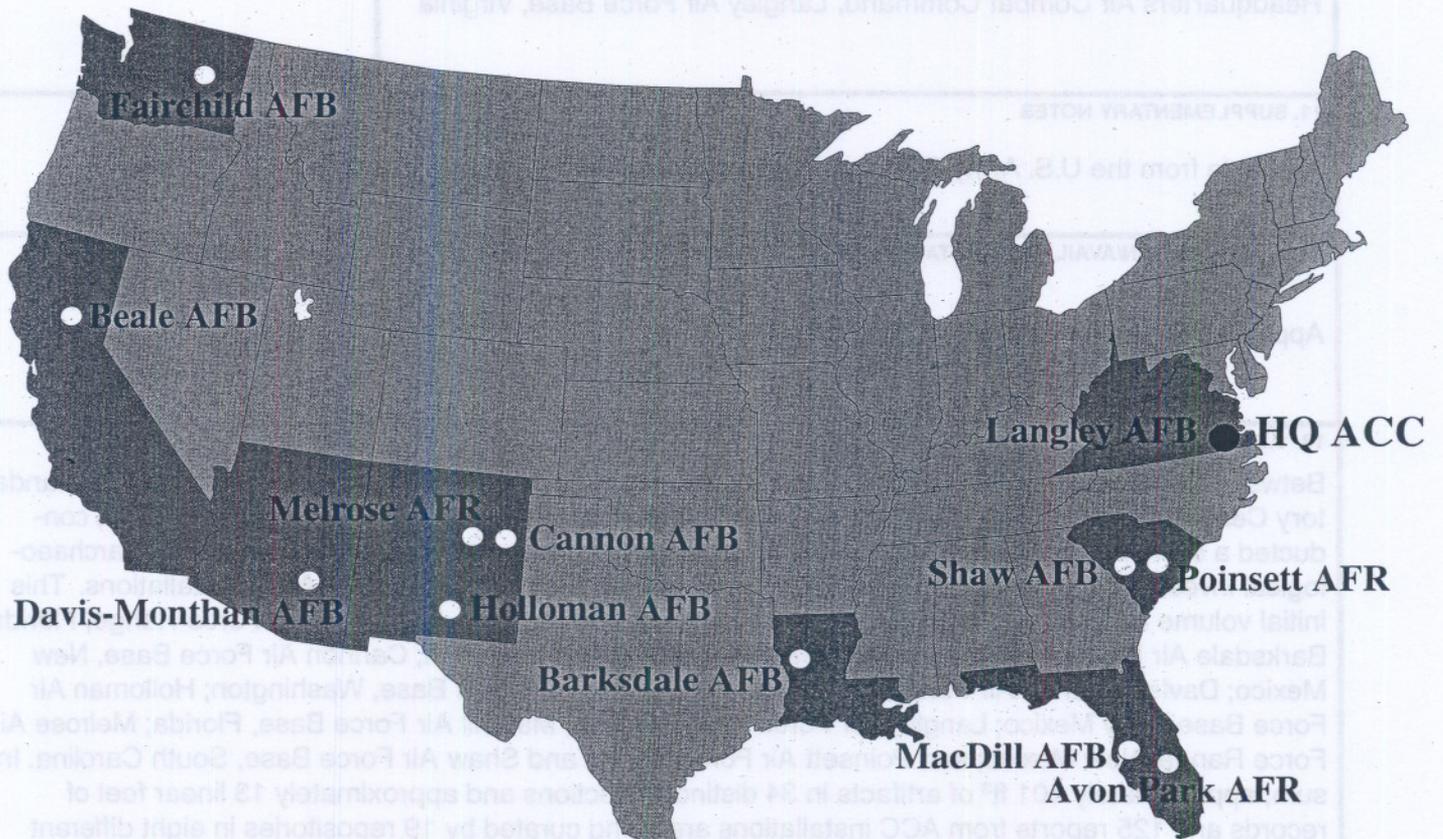


September 1996



An Archaeological Curation-Needs Assessment for Headquarters Air Combat Command

Volume 1



United States Air Force
Air Combat Command

Global Power for America

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Contents

Executive Summary	xiii
Problem	xiii
Background	xiii
Findings	xvii
Corrective Actions	xxiii
Conclusions	xxiv
Acknowledgments	xxiv
1. Introduction	1
Methods	2
Chapter Synopsis	4
2. Arizona: Davis-Monthan Air Force Base, Tucson	5
Repository 1: Davis-Monthan AFB	5
Repository 2: Arizona State Museum	9
Findings Summary	22
3. California: Beale Air Force Base, Marysville	25
Repository 1: Beale AFB	25
Repository 2: PAR Environmental Services	29
Findings Summary	30
4. Florida: Avon Park Air Force Range, Avon Park, and MacDill Air Force Base, Tampa	33
Repository 1: Avon Park AFR	34
Repository 2: JANUS Research	40
Repository 3: USF-Tampa	45
Findings Summary	52
5. Louisiana: Barksdale Air Force Base, Bossier City	55
Repository 1: 8th AF Museum, Barksdale AFB	55
Repository 2: SCIAA	61
Findings Summary	64
6. New Mexico: Cannon Air Force Base and Melrose Air Force Range, Clovis, and Holloman Air Force Base, Alamogordo	67
Repository 1: NMARMS	68
Repository 2: MIAC/LOA ARC, MNM	75
Repository 3: U.S. Army Corps of Engineers, Albuquerque District	85
Repository 4: Maxwell Museum of Anthropology Warehouse, UNM	90
Repository 5: ACA Warehouse, ENMU	97
Repository 6: Holloman AFB	102
Repository 7: Human Systems Research	109

Repository 8: Office of Contract Archaeology, UNM	116
Findings Summary	119
7. South Carolina: Shaw Air Force Base and Poinsett Air Force Range, Sumter	127
Repository 1: Shaw AFB	128
Repository 2: SCIAA	128
Findings Summary	135
8. Virginia: Langley Air Force Base, Newport News	139
Repository 1: Langley AFB	139
Repository 2: WMCAR	146
Findings Summary	151
9. Status of Curation-Needs Assessment on Other ACC Installations	155
10. Findings Summary for 12 ACC Installations	157
Infrastructure Controls	157
Artifact Curation	160
Human Skeletal Remains	161
Records Management	162
Collections-Management Standards	163
11. Recommendations	165
Develop a Plan of Action	165
Develop a Formal Archives-Management Program	165
Inventory and Rehabilitate Existing Artifact Collections	166
Bring Together Collections	166
Develop Cooperative Agreements	166
Appendixes	
Appendix 1: Annotated Bibliography for Avon Park AFR, Florida	167
Appendix 2: Annotated Bibliography for Barksdale AFB, Louisiana	169
Appendix 3: Annotated Bibliography for Beale AFB, California	171
Appendix 4: Annotated Bibliography for Cannon AFB, New Mexico	173
Appendix 5: Annotated Bibliography for Davis-Monthan AFB, Arizona	175
Appendix 6: Annotated Bibliography for Fairchild AFB, Washington	177
Appendix 7: Annotated Bibliography for Holloman AFB, New Mexico	179
Appendix 8: Annotated Bibliography for Langley AFB, Virginia	191
Appendix 9: Annotated Bibliography for MacDill AFB, Florida	193
Appendix 10: Annotated Bibliography for Melrose AFR, New Mexico	195
Appendix 11: Annotated Bibliography for Poinsett AFR, South Carolina	197
Appendix 12: Annotated Bibliography for Shaw AFB, South Carolina	199
Appendix 13: State of Louisiana Standards for Curation	201

Appendix 14: Excerpts from *New Mexico Cultural Resource Information System User's Guide* 207

Appendix 15: Procedures for Submission of Collections to the State Archaeological Repository, New Mexico 213

Appendix 16: Requirements for Submitting Archaeological Collections to the Maxwell Museum of Anthropology 221

Appendix 17: South Carolina Institute of Archaeology and Anthropology Draft Curation Standards 235

Appendix 18: Glossary 237

Appendix 19: Sample Memorandums of Understanding for Curatorial Services 241

List of Figures

Figure 1. Exterior of Building 4300, where archaeological collections are stored	6
Figure 2. Fire extinguishers, fire doors, and fire walls in the hallway of Building 4300	7
Figure 3. The single artifact stored on base (not shown) is included in an interpretive display located on the wall of a conference room in Building 4300	8
Figure 4. Associated documentation for Davis-Monthan AFB collection showing interspersed photographic materials	8
Figure 5. Exterior of ASM's South Building	10
Figure 6. Security measures in ASM's North Building are more stringent than those installed in the South Building	12
Figure 7. Overhead sprinkler system in the laboratory of ASM's South Building	12
Figure 8. Cataloged collections from Davis-Monthan AFB are appropriately labeled and stored on ethafoam in wooden drawers	13
Figure 9. Research collections stored in the stacks of ASM's South Building	14
Figure 10. Example of a primary container, with a preprinted label, housing Davis-Monthan AFB materials	14
Figure 11. Processed collections are integrated into ASM's archival holdings	16
Figure 12. Associated documentation for Davis-Monthan AFB archaeological collections stored temporarily in the ASM archives (North Building) prior to permanent curation in the South Building	17
Figure 13. Davis-Monthan AFB photographic documentation awaiting processing (North Building)	17
Figure 14. Accessioned but unprocessed photographic records are stored temporarily on metal shelving units in the ASM photographic archive (North Building)	18
Figure 15. After processing, photographs are integrated into the ASM photographic archive (North Building)	18
Figure 16. Exterior of Building 2471, location of the Beale AFB Museum	26
Figure 17. Artifacts and associated secondary container with grid color code for labels	27
Figure 18. A two-story residence serves as offices for PAR Environmental Services	29
Figure 19. Photographic documentation from Beale AFB	30
Figure 20. Exterior of Building 475	34
Figure 21. The Avon Park AFR collection is stored in metal cabinets next to biological specimens	36
Figure 22. Collection storage area in the Environmental Flight Annex	36

Figure 23. Damaged primary container	37
Figure 24. A variety of secondary containers packed together with the box inventory	38
Figure 25. Box-inventory page rendered virtually unintelligible by insect damage	38
Figure 26. Two boxes are stored in the laboratory at JANUS Research	40
Figure 27. The bulk of the Avon Park AFR collection (54 boxes) is stored on plastic sectional shelves in a rented storage space	41
Figure 28. Two-mil, zip-lock bags are used to store materials from Avon Park AFR	41
Figure 29. Retired records are stored in a rented storage space along with bulk collections	42
Figure 30. Avon Park AFR associated documentation held by JANUS Research	43
Figure 31. Camera-ready report pages are stored improperly in manila file folders	44
Figure 32. Social Sciences Building on the USF–Tampa campus	45
Figure 33. Type and special collections are stored in locking wooden cabinets	47
Figure 34. Bulk collections are stored on homemade wooden shelves	47
Figure 35. Acidic paper bags, labeled directly in marker, are used as secondary containers	48
Figure 36. Some secondary containers contain acidic cardboard boxes within which the artifacts are stored	48
Figure 37. No special arrangements are made for photographic materials, which are stored improperly	50
Figure 38. The boiler for Building 5088 is located in a connected, adjacent building	56
Figure 39. Hasps and padlocks are installed on all interior doors of the 8th AF Museum	57
Figure 40. Once the museum expands, two vault doors, with combination locks, will provide security to the collections storage area	58
Figure 41. The main entrance to the museum has doors secured with double-cylinder, dead-bolt locks	59
Figure 42. Collections storage area at the time of the evaluation	59
Figure 43. Artifacts recovered from Barksdale AFB await processing in SCIAA’s laboratory	62
Figure 44. As the collection is cleaned and sorted, it is transferred to trays prior to final packaging in polyethylene, zip-lock bags	62
Figure 45. Field books from the archaeological work at Barksdale AFB are stored temporarily in the processing laboratory	63
Figure 46. Oversized maps are stored haphazardly on a table in Chris Clement’s office	64
Figure 47. Exterior of the Laboratory of Anthropology building, which houses both NMARMS and ARC	69
Figure 48. All windows in the NMARMS areas have steel bars on the exterior and slide locks on the interior	70
Figure 49. Melrose AFR documentation is housed in acidic manila envelopes that are labeled directly in marker and with a customized stamp	71
Figure 50. Reports are stored on compact shelving units at NMARMS	73
Figure 51. ARC stores their bulk collections in the basement of the LVR building	76

Figure 52. Ground stone is stored in the hallway between the two collections storage rooms in the basement of the LVR building	77
Figure 53. Plastic has been placed over the shelves and primary containers to prevent water damage from leaking overhead pipes	77
Figure 54. Processing laboratory in the LVR building	78
Figure 55. Hygrothermographs are located in each of the collections storage rooms in the LVR building	78
Figure 56. A few artifacts from Melrose AFR are stored in wooden drawers within a metal cabinet in the LVR building	79
Figure 57. Primary containers used for collections storage in the LVR building	80
Figure 58. Artifacts from Melrose AFR that are kept in the LVR building have been packaged in intersted, two-mil, zip-lock plastic bags, labeled directly in indelible ink	81
Figure 59. Artifacts from Melrose AFR have been cleaned and sorted, but none have been labeled directly in india ink	81
Figure 60. Exterior of the Federal Building in Albuquerque, which is considered structurally unsound	85
Figure 61. Entrance to the Albuquerque District, Environmental Section	86
Figure 62. Maps are curated in a vertical map cabinet located in Ron Kneebone's cubicle	87
Figure 63. Reports, photographs, and compendiums are kept on enclosed metal shelves located in John Schelberg's office	87
Figure 64. Associated documentation housed in a nonarchival-quality three-ring binder	88
Figure 65. Photographic records are stored in nonarchival-quality sleeves that have begun to adhere to film emulsion	88
Figure 66. Warehouse used by the Maxwell Museum to house bulk archaeological collections	91
Figure 67. Baited traps are used as the primary deterrent against pests in the Maxwell warehouse	92
Figure 68. Metal-and-plywood shelves are the primary shelving units used in the warehouse	93
Figure 69. Labeled primary containers housing Holloman AFB collections	94
Figure 70. Secondary containers used to house Holloman AFB collections	95
Figure 71. Exterior of the ACA warehouse	98
Figure 72. Damaged primary container housing Melrose AFR collection at the time of evaluation	99
Figure 73. Unprocessed collections in the ACA warehouse	100
Figure 74. Unlabeled plastic bags were the secondary containers housing the Melrose AFR collection at the time of evaluation	100
Figure 75. Example of secondary containers and labels used in a collection processed by ACA	101
Figure 76. Properly processed associated documentation, which has been placed in acid-free folders labeled in indelible ink	101
Figure 77. Exterior of the Civil Engineering Building addition housing the Environmental Flight offices	103

Figure 78. Collections stored in the bottom drawer of a locking file cabinet in Martyn Tagg's office	105
Figure 79. Associated documentation stored on metal shelves in Martyn Tagg's office	106
Figure 80. Historical maps and drawings are stored in a secure room in the Civil Engineering Building	106
Figure 81. Exterior of the HSR office	109
Figure 82. View of HSR collections storage area	111
Figure 83. The collection from Holloman AFB was unprocessed at the time of this evaluation, and was stored temporarily in a variety of primary and secondary containers	111
Figure 84. Associated documentation from Holloman AFB temporarily stored in a plastic milk crate	112
Figure 85. Administrative records for the Holloman AFB collection temporarily stored in nonarchival-quality three-ring binders	113
Figure 86. Report library at HSR	114
Figure 87. Anthropology Annex on the UNM campus at Albuquerque	116
Figure 88. Contact-point intrusion alarms are installed on all doors leading to the exterior	117
Figure 89. Documentation from investigations conducted on ACC installations is housed in acidic manila folders labeled in a variety of media	118
Figure 90. Primary container temporarily housing the Poinsett AFR collection held by New South	132
Figure 91. Secondary container and inserted label used to package the Poinsett AFR collection	132
Figure 92. Exterior of the building housing the Command Historian's office	140
Figure 93. Vault door leading to the collection storage area	141
Figure 94. Primary and secondary containers housing the Langley AFB collection currently curated on base	142
Figure 95. Exterior of dormitory housing WMCAR collections storage areas in the basement	146
Figure 96. WMCAR archives (Room 51)	148
Figure 97. Associated documentation from Langley AFB is kept in a file cabinet, arranged by project name and number	148
Figure 98. WMCAR photograph storage room	149

List of Tables

Table 1. Number of Collections and Reports Generated from Work Conducted on ACC Installations	xvi
Table 2. Summary of ACC Collections	xx
Table 3. Rehabilitation Necessary for Compliance with 36 CFR Part 79	xxi
Table 4. Secondary Containers Used in Davis-Monthan AFB Archaeological Collections at ASM, by Box	15
Table 5. Material Classes in Davis-Monthan AFB Archaeological Collections at ASM, by Box	15
Table 6. Presence or Absence of Repository Infrastructure Controls at Repositories Curating Davis-Monthan AFB Archaeological Collections	22
Table 7. Secondary Containers Used in Davis-Monthan AFB Archaeological Collections at ASM	23
Table 8. Summary of Material Classes in Davis-Monthan AFB Archaeological Collections at Both Repositories	23
Table 9. Presence or Absence of Repository Infrastructure Controls at the Beale AFB Museum	31
Table 10. Secondary Containers Used in the Avon Park AFR Collection at Avon Park AFR, by Box	37
Table 11. Human Skeletal Remains in the MacDill AFB Collection at USF-Tampa	49
Table 12. Percentage (by Count) of Material Classes in Avon Park AFR Collections, by Repository	52
Table 13. Percentage (by Count) of Material Classes in the MacDill AFB Collection at USF-Tampa	52
Table 14. Percentage (by Count) of Material Classes in the Barksdale AFB Collection Temporarily Stored at SCIAA	65
Table 15. Presence or Absence of Repository Infrastructure Controls at the 8th AF Museum	65
Table 16. Secondary Containers Used in Holloman AFB Collections at the Maxwell Museum of Anthropology	94
Table 17. Location of ACC Collections in New Mexico	120
Table 18. Environmental-Control Measures Present in New Mexico Repositories	121
Table 19. Security Measures Present in New Mexico Repositories	121
Table 20. Fire-Detection and -Suppression Measures Installed in New Mexico Repositories	122
Table 21. Material Classes in Holloman AFB Collections, by Repository	123
Table 22. Material Classes in Melrose AFR Collections, by Repository	123
Table 23. Location of Associated Documentation from ACC Installations in New Mexico	124

Table 24. Presence or Absence of Repository Infrastructure Controls at SCIAA 136

Table 25. Material Classes in the Langley AFB Archaeological Collection at Langley AFB, by Box 143

Table 26. Presence or Absence of Repository Infrastructure Controls at Langley AFB 151

Table 27. Secondary Containers Used in the Langley AFB Collection at Langley AFB 152

Table 28. Status of ACC Installations 156

Table 29. Repositories Curating Archaeological Collections from ACC Installations 158

Table 30. Environmental-Control Measures Present in Evaluated Facilities 159

Table 31. Security Measures Present in Evaluated Facilities 160

Table 32. Fire-Detection and -Suppression Measures Installed in Evaluated Facilities 161

Table 33. Summary of Rehabilitation Needed for Artifact Collections 162

Table 34. Summary of Material Classes in ACC Collections 162

Table 35. Registration Procedures in Place at Evaluated Repositories 163

Table 36. Written Policies and Procedures in Place at Evaluated Repositories 164

Executive Summary

Problem

Federal archaeological collections are a significant and nonrenewable national cultural resource. Curation of these materials, however, has been largely substandard or ignored for over 50 years. The result has been a steady deterioration of these resources, which include many unique prehistoric and historical-period objects. A significant number of these irreplaceable collections have been abandoned in the attics, basements, and closets of countless storage facilities across the United States. The improper care and subsequent deterioration of these collections not only violate the laws under which they were recovered but also prevent educational and scientific use. Unfortunately many valuable collections related to North American prehistory and history have been lost, and the considerable financial investment of the public in archaeological recovery squandered. A substantial portion of these national cultural treasures, however, still exists. Given proper housing and care, these nonrenewable resources can be saved for future generations. The U.S. Air Force (AF) Air Combat Command's (ACC) preservation ethic is characteristic of the AF's long-term interest in archaeological collections management.

Background

Department of Defense (DoD) installations are responsible for the management of archaeological and historical resources that are located on and recovered from their properties. As mandated by federal law, installations are required to ensure that archaeological materials and their associated records are properly curated in perpetuity. Unfortunately, funding shortfalls, lack of consistent national policy, and a misunderstanding of the magnitude of the problem have prevented compliance.

Collections recovered from DoD installations are public property, the result of many years of archaeological research and the expenditure of millions of federal dollars. A federally sponsored mitigation program usually provides for the recovery of materials from archaeological sites, the analysis of recovered items, the publication and circulation of a final report, and the placement of collections in storage facilities

for preservation, display, or future study. In the past, federal agencies paid little attention to the maintenance of collections once salvage programs were completed. Through the years, most collections have been stored free of charge by universities and museums. Inadequate funding and failing facilities now seriously hinder these institutions' ability to adequately care for archaeological collections and associated records.

At the request of Headquarters Air Combat Command (HQ ACC), the U.S. Army Corps of Engineers, St. Louis District, performed a curation compliance assessment in the fall of 1993 of installations that were, at that time, a part of ACC (see below). The project was funded by ACC, and Dr. Paul Green was the project manager at HQ ACC. Work was to be performed during FY94 and FY95, and two reports summarizing the findings of the St. Louis District were to be produced.

Initial project plans called for evaluations of the 42 installations listed below. Installations selected for evaluations during FY94, and which are the subject of the current discussion (Volume 1), are highlighted in boldface type. An initial telephone survey indicated that archaeological collections had been recovered from these 12 installations. Several other installations had archaeological recovery projects either underway or planned for FY94, and these will be discussed in Volume 2. The discussion below concerns only the first 12 installations evaluated. Installations followed by an asterisk (*) were, after the start of this project, selected for closure or realignment to other commands.

1. Avon Park Air Force Range (AFR), Florida

2. Badlands AFR, South Dakota

3. Balboa West Range, Panama City, Panama

4. Barksdale Air Force Base (AFB), Louisiana

5. Beale AFB, California

6. Cannon AFB, New Mexico

7. Castle AFB, California*

8. Cuddeback Range, California

9. Dare County AFR, North Carolina

10. Davis-Monthan AFB, Arizona

11. Dyess AFB, Texas

12. Ellsworth AFB, South Dakota

13. Ellsworth Missile Complex, South Dakota

14. Fairchild AFB, Washington*

15. Grand Bay AFR, Georgia

16. Griffiss AFB, New York*

- 17. Holloman AFB, New Mexico**
18. Homestead AFB, Florida*
19. Howard AFB, Panama City, Panama
20. Lajes Air Base, Azores Island, Portugal
- 21. Langley AFB, Virginia**
22. Little Rock AFB, Arkansas
23. Loring AFB, Maine*
24. McConnell AFB, Kansas*
25. McConnell Missile Complex, Kansas*
- 26. MacDill AFB, Florida**
- 27. Melrose AFR, New Mexico**
28. Minot AFB, North Dakota
29. Minot Missile Complex, North Dakota
30. Moody AFB, Georgia
31. Mountain Home AFB, Idaho
32. Nellis AFB, Nevada
33. Nellis AFR, Nevada
34. Offutt AFB, Nebraska
- 35. Poinsett AFR, South Carolina**
36. Pope AFB, North Carolina
37. KI Sawyer AFB, Michigan*
38. Saylor Creek AFR, Idaho
39. Seymour Johnson AFB, North Carolina
- 40. Shaw AFB, South Carolina**
41. Whiteman AFB, Missouri
42. Whiteman Missile Complex, Missouri

Thirty-four distinct collections and 125 unique reports pertaining to archaeological investigations on 12 ACC installations were identified (Table 1). Collections of material remains and associated documentation are curated at several repositories located throughout the United States. The term “collections” is used to refer to material remains recovered during an archaeological investigation, any records assembled or generated that document these efforts, or both. Even if no material remains are recovered, a collection of associated documentation is created. Often the documentation is separated from the accompanying material remains and curated by a different repository or repositories, thus resulting in two distinct collections for the same archaeological investigation. Twenty-three different installations and

repositories were visited during FY94 fieldwork. Because many museums and universities maintain multiple collections storage areas and each area was evaluated independently, the total number of storage areas visited by St. Louis District personnel was 36.

Not all of the 23 installations and repositories were fully evaluated, since some collections were to be transferred to another repository in the near future. Furthermore, not all of the facilities that were evaluated curated both material remains and associated documentation. These factors affect the percentages presented in this study. If a repository was not evaluated or if certain categories of questions were not applicable, these were not included when the final percentages were calculated. Of the 23 installations and repositories visited, 13 held material remains from ACC installations. Two of these had only material remains, while the South Carolina Institute of Archaeology and Anthropology (SCIAA) held collections from two ACC installations. Another six facilities held only associated documentation from archaeological investigations conducted on ACC installations. The remaining four facilities had neither material remains nor associated documentation at the time of the evaluation—the 8th AF Museum at Barksdale AFB; Cannon AFB and its subinstallation, Melrose AFR; and MacDill AFB. Finally, one collection from Shaw AFB was identified that had never been returned to the base. This collection was found in the offices of the contractor who conducted the project (CHRS, Inc.). Personnel from the St. Louis District were informed that the collection would be sent to SCIAA for permanent curation. This transfer was not complete at this writing; therefore, the collection

Table 1.
Number of Collections and Reports Generated
from Work Conducted on ACC Installations

Installation	Number of Collections	Number of Reports
Avon Park AFR, Fla.	3	4
Barksdale AFB, La.	1	5
Beale AFB, Calif.	2	7
Cannon AFB, N.M.	1	1
Davis-Monthan AFB, Ariz.	2	6
Fairchild AFB, Wash.	1	1
Holloman AFB, N.M.	8	76
Langley AFB, Va.	2	6
MacDill AFB, Fla.	2	6
Melrose AFR, N.M.	9	10
Poinsett AFR, S.C.	2	2
Shaw AFB, S.C.	1	1
Total	34	125

was not evaluated. All evaluations were conducted in accordance with protocols established by the St. Louis District and guided by 36 CFR Part 79 (Curation of Federally-Owned and Administered Archaeological Collections), a 1991 federal regulation that establishes minimum professional standards for the management and care of all federal archaeological collections. Inspections produced evidence documenting the widespread deterioration and neglect of many ACC archaeological collections.

Findings

Status of Physical Facilities

Repository Adequacy

ACC collections of material remains and/or associated documentation are currently curated at 20 repositories (three with multiple storage facilities) in seven different states.

1. Arizona State Museum (ASM), Tucson, Arizona
2. Davis-Monthan AFB, Tucson, Arizona
3. Beale AFB Museum, Marysville, California
4. PAR Environmental Services, Inc., Sacramento, California
5. Avon Park AFR, Avon Park, Florida
6. JANUS Research, Inc., and rented storage space, St. Petersburg, Florida
7. University of South Florida, Tampa (USF-Tampa)
8. SCIAA, Columbia, South Carolina
9. Shaw AFB, Sumter, South Carolina
10. Agency for Conservation Archaeology (ACA) warehouse, Portales, New Mexico
11. U.S. Army Corps of Engineers, Albuquerque District, New Mexico
12. Holloman AFB, Alamogordo, New Mexico
13. Human Systems Research (HSR), Tularosa, New Mexico
14. Museum of Indian Arts and Culture/Laboratory of Anthropology Archaeological Research Collections (MIAC/LOA ARC), specifically, the Laboratory of Anthropology (LOA) and the La Villa Rivera (LVR) Building, Santa Fe, New Mexico
15. Maxwell Museum of Anthropology and its warehouse annex, Albuquerque, New Mexico

16. New Mexico Archaeological Records Management Section (NMARMS), Santa Fe, New Mexico
17. Office of Contract Archaeology (OCA), University of New Mexico, Albuquerque
18. Langley AFB, Newport News, Virginia
19. College of William and Mary Center for Archaeological Research (WMCAR), Williamsburg, Virginia
20. CHRS, Inc., Sharon Hill, Pennsylvania

With the exception of CHRS, all of the above-listed repositories were visited. Three of these repositories house their ACC collections in two separate storage facilities; in all three cases, both facilities were visited. The assessment team also visited the 8th AF Museum at Barksdale AFB, which will be taking over curation of the Barksdale AFB collection currently housed at SCIAA. In all, 23 facilities were visited. Of those visited, 20 were evaluated; however, because such a small amount of documentation was examined at PAR Environmental, it was deemed unnecessary to present the results of that evaluation in this report. (This information is on file at the St. Louis District.) Thus, the results for 19 facilities are discussed here. None of these facilities fulfill all of the standards mandated by 36 CFR Part 79.

Repository Maintenance

Most of the facilities that were inspected receive some measure of service, though on an irregular basis. At most facilities, offices are cleaned by professional companies, but the collections storage areas are cleaned on an as-needed basis by the curatorial staff. In addition, at four facilities (21%), extraneous materials such as excavation equipment, supplies, and excess furniture are kept in collections storage areas, an unacceptable practice in professional collections-management facilities.

Environmental Controls

Environmental monitoring and adequate environmental control—appropriate, stable temperatures and humidity, and adequate monitoring of both—are crucial for the long-term preservation of collections. Only two (11%) of the facilities examined contain appropriate environmental controls. Most facilities are heated and air-conditioned; however, temperature and humidity fluctuations outside the acceptable range dictated by the American Association of Museum (AAM) standards have occurred at most of the facilities. Twelve (63%) of the facilities monitor temperature, while only eight (42%) monitor humidity. Thirteen (68%) of the facilities can control temperature, but only two (11%) can control humidity. Curatorial staff at many of these

facilities are aware of these deficiencies, but lack the requisite funding to rectify the situation.

Security

Only five (26%) of the facilities meet federal standards for security of archaeological collections, which include such measures as intrusion alarms, motion detectors, limited access, absence of windows in collections storage areas, and security on doors. All 19 facilities are locked, and 18 (95%) control access to the collections storage areas. None of the facilities reported cases of loss from unauthorized entry, although the potential for such a loss exists at six (32%) of the examined institutions.

Fire Detection and Suppression

Fire—a major hazard to any museum collection—cannot be adequately detected at 13 (68%) of the facilities, and cannot be adequately suppressed at nine (47%) of the facilities examined. Only three (16%) facilities meet all federal requirements for safeguarding federal archaeological collections from fire hazards, which include the installation of smoke detectors, heat sensors, alarms wired into the local fire department, an overhead sprinkler system, and fire extinguishers. All facilities had at least one fire extinguisher in the collections storage areas, but in 10 (53%) cases, extinguishers were the only measure of fire suppression in these areas.

Pest Management

A professional pest-management program is crucial to the long-term survival of many archaeological collections and all associated records. Only four (21%) facilities have an integrated pest-management system consisting of both professional and staff monitoring and in-place control measures. Twelve (63%) facilities are monitored for pest infestation by curatorial staff. Eight (42%) are monitored by both staff and a professional pest-management company, but only six (32%) are sprayed against pests on a regular basis. All but two facilities have some type of pest management in place. These measures range from professional spraying of an insecticide to trap baiting on an as-needed basis. However, one cannot conclude that the collections and records in these institutions are receiving the pest management they require.

Status of Artifacts

Archaeological collections from the ACC installations discussed in this report consist of approximately 101 ft³ of material in 15 distinct collections (Table 2). Nine collections consist of both prehistoric and

Table 2.
Summary of ACC Collections

Installation/ Repository^a	Volume of Collections (ft³)	Documentation (linear feet)^b	Archaeological Context
Avon Park AFR	4.0	0.08	prehistoric & historical period
JANUS Research	56.0	2.0	prehistoric & historical period
Barksdale AFB (8th AF Museum)			
SCIAA	3.0	0.75	prehistoric & historical period
Beale AFB (Museum)	1.0	0.08	prehistoric
PAR Environmental		0.16	
Cannon AFB			
NMARMS		0.08	
Davis-Monthan AFB	1 artifact	0.32	prehistoric
ASM	12.0	0.54	prehistoric
Fairchild AFB			prehistoric & historical period
Holloman AFB	0.5	1.5	prehistoric & historical period
Maxwell Museum	4.0		prehistoric & historical period
HSR	1.0	2.0	prehistoric & historical period
NMARMS		0.16	
Albuquerque District		1.16	
OCA		0.75	
Langley AFB	5.4	0.67	prehistoric & historical period
WMCAR		0.13	
MacDill AFB			
JANUS Research		0.16	
USF-Tampa	1.5	0.08	prehistoric
Melrose AFR			
MIAC/LOA ARC	7.5		prehistoric & historical period
NMARMS		1.0	
OCA		0.25	
ACA warehouse	1.0	0.08	prehistoric
Albuquerque District		0.84	
Poinsett AFR			
SCIAA	0.5	0.08	prehistoric
CHRS	3.5	unknown	unknown
Shaw AFB		0.08	
Total	100.9	12.95	

^a Installations and repositories visited during FY94 fieldwork include: Avon Park AFR, JANUS Research, the 8th AF Museum at Barksdale AFB, SCIAA, Beale AFB Museum, PAR Environmental, Cannon AFB, NMARMS, Davis-Monthan AFB, ASM, Holloman AFB, the Maxwell Museum, HSR, the Albuquerque District, OCA, Langley AFB, WMCAR, MacDill AFB, USF-Tampa, Melrose AFR, MIAC/LOA ARC, the ACA warehouse, and Shaw AFB.

^b Linear feet is the standard unit of measure for associated records.

Table 3.
Rehabilitation Necessary for Compliance with 36 CFR Part 79

Repository	Rehabilitation for Artifact Collections	Rehabilitation for Record Collections
ACA warehouse	complete	complete
Albuquerque District		complete
ASM	partial	partial
Avon Park AFR	complete	complete
Beale AFB Museum	complete	complete
CHRS	unknown	unknown
Davis-Monthan AFB	partial	complete
Holloman AFB	partial	complete
HSR	complete	complete
JANUS Research	partial	complete
Langley AFB	complete	complete
Maxwell Museum	partial	
MIAC/LOA ARC	partial	
NMARMS		complete
OCA		complete
PAR Environmental		complete
SCIAA (Barksdale AFB)	partial	complete
SCIAA (Shaw AFB)	partial	complete
Shaw AFB		complete
USF-Tampa	partial	complete
WMCAR		complete

Note: Blank cells indicate no collection.

historical-period elements; six collections comprise only prehistoric materials; and the remaining collection, from CHRS, was not evaluated. One prehistoric collection contains human skeletal remains. At the present time, no artifact collections fully meet existing federal requirements for archaeological curation. Each of the 15 collections identified in this study will require at least partial rehabilitation to meet current federal standards (Table 3).

Approximately 60 percent of the secondary containers, the largest receptacles within the primary containers, are plastic zip-lock bags. The remaining 40 percent consist of a variety of containers such as acidic paper bags, plastic garbage bags, polyvinyl chloride (PVC) bags, paper envelopes, cloth bags, and small cardboard boxes. Secondary containers constructed of materials other than polyethylene plastic zip-lock bags and cloth bags are unacceptable museum storage media. Secondary labels consist of directly labeled, acidic paper tags or inserts or of information written directly on the secondary containers.

Acidic paper inserts are inappropriate labels for the long-term curation of archaeological collections; all inserts should be made of acid-free paper stock. Label information written on the exterior of secondary containers is inconsistent, and some media used (e.g., water-soluble inks) are inappropriate.

Status of Human Skeletal Remains

Only one collection identified by the evaluation team contained human skeletal remains. This collection, recovered from MacDill AFB, presently is housed at the USF–Tampa. The remains of at least three individuals are included in the collection. The materials should be partially rehabilitated (e.g., reboxed, rebagged) in order to stabilize the remains, and a complete inventory must be generated in order to comply with the Native American Graves Protection and Repatriation Act (NAGPRA; P.L. 101-601).

Status of Documentation

ACC records encompass approximately 13 linear feet and include 125 reports. The data reflect that the records are at substantial risk. Field records, reports, administrative records, and photographic records are present in over 50 percent of the records examined. However, correspondence, proposals, analysis records, line drawings, maps, and oversized maps and documents were found in only a few collections evaluated. In at least two cases, the associated documentation consists solely of artifact inventories; all other documentation for these collections has been lost. It is apparent that all collections do not contain a full range of each type of record, which is an extremely disturbing finding.

In many instances, associated documentation was never submitted by the contracting archaeologist or agency, and the installations have not requested their transfer. This may be the single most glaring problem with ACC collections. If all significant records of a project are not curated, then the collection is incomplete. It is clear that collections managers or archaeologists have not always considered associated documentation to be a part of an archaeological collection and, therefore, worthy of curatorial care. The result is that records for some of the collections cannot be located, a problem that should be aggressively addressed.

Professional archival-quality practices were noted at only three (18%) of the 17 repositories that curate associated documentation. None of the original paper records at any of the repositories have been duplicated. In some cases, photographic materials have not been isolated or stored in chemically inert sleeves. No records are housed in fireproof cabinets. Primary-container labels consist of directly labeled, acidic paper tags, and adhesive labels, a procedure that is not recommended

for the long-term preservation of records. In sum, the records, which are an integral part of these collections, are receiving the worst treatment and are in the greatest danger. Action to correct this situation should be taken immediately.

Status of Repository Management Controls

Twelve (63%) of the facilities have accession records, and 11 (58%) have a written record of the physical location of the collections within the facility. Ten (53%) facilities have either completed or initiated an inventory of their collections. In most cases, however, the inventory addresses only NAGPRA items, not the facility's entire holdings. Basic policy and procedure statements are present at some facilities but not at others. Nine (47%) have a written curation policy; seven (37%), a records-management policy; six (32%), a deaccessioning policy; six (32%), field-curation procedures; eight (42%), a loan policy; and nine (47%), an inventory policy. Only two of the facilities have a guide to their collections; both on a computer database. Given the above, it is clear that the collections are at great risk, and fully half are not being cared for in a manner acceptable to the provisions of 36 CFR Part 79.

Corrective Actions

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

1. Bring together all collections from installations located within the same state at a single repository located in that state.
2. Develop and implement uniform inventory procedures.
3. Using the uniform system, identify and systematically inventory all archaeological collections and associated documentation recovered from ACC installations.
4. Rehabilitate and/or conserve artifact collections, and archivally preserve all documentation and reports.
5. Develop and implement formal archives-management programs.

If implemented, these corrective measures will permit ACC to meet the minimum federal requirements for the adequate long-term curation of archaeological collections. By adopting this approach, ACC has the opportunity to implement a curation program that will serve its needs well into the next century.

Conclusions

Attainment of each recommendation may not be possible immediately. However, because the collections are rapidly deteriorating in their current storage environments and there is no long-term, consistent management plan for the proper curation of archaeological collections and associated documentation, some action is needed. These federal collections provide raw archaeological data, and if not properly cared for soon, they will lose their educational and research value and potential. Any progress will ensure that these collections will be more adequately preserved than is currently the case, and that they will be useful to future generations.

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Agency for Conservation Archaeology

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John Montgomery, Director

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Bill Collins, Historian

Arizona State Museum, Tucson

Alan Ferg, Archivist
Kathy Hubenschmidt, Photograph Archivist
Arthur Vokes, Curator

Arizona State Museum, State Site Files, Tucson

Sharon Urban (Shurban), Public Archaeologist

Avon Park Air Force Range

Paul Ebersbach, Natural Resource Manager
Kurt Olsen, Natural Resource Manager

Barksdale Air Force Base, 8th Air Force Museum

Harold "Buck" Rigg, Curator

Beale Air Force Base Museum

Ken Moore, Civil Engineering Flight
John Thomson, Civil Engineering Flight

**Cannon Air Force Base and
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Richard Crow, Natural/Cultural Resource Manager

Davis-Monthan Air Force Base

Gwen Lisa, Manager, Natural/Cultural Resources Program

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**Florida State Historic Preservation Office,
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Sarah Eidenbach, Archaeologist

JANUS Research, Inc.

Bill Austin, Archaeologist

Langley Air Force Base

Suzanne Allan, Base Community Planner
Tom Wittkamp, Environmental Coordinator

Louisiana State Historic Preservation Office

Phillip "Duke" Rivet, Staff Archaeologist

MacDill Air Force Base

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Mariah Associates

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Maxwell Museum of Anthropology

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**Museum of Indian Arts and Culture/
Laboratory of Anthropology Archaeological
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Nancy White, Professor of Anthropology

**U.S. Army Corps of Engineers,
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**William and Mary Center for
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Dennis Blanton, Codirector
Debbie Davenport, Laboratory Supervisor
David Lewes, Archivist
Don Linebaugh, Codirector

Introduction

Installations under the command of HQ ACC are responsible for archaeological artifact collections and accompanying documentation (hereafter referred to as archaeological collections) recovered from their bases, which are stored in 20 facilities in seven different states. This responsibility is mandated through numerous legislative enactments, including the Antiquities Act of 1906 (P.L. 59-209), the Historic Sites Act of 1935 (P.L. 74-292), the Reservoir Salvage Act of 1960 (P.L. 86-523), the National Historic Preservation Act of 1966 (P.L. 89-665), and the Archaeological Resources Protection Act of 1979 (P.L. 96-95). Executive Order 11593 (U.S. Code 1971) and amendments to the National Historic Preservation Act in 1980 provide additional protection for these resources. Preservation of federal archaeological collections is secured in the implementing regulation, 36 CFR Part 79. Additionally, the U.S. Army Corps of Engineers (USACE) is the only federal agency that possesses strict curation standards for archaeological materials under their care. USACE Engineer Regulation 1130-2-433, which was implemented in April 1991, serves as a standard for long-term archaeological curation.

In 1990 NAGPRA was enacted (1) to identify federal archaeological collections that contain Native American human remains, funerary objects, sacred objects, and objects of cultural patrimony and (2) to form agreements between federal agencies and Native American Indian Tribes and Native Hawaiian organizations on the repatriation or disposition of these remains and objects. All federal agencies are required to meet mandated deadlines for compliance with NAGPRA. A summary of unassociated funerary

objects, sacred objects, and objects of cultural patrimony was required by November 16, 1993. HQ ACC completed its required summaries and forwarded them to HQ AF by the deadline. At the time this report was written, HQ AF had not forwarded the summaries to tribes, because the Department of the Interior had not finalized its relevant implementing regulation, 43 CFR Part 10. Additionally, an inventory of human remains and associated funerary objects was mandated by November 15, 1995.

In January 1994, as the first step in complying with 36 CFR Part 79 and the second NAGPRA deadline, Paul Green, HQ ACC cultural resource manager, contacted the St. Louis District to discuss an interagency agreement that would address these requirements. After a series of consultations with Dr. Michael K. Trimble, chief of the Curation and Archives Analysis Branch, an approach was recommended that would identify and evaluate the collections from ACC installations in accordance with the federal curation requirements of 36 CFR Part 79. Data gathered by the St. Louis District also would provide HQ ACC with NAGPRA-compliance information. A memorandum of agreement was signed between the two parties that empowered the St. Louis District to conduct curation-needs assessments at ACC installations. According to this agreement, the St. Louis District would provide HQ ACC with an inventory of their archaeological collections that would outline their curation needs. Concurrently, collections managers would receive a plan addressing their specific curation needs and, when appropriate, the corrective actions required to bring their facility

and collections into compliance with 36 CFR Part 79.

In the Interagency Agreement, the St. Louis District agreed to provide the following:

1. professional and technical services to HQ ACC for the inspection and inventory of archaeological collections;
2. information that would enable HQ ACC to fulfill the requirements of the November 15, 1995, NAGPRA deadline;
3. a final report that would (a) detail the results of the inspection and evaluation; (b) address the physical description of all repository facilities, recovered-artifact collections, and associated-documentation collections; and (c) make recommendations for compliance with the requirements of 36 CFR Part 79; and
4. a master bibliography of reports associated with archaeological investigations performed on ACC properties.

As part of the curation-needs assessment, St. Louis District personnel would visit the funding agency to examine any reports, records, or inventory data associated with ACC collections and develop an annotated bibliography of reports, which would include a list of the associated collections and their present locations. The St. Louis District anticipated that the fieldwork for the overall project would require two years, FY94 and FY95, and that results would be reported in two volumes.

Methods

Twenty-three curation facilities were visited during the course of FY94 fieldwork (see Executive Summary). Of these, 20 were evaluated in the course of the curation-needs assessment, though the specific results of the evaluation of PAR Environmental are not included in this report (see Chapter 3). The other 19 evaluated facilities were the 8th AF Museum, the ACA warehouse, the Albuquerque District, ASM, Avon Park AFR, Beale AFB Museum, Davis-Monthan

AFB, Holloman AFB, HSR, Langley AFB, the Maxwell Museum of Anthropology and its warehouse, LOA and the LVR Building at MIAC/LOA ARC, NMARMS, OCA, SCIAA, USF-Tampa, and WMCAR. Shaw AFB and JANUS Research and its additional storage facility were not evaluated because they did not hold ACC collections or did not plan to curate the collections once the project was completed. In addition to curation facilities, locations such as SHPO offices were visited to obtain project-related information. The following schedule reflects the time allocated to information gathering at each facility.

- September 21, 1993, PAR Environmental Services
- September 22, 1993, Beale AFB Museum
- February 2–3, 1994, HQ ACC, Langley AFB
- March 20–23, 1994, NMARMS and MIAC/LOA ARC (LOA and the LVR Building)
- March 24, 1994, USACE Albuquerque District
- March 25, 1994, Maxwell Museum of Anthropology and its warehouse
- March 25, 1994, Mariah Associates
- March 28, 1994, Cannon AFB and Melrose AFR
- March 28, 1994, ACA warehouse
- March 30, 1994, HSR
- March 30, 1994, Holloman AFB
- July 19, 1994, Arizona State Historic Preservation Office (SHPO)
- July 21, 1994, Arizona State Site Files, ASM
- July 21, 1994, Davis-Monthan AFB
- July 25, 1994, ASM
- September 26, 1994, Langley AFB
- September 28, 1994, SCIAA
- September 29, 1994, Shaw AFB
- November 28, 1994, SCIAA
- December 5–6, 1994, Louisiana SHPO
- December 7, 1994, Barksdale AFB (8th Air Force Museum)
- January 9, 1995, Florida Bureau of Archaeological Research
- January 9, 1995, Florida SHPO

- January 11, 1995, Avon Park AFR
- January 12, 1995, JANUS Research
- January 13, 1995, USF-Tampa
- March 1, 1995, OCA
- May 15, 1995, WMCAR

Pre-Fieldwork Investigation

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

1. An initial telephone survey was conducted. Each ACC installation was contacted and questioned about archaeological investigations conducted on the base. From this survey, 12 ACC installations were identified that had archaeological collections; these bases were the focus of FY94 fieldwork.

2. A National Park Service National Archeological Database (NADB) and a general records search were performed for each of the 12 ACC installations.

3. Each funding agency was visited in order to examine all reports, records, and inventory data associated with ACC archaeological collections and to compile an annotated bibliography of reports, which was to include a list of associated collections and their present location.

4. Initial contacts were made with all personnel and agencies with knowledge of ACC archaeological collections.

5. From these initial contacts, a list was developed of all contracting agencies and repositories associated with the recovery or curation of materials from ACC installations.

Field Inspection and Assessment of Repositories and Collections

Assessment of the archaeological collections and the repositories that house them involved the following four major tasks.

1. A survey questionnaire soliciting information on repositories, artifact collections, and associated documentation was completed for every facility involved with the curation of archaeological collections from a given installation.

2. A building-evaluation form, addressing structural adequacy, space utilization, environmental controls, security, fire detection and suppression, pest management, and utilities, was completed for every repository and secondary storage facility involved with the curation of archaeological collections recovered from ACC installations. These data, gathered both by observation and through discussion with collections managers, served as the basis for determining whether or not the facility was in compliance with the requirements for repositories as specified in 36 CFR Part 79.

3. All project and site reports, administrative files, field records, curation records, electronic media, and photographic records were examined to determine their presence or absence, the total linear feet of each type of documentation, the physical condition of the containers and the records, and the overall condition of the storage environment. The determination of whether or not the facility was in compliance with the archives-management requirements specified in 36 CFR Part 79 was based on this research.

4. An examination and evaluation of all artifact collections included an assessment of the (1) primary and secondary containers, (2) degree of container labeling, (3) extent of laboratory processing, (4) material classes included in each collection, and (5) condition of any human skeletal remains. Primary containers—e.g., acidic and acid-free cardboard boxes; cardboard, metal, and wooden trays; and wooden and metal drawers—are the receptacles that house an individual artifact or group of artifacts. Secondary containers—e.g., acidic paper bags, plastic sandwich bags, plastic zip-lock bags, glass jars, film vials, aluminum foil, and small acidic and acid-free cardboard boxes—are the largest receptacles for artifacts within the primary containers.

NAGPRA-Compliance Assessment

Only a single collection of human skeletal remains (from MacDill AFB) was identified in any of the ACC collections by the assessment team. This information was forwarded to HQ ACC and used to fulfill the November 15, 1995, NAGPRA requirements.

Report Preparation

The present report constitutes Volume 1 of two volumes of a written report detailing the results of the curation-needs assessment. It includes descriptions of the facilities, estimates of the sizes of the collections, and assessments of their conditions. The St. Louis District also herein provides to HQ ACC recommendations for rehabilitation of the facilities and/or the collections, according to standards set forth in 36 CFR Part 79.

Chapter Synopsis

Chapters 2–8 detail the state of ACC archaeological collections evaluated during FY94 fieldwork. The report is organized by state because many states encompass multiple ACC installations. Each chapter begins with an executive summary of the collections held by ACC installations in that state. Subsequent discussion

includes a detailed examination of the installations and an analysis of all the repositories (universities, museums, and contractors) curating collections from each specific installation. Chapter 9 discusses the status of curation on other ACC installations and previews the installations to be evaluated in Volume 2 of this study. Chapters 10 and 11 include the findings summary and recommendations for the ACC installations described in Chapters 2–8. Appendixes 1–12 are annotated bibliographies for the reports identified during the research leading up to this report. Appendixes 13–17 are policy and procedure statements from some of the repositories evaluated during FY94 fieldwork or from pertinent states. Appendix 18 is a glossary of terms, and Appendix 19 contains examples of memorandums of understanding for curatorial services.

None of the repositories fulfill all of the standards mandated by 36 CFR Part 79 for curating federally owned archaeological collections. Approximately 50 percent meet most of the minimum standards enumerated in federal regulations (e.g., proper environmental controls and security and fire-safety measures). Only 7 (37%) of the 19 repositories employ full-time curators for archaeological collections. Existing conditions at the repositories described in this report unfortunately are the standard for most archaeological collections repositories in the United States. Funding shortfalls, lack of a consistent national policy, and the magnitude of the curation problem have prevented total compliance with federal regulations.

2

Arizona

Davis-Monthan Air Force Base, Tucson

Installation Summary for Davis-Monthan AFB

Volume of Artifact Collections: Approximately 12 ft³

On Base: One artifact

Off Base: 12 ft³ (ASM)

Compliance Status: Collection held by the Arizona State Museum (ASM) requires partial rehabilitation to comply with federal regulations governing the long-term curation of archaeological materials. When the Davis-Monthan interpretive display is dismantled, the single artifact on base should be conserved and transferred to ASM for curation.

Linear Feet of Records: 0.88 linear feet

On Base: 0.34 linear feet

Off Base: 0.54 linear feet (ASM)

Compliance Status: All associated documentation located on base requires complete rehabilitation. Documentation curated by ASM will be processed archivally when the material is accessioned into their collection.

Human Skeletal Remains: None

Status of Curation Funding: Currently no funding is allocated at Davis-Monthan AFB for the curation of their archaeological collections or their written documentation, nor is the base providing funds to ASM for the curation of their collection. Once funding requirements are enumerated, Davis-Monthan personnel can apply to AF Environmental Compliance Program A-106 for the necessary monies.

Recommended Curation Facility: Davis-Monthan AFB does not currently have the staff or facilities to properly curate archaeological collections. ASM is a professionally managed institution that has the staff and facilities to care for archaeological collections. At the present time, the St. Louis District recommends that Davis-Monthan AFB create a formal (short-term) memorandum of understanding with ASM to curate their collections.

Repository 1: Davis-Monthan AFB

Date of Visit: July 22, 1994

Point of Contact: Gwen Lisa, Manager, Natural/Cultural Resources Program

Davis-Monthan AFB was established in 1927 and encompasses 10,763 acres. The base houses several major wing units and the Aerospace Maintenance and Regeneration Center. To date, several archaeological excavations have been conducted on base property in order to expose and evaluate archaeological sites located within the base perimeter. A single pottery sherd and 4 linear inches of administrative records from archaeological projects funded by ACC are stored

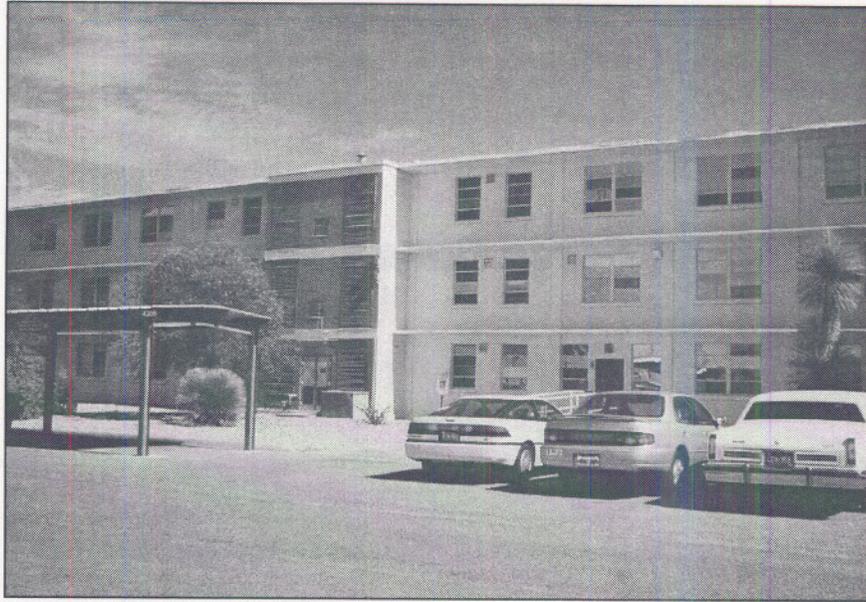


Figure 1. Exterior of Building 4300, where archaeological collections are stored.

in two offices on the second floor of Building 4300 on Davis-Monthan AFB. Building 4300, which functions primarily as space for offices, is located at 5285 East Madeira Street at the base (Figure 1). Two of the offices on the second floor house the administrative records for archaeological projects as well as an interpretive display, which includes the only artifact retained from the base collection.

Assessment

Structural Adequacy

Building 4300 was originally constructed in the 1950s as a dormitory, but was then redesigned for offices. It has a concrete foundation, exterior block walls, and a built-up asphalt roof, which has never been replaced completely and is patched as necessary. Neither the foundation nor the roof displayed evidence of water damage. Three floors of Building 4300 are above grade. The first floor was rehabilitated recently, but the second floor has never been renovated. One shaded window is located in each office. All windows are original to the building and measure 64 x 84 inches (w x h). Window frames are steel and tend to leak air. Hallway ceilings are suspended acoustical tile, and office ceilings are

concrete. Interior office doors are glass, and exterior office doors are wood and glass.

Building 4300 supports the following utilities/facilities: heat, rest rooms, telephones, air conditioning, and electricity. Primary systems for the building (e.g., plumbing, heating, electrical) are original (i.e., they were installed in the 1950s). A forced-air, electric-heat pump system is used throughout the building. There is no evidence of water damage either to the building or to the collections from plumbing system failure.

Environmental Controls

Independent temperature controls are located in each room of Building 4300. Temperature is monitored and kept at levels comfortable for the staff. Humidity controls are absent. Building 4300 has no asbestos present, and dust is kept to a minimum. Standard dust filters are present on all air-conditioning and heating units and are changed twice a year. Refuse disposal is conducted by a professional company on a regular basis.

Pest Management

Building 4300 is regularly maintained for insect and rodent infestations. No integrated pest-management system has been implemented for the building, although the building is monitored. At

the time of the evaluation, no pest infestation was observed. In the past, however, birds have built nests in some of the rest rooms.

Security

Security measures for Building 4300 include key locks on all interior doors and single-cylinder, dead-bolt locks on all exterior doors. Windows are equipped with basic slide locks; however, because of their size and placement they present few security risks. Intrusion alarms are absent, but the building is inspected regularly by base security during off-duty hours. No accounts of forced entry were provided to the assessment team, though there have been some unexplained occurrences of missing office equipment.

Fire Detection and Suppression

Building 4300 has manual fire alarms throughout the building that are wired into the installation's fire department. There are fire walls between every room and fire doors at the end of each hallway, which may enhance fire containment (Figure 2). Heat sensors are present, but may not be functional. Halon fire extinguishers are in place and were inspected earlier in July, though no inspection tag was present on the second-floor extinguisher. All halon extinguishers will be removed within the next year. Building 4300 is classified by AF regulations as fireproof.

Artifact Storage

Only one artifact is currently located on base. It is a pottery sherd that has been mounted to foam-board backing and incorporated into the interpretive display for the base. All other artifacts in the display are replicas (Figure 3).

Laboratory Processing and Labeling

No laboratory processing or artifact labeling is carried out by Davis-Monthan personnel. However, the artifact held on base has been labeled—in india ink covered with clear nail polish—with the pertinent site number.

Records Storage

Paper Records

Written documents pertaining to base archaeology are stored in a letter-size, four-drawer file cabinet, with the drawer designation "Active Files, 16-20-9." Two manila folders—designated "20-2- Life Along the River"—contain administrative documents (e.g., scopes of work for all phases of Statistical Research, Inc. [SRI], projects; financial records; correspondence; proposals; and contracts) as well as bound reports for various excavations.

No accession information beyond the folder designations is available, and no finding aids have been compiled for the documents at Davis-Monthan AFB. Similarly, no preservation/security copy has been made. In addition, none of



Figure 2. Fire extinguishers, fire doors, and fire walls in the hallway of Building 4300. The motion sensor on the ceiling may be nonfunctional.



Figure 3. The single artifact stored on base (not shown) is included in an interpretive display located on the wall of a conference room in Building 4300.

the records are being stored according to modern archival practices, and no funding for such stabilization is currently anticipated.

Photographic Records

Photographs of on-base archaeological investigations consist of three sets of identical photographs.

Four-by-six-inch black-and-white photographs and color slides are not labeled and are kept in manila folders with the written documentation (Figure 4). Eight-by-ten-inch color photographs, which are part of the interpretive display, have been placed on cardboard backing and enclosed within clear plastic box frames (see Figure 3).

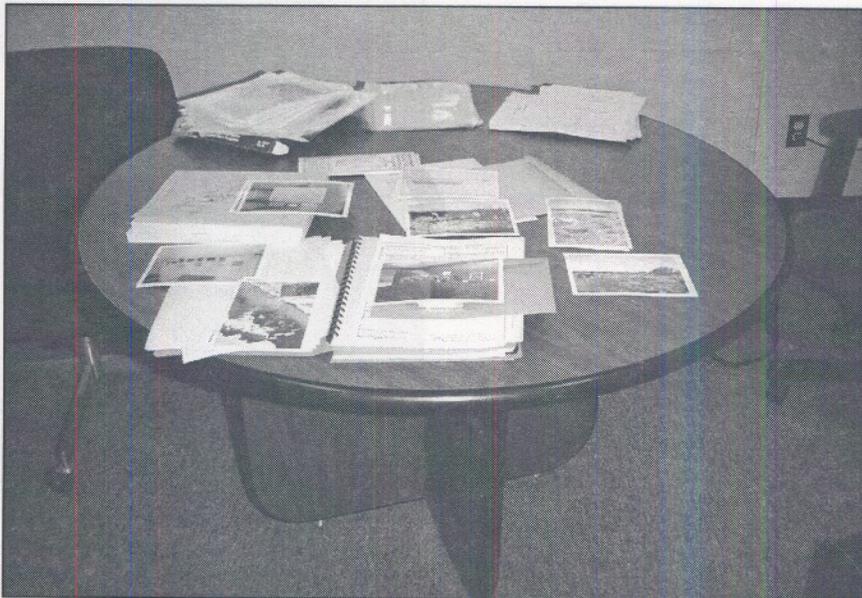


Figure 4. Associated documentation for Davis-Monthan AFB collection showing interspersed photographic materials.

Collections-Management Standards

No official registration procedures, written policies and procedures, or management controls have been established for the documentation or artifacts curated at Davis-Monthan AFB. Any curation guidelines that exist are dictated by individual contractors.

Written documentation has been filed topically and chronologically for office purposes only. Documentation housing is adequate, and the files are readily accessible. Access is restricted until approval to view and/or remove files for photocopying purposes is granted by Gwen Lisa, manager of the Natural/Cultural Resources Program for Davis-Monthan AFB's Environmental Quality Branch. A check-out system is in place, which indicates who authorized the removal of the files, when files were removed, for what reason they were removed (e.g., for photocopying), and by whom. No negative-finding reports for Davis-Monthan AFB archaeological projects are being housed on base.

Curation Financing

Davis-Monthan AFB currently recognizes no financial responsibility to any of its archaeological collections (either curated on base or currently held elsewhere). Written documentation held on base has been processed using funds for normal office expenses. As for artifacts and photographs, beyond initial construction costs, no further monies have been allocated to date for the interpretive display. The staff, however, stated that they would apply for AF Environmental Compliance Program A-106 funds once they determined their financial requirements for curation.

Comments

1. Building 4300 is structurally sound.
2. No heating-ventilating-air conditioning (HVAC) system is installed, but dust filters are in place.
3. Building 4300 is monitored for pests, but an integrated pest-management program is not in effect.

4. Building 4300 does not meet the minimum requirements for security.
5. Halon extinguishers need to be removed, and the heat sensors tested for operability.
6. Paper records and photographs require complete rehabilitation.
7. No collections-management standards exist at this facility.
8. There is no curation funding available at this repository.

Recommendations

1. Test heat sensors throughout Building 4300 to determine their working status. If units do not function, they should be replaced.
2. Replace all halon fire extinguishers located in Building 4300.
3. Update/expand security system to better safeguard those materials used for the interpretive display.
4. Create duplicate/security copies of all pertinent written documents to be filed for office purposes. Turn original documents and all photographs (those not used in display) and negatives over to ASM for archival processing and storage.
5. Establish a formal memorandum of agreement with ASM for the long-term curation of all Davis-Monthan AFB archaeological collections.

Repository 2: Arizona State Museum

Date of Visit: July 25, 1994

Point of Contact: Arthur Vokes, Curator

Approximately 12 ft³ of prehistoric artifacts and 6.5 linear inches of associated documentation from archaeological investigations on Davis-



Figure 5. Exterior of ASM's South Building.

Monthan AFB are stored at ASM, which is located on the University of Arizona (UA) campus in Tucson.

The Davis-Monthan AFB collection at ASM falls into two main categories: (1) cataloged collections (1%), those removed from the major collection and used for report-illustration and photographic purposes, and (2) research collections (99%), all remaining artifacts from Davis-Monthan AFB excavations. The collection consists exclusively of prehistoric materials. Material classes include lithics (35%), ceramics (33%), flotation samples (7%), faunal remains (6%), soil samples (19%), and ^{14}C samples (>1%). Both cataloged and research collections are fully accessioned by ASM personnel. Cataloged materials do not reenter the main collection, but are instead stored with other cataloged materials in a wooden cabinet in the main artifact study area.

ASM occupies two buildings on the UA campus. Davis-Monthan AFB archaeological collections and associated documents are curated in ASM's South Building—also known as the old library building or University Building Number 26 (Figure 5). The North Building (located across the quadrangle) holds all photographic materials associated with archaeological projects. Both buildings are similarly maintained in terms of janitorial and pest-management

services. In addition, they are of similar overall construction, except that the North Building does not have a mezzanine-type collections storage area. Further, the North Building has some added security precautions—its front door is outfitted with an intrusion alarm that is wired to the police department—mainly because of its numerous exhibits.

ASM's South Building is divided into several levels, each devoted to different activities. Research collections are stored in the center of the facility, while cataloged collections occupy space in the main artifact study and processing area. Written documents are stored on the third floor in ASM's archives section.

The South Building includes areas for holding, washing, and processing artifacts; studying artifacts and records; storing supplies and photographic and temporary records; and monitoring security, as well as an exhibit area, a walk-in refrigeration unit, and offices. Most of the materials in the collections area are archaeological materials; however, zooarchaeological and paleobotanical items are also being curated. Approximately 90 percent of the collections storage area is occupied with materials. No overstacking of boxes was noted, and the area is reasonably clear of clutter.

The North Building contains exhibit space, artifact-type and special-collection holding

areas, a conservation laboratory, and a permanent storage area for photographs.

The ASM Archaeological Division Laboratory, in the South Building, uses and stores acetone and muriatic acid. Because the laboratory is not located within the collections area, chemical contamination should not be a problem; however, there is no source of ventilation (e.g., fume hood) other than windows. Because conservation work is conducted in the North Building, the staff indicates that ventilation has not been a major concern for either personnel or for collections.

Assessment

Structural Adequacy

Both the North and South Buildings were originally constructed in the early 1920s. The South Building housed the University of Arizona library until 1974, at which time the Department of Anthropology moved there. The foundation is concrete, the exterior walls are three-foot-thick brick, and the roof is a built-up, asphalt-clay tile conglomerate, which has had many major repair episodes and five major renovations (the most recent in July 1994). At the time of the evaluation, neither the roof nor the foundation leaked.

At the present time, ASM's South Building houses a collections facility, a university classroom and laboratory, and a museum/exhibit hall. Three floors are above grade, and one floor, which is used for general storage, is below grade.

The collections area is further subdivided into nine stacks. Floors in the collections area are concrete and marble. Windows in the facility are of varying shapes and sizes, all have blinds (in some cases windows are completely blocked by sheets of metal), locks, and steel frames. The assessment team noted air passing through the windows in the collections storage area. None of the windows in the building have ever been replaced. There is no asbestos in the repository, and dust is kept to a minimum.

Both the North and South Buildings have heating, air conditioning, plumbing, telephone, and electricity, of which all but the telephones are original systems. None have experienced any major failures. Though rest rooms are present in the South Building collections area, none are

used. However, they are checked for failure on a regular basis.

Environmental Controls

Environmental controls exist for the North and South Buildings. Humidity levels are monitored in the collections area of the South Building, but the only control measure is a portable dehumidifier. Target temperature for the collections area is 75°F, and humidity is usually kept at 40 percent. All lighting in the North and South Buildings is fluorescent, and none of the lights have ultraviolet (UV) filters. Dust filters are present on all air-conditioning and heating units. The buildings are maintained daily by University of Arizona building services. Because janitorial staff is restricted from the collections area, the curatorial staff is responsible for its maintenance.

Pest Management

ASM is serviced for rodent and insect infestation on a monthly basis by the UA pest-management division. The pest-management program includes both monitoring and control by the museum conservator. Mouse and rat traps are replaced monthly. To date, only one problem of infestation has occurred in the South Building—moths in some of the textiles. The problem was resolved, and no further incidents have been reported.

Security

Security measures for ASM's North and South Buildings include an intrusion alarm throughout the buildings that is wired directly to the police department. Key locks are used on all office doors, and dead-bolt locks are on the front doors of both buildings. The North Building's front door is equipped with an additional intrusion alarm that is wired directly to the police (Figure 6). Motion detectors are located throughout the facility, and some storage units (e.g., those housing cataloged collections) are padlocked. All windows have basic slip locks, and windows in the collections area are wired into the alarm system. In addition, ASM's grounds are routinely patrolled by campus police.

No evidence of forced entry through any of the windows or doors was noted by the assessment team, and the staff indicated that none had

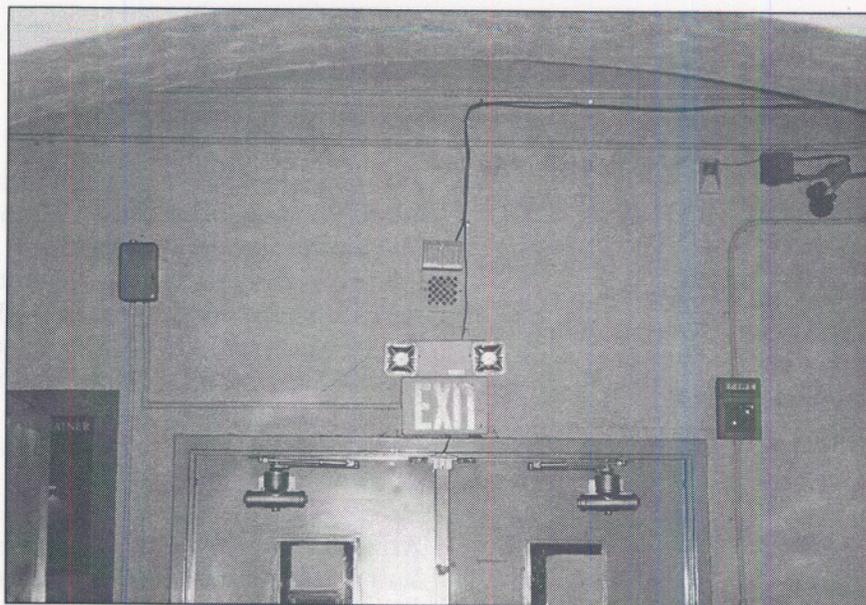


Figure 6. Security measures in ASM's North Building are more stringent than those installed in the South Building.

occurred. In years past there were some problems with missing collections; some were incidents of actual theft, but more recent episodes were cases of misplaced artifacts.

Fire Detection and Suppression

Both the North and South Buildings have manual fire alarm systems as well as alarm systems

that are wired into the local fire department. In addition, the South Building has a sprinkler system, smoke detectors, heat sensors, and fire extinguishers (last inspected in July 1994) located throughout the repository. Sprinklers are not located above any boxes in the collections area. Fire doors are located at entryways to the collections area (Figure 7). Fire-proof cabinets

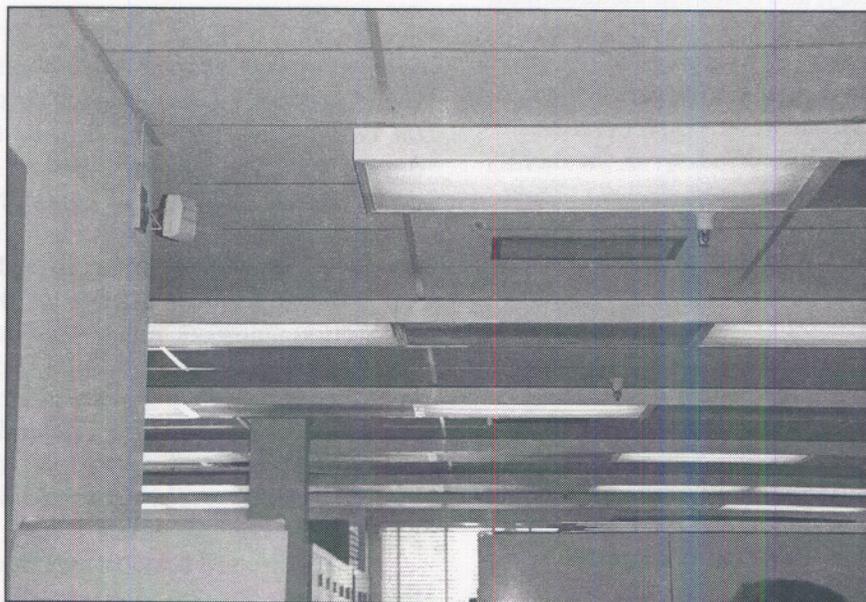


Figure 7. Overhead sprinkler system in the laboratory of ASM's South Building.



Figure 8. Cataloged collections from Davis-Monthan AFB are appropriately labeled and stored on ethafoam in wooden drawers.

are used for some of the artifacts and paper documents. The North and South Buildings are considered by the ASM staff to be fireproof because of their dense construction.

Artifact Storage

ASM holds collections from eight sites located on Davis-Monthan AFB (AZ:BB:13:385, 386, 387, 388, 389, 390, 391, and 392). As mentioned above, the collections fall into two main categories: catalog collections and research collections. Catalog collections are stored in drawers (one per project) in a large wooden cabinet (Figure 8). Each artifact has a note card that provides information such as site number, project, and ASM accession number. The latter is used to cross-reference the cataloged materials with other artifacts (e.g., those held in research collections) recovered from the same project. Research collections are assigned accession numbers and are stored in the stacks in accordance with the policy outlined by the individual contractor—usually by project and then by site.

Artifacts held in both catalog sections and in the main stacks are easily accessible. Archaeological materials occupy approximately 13,000 ft² (Davis-Monthan AFB collections

occupy 12 ft³). Space is considered adequate by museum personnel but not ideal. Plans exist for augmenting existing artifact storage; however, exactly when this will occur is unknown.

Storage Units

Research collections are stored in acidic boxes on metal shelving units that measure 36 x 19 x 84 inches (w x d x h). Several of these units have been placed side by side to form rows in the stacks of the collections storage area. Catalog collections are stored in wooden drawers 19 x 24 x 2.5 inches (w x d x h). Each drawer is labeled with the accession number.

Primary Containers

Three types of primary containers are used for storage of the materials. Two box types (A and B) have the same dimensions (19 x 7.25 x 8 inches [l x w x h]) but use different types of folding flaps for closure. The third box type (C) is smaller (9.25 x 8 x 2 inches) and uses a telescoping lid for closure (Figure 9). Thirteen A and B box types exist in the collection, and three type C occur. Label information on boxes consists of project name, accession number, site number, and box contents (Figure 10).



Figure 9. Research collections stored in the stacks of ASM's South Building.

Secondary Containers

Artifacts from Davis-Monthan AFB are stored in several types of secondary containers (Table 4), chiefly plastic bags. For most bags, a field bag or preprinted label with project information (e.g., provenience, project name, site number) is also present, either tied to or inserted in the bag. Some of the plastic bags also contain small manila envelopes with project information. All information is written on label inserts in marker. Plastic bags use three distinct closure methods—twist ties, zip-lock, and string.

Paper bags are used only for one oversized item that did not fit in a plastic bag. The paper bag was affixed to the artifact with a rubber band, and information was recorded directly on the bag in black marker. Cloth bags and garbage bags are also used as secondary containers, primarily for soil and flotation samples. These bags are secured with rubber bands. All cloth bags have cloth labels sewn directly to them. All information listed on paper bags is in marker, pen, or a combination of the two mediums.

Laboratory Processing and Labeling

Collections recovered from Davis-Monthan AFB excavations consist of ceramic materials, lithic materials (ground and flaked stone), faunal remains, and soil samples (Table 5). For the most part, site numbers have been written

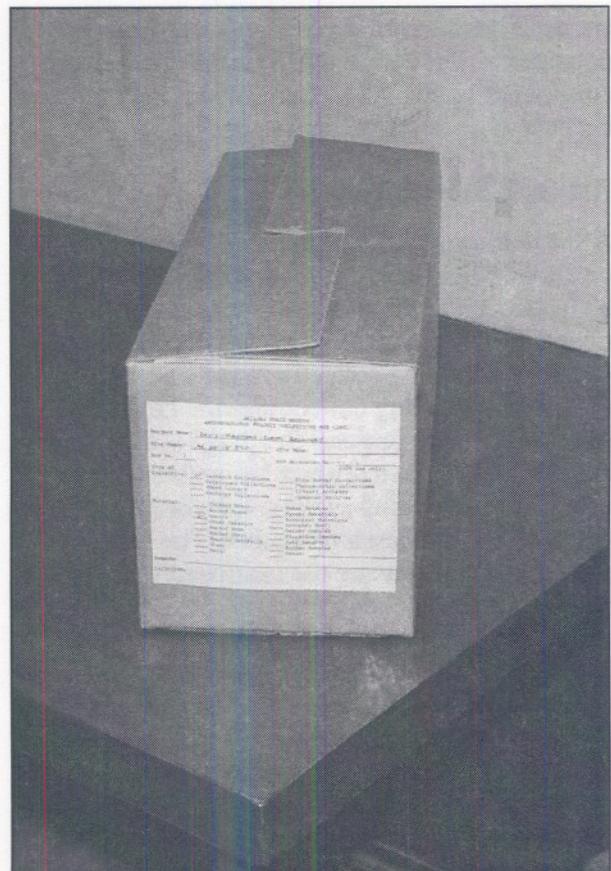


Figure 10. Example of a primary container, with a preprinted label, housing Davis-Monthan AFB materials.

Table 4.
Secondary Containers Used in Davis-Monthan AFB Archaeological Collections at ASM, by Box

Box	Bag Type				Label Type		Closure Method			
	Plastic	Paper	Garbage	Cloth	Tied On	Placed Inside	Tied with String	Rubber Banded	Zip-locked	Twist-Tied
1	x				x	x	x			
2	x				x	x	x			
3	x				x	x	x			
4	x	x	x		x	x	x	x		
5	x					x			x	
6	x					x			x	
7	x					x			x	
8	x	x				x			x	
9	x					x			x	
10	x					x			x	
11	x					x			x	
12	x					x			x	x
13				x	x		x			
14				x	x		x			
15	x				x	x	x			
16	x				x	x	x			

Table 5.
Material Classes in Davis-Monthan AFB Archaeological Collections at ASM, by Box

Box	Material Class (%)					
	Ceramics	Lithics	Faunal Remains	Flotation	Soil	¹⁴ C
1	100	—	—	—	—	—
2	80	20	—	—	—	—
3	20	80	—	—	—	—
4	80	10	—	5	—	5
5	—	100	—	—	—	—
6	—	100	—	—	—	—
7	—	100	—	—	—	—
8	—	100	—	—	—	—
9	100	—	—	—	—	—
10	—	—	100	—	—	—
11	—	—	—	100	—	—
12	—	—	—	—	100	—
13	—	—	—	—	100	—
14	—	—	—	—	100	—
15	100	—	—	—	—	—
16	50	50	—	—	—	—



Figure 11. Processed collections are integrated into ASM's archival holdings.

directly on the larger artifacts/fragments in india ink or in white correction fluid.

Human Skeletal Remains

Although ASM curates a large number of human remains, none are from Davis-Monthan AFB.

Records Storage

Photographic and written documents are curated in separate archive areas and are accessible only through their respective archivists (Alan Ferg for written documents; Kathy Hubenschmidt for photographs). No duplicate/security copies or microfiche copies have been made for the written materials. Negatives are stored with photographs. Cultural resource survey reports are stored in a library section within the larger written documents area.

Paper Records

All written documentation associated with accessioned collections—field notes, final reports, and artifact lists—are processed and stored in ASM's archives in manila folders or loose in the box. Materials are arranged by project and are kept in the order in which they are received. In

processing, materials are placed in archival-quality folders and boxes (e.g., acid-free folders and Hollinger record boxes [Figure 11]) and arranged by ASM accession number (the same number assigned to the corresponding artifacts and photographs) for easy recovery and cross-referencing. Written documents occupy approximately 300–400 ft² (Davis-Monthan AFB collections occupy less than 7 linear inches) (Figure 12).

Photographs and maps are not curated with written records. Maps are stored in the main laboratory area in hanging files, and photographs are stored in the photograph archives in ASM's North Building. Documents are readily accessible; however, space for growth is limited.

Photographic Records

After being separated from other documentation, photographs are stored in archival-quality sleeves and folders and are placed on metal shelves in acid-free boxes (Figures 13–15). All photographs are indexed using their original ASM accession number. The photographic archive is temperature and humidity controlled (a portable dehumidifier is present in the archives area). Photographs are easily accessible; however, present space is near capacity.

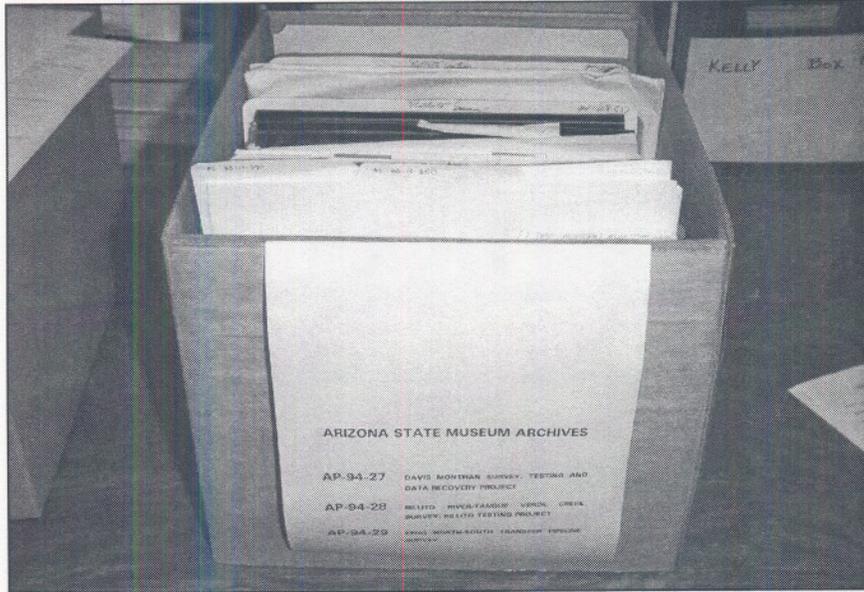


Figure 12. Associated documentation for Davis-Monthan AFB archaeological collections stored temporarily in the ASM archives (North Building) prior to permanent curation in the South Building.

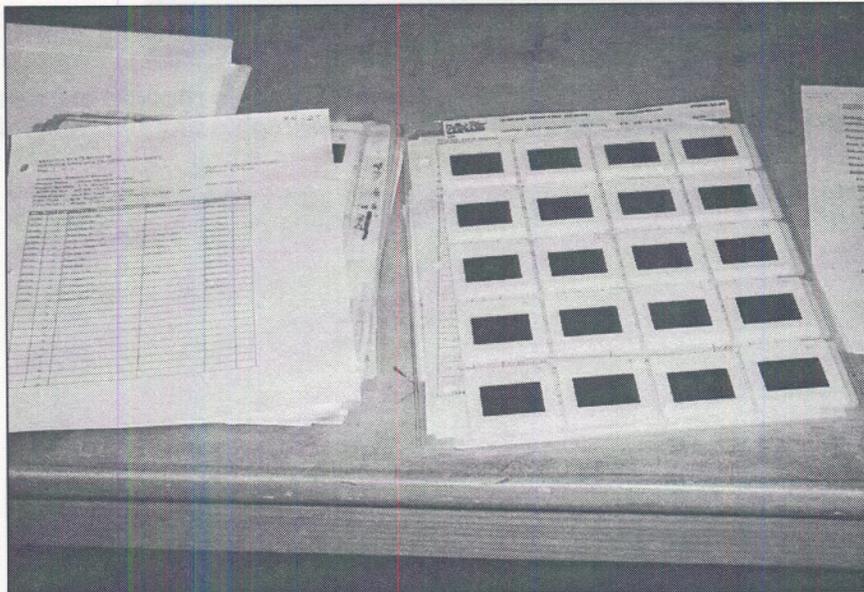


Figure 13. Davis-Monthan AFB photographic documentation awaiting processing (North Building).

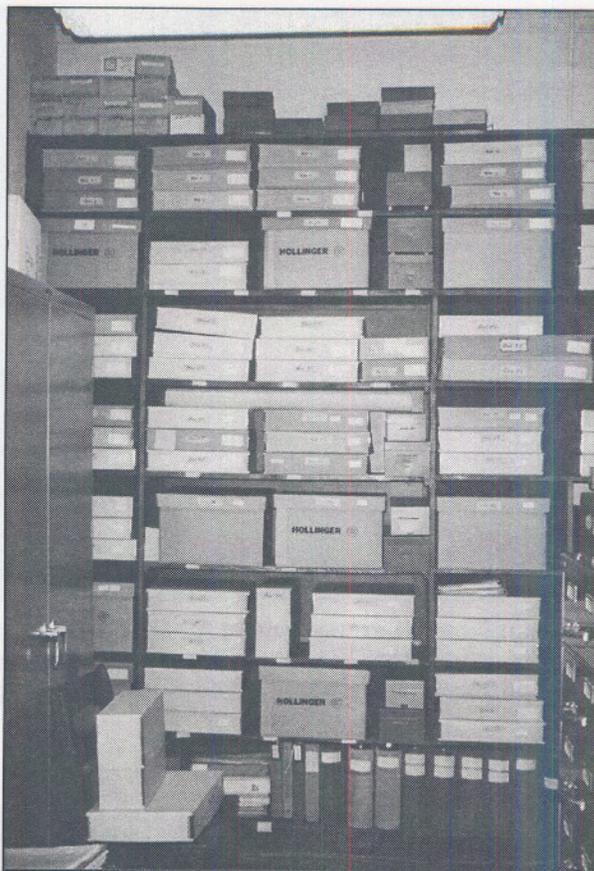


Figure 14. Accessioned but unprocessed photographic records are stored temporarily on metal shelving units in the ASM photographic archive (North Building).



Figure 15. After processing, photographs are integrated into the ASM photographic archive (North Building).

Collections-Management Standards

Registration Procedures

Accession Files. All materials received by ASM are recorded in accession files, and a unique accession number is assigned to each collection. In addition, all accession information is entered into a computer database that is updated on a regular basis.

Location Identification. Locations of all accessioned materials are recorded on computer, and the information is part of the current database system.

Cross-Indexed Files. Materials are cross-referenced by ASM accession number, project, and site number. The accession number is the most important identifier because it is used as the primary reference tool by all sections of the museum. For example, the ASM archives and the photographic materials section use the same accession number to describe a single collection.

Published Guide to Collections. No guide to the collections has been published, but a listing of all holdings can be obtained. In addition, published user guides for the site files and museum are available to contractors.

Site-Record Administration. ASM uses its own unique numbering system for archaeological sites in the state. The number (e.g., AZ:BB:5:929) consists of the state abbreviation (AZ), followed by letters to specify (within 1 degree) the area of the topographic map (e.g., BB), an integer (1–16) to specify the 15-minute area of the map, and the site number. This system is used on sites throughout the state and is accepted by SHPO.

Computerized Database Management. ASM's computer database (REGIS) ensures the accurate cataloging of all collections and site information. Tape backups for all records are stored in a separate facility and are updated weekly. Because the computer system is on a network, access is restricted to those individuals directly responsible for curation. Within the curatorial staff access is controlled using a password system; only certain individuals (curator and curatorial associate) have access to all information.

Written Policies and Procedures

Minimum Standards for Acceptance. ASM asks for collections that are complete in their information content so that they might easily be used for public interpretation and independent research. Complete collections are those that include all written documentation regarding the anthropological project that produced the collection. In addition, any materials collected but later destroyed for analysis purposes are fully documented.

Acquisition Policy. ASM accepts archaeological, photographic, and skeletal collections; sound recordings; and written documents (published and unpublished) from Arizona and surrounding states in the Southwest, as well as some materials from Mexico. The museum also accepts, albeit selectively, materials from other regions that are deemed a benefit to the university. Each section of the museum responsible for curating the different collections outlined above (e.g., photographs, paper documents, artifacts, site forms) maintains a written guide to collection management in order to evaluate and set priorities for future acquisitions.

ASM also has special policies for acquisitions of Native American sacred objects. In summary, the museum recognizes the precedence that religious convictions take over collecting. Therefore, it is the policy of ASM to decline the acquisition of those objects that are considered significant and sacred to Native American groups. Furthermore, ASM will act as an intermediary in the return of such objects to their groups of origin or will use its influence to assist in their return.

Finally, ASM maintains a definitive position toward those archaeological materials that have been unlawfully collected. They only accept such collections in order to (1) prevent the random disposal of artifacts that could be of use in interpreting the archaeological record and (2) preserve archaeological information that could benefit the scientific community and the public.

Curation Policy. Because of its role as the primary state institution for the curation of archaeological collections, ASM acknowledges a responsibility for the preservation of artifacts recovered from anthropological projects in

Arizona. ASM acts as a repository for those collections that have been prepared for curation according to museum standards and must be fully compensated for its services at a predetermined rate (see curation financing). ASM reserves the right to refuse collections if any of its guidelines have not been followed.

ASM accessions all materials it accepts and curates them in perpetuity according to museum standards. After being accessioned, the museum reserves the right to loan and authorize access to the collections under its care.

Loan Policy. All accessioned materials are covered by a written agreement that is incorporated into the records of the museum and is held by the registrar. Further, any loan transactions agreed to following initial accession must be finalized with the registrar, who will then receive the original and all copies of the final loan transaction. If accepted, collection restrictions are documented in writing and periodically reviewed and revised with the collector. Usually, only those collections that are classified as sensitive because of their religious significance are restricted. In addition, materials requested for use in destructive analyses must be approved by the director's administrative staff. In the case of human remains, access to and consent for analysis (destructive or otherwise) must be obtained from the appropriate tribal organization.

Deaccessioning Policy. ASM recognizes the need to deaccession some of its holdings in order to benefit the collections as a whole. The decision to deaccession is made only by the director's administrative staff to (1) permit destructive analysis, provided the information received outweighs the loss of the item; (2) remove materials hazardous to other holdings; (3) negotiate insurance compensation for lost or stolen materials; (4) provide appropriate care of material that has ritual and/or sacred significance; (5) transfer materials to other educational or scientific institutions where they might be more effectively put to use; (6) relieve the museum of its responsibility to those materials that have deteriorated beyond use; (7) carry out beneficial exchanges of materials with other institutions; and/or (8) relieve the museum of its responsibility toward those materials that are not

deemed appropriate to its mission or scope of collections.

All material to be deaccessioned, and its associated documentation, is assembled by the museum registrar prior to deaccessioning. Materials are examined by the director's administrative staff and museum personnel. After materials are examined by all concerned parties and any comments assessed, the director's staff makes its final decision.

Restrictions to deaccessioning occur if the title of materials cannot be found to lie with the museum or, if restrictions to deaccessioning were originally placed on the collections, restrictions are subject to review. Employees of the museum and their families cannot acquire any deaccessioned item from ASM holdings, and transactions that violate state, federal, other laws, or university policy are prohibited.

It is the policy of ASM to transfer all deaccessioned items to other educational or scientific institutions. Materials that cannot be exchanged with or sold to other institutions are turned over to UA Surplus Property. Actual destruction of materials, not for analysis purposes, is performed only when no other feasible method of disposal is available. Prehistoric materials and materials recovered from archaeological contexts are not sold, and no private sales, except to other museums, are made. Disposal of hazardous materials is conducted according to established laws and safety guidelines.

Accurate and complete records are kept regarding all deaccessioned materials. Current records are changed to reflect the deaccessioned status of the artifact. Any and all monies received from the sale of deaccessioned materials are used for collections acquisition.

Repatriation Policy. Repatriation requests are addressed to the director of the museum, who examines those materials requested for repatriation. Comments from researchers as well as Native American or other ethnic groups are accepted and considered prior to final disposition. Ownership records and information regarding cultural affiliation and chronological placement of the materials are also reviewed. Museum personnel examine the materials' present and future significance to archaeology and other scholarly

fields and their importance to the group requesting repatriation and to the general public. A written evaluation accompanies all materials to be repatriated. The final evaluations are presented to university attorneys for review, and all interested parties are informed of the final decision. The actual date of the release of materials is dependent on the magnitude of the request and the time needed for documentation.

Inventory Policy. Collections are processed upon receipt and inventoried following the standard regional approach used by Arizona repositories. Inventories of all display items exist and are kept separate from other collection inventories.

Latest Collection Inventory. Inventories for management purposes have been conducted by ASM personnel; however, the date of the last full inventory is unknown. The latest partial inventory fulfilled initial NAGPRA requirements.

Curation Personnel

ASM currently has 10 full-time and four part-time staff members, including a full-time curator for archaeological collections. Primary responsibilities for the curatorial personnel include receiving collections, distributing collections that have been loaned out by the museum, and maintaining the collections currently housed at ASM. All full-time staff have training in archaeology and anthropology and in museum methods.

Curation Financing

ASM curatorial responsibility is financed through fees acquired from individual projects. Curation costs are assessed on the basis of number of person-days spent in the field, thus providing contractors with curation costs before a project begins. To date, this system is working effectively, and there have been no problems from either contractors or museum officials.

Access to Collections

The policy of ASM is to offer wide access to its holdings. The museum does not usually accept collections that have restrictions placed on them regarding access privileges. Restrictions on materials are reviewed when the collections are being considered for acquisition.

Comments

1. ASM is applying for a facilities review to determine whether any funds could be made available for expansion. In addition, several grants have been requested that would provide for re-boxing of some materials.
2. Labels on all boxes at ASM are written directly on the front of the boxes, which is not an accepted archival procedure.
3. The buildings are structurally sound.
4. No UV filters are installed on light fixtures.
5. Humidity is monitored but can be controlled only by portable units.
6. Dust filters are present.
7. The storage facility is nearing capacity.
8. The buildings have excellent security, fire-detection, and fire-suppression systems.
9. An integrated pest-management system is in place.
10. Four-mil plastic bags are needed in some cases.
11. Not all artifacts are labeled directly.
12. Boxes are not acid free.
13. The archives area is nearing capacity.
14. The photograph archives has limited space for growth.
15. Associated documentation will be rehabilitated properly.
16. All collections-management standards are in place.
17. ASM is a professionally managed institution that meets most federal requirements for the long-term curation of archaeological collections.

The Davis-Monthan AFB collection stored in this facility should be considered secure.

Recommendations

1. Replace secondary containers with four-mil, 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.
2. Replace acidic cardboard boxes with acid-free boxes. Apply adhesive polyethylene plastic label holders, with acid-free inserts, to the boxes. Labels should no longer be applied directly to the boxes. When label information or box contents change, inserts should be replaced. This method reduces the chance of conflicting and confusing information.
3. Create duplicate/security copies of all written documents and store in a separate, fire-safe, secure location.
4. Update and expand humidity controls to include more collections storage areas.
5. Install UV filters for all lighting fixtures.

Findings Summary

Repositories holding Davis-Monthan AFB archaeological collections and associated written

and photographic documentation were visited in July 1994 by a St. Louis District assessment team. Two repositories currently curate materials recovered from archaeological investigations conducted on Davis-Monthan AFB property. The Arizona State Museum in Tucson holds the majority of artifacts and paper records for Davis-Monthan AFB archaeological projects—12 ft³ are devoted to archaeological collections and 6.5 inches to written and photographic holdings. Materials also are located on Davis-Monthan AFB. Most of the holdings on base are written documents and photographs (4 linear inches). Of the artifacts on base, only one is authentic; all others are replicas that are currently part of an interpretive display.

Infrastructure Controls

Both repositories curating Davis-Monthan AFB collections have measures in place to control the environment; ensure cleanliness, security, and fire safety; and manage pests (Table 6).

Staffing for the collection held on base is appropriate given the small amount of material. Collections at ASM, however, especially written and photographic materials, would be better maintained if additional full-time personnel were on staff.

Environmental Controls

At least some elements of proper environmental monitoring and control are present at ASM and at Davis-Monthan AFB. Davis-Monthan regulates the temperature to accommodate the staff and does not regulate the humidity at all. ASM

Table 6.
Presence or Absence of Repository Infrastructure Controls at
Repositories Curating Davis-Monthan AFB Archaeological Collections

Repository	Environmental Controls	Pest Management	Security	Fire Detection & Suppression	Full-Time Curator
Davis-Monthan AFB	yes	yes	yes	yes	yes ^a
ASM	yes	yes	yes	yes	yes

^a Davis-Monthan AFB does not have a full-time curator; however, a full-time technician is responsible for the collection.

regulates temperature and monitors humidity according to American Museum Association (AMA) standards. Neither facility has an HVAC system installed, but ASM is more aware of environmental conditions appropriate for archaeological collections.

Pest Management

Davis-Monthan AFB personnel monitor the building for pest infestation and arrange for spraying, if a problem is detected. ASM contracts with a professional company that monitors and takes measures against pests on a regular basis. The evaluation team noted no sign of pest infestation at either facility.

Security

Security measures on base consist of door locks, window locks, and limited access. Patrols of security police also check the building on a regular basis. Security measures in the ASM collection facility include door locks, a motion detector, an intrusion alarm wired to the campus police, window locks, and limited access. The measures at ASM are more fully in compliance with federal regulations regarding the safeguarding of archaeological collections than those at Davis-Monthan AFB.

Fire Detection and Suppression

Fire safety on base consists only of halon fire extinguishers and manual fire alarms wired to the installation fire department. Heat sensors are present throughout the building, but the staff did not know if they functioned properly. The collection facility at ASM includes an overhead sprinkler system, fire extinguishers, and fire alarms wired to the Tucson Fire Department. The additional measure of a sprinkler system could make the difference between the survival and destruction of the collection in the case of a fire.

Artifact Curation

All archaeological materials from Davis-Monthan AFB that are curated at ASM are well prepared for long-term curation. Only minor rehabilitation needs to be performed on the

Table 7.
Secondary Containers
Used in Davis-Monthan AFB
Archaeological Collections at ASM

Container Type	Percentage Present
Plastic bags	
Tied with string	25
Zip-locked	50
Twist-tied	3
Rubber banded	2
Garbage bags	2
Paper bags	6
Cloth bags	12
Total	100

16 boxes currently held at the museum. Most important, all acidic boxes should be replaced with acid-free boxes, and the variety of secondary containers (Table 7) should be replaced with archival-quality containers. The single artifact curated on base requires some rehabilitation (e.g., removal from foam-board backing and frame) before it can be curated with the rest of the collections.

All materials recovered from Davis-Monthan AFB are from prehistoric contexts. Material remains consist primarily of ceramics, lithic materials, and soil samples (Table 8).

Table 8.
Summary of Material Classes in
Davis-Monthan AFB Archaeological
Collections at Both Repositories

Material Class	Percentage Present
Ceramics	33
Lithics	35
Fauna	6
Flotation	7
Soil	18
¹⁴ C	1
Total	100

Records Management

Paper Records

Paper materials curated at ASM are awaiting archival processing and storage. All contaminants are being removed, and documents are being placed into archival-quality folders and boxes. Documents stored on base are filed for office purposes only, and there are no plans for future archival processing.

Photographic Records

All photographs from Davis-Monthan AFB archaeological projects currently stored at ASM will be processed according to modern archival standards and stored in acid-free sleeves and boxes on metal shelving. Photographs held on base are either filed directly with the paper records or mounted to foam board for display purposes. These conditions will contribute to the deterioration of the paper and photographic documentation.

Collections-Management Standards

Basic collections-management tools—accession records, inventories, and written policies and procedures for curation, records management, and loans—are maintained by ASM. All archaeological materials and associated documentation

are accessioned, and their final locations (e.g., photograph archives, paper archives, catalog collections, research collections) are entered into a computer database. Museum staff also print this database at regular intervals and use this finding aid to track collections within the facility. ASM also has developed detailed policies regarding access to the collections, loans, and general curation. Minimal management controls are in place on base, and primarily consist of limiting access to the collection. For the limited amount of materials stored on Davis-Monthan, however, these controls are adequate.

Recommendations

The following are general recommendations for bringing Davis-Monthan AFB collections into compliance with the mandates of 36 CFR Part 79. All recommendations will be discussed at length in Chapters 10 and 11.

1. Inventory and rehabilitate associated records currently housed at Davis-Monthan AFB.
2. Rehabilitate artifacts housed at ASM.
3. Dedicate space for storage of materials and coalesce collections into a single repository.
4. Develop cooperative agreements with other federal agencies and with ASM.

3

California

Beale Air Force Base, Marysville

Installation Summary for Beale AFB, Marysville

Volume of Artifact Collections: 1 ft³

On Base: 1 ft³

Off Base: None

Compliance Status: Collection held at Beale AFB Museum requires complete rehabilitation to comply with federal guidelines and standards for curation.

Linear Feet of Records in Two Repositories:

0.24 linear feet

On Base: 0.08 linear feet

Off Base: 0.16 linear feet (PAR Environmental)

Compliance Status: All associated records, held both on base and off, require complete rehabilitation to comply with existing federal regulations and modern archival standards. Records should be duplicated, either on acid-free paper or in archival microformat, and stored in a separate location.

Human Skeletal Remains: None.

Status of Curation Funding: Funding requirements for Beale AFB archaeological collections have not yet been identified completely. (For PAR Environmental, and other contractors, curation usually is financed by a line-item fee in contract budgets.) Once these needs are enumerated, Beale AFB personnel can apply to AF Environmental Compliance Program A-106 for necessary funding.

Recommended Curation Facility: At the present time no appropriate curation facility has been identified. Because of the impending destruction of the museum at Beale, a temporary facility has been identified. Until a permanent curation facility can be identified, the St. Louis District recommends that the Phoebe Apperson Hearst Museum at the University of California, Berkeley, temporarily curate the Beale AFB collection.

Repository 1: Beale AFB

Date of Visit: September 22, 1993

Points of Contact: John Thomson and Ken Moore, Civil Engineering Flight

Approximately 1 ft³ of artifacts and 1 linear inch of associated documentation resulting from a project conducted by Donald Storm at site

YUB-1161 on Beale AFB is stored at the base museum. Although the museum is scheduled for demolition, at the time of assessment a permanent storage facility had not yet been determined.

The collection consists entirely of lithics. No human remains were encountered during the evaluation. One hundred percent of the known Beale AFB collections was examined by the assessment team.

The Beale AFB Museum is located on the base, in Building 2471, which is also occupied



Figure 16. Exterior of Building 2471, location of the Beale AFB Museum.

by the 9th Supply Squadron. The two-story museum encompasses approximately 2,200 ft² and occupies the south end of the building. Types of rooms included in the museum are exhibit space, offices, and rest rooms.

Assessment

Structural Adequacy

Building 2471, constructed during World War II, has a concrete foundation and wooden exterior walls. Originally built as a tank repair station, the south end of the building has been renovated to serve as a museum (Figure 16). The museum occupies two floors and has interior plasterboard walls, concrete floors, and suspended, acoustical tile-like ceilings. Plumbing is approximately 40 years old, while the electrical system is only 20 years old. No windows exist in the museum.

At the time of assessment, the collection was stored under a desk in the museum director's office. This windowless 20-ft² room has a concrete floor covered with carpet, interior plasterboard walls, and a plaster ceiling. A single wood-panel door on the east wall leads to a hallway. The room contains two desks, a computer, and various office files.

Environmental Controls

Temperature is controlled by central air conditioning and forced-air heat. However, humidity is neither controlled nor monitored. Fluorescent lighting without UV sleeves provides illumination for the building. The building and collections storage area are maintained on an as-needed basis by the curatorial staff.

Pest Management

No integrated pest-management system is in place for the Beale AFB Museum, nor does monitoring for insects or rodents occur.

Security

All exterior doors in the museum are protected from entry by a padlock, a key lock, and an intrusion alarm. Additionally, the door to the collections storage room has a key lock. Keys are held by the director, the assistant director, and the gift-shop manager.

Fire Detection and Suppression

Fire extinguishers provide the only fire-suppression measures and are located throughout the museum. No fire extinguishers are located in the collections storage area; however, one fire

extinguisher is located just outside the office door. No fire-detection system is present.

Artifact Storage

Storage Units

The Beale AFB collections are stored on the floor under a desk until a permanent storage facility can be identified.

Primary Containers

The primary container consists of one acidic, glued cardboard box with a telescoping lid. The box is labeled directly in marker.

Secondary Containers

Beale AFB collections are stored in acidic, folded paper bags. They are labeled directly in marker or pencil and have consistent label information. Additionally, every bag has a color-coded paint marking that corresponds to a code chart.

Laboratory Processing and Labeling

All of the artifacts are labeled, cleaned, and sorted. Labeling consists of color codes painted directly on the artifact. These codes correspond to the secondary container and designated grid square provenience (Figure 17).

Human Skeletal Remains

No human skeletal remains are curated by the Beale AFB Museum.

Records Storage

Approximately 1 linear inch of associated records are stored at Beale AFB. All records are stored in acidic cardboard boxes with the artifacts. Additionally, all records are contained within a single, acidic manila file folder with the contents labeled in marker. Records appear to be in good condition.

Paper Records

Paper records include a copy of a contract, original report records, and original field records.

Photographic Records

Photographic records consist of a single slide labeled in pencil. The slide is enclosed in a glassine envelope with a paper label.

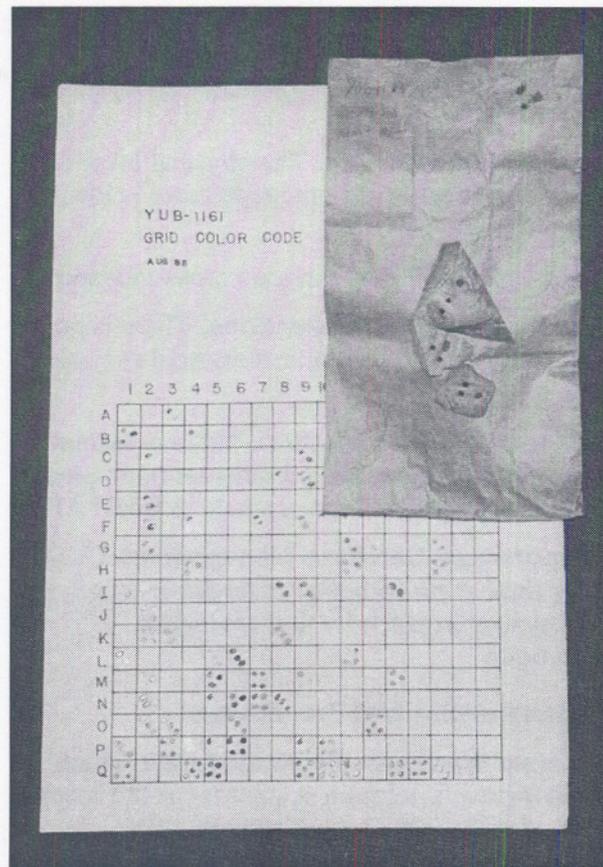


Figure 17. Artifacts and associated secondary container with grid color code for labels.

Maps and Oversized Documents

One folded, large-scale topographic map and two small-scale topographic maps are also included among the associated records.

Collections-Management Standards

In the past, collections-management standards for Beale AFB have dealt only with documentary historical materials, but shortly before the assessment, one box of archaeological materials had been delivered to the museum. The following standards (from AF Regulation 190-4), which are directed toward AF documents and records, will be applied to archaeological materials, if possible. Management standards specifically pertinent to the curation of archaeological collections, however, have not yet been developed by the museum staff.

Registration Procedures

Accession Files. All materials are accessioned upon receipt.

Location Identification. The physical location of the collections within the repository is identified in the accession file.

Cross-Indexed Files. Files are cross-indexed.

Published Guide to Collections. There is no published guide to the collections held at Beale AFB.

Site-Record Administration. There is currently no system for site record administration in place for archaeological collections held at Beale AFB.

Computerized Database Management. Currently there is no computer database-management system in place for archaeological collections.

Written Policies and Procedures

Minimum Standards for Acceptance. There are no written minimum standards for the acceptance of archaeological collections.

Curation Policy. No comprehensive written curation policy exists for archaeological collections. However, one exists for documentary material dating from World War I to the present.

Records-Management Policy. There are no written records-management policies available for archaeological collections.

Field-Curation Procedures. There are no written field-curation procedures for archaeological collections.

Loan Policy. No written loan policy exists for archaeological collections.

Deaccessioning Policy. No written deaccessioning policy exists for archaeological collections.

Inventory Policy. No inventory policy is written specifically for archaeological material; however, a written inventory policy for documentary materials is provided in AF Regulation 190-4. An inventory is required biannually after the initial inventory (within 12 months of the publication date of AF Regulation 190-4) and upon

reassignment of custodial responsibility for the collection.

Latest Collection Inventory. The collection was being inventoried at the time of the assessment.

Curation Personnel

There is no full-time curator for archaeological collections at Beale AFB. Sgt. Moore serves as the director of the museum. He is responsible for the administration of the museum and overseeing the professional care of its collections. Sgt. Moore has an M.S. in aeronautical science and management operations.

Curation Financing

No funding requirements for the curation of archaeological collections had been identified at the time of the assessment.

Access to Collections

Researchers must obtain the museum director's permission to use the collection.

Future Plans

Sgt. Moore stated that Building 2471 will be demolished within five years. The disposition of the Beale AFB Museum and its collections is unknown.

Comments

1. The present location of the Beale AFB collections is unsuitable for the curation of archaeological collections.
2. The Beale AFB Museum lacks humidity control. Additionally, humidity and temperature are not monitored.
3. The museum has no pest-management system.
4. The museum lacks a proper fire-suppression system and has no fire-detection devices.
5. Artifacts and records are not stored according to standards listed in 36 CFR Part 79.
6. No human skeletal remains are curated at Beale AFB Museum.

Recommendations

1. Remove Beale AFB archaeological collections from their present location and deposit them in a building with proper fire-detection and fire-suppression devices, pest management, security, and environmental controls. Because Building 2471 is scheduled for demolition, renovations are pointless.

2. Rehabilitate all artifacts and prepare for long-term storage according to federal guidelines and standards and modern curation procedures. Specifically, all artifacts should be (a) labeled legibly with india ink, (b) repackaged in four-mil polyethylene plastic zip-lock bags, and (c) stored in acid-free boxes. Tags made from spun-bonded, polyethylene paper (e.g., Nalgene polypaper) should be labeled in indelible ink and inserted into the plastic bags.

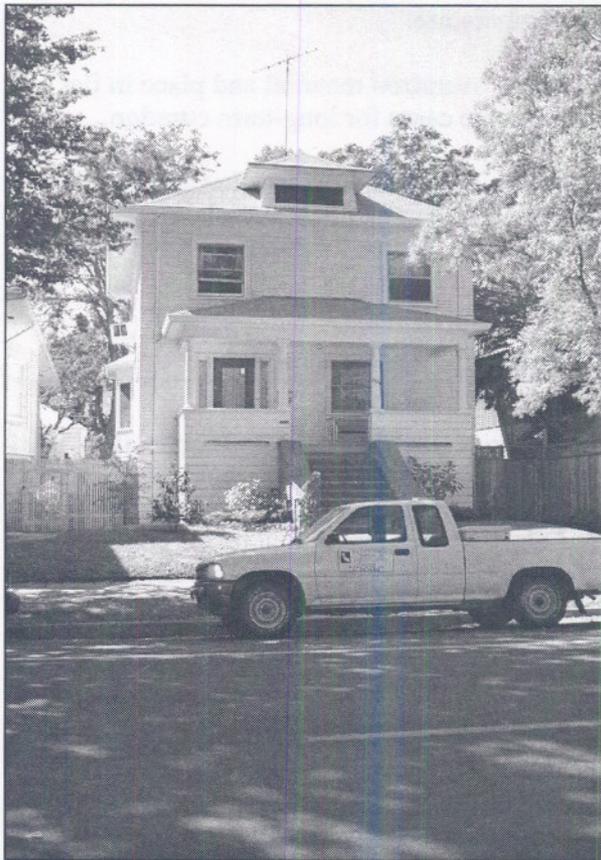


Figure 18. A two-story residence serves as offices for PAR Environmental Services.

3. Prepare all associated records for long-term storage according to federal guidelines and standards and modern archival procedures. Minimally, the following procedures should be implemented to protect and preserve these records: (a) all paper records should be duplicated on acid-free paper, stored in acid-free folders, and the duplicated copy stored in a separate, fire-safe, secure location; (b) all photographic records should be identified, duplicated, and filed in inert plastic sleeves or other approved archival storage containers, and a security copy should be made; (c) large-scale maps should be conserved, duplicated, and stored flat in an archival manner.

4. Store records in a climate-controlled, secure, fire-safe location.

5. Initiate planning for consolidating all collections from this installation into a central curation facility that can provide the professional staff, institutional commitment, and financial support necessary for the level of professional archaeological curation mandated by current federal regulations. For temporary curation, the Phoebe Apperson Hearst Museum at the University of California, Berkeley, is acceptable until a more appropriate facility is identified.

Repository 2: PAR Environmental Services

Date of Visit: September 21, 1993

Point of Contact: Mary Manieri, Contractor

Approximately 2 linear inches of documentation resulting from projects conducted on Beale AFB are stored in two buildings in the PAR Environmental Services complex. No artifacts from Beale AFB, including human skeletal remains, were found at PAR, which is located in two multi-story residential buildings (2116 and 2118 T Street) in Sacramento, California (Figure 18). Because such a small amount of documentation was examined (Figure 19), it is not necessary to detail management controls employed, storage procedures followed, and structural adequacy of

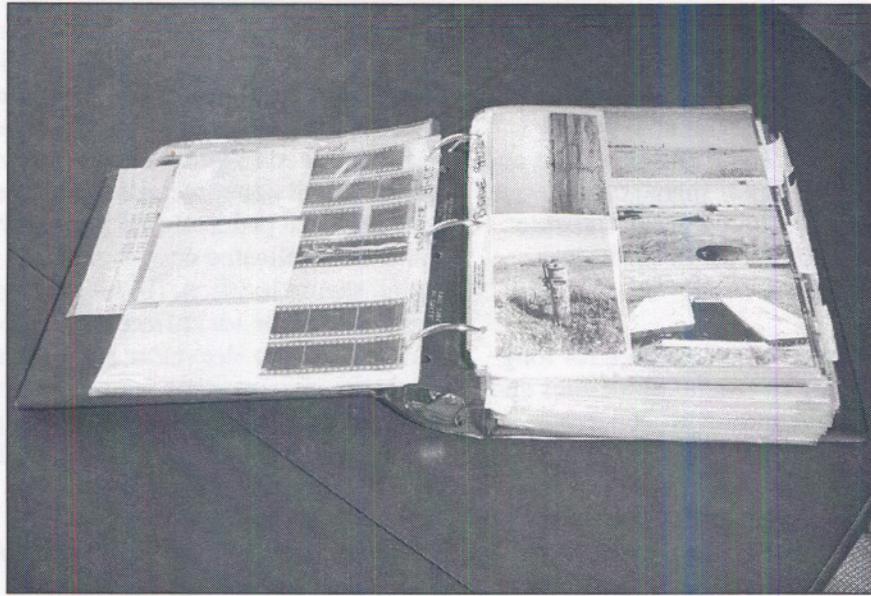


Figure 19. Photographic documentation from Beale AFB.

the buildings themselves. However, this information is on file at the St. Louis District.

Recommendations

1. Arrange the transfer of the Beale AFB collection to a more suitable repository for long-term curation. As dictated in 36 CFR Part 79, arrangements should include a formal memorandum of agreement.
2. Arrange associated documentation according to modern archival procedures, and create a finding aid for the collection.
3. Remove all contaminants (e.g., staples, paper clips, and rubber bands) from the documents.
4. 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.
5. Place all photographic materials in archival-quality polypropylene sleeves, and place sleeves in acid-free, three-ring photograph binders. Photograph logs should be on acid-free paper in indelible ink.

6. Store photographic records in a stable environment equipped to monitor and control humidity and temperature.

7. Flatten oversized material and place in flat map-storage cases for long-term curation.

8. Make a duplicate copy of all associated documentation, and store these materials in a separate, fire-safe, secure location.

Findings Summary

Repositories holding Beale AFB collections and associated written and photographic documentation were visited in September 1993 by a St. Louis District assessment team. The Beale AFB Museum currently houses all identified archaeological materials from the base. The collection comprises approximately 1 ft³ of lithic artifacts recovered from the installation and 1 linear inch of associated documentation. An additional 2 linear inches of documentation is housed by PAR Environmental in Sacramento. Arrangements to transfer this material to the museum at Beale should be made as soon as possible. Because PAR houses so little material, a full building evaluation was not warranted. At

Table 9.
Presence or Absence of Repository Infrastructure Controls at the Beale AFB Museum

Repository	Environmental Controls	Pest Management	Security	Fire Detection & Suppression	Full-Time Curator
Beale AFB Museum	minimal	none	minimal	none	none

the time of the evaluation an appropriate curation facility had not been identified; therefore, only the Beale AFB Museum is discussed below.

Infrastructure Controls

The Beale AFB Museum is located in part of Building 2471, a World War II-era structure that had been partially renovated to serve as a museum. Because the building was not originally designed as a curation facility, many of the controls necessary to meet minimum standards for curation facilities are lacking (Table 9).

All of the controls listed in Table 9 require some upgrading to meet minimum federal standards for the curation of archaeological collections. ACC would be better served to find a temporary or long-term off-base curation facility. Not only are many of the repository infrastructure controls lacking, but museum staff stated that Building 2471 is scheduled for demolition in the next few years. They were uncertain what the disposition of the museum and its collections would be.

Artifact Curation

All artifacts have been cleaned, sorted, and labeled. They are currently kept in acidic paper bags labeled in marker or pencil. All bags have then been placed in an acidic primary container that has been labeled directly in marker. The collection requires complete rehabilitation prior to long-term curation.

Records Management

A copy of the contract, the report, original field records, one oversized map, and a single slide comprise the associated documentation for the Beale AFB collection. All records have been

placed in an acidic manila folder labeled in marker. The map has been creased, folded, and placed in the folder. These records are kept in the box with the artifact collection. All associated documentation requires complete rehabilitation prior to long-term curation.

Additional records were found in the offices of PAR Environmental. Records from Beale AFB include site records, oversized maps and drawings, original reports, administrative records, and black-and-white prints and negatives. These records also require complete rehabilitation. Arrangements should be made immediately to transfer these materials to Beale AFB so that all collections from the base will be in a single location.

Collections-Management Standards

Beale AFB Museum personnel maintain an accession system, a location system, and a cross-index file, but other management tools are absent. The museum does not have any system for site-record administration; curation or records-management policy; field-curation procedures; or loan, inventory or deaccessioning policy; nor is there any full-time staff devoted to the curation of archaeological materials. While the size of the collection does not warrant full-time staffing, absence of these basic management tools significantly reduces the chances for the long-term survival of the collection.

Recommendations

The following are general recommendations for bringing Beale AFB collections into compliance with the mandates of 36 CFR Part 79. All recommendations will be discussed at length in Chapters 10 and 11.

1. Develop cooperative agreements with other federal agencies and with the Phoebe Apperson Hearst Museum.

2. Inventory and rehabilitate the artifact collection currently housed at Beale AFB Museum.

3. Inventory and rehabilitate all associated records, both those housed at the museum and at PAR Environmental.

4. Dedicate space for storage of materials, and coalesce collections into a single repository.

Collection Management Standards

Beale AFB Museum personnel maintain an accession system, a location system, and a cross-index for the other management work under the present system. The present does not have any system for the record identification, location or record-management policy. Field-control procedures, or loss, inventory or deaccessioning policy, none have any full-time staff devoted to the control of archaeological records. While the size of the collection does not warrant full-time staffing, a team of three staff members will be assigned to have the charges for the long-term survival of the collection.

Recommendations

The following are general recommendations for bringing Beale AFB collection into compliance with the mission of 36 CFR Part 79. All recommendations will be discussed at length in Chapter 10 and 11.

Infrastructure Controls

The Beale AFB Museum is located in part of Building 3471, a World War II-era structure that had been partially converted to serve as a museum. Because the building was not originally designed as a museum facility, many of the controls necessary to meet museum standards for museum facilities are lacking (Table 9). All of the controls listed in Table 9 require some upgrading to meet museum standards for the control of archaeological collections. AOC would be better served to fund a program of long-term, low-cost museum facility. Not only are many of the repository infrastructure controls lacking, but museum staff noted that Building 3471 is scheduled for demolition in the next few years. They were uncertain what the disposition of the museum and its collections would be.

Artifact Curation

All artifacts have been placed in metal boxes labeled. They are currently kept in metal boxes placed in metal boxes. All artifacts have been placed in an active primary container that has been labeled correctly in words. The collection requires complete rehabilitation prior to long-term curation.

Records Management

A copy of the contract, the report, original field records, and associated maps and a digital scan of the associated documentation for the Beale AFB collection. All records have been

4

Florida

Avon Park Air Force Range, Avon Park, and MacDill Air Force Base, Tampa

Installation Summary for Avon Park AFR and MacDill AFB

Volume of Artifact Collections:

Avon Park AFR: 60 ft³
On Base: 4 ft³
Off Base: 56 ft³ (JANUS Research)
MacDill AFB: 1.5 ft³
On Base: None
Off Base: 1.5 ft³ (USF-Tampa)

Compliance Status: All collections require at least partial rehabilitation to comply with federal regulations governing the long-term curation of archaeological materials.

Linear Feet of Records:

Avon Park AFR: 1.92 linear feet
On Base: 0.08 linear feet
Off Base: 1.84 linear feet (JANUS Research)
MacDill AFB: 0.24 linear feet
On Base: None
Off Base: 0.16 linear feet (JANUS Research); 0.08 linear feet (USF-Tampa)

Compliance Status: All collections of associated documentation require complete rehabilitation to comply with federal regulations and modern archival practices.

Human Skeletal Remains: No human remains have been recovered from Avon Park AFR; however, skeletal remains from at least three individuals recovered from MacDill AFB are

currently housed at the University of South Florida (USF-Tampa).

Status of Curation Funding: Little to no funding is allocated for curation at either MacDill AFB or Avon Park AFR. (For JANUS Research, and other contractors, curation usually is financed by a line-item fee in contract budgets.) MacDill AFB personnel were unaware of the collection curated at USF-Tampa, for which the USF-Tampa Department of Anthropology provides minimal funding; therefore, no curation funds had been requested from the AF. Until this evaluation, funding requirements for Avon Park AFR collections were unknown. Once these have been identified, each installation may apply to AF Environmental Compliance Program A-106 for funding to rehabilitate, stabilize, and maintain their collections.

Recommended Curation Facility: Paul Ebersbach, natural resource manager at Avon Park AFR, has made several attempts to find a repository in Florida willing to curate their collections. Unfortunately, none of the repositories he has contacted is willing or able to curate ACC collections. Until a repository can be identified, ACC has decided to curate collections at Avon Park AFR indefinitely and update the facility according to the recommendations made in this report.

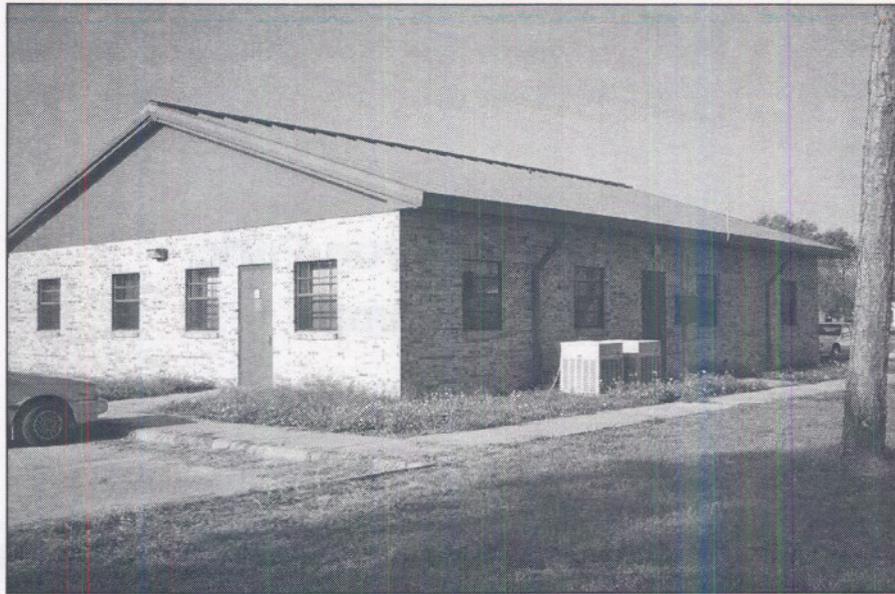


Figure 20. Exterior of Building 475. The entrance to the collections storage area is on the opposite side of the building. Note the heat pumps used for environmental control.

Repository 1: Avon Park AFR

Date of Visit: January 11, 1995

Points of Contact: Paul Ebersbach and Kurt Olsen, Natural Resource Managers

Four boxes of artifacts (4 ft³) and a five-page catalog (0.08 linear feet) from Avon Park AFR are currently curated in the Environmental Flight Annex (Building 475). The collection consists primarily of historical-period materials, with a few artifacts from prehistoric contexts. Of the total, prehistoric material classes include lithics (13.75%), ceramics (6.25%), faunal remains (0.25%), and shell (1.25%), whereas historical-period material classes include ceramics (20%), metal (25%), glass (18.5%), and brick (15%).

Prior to the evaluation, Mr. Ebersbach contacted several repositories in Florida in an attempt to find a long-term curation facility for the Avon Park collections. None of those contacted, however, could curate the collections. Therefore, ACC HQ decided that Avon Park should curate their own collections until an appropriate repository was identified. With this fact in mind, the St. Louis District assessment team evaluated the

Environmental Flight Annex (Building 475), and noted measures that would be required for the facility to meet the minimum federal standards for curation facilities.

The Environmental Flight Annex consists predominantly of offices and storage rooms. The room that currently houses the collection, and will house future collections, was once a testing room but has been converted to storage space. Utilities and facilities located in the building include electricity, plumbing, heating, air conditioning, telephones, and rest rooms.

Assessment

Structural Adequacy

Building 475 was originally constructed in 1987 as office space for the housing, billeting, and recreation services on Avon Park AFR. The 2,436-ft², single-story structure has brick and aluminum-siding walls erected on a poured-concrete foundation (Figure 20). The roof, also erected in 1987, is constructed of corrugated metal. No signs of leaks or cracks in the foundation were noted by the assessment team, but some of the acoustical tiles in the collections area had been damaged by water from leaks in the roof that have since been repaired. Both

air-conditioning and heating systems are electric, and the systems are central, not zoned. Heating, plumbing, and electrical systems are original to the building.

Few interior renovations have been implemented. Interior walls are constructed of concrete blocks, and in some rooms, plasterboard. The floors are concrete, and the ceiling is constructed of suspended acoustical tiles. Fourteen windows are installed in the building: two on the north wall and four on each of the other three walls. Windows are framed with aluminum, shaded with vertical blinds, and each measure 4 x 4 feet. The assessment team noted no overhead pipes. Building 475 is considered structurally sound.

Environmental Controls

A central HVAC system is installed in Building 475, with no individual zones for different environmental conditions. Both humidity and temperature can be controlled, but neither is monitored. Humidity and temperature are maintained at levels comfortable to the staff. Lighting is installed in the acoustical ceiling tiles and consists of fluorescent tubes without UV filters. Dust filters are not installed in the collections storage area, and considerable dust has accumulated there. Cleaning in the collections storage room is the responsibility of the Environmental Flight.

Pest Management

No integrated pest-management plan encompassing both monitoring and control is in place. The assessment team noted spiderwebs in the windows, and silverfish were found in the primary containers. If Environmental Flight staff detect signs of pest infestation, however, they may call an entomologist to address the problem.

Security

Security measures are located on all doors, both interior and exterior, and windows. Two windows are located in the collections storage room. Both are accessible from the outside and equipped with basic, slide-type window locks. The entrance to the collections storage area, located on the north wall, consists of a set of double metal doors equipped with double-cylinder,

dead-bolt locks. These doors lock automatically when they close. Two metal panel doors that lead to other parts of the building are located in the collections storage area. Both are equipped with key locks. Access to both the collections storage area and the range property itself is limited. A state corrections guard is stationed at the entrance to the range during normal business hours. Volunteers staff the guard shack during the weekends. A state prison is located at Avon Park AFR, and only authorized personnel are allowed on the property. Staff indicated that no episodes of unauthorized entry had occurred in the past.

Fire Detection and Suppression

Fire-safety measures in the collections storage area are insufficient. The area is equipped with heat sensors and fire alarms wired into the local fire department, but the fire-suppression system consists solely of a halon fire extinguisher that had no inspection tag. Should a fire break out in the collections storage area, very little could be done to control it.

Artifact Storage

Storage Units

The collection currently housed at Avon Park AFR is stored in a metal storage cabinet that measures 18 x 18 x 78 inches (w x d x h) (Figure 21). The cabinet is secured with a hasp and padlock. The boxes are stored on top of one another in the cabinet. Next to the cabinet is a series of shelves that hold jars containing various biological specimens in solution. The room itself is cluttered with old exhibits and several boxes stored there by Environmental Flight personnel. Shelves are available, but some rearranging will be necessary as other collections are moved into the collections storage area (Figure 22).

Primary Containers

Primary containers consist of four boxes constructed of glued acidic cardboard with folded flap lids. Tape has been used to secure and reinforce the bottoms of the boxes, which measure 12.5 x 12 x 12 inches (l x w x h; approximately 1 ft³ each). Because of the way the boxes are stored, some have begun to show compression

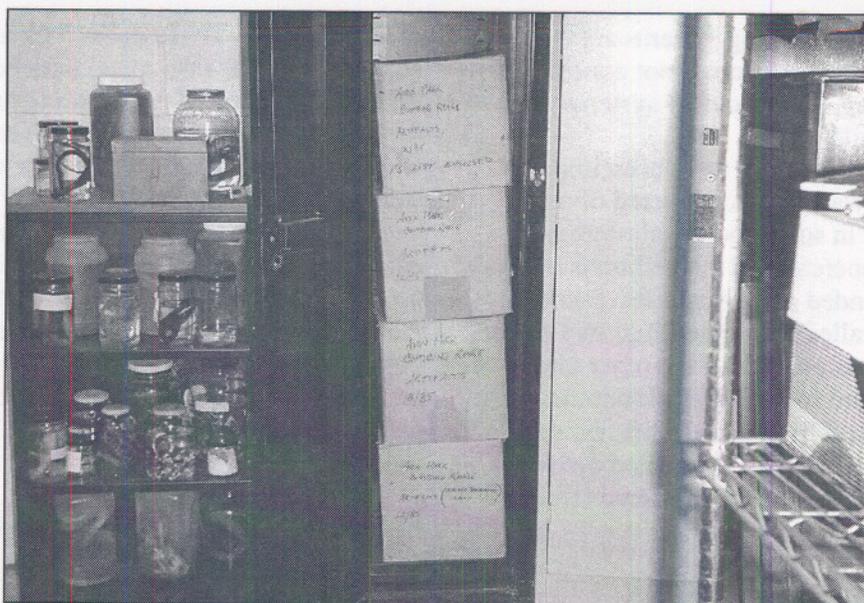


Figure 21. The Avon Park AFR collection is stored in metal cabinets next to biological specimens. Note the damage to primary containers due to stacking.



Figure 22. Collection storage area in the Environmental Flight Annex.

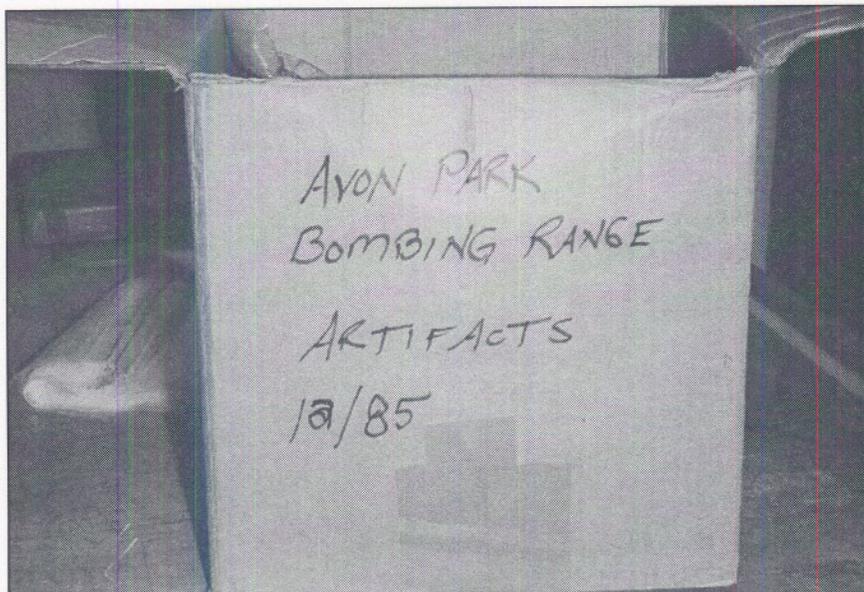


Figure 23. Damaged primary container. Note the direct labeling in marker.

damage. Each box is labeled directly in marker on the exterior with the following information: “Avon Park Bombing Range Artifacts, 12/85” (Figure 23). Two of the boxes have additional information recorded on them. Labels are legible and consistent. All boxes are covered with dust, and two boxes contained evidence of silverfish infestation.

Secondary Containers

Material remains are packed in three ways—in paper bags, loose in the box, and in polyvinyl chloride (PVC) bags (Table 10). Seventy-five percent (75%) of the artifacts are housed in PVC bags that have been secured with twist ties. PVC bags outgas and are an unacceptable storage medium. Paper bags are open and unsecured. All

bags, both paper and PVC, are labeled on the exterior with black marker. Labels, consisting of provenience information, are consistent and legible. Paper bags show tears, but PVC bags show no significant damage (Figure 24).

Laboratory Processing and Labeling

None of the artifacts have been cleaned, directly labeled, or sorted by material class. All artifacts are sorted by provenience only. The lack of direct labels is a potential problem, particularly those housed in unsecured paper bags. If these artifacts fall out of the bags, there is no way to identify their provenience.

Human Skeletal Remains

No human skeletal remains are curated at Avon Park AFR.

Records Storage

Associated documentation for this collection consists of an artifact inventory that was placed in the first box of artifacts (see Figure 24).

Paper Records

A five-page artifact inventory has been folded and stored in Box 1 with the artifacts. The paper is of acidic stock and has suffered from some type of insect infestation. The last page is

Table 10. Secondary Containers Used in the Avon Park AFR Collection at Avon Park AFR, by Box

Box Number	Paper (%)	PVC (%)	Loose (%)
1	25	70	5
2	10	90	—
3	10	90	—
4	50	50	—



Figure 24. A variety of secondary containers packed together with the box inventory.

virtually illegible because of holes chewed into the paper (Figure 25). If this problem is not rectified immediately, the information will be lost.

Collections-Management Standards

Avon Park AFR has not established any collections-management standards, nor do they have any written policies and procedures. Mr. Ebersbach tried to find a suitable repository to curate the material but was unsuccessful. Because of these circumstances, he will curate the collection, and a more recent collection, in Building 475. In order to properly curate the collections from Avon Park AFR, the staff must develop appropriate collections-management tools such as accession files, location information, a system of site-record administration, a curation policy, a deaccessioning policy, a loan policy, and an inventory policy.

Comments

1. Building 475 is structurally sound.
2. No standard pest-management system has been implemented in the building.

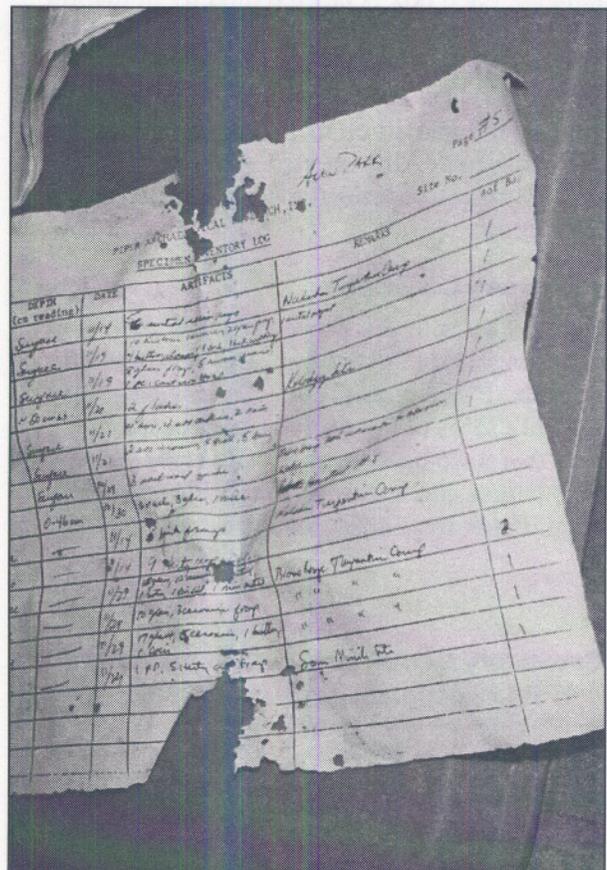


Figure 25. Box-inventory page rendered virtually unintelligible by insect damage.

3. Intrusion detection and deterrent measures for the facility do not meet the guidelines established in 36 CFR Part 79.

4. Adequate and appropriate fire-suppression devices are lacking.

5. All artifacts are housed in acidic cardboard boxes; secondary containers consist of acidic paper bags and PVC plastic bags.

6. Label information on primary and secondary containers is consistent.

7. None of the artifacts have been labeled directly in india ink.

8. Collections-management tools are not in use at Avon Park AFR.

9. Storage of associated documentation does not meet modern archival standards.

10. Lighting in the collections storage area does not have UV sleeves.

11. Temperature and humidity are not monitored, and neither can be controlled in the collections storage area.

12. Storage units are inappropriate for the long-term curation of archaeological collections.

13. Dust is ubiquitous throughout the collections storage area.

14. There is evidence of spider and silverfish infestation in the primary containers and the collections storage area.

Recommendations

1. Implement a professional pest-management system for the facility. Address the current spider and silverfish infestations.

2. Install smoke detectors and an overhead sprinkler system in the collections storage area.

3. Clean the collections storage area, remove the clutter, and maintain the cleanliness of the facility.

4. Monitor the humidity and temperature. Install a zoned HVAC system and a permanent or portable humidifier/dehumidifier in the collections storage area.

5. Place UV filters on fluorescent lights in the collections storage area.

6. Label all artifacts with india ink to prevent information loss if artifacts are separated from provenience data.

7. Replace secondary containers with four-mil, 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.

8. Replace acidic cardboard boxes with acid-free boxes. Apply adhesive polyethylene plastic label holders, with acid-free inserts, to the boxes. Labels should no longer be applied directly to the boxes. When label information or box contents change, inserts should be replaced. This method reduces the chance of conflicting and confusing information.

9. Place primary containers on baked-enamel, metal shelving units.

10. Develop and implement, minimally, the following policies and procedures: accessioning and deaccessioning policies, loan policy, inventory policy, a system of site-record administration, a curation policy, and a records-management policy.

11. Make two copies of the artifact inventory on acid-free paper. Store one copy off-site in a separate, fire-safe, secure location. Accession the second copy, place it in an acid-free folder labeled directly in indelible ink, and place in an acid-free primary container.

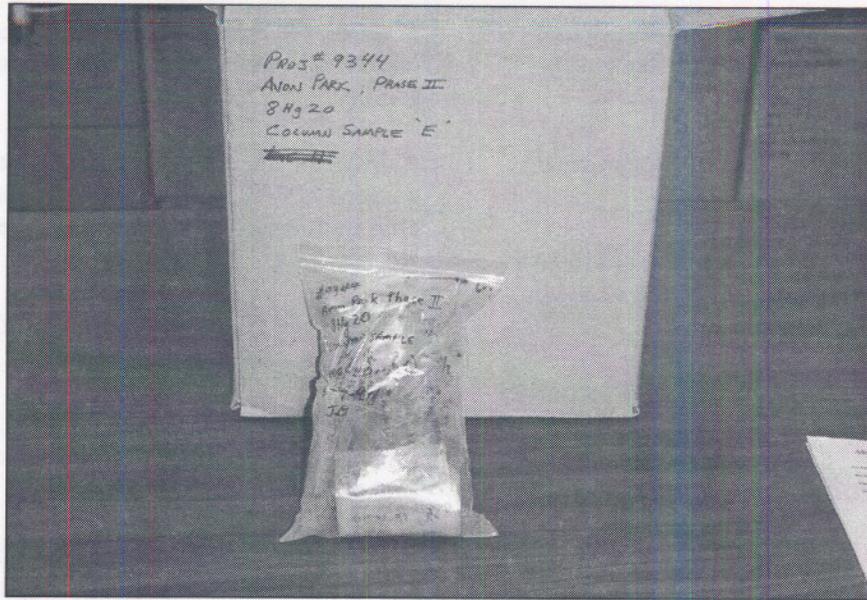


Figure 26. Two boxes are stored in the laboratory at JANUS Research. Primary and secondary containers are labeled directly in marker.

12. Hire a full-time curator, at least until the collections storage facility is upgraded and all collections are stabilized properly.

Repository 2: JANUS Research

Date of Visit: January 12, 1995

Point of Contact: Bob Austin, Archaeologist

JANUS Research completed an archaeological investigation on Avon Park AFR in late 1994. A total of 56 ft³ of artifacts and 1.84 linear feet of associated documentation resulted from this work and is being stored by JANUS Research until the report is finalized. The collection consists of both prehistoric and historical-period items. Several material classes are present, but unanalyzed soil samples dominate the collection.

Because JANUS is not keeping the collection beyond the completion of the report, a repository evaluation was not performed. Additionally, JANUS has associated documentation from a survey conducted at MacDill AFB and an earlier survey at Avon Park. These records are also discussed below.

Assessment

Artifact Storage

Storage Units

Two boxes of materials from the most recent work conducted by JANUS Research at Avon Park AFR are stored in the processing laboratory in their office space (Figure 26). The remaining 54 boxes are stored on plastic stackable shelves in a rented storage unit located across town (Figure 27). The complete unit measures 36 x 24 x 71 inches (w x d x h). In the processing laboratory, the boxes are stored on a table.

Primary Containers

All primary containers are constructed of glued, acidic cardboard with folded-flap lids. Each box measures 12.5 x 12 x 12 inches (l x w x h; approximately 1 ft³ each). Approximately 25 percent of the boxes have been damaged by overstacking. Some boxes have been taped on the top and bottom to provide extra strength and security to the box. All primary containers are labeled directly in marker. Labels consist of the JANUS-assigned project number and provenience information. Some also have catalog numbers written on the exterior of the box. Label information is legible and consistent.



Figure 27. The bulk of the Avon Park AFR collection (54 boxes) is stored on plastic sectional shelves in a rented storage space.

Secondary Containers

Thirty-seven of the primary containers contain exclusively unanalyzed soil samples, which are in plastic garbage bags that have been tied shut with a piece of survey tape. Provenience information is written directly on the survey tape in indelible marker. In the remaining boxes, other material classes are packaged in two-mil-thick, polyethylene plastic zip-lock bags. These secondary containers are labeled on the exterior of the bag, recorded directly in marker. Paper label inserts are absent. Provenience data recorded on the secondary containers is legible and consistent (Figure 28).

Laboratory Processing and Labeling

At the time of the evaluation, the collection had not been processed. None of the materials have been cleaned or labeled directly in india ink. All materials have been sorted by material class and provenience.

Human Skeletal Remains

No human skeletal remains recovered from either Avon Park AFR or MacDill AFB are curated at JANUS Research.

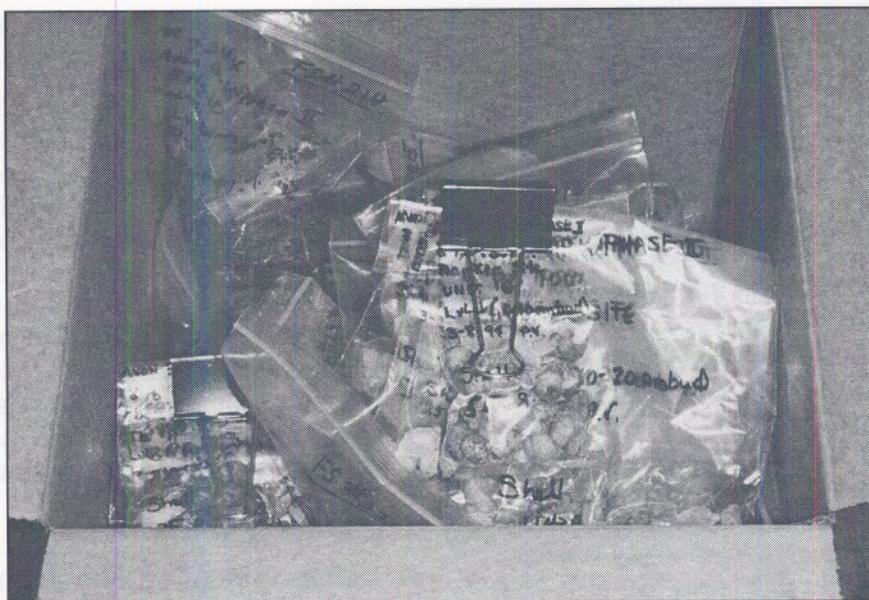


Figure 28. Two-mil, zip-lock bags are used to store materials from Avon Park AFR. Bags are labeled directly in marker; interior labels are absent.

Records Storage

JANUS Research currently houses three collections of associated documentation—one from MacDill AFB and two from Avon Park AFR. No artifacts were recovered in the survey conducted at MacDill AFB. One collection of artifacts from Avon Park AFR is already curated at the range (see above), and the other documentation resulted from the current project at the range. Associated documentation from the two previous surveys has been retired and is stored in acidic, “business archives” boxes that are located in the same rented storage space as the artifacts (Figure 29). Documentation from the current survey is located in Bob Austin’s office, where it will remain for reference use until the report has been completed.

Paper Records

Avon Park AFR, 1994 Survey. Documentation from the current survey on Avon Park encompasses approximately 15 linear inches of material. Types of paper documentation include administrative records (5%), background records (4%), field records (53%), analysis records (10%), photographic records (23%), and oversized materials (5%). All material is housed in one of two ways—either in three-ring notebooks or in manila folders that have been placed in acidic, legal-size, accordion-type folders. Most manila folders are labeled directly in a variety of media—pencil, pen, and marker. A few labels are typewritten on nonarchival adhesive labels. All paper and folders are of acidic stock and contain contaminants such as staples and paper clips (Figure 30).

Avon Park AFR, 1983 and 1985 Surveys. Approximately 9 linear inches from a previous survey at Avon Park are stored at JANUS Research in their retired project files. Types of documentation in this collection include administrative records (42%), background materials (16%), field records (26%), and report drafts (16%). All documentation is on acidic paper stock and is stored in acidic manila folders that have been placed in acidic, legal-size, accordion-type folders. Manila folders are predominantly labeled with nonarchival adhesive labels that have been filled out in a variety of media—pen, pencil,



Figure 29. Retired records are stored in a rented storage space along with bulk collections.

marker, and by typewriter. A few maps are included in one of the folders.

MacDill AFB Survey. In 1983 JANUS Research conducted a survey for MacDill AFB on the area where the golf course was constructed. No collections were made, but approximately 2 linear inches of associated documentation were generated. Documentation types in the collection include administrative records (20%), background materials (7%), photographic records (6.5%), oversized materials (6.5%), field records (40%), and report drafts (20%). Materials are packaged the same way as the Avon Park AFR documentation collections described above.

Photographic Records

Avon Park AFR, 1994 Survey. Photographic records in this collection include black-and-white prints, negatives, and contact sheets. Both



Figure 30. Avon Park AFR associated documentation held by JANUS Research.

35-mm and 120-mm negatives have been placed in nonarchival sleeves that are labeled directly in pen with roll and project numbers. Photograph logs have been typed or handwritten on acidic paper and interleaved with the photographic documentation. A few 120-mm negative strips have been placed in archival sleeves and labeled. Prints are labeled directly in indelible ink with the roll number and the project number. Contact sheets have been labeled directly in pen on the front of the page. Several contact sheets have been placed in a single archival sleeve. Labels on all photographic materials are consistent, but minimal information is recorded. All photographic documentation has been placed in a single acidic manila folder and is stored with the remaining documentation in accordion files.

Avon Park AFR, 1983 and 1985 Surveys. This collection does not include any photographic records.

MacDill AFB Survey. This collection contains 3.5-x-5-inch, black-and-white prints and 35-mm negatives. All are in nonarchival sleeves, and none of the material has been labeled. Photographic materials have been placed in an acidic manila folder and stored with the remaining documentation in accordion files.

Maps and Oversized Documents

Avon Park AFR, 1994 Survey. Oversized maps have been folded, creased, and stored in manila folders that have then been placed with the rest of the documentation. Other oversized materials include camera-ready, blue-line pages for the report. These have been placed in acidic manila folders also, but they are much too large and do not fit in the folders. Camera-ready pages have not been placed in the accordion files (Figure 31).

Avon Park AFR, 1983 and 1985 Surveys.

Oversized maps have been folded, creased, and stored in manila folders that have then been placed with the rest of the documentation in accordion files. All elements of the collection are stored with the retired files.

MacDill AFB Survey. Oversized maps are folded, creased, and stored in manila folders. These folders have been placed in accordion files and stored with the rest of the retired files.

Reports

Avon Park AFR, 1994 Survey. The report for this survey had not been completed at the time of the assessment.

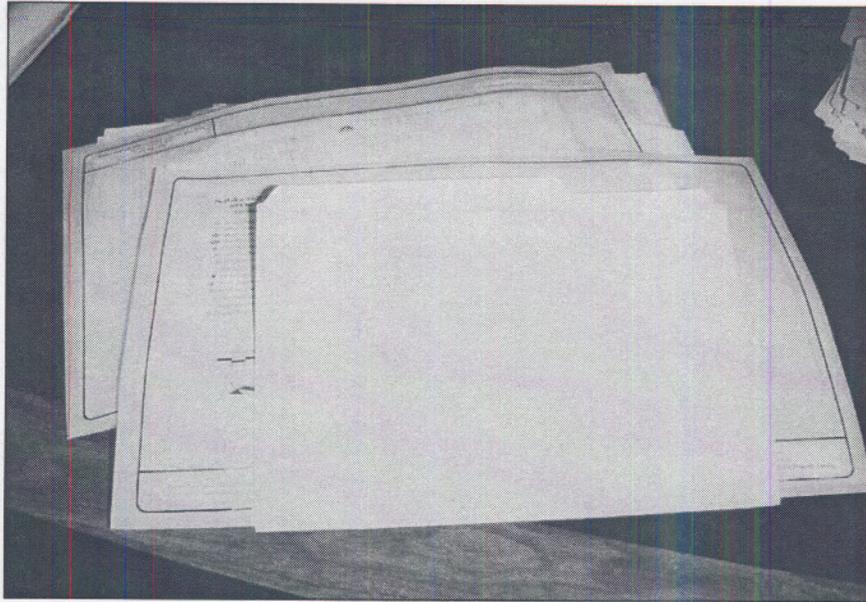


Figure 31. Camera-ready report pages are stored improperly in manila file folders.

Avon Park AFR, 1983 and 1985 Surveys. Copies of the 1985 draft report are kept in a manila folder that is in an accordion file. The final report was delivered to Avon Park AFR personnel.

MacDill AFB Survey. Copies of the draft report are housed with the rest of the documentation from this collection. A final copy of this report was delivered to the Florida state site files and to MacDill AFB personnel.

Collections-Management Standards

Because JANUS research will transfer the collection to Avon Park AFR upon completion of the project, a full evaluation of JANUS Research was not conducted.

Comments

1. JANUS Research will transfer the collection to Avon Park AFR upon completion of the project. Avon Park AFR staff will then be responsible for the long-term curation of the collection.

Recommendations

1. Ensure that all zip-lock bags are of four-mil thickness and are labeled directly in indelible ink.

2. Ensure that all artifacts are cleaned and labeled directly, when appropriate, in india ink.

3. Place all secondary containers in acid-free primary containers.

4. Make acid-free paper inserts for the secondary containers and label them in indelible ink.

5. Copy all associated documentation onto acid-free paper, and store in acid-free folders labeled directly in indelible ink. All records should be archivally processed and stored in acid-free primary containers, and a finding aid for the collection created.

6. Make duplicate copies of all associated documentation, and store them in a separate, fire-safe, secure location.

7. Transfer both copies of associated documentation to either Avon Park AFR or MacDill AFB, wherever the work was conducted.

8. Place all photographic materials in archival-quality polypropylene sleeves, and place sleeves in acid-free, three-ring photograph binders. Photograph logs should be on acid-free paper in indelible ink.



Figure 32. Social Sciences Building on the USF-Tampa campus.

9. Store photographic records in a stable environment equipped to monitor and control humidity and temperature.

10. Flatten oversized material and place in map-storage cases for long-term curation.

Repository 3: USF-Tampa

Date of Visit: January 13, 1995

Point of Contact: Nancy White, Professor of Anthropology

A single box of artifacts (approximately 1.5 ft³) recovered from MacDill AFB between 1952 and 1965 is curated at the USF-Tampa. Associated documentation is incomplete and does not indicate the exact date of recovery. All archaeological materials are from prehistoric contexts, and the collection consists predominantly of human skeletal remains. Material classes include human skeletal remains (85%), lithics (5%), faunal remains (5%), and shell (5%).

The Department of Anthropology is located in the Social Sciences Building on the campus of USF-Tampa. The building is a large structure built as a series of classrooms, offices, and

laboratories. In addition, the structure contains mechanical/tool rooms; an artifact-holding, -washing, and -processing laboratory; an artifact conservation laboratory; a records storage and study room; a storage area for hazardous materials; an exhibit area; and a small room with two refrigerators and one freezer for scientific specimens. Functioning utilities and facilities in the building include heating, air-conditioning, running water, rest rooms, electricity, telephone, and humidity-control units. The MacDill AFB collection is housed in one of the Department of Anthropology laboratories.

Assessment

Structural Adequacy

The Social Sciences Building is a concrete and brick structure that is approximately 35 years old (Figure 32). The roof is flat, and Dr. White did not know either the construction materials or age. Staff reported no leaks in the roof or foundation, and the assessment team noted no signs of cracks in either. Dr. White was unaware of the total area of the building, but the building has four floors above grade and one below.

Several interior renovations have occurred since the building was originally constructed. Most walls are constructed of concrete blocks, and

and the ceiling is made of suspended acoustical tiles. The building contains several windows, but none are located on the first floor, nor are any considered accessible from the exterior of the building. Window frames are constructed of steel, and some have been replaced since their original installation. The Social Sciences Building is considered structurally sound.

Environmental Controls

An HVAC unit is installed in the building. Both heating and air-conditioning are zoned, but the master controls for the building target the temperature between 68 and 70°F. Humidity is controlled through the master controls and is maintained at levels comfortable for the staff and students in the building. Heat is supplied by a zoned, forced-air system, but the air-conditioning is centralized. Dust filters are installed on the environmental systems. The assessment team noted no signs of excessive dust or dirt in the building. University janitorial staff clean the offices, labs, and classrooms every other day. Physical facilities staff are responsible for maintaining the HVAC system. The collections storage room is lighted by overhead fluorescent lights with UV filters.

Pest Management

An integrated pest-management plan, consisting of both monitoring and control measures, is in place and maintained by university personnel. The university has contracted this task to a professional pest-management company that regularly sprays the facility and performs spot checks for infestation. No signs of pest infestation were noted by the assessment team.

Security

Security measures installed in the Social Sciences Building meet approximately half of the minimum federal standards for safeguarding archaeological collections. Dead-bolt locks are located on all exterior doors, and key locks are located on all interior doors. Basic slide locks are installed on all windows, and there are no windows located on the first floor of the building. Access to the collections storage area is

limited to the staff of the Department of Anthropology and select USF-Tampa personnel. There is considerable market value associated with the archaeological collections, and special artifacts and type collections are stored in locking cabinets located in the conservation laboratory.

Dr. White stated that there had been instances of theft in the building (of computers and office equipment), but none had occurred in the collections storage areas. Campus police regularly patrol the campus grounds.

Fire Detection and Suppression

The Social Sciences Building is equipped only with manual fire alarms and fire extinguishers located throughout the building. No other detection or suppression measures are installed in the building. All fire extinguishers are inspected annually by university personnel. Fire doors are installed throughout the building, and the concrete walls also serve as a fire retardant. These measures, however, are insufficient for the safeguarding of archaeological collections from fire.

Artifact Storage

The collections are stored in the conservation laboratory, which measures 28.5 x 23 feet. A smaller room is located to the side of the laboratory. The staff refer to this room as the "fumigation room." This room is used for storage of expensive equipment such as cameras. Both rooms are free from clutter, and Dr. White mentioned that asbestos had recently been removed from the entire building. No windows are present in the collections storage area, but it does contain four metal-panel doors. All doors have a small glass window that has been reinforced with wire. The collections storage room has reached 100 percent capacity.

Storage Units

Two types of units are used to store collections. Along one wall there are several locking, wooden cabinets stacked two high (Figure 33). Along the opposite wall are homemade wooden shelves. Each shelf measures 47 x 19.5 x 15 inches (w x d x h). Seven shelves are stacked to create a rack. The wall is covered by five racks of wooden shelving units (Figure 34). The

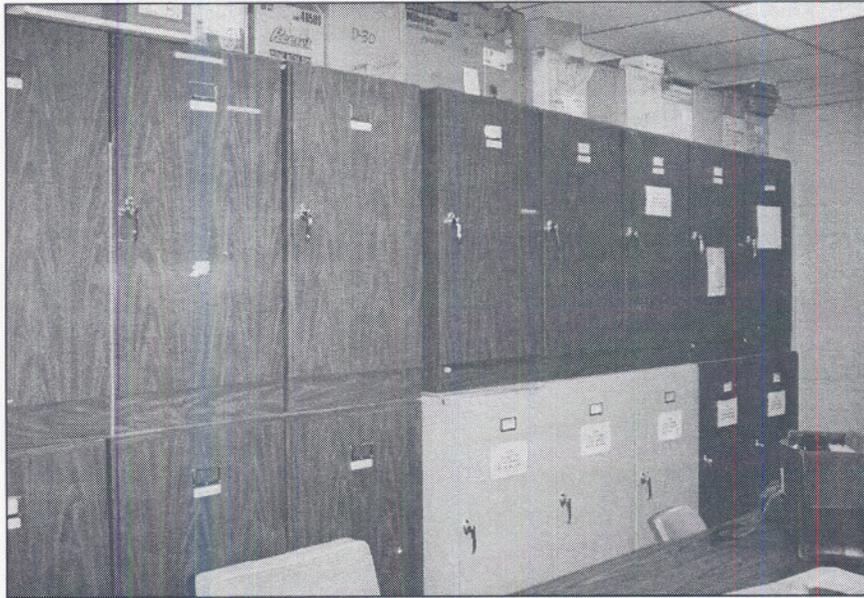


Figure 33. Type and special collections are stored in locking wooden cabinets.

MacDill AFB collection is stored on one of these shelves. Additional cabinets are located along a third wall, and the fourth wall is occupied by a large sink for artifact washing.

Primary Containers

The primary container housing the MacDill AFB collection is an acidic, Xerox paper box measuring 17.5 x 12 x 9 inches (l x w x h). The

box is made of folded and glued cardboard with a telescoping lid of similar construction. The box is suffering from minor compression damage and some tears. Label information is recorded on an adhesive label in black marker. Information recorded is: "Box 13, Human Remains and Assoc. Artifacts." The site number is recorded directly on the box in black marker. No other information is recorded.



Figure 34. Bulk collections are stored on homemade wooden shelves.

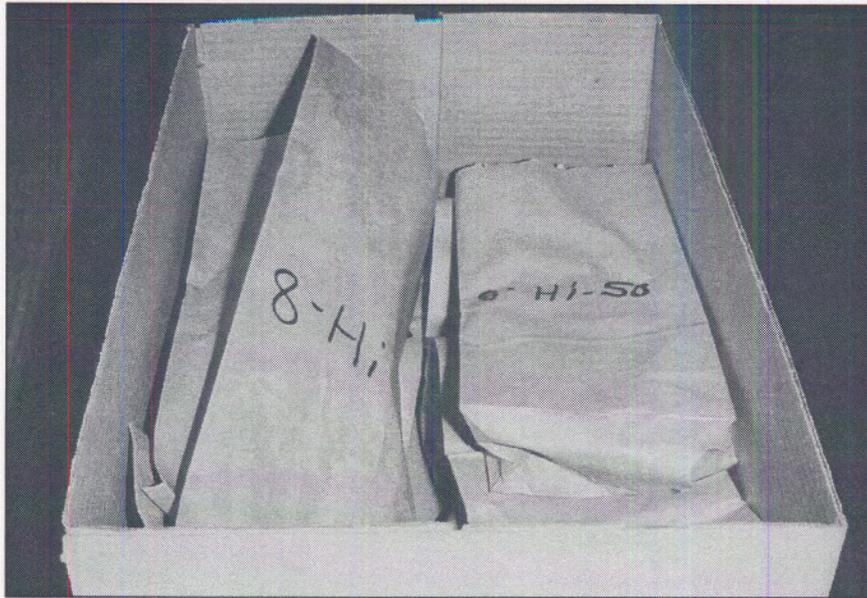


Figure 35. Acidic paper bags, labeled directly in marker, are used as secondary containers.

Secondary Containers

All secondary containers are acidic paper bags that have been labeled directly in black marker (Figure 35). Label information consists of the site number; a few bags have additional provenience information recorded. Bag security is provided by folding the tops of the bags. A few bags contain small acidic cardboard boxes that

hold the artifacts (Figure 36). Lithic materials are stored in a separate bag and labeled with the site number unit. Projectile points from this collection are housed in a small cardboard box that has been placed in an acidic paper bag. All lithics were being displayed at the time of the assessment.

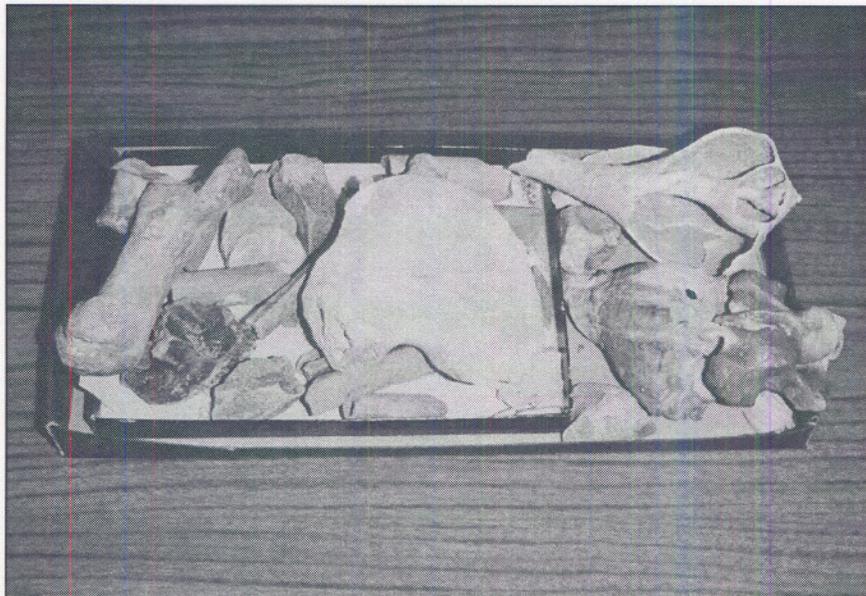


Figure 36. Some secondary containers contain acidic cardboard boxes within which the artifacts are stored.

Table 11.
Human Skeletal Remains in the MacDill AFB Collection at USF–Tampa

Bag Number	Contents
1	21 adult skull fragments, 3 juvenile skull fragments, 1 rib fragment
2	1 adult fibula, 1 adult humerus fragment
3	2 adult rib fragments, 1 long-bone fragment, 2 femur heads (both left), 1 fragment of adult parietal
4	1 adult pelvis fragment (ilium mainly—male)
5	fragmented mandible (encased in matrix), teeth present and in situ—2 molars, 2 premolars, all worn flat (at least 12 years of age)
6	16 loose teeth—molars, premolars, canines, incisors
7	15 mandible fragments with teeth in place (at least 3 individuals present)
8	1 tibia fragment—adult (left)
9	1 skull fragment, 1 adult temporal bone
10	15 pieces of invertebrate fauna
11	1 fragment of juvenile crania, 1 adult skull fragment, 1 juvenile ilium fragment, several invertebrate and vertebrate faunal fragments, small bag with 7 long-bone fragments

Laboratory Processing and Labeling

All artifacts have been cleaned. None, however, are sorted by material class. Only large bones are labeled directly in black marker. Other material classes are not labeled. Existing labels are consistent and legible.

Human Skeletal Remains

Eleven secondary containers hold human skeletal remains. Elements from at least three individuals are present—two adults and one juvenile. The contents of each bag are itemized in Table 11. Some bones have what appears to be caliche attached to the remains, and most are severely fragmented. Overall the remains are in excellent condition.

Records Storage

Associated documentation for this collection consists of a single, acidic manila folder housed in a letter-size metal file cabinet. All associated documentation curated by USF–Tampa is kept in this cabinet and is arranged by site number.

Paper Records

Records from MacDill AFB encompass less than 1 linear inch and include administrative records, survey records, and photographic records. Administrative records consist of several site forms for site 8HI50, dating from 1952 to 1965. Survey records consist of a single, undated sketch map showing the site location. The final piece of paper documentation is a 1960 newspaper clipping reporting the discovery of skeletons at MacDill AFB. The clipping is highly acidic, discolored, and brittle, and this acidity will migrate to the other documents in the file if not rehabilitated. All documentation is kept in a single, acidic, manila folder that has been labeled with a nonarchival adhesive label. Information on the label consists of the site number typed on the adhesive label.

Photographic Records

Photographic documentation consists of three black-and-white prints measuring 3 x 4.5 inches. No label information remains for these records. All photographs document the remains in situ. These photographs are filed loose in the file along with the paper documentation (Figure 37).

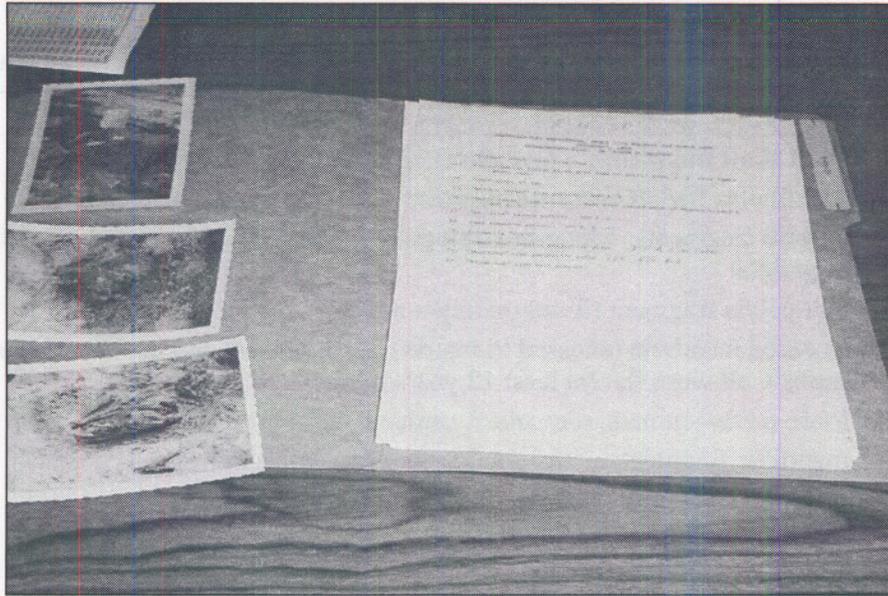


Figure 37. No special arrangements are made for photographic materials, which are stored improperly.

Collections-Management Standards

Registration Procedures

Accession Files. All materials are accessioned as quickly as possible upon receipt.

Location Information. The physical location of each collection is recorded in the accession files, which are kept both on hard copy and in a computerized form.

Cross-Indexed Files. No cross-indexed files existed at the time of the assessment, but the staff is working toward computerizing and cross-indexing all administrative records.

Published Guide to Collections. There is no published guide to the collections at USF-Tampa.

Site-Record Administration. Sites are recorded in the Florida state site files, using the Smithsonian trinomial site-numbering system.

Computerized Database Management. A rudimentary database system has been developed on dBase software. Staff members are attempting to enter all administrative records on the system, as time and money become available.

Written Policies and Procedures

Minimum Standards for Acceptance. USF-Tampa follows the standards published by the Florida Bureau of Archaeological Research (FBAR).

Curation Policy. USF-Tampa is not primarily a curation facility and, therefore, has no written curation policy. USF staff, however, follow FBAR standards for the curation of artifacts.

Records-Management Policy. USF-Tampa staff follow FBAR standards for the management of records, but the university has no written policy of its own.

Field-Curation Procedures. There are no written field-curation procedures for archaeological collections.

Loan Policy. Dr. White stated that although a standardized loan form was available for use, it was rarely used.

Deaccessioning Policy. USF-Tampa has never deaccessioned any material and, therefore, has no policy regarding the process.

Inventory Policy. No written policy exists, but all inventories are performed according to department standards that are related verbally to students.

Last Collection Inventory. In 1990 all human skeletal remains and other NAGPRA items were inventoried. The MacDill AFB collection was included in this inventory.

Curation Personnel

USF–Tampa employs no full-time curator. Department of Anthropology staff members and students perform curation duties as time and funding permit.

Curation Financing

Curation financing at USF–Tampa is virtually nonexistent. The Department of Anthropology provides most of the funds used for the minimal curation performed by the department. Additional monies are periodically provided through grant funds.

Access to Collections

Access to the collections is limited to the staff of the Department of Anthropology—approximately 15 people. Access also is provided to supervised students in the department.

Comments

1. The Social Sciences Building is structurally sound.
2. The collections storage area has reached 100 percent capacity.
3. An HVAC system is installed in the building, but humidity cannot be controlled in the collections storage area.
4. Humidity is not monitored in the collections storage area.
5. An integrated pest-management system is maintained in the Social Sciences Building.
6. Security measures do not meet minimum federal standards.
7. Fire-suppression and fire-detection systems do not meet minimum federal standards.
8. Shelving units are inappropriate for the long-term storage of archaeological collections.
9. Curation of material remains and associated documentation does not meet federal requirements.
10. Lighting is filtered against UV light.
11. All proper policies and procedures have not been established by USF–Tampa.

Recommendations

1. ACC should arrange to transfer this collection to Avon Park AFR and upgrade that facility as an appropriate curation facility for archaeological collections. See discussion above for measures required to upgrade the Avon Park facility.
2. Begin consultation with federally recognized Native American tribes in order to fulfill the mandates of NAGPRA regarding human skeletal remains.
3. Label all artifacts with india ink to prevent information loss if artifacts are separated from provenience data.
4. Replace secondary containers with four-mil, 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.
5. Replace the acidic cardboard box with an acid-free box. Apply an adhesive polyethylene plastic label holder, with acid-free insert, to the box. Labels should no longer be applied directly to boxes. When label information or box contents change, inserts should be replaced. This method reduces the chance of conflicting and confusing information.
6. Arrange associated documentation according to modern archival procedures, and create a finding aid for the documentation collection.

7. Duplicate all paper records onto acid-free paper, and place in acid-free folders labeled in indelible ink. Place the folders in an acid-free cardboard box, and apply an adhesive, polyethylene plastic label holder, with an acid-free insert, to the box.

8. Place all photographic materials in archival-quality polypropylene sleeves, and place sleeves in a acid-free, three-ring photograph binder. Create a photograph log on acid-free paper.

9. Store photographic records in a stable environment equipped to monitor and control humidity and temperature.

10. Make a duplicate copy of all associated documentation, and store these materials in a separate, fire-safe, secure location.

Findings Summary

Two ACC installations are located in the state of Florida—Avon Park AFR and MacDill AFB. Three archaeological collections from these installations are located at three different facilities: Avon Park AFR, JANUS Research, and USF—Tampa (Tables 12 and 13 contain summary information by material class for the Avon Park AFR and MacDill AFB collections, respectively). The latter collection contains human skeletal remains. ACC personnel have attempted to find a facility within the state of Florida to curate ACC archaeological collections. These attempts have been unsuccessful, so it is the recommendation of the St. Louis District that both ACC installations curate their collections at Avon Park AFR. Both installations may apply for AF funds for curation and thereby considerably lessen each installation's expense for upgrading the facility to meet minimum federal standards.

For Avon Park AFR's Building 475 to meet the minimum federal standards for the proper long-term curation of archaeological collections, the following measures are necessary:

1. Implement a professional pest-management plan that includes both monitoring and control measures.

Table 12.
Percentage (by Count) of Material Classes in Avon Park AFR Collections, by Repository

Material Class	Avon Park AFR	JANUS Research
Prehistoric		
Ceramics	6.25	3.0
Lithics	13.75	0.75
Faunal remains	0.25	8.0
Shell	1.25	3.25
Botanical	—	0.5
Soil	—	81.0
Charcoal	—	1.0
Concretions	—	0.5
Historical-period		
Ceramics	20.0	—
Glass	18.5	0.75
Metal	25.0	0.75
Wood	—	0.25
Brick	15.0	—
Faunal remains	—	0.25
Total	100.0	100.0

Table 13.
Percentage (by Count) of Material Classes in the MacDill AFB Collection at USF—Tampa

Material Class	Percentage Present
Prehistoric	
Lithics	5
Human skeletal remains	85
Faunal remains	5
Shell	5
Total	100

2. Install smoke detectors and an overhead sprinkler system in the collections storage area.

3. Clean the collections storage area, remove the clutter, and implement a regular cleaning regimen.

4. Install measures that will enable the staff to monitor as well as control both the humidity and the temperature.
5. Install UV filters on all fluorescent lights.
6. Rehabilitate all collections of material remains according to the recommendations made here.
7. Rehabilitate all associated documentation according to the recommendations made here.
8. Install baked-enamel, steel shelving units for storing collections.
9. Hire a full-time curator to rehabilitate, stabilize, and maintain collections.

10. Develop and implement, minimally, the following policies and procedures: accessioning and deaccessioning policies; loan policy, inventory policy, a system of site-record administration, a curation policy, and a records-management policy.

11. Make two copies of all associated documentation on acid-free paper and store one copy off-site in a separate, fire-safe, secure location.

Recommendations

General recommendations are discussed in Chapters 10 and 11.

5

Louisiana

Barksdale Air Force Base, Bossier City

Installation Summary for Barksdale AFB

Volume of Artifact Collections: Approximately 3 ft³

On Base: None

Off Base: Approximately 3 ft³ (SCIAA)

Compliance Status: The collection held by the South Carolina Institute of Archaeology and Anthropology (SCIAA) will be packaged according to Louisiana curation standards. Only minor rehabilitation will be required to comply with federal regulations governing the long-term curation of archaeological materials.

Linear Feet of Records: Approximately 0.75 linear feet

On Base: None

Off Base: 0.75 linear feet (SCIAA)

Compliance Status: Associated documentation located at SCIAA requires partial rehabilitation to comply with federal regulations and modern archival standards.

Human Skeletal Remains: No human remains have been recovered from Barksdale AFB.

Status of Curation Funding: The 8th AF Museum is funded by Barksdale AFB and grant funds. (For SCIAA, funding for curation and the level of curation performed is dictated in the original contract.) Once funding requirements for the curation of their collection are enumerated, Barksdale personnel can apply to AF Environmental Compliance Program A-106 for additional funds.

Recommended Curation Facility: Although the 8th AF Museum is currently not suitable for the curation of archaeological materials, the museum's five-year plan addresses many problems identified in the evaluation. The St. Louis District recommends that the collection remain at the 8th AF Museum and that the future plans listed by the curator be implemented.

Repository 1: 8th AF Museum, Barksdale AFB

Date of Visit: December 7, 1994

Point of Contact: Harold "Buck" Rigg, Curator

At the time of the evaluation, the 8th AF Museum at Barksdale AFB was not curating any archaeological collections. The single collection

of artifacts recovered from the installation was located at SCIAA. After the project is complete, however, the collection will be transferred to the 8th AF Museum for long-term curation; therefore the museum was evaluated. The 8th AF Museum occupied one-half of Building 5088 (Field Training Detachment) at the time of the original assessment. In January 1995, the museum expanded into the other half of the building and assumed full control of the structure. Facilities and functioning utilities in the

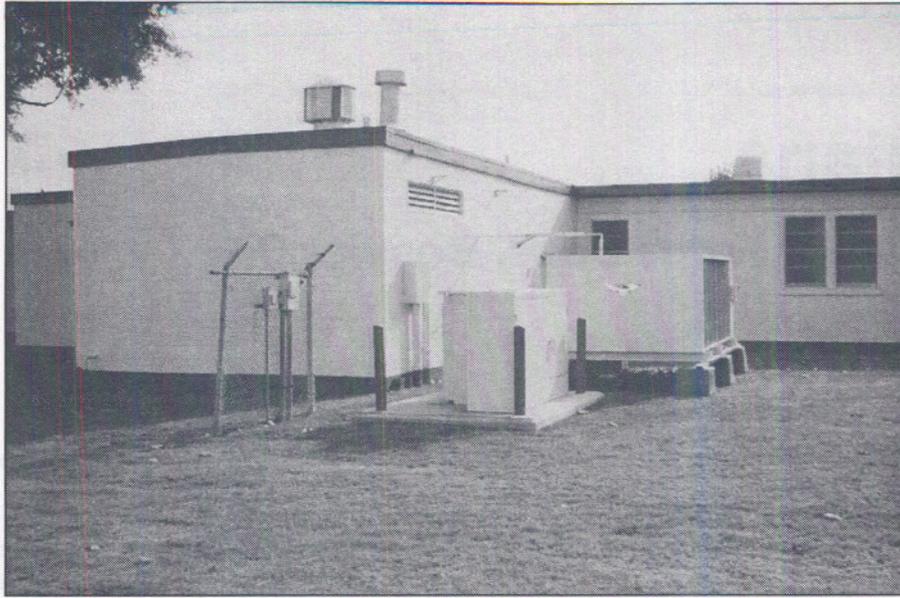


Figure 38. The boiler for Building 5088 is located in a connected, adjacent building.

building include running water, electricity, plumbing, telephones, rest rooms, air conditioning, and heating. At the time of the evaluation, the building contained four galleries used for the museum, a gift shop, offices, and a briefing room. The museum plans to expand the gallery space, create two collections storage rooms, a theater, a supply and tool room, a conservation laboratory, and a documents storage room, while maintaining some offices, the gift shop, and the exhibit space they currently utilize.

Assessment

Structural Adequacy

The building is a single-story structure that was originally constructed in the mid-1950s. It has a concrete foundation and exterior walls made of cinder block. The roof is a flat wood-truss superstructure covered with tar and gravel. Leaks have been a problem, but the roof is patched as needed. Additionally, plans were being made to replace the roof, which was as old as the building, with a pitched roof in an attempt to stop these leaks. Internal renovations have been made as the museum expanded—walls were removed or added according to museum plans. Floors are constructed of poured concrete covered with tile. Interior walls are constructed of

plasterboard over 2-x-4-inch studs, and all walls have been painted. The ceiling is covered with fibrous tiles and shows water damage from past leaks in the roof. The building has 19 windows measuring 36 x 60 inches (w x h): 10 along the north wall and 9 along the south wall. All windows located in the museum galleries have been blocked with plywood to prevent UV light from damaging museum displays. All other windows in the building are constructed of wooden frames with aluminum storm windows. Windows located in offices and hallways are curtained but not shaded. None of the windows have ever been replaced.

The boiler, which was replaced in the 1970s, is located in an interconnecting, adjacent building off the south side of the museum (Figure 38). The heating system is original to the building, but some of the electrical work has been updated. A smaller building, used for storage of hazardous materials, is located to the northwest of the museum building. Asbestos is present in the mechanical/tool room and also in some floor tiles. Barksdale AFB has an asbestos-removal unit on base, and the curator plans to have this unit remove the asbestos in the building in June 1995. The assessment team noted no indication of cracks or leaks in the foundation, walls, or around any of the windows. The building is considered structurally sound.

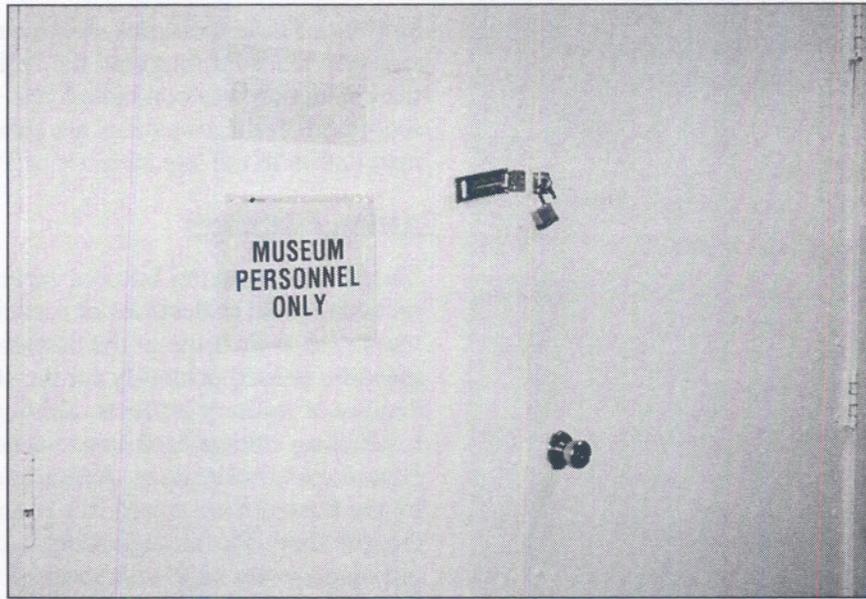


Figure 39. Hasps and padlocks are installed on all interior doors of the 8th AF Museum.

Environmental Controls

Building 5088 does not have an HVAC system. Air conditioning and heating are both zoned; each room has a functioning thermostat control. Hygrometers are present in each room, but there was no effective way to control the humidity. The curator stated that he planned to buy portable humidifiers and dehumidifiers for the collections storage rooms and the records storage room. Until these are purchased, however, the humidity can be minimally controlled by closely monitoring the air-conditioning unit in the collections storage areas. Dust filters are in place on the heating system, and the assessment team noted no evidence of dust. Lighting is provided by unfiltered, overhead fluorescent units located throughout the building. According to Mr. Rigg, UV sleeves have been installed in the collections storage and archival areas since the evaluation. At the time of the assessment, the building was maintained by the curator on an as-needed basis, but he spoke about obtaining a professional cleaning service once the museum assumed control of the entire building.

Pest Management

A pest-control system, in the form of quarterly inspection and spraying by the base entomologist, is in place at the 8th AF Museum. While the

assessment team did not see any signs of pest infestation, the curator noted that fire ants have been an ongoing problem. This problem, however, actually existed outside the building. Mr. Rigg stated that the base entomologist was aware of the problem and had taken measures to eradicate the ants. He also indicated that there has been an occasional moth problem, probably due to the storage of textiles within the museum. Neither of these pests has damaged the collections.

Security

Building 5088 is located across the street from the installation's main entrance, which is manned by base security police around the clock. Additionally, even though the museum expanded throughout the building in January 1995, a single room was allocated for use by the security police. This action has, in effect, established a 24-hour guard in the building. In addition, access is controlled by limiting the number of available keys. All windows are considered accessible from the exterior of the building, but all have basic window locks, and some have been inadvertently painted shut. Key locks or hasps with padlocks are located on all interior doors in the museum (Figure 39). Two rooms in the building have steel vault doors with combination locks for security (Figure 40). Mr. Rigg informed the assessment team that these rooms were going to be



Figure 40. Once the museum expands, two vault doors, with combination locks, will provide security to the collections storage area.

the collections storage rooms once the museum expanded. Two main entrances are constructed of glass doors; one is constructed of double doors made of steel and glass (Figure 41). All entrances are secured with double-cylinder, dead-bolt locks. Additionally, security police make regular patrols of the base property.

Fire Detection and Suppression

Building 5088 has manual fire alarms, fire extinguishers, and heat sensors located throughout the facility. Fire extinguishers are checked annually by qualified personnel. All fire alarms are wired directly to the Barksdale AFB Fire Department. A sprinkler system is not currently installed, but installation of one has been requested in the museum's five-year plan. Additional fire control is provided by fire walls. Fire doors are located in several of the rooms in the

building. These measures, however, are not consistently placed throughout the facility. Since the evaluation was conducted, Mr. Rigg has reported that these systems are scheduled for installation in the late summer of 1995.

Artifact Storage

The 8th AF Museum was not curating any archaeological collections or associated documentation at the time of the assessment. The museum is used primarily for the storage and display of military artifacts, although the curator is adapting storage facilities to accommodate archaeological collections. Artifacts currently held by the museum are stored in a room adjacent to the gift shop. The storage room is cluttered, and old displays are kept with some of the exhibit material on wire shelving units (Figure 42). Mr. Rigg stated that two different rooms would be renovated and used for artifact storage and conservation after January 1995, and since the evaluation, he has reported that these renovations were completed and the collections moved to these areas as of January 31, 1995.

Many of the exhibits in the galleries were kept in "homemade" display cases constructed of plywood and plexiglass and lighted by incandescent lights without UV filters. The curator is aware that these are unacceptable conditions for the display and storage of archaeological collections but is awaiting the requisite funding. Funding constraints, as always, present the largest obstacle to compliance.

Records Storage

At the time of the evaluation, the 8th AF Museum was not curating any associated documentation from archaeological investigations conducted on base property. However, the curator has plans to renovate a 400-ft² room as an archives and library. Tentative plans were also being made to hire a part-time archivist. Mr. Rigg informed the assessment team that a DoD Legacy-funded program was underway to inventory and catalog all documentation concerning the museum's holdings. These funds provided the salary for a single individual who functions as both archivist and collections manager. At the time of the assessment, Mr. Rigg estimated this project was 80 percent complete, but funding for



Figure 41. The main entrance to the museum has doors secured with double-cylinder, dead-bolt locks.



Figure 42. Collections storage area at the time of the evaluation.

the program was due to expire on September 30, 1995.

Collections-Management Standards

The 8th AF Museum is an AF Field Museum (AFFM) and follows the registration procedures and policies established by the U.S. AF National Museum at Wright-Patterson AFB in Dayton,

Ohio (AF Instruction [AFI] 84-103, July 22, 1994). This AFI does not refer to real property of historical interest such as archaeological sites, cemeteries, and buildings. The curator, however, follows this instruction and adapts it as necessary to include archaeological collections. Because the museum is not yet curating archaeological collections, the discussion below

pertains to all museum property held by the 8th AF Museum.

Registration Procedures

Accession Files. AFI 84-103 lists procedures for accessioning all museum properties, and these procedures are followed by the 8th AF Museum staff.

Location Identification. The physical location of each item is noted in the accession file, along with the inventory, catalog, any correspondence pertaining to the item, and the deed of gift.

Cross-Indexed Files. At the time of the evaluation, the project to catalog and inventory all collections had not yet been completed. This project, which also includes cross-indexing of files, is approximately 80 percent complete.

Published Guide to Collections. No published guide to the collections exists.

Site-Record Administration. No archaeological collections were curated at the museum at the time of the assessment, but the curator indicated they would follow the system used by the Louisiana Division of Archaeology—the Smithsonian trinomial site-numbering system.

Computerized Database Management. Plans to develop a computerized database system were mentioned by the curator. The U.S. AF Museum material has been entered into a computerized database that was developed locally, but the 8th AF Museum is awaiting additional equipment to continue these efforts.

Written Policies and Procedures

Minimum Standards for Acceptance. The 8th AF Museum does not have a policy on minimum standards for the acceptance of archaeological collections.

Curation Policy. No comprehensive plan for the curation of archaeological collections has been written for Barksdale AFB.

Records-Management Policy. Policies regarding the management of records from AF field museums are outlined in AFI 84-103.

Field-Curation Procedures. Field-curation procedures for Barksdale AFB have not been developed.

Loan Policy. Loan procedures are outlined in AFI 84-103. However, the 8th AF Museum does not own the artifacts it houses—the AF Museum System owns all artifacts; field museums have the material on long-term loans.

Deaccessioning Policy. Deaccessioning museum property is the responsibility of the AF Museum System and is outlined in AFI 84-103.

Inventory Policy. A formal inventory policy is presented in AFI 84-103.

Latest Collection Inventory. At the time of the evaluation, the museum was not curating archaeological collections. However, the curator was performing an inventory of the museum's holdings, which was approximately 80 percent complete.

Curation Personnel

The 8th AF Museum employs only a single full-time staff member, Mr. Rigg. He serves as curator, and he does everything else necessary to maintain the museum. At the time of the evaluation, one individual was working as collections manager and archivist through a DoD Legacy Program grant. This position, however, was funded by grant monies that expire on September 30, 1995. Volunteers assist with the day-to-day activities of the museum.

Curation Financing

Curation is funded through monies received from Barksdale AFB and grants. Mr. Rigg stated that approximately \$200,000 per year was necessary to upgrade and maintain museum facilities.

Access to the Collections

Access to the collections is controlled entirely by the curator and collections manager. Any arrangements to view the Barksdale AFB archaeological collections or associated documentation must be arranged with him, once the collection is transferred to the museum.

Comments

1. Building 5088 is structurally sound.
2. Temperature is monitored and controlled; however, humidity is monitored but cannot be

controlled other than by careful manipulation of the air-conditioning and heating systems.

3. Lights throughout the building are unfiltered against UV light. Filters have been installed in the collections storage area and archives.

4. Some asbestos is present in the building, but the asbestos flooring was scheduled to be removed in June 1995.

5. A sprinkler system is not installed in the building nor are smoke detectors present. Again, these measures were planned for installation in August 1995.

6. Policies specifically regarding the curation of archaeological collections have not been established at the 8th AF Museum.

7. An HVAC system is not present in the building, though all of these elements are present. The heating system is equipped with dust filters.

Recommendations

1. Provide a method of controlling the humidity in the galleries and in the collections storage rooms.

2. Place UV sleeves on fluorescent lights where they are absent.

3. Remove the asbestos from the facility as soon as possible.

4. Continue plans to move collections storage areas to the two rooms with vault doors.

5. Continue plans to install a sprinkler system in the building. Also install smoke detectors.

6. Adapt current policies or develop new policies specific to the long-term curation of archaeological collections and associated documentation.

7. Ensure that all zip-lock bags are of four-mil thickness.

8. Ensure that all artifacts are labeled directly in india ink.

9. Place all secondary containers in acid-free primary containers.

10. Ensure that all paper inserts for the secondary containers are made of acid-free paper and labeled in indelible ink.

11. Copy all associated documentation onto acid-free paper, and store them in acid-free folders labeled directly in indelible ink. All records should then be archivally processed and stored in acid-free primary containers, and a finding aid for the collection should be created.

12. Make a duplicate copy of all associated documentation, and store these materials in a separate, fire-safe, secure location.

7. Ensure that maps, photographs, and machine-readable records are stored according to the individual needs of the items using archival-quality supplies.

Repository 2: SCIAA

Date of Visit: November 28, 1994

Points of Contact: Steve Smith, Ramona Grunden, and Christopher Clement, Archaeologists

Approximately 3 ft³ of artifacts and 0.75 linear feet of associated documentation from Barksdale AFB are temporarily housed in Columbia, South Carolina, at (SCIAA). At the time of the evaluation, the field crew had just returned to SCIAA, and the recovered artifacts were still being washed and sorted in the laboratory. The collection consists primarily of historical-period materials with a few artifacts from prehistoric contexts. Of the total, prehistoric material classes include lithics (1%), wood (1%), and shell (1%), whereas historical-period material classes comprise metal (40%), glass (25%), ceramics (23%), bricks/masonry (5%), faunal remains (1%), leather (1%), teeth (1%), and other (1%). A repository evaluation was not

conducted at SCIAA because the collection will be transferred to the 8th AF Museum at Barksdale AFB upon completion of the project.

The contract between Barksdale AFB and SCIAA states that the collection be prepared for curation according to the Louisiana Standards for Curation (see Appendix 13). Both a description of the temporary conditions at SCIAA and how the collection will be processed are discussed below.

Assessment

Artifact Storage

When the St. Louis District evaluation team arrived at SCIAA, the crew had just completed the fieldwork for the project. Recovered artifacts were in the conservation laboratory and were being cleaned and labeled for long-term storage

(Figure 43). As noted above, the collection consists of both prehistoric and historical-period materials, but most of the artifacts recovered are from the latter context. Approximately 80 percent of the collection has been sorted by material class (Figure 44).

The Louisiana Standards for Curation require that all artifacts be cleaned and placed in polyethylene zip-lock bags. Each bag should be labeled on the exterior in indelible ink and have the label information also recorded on a piece of paper inserted into the bag. All glass artifacts must be double bagged. Louisiana standards require acid-free paper inserts only in bags containing metal or organic artifacts. All diagnostic artifacts and artifacts used for display are to be labeled directly in india ink. Only a representative sample (10% is sufficient) of each material class from each provenience need be labeled directly. Primary containers must be of standard



Figure 43. Artifacts recovered from Barksdale AFB await processing in SCIAA's laboratory.



Figure 44. As the collection is cleaned and sorted, it is transferred to trays prior to final packaging in polyethylene, zip-lock bags.

sizes, but they do not have to be constructed of acid-free materials. Each box must contain an inventory sheet, and the box exterior must be labeled with the site number, site name, catalog numbers of artifacts included in the box, name of the archaeologist or organization, and the date the artifacts were boxed (see Appendix 13).

Records Storage

Once all associated documentation has been generated and the project is complete, the collection will be transferred to Barksdale AFB. The staff at SCIAA indicated that all of the documentation would be packaged and shipped according to the dictates of the Louisiana Division of Archaeology. The associated documentation that must be transferred includes: one typed copy of a site form; two typed copies of the catalog for the collection; copies of all field notes, site diaries, unit forms, profiles, maps, and other field documents; two copies of the final project report, and inventory sheets (see Appendix 13). The Louisiana Division of Archaeology, however, does not specify that these documents be on acid-free paper and housed in acid-free secondary and primary containers. Nor do the Curation Standards for the state of Louisiana indicate what type of labels should be used or in what media.

Paper Records

SCIAA is currently storing approximately 0.75 linear feet of associated documentation from Barksdale AFB. Eighty percent of the associated documentation consists of field notebooks and catalog and inventory records. These materials were stored in the processing laboratory with the artifacts. The field books have been secured together with a rubber band, but no other storage arrangements have been made. Each field book is labeled directly in either pencil or pen on the front cover with the name of the investigator and the project name (Figure 45). Inventories and catalogs were temporarily housed in acidic accordion-type folders in the processing laboratory. The remaining 20 percent of associated documentation comprise administrative records including correspondence, a copy of the proposal and scope of work, and miscellaneous notes concerning the administration of the project. At the time of the evaluation, these

documents were located in Chris Clement's desk, because he was using them for reference purposes. Administrative records were kept in three acidic manila folders, one labeled directly in ink and two unlabeled. In actuality, the associated documentation was incomplete at the time of the evaluation. Catalogs, inventories, machine-readable records, photographs, and the report have not been completely created.

Photographic Records

Photographic records had not been processed at the time of the evaluation.

Maps and Oversized Documents

At the time of the evaluation, the maps and oversized drawings from Barksdale AFB were stacked on a table in Chris Clement's office (Figure 46). He was using them for reference while

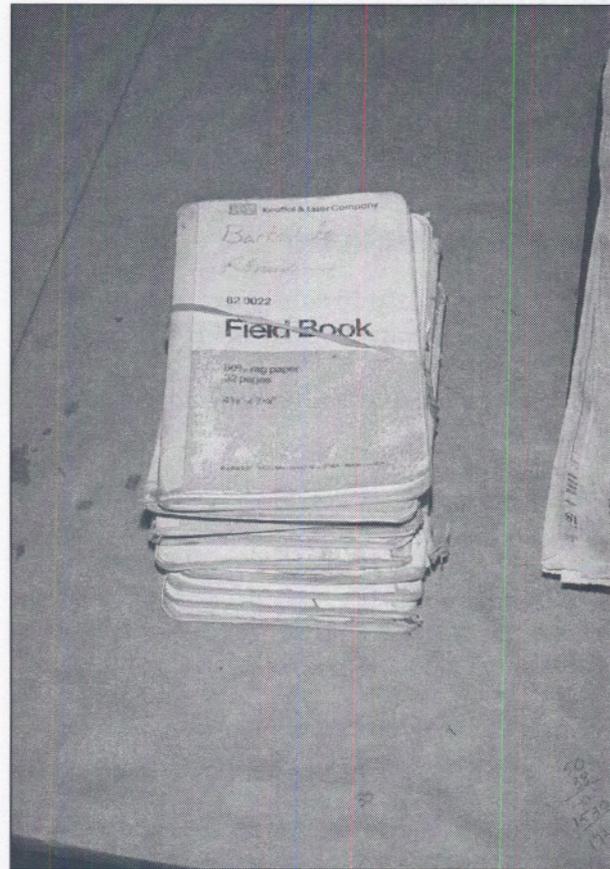


Figure 45. Field books from the archaeological work at Barksdale AFB are stored temporarily in the processing laboratory.

he drafted the report, so they had not been arranged or archivally processed in any manner.

Reports

The report had not been completed at the time of the evaluation and, therefore, was unavailable for review.

Machine-Readable Records

The report will be saved on machine-readable format in addition to the hard-copy format.

Collections-Management Standards

Because the Barksdale AFB collection will be transferred to the base upon the project's completion, a full evaluation of SCIAA was not conducted. This information, however, is available in the discussion of collections from Shaw AFB and Poinsett AFB in Chapter 7.

Comments

1. SCIAA will transfer the collection to Barksdale AFB when the contract has been fulfilled. Barksdale AFB staff will then be responsible for the long-term curation of the collection.

Recommendations

1. Ensure that all zip-lock bags are of four-mil thickness and labeled directly in indelible ink.
2. Ensure that all artifacts are labeled directly in india ink.
3. Place all secondary containers in acid-free primary containers.
4. Ensure that all paper inserts for the secondary containers are made of acid-free paper and are labeled in indelible ink.
5. Copy all associated documentation onto acid-free paper, and store the copies in acid-free folders labeled directly in indelible ink. All records should then be archivally processed and stored in acid-free primary containers, and a finding aid for the collection should be created.

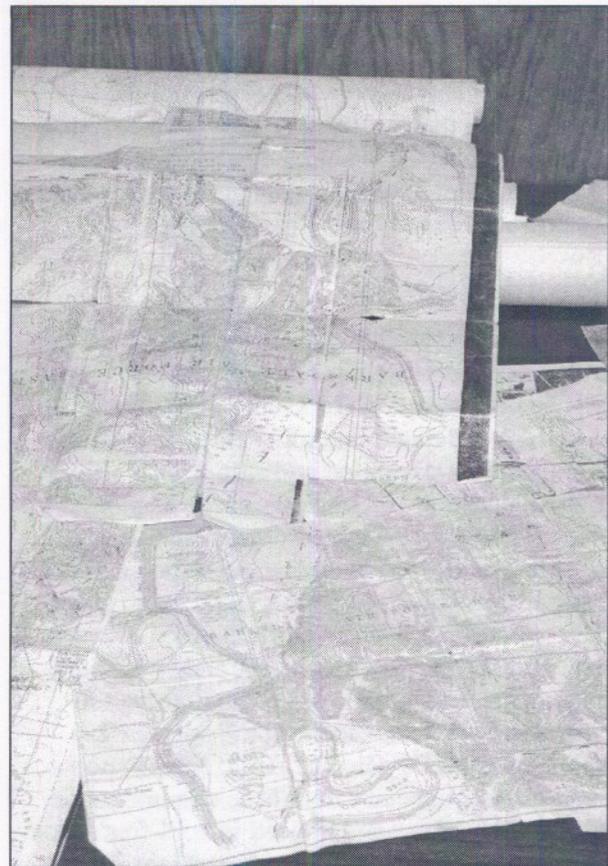


Figure 46. Oversized maps are stored haphazardly on a table in Chris Clement's office.

6. Make a duplicate copy of all associated documentation, and store these materials in a separate, fire-safe, secure location.
7. Ensure that maps, photographs, and machine-readable records are stored according to the individual needs of the items using archival-quality supplies.

Findings Summary

Only one collection of artifacts has been recovered from Barksdale AFB property (Table 14 contains summary information by material class). This collection is currently being prepared for long-term curation by staff members at SCIAA. Once the project is complete, the collection will be transferred to the 8th AF Museum at Barksdale AFB for permanent curation. Because

of this situation, a full evaluation was not conducted at SCIAA, and only the 8th AF Museum is discussed below.

Infrastructure Controls

The 8th AF Museum, although not specifically designed for the curation of archaeological materials, meets some of the minimum federal standards for repository infrastructure controls (Table 15). If everything goes as the curator plans, the 8th AF Museum will be an acceptable repository for the curation of archaeological collections and associated documentation.

Environmental Controls

An HVAC system is not installed in the 8th AF Museum. All these elements, however, exist in the building. The heating and air conditioning is zoned room by room, and dust filters are in place. Humidity is monitored by hygrometers located in each room but cannot be controlled effectively.

Pest Management

The base entomologist sprays the facility for pest infestation on a quarterly basis. Problems have been noted in the past, but these were being addressed at the time of the evaluation. Additional monitoring is conducted by the curator. No signs of pest infestation were noted by the assessment team.

Security

Security consists of door locks or padlocks on all interior doors and windows, and double-cylinder dead-bolt locks on all exterior doors. If plans to move the collections storage rooms are followed, additional security will be provided by vault doors with combination locks. Motion detectors and intrusion alarms are not installed,

Table 14.
Percentage (by Count) of Material Classes in the Barksdale AFB Collection Temporarily Stored at SCIAA

Material Class	Percentage Present
Prehistoric	
Lithics	1
Shell	1
Wood	1
Historical-period	
Ceramics	23
Glass	25
Metal	40
Brick/masonry	5
Faunal remains	1
Leather	1
Teeth	1
Other	1
Total	100

but the security police in the building (and at the main gate) provide additional security.

Fire Detection and Suppression

Fire alarms wired to the base fire department, fire extinguishers, and heat sensors are located throughout the facility. Smoke detectors and an overhead sprinkler system are not in place. If plans to install a sprinkler system are followed, the minimum standards for fire suppression in an archaeological curation facility will be met.

Artifact Curation

The artifacts recovered from Barksdale AFB will be prepared for curation according to the

Table 15.
Presence or Absence of Repository Infrastructure Controls at the 8th AF Museum

Repository	Environmental Controls	Pest Management	Security	Fire Detection & Suppression	Full-Time Curator
8th AF Museum	partial	yes	yes	partial	no

Louisiana Curation Standards of the Division of Archaeology. All artifacts are cleaned and sorted, but only a representative sample is labeled directly. Secondary containers must be polyethylene zip-lock bags, but four-mil thickness is not specified. All secondary containers are to be labeled on the exterior in indelible ink, and also on paper inserts, but the paper does not have to be acid-free stock for all artifact classes. Standard-size boxes must be used, but again, acid-free stock is not specified. All boxes must be consistently labeled with specific information in indelible ink. Some upgrading of materials will be required for full compliance with 36 CFR Part 79, but generally the collection will be well prepared for long-term curation.

Records Management

Associated documentation generated from the archaeological investigation on Barksdale AFB will be transferred to the 8th AF Museum upon completion of the project. The museum curator plans to copy all associated documentation onto acid-free paper and archivally process the collection. He hopes to have a second copy made on preservation microfilm. If these plans are followed and archival supplies are used, the associated documentation will be well prepared for long-term curation.

Collections-Management Standards

Basic collections-management tools—accession records, inventories, and written policies and procedures for curation and loans—are

maintained by the 8th AF Museum. The policies and procedures outlined in AFI 84-103 do not specifically address archaeological collections and associated documentation and should be adapted, when necessary, to accommodate the specific needs of archaeological materials. Generally all materials and documentation are inventoried and cataloged, and their physical location within the repository is noted. Implementation of a cross-indexing system is in progress, and the curator hopes to computerize their finding aids as soon as possible. The most pressing problem is staffing. Mr. Rigg is responsible for all the work done in the museum, so there is, in fact, no full-time curator.

Recommendations

The following are general recommendations for bringing the Barksdale AFB collection into compliance with the mandates of 36 CFR Part 79. All recommendations will be discussed at length in Chapters 10 and 11.

1. Take the minor steps needed to rehabilitate the associated documentation.
2. Upgrade the supplies used to package the archaeological artifacts to ensure compliance.
3. Employ more staff to rehabilitate, maintain, and manage the collections.
4. Develop cooperative agreements with other federal agencies to help defray the costs of rehabilitation and long-term curation of archaeological collections.

New Mexico

Cannon Air Force Base and Melrose Air Force Range, Clovis, and Holloman Air Force Base, Alamogordo

Installation Summary for Cannon AFB, Melrose AFR, and Holloman AFB

Volume of Artifact Collections:

Cannon AFB: None

Melrose AFR: 8.5 ft³

On Base: None

Off Base: 7.5 ft³ (MIAC/LOA);

1.0 ft³ (ACA warehouse)

Holloman AFB: 5.5 ft³

On Base: 0.5 ft³

Off Base: 4.0 ft³ (Maxwell Museum);

1.0 ft³ (HSR)

Compliance Status: All collections require partial rehabilitation to comply with federal regulations governing the long-term curation of archaeological materials.

Linear Feet of Records:

Cannon AFB: 0.08 linear feet

On Base: None

Off Base: 0.08 linear feet (NMARMS)

Melrose AFR: 2.16 linear feet

On Base: None

Off Base: 1.0 linear foot (NMARMS);

0.83 linear feet (Albuquerque District);

0.25 linear feet (OCA);

0.08 linear feet (ACA warehouse)

Holloman AFB: 5.59 linear feet

On Base: 1.5 linear feet

Off Base: 2.0 linear feet (HSR);

1.17 linear feet (Albuquerque District);

0.75 linear feet (OCA);

0.17 linear feet (NMARMS)

Compliance Status: All collections of associated documentation require at least partial rehabilitation to comply with federal regulations and modern archival practices.

Human Skeletal Remains: No known human skeletal remains were recovered from any of the three ACC installations evaluated.

Status of Curation Funding: Currently little to no funding is allocated at either Cannon (or its subinstallation, Melrose Range) or Holloman. Up to the time of the evaluation, funding requirements were unknown. Once these have been identified, each of the installations may apply to AF Environmental Compliance Program A-106 for the necessary funding. Other institutions holding collections from these installations receive funding from a variety of sources.

The Archaeological Records Management Section of the New Mexico Historic Preservation Division (NMARMS) receives funding from federal and state agencies and through grants, though other funding for curation is minimal. Curation is funded through a one-time, per-box fee charged to the agencies storing archaeological materials at the Museum of Indian Arts and Culture/Laboratory of Anthropology (MIAC/LOA). Additional funds are obtained through contracts with agencies to upgrade storage conditions of their collections and from a cooperative agreement with one federal agency for

annual maintenance as required under 36 CFR Part 79. Draft cooperative agreements for annual maintenance fees have been sent to five other agencies, but to date, none has budgeted for collection maintenance. The Albuquerque District currently holds 2 linear feet of records from Holloman AFB and Melrose AFR, but no funding for curation of these materials is provided. Curation activities of the Maxwell Museum are funded primarily through box fees and annual maintenance fees. Some additional funds are provided by the University of New Mexico (UNM) at Albuquerque and grants. At the Agency for Conservation Archaeology (ACA) warehouse, curation is funded through a one-time, per-box fee charged to the agencies storing archaeological materials there. Storage of the collections in proper environmental conditions is covered by an annual maintenance fee. Additional funds for curation are minimal. For Human Systems

Research, Inc. (HSR), and the Office for Contract Archaeology (OCA) at UNM, Albuquerque, funding for curation and the level of curation to be performed is dictated in each individual contract.

Recommended Curation Facility: None of the facilities evaluated were fully in compliance with federal regulations governing the care and curation of archaeological collections and their associated documentation. However, MIAC/LOA and the Maxwell Museum of Anthropology are both professionally managed institutions that meet most of the federal regulations for safeguarding archaeological collections. ACC should designate one of these institutions and coalesce their collections there. Part of this arrangement should include a formal memorandum of agreement and some compensation for professional curation services.

Repository 1: NMARMS

Date of Visit: March 21–22, 1994

Point of Contact: Lou Haecker, Cultural Resource Specialist I

Approximately 1.25 linear feet of documentation from Holloman AFB, Cannon AFB, and Melrose AFR are stored in Santa Fe at NMARMS and the Museum of New Mexico (MNM). This documentation includes New Mexico site forms, correspondence, and original documentation submitted by contractors after the completion of archaeological investigations.

NMARMS is not responsible for the curation of artifacts, but instead works in conjunction with MIAC/LOA Archaeological Research Collections (ARC), the official clearinghouse for archaeological data in New Mexico. The NMARMS offices are located in the LOA building (Figure 47), thus facilitating research efforts. The database system used by NMARMS is the New Mexico Cultural Resource Information System (NMCRIIS), and reports and associated data may be retrieved through this system.

Assessment

Structural Adequacy

The LOA building was constructed between 1927 and 1931. Offices were added at the back of the building during the 1950s to accommodate the need for more space, and renovations were made as need and funds arose. The building is a bilevel structure constructed of brick and concrete blocks on a cement foundation. The roof is covered with built-up asphalt of indeterminate age that has been patched with a rubber membrane. Interior office walls are plastered.

The building is devoted primarily to records and artifact storage. Also present are staff offices, a loading dock, a materials and supply storage area, a report storage area, an artifact-holding area, an artifact-processing area, an exhibit area, an auditorium, a library, and an archive. Rest rooms are available for public use, and research is conducted in a small area reserved for patrons.

To avoid confusion, only the NMARMS facilities will be discussed here. The ARC offices and the collections storage areas are discussed in the next section of this report.



Figure 47. Exterior of the Laboratory of Anthropology building, which houses both NMARMS and ARC.

NMARMS occupies approximately 2,082 ft² of offices in the section added in the 1950s. Several renovations of the interior have been made since the original construction. Electrical, security, lighting, and fire-suppression and -detection systems have been updated. Additionally, the walls have been recently painted and the facility recarpeted. Finally, compact storage has been installed to increase the amount of storage space devoted to reports and associated documentation.

Windows measure 29.5 x 51.5 inches (w x h). Twelve windows are located on the east wall, four along the south wall, and one on the west wall. All window frames are constructed of wood, and only a few have been replaced. No evidence of leakage was noted by the evaluation team, and all windows were shaded. There are three interior doors: two made of wood panels; the third constructed of wood with a glass window. There are two exits to the exterior of the building from the NMARMS offices. The building is structurally sound; however, many of the pipes in the building are insulated with asbestos. While the asbestos has been judged contained, future renovations could alter this situation.

Environmental Controls

The NMARMS offices lack an HVAC system. The building is equipped with steam heat. Dust filters are not in place, but the evaluation team noted no dust in the records storage area. Temperature and humidity cannot be controlled in the records storage area, although the staff regularly monitor both with hygrometers. In the desert Southwest, humidity is not a particular problem. Humidity is targeted to 35–40 percent, and the staff strives to keep temperatures within two degrees of 68°F. Lighting consists of fluorescent bulbs and desk lamps without UV sleeves. Regular maintenance of the utilities is the responsibility of MIAC/LOA. The NMARMS offices and storage areas are cleaned on a daily basis.

Pest Management

An integrated pest-management plan consisting of both monitoring and control measures has been implemented. The staff monitors for any pest infestations, and a professional pest-management company sprays the facility once a month. The nature and chemical content of the pesticide used is beyond the scope of this report. No evidence of pest infestation was noted by the assessment team.

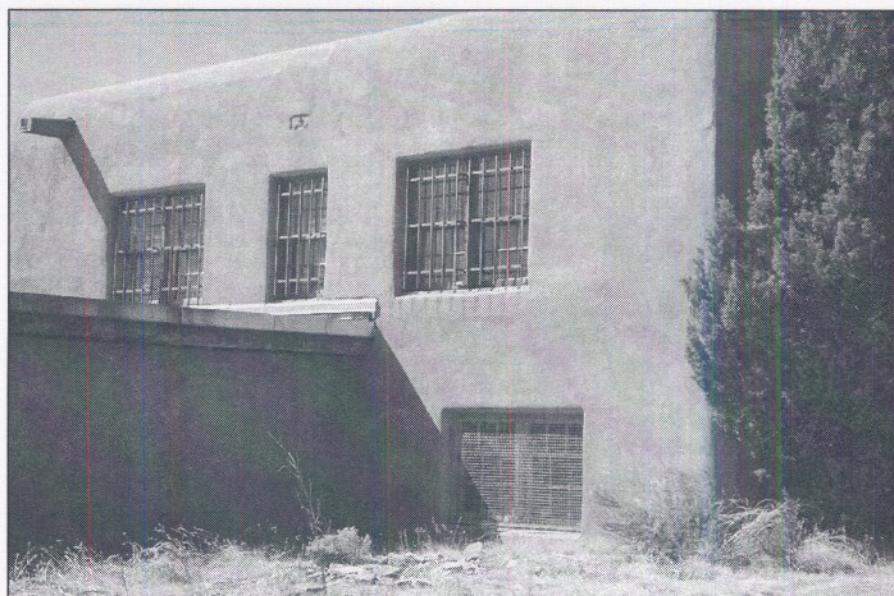


Figure 48. All windows in the NMARMS areas have steel bars on the exterior and slide locks on the interior.

Security

NMARMS meets most of the federal requirements for safeguarding archaeological collections and associated documentation. The building is protected with intrusion alarms, motion detectors, controlled access, and locks, which are installed on all doors and windows. Although all windows are considered accessible from the exterior, each has been secured with bars on the exterior and window locks on the interior (Figure 48). Motion detectors are located throughout the facility. The front entrance to the building is secured with a double-cylinder, dead-bolt lock and a key-pad security code. The intrusion alarm and motion detectors are all wired directly to a private security company. The evaluation team noted no evidence of unauthorized entry, and staff indicated that no past episodes of this type have occurred.

Fire Detection and Suppression

The entire building is protected by manual fire alarms that are wired to the local fire department. An overhead sprinkler system also serves to protect the collections storage room and the offices. Additionally, smoke detectors, heat sensors, and fire extinguishers are installed through-

out the building. Fire extinguishers are checked regularly by qualified personnel.

Artifact Storage

NMARMS is not responsible for the curation of artifacts and has not allocated space to this function. MIAC/LOA ARC is responsible for artifact storage, and it is discussed below.

Records Storage

Associated documentation from Cannon AFB, Holloman AFB, and Melrose AFR comprises approximately 1.25 linear feet in five distinct collections. These collections are stored in three separate places in the records storage area. Reports are stored on compact storage shelving units. Some oversized maps are stored in vertical map-storage cases. All other associated documentation, including state site forms, are housed in legal-size, four-drawer metal file cabinets.

Paper Records

Paper records from the three ACC properties in New Mexico are kept in five separate collections corresponding to five archaeological investigations. These collections range in extent from one linear foot to less than one linear inch. Each collection is discussed separately below.

Collection 1. This collection consists of eight acidic, manila, legal-size envelopes containing documentation from the 1986 Mariah Associates investigation at Melrose AFR. Documentation includes permits, analysis records, field records, site maps, photographs, interview records, chronology notes, and master title plats and historical indexes. Each envelope is labeled directly in either marker or pen. The contents of each envelope vary considerably (Figure 49). Some material is in acidic file folders, which may or may not have labels, and other materials are loose in the envelope. All types of documentation are stored together. No special arrangements have been made for photographic or oversized material. The overall appearance of the collection is fair: contaminants such as staples, rubber bands, and paper clips have not been removed, and paper documents show signs of dirt and tears from the field.

Collection 2. This collection is in a single acidic, manila, legal-size envelope containing documentation from the 1987 investigation at Cannon AFB. Documentation includes a copy of the title page of the report, field notes, and administrative records. All material is loose in the envelope, which has been labeled directly in marker. The overall appearance of the collection is good, but contaminants are still present.

Collection 3. This collection consists only of the MNM survey form from the 1981 investigation conducted by Geoscientific Systems and Consulting on Melrose Bombing Range. All material is loose in the envelope, which is labeled directly in marker. No other documentation was found concerning this investigation. According to information in the survey form, collections were made at this site 50 years prior to the Geoscientific investigation, and the collection was purportedly placed at Eastern New Mexico University (ENMU) but then later disposed of. The evaluation team was unable to find any additional information on the disposition of this particular collection.

Collection 4. This collection is in a single acidic, manila, legal-size envelope containing documentation from the 1989 investigation of the Holloman Test Track conducted by OCA. Types of documentation in the collection include USGS topographic maps, survey records such as site forms and field logs, and artifact inventories and tables. The material is housed loose in the envelope, which is labeled both directly in marker and with a preprinted, computer-generated, adhesive label. Overall condition of the collection is good, but the presence of contaminants in the collection presents a danger to the paper documentation.

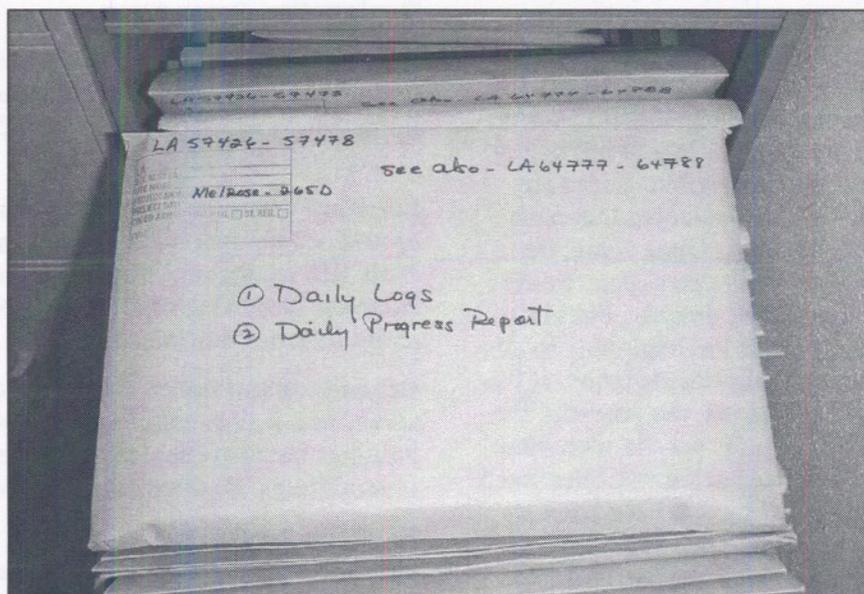


Figure 49. Melrose AFR documentation is housed in acidic manila envelopes that are labeled directly in marker and with a customized stamp.

Collection 5. This collection consists of a single acidic, manila, legal-size envelope containing documentation from the 1992 investigation at Holloman AFB, also conducted by OCA. Documentation includes administrative records, survey records, and three 4-x-6-inch color photographs. Label information consists of the site number and year recorded directly on the envelope in marker. Overall condition of the collection is good, although contaminants remain.

None of the collections have been archivally arranged or described in finding aids. Researchers can access the information, however, through the NMCRIS database. The collections are in fairly good condition, but the contaminants should be removed, and the photographic and oversized materials should be stored according to their special requirements.

Since the evaluation was conducted, NMARMS has applied for and received a grant to rehabilitate the older collections. A trained archivist was hired for this rehabilitation project and has begun placing new collections in acid-free folders.

Photographic Records

Only Collections 1 and 5 contain any photographic materials. Two envelopes from Collection 1 contain photographic materials including negatives, contact sheets, and slides. None of these materials have been properly prepared for long-term storage. All materials are clipped together with paper clips. Photograph logs are filed at the beginning of the material they describe. Logs are on acidic paper that has been filled out with ballpoint pen. The ink has begun to smear and is becoming illegible. Slides are placed in nonarchival plastic sleeves that have been labeled in ballpoint ink. Once again, the ink is beginning to seriously deteriorate. Some individual slides are labeled directly, but most are not. Finally, the sleeves are beginning to adhere to the slides because of deterioration. If this situation is not corrected soon, the potential for the loss of this information is greatly increased. The photographic documentation in Collection 5 consists of three color prints that have been attached to other documents. Each print has a pre-printed, typed, adhesive label on the back. No attempt has been made to properly prepare these prints for long-term storage. All photographic

materials in both collections have been stored with the paper documentation in improper conditions.

Maps and Oversized Documents

Only Collection 1 contains oversized documentation. This collection contains oversized maps that have been creased, folded, and stored with the rest of the associated documentation in a legal-size, acidic, manila envelope.

Reports

All reports are stored in a room separate from the associated documentation. None of the reports have been copied on acid-free paper, nor have the nonarchival bindings been removed. Reports are systematically numbered upon receipt and are added to the NMCRIS database for information retrieval. All reports are housed in acidic cardboard magazine holders, which have been labeled directly in pencil. Labels are consistent throughout the collection and are simply the report numbers contained in each individual storage unit. All of these magazine holders have been placed on compact shelving installed specifically for the storage of these reports (Figure 50). These shelving units have reached approximately 60 percent capacity.

Collections-Management Standards

Registration Procedures

Accession Files. All materials are accessioned upon receipt. Additionally, all information is immediately entered into the NMCRIS database to facilitate researcher access.

Location Identification. The physical location of all documentation is specified in the NMCRIS database. All information added to the database system (as of October 1993) automatically includes this information.

Cross-Indexed Files. The database not only serves as a master catalog for the NMARMS holdings but also enables researchers to search several fields, all of which are cross-indexed.

Published Guide to Collections. Although no published guide exists, the staff has developed an annotated guide for internal use. This guide

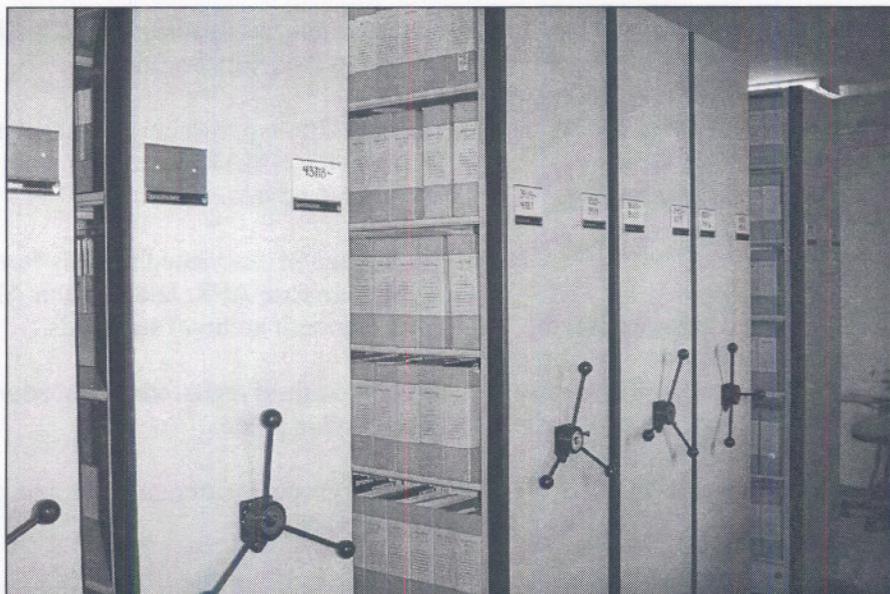


Figure 50. Reports are stored on compact shelving units at NMARMS.

was originally developed in 1990 and is updated as new collections arrive.

Site-Record Administration. MIAC/LOA has established a sequential numbering system for the state that has been in use for several years. These numbers are cross-referenced with the report numbers and the site files maintained by NMARMS.

Computerized Database Management. All information on associated documentation, state site-recording forms, reports, and artifacts housed in LOA are entered into NMCRIS upon receipt. The database is regularly maintained and augmented by NMARMS staff. The NMCRIS database serves as the repository's finding aid. Additionally, a complete copy of the database is generated on a monthly basis and the copy is stored off-site.

Written Policies and Procedures

Minimum Standards for Acceptance. Minimum standards for the acceptance of archaeological records are outlined in the NMCRIS User's Guide (see Appendix 14).

Curation Policy. A written curation policy is being developed by the NMARMS staff. Until this document is completed, however, recommendations for submission of associated

documentation is outlined in the *NMCRIS User's Guide* (see Appendix 14).

Records-Management Policy. A written records-management policy is being developed by the NMARMS staff. Until this document is completed, some basic guidelines are outlined in the *NMCRIS User's Guide* (see Appendix 14).

Field-Curation Procedures. NMARMS does not accept artifacts for curation; therefore, no field-curation procedures are necessary.

Loan Policy. Materials curated by NMARMS are not available for loan. The staff will copy any information requested by researchers at no cost.

Deaccessioning Policy. To date, the repository has not deaccessioned any material.

Inventory Policy. All materials are inventoried upon receipt.

Latest Collection Inventory. The last collection inventory was conducted in October 1993 in order to input all pertinent information into the new NMCRIS database system.

Curation Personnel

There are four full-time curatorial positions, one full-time computer specialist, and one full-time manager employed by NMARMS. None of the

four curation staff have formal archival training, although the MNM employs a full-time archivist who is available for consultation. The four curators are responsible for ensuring that the documentation is housed in a way that keeps it accessible to researchers while minimizing damage to the documentation.

Curation Financing

Curation activities are funded through federal agencies, state agencies, and grants. The amount allocated for meeting current, much less future, curation responsibilities is inadequate. In order to meet present curation responsibilities, the current budget needs to be at least doubled.

Access to Collections

Access to the collection is controlled by the curatorial personnel. The collection is open for use by qualified archaeologists, land-managing-agency representatives, municipal planners, and students with the proper credentials. Written requests and appointments are necessary for use of the collection.

Future Plans

Both NMARMS and MIAC/LOA ARC are fast running out of space for storage. Soon after the evaluation, the state government allocated \$150,000 for the initial planning of an addition to the LOA building for New Mexico archaeological collections and associated documentation.

Comments

1. The LOA building is structurally sound.
2. Neither a proper HVAC system nor dust filters have been installed at NMARMS.
3. Lights have no UV filters.
4. Asbestos is present in the building.
5. An integrated pest-management system is in force at NMARMS.
6. The security measures installed in the building meet minimum federal standards for

safeguarding archaeological collections and associated documentation.

7. Both fire-suppression and fire-detection systems in the NMARMS offices meet minimum federal standards.
8. Storage of associated records from Holloman AFB, Melrose AFR, and Cannon AFB does not meet modern archival standards.
9. All required registration procedures are developed and in place.
10. All proper written policies and procedures are in place.
11. Space allocated for the storage of associated documentation is approaching 100 percent capacity.
12. The NMARMS professional staff is dedicated to the safeguarding and care of the materials curated at their facility; however, funding is insufficient for proper curation.
13. NMARMS is a professionally managed institution that meets most federal requirements for the long-term curation of associated documentation. ACC materials stored at this facility should be considered secure.

Recommendations

1. Provide more dedicated space for records storage.
2. Install an HVAC system, with proper dust filters, to control the temperature and humidity in the facility.
3. Place UV filters on fluorescent lights in the documents storage area.
4. Arrange associated documentation according to modern archival procedures and create a finding aid for the documentation collections.
5. Remove all contaminants (e.g., staples, paper clips, and rubber bands) from the documents.

6. 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.
7. Place all photographic materials in archival-quality polypropylene sleeves, and place sleeves in acid-free, three-ring photographic binders. Photograph logs should be on acid-free paper in indelible ink.
8. Store photographic records in a stable environment equipped to monitor and control humidity and temperature.
9. Flatten oversized material and place in flat map-storage cases for long-term curation.
10. Make a duplicate copy of all associated documentation, and store these materials in a separate, fire-safe, secure location.

Repository 2: MIAC/LOA ARC, MNM

Date of Visit: March 22–24, 1994

Point of Contact: Dr. Patricia Nietfeld, Curator, ARC

Approximately 7.5 ft³ of artifacts recovered from Melrose AFR are curated in Santa Fe by ARC at MIAC/LOA, a unit of MNM. The collection consists primarily of prehistoric materials, with small amounts of historical-period items. Of the total, prehistoric material classes include lithics (62.5%), caliche (18.5%), soil samples (5%), botanical remains (1%), flotation samples (1%), ceramics (0.5%), and faunal remains (0.5%), whereas historical-period material classes include metal (10%), ceramics (0.5%), and glass (0.5%). ARC currently does not curate collections from Holloman AFB or Cannon AFB. Associated records for the Melrose AFR collection, though part of the MIAC/LOA collection, are stored in the

adjacent offices of NMARMS (see previous discussion).

MIAC/LOA ARC is the official clearinghouse for archaeological data in the state of New Mexico and works in conjunction with NMARMS. The database system used by NMARMS for site and report data is cross-indexed to the separate ARC database to facilitate research use.

ARC materials are housed in three locations: MIAC, LOA, and the La Villa Rivera (LVR) Building. ACC collections are stored only in LOA and the LVR Building.

LOA was originally constructed as one of the nation's first anthropological research centers and officially opened on September 1, 1931. Offices added to the back of the building in the 1950s now house NMARMS (see previous discussion), adjacent to the offices of ARC. The building is devoted primarily to records and artifact storage. Also present are offices, a loading dock, a materials and supply storage area, a report storage area, an artifact-holding area, an artifact-washing area, an artifact-processing area, an exhibit area, an auditorium, a library, and an archive. Rest rooms are available for public use, and research is conducted in part of one of the artifact storage areas. A small portion of the Melrose AFR collection is housed in LOA.

Additional storage space is located in the basement of the LVR Building in downtown Santa Fe. Formerly St. Vincent's Hospital, the LVR Building was purchased by the state government to provide additional office space for state employees. A large portion of the basement was designated a storage area for ARC materials, and the bulk of the Melrose AFR collection is located there.

Assessment

Structural Adequacy

LOA

The LOA building was constructed between 1927 and 1931. Offices were added at the back of the building during the 1950s to accommodate the need for more space, and renovations were made as need and funds arose. ARC occupies 3,191 ft² of the building, which is a bilevel



Figure 51. ARC stores their bulk collections in the basement of the LVR building.

structure constructed of brick and concrete blocks on a cement foundation (see Figure 47). The roof is covered with built-up asphalt of indeterminate age that has been patched with a rubber membrane. Interior office walls are plastered. Electrical, security, lighting, fire-suppression, and fire-detection systems have all been updated. Additionally, the walls have been painted, and parts of the facility have been recarpeted.

Windows in the ARC areas measure 29.5 x 51.5 inches (w x h). There are only four windows in the ARC areas of LOA, none accessible from the outside. All windows are framed with wood and are shaded. No evidence of leaking was noted by the evaluation team, but ARC staff noted that one window in Room 201 had allowed water through in the past during heavy rains. Recent repairs appear to have rectified this problem. Additionally, the corner ceiling of Room 106 (processing room) was reported to leak, and there was evidence of past water damage. There are three wooden doors in the interior of the ARC area, and one wooden door and three metal doors leading to the exterior of the building from ARC areas. The building is structurally sound, but many of the pipes in the building are insulated with asbestos. ARC staff indicated that the asbestos in the LOA building had been examined by state inspectors and judged to be contained.

LVR Building

This building was constructed in the 1930s of painted brick on a concrete foundation and originally served as the St. Vincent Hospital. It was designed with two wings—one, four stories; the other, five. A built-up roof covers both wings (Figure 51). There are no problems with leaks in the roof, but the ARC collections storage area, which is located in the basement, has developed some leaks between the wall and the foundation. When the building was converted from a hospital to an office building, several interior renovations were made, but very few of these were in the collections storage area. The collections storage area used by ARC occupies 4,560 ft² of the basement.

Interior basement walls are constructed of cinder blocks, and the floor in the basement is exposed concrete. The collections storage area occupies two large rooms and the hallway between them. In the rooms, there are metal and pressed plywood shelving units. Oversized ground stone is stacked on wooden pallets and housed in wooden crates that are situated in the hallway (Figure 52). Exposed pipes from the heating and plumbing systems run along the ceiling in both rooms used for collections storage and in the hallway that separates them. Many of these pipes are insulated with asbestos. The only functioning utility in the basement is electricity.

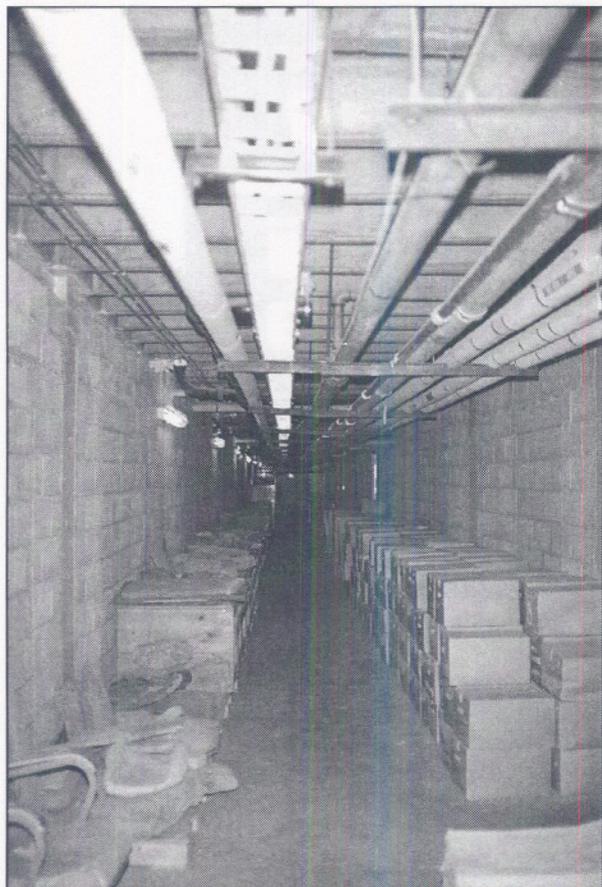


Figure 52. Ground stone is stored in the hallway between the two collections storage rooms in the basement of the LVR building.

No windows are present on the basement level of the building. There have been past episodes of overhead pipes leaking, and plastic has been placed over collections in one part of the storage area to prevent damage to the collections (Figure 53). Several holes are visible in the concrete ceiling in the collections storage rooms. Both storage rooms and the hallway have reached capacity. The hallway also serves as a storage area for excess furniture from other departments. The building is structurally sound, but it is not appropriate as a collections storage facility.

Environmental Controls

LOA

The building does not have an HVAC system. It is equipped, however, with steam heat, delivered by radiators. There is no air conditioning. No dust filters are in place, but the evaluation team



Figure 53. Plastic has been placed over the shelves and primary containers to prevent water damage from leaking overhead pipes.

noted little dust in the ARC collections storage area. There was a small amount of dust in the processing lab from artifact cleaning and washing (Figure 54). Temperature and humidity cannot be controlled in the collections storage area, although the staff regularly monitors both with hygrothermographs. Humidity is not a particular problem in the desert Southwest. Humidity is targeted at 35 to 40 percent. Lighting consists of fluorescent bulbs, incandescent bulbs, natural light, and desk lamps. UV sleeves are not in place on any of these light sources. The plumbing and electrical systems are maintained on an as-needed basis, with regular checks on each.

LVR Building

No controls over humidity or temperature exist in the collections storage areas. Heating is provided from excess heat that emanates from the steam heat pipes that run along the ceiling.

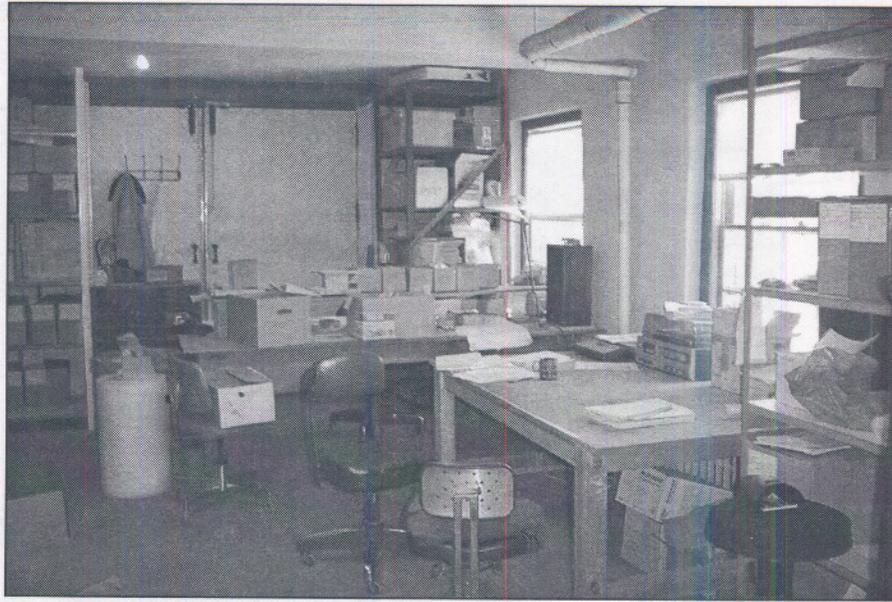


Figure 54. Processing laboratory in the LVR building.

No air conditioning is installed in this area, although the facility's underground location helps to keep the area cool. Humidity and temperature are monitored by a hygrothermograph in each of the storage rooms, but neither can be controlled (Figure 55). Lighting is provided by fluorescent light tubes, but no UV screens are in place. The offices in the building are regularly maintained by a professional janitorial service, but the collections storage areas are maintained by the curatorial staff on an as-needed basis.

Pest Management

LOA

An integrated pest-management plan consisting of both monitoring and control is implemented. A professional entomologist monitors the area for signs of infestation, as do curatorial staff. Traps are changed monthly, and infestations are treated on an as-needed basis.

LVR Building

The same pest-management plan is established for the ARC basement storage areas as for LOA. Curatorial staff stated that there were occasional problems with silverfish, and the evaluation team noted several indications of spiders.

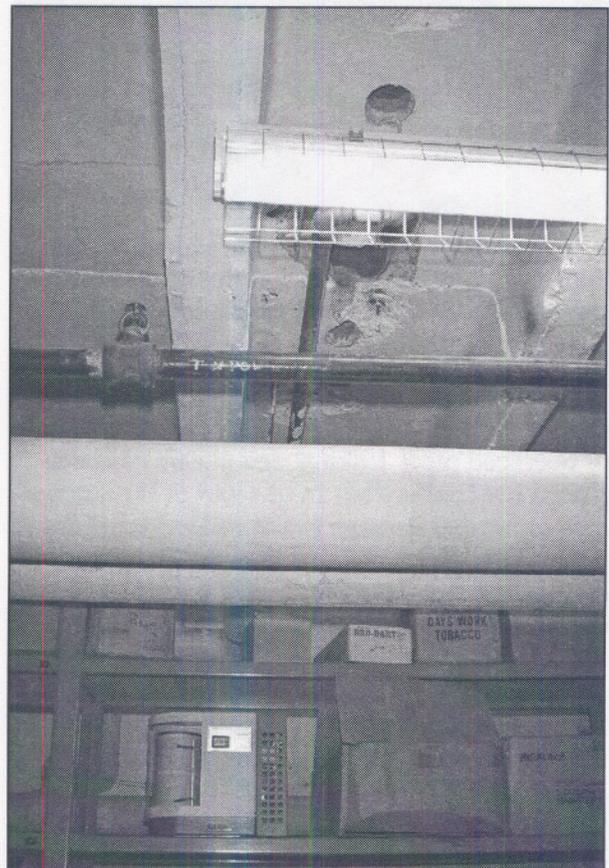


Figure 55. Hygrothermographs are located in each of the collections storage rooms in the LVR building. Also note the sprinkler system, unfiltered fluorescent lights, and holes in the concrete ceiling.

Security

LOA

LOA meets the minimum federal requirements for safeguarding archaeological collections and associated documentation. The building is protected with intrusion alarms, motion detectors, controlled access, and locks on all doors and windows. Only four windows in the ARC areas of the building are considered accessible from the exterior, and these have been secured with bars on the exterior and window locks on the interior. Motion detectors are located throughout the building. The front entrance to the building is secured with a double-cylinder, dead-bolt lock and a key-pad security code. The intrusion alarm and motion detectors are wired directly to a private security company. The evaluation team noted no evidence of unauthorized entry, and curatorial staff indicated that no past episodes of this nature had occurred.

LVR Building

All doors leading to the basement are constructed of metal with double-cylinder, dead-bolt locks. There are also dead-bolt locks on the four doors leading directly to the ARC storage rooms. Only a limited number of people have access to the basement storage rooms, but it is not limited to curatorial staff. Maintenance people have access, as do other individuals who are responsible for the LVR facility. No intrusion alarms or motion detectors are in place. In addition to the ground stone stored in the hallway, excess furniture from other departments is also stored in this building. Curatorial staff noted that some of this material had been subject to theft, but there had been no episodes of unauthorized entry in the collections storage areas since the installation of dead-bolt locks.

Fire Detection and Suppression

LOA

The entire building is protected by manual fire alarms that are wired to the local fire department. Smoke detectors, heat sensors, and fire extinguishers also are installed in the building. Fire extinguishers are checked regularly by qualified personnel.

LVR Building

A water-sprinkler system runs throughout the collections storage rooms and the hallway. Fire alarms wired into the local fire department are located at either end of the hallway near the exits. Smoke detectors are located throughout the collections storage area. Three fire extinguishers are located in the hallway in the basement of the building. Two are mounted below the fire alarms near each exit; the third is in the hallway just outside one of the collections storage rooms. Fire extinguishers are checked on an infrequent basis, and the inspection tags were two years out of date.

Artifact Storage

Storage Units

LOA. Part of the Melrose AFR collection is stored in metal museum cabinets with wooden drawers (Figure 56). The ARC storage area in

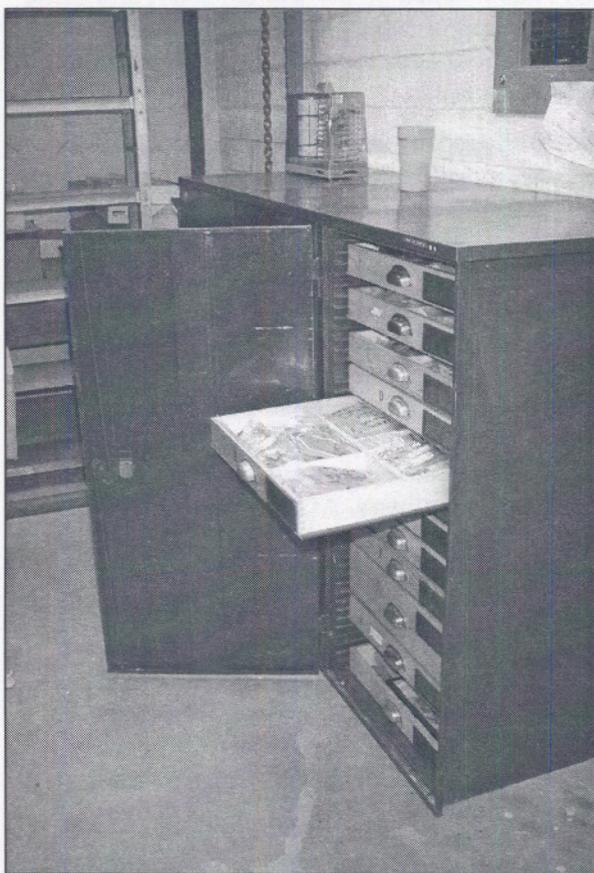


Figure 56. A few artifacts from Melrose AFR are stored in wooden drawers within a metal cabinet in the LVR building.



Figure 57. Primary containers used for collections storage in the LVR building.

LOA has reached 80 percent capacity, and some overstacking of boxes is apparent in the holding area. Without additional space, this situation will only worsen.

LVR Building. In both storage rooms, collections are stored on shelves constructed of painted metal rods and compressed plywood. Most units measure 36 x 20 x 72 inches (w x d x h). Several of these units are placed side by side to form rows. In the hallway, however, shelves are not set up. Ground stone and oversized artifacts are stored in cardboard boxes that have been stacked against one wall and on wooden pallets and in wooden crates lined along the opposite wall. None of the Melrose AFR collection is stored in the hallway. At one end of the hall, excess furniture and equipment from other departments are stacked along the walls.

Primary Containers

LOA. No primary containers are used in the curation of the artifacts recovered from the Melrose Bombing Range Survey. Secondary containers are placed inside a drawer in a metal museum cabinet.

LVR Building. All artifacts from Melrose AFR that are housed in this facility are curated in acidic cardboard boxes. The boxes are of varying standard sizes, ranging in volume from

0.25 to 1 ft³. All have folded flap lids that have been taped shut in an attempt to prevent the entry of dust. The exterior of the boxes were dusty, but none had suffered any compression or water damage. Each box has a preprinted label taped to the front of the box with nonarchival tape. Additional information on the label is filled out directly in marker. Label information is concise, legible, and consistent (Figure 57).

Secondary Containers

LOA. The Melrose AFR artifacts housed in this building are in two four-mil, zip-lock bags stored in a drawer of a metal museum cabinet. Each of these bags has been labeled directly in marker in a consistent and legible manner. Smaller two-mil, zip-lock bags have been nested in each of the larger, heavier-grade bags. Each of the two-mil bags has also been labeled directly in marker (Figure 58). Some of the smaller bags have suffered from minor puncture damage. In two cases, additional labels are inserted into bags. These additional labels are pieces of a manila envelope that have been filled out directly in marker.

LVR Building. Ninety-eight percent of the secondary containers housing Melrose AFR artifacts in this building are zip-lock bags of either four- or two-mil grade. In most cases, the

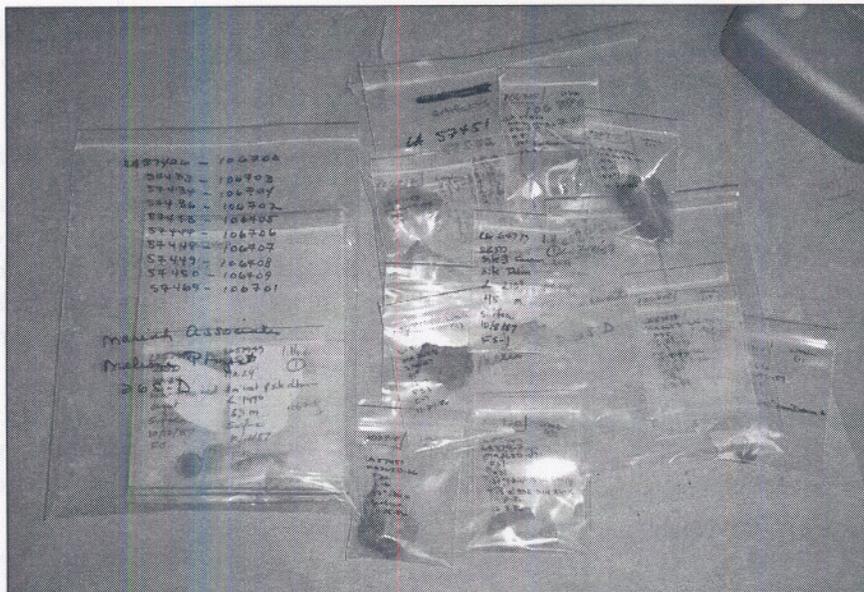


Figure 58. Artifacts from Melrose AFR that are kept in the LVR building have been packaged in interested, two-mil, zip-lock plastic bags, labeled directly in indelible ink.

artifacts are packaged in two-mil bags, which have been nested inside larger four-mil bags. Both types of bags are labeled directly with marker. The final two percent of secondary containers are manila envelopes, which also have been labeled directly in marker. Envelopes are secured with rubber bands. Many of the two-mil bags have suffered damage from sharp artifacts puncturing the plastic.

Laboratory Processing and Labeling

LOA. All Melrose AFR artifacts housed at this facility have been cleaned and sorted by material class. None, however, have been labeled directly (Figure 59). This could create identification problems if the artifact should inadvertently be separated from its accompanying provenience information.

LVR Building. Ninety-six percent of the Melrose AFR artifacts housed at the LVR Building have been cleaned. All artifacts have been sorted by material class, but none have been labeled directly. Again, this could create problems with identification if artifacts were to be separated from their labels.

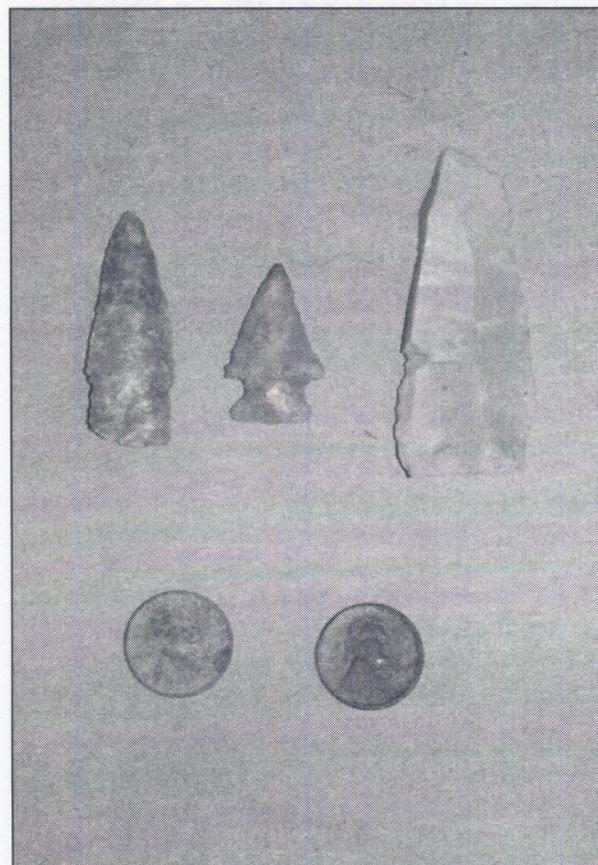


Figure 59. Artifacts from Melrose AFR have been cleaned and sorted, but none have been labeled directly in india ink.

Human Skeletal Remains

No known skeletal remains were recovered from Holloman AFB, Cannon AFB, or Melrose AFR.

Records Storage

ARC does not curate associated documentation, although the documentation is part of the MIAC/LOA collections. Curation of records is performed by NMARMS (see previous discussion).

Collections-Management Standards

Registration Procedures

Accession Files. All artifacts and associated documentation are accessioned upon receipt into the MIAC/LOA collections by the MIAC/LOA registrar. Federally owned collections are accessioned as long-term loans from each agency. Artifact collections are entered into the ARC database and cross-indexed with the NMCRIS database, which is maintained by NMARMS and contains site, report, and project information.

Location Identification. Information on the physical location of collections is not kept in the MIAC/LOA accession file, but it is entered into the ARC database.

Cross-Indexed Files. Holdings in ARC are entered into the ARC database, and several fields are cross-indexed with the NMCRIS database to facilitate researcher use.

Published Guide to Collections. No published guide to the collections exists.

Site-Record Administration. LOA established a sequential numbering system for the state of New Mexico that has been in use since the 1930s. These numbers are cross-referenced with the report numbers and the site files maintained by NMARMS and with the artifact collections curated by ARC.

Computerized Database Management. All information on associated documentation, state site-recording forms, and reports are entered into the NMCRIS database upon receipt. Information on artifact collections is entered into the ARC database and cross-referenced to the NMCRIS database. The ARC database is

maintained by ARC staff, while the NMCRIS database is maintained by the New Mexico SHPO and the staff of NMARMS.

Written Policies and Procedures

Minimum Standards for Acceptance. Minimum standards for the acceptance of collections and associated documentation are outlined in the "Procedures for Submission of Collections to the State Archaeological Repository" (see Appendix 15).

Curation Policy. MIAC/LOA has a written curation policy that addresses processing, labeling, cataloging, inventorying, and proper documentation of incoming collections.

Records-Management Policy. While all associated documentation is part of MIAC/LOA's collections, it is curated by NMARMS.

Field-Curation Procedures. Field-curation procedures are outlined in the "Procedures for Submission of Collections to the State Archaeological Repository" (see Appendix 15).

Loan Policy. The MNM, of which MIAC/LOA is a unit, has very specific guidelines on loaning material, both as loaner and loanee. The state of New Mexico also has passed legislation governing the loan of museum materials (1989, Chapter 211, Senate Bill 332, as amended).

Deaccessioning Policy. State-owned archaeological collections are never deaccessioned. Federally owned collections are maintained by MIAC/LOA as long-term loans from each agency, and each agency determines the disposition of its collections. Private collections deeded to the MNM can be deaccessioned, but all items must first be appraised and then a written request to deaccession an item must be made to the associate director of the MNM. If the item in question is appraised at \$500 dollars or more, additional approval from the MNM Board of Regents must be obtained before deaccessioning can be completed.

Inventory Policy. All incoming collections accepted by ARC are inventoried upon receipt. Old ARC collections that have never been properly inventoried are inventoried as funds and staff time allow.

Last Collection Inventory. The last collection inventory in ARC began in 1989 and has been ongoing since that time.

Curation Personnel

ARC has one full-time curator, two full-time assistant curators, one half-time data-entry clerk, and two quarter-time student workers. The curator is responsible for curating collections, controlling access to the collections, assisting researchers, developing additional control measures as needed, and supervising the rest of the curatorial staff. The curator has a Ph.D. in Anthropology with an emphasis in museum studies; one assistant curator has an M.A. in Anthropology, and the other has a B.A.

Curation Financing

Curation is financed in part through a one-time, per-box fee charged to the agencies storing archaeological collections and data at MIAC/LOA. Additional funds are obtained through contracts with agencies to upgrade storage conditions and perform inventories of their collections and from a cooperative agreement with one federal agency for annual maintenance as required under 36 CFR Part 79. Draft cooperative agreements for annual maintenance fees have been sent to five other federal agencies, but, to date, none have budgeted for annual maintenance of their collections. Current funding is insufficient to meet current curation responsibilities. The curator estimated that MIAC/LOA needs \$6 million for an addition to LOA, funding for four full-time curators, and approximately \$205,000 annually to fully meet curatorial responsibilities.

Access to Collections

Access to the collections is restricted to the staff of the MNM. Any other requests for access to the collections must be made in advance, in writing, to the curator. Legitimate researchers may use the collection, if approved by the curator.

Future Plans

Recognizing the need for a new facility to replace the ARC storage areas in the LVR Building basement, the 1994 New Mexico Legislature appropriated \$150,000 for the initial design and planning of a 40,000-ft² addition to the LOA

building, which would house both the ARC artifact collections and the documentation collections curated by NMARMS. A Request for Proposal (RFP) has been advertised, and architect selection is underway. The 1995 and 1996 State Legislatures will be asked for the funds necessary to complete the design and construction of this facility. ARC staff also hope to receive funds to maintain four full-time curation positions.

Comments

1. Asbestos is present in both LOA and the LVR Building. While currently judged as "contained," additional renovations may require its removal.
2. Both buildings are structurally sound.
3. The ARC storage areas in the LVR Building have reached capacity, while ARC areas in LOA have reached 80 percent capacity. Additional storage space is needed as soon as possible, and ARC staff hopes the planned addition to the LOA building will alleviate this problem.
4. Neither collections storage facility has dust filters in place, nor does either facility have an HVAC system installed. In essence, humidity and temperature cannot be controlled in either storage area, but ARC staff regularly monitor both with hygrothermographs.
5. The LVR Building has no environmental controls—heat is provided by overhead steam pipes, and air conditioning is absent. Temperature and humidity cannot be controlled, but ARC staff regularly monitor both with hygrothermographs.
6. UV filters are not in place at either facility.
7. A pest-management system is in place in both ARC storage areas in LOA and the LVR Building.
8. LOA meets all the federal requirements for the proper safeguarding of archaeological collections and associated documentation.

9. Security in the LVR Building does not meet the minimum standards as described in federal regulations.
10. Both fire-suppression and fire-detection systems in LOA meet the federal requirements.
11. Fire-detection and fire-suppression measures are in place in the LVR Building; however, heat sensors are not installed, and fire extinguishers are not checked regularly.
12. The foundation in the LVR Building is cracked and allows water seepage. Additionally, some of the pipes above the collections leak.
13. Storage units used for curation of ACC collections in the LVR Building are not constructed of materials treated to prevent outgassing.
14. Artifacts are not labeled individually.
15. Primary containers housing Melrose AFR artifacts are constructed of acidic materials.
16. Labels inserted into secondary containers holding the Melrose AFR artifacts are not printed in indelible ink on acid-free paper.
17. All proper registration procedures have been developed, implemented, and consistently maintained.
18. All required written policies and procedures are in use by ARC at MIAC/LOA.
19. MIAC/LOA ARC is a professionally managed institution that meets most federal requirements for the long-term curation of archaeological collections. The ACC collection housed at this facility should be considered secure.
20. ARC staff is dedicated to the safeguarding and care of the materials curated at their facility; however, funding constraints have an adverse effect upon their ability to curate their collections up to federal standards.
21. No human skeletal remains from Holloman AFB, Melrose AFR, or Cannon AFB are curated by ARC.

Recommendations

1. Allocate additional space for collections storage as soon as possible. Continue pursuing a program to build an addition onto the LOA building.
2. Install proper environmental control devices in both facilities.
3. Install UV sleeves on the fluorescent lights in both collections storage areas.
4. Install additional security measures in the LVR Building—motion detectors, intrusion alarms, and additional locks, if the planned addition is not constructed.
5. Install enameled steel shelving units in collections storage areas currently lacking such units.
6. Fix the overhead pipes and the foundation in the LVR Building so that water leaks will no longer threaten the collections. Again, this measure is necessary only if collections remain in the building.
7. Install heat sensors and have fire extinguishers checked by qualified personnel in the LVR Building, if collections remain there.
8. Label all artifacts with india ink to prevent information loss if artifacts are separated from provenience data.
9. Ensure that all secondary containers are four-mil, zip-lock, polyethylene plastic bags labeled in indelible ink. Labels inside secondary containers should be made from spun-bonded, polyethylene paper (e.g., Nalgene polypaper), labeled in indelible ink, and inserted into the secondary containers.
10. Replace acidic cardboard boxes with acid-free boxes. Apply adhesive polyethylene plastic label holders, with acid-free inserts, to the boxes. Labels should no longer be applied directly to the boxes. When label information or box contents change, inserts should be replaced. This method reduces the chance of conflicting and confusing information.