on an as-needed basis. To date, no infestations of any kind have been noticed by museum personnel. The collections area receives similar management.

Security

The museum building is equipped with an intrusion alarm wired to the police department. It also receives daily monitoring by installation security. Exterior doors of the structure are solid wood covered with a metal grating; they are further secured with a padlock. All interior doors are wood panel, and there is a single metal door leading to the collections area.

As noted earlier, all windows are sealed, and exterior windows possess metal grating and bars for additional security. The building uses motion detectors at various locations throughout the building to monitor movement within the museum.

The collections area is a controlled-access environment that is monitored by the director. As of this visit the facility had experienced no incidents of unauthorized access.

Fire Detection and Suppression

Fire-detection and -suppression systems for the museum consist of an alarm that is wired to the local fire department and a wet-pipe sprinkler system, respectively. In addition, three fire extinguishers are located throughout the building. These were last inspected in May 1992. The collections area makes use of the same fire-detection system as the rest of the repository.

Artifact Storage

Storage Units

The Fort Sam Houston Military Museum is currently curating 2.5 ft^3 of artifacts recovered from installation property. The material is stored on immovable, metal shelving units. These shelves measure 14 x 38 x 40 inches (l x w x h). There are three such units in the collections area, with one reserved for archaeological material. Percentages of material classes are outlined in Table 19.

Table 19.
Summary of Material Classes
Housed at the Fort Sam Houston Military Museum

Material Class	%
Prehistoric	
Lithics	25
Historical-Period	
Ceramics	40
Glass	8
Metal	8
Brick	17
Coal	2
Total	100

Note: Percentages of material classes are based on volume.

Primary Containers

Primary containers for archaeological materials consist of acidic and acid-free cardboard boxes with telescoping lids and folded flaps for security. Containers are directly labeled in pen. Label information consists of installation, provenience, and catalog numbers.

Secondary Containers

Secondary containers consist of 4- and 6-mil plastic zip-lock bags, paper bags, and small acidic cardboard boxes. Paper bags and boxes are labeled directly in marker, while the plastic bags contain paper insert labels. All labels list the following information: site number, provenience, date, investigator, and project. In most cases the plastic bags are nested within the other two secondary containers.

Laboratory Processing and Labeling

All of the archaeological materials have been cleaned and labeled to some degree. Label information consists of site and catalog numbers.

Human Skeletal Remains

The Fort Sam Houston Military Museum is not currently curating any human skeletal remains from the post.

Records Storage

Approximately 0.25 linear inches of paper records associated with archaeological work conducted on Fort Sam Houston are stored in the museum office area, which is just outside the collections storage area. The records are copies of artifact catalog sheets and administrative information that had been removed by museum personnel and placed with the artifacts. They are normally stored in a metal, letter-size file cabinet. The catalog deals specifically with artifacts from site 41BX799, and all other documentation is inclusive as of July 1995.

Collections Management Standards

The Fort Sam Houston Military Museum has a full array of registration procedures in place; however, they are specifically devoted to military artifacts not archaeological collections.

Registration Procedures

Accession Files

There is no accession procedure for archaeological collections; however, artifacts are assigned project numbers and are organized by project.

Location Identification

The location of collections is not monitored.

Cross-Indexed Files

Files are not cross indexed.

Published Guide to Collections

There is no published guide to collections.

Site-Record Administration

No site file records are kept.

Computerized Database Management

There is no database in place.

Written Policies and Procedures

Minimum Standards for Acceptance

There is no written policy for archaeological collections.

Curation Policy

There is no written policy. Staff members use personal experience when curating collections.

Records-Management Policy

There is no written policy. Staff members use personal experience when curating collections.

Field-Curation Guidelines

There is no written policy. Staff members use personal experience when curating collections.

Loan Procedures

Fort Sam Houston does not loan materials.

Deaccessioning Policy

Fort Sam Houston has never deaccessioned any material.

Inventory Policy

There is no written policy.

Latest Collection Inventory

A complete inventory has never been performed.

Curation Personnel

The museum has a full-time director and several other employees that are responsible for the day-to-day work performed by the museum. This work entails mainly exhibit preparation and material acquisition and care. There is no full-time curator for archaeological collections.

Curation Financing

Curation is financed within the budget of Fort Sam Houston.

Access to Collections

Access to the collections is limited to staff and researchers by permission.

Comments

1. Fire extinguishers have not been recently inspected.

2. Some collections are stored in acidic cardboard boxes.

3. All of the artifacts are labeled.

4. Documentation contains contaminants in the form of nonarchival staples.

5. The facility has adequate environmental controls, pest management procedures, security measures, and fire-detection and -suppression systems in place.

Recommendations

1. Place all artifacts into archival-quality primary containers and inert plastic secondary containers.

2. Label all primary containers using archival paper inserts and inert plastic sleeves.

3. Produce multiple copies of all documentation on acid-free paper and store in separate, secure locations. Documentation should be placed in acid-free folders, and lightly packed into fire-resistant file cabinets. Arrange documentation in a logical order, and provide a finding aid to the collection. Records should be free of metal binder clips, staples, paper clips, and other contaminants.

Reports Related to Archaeological Investigations at Fort Sam Houston

Cox, Wayne, and Herbert G. Uecker
1990 *Archaeological and Historical Investigations at Camp Bullis, Bexar and Comal Counties, Texas: The 1989 Season.* Prewitt and Associate, Austin, Texas. Submitted to U.S. Army Corps of Engineers, Fort Worth District.

Dibble, David
1979 *Archaeological Reconnaissance in the Salado Creek Watershed, Bexar County Texas.* Texas Archaeological Survey, Report 9. Submitted to Interagency Archaeological Services.

Gerstle, Andrea, Thomas C. Kelly, and Cristi Assad
1978 *The Fort Sam Houston Project: An Archaeological and Historical Assessment.* Center for Archaeological Research, University of Texas, Report 40. San Antonio. Submitted to U.S. Army Corps of Engineers, Fort Worth District.

Gilmore, K., and L. Allen
1987 *Cultural Resource Testing of the Criminal Investigation Center Construction Site, Fort Sam Houston, San Antonio Texas.* Institute of Applied Sciences, North Texas State University, Denton.

Hines, Margaret H., and Steve A. Tonka
1993 *Prehistoric Research Context for Camp Bullis and Fort Sam Houston, Bexar and Comal Counties, Texas.* Prewitt and Associates, Report 16. Austin, Texas. Submitted to U.S. Army Corps of Engineers, Fort Worth District.

Quigg, J. Michael
1988 *Cultural Resources Reconnaissance in Secondary Impact Areas Along Salado Creek at Brooke Army Medical Center, Fort Sam Houston and Camp Bullis, Bexar County, Texas.* Prewitt and Associates, Report 5. Austin, Texas. Submitted to U.S. Army Corps of Engineers, Fort Worth District.

61

Naval Station and U.S. Mine Warfare Center

Ingleside, Texas

Collections Summary

Collections Total: 0.3 ft^3 of archaeological materials; 0.8 linear feet of associated records.

Volume of Artifact Collections: 0.3 ft^3
On Post: None
Off Post: 0.3 ft^3 at the Texas Archaeological Research Laboratory (Chapter 54, Volume 2)
Compliance Status: Collections require partial rehabilitation to comply with existing federal guidelines and standards for archaeological curation.

Human Skeletal Remains: None

Linear Feet of Records: 0.8 linear feet (10.0 linear inches)
On Post: None
Off Post: 10.0 linear inches at the Texas Archaeological Research Laboratory (Chapter 54, Volume 2)
Compliance Status: Records require partial rehabilitation to comply with existing federal guidelines and standards for archival preservation.

Status of Curation Funding: Curation activities are not funded.

Dedicated on July 6, 1992, Naval Station, Ingleside is one of the country's newest naval facilities. Home port for training frigates, mine countermeasures ships, and coastal mine hunters, the station and its tenant commands are responsible for meeting the operational, logistical, and administrative needs of the U.S. Atlantic Fleet. NAVSTA Ingleside encompasses 483 acres in San Patricio County, Texas, and was chosen for this location because of its quick access to the deep waters of the Gulf of Mexico (Cragg 1994; Evinger 1995).

In July of 1996, St. Louis District personnel performed archaeological literature reviews at the University of Texas at Austin and at the Texas Historical Commission that included a review of all pertinent site forms, report, and manuscripts for Ingleside Naval Station. Collections are located at one repository in Texas.

Reports Related to Archaeological Investigations at NAVSTA Ingleside

Mines, Margaret Howard
1994 *Literature Review and Archaeological Survey for the U.S. Navy Mine Warfare Center of Excellence.* Prewitt and Associates, Technical Report Number 19. Austin, Texas.

62

Kelly Air Force Base

San Antonio, Texas

Collections Summary

Collections Total: 2.0 ft^3 of archaeological materials; 0.6 linear feet of associated records.

Volume of Artifact Collections: 2.0 ft^3

On Post: None

Off Post: 2.0 ft^3 at the Center for Archaeological Research, University of Texas, San Antonio (Chapter 13, Volume 2)

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

Human Skeletal Remains: None

Linear Feet of Records: 0.6 linear feet (7.2 linear inches)

On Post: None

Off Post: 7.2 linear inches at the Center for Archaeological Research, University of Texas, San Antonio (Chapter 13, Volume 2)

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

Status of Curation Funding: Curation activities are not funded.

Kelly Air Force Base comprises 3,996 acres in Bexar County, Texas. It was established on May 7, 1917 and was originally named Aviation Camp (Remount Station) at Fort Sam Houston. It was renamed Camp Kelly, and Kelly Field, in honor of Lieutenant George E. M. Kelly, and encompassed several air fields across a 700 acre tract of land. As time passed, Kelly Field was divided into smaller fields. Each of the smaller parcels of land were redesignated as individual air force bases (e.g., Brooks AFB and Lackland AFB sit on land that was originally part of Kelly Field) (Cragg 1994; Evinger 1995; Mueller 1989).

In July of 1996, St. Louis District personnel performed archaeological literature reviews at the University of Texas at Austin and at the Texas Historical Commission that included a review of all pertinent site forms, report, and manuscripts for Kelly AFB. Archaeological collections from Kelly AFB are located at one repository in Texas, but no reports pertaining to these collections were located.

63

Naval Air Station

Kingsville, Texas

Collections Summary

Collections Total: 0.3 ft^3 of archaeological materials; 0.8 linear feet of associated records.

Volume of Artifact Collections: 0.3 ft^3

On Post: None

Off Post: 0.3 ft^3 at the Texas Archaeological Research Laboratory (Chapter 54, Volume 2)

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

Human Skeletal Remains: None

Linear Feet of Records: 0.8 linear feet (10.0 linear inches)

On Post: None

Off Post: 10.0 linear inches at the Texas Archaeological Research Laboratory (Chapter 54, Volume 2)

Compliance Status: Records require partial rehabilitation to comply with existing federal guidelines and standards for archival preservation.

Status of Curation Funding: Curation activities are not funded.

NAS Kingsville encompasses nearly 4,000 acres in Kleberg County, Texas. Originally called Kingsville Naval Auxiliary Airfield Station, it was commissioned on July 4, 1942. It was created as a support facility for NAS Corpus Christi to assist in training for the coming hostilities of the second world war. Because of the escalating war effort, NAS Kingsville was commissioned when it was only 85% complete. It housed several squadrons of fighters that were used in detailed training maneuvers. Following World War II, the base was reduced to caretaker status and was leased to Texas A&M University for agricultural purposes. It was recommissioned in 1951, and in 1969 was redesignated as NAS Kingsville (Cragg 1994; Evinger 1991, 1995).

In July 1996, St. Louis District personnel performed archaeological literature reviews at the University of Texas at Austin and at the Texas Historical Commission that included a review of all pertinent site forms, report, and manuscripts for Kingsville Naval Air Station. Archaeological collections from Kingsville Naval Air Station are located at one repository in Texas.

Reports Related to Archaeological Investigations at NAS Kingsville

Mines, Margaret Howard
1995 *Archaeological Reconnaissance Survey at Naval Air Station Kingsville, Kleberg County, Texas.* Prewitt and Associates, Technical Report Number 21. Austin, Texas.

64

Lackland Air Force Base

Texas

Collections Summary

Collections Total: 161.2 ft^3 of archaeological materials; 7.5 linear feet of associated records.

Volume of Artifact Collections: 161.2 ft^3

On Post: None

Off Post: 160.0 ft^3 at the Center for Archaeological Research, University of Texas, San Antonio (Chapter 13, Volume 2) and 1.2 ft^3 at Parsons Engineering Science (Chapter 43, Volume 2)

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

Human Skeletal Remains: None

Linear Feet of Records: 7.5 linear feet (90.05 linear inches)

On Post: None

Off Post: 7.4 linear feet (88.8 linear inches) at the Center for Archaeological Research, University of Texas, San Antonio (Chapter 13, Volume 2) and 1.25 linear inches at Parsons Engineering Science (Chapter 43, Volume 2)

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

Status of Curation Funding: Curation activities are not funded.

Lackland AFB encompasses 6,783 acres in Bexar County, Texas. It was constructed in 1941 and designated for use as the Air Corps Replacement Training Center. Lackland AFB was originally part of Kelly AFB until 1942, when it was activated as a separate installation. The base was named after Brigadier General Frank D. Lackland, a pioneer of military aviation. Its mission was to produce potential Army Air Corps pilots. It has continued in this mission to the present, receiving several replacement missions in the early 1990s (Cragg 1994; Evinger 1991, 1995; Mueller 1989).

In July of 1996, St. Louis District personnel performed archaeological literature reviews at the University of Texas at Austin and at the Texas Historical Commission that included a review of all pertinent site forms, report, and manuscripts for Lackland AFB. Collections are located at two repositories, one in Texas and one in Virginia.

Reports Related to Archaeological Investigations at Lackland AFB

DeVore, Steven L.
1993 *Cultural Resource Assessment of Lackland Air Force Base and Training Annex, Bexar County, Texas.* National Park Service, Interagency Archeological Services, Denver. Submitted to Randolph Air Force Base, Texas.

Petraglia, Michael D., and Dennis A Knepper
1994 *Archaeological Survey at the Prime Ribs Training Area, Lackland Air Force Base, Bexar County, Texas.* Parson's Engineering Science, Fairfax, Virginia

65

Laughlin Air Force Base

Texas

Collections Summary

Collections Total: 1.0 ft^3 of archaeological materials; 1.0 linear foot of associated records.

Volume of Artifact Collections: 1.0 ft^3

On Post: None

Off Post: 1.0 ft^3 at the Center for Archaeological Research, University of Texas, San Antonio (Chapter 12, Volume 2)

Compliance Status: Collections Trequire partial rehabilitation to comply with existing federal guidelines and standards for archaeological curation.

Human Skeletal Remains: None

Linear Feet of Records: 1.0 linear foot (12.0 linear inches)

On Post: None

Off Post: 12.0 linear inches at the Center for Archaeological Research, University of Texas, San Antonio (Chapter 12, Volume 2)

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

Status of Curation Funding: Curation activities are not funded.

Laughlin AFB encompasses 4,194 acres in Val Verde County, Texas. It was activated in 1942 as a pilot training base and named after First Lieutenant Jack T. Laughlin, a Del Rio native killed in World War II. Following World War II it was closed until 1958, when it was redesignated as a jet fighter training base. In 1962 it returned to its previous mission of pilot training (Evinger 1995).

In July of 1996, St. Louis District personnel performed archaeological literature reviews at the University of Texas at Austin and at the Texas Historical Commission that included a review of all pertinent site forms, report, and manuscripts for Laughlin AFB. Collections are located at one repository in Texas.

Reports Related to Archaeological Investigations at Laughlin AFB

Howard, M., M. Freeman, E. Gadus, and E. Prewitt
1987 An Archaeological Survey of a Proposed Location for Construction of an Air Strip for Laughlin Air Force Base on the Newman Ranch, Kinney County, Texas. Letter report, (347). Prewitt and Associates, Austin, Texas.

Krapf, Kellie A., Duane E. Peter, and Sharlene N. Allday
1994 *Prehistoric and Historic Overview of the Laughlin Air Force Base Area: De Rio, Val Verde County, and the Lower Pecos River Region, Texas (10,000 B.C. to A.D. 1942).* Special Report of Investigations Number 2. U.S. Army Corps of Engineers, Fort Worth District.

66

Lonestar Army Ammunition Plant

Texarkana, Texas

Collections Summary

Collections Total: 1.1 ft^3 of archaeological materials; 0.8 linear feet of associated records.

Volume of Artifact Collections: 1.1 ft^3

On Post: None

Off Post: 1.1 ft^3 at the Texas Archaeological Research Laboratory (Chapter 54, Volume 2)

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

Human Skeletal Remains: None

Linear Feet of Records: 0.8 linear feet (10 linear inches)

On Post: None

Off Post: 10 linear inches at the Texas Archaeological Research Laboratory (Chapter 54, Volume 2)

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

Status of Curation Funding: Curation activities are not funded.

Lonestar Army Ammunition Plant was established in 1941; construction of the installation was complete in 1942. In 1945 the plant was officially consolidated with the adjacent Red River Army Depot and the merged installation was named Red River Arsenal. Today, Red River Army Depot, and Lonestar Army Ammunition Plant are separate installations, both under the U.S. Army Industrial Operations Command. Lonestar Army Ammunition Plant still shares grounds and buildings with Red River Army Depot. The mission of Lonestar Army Ammunition Plant is to load, assemble, and pack ammunition items and to maintain the capability to receive and ship containerized cargo.

In July of 1996, St. Louis District personnel performed archaeological literature reviews at the University of Texas at Austin and at the Texas Historical Commission that included a review of all pertinent site forms, report, and manuscripts for Lonestar Army Ammunition Plant. Archaeological collections are located at one repository in Texas.

Reports Related to Archaeological Investigations at Lonestar Army Ammunition Plant

Cliff, Maynard B., Steven M. Hunt, Melissa M. Green, Duane E. Peter, and Floyd D. Kent
1996 *Cultural Resources Survey of 1,342 Hectares (3,317 Acres) Within the Red River Army Depot and Lone Star Army Ammunition Plant, Bowie, Texas.* RRAD/LSAAP Archeological Technical Series Report of Investigations Number 5. Geo-Marine, Plano, Texas.

Cliff, Maynard B., Duane E. Peter, S. N. Allday, Stephen P. Austin, Sherrian K. Edwards, and Steven M. Hunt
1994 *Cultural Resources Survey of 2,226 Hectares within the Red River Army Depot and Lonestar Army Ammunition Plant, Bowie County, Texas.* RRAD/LSAAP Archaeological Technical Series Report of Investigations No. 4. University of North Texas, Denton and Geo-Marine, Plano, Texas. Submitted to the U.S. Army Corps of Engineers, Fort Worth District.

Heartfield, Lorraine, and Tony Dieste
1984 *An Archeological Overview and Management Plan for the Lone Star Army Ammunition Plant, Bowie County, Texas.* Woodward-Clyde Consultants, Walnut Creek, California. Submitted to National Park Service, Southeast Region, Atlanta, Georgia.

Hunt, Steven M.
1992 A Cultural Resources Survey of 250 Acres at the Lonestar Army Ammunition Plant, Bowie County, Texas. Letter report No. 3, Geo-Marine, Plano, Texas. Submitted to the U.S. Army Corps of Engineers, Fort Worth District.

MacDonald and Mack Partnership
1984 *Historic Properties Report Lone Star Army Ammunition Plant.* MacDonald and Mack Partnership, Minneapolis.

Peter, Duane E., and Maynard B. Cliff
1990 *Cultural Resources Survey of Historic Sites at the Lonestar Army Ammunition Plant, Bowie County, Texas.* RRAD/LSAAP Archaeological Technical Series Report of Investigations No. 3. Geo-Marine, Plano, Texas. Submitted to the U.S. Army Corps of Engineers, Fort Worth District.

1990 *Intensive Archaeological Survey and Archival Investigations at the Red River Army Depot and Lonestar Army Ammunition Plant, Bowie County, Texas*. RRAD/LSAAP Archaeological Technical Series Report of Investigations No. 2. University of North Texas, Denton and Geo-Marine, Plano, Texas. Submitted to the U.S. Army Corps of Engineers, Fort Worth District.

67

Matagorda Island Air Force Range

Texas

Collections Summary

Collections Total: 0.8 ft^3 of archaeological materials; 0.8 linear feet of associated records.

Volume of Artifact Collections: 0.8 ft^3

On Post: None

Off Post: 0.8 ft^3 at the Texas Archaeological Research Laboratory (Chapter 54, Volume 2)

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

Human Skeletal Remains: None

Linear Feet of Records: 0.8 linear feet (10.0 linear inches)

On Post: None

Off Post: 10.0 linear inches at the Texas Archaeological Research Laboratory (Chapter 54, Volume 2)

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

Status of Curation Funding: Curation activities are not funded.

No historical information available for this installation. In July of 1996, St. Louis District personnel performed archaeological literature reviews at the University of Texas at Austin and at the Texas Historical Commission that included a review of all pertinent site forms, report, and manuscripts for Matagorda Island AFR. Archaeological collections from the range are located at one repository in Texas, but no reports pertaining to the collections were located.

68

Red River Army Depot

Texarkana, Texas

Collections Summary

Collections Total: 1.4 ft^3 of archaeological materials; 0.8 linear feet of associated records.

Volume of Artifact Collections: 1.4 ft^3

On Post: None

Off Post: 1.4 ft^3 at the Texas Archaeological Research Laboratory (Chapter 54, Volume 2)

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

Human Skeletal Remains: None

Linear Feet of Records: 0.8 linear feet (10.0 linear inches)

On Post: None

Off Post: 10.0 linear inches at the Texas Archaeological Research Laboratory (Chapter 54, Volume 2)

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

Status of Curation Funding: Curation activities are not funded.

Red River Army Depot comprises 19,081 acres in Bowie County, Texas. It was established in 1941 as a munitions plant. Since 1991 it has served primarily as a supplies activity for the Defense Distribution Depot Red River. Currently one of the Army's largest depots in terms of workload and personnel, it also houses Multiple Rocket Launch Systems and is used as a training site for Reserve and National Guard troops (Evinger 1995).

In July of 1996, St. Louis District personnel performed archaeological literature reviews at the University of Texas at Austin and at the Texas Historical Commission that included a review of all pertinent site forms, report, and manuscripts for Red River Army Depot. Archaeological sites have been recorded on Red River Army Depot and several reports have been generated as a result of archaeological investigations. Archaeological collections are located at one repository in Texas.

Reports Related to Archaeological Investigations at Red River Army Depot

Cliff, Maynard B., Steven M. Hunt, Melissa M. Green, Duane E. Peter, and Floyd D. Kent
1996 *Cultural Resources Survey of 1,342 Hectares (3,317 Acres) Within the Red River Army Depot and Lone Star Army Ammunition Plant, Bowie, Texas.* RRAD/LSAAP Archeological Technical Series Report of Investigations Number 5. Geo-Marine, Plano, Texas.

Cliff, Maynard B., Duane E. Peter, S. N. Allday, Stephen P. Austin, Sherrian K. Edwards, and Steven M. Hunt
1994 *Cultural Resources Survey of 2,226 Hectares within the Red River Army Depot and Lonestar Army Ammunition Plant, Bowie County, Texas.* University of North Texas, Denton, and Geo-Marine, Plano, Texas. Submitted to the U.S. Army Corps of Engineers, Fort Worth District.

Cliff, M., D. Peter, T. Perttula, N. Reese, and W. Martin
1988 *Test Excavations at Sites 41BW182 and 41BW183, Red River Army Depot, Bowie County, Texas.* Report of Investigations (1). Geo-Marine, Plano, Texas.

1980 *An Archeological/Historical Survey of Sections of the Proposed Welsh-N.W. Texarkana 345 KV Transmission Line, Cass and Bowie Counties, Texas, Department of the Army Permit No. SWF 80-CASS-329.* Submitted to Southwestern Electric Power, Shreveport, Louisiana.

Heartfield, Lorraine, and Tony Dieste
1984 *An Archeological Overview and Management Plan for the Red River Army Depot, Bowie County, Texas.* Woodward-Clyde Consultants, Walnut Creek, California, and Heartfield, Price & Greene, Monroe, Louisiana. Submitted to the U.S. Army Materiel Development and Readiness Command.

Hess, Jeffrey A.
1984 *Historical Properties Report Red River Army Depot, Texarkana, Texas.* MacDonald and Mack Partnership, Minneapolis, Minnesota.

Newman, Jay R.
1988 *A Cultural Resources Survey of the Proposed Central Distribution Center (CDC) Construction Site, Borrow Area, and Sanitary Landfill at the Red River Army Depot, Bowie County, Texas.* U.S. Army Corps of Engineers, Fort Worth District.

Peter, Duane E., and Maynard B. Cliff
1990 *Intensive Archeological Survey and Archival Investigations at the Red River Depot and Lonestar Army Ammunition Plant, Bowie County, Texas.* RRAD/LSAAP Archeological Technical Series Report of Investigations No. 2. University of North Texas, Denton, and Geo-Marine, Plano, Texas. Submitted to the U.S. Army Corps of Engineers, Fort Worth District.

69

Reese Air Force Base

Texas

Collections Summary

Collections Total: 5.2 ft^3 of archaeological materials; 2.4 linear feet of associated records.

Volume of Artifact Collections: 5.2 ft^3

On Post: None

Off Post: 5.2 ft^3 at the Museum Texas Technical University (Chapter 32, Volume 2)

Compliance Status: Collections comply with existing federal guidelines and standards for archaeological curation.

Human Skeletal Remains: None

Linear Feet of Records: 2.4 linear feet (28.8 linear inches)

On Post: None

Off Post: 2.4 linear feet (28.8 linear inches) at the Museum Texas Technical University (Chapter 32, Volume 2)

Compliance Status: Records comply with existing federal guidelines and standards for archival preservation.

Status of Curation Funding: Curation activities are not funded.

Reese AFB encompasses 3,546 acres in Lubbock County, Texas. Originally named Lubbock Army Air Field, it was activated in 1941 as a pilot training field. In 1949, the installation was renamed after Lieutenant Augustus F. Reese, who was killed in action in World War II (Evinger 1995).

In July of 1996, St. Louis District personnel performed archaeological literature reviews at the University of Texas at Austin and at the Texas Historical Commission that included a review of all pertinent site forms, report, and manuscripts for Reese AFB. Archaeological collections are located at one repository in Texas.

Reports Related to Archaeological Investigations at Reese AFB

Johnson, Eileen (editor)
1995 *Playa Archaeology—Archaeological Investigations at Reese Air Force Base and Terry County Auxiliary Airfield, Lubbock and Terry Counties.* Lubbock Lake Landmark Quaternary Research Center Series Number 9. Rocky Mountain System Support Office, Intermountain Field Area, National Park Service, Denver.

70

Dugway Proving Ground

Utah

Collections Summary

Collections Total: 16.5 ft^3 of archaeological materials; 10.0 linear feet of associated records.

Volume of Artifact Collections: 16.5 ft^3

On Post: 2.7 ft^3

Off Post: 2.3 ft^3 at Dames & Moore (Chapter 16, Volume 2) and 11.5 ft^3 at the Utah Geological Society (Chapter 68, Volume 2)

Compliance Status: Collections require partial-to-complete rehabilitation to comply with existing federal guidelines and standards for archaeological curation.

Human Skeletal Remains: None

Linear Feet of Records: 10.0 linear feet (120.0 linear inches)

On Post: 8.3 linear feet (99 linear inches)

Off Post: 1.25 linear inches at the Bureau of Land Management, Salt Lake City District (Chapter 10, Volume 2); 1.0 linear feet (12.5 linear inches) at Dames & Moore (Chapter 16, Volume 2); 0.75 linear inches at the Office of Public Archaeology (Chapter 41, Volume 2); 1.0 linear inch at Sagebrush Archaeological Consultants (Chapter 48, Volume 2); 2.25 linear inches at Statistical Research (Chapter 51, Volume 2); and 3.25 linear inches at the Utah Geological Survey (Chapter 68, Volume 2)

Compliance Status: Records require partial-to-complete rehabilitation to comply with existing federal guidelines and standards for archival preservation.

Status of Curation Funding: Curation is financed out of a yearly budget, and as part of cultural resource contracts awarded to research firms. Processing of small collections is often accomplished in-house, with no allocated funds.

Dugway Proving Ground was officially activated in February 1942 on land withdrawn from public domain. Facilities for biological warfare and testing were operated at the site from 1943 to 1969. Part of Wendover Bombing Range was transferred to the proving ground in 1945. After World War II, Dugway Proving Ground combined with Deseret Chemical Depot to form Dugway Deseret Command, later renamed Western Chemical Center and placed on standby basis. Active status was resumed in 1950 with the addition of 279,000 acres, and in 1954 the installation was designated permanent. Fort Douglas-based Deseret Test Center and Dugway Proving Ground combined as Deseret Test Center in 1968. In 1973, its present name was taken from the nearby Dugway Mountains.

Dugway Proving Ground is aligned under the Army's Test and Evaluation Command (TECOM), which has an HQ at Aberdeen Proving Ground, Maryland. Mission activities on the installation have

included the testing of Army equipment to provide physical protection for military personnel in the field against chemical and biological agents. Dugway Proving Ground also tests battlefield smoke and obscurants and conducts production qualification testing for mortar and artillery munitions (Cragg 1994; Evinger 1991, 1995).

In October 1996, St. Louis District personnel performed background research at the Utah Division of State History in Salt Lake City. Research included a review of all pertinent archaeological site forms, records, and manuscripts for Dugway Proving Ground. Archaeological sites have been recorded and a number of reports have been generated as the result of archaeological investigations. Archaeological collections are currently housed at six repositories in Utah and one repository in Arizona.

Assessment

Date of Visit: January 14, 1997

Point of Contact: Kathleen Callister

Dugway Proving Ground's environmental offices are located in the Headquarters Building on post. The offices are staffed by a variety of natural resources managers and one cultural resources manager. Approximately 2.7 ft^3 of artifacts recovered from Dugway and 8.3 linear feet of associated documentation are temporarily stored in cultural resource manager's office. Dugway is not considered a permanent curation facility; a curation agreement has been implemented with the Utah Museum of Natural History.

Structural Adequacy

The Headquarters Building is a large single-story building, approximately two years old. The foundation is concrete, with cinder block and concrete exterior walls. The roof is built-up asphalt. The building is solid, with no reported cracks or leaks. There are multiple aluminum frame exterior windows, not equipped with shades. Exterior doors consist of metal frames and glass panels.

Interior walls in the Headquarters Building consist of plasterboard, and space within large rooms is divided by systems furniture. Interior doors are wood panel. The floor in the collections storage area (cultural resources manager's office) is covered with tile and carpet, and the ceiling consists of suspended acoustical tiles. The environmental offices area encompasses approximately 200 ft^2 of floor space.

Environmental Controls

The Headquarters Building is equipped with gas forced-air heat and central air conditioning. There are no humidity controls or monitoring devices, but humidity ranges between approximately 45% and 50% relative humidity year round. Air systems are not equipped with dust filters. Weekly cleaning and environmental maintenance is conducted by staff. Dugway Proving Ground is located in an extremely dry region, and the major problem encountered is dust. Lighting in the building is accomplished by nonfiltered fluorescent fixtures and by natural light.

Pest Management

There is no integrated pest management system in the Headquarters Building. Staff monitor the building weekly, but there are no regularly conducted control measures. According to Dugway personnel, there are no pest problems, and the assessment team did not observe any infestations.

Security

The Headquarters Building is secured by key and dead-bolt locks on interior and exterior doors, and the area is monitored and patrolled 24-hours daily by Army security. Exterior doors are equipped with a dual lock, which requires an allen wrench to release. In addition, Dugway Proving Ground is a restricted access military post. The Headquarters Building is located adjacent to a large facility that is heavily secured and guarded, with double fencing equipped with double strands of concertina wire at the top. The outermost fence has multiple large signs attached, each reading "Warning: Use of Deadly Force is Authorized." The facility next to, and thus including the Headquarters Building, is under tight surveillance.

Fire Detection and Suppression

The Headquarters Building is equipped with a manual fire alarm that is wired to the post fire department. Smoke detectors are located throughout the facility. In addition, several fire extinguishers are positioned throughout the building, including one in the environmental offices area. The assessment team observed the localized effects of a small electrical fire that ironically had occurred in a control pad for the fire alarm system.

Artifact Storage

Storage Units

Archaeological materials are stored on top of systems furniture storage shelves over the cultural resources manager's desk and in one metal storage cabinet located immediately outside this office. The cabinet has double locking doors and measures 6.5 x 1.4 x 3 feet (l x w x h). Table 20 outlines the types and percentages of material classes by volume in the Dugway Proving Ground archaeological material collections.

Table 20.
Summary of Material Classes in the Archaeological Collections at Dugway Proving Ground

Material Class	%
Prehistoric	
Ceramics	3
Lithics	66
Shell	1
Historical-Period	
Ceramic	3
Glass	13
Metal	13
Other*	1
Total	100

Notes: Percentages of material classes are based on volume. Other historical-period material includes botanical remains and wood.

Primary Containers

Primary containers consist of two acid-free cardboard boxes, which each encompass approximately 1.2 ft^3 in volume, and one acidic cardboard box, which encompasses 0.3 ft^3 (Figure 32). The acid-free boxes each have telescoping lids, while the acidic box is open with no lid. Materials in this small box consist of artifacts that are being processed. None of the primary containers are labeled.

Figure 32. Primary container and loose artifact on the bottom shelf of the storage unit. Archival supplies are stored on the shelf directly above the artifacts.

Secondary Containers

Secondary containers consist of plastic zip-lock bags and paper bags (Table 21). For the most part, individual artifacts are placed in bags separately, then placed in larger bags which are organized by site number. For artifacts contained in the acid-free boxes, secondary containers are labeled directly in marker with some combination of site number, date, investigation, field site number, collection name, or Utah Museum of Natural History number. Acid-free paper inserts with the same information are included within the secondary containers. In the small open box, secondary containers have acid-free paper labels with some combination of the aforementioned information recorded on them.

Table 21.
Summary of Secondary Containers Present in the Archaeological Collections at Dugway Proving Ground

Secondary Container	%
Plastic zip-lock bags (6-mil)	55
Loose archaeological materials	27
Paper bags	18
Total	100

Laboratory Processing and Labeling

All of the artifacts have been cleaned, and all have been sorted by material class and site number. Approximately forty-five percent of the archaeological materials have been labeled. Artifact labels consist of site number, field site number, and institution name recorded directly in pen.

Human Skeletal Remains

Dugway Proving Ground is not curating any human skeletal remains recovered from archaeological projects on its lands.

Records Storage

Associated documentation is stored in two file cabinets. One file cabinet is an upright, metal, five-drawer, letter-size cabinet, and the other is a metal, two-drawer lateral file. Both cabinets are within the cultural resources manager's office. Dugway Proving Ground archaeological documentation totals 8.3 linear feet. Most of the documentation (96 linear inches) is stored in the lateral files.

Paper Records

Paper records consist of administrative documents, background records, and survey and excavation records, totaling approximately 92 linear inches (7.6 linear feet). Records are stored in manila folders and placed in hanging files within the lateral files and the upright file cabinet. Manila folders are labeled with adhesive-backed paper tags, with the file contents in type or laser print. Hanging files are color coded by document type. Green tags indicate Dugway Proving Ground information, yellow indicates specific projects, blue represents Department of Defense and other federal information, orange identifies site-specific information not associated with specific projects, and red indicates miscellaneous materials.

Report Records

Report records, total approximately three linear inches, are generally bound and included in the hanging files under the proper organizing unit.

Photographic Records

Photographic records include color prints and negatives. These are included in the lateral files. Prints are stored in a manila folder, and negatives are housed in a nonarchival clear plastic sleeve. Prints are labeled on the back in indelible ink with a Dugway project number and photograph number. The photograph number also is associated with a negative number. Archival photographic supplies are currently on order.

Maps and Oversized Documents

Approximately one linear inch of small site survey maps are included in the lateral files with the paper records.

Microformat Records

Microcassette tapes are included in the files with the paper records, and encompass approximately two linear inches. They contain oral histories relevant to Dugway Proving Ground history.

Collections-Management Standards

Dugway Proving Ground is not a permanent curation facility and transfers collections to the repository mandated by state law after they have been processed and analyzed by the contract firm. Therefore, collections management standards were not evaluated. It should be noted, however, that the cultural resources manager processes collections to the standards of the repository where the collections are slated to be permanently curated (Utah Museum of Natural History, Salt Lake City).

Curation Personnel

Kathleen Callister is a relatively recent hire, the first cultural resource manager to work for Dugway. She has a background in collections management, as well as archaeology, and processes small artifact collections in-house as well as overseeing work done by contracted firms.

Curation Financing

Curation is financed as part of a yearly budget. Small archaeological material collections are processed at Dugway. Most other processing is

written into contract budgets and performed by firms to the standards of the Utah Museum of Natural History.

Access to Collections

Collections are accessed through the cultural resources manager.

Future Plans

Dugway Proving Ground has entered into a curation agreement with the Utah Museum of Natural History, whereby all Dugway materials will be deposited there. However, execution of the agreement is, at some level, contingent on the establishment of the current archaeologist position at Dugway as a permanent status. If this does not occur, then the curation agreement must be redrawn.

Comments

1. Heating and air conditioning systems are present for the office building, but there are no humidity controls or monitoring devices.

2. Dugway Proving Ground has no integrated pest-management system. Pest control is performed as-needed, and there were no signs of a current problem.

3. The building is not equipped with a security system wired to the military police, but this may not be necessary given the level of security surveillance in the area.

4. Fire detection consists of smoke detectors and a manual fire alarm. Fire suppression consists of fire extinguishers.

5. The primary containers for artifacts are acid-free and acidic cardboard boxes. Secondary containers for artifacts consist of archival-re currently being processed.

6. Records are stored in acidic manila folders and placed in lateral files and a standard-size metal file cabinet.

Recommendations

1. Transfer archaeological collections to a permanent repository that meets the curation standards outlined in 36 CFR Part 79. Establish appropriate agreements for the permanent disposition of the collections.

2. Produce multiple copies of all original documentation on acid-free paper, and store in separate, secure locations. Documentation should be placed in acid-free folders, and lightly packed into fire-resistant metal file cabinets. Arrange documentation in a logical order, and provide a key to the collection. Records should be free of metal staples, paper clips, and other contaminants.

3. Ensure that Dugway Proving Ground is staffed with a permanent archaeologist (with a museum or collections management background, preferably). This will also solidify the current curation agreement with the Utah Museum of Natural History.

Reports Related to Archaeological Investigations at Dugway Proving Ground

Baker, Shane A.
1990 *An Archaeological Inventory of a Proposed New Artillery Range Gun Emplacement and Three Observation Points Near the Cedar Mountains, Dugway Proving Grounds, Utah.* Brigham Young University, Museum of Peoples and Cultures Technical Series No. 90-25. Provo, Utah.

Bassett, Everett, and Lori A. Hunsaker
1996 *A Cultural Resource Inventory of Approximately 7,500 Acres in the Wig Mountain Training Area.* Dames & Moore, Salt Lake City.

Billat, Lorna Beth
1989 *An Archaeological Inventory of Three Borrow Areas Near Wig Mountain, Dugway Proving Grounds, Utah.* Brigham Young University, Office of Public Archaeology, Technical Series No. 89-38. Provo, Utah.

1990 Dugway Proving Grounds, Granite Peak and Wig Mountain. Letter report, Office of Public Archaeology, Brigham Young University, Provo, Utah.

Black, Shane A.
1990 *A Class II Archaeological Inventory of a Selected Portion of Dugway Proving Ground, Utah.* Brigham Young University Museum of Peoples and Cultures Technical Series No. 90-22. Provo, Utah.

Callister, Kathleen
1996 *Cultural Resource Inventory of Air Combat Command Mini-Mutes Site Number 9, 4, and 8 at U.S. Army Dugway Proving Ground, Tooele County, Utah.* Final. U.S. Army Dugway Proving Ground, Directorate of Environmental Programs, Cultural Resources, Utah.

Christensen, Diana
1989 *Summary Report of Cultural Resources Inspection Cedar Spring Development and Pipeline.* Bureau of Land Management, Salt Lake City.

Christensen, Teri H.
1990 Dugway Proving Ground, Habee Antenna Site and Baker Strongpoint Gravel Pit. Letter report, Office of Public Archaeology, Brigham Young University, Provo, Utah.

1990 Dugway Proving Ground, West Granite Holding Area and Able Area Compound. Letter report, Office of Public Archaeology, Brigham Young University, Provo, Utah.

Desert West Research
1996 *A Cultural Resource Management Plan for Dugway Proving Ground, Tooele County, Utah.* Final. Desert West Research, Salt Lake City. Submitted to U.S. Army Dugway Proving Ground, Environmental Program Office, Division of Conservation and Preservation, Utah.

Grady, James
1984 *An Archaeological Overview and Management Plan for the Dugway Proving Ground.* Sterns-Rogers Services, Final Report No. 2. Denver.

Grady, James, S. F. Mehls, B. J. Lefree, J. L. Dawson, and D. E. Plume (compilers)
1984 *An Archaeological Overview and Management Plan for the Dugway Proving Ground, Utah.* Sterns-Rogers Services, Denver.

Hauce, F. R.
1986 *Cultural Resource Examination of Two Proposed Sampling Line Roads in the Dugway Proving Ground Locality of Tooele County, Utah.* DPG-86-1. Archaeological Environmental Research Corporation, Bountiful, Utah.

Homburg, Jeffrey A.
1992 *Cultural Resources Sample Survey of Potential Electromagnetic Pulse Simulation Site Area of Dugway Proving Ground, Tooele County, Utah.* Statistical Research, Tucson, Arizona.

Lupo, Karen, and Duncan Metcalfe
1987 *An Archaeological Survey of Two Areas in the Vicinity of Wig Mountain, West-Central Utah, on the United States Army Dugway Proving Ground.* University of Utah, Archaeological Reports of Investigation. 87-1. Salt Lake City.

Neilly, Robert, and Douglas Dodge
1986 *Cedar Mountain fire Rehabilitation Project.* Bureau of Land Management, Salt Lake City.

Polk, Ann S.
1989 *A Cultural Resources Survey of the Cosmic Ray Observatory at U.S. Army Dugway Proving Grounds, Tooele County, Utah.* Sagebrush Archaeological Consultants, Archaeological Report No. 309 (311). Ogden, Utah.

Polk, Michael R.
1991 *A Cultural Resources Survey of a Proposed Cosmic Ray Facility and Access Road, U.S. Army Dugway Proving Grounds, Tooele County, Utah.* Sagebrush Archaeological Consultants, Cultural Resources Report No. 499. Ogden, Utah.

Sagebrush Archaeological Consultants
n.d. Letter Report for an Inventory of a Five Acre Parcel for a Proposed Cosmic Ray Telescopic Array and 33 Acres for an Access Road and Powerline at the South End of Cedar Mountain at Dugway Proving Grounds. Archaeological Report No. 783. Sagebrush Archaeological Consultants, Ogden, Utah. University of Utah.

Zier, Christian
1984 *A Class II Cultural Resource Inventory of the U.S. Army Dugway Proving Ground, West-Central Utah.* Metcalf-Zier Archaeologists, Eagle, Colorado.

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Fort Douglas

Salt Lake City, Utah

Collections Summary

Collections Total: 4.1 ft^3 of archaeological materials and human skeletal remains; 0.75 linear inches of associated records.

Volume of Artifact Collections: 2 ft^3
On Post: 2 ft^3
Off Post: None
Compliance Status: Collections require complete rehabilitation to comply with existing federal guidelines and standards for archaeological curation.

Human Skeletal Remains: 2.1 ft^3
On Post: None
Off Post: 2.1 ft^3 at the Utah Museum of Natural History (Chapter 69, Volume 2)
Compliance Status: A minimum of one individual is located at the Utah Museum of Natural History. The remains are in good condition; however, qualified personnel need to take measures to manage these remains as outlined in NAGPRA.

Linear Feet of Records: 0.75 linear inches
On Post: None
Off Post: 0.5 linear inches at the Office of Public Archaeology (Chapter 41, Volume 2) and 0.25 linear inches at the Utah Museum of Natural History (Chapter 69, Volume 2)
Compliance Status: Records require partial rehabilitation to comply with existing federal guidelines and standards for archival preservation.

Status of Curation Funding: Curation of archaeological collections is currently financed by multiple small grants, donations (including the donation box in the gallery), Military Museum Association dues, and some direct funding from the Army.

Fort Douglas was founded in October 1862 by the California Volunteers, who were ordered to guard the Overland Mail route and to assert federal authority in the Utah Territory. The installation is named in honor of Illinois Senator Stephan A. Douglas (Waldman 1988). The post underwent BRAC procedures in 1992, and at that time, all remaining lands were transferred to Utah State National Guard (U.S. Army Real Property 1992).

In October 1996, St. Louis District personnel performed background research at the Utah Division of State History in Salt Lake City. Research included a review of all pertinent archaeological site forms, records, and manuscripts for Fort Douglas. One archaeological site has been recorded and a few reports have been generated as the result of archaeological investigations. Archaeological collections are currently housed at three repositories in Utah.

Assessment

Date of Visit: January 16, 1997

Point of Contact: Jess McCall

The Fort Douglas Military Museum, originally constructed by the Army for use as a barracks in 1874 or 1875, is located on Fort Douglas, near the outskirts of Salt Lake City and adjacent to the University of Utah campus (Figure 33). The Military Museum's mission is strictly limited to interpreting the military history of Fort Douglas within the context of its roll as a military presence and an economic contributor during the growth and development of the Salt Lake Valley region. Most of the collections held at the museum also are specific to the above-stated mission. However, the portion of the collections examined by the assessment team were objects recovered below ground and from partially provenienced contexts (e.g., privies, building foundations, the parade ground, etc.), thereby placing them within the mission parameters for the DoD West project. These partially provenienced historic collections—recently recovered by mostly avocational collectors—range in age from 1862 up to the present. Any prehistoric collections removed from Fort Douglas are curated at the Utah Museum of Natural History (UMNH).

The repository building has served a number of purposes over the years and was designated for use as a museum in 1976. Present space utilization at the repository is as follows. The concrete vault basement, originally constructed to house munitions, is completely dedicated to storage of objects. The main level contains two exhibit areas, the curator's office, temporary holding and processing areas, records storage, a library, and an area currently undergoing renovation that is slated to house a gift shop.

Figure 33. Fort Douglas Military Museum (exterior view looking east).

Structural Adequacy

The Military Museum is housed in a single-story wood-frame structure on a cement and red sandstone block foundation. The building's exterior walls are a combination of wood siding and red sandstone blocks. The wood-frame pitched roof, originally covered with slate tiles, has been recently covered with composite asphalt shingles. The are no cracks or leaks in the either the roof or the foundation. The building's utilities have been upgraded with each use of the original structure and, with a few notable waivers under the American Disabilities Act (ADA), are currently considered up to code.

Most of the floors on the main level of the repository are bare hardwood, with the exception of the restroom floors that are covered with ceramic tile. The ceilings and original interior walls are lathe and plaster. New interior walls are constructed of aluminum studs and plasterboard with a plaster finish. Multiple windows in the above-ground level, are original to the building, constructed with wood frames, and apparently airtight. Windows in the exhibit area have been covered, and the remaining windows are shaded. Artificial lighting is accomplished with a mixture of incandescent and fluorescent light fixtures. All fluorescent lights are filtered. Main level doors are either solid wood or solid core paneled wood.

The collections examined by the assessment team, as is the case with all objects not currently on display, are stored in the basement of the repository. The ceiling, floor, and exterior walls in this area are poured concrete. Doors and partitions are metal grates welded into panels. There are no windows in this area, and artificial lighting is accomplished with filtered fluorescent fixtures.

Environmental Controls

The repository was originally equipped with a coal-fired steam heat system. The coal furnace has been replaced with a gas system, and the temperature control is set to 68° F. There are no filters in use with this system. According to staff, humidity in the Utah desert region is a fairly constant 42%, except for a few weeks each year when the onset of seasonal changes can bring humidity up 55%. The Military Museum, therefore, does not have any special humidity controls. A hygrothermograph is used to constantly monitor both temperature and humidity at the facility. The repository is cleaned on an as-needed basis by museum staff.

Pest Management

There is no integrated pest-management policy in place at Military Museum, although staff members monitor the entire facility on a regular basis for pests because of the large number of textiles in their historic Euroamerican ethnographic collections. Spraying at the museum for pests is not allowed, also because of the fragile nature of the textile collections housed there (ADA waiver). Environmental Protection Agency approved solid pest traps are used at the exterior entrance to the facility. No previous pest infestations were reported by museum staff, and no evidence of infestation was seen by the assessment team.

Security

Security measures for the repository consist of a perimeter alarm, staff-monitored access, key and dead-bolt locks on interior doors, electronic dead-bolt locks on the exterior door, exterior metal grates on all windows, infrared motion detectors (currently being installed throughout the building), and a camera-monitored (taped) security system. The alarm systems are monitored by State Capitol Patrol Protection Services and University of Utah campus security. All collections not on display are housed in the basement, a former weapons vault. No incidents of unauthorized access were reported by Military Museum staff, and no evidence of unauthorized entry was seen by the assessment team. Outside access to the collections area is granted to interested parties by appointment, and all activities are closely monitored by Military Museum staff.

Fire Detection and Suppression

There are smoke detectors located throughout the building, and eight fire extinguishers were noted on the main floor (minimum of one per room). The ADA waived any requirements for a sprinkler system in the museum. The new infrared security system will also be wired to the fire department.

Artifact Storage

Storage Units

Fort Douglas archaeological material collections are stored on the floor and against the wall in the repository's basement (weapons vault). Table 22 outlines the material class types present among Fort Douglas archaeological collections at the Military Museum.

Table 22.
Summary of Historical-Period Material Classes in the Archaeological Collections at the Fort Douglas Military Museum

Material Class	%
Ceramics	1
Glass	40
Metal	50
Faunal Remains	1
Construction Materials	8
Total	100

Note: Percentages of material classes are based on volume.

Primary Containers

Artifact collections for Fort Douglas are stored loose in seven acidic cardboard boxes of highly variable sizes with no security closures. These containers are used for temporary holding only, until the objects can be sorted, cleaned, and identified.

Secondary Containers

There are no secondary containers in use for the collections as of the date of the assessment.

Laboratory Processing and Labeling

None of objects examined at the Military Museum have been processed or labeled. Museum staff indicated that this is because the materials were recently acquired, and they assured the assessment team that the objects will be archivally processed as soon as the current building renovations are complete. A few of the objects removed from "honey holes" (privies) have been microwaved to kill any potentially dangerous bacteria. There is a piece of acidic paper in each of the primary containers with a hand written note in pencil stating the name of the post activity area or the building number where the objects were recovered.

Human Skeletal Remains

The Military Museum does not curate any human remains recovered from Fort Douglas. However, a single prehistoric Native American burial from site 42SL30, was discovered inadvertently during construction activities in the basement of an officer's home on the post in 1939. This burial site is the only cultural resource on record at the Utah Division of State History for Fort Douglas. Skeletal remains recovered from the burial are currently housed at Utah Museum of Natural History (see Chapter 69, Volume 2).

A detailed inventory and assessment of these remains has been conducted by the staff physical anthropologist at Utah Museum of Natural History for cataloging purposes. This inventory was done without the knowledge or request of Fort Douglas personnel. For additional information on this burial, refer to St. Louis District 1996. Appendix II of the aforementioned report contains a copy of the NAGPRA Section 5 documents compiled by St. Louis District for use by Fort Douglas personnel during their NAGPRA Section 5 consultations with Native American tribes.

Records Storage

There are no associated documents for any of the objects examined by the assessment team at the Military Museum for Fort Douglas. Records storage, therefore, will not be addressed for this repository.

Collections Management Standards

This facility does not curate collections specifically removed from archaeological investigations. Therefore, collections management standards are not addressed in this section.

Curation Personnel

Mr. Jess McCall is the full-time curator of collections. Adjunct staff consists entirely of volunteers, three of whom are retired Commanders of Fort Douglas.

Curation Financing

Curation of archaeological collections is currently financed by multiple small grants, donations (including the donation box in the gallery), Military Museum Association dues, and some direct funding from the Army.

Access to Collections

Access to the collections is granted to interested parties by appointment through the curator of collections. All collections access is supervised.

Future Plans

The Military Museum is currently undergoing renovations that include moving the main office location, transforming the library into additional exhibit space, installing an infrared intrusion alarm system, and constructing a gift shop.All of these projects were well underway at the time of the assessment.

Comments

1. The Military Museum appears to be adequately secure and providing a sufficiently stable climate for the care of its objects within the parameters of the museum's mission statement.

2. Partially provenienced collections currently at the Military Museum are not technically the result of archaeological investigations and are presently unprocessed.

3. Collections are stored on the floor.

4. ADA requirements for installation of a sprinkler system and implementation of chemical spraying for pests have been waived for this facility based on its age and mission statement. Current measures have proven to be adequate protection.

Recommendations

1. Documentation should be generated regarding the provenience of the assessed objects and the manner in which they were recovered in order to preserve as much scientific data as possible. This would assist the museum in compiling interpretive data used in the texts for their exhibits. A copy of this documentation should be sent the Utah Division of State History or another secure location to be used as a backup.

2. Since the collections seen by the assessment team could still provide valuable archaeological data, they should be treated in a manner similar to that of any other archaeological collection. The collections should be cleaned, labeled, and placed in archival containers as soon as renovations on the museum are complete.

3. Transfer archaeological collections to a permanent repository with an archaeological mission and that meets the curation standards outlined in 36 CFR Part 79. Establish appropriate agreements for the permanent disposition of the collections.

Reports Related to Archaeological Investigations at Fort Douglas

Dames & Moore
1990 *Base Closure Draft Environmental Impact Statement.* Dames & Moore, Phoenix.

Scott, Tom
1988 *Cultural Resource Summary Number WS-88-0420.* United States Forest Service.

Wilde, James D., and Lorna Billat
1993 *Cultural Resource Monitoring of the Development of Parking Area #2 at Fort Douglas, Salt Lake County, Utah.* Brigham Young University, Office of Public Archaeology, Technical Series No. 93-14. Provo, Utah.

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Hill Air Force Base

Utah

Collections Summary

Collections Total: 37.0 ft^3 of archaeological materials; 3.1 linear feet of associated records.

Volume of Artifact Collections: 37.0 ft^3

On Post: None

Off Post: 11.1 ft^3 at the Utah Division of State History (Chapter 67, Volume 2); 9.0 ft^3 at the Utah Geological Survey (Chapter 68, Volume 2); and 16.9 ft^3 at Weber State University (Chapter 70, Volume 2)

Compliance Status: Collections require partial-to-complete rehabilitation to comply with existing federal guidelines and standards for archaeological curation.

Human Skeletal Remains: None

Linear Feet of Records: 3.1 linear feet (37.75 linear inches)

On Post: None

Off Post: 4.25 linear inches at Sagebrush Archaeological Consultants (Chapter 48, Volume 2); 1.5 linear inches at Statistical Research (Chapter 51, Volume 2); 0.25 linear inches at Tetra Tech (Chapter 53, Volume 2); 1.0 linear foot (12.0 linear inches) at the Utah Division of State History (Chapter 67, Volume 2); 4.75 linear inches at the Utah Geological Survey (Chapter 68, Volume 2); and 1.25 linear feet (15.0 linear inches) at Weber State University (Chapter 70, Volume 2)

Compliance Status: Records require partial rehabilitation to comply with existing federal guidelines and standards for archival preservation.

Status of Curation Funding: Curation activities are not currently funded.

Established in January 1939 as Ogden Air Depot, the installation was renamed Hill Field by December 1939, for Major Ployer Peter Hill, who died piloting the original model of the B-17. During World War II, major activity was fighter and bomber aircraft rehabilitation, repair, and maintenance services, and crews of the 509th Composite Group practiced bombing runs over Wendover Range in preparation for the Hiroshima and Nagasaki missions. In 1948, the site became Hill AFB, a storage and deposition site for airplanes and support equipment. Ogden Arsenal property was added in 1955 to what is now the West Area of Hill AFB. In 1959, it was the site of the single assembly and recycling point for Minuteman missiles. Ogden Air Material Area became the Ogden Air Logistics Center in 1974.

One major unit of Hill AFB is Utah Test and Training Range, which is equipped with radar, communications and mission control centers, and threat systems to provide full-scale air combat maneuvering environments. It serves as a test site for manned and unmanned aircraft programs and the

storage and testing of conventional munitions. The site provides facilities for combat units of Tactical Air Command, Strategic Air Command, Navy, Marines, and Army Aviation.

Hill AFB is home to the only rail overhaul shop in the Department of Defense. The General Rail Shops are part of Tooele Army Depot (Cragg 1994; Evinger 1991, 1995; Mueller 1989).

In October 1996, St. Louis District personnel performed background research at the Utah Division of State History in Salt Lake City. Research included a review of all pertinent archaeological site forms, records, and manuscripts for Hill AFB. Archaeological sites have been recorded and a number of reports have been generated as the result of archaeological investigations. Archaeological collections are currently housed at four repositories in Utah, one repository in California, and one repository in Arizona.

Reports Related to Archaeological Investigations at Hill AFB

Anonymous
1992 Appendix III. In *1991 Archaeological Catalog for All Cultural Materials Collected on U.S. Air Force Designated Lands in Northwestern Utah.* Utah State University, Logan.

Arkush, Brooke S.
1993 *An Archaeological Assessment of a Proposed Rail Spur for the Titan IV Rocket Motor Storage Program, Box Elder, County, Utah.* Applied Ecological Services, Salt Lake City.

1993 *Third Annual Report. An Archaeological Assessment of the U.S. Air Force Utah Test and Training Range: The 1993 Field Season.* Utah State University, Logan, and Weber State University, Ogden, Utah.

1994 *Fourth Annual Report. An Archaeological Assessment of the U.S. Air Force Utah Test and Training Range: The 1994 Field Season.* Utah State University, Logan, and Weber State University, Ogden, Utah.

Christensen, Diana
1990 Air Force Fiber Optics Overhead Line. Letter report, Bureau of Land Management, Salt Lake City.

Dames & Moore and Foster Wheeler Environmental Corporation
1995 *50% Draft, Range Management Plan, North Range and South Range of the Utah Test and Training Range (UTTR), Version 1.1.* Dames & Moore, Salt Lake City, Utah and Foster Wheeler Environmental Corporation.

Durst, Donald M., Douglas A. Jacobs, and Charissa Y. Wang
1995 *Cultural Resource Management Plan for Hill Air Force Base, Utah.* Hardlines: Design & Delineation, Columbus, Ohio, and Bethesda, Maryland.

Hawkins, Bruce R., and David B. Madsen
1988 *Historic Archaeology Along Hastings Cutoff: Excavations of the Donner/Reed Party Wagons.* Utah Division of State History, Salt Lake City.

Hawkins, Bruce R., and David B. Madsen
1990 *Excavation of the Donner-Reed Wagons: Historic Archaeology Along the Hastings Cutoff.* Antiquities Section, Utah State Historical Society, Salt Lake City.

Johnson, David F., Brooke S. Arkush, and La Dawn S. Neilson
1995 *Research Design for the 1995 and 1996 Archaeological Surveys on the U.S. Air Force Test and Training Range.* Utah State University, Logan, and Weber State University, Ogden, Utah.

Madsen, David B., J. M. Broughton, D. K. Grayson, J. M. Hunt, S. D. Livingston, J. Quade, D. Rhode, D. N. Schmitt, and M. W. Shaver III
1996 *Late Quaternary Paleoecology in the Bonneville Basin.* 2nd Draft.

Montgomery, Jacki, and Sheri L. Murray
1993 *A Cultural Resources Overview of the Proposed Air Force Flight Path for Instrument Route 323 in Duchesne, Carbon, Emery, Sevier, Wayne, Piute, and Millard Counties, Utah.* Sagebrush Archaeological Consultants, Archaeological Report No. 621. Ogden, Utah.

Neilson, La Dawn S. (editor)
1994 *U.S. Air Force Lands in Utah Archaeology Management Plans 1991, 1992, 1993.* Utah State University, Logan.

Polk, Michael R.
1992 *A Cultural Resources Survey of the Proposed Wendover Airport Expansion Project, Elko County, Nevada.* Sagebrush Archaeological Consultants, Archaeological Report No. 500. Ogden, Utah.

Polk, Michael R., and Sheri L. Murray
1993 *A Cultural Resources Inventory of Six Proposed U.S. Air Force Radar Sites in Tooele and Juab Counties, Utah.* Sagebrush Archaeological Consultants, Archaeological Report No. 605. Ogden, Utah.

Utah State University Foundation
1992 *Hill Air Force Base Historical and Descriptive Study of Base Structures.* Utah State University, Logan.

Workman, Gar W.
1991 First Quarterly Report, January 1, 1991: Archaeological, Cultural, and Historical Management Plan. Utah State University, Logan, and Weber State University, Ogden, Utah.

Workman, Gar W., Brooke S. Arkush, William B. Faucett, and La Dawn Neilson
1992 *A 1991 Archaeological Assessment of U.S. Air Force Designated Lands in Utah.* Utah State University, Logan, and Weber State University, Ogden, Utah.

Workman, Gar W., Brooke S. Arkush, and La Dawn Neilson
1993 *A 1992 Archaeological Assessment of U.S. Air Force Designated Lands in Utah.* Utah State University, Logan, and Weber State University, Ogden, Utah.

1993 *An Archaeological Assessment of U.S. Air Force Utah Test and Training Range: The 1992 Field Season.* Utah State University, Logan, and Weber State University, Ogden, Utah.

1993 *Second Annual Report. An Archaeological Assessment of U.S. Air Force Utah Test and Training Range: The 1992 Field Season.* Utah State University, Logan, and Weber State University, Ogden, Utah.

1993 *An Archaeological Assessment of U.S. Air Force Utah Test and Training Range: Summary of the 1993 Field Season.* Utah State University, Logan, and Weber State University, Ogden, Utah.

1994 *Military Report for January–August 1994 Archaeology Survey of the U.S. Air Force Utah Test and Training Range.* Utah State University, Logan, and Weber State University, Ogden, Utah.

1994 *Monthly Report for September 1994 Archaeology Survey of the U.S. Air Force Utah Test and Training Range.* Utah State University, Logan, and Weber State University, Ogden, Utah.

1994 *Research Design for Future Archaeological Surveys on the Utah Test and Training Range.* Utah State University, Logan, and Weber State University, Ogden, Utah.

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Ogden Defense Distribution Depot

Utah

Collections Summary

Collections Total: No archaeological material or human skeletal remains; 0.9 linear feet of associated records.

Volume of Artifact Collections: None

Human Skeletal Remains: None

Linear Feet of Records: 0.9 linear feet (11.25 linear inches)

On Post: None

Off Post: 11.25 linear inches at Sagebrush Archaeological Consultants (Chapter 48, Volume 2)

Compliance Status: Records require partial rehabilitation to comply with existing federal guidelines and standards for archival preservation.

Status of Curation Funding: Curation activities are not currently funded.

The present Ogden Defense Distribution Depot was selected in 1940 and by 1941 the Utah General Depot was activated as an exempt station under the control of the War Department. Numerous name changes began in 1943 until renamed in 1964 the Defense Depot Ogden. A Prisoner of War camp was established in 1943. Following World War II, employment scaled down until the Korean War began. Ogden Defense Distribution Depot was transferred to the Defense Supply Agency in 1964, which is now called the Defense Logistics Agency. All former Defense Depot Ogden and distribution facilities were consolidated from Hill AFB and Tooele Army Depot (Evinger 1991, 1995).

In October 1996, St. Louis District personnel performed background research at the Utah Division of State History in Salt Lake City. Research included a review of all pertinent archaeological site forms, records, and manuscripts for Ogden Defense Distribution Depot. No archaeological sites have been recorded, but one report has been generated as the result of an archaeological investigation. Archaeological collections are currently housed at one repository in Utah.

Reports Related to Archaeological Investigations at Ogden Defense Distribution Depot

Sagebrush Archaeological Consultants
n.d. *Defense Depot of Ogden, Utah.* Sagebrush Archaeological Consultants, Archaeological Report No. 910. Ogden, Utah.

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Tooele Army Depot

Tooele, Utah

Collections Summary

Collections Total: No archaeological material or human skeletal remains; 0.5 linear feet of associated records.

Volume of Artifact Collections: None

Human Skeletal Remains: None

Linear Feet of Records: 0.5 linear feet (6.25 linear inches)

On Post: None

Off Post: 6.25 linear inches at Sagebrush Archaeological Consultants (Chapter 48, Volume 2)

Compliance Status: Records require partial rehabilitation to comply with existing federal guidelines and standards for archival preservation.

Status of Curation Funding: Curation activities are not currently funded.

In 1942 construction began on the Tooele Ordnance Depot, which was renamed Tooele Army Depot in 1962. The facility included a hospital, POW camp, troop barracks, housing facilities, and storage depot for Chemical Corps toxins (located 15 miles south in Rush Valley; Deseret Chemical Warfare Depot). Mission activities of the installation are to store vehicles, small arms, and fire control equipment, as well as maintenance shops to rebuild, modify, and reclaim 75-mm howitzer motor carriages and artillery pieces. In 1961, the Deseret Depot Activity was assimilated, and in 1977 the Chemical Agent Munition Destruction/Disposal System mission was added. Command expanded to include four additional depot activities in Umatilla (1973), Fort Wingate, Navajo, and Pueblo (1975).

Tooele Army Depot was realigned to reduce it to depot activity under command and control of Red River Army Depot, Texas. The installation retained conventional ammunition storage and chemical demilitarization missions. The depot workload was to shift to other depot maintenance activities, including those in the private sector. All other activities were inactivated, transferred, or eliminated as appropriate (Evinger 1991, 1995).

In October 1996, St. Louis District personnel performed background research at the Utah Division of State History in Salt Lake City. Research included a review of all pertinent archaeological site forms, records, and manuscripts for Tooele Army Depot. Archaeological sites have been recorded and a small number of reports have been generated as the result of archaeological investigations. Archaeological collections are currently housed at one repository in Utah.

Reports Related to Archaeological Investigations at Toole Army Depot

Grady, J.
1982 *An Archaeological Overview and Management Plan for Tooele Army Depot, North and South.* Draft. Stearns-Rogers Services, Denver.

Housley, Harold R.
1995 *A Cold War Study of a Portion of the Tooele Army Depot North Area, Tooele County, Utah.* Sagebrush Archaeological Consultants, Archaeological Report No. 805. Ogden, Utah.

Popek, Gary M.
n.d. *Cultural Resource Inventory of the Pershing Missile Disposal Site on the Tooele Army Depot, Tooele County, Utah.* P-III Associates, Cultural Resources Report 433-1-8820. Salt Lake City.

Sagebrush Archaeological Consultants
n.d. *Tooele Army Depot 1996.* Archaeological Sagebrush Archaeological Consultants, Report No. 880. Ogden, Utah.

Steward, Julian H.
1933 Early Inhabitants of Western Utah, Part I—Mounds and House Types. *Bulletin 23 (7). University of Utah.* Salt Lake City.

Weymouth, Heather M.
1995 *A Cultural and Paleontological Resource Survey of a Portion of the Tooele Army Depot North Area, Tooele County, Utah.* Sagebrush Archaeological Consultants, Archaeological Report No. 728. Ogden, Utah.

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Findings Summary

One hundred and seven repositories at 86 facilities in 17 states are known to curate 5,061.5 ft^3 of archaeological materials and 783 linear feet of associated documentation recovered from DoD owned lands (Tables 23 and 24). Each of these facilities and their satellite repositories were visited by assessment teams (Table 25). Overall, the teams examined collections recovered from 73 military installations. Assessment teams performed complete examinations of all known military collections at each location. A building evaluation, survey questionnaire, and collections and documentation assessments were completed for all facilities except the Oklahoma Museum of Natural History. This facility, is therefore, not included in any of the statistics that are described below, thus all statistics are based on 106 repositories. In addition, data on pest management procedures for two repositories at Public Service Company, New Mexico were not available at the time of assessment. This information is, therefore, not included below, thus only 104 repositories are represented for pest management.

At base, the following can be concluded. Twenty-nine repositories housing military collections meet the standards of 36 CFR Part 79. They include the following:

University of Alaska
Arizona State Museum (Repository 1)
Statistical Research
KEA Environmental
Natural History Museum of Los Angeles County
San Diego Museum of Man (Repositories 1 and 2)
Tetra Tech
U.S. Army Engineer District, Los Angeles
University of Denver
Ogden Environmental and Energy
University of Hawaii, Hilo
Frontier Army Museum
Gulf South Research Corporation
Northwestern State University, Natchitoches
Museum of New Mexico, Laboratory of Anthropology, Museum of Indian Arts and Culture (Repositories 1 and 2)
Maxwell Museum of Anthropology, University of New Mexico (Repository 1)
New Mexico State University Museum (Repository 1)
University of Nevada, Las Vegas
Fort Sill
Fort Hood
Fort Sam Houston
Texas Archaeological Research Laboratory (Repository 1)
Museum Texas Tech University
Centennial Museum, University of Texas, El Paso
Fort Douglas Military Museum
Utah Museum of Natural History
Utah State Historical Society

To achieve proper care, collections should be coalesced into designated repositories. Fifty-two facilities house artifact collections that require rehabilitation; 18 artifact collections require complete rehabilitation, and the remaining 30 collections require partial rehabilitation. Four collections require no rehabilitation.

Table 23.
Facilities and Number of Repositories Housing Archaeological Collections from Department of Defense Installations

Facility	City	State	No. of Repositories
Bureau of Land Management, Northern District Office	Fairbanks	Alaska	1
Eielson Air Force Base	Eielson	Alaska	1
Northern Land Use Research	Fairbanks	Alaska	1
Sullivan Road House Delta Chamber of Commerce	Delta Junction	Alaska	2
University of Alaska, Fairbanks	Fairbanks	Alaska	1
Archaeological Research Services	Tempe	Arizona	1
Arizona State Museum	Tucson	Arizona	2
Arizona State University	Tempe	Arizona	2
Bureau of Land Management, Phoenix District	Phoenix	Arizona	1
Bureau of Land Management, Yuma District	Yuma	Arizona	1
Fort Huachuca	Ft. Huachuca	Arizona	2
Luke Air Force Base	Phoenix	Arizona	1
Museum of Northern Arizona	Flagstaff	Arizona	1
Northland Research	Flagstaff	Arizona	1
Statistical Research	Tucson	Arizona	1
SWCA	Flagstaff	Arizona	1
Williams Air Force Base	Phoenix	Arizona	1
Yuma Proving Ground	Yuma	Arizona	2
KEA Environmental	San Diego	California	1
Natural History Museum of Los Angeles County	Los Angeles	California	1
San Diego Museum of Man	San Diego	California	2
Tetra Tech	San Bernardino	California	1
U.S. Army Engineer District, Los Angeles	Los Angeles	California	1
U.S. Army Engineer District, Sacramento	Sacramento	California	1
Colorado Department of Transportation,	Denver	Colorado	1
Peterson Air Force Base	Colorado Springs	Colorado	1
Powers Elevation Company	Aurora	Colorado	1
University of Colorado, Colorado Springs	Colorado Springs	Colorado	1
University of Colorado Museum	Boulder	Colorado	1
University of Denver	Denver	Colorado	1
New South Associates	Stone Mountain	Georgia	1
Archaeological Consultants of Hawaii	Haleiwa	Hawaii	1
Bishop Museum	Honolulu	Hawaii	3
Cultural Surveys Hawaii	Kailua	Hawaii	1
Garcia and Associates	Honolulu	Hawaii	1
International Archaeological Research Institute	Honolulu	Hawaii	2
Ogden Environmental and Energy	Honolulu	Hawaii	1
Paul H. Rosendahl, Inc.	Hilo	Hawaii	2
Scientific Consultants Services	Honolulu	Hawaii	1
University of Hawaii, Hilo	Hilo	Hawaii	1
U.S. Army Engineer District, Honolulu	Honolulu	Hawaii	1
Frontier Army Museum	Ft. Leavenworth	Kansas	1
Kansas State Historical Society	Topeka	Kansas	1
University of Kansas Museum	Lawrence	Kansas	1
Fort Polk	Leesville	Louisiana	1
Gulf South Research Corporation	Baton Rouge	Louisiana	1
Northwestern State University	Natchitoches	Louisiana	1
U.S. Army Engineer District, Baltimore	Baltimore	Maryland	1
Kansas City Museum	Kansas City	Missouri	2
Harry Reid Center for Environmental Studies, University of Nevada, Las Vegas	Las Vegas	Nevada	1
Nevada State Museum	Carson City	Nevada	1
Agency for Conservation Archaeology, Eastern New Mexico University	Portales	New Mexico	2
Human Systems Research	Las Cruces	New Mexico	1
Human Systems Research	Tularosa	New Mexico	1

Table 23.
Facilities and Number of Repositories Housing Archaeological Collections from Department of Defense Installations (Continued)

Facility	City	State	No. of Repositories
Kirtland Air Force Base	Albuquerque	New Mexico	1
Laboratory of Anthropology, Museum of Indian Arts and Culture	Santa Fe	New Mexico	3
Maxwell Museum of Anthropology	Albuquerque	New Mexico	2
New Mexico State University Museum	Las Cruces	New Mexico	2
Office of Contract Archaeology, University of New Mexico	Albuquerque	New Mexico	1
Public Service Company	Albuquerque	New Mexico	2
Quivera Research Center	Albuquerque	New Mexico	1
TRC-Mariah	Albuquerque	New Mexico	1
U.S. Army Engineer District, Albuquerque	Albuquerque	New Mexico	1
White Sands Missile Range	White Sands	New Mexico	2
Garrow and Associates	Raleigh	North Carolina	1
Fort Sill	Lawton	Oklahoma	1
Oklahoma Museum of Natural History	Norman	Oklahoma	1
Center for Archaeological Research, University of Texas, San Antonio	San Antonio	Texas	1
Fort Bliss	El Paso	Texas	1
Fort Hood	Killeen	Texas	1
Fort Sam Houston	San Antonio	Texas	1
Geo-Marine	Plano	Texas	1
Texas Archaeological Research Laboratory	Austin	Texas	2
Texas Tech University	Lubbock	Texas	1
University of Texas, El Paso, Centennial Museum	El Paso	Texas	1
Wilderness Park Museum, El Paso Archaeological Society	El Paso	Texas	1
Bureau of Land Management, Salt Lake City District	Salt Lake City	Utah	1
Dames and Moore	Salt Lake City	Utah	1
Dugway Proving Ground	Dugway	Utah	1
Fort Douglas Military Museum	Salt Lake City	Utah	1
Office of Public Archaeology, Brigham Young University	Provo	Utah	1
Sagebrush Archaeological Consultants	Ogden	Utah	2
Utah Geological Survey	Salt Lake City	Utah	1
Utah Museum of Natural History	Salt Lake City	Utah	1
Utah State Historical Society	Salt Lake City	Utah	1
Weber State University	Ogden	Utah	1
Parson's Engineering Science	Fairfax	Virginia	1
Total			107

Table 24.
Repositories Holding Department of Defense
Archaeological Collections and Quantities of Collections

Repository/Installation(s)	ft³[a]	l.i.[b]
Bureau of Land Management, Northern District Office, AK	0.2	9.3
Fort Greely, AK		
Fort Wainwright, AK		
Delta Junction Chamber of Commerce Sullivan Roadhouse, AK	25.6	0.0
Fort Greely, AK		
Eielson Air Force Base, AK	—	4.3
Eielson AFB, AK		
Northern Land Use Research, AK	—	37.5
Clear AFS, AK		
Eielson AFB, AK		
University of Alaska Museum, AK	36.8	55.5
NAS Adak, AK		
Eareckson AFB, AK		
Fort Greely, AK		
Fort Richardson, AK		
Fort Wainwright, AK		
Harding Lake Recreation Area, AK		
Kotzebue Military Reservation, AK		
Archaeological Research Services, AZ	—	29.5
Luke AFB/Goldwater Range, AZ		
MCAS Yuma/Goldwater Range, AZ		
Yuma Proving Ground, AZ		
Arizona State Museum, AZ	104.0	78.0
Fort Huachuca, AZ		
Luke AFB/Goldwater Range, AZ		
Navajo Army Depot, AZ		
Williams AFB, AZ		
MCAS Yuma/Goldwater Range, AZ		
Yuma Proving Ground, AZ		
Arizona State University, AZ	6.4	16.4
Williams AFB, AZ		
Bureau of Land Management, Phoenix Field Office, AZ	1.3	38.8
Luke AFB/Goldwater Range, AZ		
MCAS Yuma/Goldwater Range, AZ		
Bureau of Land Management, Yuma Field Office, AZ	—	18.0
Yuma Proving Ground, AZ		
Fort Huachuca, AZ	191.7	89.3
Fort Huachuca, AZ		
Luke Air Force Base, AZ	1.0	62.3
Luke AFB/Goldwater Range, AZ		
Museum of Northern Arizona, AZ	38.8	11.5
Williams AFB, AZ		
Northland Research	7.9	0.0
Yuma Proving Ground, AZ		
Statistical Research, AZ	27.2	86.5
Dugway Proving Ground, UT		
Fort Huachuca, AZ		
Utah Test and Training Range/Hill AFB, UT		
Navajo Army Depot, AZ		
Yuma Proving Ground, AZ		
SWCA, AZ	2.1	7.0
Navajo Army Depot, AZ		
Williams Air Force Base, AZ	6.0	8.3
Williams AFB, AZ		

Table 24.
Repositories Holding Department of Defense Archaeological Collections and Quantities of Collections (Continued)

Repository/Installation(s)	ft³[a]	l.i.[b]
Yuma Proving Ground, AZ	3.1	17.0
Yuma Proving Ground, AZ		
KEA Environmental, AZ	2.5	1.8
MCAS Yuma, AZ		
Natural History Museum of Los Angeles County, CA	7.5	4.4
Fort Bliss, TX		
San Diego Museum of Man, CA	14.8	0.0
Yuma Proving Ground, AZ		
Tetra Tech, CA	0.0	17.7
Bergstrom AFB, TX		
Falcon AFB, CO		
Utah Test and Training Range/Hill AFB, UT		
Kirtland AFB, NM		
Luke AFB, AZ		
Navajo Army Depot, AZ		
Peterson AFB, CO		
White Sands Missile Range, NM		
U.S. Army Engineer District, Los Angeles, CA	0.0	1.2
Fort Huachuca, AZ		
Luke AFB/Goldwater Range, AZ		
Navajo Army Depot, AZ		
Yuma Proving Ground, AZ		
U.S. Army Engineer District, Sacramento, CA	0.0	9.5
Hawthorne Army Depot, NV		
Colorado Department of Transportation, CO	0.0	2.8
Falcon AFB, CO		
U.S. Air Force Academy, CO		
Peterson Air Force Base, CO	0.1	3.0
Peterson AFB, CO		
Powers Elevation Company, CO	0.0	3.8
Fitzsimons Army Medical Center, CO		
Lowry AFB, CO		
University of Colorado, Colorado Springs, CO	5.6	73.3
Cheyenne Mountain AFB, CO		
U.S. Air Force Academy, CO		
University of Colorado Museum, CO	1.1	0.5
Fitzsimons Army Medical Center, CO		
Peterson AFB, CO		
Rocky Mountain Arsenal, CO		
U.S. Air Force Academy, CO		
University of Denver Museum, CO	0.2	4.3
Falcon AFB, CO		
U.S. Air Force Academy, CO		
New South Associates, GA	35.0	67.2
Fort Polk, LA		
Archaeological Consultants of Hawaii, HI	0.0	3.0
Hickam AFB, HI		
PMRF, Barking Sands, HI		

Table 24.
Repositories Holding Department of Defense Archaeological Collections and Quantities of Collections (Continued)

Repository/Installation(s)	ft³[a]	l.i.[b]
Bernice P. Bishop Museum, HI	779.8	70.3
NAS Barbers Point, HI		
Bellows AFS, HI		
Fort Kamehameha, HI		
Fort Shafter, HI		
Helemano Radar Station, HI		
Hickam AFB, HI		
Kaena Point Tracking Station, HI		
Lualualei Naval Magazine		
MCB Hawaii, Kaneohe Bay, HI		
PMRF, Barking Sands		
Waianae Army Recreation Center, HI		
Combined Army Installation, HI		
Cultural Surveys Hawaii, HI	7.0	18.2
Fort Kamehameha, HI		
Kaena Point Tracking Station, HI		
Kipapa Military Reservation, HI		
MCB Hawaii, Kaneohe Bay		
Waianae Army Recreation Center, HI		
Garcia and Associates, HI	33.2	11.3
Camp Smith		
Fort DeRussy, HI		
Fort Shafter, HI		
Hickam AFB, HI		
Makua Military Reservation, HI		
MCB Hawaii, Kaneohe Bay, HI		
Pohakuloa Training Area, HI		
International Archaeological Research Institute, Inc. (IARII), HI	14.9	86.3
NAS Barbers Point, HI		
Bellows AFS, HI		
NAS Ford Island, HI		
Fort DeRussy, HI		
Fort Kamehameha, HI		
Fort Shafter, HI		
Hickam AFB, HI		
NAVMAG Lualualei/Waikele		
MCB Hawaii, Kaneohe Bay, HI		
PMRF, Barking Sands, HI		
Pohakuloa Training Area, HI		
Schofield Barracks, HI		
Wheeler Army Air Field, HI		
Ogden Environmental and Energy Services, HI	146.5	85.8
NAS Barbers Point, HI		
Bellows AFS, HI		
Fort DeRussy, HI		
Fort Kamehameha, HI		
Fort Shafter, HI		
Hickam AFB, HI		
Kahuku Training Area, HI		
Makua Military Reservation, HI		
MCB Hawaii, Kaneohe Bay, HI		
PMRF, Barking Sands, HI		
Pohakuloa Training Area, HI		

Table 24.
Repositories Holding Department of Defense Archaeological Collections and Quantities of Collections (Continued)

Repository/Installation(s)	ft³[a]	l.i.[b]
Ogden Environmental and Energy Services, HI (cont'd)		
Schofield Barracks, HI		
Waianae Army Recreation Center, HI		
Wheeler Army Air Field, HI		
Paul H. Rosendahl, Inc., HI	308.8	184.3
NAS Barbers Point, HI		
Bellows AFS, HI		
Hickam AFB, HI		
Kahoolawe Island, HI		
MCB Hawaii, Kaneohe Bay, HI		
Naval Complex, Pearl Harbor, HI		
PMRF, Barking Sands, HI		
Pohakuloa Training Area, HI		
Schofield Barracks, HI		
Scientific Consultants Services, HI	9.0	13.8
Bellows AFS, HI		
Camp Smith, HI		
Dillingham Military Reservation, HI		
Hickam AFB, HI		
Kawailoa Training Area, HI		
Makua Military Reservation, HI		
Marine Corps Base Hawaii-Kaneohe Bay, HI		
Schofield Barracks, HI		
University of Hawaii, HI	15.0	0.0
Pohakuloa Training Area, HI		
U.S. Army Engineer District, Pacific Ocean Division, HI	—	88.5
Bellows AFS, HI		
Fort DeRussy, HI		
Fort Kamehameha, HI		
Fort Shafter, HI		
Hickam AFB, HI		
MCB Hawaii, Kaneohe Bay, HI		
Pohakuloa Training Area, HI		
Schofield Barracks, HI		
Waianae Army Recreation Center, HI		
Wheeler Army Air Field, HI		
Frontier Army Museum, Fort Leavenworth, KS	32.3	12.5
Fort Leavenworth, KS		
Kansas City Museum, KS	0.1	1.2
Sunflower Army Ammunition Plant, KS		
Kansas Historical Museum, KS	2.8	0.0
Fort Leavenworth, KS		
University of Kansas, Museum of Anthropology, KS	50.0	11.3
Fort Leavenworth, KS		
Sunflower Army Ammunition Plant, KS		
Fort Polk, LA	318.9	1341.6
Fort Polk, LA		
Gulf South Research Corporation, LA	5.0	4.5
Fort Polk, LA		
Northwestern State University, Natchitoches, LA	16.1	92.5
Louisiana Army Ammunition Plant, LA		
Fort Polk, LA		

Table 24.
Repositories Holding Department of Defense Archaeological Collections and Quantities of Collections (Continued)

Repository/Installation(s)	ft³[a]	l.i.[b]
U.S. Army Engineer District, Baltimore, MD	1.9	0.0
Walter Reed Army Medical Center, D.C.		
Harry Reid Center for Environmental Studies, University of Nevada, Las Vegas, NV	12.6	33.3
Hawthorne Army Ammunition Plant, NV		
Nevada State Museum, NV	2.0	1.3
Hawthorne Army Depot, NV		
Agency for Conservation Archaeology, Eastern New Mexico University, NM	1.3	14.3
White Sands Missile Range, NM		
Human Systems Research, Las Cruces, NM	106.6	477.6
White Sands Missile Range, NM		
Human Systems Research, Tularosa, NM	54.0	240.8
White Sands Missile Range, NM		
Kirtland Air Force Base, NM	—	56.0
Kirtland AFB, NM		
Museum of New Mexico, Laboratory of Anthropology, Museum of Indian Arts and Culture, and ARMS, NM	55.0	26.5
Fort Bliss, TX		
Fort Wingate, NM		
Kirtland AFB, NM		
White Sands Missile Range, NM		
Maxwell Museum of Anthropology, University of New Mexico, NM	48.0	1.5
Fort Wingate, NM		
White Sands Missile Range, NM		
New Mexico State University Museum, NM	21.1	3.0
White Sands Missile Range, NM		
Office of Contract Archaeology, University of New Mexico, NM	2.4	22.8
Fort Wingate, NM		
Public Service Company, NM	—	1.0
Kirtland AFB, NM		
Quivera Research Center, NM	—	1.8
Kirtland AFB, NM		
TRC-Mariah Associates, NM	49.7	80.3
Kirtland AFB, NM		
U.S. Army Engineer District, Albuquerque, NM	0.0	114.5
Fort Wingate, NM		
White Sands Missile Range, NM	1.0	682.80
White Sands Missile Range, NM		
Garrow and Associates, NC	1.2	8.4
NAS Corpus Christi, TX		
Fort Sill, OK[c]	241.5	unk
Fort Sill, OK		
Oklahoma Museum of Natural History, OK[d]	unk	unk
Fort Sill, OK		
Centennial Museum, University of Texas, TX	28.4	80.4
Fort Bliss, TX		
White Sands Missile Range, NM		
Center for Archaeological Research, University of Texas, San Antonio, TX	287.0	360.0
Fort Bliss, TX		
Fort Polk, LA		
Fort Sam Houston, TX		
Kelly AFB, TX		
Lackland AFB, TX		
Laughlin AFB, TX		
Fort Bliss, TX	1300.0	2712.0
Fort Bliss, TX		

Table 24.
Repositories Holding Department of Defense Archaeological Collections and Quantities of Collections (Continued)

Repository/Installation(s)	ft³[a]	l.i.[b]
Fort Hood, TX	345.7	1339.1
Fort Hood, TX		
Fort Sam Houston, TX	2.5	0.3
Fort Sam Houston, TX		
Geo-Marine, TX	13.2	15.8
Fort Bliss, TX		
Fort Sill, OK		
Museum Texas Technical University, TX	5.2	28.8
Reese AFB, TX		
Texas Archaeological Research Laboratory (TARL), TX	5.4	60.0
Bergstrom AFB, TX		
NAS Kingsville, TX		
Lonestar Army Ammunition Plant, TX		
Matagorda Island Air Force Range, TX		
Red River Army Depot, TX		
U.S. Mine Warfare Center, TX		
Wilderness Park Museum, El Paso Archaeological Society, TX	158.7	61.2
Fort Bliss, TX		
Bureau of Land Management, Salt Lake City Office, UT	—	1.3
Dugway Proving Ground, UT		
Dames and Moore, UT	2.3	12.5
Dugway Proving Ground, UT		
Dugway Proving Ground, UT	2.7	99.0
Dugway Proving Ground, UT		
Fort Douglas Military Museum, UT	2.0	0.0
Fort Douglas, UT		
Office of Public Archaeology, Brigham Young University, UT	—	1.3
Dugway Proving Ground, UT		
Fort Douglas, UT		
Sagebrush Archaeological Consultants, UT	—	38.0
Dugway Proving Ground, UT		
Hawthorne Army Depot, NV		
Utah Test and Training Range/Hill AFB, UT		
Luke AFB, AZ		
Ogden Defense Distribution Depot, UT		
Tooele Army Depot, UT		
Utah Geological Society, UT	20.5	8.0
Dugway Proving Ground, UT		
Utah Test and Training Range/Hill AFB, UT		
Utah Museum of Natural History, UT	2.1	0.3
Fort Douglas, UT		
Utah Division of State History, UT	11.1	12.0
Hill AFB, NM		
Weber State University, UT	16.9	15.0
Utah Test and Training Range/Hill AFB, UT		
Parson's Engineering Science, VA	1.2	1.3
Lackland AFB, TX		
Total	5,061.5	9,394.5 (783 linear feet)

[a] Refers to cubic feet of archaeological materials.
[b] Refers to linear inches of associated documentation.
[c] Records from Fort Sill were not available for examination.
[d] Collections at the Oklahoma Museum of Natural History were not available for examination at the time of the assessment.

Table 25.
Types and Frequencies of Facilities Curating Department of Defense Archaeological Collections

Type of Facility	Number Present	%
Museum	25	29
University Laboratory/Curation Facility	12	14
Contract Firm	27	31
Military Installation	13	15
Government Agency	9	11
Total	86	100

None of the facilities possessing record collections reach the level of care for those records that is stated in the standards for archival preservation. Eighteen records collections require complete rehabilitation and 45 need only partial rehabilitation. Seven institutions do not currently curate documentation associated with the military collections stored there. Management controls and a master collection inventory and database for military collections are deficient to nonexistent and should be created immediately.

Environmental Controls

Seventy-eight of the 106 repositories control temperature through the use of central or radiated heat and air conditioning (Table 26). Additionally, 25 repositories are equipped with temperature controls that either monitor or control humidity but not both. Twenty-eight repositories have no type of temperature or humidity monitoring or control systems.

Pest Management

Fifty-nine of 104 repositories control for pests. This treatment is either performed by staff on an as-needed basis or is conducted by trained professionals on a regular schedule (Table 26). Forty-five of the repositories take no precautions against pests whatsoever. The types of chemicals used, their frequency of use, and the attendant hazard to personnel and collections are beyond the scope of this report and should be investigated.

Security

Seventy of the 106 repositories meet minimum federal standards for security of archaeological collections (e.g., possess intrusion alarms and/or guards) (Table 26). All of the repositories are secured with key and/or dead-bolt locks, most provide for limited access, and those with windows include simple window locks. Although there were no documented cases of unauthorized entry linked with loss of DoD collections, the potential for this exists at several of the repositories examined.

Fire Safety

Fire detection and/or suppression devices are nonexistent in 42 of the 106 repositories. Sixty-four repositories provide adequate to superb fire detection, meeting minimal federal requirements.

Artifact Curation

Fifty-two facilities house DoD archaeological collections (Table 24). None of these facilities has properly prepared the collections for long-term curation. Eight-three percent of the collections have been cleaned and 53% have been labeled. However, most of the collections are housed in repositories that lack full-time curatorial care.

Overall, primary containers are acidic or acid-free cardboard boxes with telescoping lids, each encompassing a volume slightly larger than one cubic foot. Many are overpacked and coated with dust. Almost all boxes (53%) included some type of label, if only rudimentary.

Most of the collections are stored in archival-quality, polyethylene plastic, zip-lock bags. Two percent of the collections are stored loose, without secondary containers. Most secondary containers are labeled directly, although adhesive or interior labels are also present. The wide variety of nonarchival secondary containers and the overall lack of any secondary containers together will contribute to the deterioration of these collections (Table 27).

Data were also generated regarding the major prehistoric and historical-period material classes observed in each of the collections (Table 28). Stone archaeological materials are most abundant in the

Table 26.
Presence/Absence of Infrastructure Controls at Repositories Housing Department of Defense Archaeological Collections

Facility	Fire Safety	Security	Environmental Controls	Pest Management	36 CFR 79 Standards
Bureau of Land Management, Northern District Office[a]	Yes	No	Yes	No	No
Eielson Air Force Base[a]	Yes	No	Yes	No	No
Northern Land Use Research[a]	No	No	Yes	No	No
Sullivan Roadhouse Delta Chamber of Commerce[a]					
Repository 1	No	No	No	No	No
Repository 2	No	No	No	No	No
University of Alaska, Fairbanks[b]	Yes	Yes	Yes	Yes	Yes
Archaeological Research Services[a]	No	No	Yes	No	No
Arizona State Museum[b]					
Repository 1	Yes	Yes	Yes	Yes	Yes
Repository 2	No	Yes	Yes	Yes	No
Arizona State University[b]					
Repository 1	Yes	No	Yes	No	No
Repository 2	Yes	No	Yes	No	No
Bureau of Land Management, Phoenix District[a]	Yes	No	Yes	No	No
Bureau of Land Management, Yuma District[a]	Yes	Yes	Yes	No	No
Fort Huachuca[b]					
Repository 1	No	No	No	Yes	No
Repository 2	Yes	No	Yes	Yes	No
Luke Air Force Base[a]	Yes	Yes	Yes	No	No
Museum of Northern Arizona[b]	No	Yes	Yes	Yes	No
Northland Research[a]	No	No	Yes	No	No
Statistical Research[a]	Yes	Yes	Yes	Yes	Yes
SWCA[a]	Yes	Yes	Yes	No	No
Williams Air Force Base[a]	Yes	No	Yes	Yes	No
Yuma Proving Ground[a]					
Repository 1	No	Yes	Yes	Yes	No
Repository 2	No	Yes	Yes	Yes	No
KEA Environmental[a]	Yes	Yes	Yes	Yes	Yes
Los Angeles Museum of Natural History[b]	Yes	Yes	Yes	Yes	Yes
San Diego Museum of Man[b]					
Repository 1	Yes	Yes	Yes	Yes	Yes
Repository 2	Yes	Yes	Yes	Yes	Yes
Tetra Tech[a]	Yes	Yes	Yes	Yes	Yes
U.S. Army Engineer, Los Angeles[a]	Yes	Yes	Yes	Yes	Yes
U.S. Army Engineer, Sacramento[a]	No	Yes	Yes	No	No
Colorado Department of Transportation[a]	Yes	Yes	No	No	No
Peterson Air Force Base[a]	Yes	Yes	Yes	No	No
Powers Elevation Company[a]	No	No	Yes	Yes	No

Table 26.
Presence/Absence of Infrastructure Controls at Repositories Housing Department of Defense Archaeological Collections (Continued)

Facility	Fire Safety	Security	Environmental Controls	Pest Management	36 CFR 79 Standards
University of Colorado Museum[b]	Yes	Yes	Yes	No	No
University of Colorado, Colorado Springs[b]	Yes	Yes	Yes	No	No
University of Denver[b]	Yes	Yes	Yes	Yes	Yes
New South Associates[a]	Yes	Yes	No	Yes	No
Archaeological Consultants of Hawaii[a]	No	No	No	No	No
Bishop Museum[b]					
Repository 1	No	No	No	Yes	No
Repository 2	No	No	No	Yes	No
Repository 3	No	Yes	Yes	Yes	No
Cultural Surveys Hawaii[a]	No	No	No	No	No
Garcia and Associates[a]	Yes	Yes	No	Yes	No
International Archaeological Research Institute[a]					
Repository 1	Yes	No	No	No	No
Repository 2	Yes	Yes	No	No	No
Ogden Environmental and Energy[a]	Yes	Yes	Yes	Yes	Yes
Paul H. Rosendahl, Inc.[a]					
Repository 1	No	Yes	No	No	No
Repository 2	No	No	No	No	No
Scientific Consultants Services[a]	Yes	Yes	Yes	No	No
University of Hawaii, Hilo[a]	Yes	Yes	Yes	Yes	Yes
U.S. Army Engineer District, Honolulu[a]	Yes	Yes	No	Yes	No
Frontier Army Museum[b]	Yes	Yes	Yes	Yes	Yes
Kansas Historical Museum[b]	Yes	Yes	Yes	No	No
University of Kansas Museum[b]	Yes	No	Yes	No	No
Fort Polk[b]	No	No	Yes	No	No
Gulf South Research Corporation[a]	Yes	Yes	Yes	Yes	Yes
Northwestern State University[b]	Yes	Yes	Yes	Yes	Yes
U.S. Army Engineer District, Baltimore[a]	No	No	No	No	No
Kansas City Museum[b]					
Repository 1	No	Yes	Yes	Yes	No
Repository 2	No	Yes	Yes	Yes	No
Harry Reid Center for Environmental Studies University of Nevada, Las Vegas[b]	Yes	Yes	Yes	Yes	Yes
Nevada State Museum[b]	Yes	No	Yes	Yes	No
Agency for Conservation Archaeology, ENMU[a]					
Repository 1	Yes	No	Yes	Yes	No
Repository 2	No	No	No	Yes	No
Human Systems Research, Las Cruces[a]	No	Yes	No	Yes	No
Human Systems Research, Tularosa[a]	No	No	No	Yes	No

Table 26.
Presence/Absence of Infrastructure Controls at Repositories Housing Department of Defense Archaeological Collections (Continued)

Facility	Fire Safety	Security	Environmental Controls	Pest Management	36 CFR 79 Standards
Kirtland Air Force Base[b]	Yes	Yes	Yes	No	No
Museum of New Mexico, Laboratory of Anthropology, Museum of Indian Arts and Culture[b]					
Repository 1	Yes	Yes	Yes	Yes	Yes
Repository 2	Yes	Yes	Yes	Yes	Yes
Repository 3	Yes	No	Yes	Yes	No
Maxwell Museum of Anthropology[b]					
Repository 1	Yes	Yes	Yes	Yes	Yes
Repository 2	No	Yes	No	Yes	No
New Mexico State University Museum[b]					
Repository 1	Yes	Yes	Yes	Yes	Yes
Repository 2	No	Yes	No	No	No
Office of Contract Archaeology, University of New Mexico[a]	No	Yes	Yes	Yes	No
Public Service Company[a,c]					
Repository 1	Yes	Yes	Yes	Unknown	Unknown
Repository 2	Yes	Yes	Yes	Unknown	Unknown
Quivera Research Center[a]	No	No	Yes	No	No
TRC-Mariah[a]	Yes	Yes	Yes	No	No
U.S. Army Engineer District, Albuquerque[a]	No	Yes	Yes	Yes	No
White Sands Missile Range[a]					
Repository 1	No	Yes	No	No	No
Repository 2	No	No	No	No	No
Garrow and Associates[a]	No	No	Yes	No	No
Fort Sill[b]	Yes	Yes	Yes	Yes	Yes
Oklahoma Museum of Natural History[b,d]	Unknown	Unknown	Unknown	Unknown	Unknown
Center for Archaeological Research, University of Texas, San Antonio[b]	No	No	Yes	Yes	No
Fort Bliss[b]	No	Yes	Yes	Yes	No
Fort Hood[a]	Yes	Yes	Yes	Yes	Yes
Fort Sam Houston[b]	Yes	Yes	Yes	Yes	Yes
Geo-Marine[a]	Yes	No	Yes	No	No
Texas Archaeological Research Laboratory[b]					
Repository 1	Yes	Yes	Yes	Yes	Yes
Repository 2	No	No	No	No	No
Texas Tech University[b]	Yes	Yes	Yes	Yes	Yes
University of Texas, El Paso, Centennial Museum[b]	Yes	Yes	Yes	Yes	Yes
Wilderness Park Museum, El Paso Archaeological Society[a]	Yes	Yes	No	Yes	No
Bureau of Land Management, Salt Lake City District[a]	Yes	Yes	Yes	No	No
Dames and Moore[a]	No	Yes	Yes	Yes	No

Table 26.
Presence/Absence of Infrastructure Controls at Repositories Housing Department of Defense Archaeological Collections (Continued)

Facility	Fire Safety	Security	Environmental Controls	Pest Management	36 CFR 79 Standards
Dugway Proving Ground[a]	Yes	Yes	Yes	No	No
Fort Douglas Military Museum[a]	Yes	Yes	Yes	Yes	Yes
Office of Public Archaeology, Brigham Young University[b]	Yes	Yes	No	No	No
Sagebrush Archaeological Consultants[a]					
Repository 1	No	No	Yes	No	No
Repository 2	No	No	No	No	No
Utah Geological Survey[a]	No	Yes	Yes	No	No
Utah Museum of Natural History[b]	Yes	Yes	Yes	Yes	Yes
Utah State Historical Society[b]	Yes	Yes	Yes	Yes	Yes
Weber State University[a]	No	Yes	Yes	No	No
Parsons Engineering Science[a]	Yes	Yes	No	Yes	No

[a] Nonpermanent repositories holding DoD collections. For detailed descriptive statistics see the Executive Summary of this report.
[b] Permanent repositories holding DoD collections. For detailed descriptive statistics see the Executive Summary of this report.
[c] Public Service Company had no information for pest management available and could not be assessed according to 36 CFR Part 79.
[d] Oklahoma Museum of Natural History was not assessed for this information.

prehistoric collections. Principal historical-period materials include glass, metal, and ceramics.

Human Skeletal Remains

Human skeletal remains and associated burial goods comprise 14 percent of the prehistoric material classes. A minimum number of 1,681 individuals (based on anatomical singularity) is included in the collections, which comprise 747.6 ft^3. In those cases

Table 27.
Summary of Secondary Containers Housing Department of Defense Archaeological Collections

Secondary Containers	%
Plastic Bags	72
Paper Bags	17
Cardboard Boxes	6
Loose	2
Other	3
Total	100

Note: Total based on 4,820 ft^3, as collections at Fort Sill were not assessed for secondary containers. For types of secondary containers included under "Other" see individual chapters.

Table 28.
Summary of Material Classes Present in the Department of Defense Archaeological Collections

Material Class	%
Prehistoric	
Lithics	33
Ceramics	10
Faunal Remains	3
Shell	4
Botanical	2
Flotation	2
Soil	10
^{14}C	2
Human Skeletal Remains	14
Other	3
Historical-Period	
Ceramics	2
Metal	7
Glass	6
Brick/Masonry	1
Other	1
Total	100

Note: Percentages are calculated by volume. For materials listed under prehistoric "Other" see individual chapters. For materials listed under historic "Other" see individual chapters.

where it has not already been done, all human remains should be examined by a qualified physical anthropologist. Additionally, complete rehabilitation (e.g., reboxing, rebagging, labeling) should be carried out in order to stabilize the remains and a complete inventory should be generated in order to comply with the Native American Graves Protection and Repatriation Act (P.L. 101-601).

Records Management

Records associated with archaeological work conducted on DoD installations encompass 783 linear feet and include paper, photographic, maps, and draft report records. In many cases, paper records are not housed in acid-free folders, photographs are not isolated and stored in chemically inert sleeves, and large-scale maps are not stored flat in map drawers. In most cases documentation for the collections has either been misplaced over the years or simply was not curated with the archaeological materials after fieldwork was completed.

Environmental controls for both temperature and humidity that meet the federal standards in 36 CFR Part 79 exist at only 29 of the repositories. Records housed in the remaining repositories are subject to temperature and humidity fluctuations. Archive materials readily absorb and release moisture, leading to expansion and contraction, dimensional changes that accelerate deterioration and promote major visible damage such as cockling paper, flaking ink, warped covers on books, and cracked emulsion on photographs.

Management Controls

Information regarding management controls was available from only 33 repositories. Of those, basic policy and procedure statements for artifact curation, inventories, and records management are present at 25 and do not exist in any form at eight. Therefore, most of the examined facilities entrusted with the care of these collections have no long-term plan for the management of these resources. This responsibility must be honored by the federal managers as well and must be corrected immediately. Failure to acknowledge the basic curation needs of these collections has led to the substandard care of many of the DoD collections.

Prior to this collections assessment, DoD was unfamiliar with the extent, location, or conditions of its archaeological collections in the project area states. DoD personnel should be commended for recognizing this problem and addressing it, but now that specific deficiencies have been identified, action must be taken to protect these collections. At minimum a plan of action for the long-term management of the collections should implement the following four tasks.

1. Inventory all human skeletal remains to comply with NAGPRA.

2. Establish a priority for the collections and their rehabilitation.

3. Inventory and rehabilitate the collections.

4. Develop an archives management plan.

Implementation of these minimal tasks will contribute greatly to our understanding of the culture history of not only the western United States but also of North America.

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