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AZTEC RUINS NATIONAL MONUMENT
ADMINISTRATIVE HISTORY OF AN ARCHEOLOGICAL PRESERVE

Robert H. Lister and Florence C. Lister



NATIONAL PARK SERVICE
WATER RESOURCES DIVISION
FORT COLLINS, COLORADO
RESOURCE ROOM PROPERTY

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National Park Service

Santa Fe, New Mexico

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PREFACE

Aztec Ruins National Monument was established solely to protect, preserve, and interpret a small concentration of prehistoric remains. The text that follows, therefore, emphasizes this archeological resource and the extensive measures the National Park Service has taken to prevent its natural and human-inflicted destruction and to interpret the cultural story it presents so that visitors may more fully appreciate its meaning. In addition, the site is unique among other Southwestern antiquities administered by the National Park Service in being situated in the midst of modern occupation. The interaction between the citizenry and the government also is part of this presentation.

This study and the resulting report were funded by the National Park Service under Contract No. CX 702970013 with Soil Systems, Inc., Phoenix, Arizona. Research, writing, and preparation of the draft manuscript was conducted by the authors; administrative duties and preparation of the final report were the responsibility of Soil Systems, Inc.

The authors regret not being able to discuss more fully the succession of superintendents, park rangers, and stabilizers at Aztec Ruins National Monument. Without knowledge of certain vital statistics, such as date of birth and social security number, the staff of the federal personnel records center declined to search their files for pertinent documents. Nor was an anticipated Historic Structures Report available for the review.

The study could not have been done without the generous, friendly cooperation of Aztec Ruins Superintendent Barry Cooper and his staff, Belinda Kaye and Anibal Rodriquez in the registrar's office of the Department of Anthropology at the American Museum of Natural History, Homer and Mary Hastings, formerly of the National Park Service, and Dr. Fred Lange, Curator of Anthropology at the University of Colorado Museum. We sincerely thank them all.

We also pay our deepest respects to the memory of a former neighbor and friend, Earl Morris. He led the way in exemplary fashion.

CHAPTER 1

AN ANASAZI VILLAGE MISNAMED AZTEC

THE SETTING

The Animas River heads in the snow melt of the lofty La Plata Mountains of southwestern Colorado and then tumbles southward some 45 miles through successive alpine breaks as it rapidly loses elevation. Near the New Mexico state line it enters the northern bulwarks of the San Juan Basin, where it begins to flatten out in meanders through worn-down glacial moraines paved with cobblestones and sparsely covered with sage, fourwing saltbush, chamiza, yucca, and pinyon.[1] By the river itself is a more riparian environment featuring cottonwoods and willows.

The terraces and bottom lands along this lower route, at an elevation more than a mile high, once witnessed the rise, evolution, and disappearance of a unique Native American civilization (see Figure 1.1). In spite of a century of unmitigated Euro-American impact, signs of this civilization still pepper the terrain. As the Animas swings westward to merge into the larger San Juan River, most prominent among the remains is a complex of some 13 distinct constructions located approximately 400 yards to the west of the river's northwestern bank, now collectively known as the Aztec Ruins.[2] This grouping once likely functioned as an administrative, trade, and ceremonial hub for numerous smaller, contemporaneous, satellite communities scattered about the gravelly uplands and valley floor and may have represented them in the broader organization structure archeologists now term the Chaco Phenomenon. Modern research has determined that, for unknown reasons, all the settlements, large and small, were deserted before A.D. 1300.

Several categories of artifacts taken from the largest ruin suggest the possibility of sporadic usage of the abandoned structure by some protohistoric Native Americans. Nomadic peoples later moving in to fill the void left by departing sedentary town dwellers generally paid the emptied old houses little heed, as they slowly slumped back to earth and vanished from the common memory. However, among examples of a possible post-abandonment Indian presence are the bones of a baby strapped to a cradle board. A ranger found them in 1945 when cleaning weeds and dirt off the extreme southwest corner of the courtyard of the largest settlement. A multiple burial there just barely covered by earth contained an adult accompanied by prehistoric pottery in addition to the infant. Ethnologist Leslie Spier identified the cradle board as either Ute, Northern Pueblo, or possibly a combination of

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[1] Upper Sonoran vegetation zone is typified by a complex of plants such as *Artemsia tridentata*, *Attriplex canascens*, *Chrysothamus* sp., *Yucca baccata*, and *Pinus edulis*, among others.

[2] The legal location is San Juan County, SE1/4, SW1/4, Sec. 4, T30N, R11W. Aztec Ruins refers to a concentration of prehistoric sites in the lower Animas valley. In this study, it is used synonymously with Aztec Ruins National Monument. In some contexts, Aztec also denotes the monument; in others, it means the modern town. Aztec Ruin and West Ruin are used interchangeably for the largest, westernmost of the communal houses within the monument precinct. All references to the American Museum of Natural History excavations and collections and the National Park Service custodianship until 1927 use these latter designations.

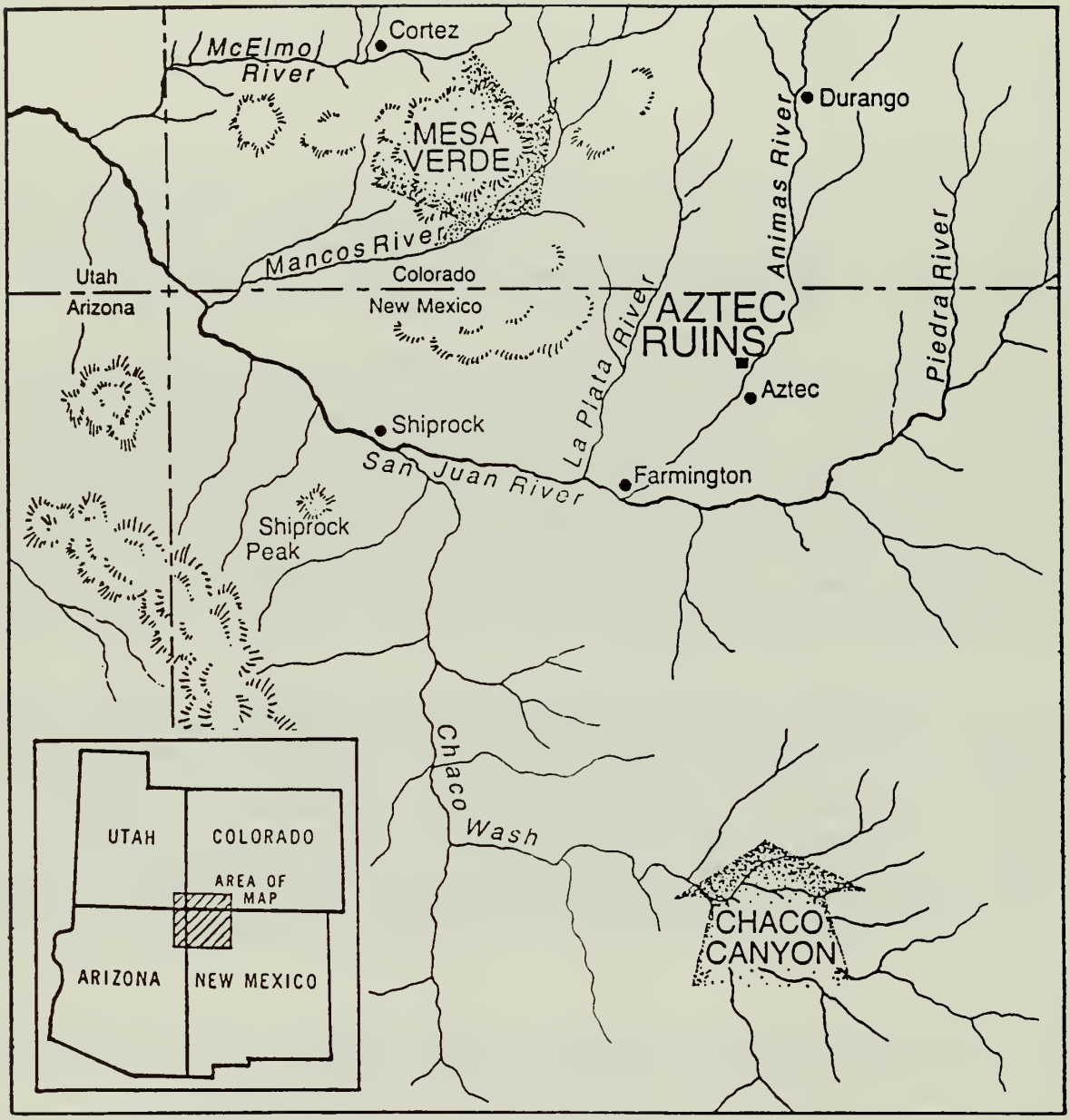


Figure 1.1. Map showing location of Aztec Ruins between the Mesa Verde region to the northwest and Chaco Canyon to the south.

traits of the two.[3] Recent catalogers recognized as more recent than the ruins themselves a few potsherds that might be of Pueblo IV time or of Ute manufacture and a finely tanned leather bag that appears of Ute origin.[4]

SPANISH KNOWLEDGE OF THE RUINS

Had the men of Spain's most northerly seventeenth-century colony of Nueva Mejico named these ruins, one could rationalize it as an illogical but understandable transfer of known experience to the unknown and take the name as evidence that the Spaniards had been the first non-Indians on the site. The Aztec Indians were 1,500 miles away in the central Mexican highlands from which the borderland Spanish colonists had moved but undoubtedly to them were the prototypical natives. The Spaniards would not have known that the Aztecs had not emerged as a cultural entity until long after the Animas houses had been deserted. However, it was later settlers and explorers from the United States rather than the colonial Spaniards who were responsible for the designation of Aztec Ruins.

Regardless of the inappropriate modern name, details of Spanish soldiers in pursuit of marauding Native Americans must have spotted some of the Animas valley ruins and passed their observations along by word of mouth. Random traces of Spanish parties have been found in the vicinity. These include Spanish bridle bits, hand-hammered bridle ornaments of bronze, and more than 125 armor scales recovered in the late 1930s in Hart Canyon and near Hampton Arroyo, short distances northeast and due east from Aztec Ruins.[5] A copper pot owned by Scott Morris was reclaimed from the surface of Aztec Ruins in 1877. It was theorized to have been discarded by a wandering Spaniard, who may have spent the night in the protection of the structure. Modern analysis shows it to be of mid-nineteenth-century workmanship and more likely to represent littering by an early Euro-American settler.[6]

There must have been some bank of oral history behind the report of October 26, 1777, to the King of Spain made by the military cartographer for the Escalante-Dominguez expedition, Miera y Pacheco. He wrote that a presidio and settlement of families should be founded near the junction of the San Juan and Animas rivers, where beautiful meadow land was suitable for agriculture and pasture. He noted ancient buildings and irrigation canals in the meadows.[7]

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[3] Irving D. Townsend to Regional Director, National Park Service, March 4, 1945; Louis Caywood to Regional Director, National Park Service, May 1, 1945; Leslie Spier to Caywood, November 28, 1945 (Document file, Aztec Ruins National Monument Headquarters, Aztec, New Mexico).

[4] Douglas D. Dykeman, The Ceramic Consultant's Comments on the Aztec Ruins Collection, Appendix B, 1-4 in Susan E. Bearden and Ronald G. Hefner, Aztec Ruins National Monument, Cataloging Analysis Project, 37, Contract No. PX-7029-7-0678, May 1988.

[5] C.V. Koogler and Virginia Koogler Whitney, *Aztec: a Story of Old Aztec from the Anasazi to Statehood* (Forth Worth: American Reference Publishing Company, 1972), 3; Temple H. Cornelius, *Sherds and Points* 2, no. 21 (1941), reprinted from *Durango Herald Democrat*, June 22, 1941.

[6] Collection Accession file, Accession 24, Aztec Ruins National Monument Headquarters, Aztec, New Mexico.

[7] Herbert E. Bolton, *Pageant in the Wilderness: the Story of the Escalante Expedition to the Interior Basin* (Salt Lake City: Utah Historical Society), 245.

The Miera y Pacheco reference is thought to have been to a large cobblestone village called the Old Fort situated at the confluence of the Animas and San Juan rivers and other settlements in the area, but probably not including Aztec Ruins. Earl Morris, excavator of the main Aztec Ruin, believed they may have been sighted.[8] Regardless, the information must have been second-hand since the expedition crossed this stretch of the terra incognita at least 40 miles to the north.

A second indication that Spaniards knew of the Animas River appeared in the journal of Antonio Armijo, leader of a 60-man Mexican expedition from Santa Fe to Upper California, which stated that on November 17, 1829, his command arrived at the banks of the river. If these men made the first sighting of Aztec Ruins, Armijo failed to mention it.[9] From lack of documentation, it can only be assumed that the Spaniards were either unaware of or not impressed with the specific grouping of Aztec Ruins.

EURO-AMERICANS BECOME ACQUAINTED WITH THE RUINS

The association of the ruins on the Animas with the Aztec Indians was made by early American settlers. With the northern Hispanic frontier relatively unpatrolled in the early nineteenth century, mountainmen quite surely worked their way from the Rocky Mountain hunting grounds south along the perennial waters flowing toward the Colorado River. One of these was the Animas. Although the wanderers may have paused to wonder at jagged high walls of shaped stone standing like enormous fins above huge piles of accumulated detritus, they were not inclined to write of their impressions. But among themselves they likely spoke of the silent wrecked structures as the Aztec houses. In that, they were reflecting a widespread popular impression inspired by a book of 1844, *History of the Conquest of Mexico* by William H. Prescott, that the Aztecs believed they had originated in some vague "north land." To persons on this part of the northern borderlands, the many derelict walls and the potsherds and other artifacts strewn around them confirmed that the Aztecs indeed had passed through the northern Southwest on their way to central Mexico.

The scientific community was more cautious in suggesting any genetic relationship between the regional prehistoric population and that of central Mexico. Hence, the first known eyewitness account of Aztec Ruins, written in 1859 by geologist John S. Newberry working for the Corps of Topographical Engineers of the U.S. Army, omits any such conjecture. Instead, Newberry's report contains a perceptive account of the lower Animas natural and cultural environment and correctly attributes the prehistoric remains to the forebears of the modern Pueblo Indians. He described the ruins as being constructed of yellow Cretaceous sandstone masonry, with some exterior walls standing 25 feet high and interior walls retaining plaster. Associated mounds resulting from collapse of subordinate structures, together with the main pueblos, indicated a large indigenous population formerly living in the valley.[10]

This assessment notwithstanding, the frontiersmen still seemed to have felt that local prehistory was somehow linked to the Aztec tribe of the Spanish conquest era. A letter written in 1861 by a

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[8] Earl H. Morris to Ansel F. Hall, February 25, 1935 (Morris Memorial Collection, University of Colorado Museum, Boulder).

[9] [Antonio Armijo], *Itinerary from New (North) Mexico to Upper California Traversed in 1829 and 1830 by Sixty Mexicans* (Paris: Geographic Society, 1935), 316-23.

[10] J.S. Newberry, *Report of the Exploring Expedition from Santa Fe, New Mexico, to the Junction of the Grand and Green Rivers of the Great Colorado of the West in 1859* (Washington: Government Printing Office, 1876), 79-80.

citizen of Animas City, Colorado, clearly reveals this attitude when he noted, "The valleys of the Rio de las Animas and San Juan are strewn with the cities, many of them of solid masonry. Stone buildings three stories high are yet standing, of Aztec architecture. An immense and prosperous population has at some former period resided here and but a few localities are capable of sustaining a more numerous one."[11]

A few years later, a similar account reinforced the supposed Aztec connection. Appearing a century after mapper Miera y Pacheco described the same site for the benefit of the Spanish monarch, the author of this account stated that some Aztec antiquities from near the mouth of the Animas River had been displayed at the Denver Exposition. Included among them were human remains showing characteristics of what were called "semi-barbaric races" and Aztec pottery, stone tools and parchment(?).[12]

Sixteen years after Newberry's inspection of Aztec Ruins, a second geologist explored the mounds and duly reported his findings. He was Frederic M. Endlich, attached to the Geological and Geographical Survey of the Territories, better known as the Hayden Survey. Endlich's remarks provide important details about the site 41 years prior to any formal archeological exploration. Noting many small dwellings of mud and cobblestones about the Animas valley, what he interpreted as watch towers on cliffs above, and the large sandstone edifice in a central bottom-land location, Endlich imagined an aboriginal city. In his view, the multistoried, multiroomed community at the center of settlement could have been a refuge in case of invasion for those living in the outlying houses. For that reason, he named the major site Acropolis. He said it was laid out in a squared-horseshoe arrangement opening to the south, with perhaps as many as 500 rooms. The small room dimensions provided suggest he may have found a way into ground-level chambers of the easternmost mound at the Aztec Ruins complex. Those in the west mound are larger. Some units had intact ceilings of wood and plaster. Rectangular doorways were typical, but many chambers had no other openings. Although the carefully executed plan of the building and its skillful construction suggested Spanish workmanship, no evidence for the use of metal tools in its erection made its building by aborigines probable. Artifacts observed were arrowheads, debitage resulting from implement manufacture, potsherds, and a single metate. Sections of irrigation ditches were seen near the ruins.[13]

The first trained anthropologist to view the largest of the Animas valley mounds was Lewis H. Morgan, whose principal research was among eastern Woodland tribes rather than those of the Southwest. Morgan spent the summer day of July 22, 1878, making a drawing of the house plan of the westernmost structure and taking notes about it. These were published the following year.[14] Nonetheless, the Morgan work at Aztec was a dead-end effort because no following research was forthcoming.

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[11] Charles Baker to Surveyor General of New Mexico, *California Farmer*, June 19, 1863.

[12] F.E. Stevens, "Aztec Remains in La Plata County, Colorado," *Kansas City Review of Science and Technology* 6 (1883): 442.

[13] Frederic M. Endlich, *Description of Ruins near Aztec, New Mexico*, U.S. Geological and Geographical Survey of the Territories, Ninth Annual Report, 1875 (Washington: Government Printing Office, 1877), 176-91.

[14] Lewis H. Morgan, "On the Ruins of a Stone Pueblo on the Animas River in New Mexico," *Reports of the Peabody Museum* (1880): 536-56.

The identification of the many obvious evidences of former occupation with the Mexican Indians became locally accepted as fact.[15] When settlers began arriving in the Animas valley about 1876, it was inevitable that through frequent repetition the largest concentration of these sites customarily was referred to as the Aztec Ruins. Even though most other regional sites also were called Aztec, the name stuck.[16] If known, the Endlich name of Acropolis doubtless would have been ignored.

One of the first settlers on the lower Animas was John A. Koontz. He served in the first Colorado legislature but moved along with the expanding frontier. Koontz opened a general merchandise store to meet the needs of his neighbors but also acquired two important pieces of land. One was a homestead, 40 acres of which were sold as a townsite to replace the original post office on private land a half mile up the valley. Because of the proximity of the landmark ruins, the former name of Wallace was dropped in favor of Aztec.

The second piece of Koontz property, acquired on November 28, 1890, by a patent issued under the Desert Land Act, was a 160-acre plot at the foot of the west terrace upon the lower slope of which stood the ruin mounds. A photocopy of the legal document shows that 20 acres in the northwest corner of the tract consisted of boulder hills that were not suitable for agricultural development.[17] Koontz sensed the importance of the prehistoric remains, which were surrounded by arable land. He put a stop to the practice of using the ruins as a source for construction materials but continued to permit local families to go there for outings. Many early day picnickers had their pictures taken while standing on top of the highest walls (see Figures 1.2 and 1.3).[18]

The settlers' children first explored the interior of one of the Aztec Ruins mounds. In the winter of 1881-82, a group of boys and their teacher broke through the ceiling of a first-story room in the northwest corner of what appeared to be the largest compound. They knocked holes in the stone walls of a series of similar adjoining rooms by which they gained access to ancient dusty quarters that had not been entered for 600 years or more.[19] In two of these dark, stagnant, masonry cells, they were thrilled and doubtless frightened to encounter desiccated remains of 15 humans and a rich assortment of artifacts that had been left with them. These objects were removed from the rooms, taken home to be shown to curious parents, and then over the years dissipated -- their value to science lost forever.

A decade later, preparations for the Chicago Worlds Fair greatly stimulated interest in the antiquities of the Four Corners area. A huge replica of a cliff with a full-size model of a prehistoric dwelling featured finds from Mesa Verde. To expand on that exhibit, Warren K. Moorehead, a teacher at Phillips Academy in Andover, Massachusetts, was sent with an 11-man team to spend four months exploring the San Juan drainage. The party camped for nearly two weeks on the banks of the Animas while the crew made notes, ground plans, and sketches of the Aztec Ruins complex. A brief account of this work appeared shortly after the men returned to the East, but a more detailed report did not

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[15] Koogler and Whitney, *Aztec*, 13.

[16] Duane A. Smith, *Mesa Verde National Park: Shadows of the Centuries* (Lawrence: University of Kansas Press, 1988), 13.

[17] Land Patent issued to John A. Koontz, November 28, 1890, photocopy (Document file, Aztec Ruins National Monument Headquarters, Aztec, New Mexico).

[18] Florence C. Lister and Robert H. Lister, *Earl Morris and Southwestern Archaeology* (Albuquerque: University of New Mexico Press, 1968), unnumbered photograph at top of fourth page of center signature.

[19] Sherman S. Howe, *My Story of the Aztec Ruins* (Farmington: Times Hustler Press, 1947), 12.



Figure 1.2. West Ruin, ca. 1880. (Courtesy Aztec City Museum).



Figure 1.3. East Ruin, ca. 1880. (Courtesy Aztec City Museum).

circulate until 1908. This report remained the longest article on the ruins until excavations commenced eight years later.[20]

The same year that Moorehead finally published his paper, Henry Dudley Abrams, proprietor of a hardware store in the village of Aztec, by warranty deed acquired the Koontz property on the west side of the Animas. A half-share water right in the Farmers Ditch was included in the transfer of property.[21] As much of the land as possible was cleared and put under cultivation or converted to pasture for livestock, leaving hillocks of dilapidated aboriginal masonry and the thorny overgrowth that engulfed it looming above the fields like islands in a sea.

Private ownership of the ruins did not protect them from some vandalization. Abrams tried to prevent damage to the major houses, but thousands of initials carved or scratched into wooden lintels and ceiling beams show that he was not successful. Perhaps valley residents who made pleasure excursions to the ruins amused themselves in this way.[22] One told of a cow falling through a decayed roof of a multistoried unit and becoming trapped in a lower room. Whether any damage to the building resulted is unknown. Abrams himself was responsible for some dispersement of weathered timbers from the principal mound. On one occasion, he donated wood from them to be used for the "Chair of the East" in a fraternal order of which he was a member.[23] Nor did his conservation efforts extend beyond the big mounds. He leveled a small house 150 yards to the north of the largest ruin, and he converted several rooms of the Hubbard Mound, an unusual construction several hundred yards north of the most prominent mound, into a root cellar. A second root cellar was constructed into Mound F between the two major settlement mounds. Exactly how many other sites were disturbed or their specific locations cannot be determined now. Furthermore, tenants on the Abrams farm engaged in some illicit salvaging of loose specimens. According to William H. Knowlton, he and his father dug up three burials exposed by a plow and sold them to the Smithsonian Institution for $25 apiece.[24]

Generally speaking, however, by the early twentieth century the ruins were simply a local curiosity in which few people had little more than passing interest. That lack of interest helped hold them in trust for the future.

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[20] Warren K. Moorehead to Morris, March 25, 1919 (Document file, Aztec Ruins National Monument Headquarters, Aztec, New Mexico).

[21] A share in the Farmers Ditch equalled the flow through an orifice 40 inches long, four inches high, and with a four-inch head. Irving D. Townsend to Regional Director, National Park Service, July 1, 1945 (Document file, Aztec Ruins National Monument Headquarters, Aztec, New Mexico).

[22] Robert H. Lister and Florence C. Lister, *Aztec Ruins on the Animas* (Albuquerque: University of New Mexico Press, 1987), frontispiece.

[23] Koogler and Whitney, *Aztec*, 117.

[24] *Aztec Independent Review*, February 19, 1971.

CHAPTER 2

EARL HALSTEAD MORRIS AND THE AZTEC RUINS

Few Southwestern archeological sites are more identified with a single individual than is Aztec Ruins with Earl Halstead Morris. He first came there in 1895 as a child of six and later remembered the exact room (West Ruin, Room 121[2]) which he and his father had entered. He recalled his astonishment at the human bones they saw stretched out on an adobe platform raised above the floor.[1] As a youth, with shovel over shoulder and trowel in hip pocket, he dug in many of the valley's antiquities in search for pieces of pottery. Just out of college, he persuaded one of the most prestigious institutions in the nation, the American Museum of Natural History, to undertake the excavation of the largest of the Aztec Ruins and to put him in charge of a proposed five-year program there. In the process, he established an enviable scientific reputation in regional archeology and was granted the right to live adjacent to the site in a house he constructed using some reclaimed twelfth-century materials from the ruins. After the National Park Service took over ownership of the property, he served for a time as its first custodian. Later, he rebuilt its major ceremonial edifice, a Great Kiva, which simultaneously became a monument to the aboriginal builders and to his own insight and ingenuity. And at the end, one summer dawn in 1957 his ashes were spread into the cushioning earthen floor of an inner room. To know Aztec Ruins, one necessarily must also know something about this man who was so intimately associated with the place for more than 60 years and whose work is essentially what today's visitor sees in the monument.

Ettie (Juliette Amanda Halstead) and Scott N. Morris of upper New York state were among the throng of adventuresome persons drawn west in 1879 by the gold rush at Leadville, Colorado. After mining activity slowed, Scott found employment in regional sawmills and construction camps and in freighting goods to them. Ettie taught school wherever her husband happened to be working. In 1889, their only child, a son, was born in Chama, New Mexico, where Scott then clerked in a drugstore.

The year before Earl Morris's birth, Southwestern archeology was launched with the discovery of two spectacular cliff houses on the Mesa Verde of Colorado -- Cliff Palace and Spruce Tree House. It is likely the ruins had been seen earlier by wandering white miners or trappers who failed to publicize the find.[2] By the time Morris was 10 years old, several hundred other cliff-side and mesa-top ruins were known and identified as Anasazi, or Old Pueblo. An earlier culture (Basketmaker) was unearthed in caves of southeastern Utah. Most important was a four-year program that cleaned out a portion of the huge structure of Pueblo Bonito in Chaco Canyon to the south of the San Juan Basin. Every exploration seemed to support the notion that at some unknown time ancestors to the modern Pueblo Indians of the Rio Grande and Zuni valleys and the Hopi mesas once lived on the Colorado Plateau. These exciting finds might have passed unnoticed by the small Morris lad, except for his father.

During the 1890s, Scott Morris joined the ranks of a dozen Farmington, New Mexico, men in prospecting for prehistoric artifacts as a means of supplementing their incomes. There were no federal

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[1] Earl H. Morris, "Notes on Excavations in the Aztec Ruin," *Anthropological Papers of the American Museum of Natural History* 26, pt. 5 (1928): 393.

[2] Duane A. Smith, *Mesa Verde National Park: Shadows of the Centuries* (Lawrence: University of Kansas Press, 1988), 7-21.

laws prohibiting this activity on public lands. Those persons developing farms welcomed diggers as a way to get rid of the nuisance of heaps of fallen stone walls in their tracts. Since the vicinity of Farmington formerly supported a large, now absent, Indian population, the pickings were good. Scott sold several collections for nominal sums. The search for specimens became an enjoyable pastime for him and his young son. On every possible occasion, they hitched a team of horses to a wagon and took off exploring the back reaches of northern New Mexico. In later years, Morris credited his father with having given him an invaluable working knowledge of practical mechanics and earth moving. His companionship with his father also imparted a lifelong passion for the quest of artifacts and introduced him to a site that eventually was to be a personal memorial.

Scott's murder when Earl was 14 years old intensified the boy's interest in his pothunting avocation. Young Morris spent even more of his spare time after that tragedy seeking out signs of what he called the Old People. In compensating for the loss of a dear parent, Morris was at the same time building an unrivaled fund of field experience concerning how and where to dig.[3] He often fantasized about excavating the largest of all the ancient remains in the vicinity, the Aztec Ruins.

Ettie Morris saw to it that, when the time came, her son attended the University of Colorado. To make that possible, she tutored youngsters in her home. Earl pitched in by chopping wood to earn tuition money. At the university, he achieved the education and maturity to transform outright pothunting into an earnest search for knowledge. As he later observed in a biographical sketch: "When I came in contact with those who gave me the scientific point of view, it served as a key to a previously sealed book which enabled me to put in order the fund of information gleaned from my boyhood pothunting."[4]

Earl Morris's involvement with work at Aztec Ruins came obliquely through an association with some amateur archeologists from St. Louis. One was John Max Wulfing, importer and wholesale grocer, who bought a pottery collection from Morris gathered from the La Plata district north of Farmington. That stimulated Wulfing to join with David L. Bushnell, owner of a seed store, and George S. Mephan, operator of a chemical dye plant, in bringing some guests west to Aztec for an archeological holiday during the summer of 1915. The party stayed in a local hotel so as not to inconvenience the ladies with tenting. Morris arranged with an Animas valley settler for the exploration of a 39-room pueblo on his land located about three-eighths of a mile northeast of Aztec Ruins. There the neophyte archeologists were instructed in the fine art of digging. Morris cleared the site prior to their arrival so that the "riches" could be exhumed with little physical exertion. Among tangible rewards for the Middle Westerners to take home were 40 complete pottery vessels. Some were burial offerings placed next to the dead beneath house floors. Morris apologized that the artifact returns were limited because the site had been probed earlier by others.[5] Even so, the enthusiasm of the visitors convinced him that they might support more serious excavations in the area.

Earlier that summer, a stroke of luck put Morris under the guidance of Nels C. Nelson. Nelson was an internationally recognized scholar on the staff of the American Museum of Natural History in New York. His career previously centered on European prehistory and the use of stratigraphic analyses

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[3] Florence C. Lister and Robert H. Lister, *Earl Morris and Southwestern Archaeology* (Albuquerque: University of New Mexico Press, 1968), 9-10.

[4] Introduction to the catalogue of the Morris pottery collection (Morris Memorial Collection, University of Colorado Museum, Boulder).

[5] Earl H. Morris to John Max Wulfing, n.d. 1915 (Morris Memorial Collection, University of Colorado Museum, Boulder).

to determine relative chronological positions of cultures as they evolved over long periods of time. In 1915, Nelson hoped through work in New Mexico to demonstrate the value of such methods in studying the briefer American prehistory. A personal relationship between the director of the museum at the University of Colorado and the curator of anthropology at the American Museum of Natural History led to selection of Morris to be his field assistant.

A second lucky happenstance was that in 1915 Nelson was asked to locate a suitable classic Pueblo site to be excavated by the American Museum of Natural History under the patronage of Archer M. Huntington. Huntington, heir to the Southern Pacific Railroad fortune, was a generous contributor to the museum's research in the Southwest. Upon learning of this, Morris seized his golden opportunity. He persuaded Nelson to come to Aztec Ruins at the end of the digging season to see for himself the possibilities they afforded. "By coming to my camp," he wrote Nelson, "you would have the opportunity to examine the great pueblos and to familiarize yourself with the culture of this immediate vicinity more easily and more satisfactorily than would be possible if you were to make only a brief stop at Aztec."[6] The museum already had an enviable Anasazi collection from Pueblo Bonito in Chaco Canyon as a result of the Hyde Exploring Expedition during the late nineteenth century. The observable architectural and ceramic remains at Aztec Ruins appeared to be another manifestation of that Chaco culture. They would help further elucidate the prehistory of the eastern San Juan Basin. Nelson was sufficiently impressed with what he saw of the size and relative lack of vandalism that he assured Morris he would recommend prompt excavation of the Aztec Ruins.

Discouraged over following months of no word from the American Museum, in February, 1916, Morris contacted Wulfing. He suggested that the Missouri Historical Society, of which Wulfing and his friends were members, sponsor excavation of Aztec Ruins. Morris estimated that the job of clearing what he believed to be the largest of the mounds could be done for $7,500. As a lure, he called Wulfing's attention to the 7,000 pieces of turquoise and large numbers of earthenware pots recovered at Pueblo Bonito by the Hyde Expedition. To further press his case, and to play on the current desire on the part of professionals and public alike to amass objects, Morris persuasively wrote Wulfing, "I do not hesitate to say that the excavation of the Aztec Ruins would yield a larger and better collection than has ever been taken from one site in the Southwest."[7]

Meanwhile, to prepare for the possible acceptance of his proposal, Morris approached landowner Abrams. He explained, "I am drafting plans to put before the St. Louis people for the excavation of the largest ruin, and I wish to ask if you would grant them the right to excavate upon the terms which were extended to the Phillips Academy [the Moorehead party of 1892]. If the plans are received with any favor at all, I shall go to St. Louis to endeavor to clinch the deal."[8]

At the time these negotiations were going on, an agent of the American Museum was in Aztec to confer with Abrams about an excavation concession. Abrams, however, had no knowledge of the museum. Immediately he got in touch with Morris, the only trained archeologist he knew, to find out

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[6] Morris to Nels C. Nelson, August 10, 1915 (Aztec Ruins files, Department of Anthropology Archives at the American Museum of Natural History, New York).

[7] Morris to Wulfing, February 14, 1916 (Morris Memorial Collection, University of Colorado Museum, Boulder).

[8] Morris to Henry D. Abrams, February 13, 1916 (Document files, Aztec Ruins National Monument Headquarters, Aztec, New Mexico).

if the American Museum were a reputable institution.[9] Indeed it was, Morris replied. At the same time, Morris made subtle inquiries of Abrams regarding his own possible future role in the project.[10] He yearned for the assignment but did not want to appear too eager.

Within the next six weeks, the enduring identification of Morris with Aztec Ruins was assured. In April, Abrams granted the American Museum permission to proceed with its proposed endeavor. Meantime, the Missouri Historical Society withdrew from the picture. The American Museum hired Morris to serve as its field supervisor at a salary of $100 a month and expenses. Abrams directly notified Morris of his decision to allow work to go forward and, as a good father looking out for his children, added, "...the boys [of which there were three] may want to do some of this."[11]

The president of the University of Colorado knew Morris as a museum assistant at that institution and gave him a glowing recommendation. He remarked to Clark Wissler, curator of anthropology at the American Museum and administrator of the Southwestern archeological programs, "I told Morris before he left for the field that I felt you were offering him a very great opportunity to show what he is worth, and I know he intends, if the arrangement is consummated, to throw himself into the work with all the vigor he has. The more I see of the quality of the man the more favorably I am impressed."[12]

At last, Morris's childhood dream seemed about to materialize. Enthusiastically, within days he sent the museum estimates of costs to include a modern photographic kit and a plan of operation. Graciously he said, "To excavate the 'Aztec Ruins' is a dream which has endured from my boyhood, and I wish to express my appreciation of the fact that you see fit to give me a part in it."[13]

Prior to beginning the Aztec work, Morris met Nelson at Chaco Canyon. The 65 miles from Aztec was then a six-day wagon trek or three days by automobile. Together, the men fruitlessly trenched what they regarded as a great trash heap at the southern front of Pueblo Bonito in hopes of finding stratified deposits and, in the process, expended one-third of the year's appropriation for Aztec.

Back on the Animas in late July, Morris and Nelson immediately initiated work there by hiring a crew. An early frost had ruined the season's fruit crop, making the $2.00-per-day wages attractive to a number of local farmers.[14] A consequence of their employment was that excavation of the ruins was viewed as a community effort. Like Morris, most of the crew at one time or another had prowled the regional sites. They were familiar with the constructions and the general range of imperishable artifacts to be expected from them. Moreover, the men had a proprietary curiosity about this greatest monumental pile that long had been a fixture on their horizon. Under Morris's tutelage, many became

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[9] Abrams to Morris, February 11, 1916 (Document files, Aztec Ruins National Monument Headquarters, Aztec, New Mexico).

[10] Morris to Abrams, February 13, 1916 (Document files, Aztec Ruins National Monument Headquarters, Aztec, New Mexico).

[11] Abrams to Morris, April 15, 1916 (Document files, Aztec Ruins National Monument Headquarters, Aztec, New Mexico).

[12] Livingston Farrand to Clark Wissler, April 14, 1916 (Aztec Ruins files, Department of Anthropology Archives at the American Museum of Natural History, New York).

[13] Morris to Wissler, April 30, 1916 (Aztec Ruins files, Department of Anthropology Archives at the American Museum of Natural History, New York).

[14] Nelson to Wissler, July 23, 1916 (Aztec Ruins files, Department of Anthropology Archives at the American Museum of Natural History, New York).

first-class, reliable diggers who continued to work for him in Aztec and elsewhere. They, in return, taught Morris a number of handy man skills.

Excavation of the Aztec Ruin had a significant impact on a few of those hired in the opening season. One whose life was altered was Oscar Tatman, owner of a poultry farm and apple orchard south of the ruins. Through many years of association with Morris, Tatman gained a fund of practical archeological and ruin-repair knowledge that qualified him to be hired as caretaker and guide at Aztec Ruin on occasions when Morris was away. Oley Owens was another local farmer supplementing his income at these and other digs.[15] Sherman Howe, raised on a farm just across the Animas River from Aztec Ruin, was one of the schoolboys who broke into the North Wing rooms in 1881.[16] He felt a special enjoyment at being part of the excavation team and later blossomed as a well-informed volunteer guide. During the lean Depression years, when he was fearful of losing his farm, he was especially grateful to be employed on the restoration of the Great Kiva. Finally, as a parting gift to the place he had known all his life, Howe donated a personal artifact collection gathered through years of pothunting about the valley.[17] Jack Lavery, in addition to being a fair carpenter and blacksmith, was an expert mason. "Prehistoric Grandfather," as the Zuni Indians working along side him in Chaco Canyon knew him, was critical to the task at hand at Aztec Ruin. Morris acknowledged that more than half the repair work accomplished at the site during his association with it was done by Lavery.[18]

The years from 1916 to 1922, when Morris was most active in the exploration and interpretation of Aztec Ruin, represented a learning period in the new discipline of Southwestern archeology. Morris and his crew had to experiment with basic procedural and preservation techniques. Aztec Ruin also became a testing ground for new intellectual concepts that determined the future course of Southwestern prehistoric studies. Tree-ring dating, stratigraphically-controlled digging, and comparative architectural and ceramic analyses undertaken at Aztec Ruin became part of the fund of archeological skills applicable to the entire gamut of Anasazi sites. Interpretation of the prehistorical progression made possible through these diverse avenues was constantly reevaluated as the database expanded. To Morris's credit, he kept pace with the science as it evolved in his time.

Near the end of the Aztec project, Morris's activities expanded beyond mere digging and reporting on the site. He erected a small, unobtrusive house in front of the exposed western house block for himself and his mother (see Figure 2.1). He also served as the on-site museum agent in the purchase and transfer to the federal government of the ruins and surrounding land.

With the American Museum funds for work at Aztec Ruin depleted in the early 1920s, Morris turned to related research across the vast sweeps of the Colorado Plateau. Earlier, he purchased a Model T Ford of 1917 vintage for $104.95. He loaded the open-sided touring car with extra gas and food, a bedroll, water bags, cooking gear, pitch-covered floor boards that could substitute as fire wood in barren wastes, and a kit of tools and a shovel to keep the vehicle operating over virgin terrain. As son of a rough-and-ready frontiersman, he relished such adventure. Slowly Morris tracked down widely scattered and unknown traces of the ancients, from the rugged slick rock ledges bordering the Colorado

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[15] Robert H. Lister and Florence C. Lister, *Aztec Ruins on the Animas* (Albuquerque: University of New Mexico Press, 1987), Figure top p. 31.

[16] Ibid., Figure top p. 10.

[17] Collection Accession 3 (Collection Accession files, Aztec Ruins National Monument Headquarters, Aztec, New Mexico).

[18] Neil M. Judd, "The Pueblo Bonito Expedition of the National Geographic Society," *National Geographic Magazine* (March 1922): 321.

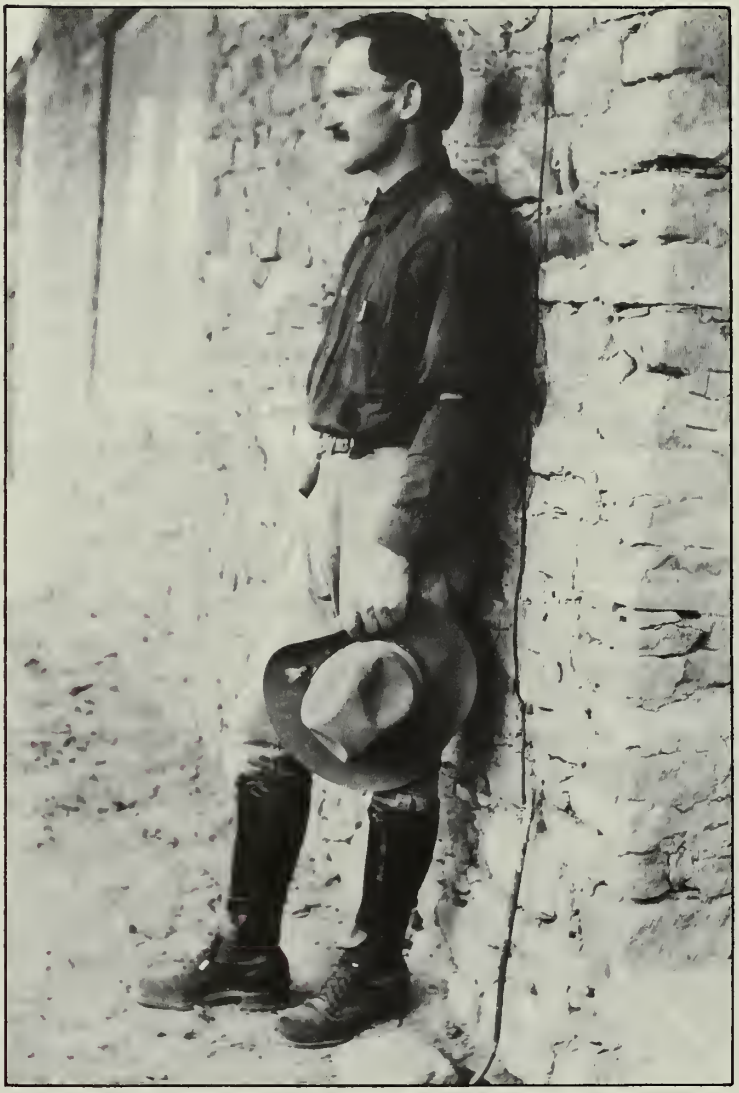


Figure 2.1. Earl Halstead Morris in front of the house he built adjacent to Aztec Ruin, ca. 1920. (Courtesy University of Colorado Museum).

River to the craggy Lukachukais separating New Mexico and Arizona. From 1923 to 1929, he explored caves sheltered within the inner recesses of Canyon del Muerto, Arizona, where he found structures and deep trash deposits spanning a millennium of human presence.[19] He dug sites representing several stages of Anasazi development in the mountains south of the San Juan and near the massive igneous spire of Bennett Peak at their eastern flanks. Often, he returned to clusters of house remains piled along the mesas bounding the La Plata River, which he had explored with his childhood shovel. Throughout all these excursions, he was constantly on the alert for tree-ring samples to help fill gaps in the temporal chronology being established by tree-ring scholar Andrew E. Douglass.

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[19] Lister and Lister, *Earl Morris*, 112-41.

As more or less a footnote to his preferred areas of concentration, for five winter seasons during the 1920s, Morris also worked for the Carnegie Institution of Washington in excavations and repair of the huge Maya site of Chichen Itza on the Yucatan peninsula of Mexico.

During the 1930s, Morris was called upon for important undertakings, which reinforced and enhanced the cultural heritage of three Southwestern national parks or monuments. This came about because he was known for having a unique combination of archeological and engineering expertise. Morris secured the Mummy Cave tower in Canyon del Muerto, Arizona, and the multistoried tower in Cliff Place in Mesa Verde, Colorado. Both structures were precariously cracked and likely to come cascading down the canyon talus if not soon repaired. He threw up wing dams to keep lower units of White House, Canyon de Chelly, Arizona, from being washed away. Probably the project with which he was most emotionally involved was the restoration of the Great Kiva at Aztec Ruin to demonstrate to modern observers both the architectural abilities and the religious base of the Anasazi. More than 50 years later, these monuments endure for the benefit of future generations.

Toward the end of the decade of the 1930s, Morris's active field work came to a triumphant end. The significant excavation of a Basketmaker village north of Durango, Colorado, took the human drama as it had been played out in the northern Southwest back to days before the Christian Era. Attainment of these dates was to Morris the culmination of a 20-year hunt for wood samples that provided a scaffold of time for the cultural evolution of the Anasazi. Having supplied examples of the last-gasp era as represented at Aztec Ruin, it was only fitting that he also supplied those defining the beginning.

The final sixteen years of Morris's life were spent in the work room of his home in Boulder, Colorado, and basking in honors bestowed upon him for his lifetime dedication to unraveling Southwestern prehistory. He completed a series of technical reports resulting from the prodigious gathering of raw data. Patiently he advised younger men coming up through the ranks and responded to their questions about the opening of Aztec Ruin. He contributed an assortment of well-worn hand tools for a museum display at the monument, and he sent a photograph of himself (see Figure 2.2).

At age 67, death took Morris back to the place where his notable career began. His ashes were distributed by Homer Hastings, monument superintendent, within a portion of the Aztec Ruin which Morris had cleared exactly 40 years before. A decade later, the precise location of the burial could not be positively identified.[20] A bronze plaque noting his contributions was installed in the part of the visitor center at Aztec Ruins built by him as the Morris home. The excavator of the principal attraction at the monument, the West Ruin, had indeed become one with the great house and its long-departed inhabitants.

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[20] Homer Hastings to Jerry Wood, June 6, 1966 (Document files, Aztec Ruins National Monument Headquarters, Aztec, New Mexico).



Figure 2.2. Earl Halstead Morris, ca. 1950.

CHAPTER 3

PEELING AWAY PREHISTORY

1916: EXPLORATORY SEASON

In April 1916, Henry D. Abrams, owner of the land encompassing the major Aztec Ruins, formally agreed to allow the American Museum of Natural History to conduct excavations on a 40-acre section of his farm surrounding the ruins (see Appendix C). The museum chose to work on the largest of the sites. Since this was the era when patronage by wealthy individuals was prerequisite to expensive research, John P. Morgan donated $2,000 for the initial 1916 exploratory season.[1] After it was demonstrated to be a worthy undertaking, the project became part of the larger Archer M. Huntington Survey of the Southwest. A local newspaper mistakenly reported that the explorations were sponsored by the New York School of Archaeology.[2] Such an institution is not known to have existed.

The highly acclaimed American Museum of Natural History assigned the demanding task of uncovering the huge site of Aztec Ruin, with its potential significance to interpretation of regional prehistory, to Earl Morris. He was then a young man just out of college, who had notable digging experience but remained untested intellectually. The museum's decision reflects the scientific naivete of the early twentieth century. On the one hand, the museum expected Morris to direct a large untrained crew in gross earth removal and in delicate specimen retrieval. On the other hand, it assumed he would care for artifacts, catalogue them, keep a field and photographic log, attempt to reconstruct past human events from a silent incomplete record of discarded material goods, and eventually publish an appraisal suitable for both the benefit of the scientific community and for the interested public. The laymen demanded special consideration because some of them might fund similar museum endeavors. In addition, complete clearing and repair of the West Ruin, as the largest mound became known, was to be a corollary aspect of the total project. Clark Wissler, director of the museum's archeological programs, estimated that the effort would take five seasons of field work and cost about $10,000. Both figures subsequently proved unrealistic. The enormity of this challenge shrank before the vast self-confidence of this one frontier-bred researcher. Neither Morris nor his directors yet comprehended the inherent technical and cultural complexities, which today would engage the services of a dozen specialists and a large contingent of specially trained excavators and construction workers.

The first phase of the Aztec Ruin project was clearing the ruins of their nearly impenetrable covering of prickly vegetation in order to ascertain their dimensions.[3] Several trails snaked through the overgrowth to potholes opened by earlier explorers. Once all the tall obscuring brush was hacked and burned, three long high mounds left from deterioration of the east, west, and north arms of an edifice were exposed. A heap of cobbles several feet high suggested an arc of one-story rooms enclosing the

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[1] F.A. Lucas to Clark Wissler, May 3, 1916 (Aztec Ruins files, Department of Anthropology Archives at the American Museum of Natural History, New York).

[2] *Farmington Times Hustler*, August 10, 1916.

[3] Nels C. Nelson to Earl H. Morris, May 1, 1916 (Aztec Ruins files, Department of Anthropology Archives at the American Museum of Natural History, New York).

south side of the pueblo. The settlement plan was a very large, multiroomed, rectangular building wrapped around an open courtyard.[4] The West Wing stood 20 feet high, the opposite East Wing only five feet at its lowest southern end, but the north side of the compound was more than 29 feet high and appeared to have stood three stories (see Figure 3.1).[5] The compound was placed on a leveled terrace that gently dipped southward. The remains of an enclosing southern village wall of sandstone backed by cobblestones approximately four and one-half feet high was reinforced by abutments at the east and west ends. Low steps gave access through the wall to the plaza.



Figure 3.1. West Ruin after being cleared at the beginning of the field season of 1916.

To quickly obtain specimens, Morris proposed to begin work at the West Ruin with trenching the refuse mound lying off the southeastern corner of the structure. He realized that to museum patrons, expedition success often was linked to the number of artifacts recovered. Trash heaps and the burials they sometimes sheltered frequently produced those things. Another consideration was that the refuse

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[4] Robert H. Lister and Florence C. Lister, *Aztec Ruins on the Animas* (Albuquerque: University of New Mexico Press, 1987), figures p. 21, top p. 14.

[5] Earl H. Morris, "The Aztec Ruin," *Anthropological Papers of the American Museum of Natural History* 26, pt. 1 (1919): 13.

mound might be covered by the waste of later work.[6] Morris wrote Wissler, "Relatively few graves have been found in the immediate neighborhood of the pueblos, and beyond doubt in the low mounds to which I refer, there will be a great number of them together with much pottery."[7] The museum recognized the patron appetite for tangible returns. As a curator later commented, "There are a great many people who get more enthusiastic over nice specimens than they do over the solution of problems. We, naturally, like to please every one."[8] Nevertheless, the museum staff vetoed Morris's proposal.

In July, expedition work began at the southeastern corner of the West Ruin house complex itself. Morris probably was disappointed that his pothunting instincts were held in check while Nelson undertook to trench the seven-foot-deep deposits of the southeast refuse dump. Nelson hoped to establish a relevant chronology through stratigraphic analysis, wherein older materials, if undisturbed, were beneath more recent deposits. In this, he was disappointed.

Outfitting the project was simplified because no field camp was set up. Abrams offered the area of his farm located under some cottonwoods, but instead the dozen hired diggers went home at night. All that Morris had to acquire were hand tools, such as shovels, picks, mattocks, trowels, and axes; wheelbarrows to transport spoil dirt; and cement for anticipated repair work. He delayed erecting a planned 15-by-30-foot frame shed in the plaza to provide storage for equipment and recovered artifacts.

In the formative period of Southwestern studies, there were no uniform guidelines for excavation, curation, or documentation procedures. Scientists working at Pecos, Puye, Mesa Verde, and in northeastern Arizona in 1916 were going about their explorations and recordation of data in their own ways with little or no consultation with each other regarding methodological or taxonomic standardization. Consequently, Morris had to rely on his personal previous experience in the Animas area to begin exposing Aztec Ruin. He devised his own phased excavation plan, cataloging system, and preservation techniques. The southeast corner of the site offered the easiest spot for training the crew. Its relatively low profile could be cut away with the least amount of time and effort. Later research indicated that it likely was a sector of the village where human occupation preceding the above-ground remains might have been identified had procedures been more refined. If such remains were present, they were destroyed or overlooked because of unfamiliarity with them.

Morris was aware of some of the weaknesses of his beginning efforts. He later commented, "The excavation at the south end of the east wing was done at the first season's explorations. Doubtless had a search been made of it, the last level of occupation might readily have been identified and used as a base plane. Instead the level followed was that of the field to the eastward."[9] The field, of course, had been plowed and was no longer representative of the aboriginal landscape. Even though the

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[6] Morris to Nelson, April 23, 1916 (Aztec Ruins files, Department of Anthropology Archives at the American Museum of Natural History, New York).

[7] Morris to Wissler, April 23, 1916 (Morris Memorial Collection, University of Colorado Museum, Boulder).

[8] Pliny Earle Goddard to Morris, July 31, 1917 (Aztec Ruins files, Department of Anthropology Archives at the American Museum of Natural History, New York).

[9] Earl H. Morris, "Notes on Excavations in the Aztec Ruin," *Anthropological Papers of the American Museum of Natural History* 26, pt. 5 (1928): 413.

museum's instructions to Morris were to uncover the classic pueblo, the scientific staff expressed interest in a broader scope of inquiry than its man in the field accomplished.[10]

Earlier researchers pinpointed three major centers of prehistoric development on the Colorado Plateau sharing a widespread homogeneity of culture but with certain regional characteristics. Anasazi living in the Kayenta district of northeastern Arizona differed in some aspects of their material culture from those in the Mesa Verde domain. Both these groups evolved in ways that were compatible to, yet distinctive from, those of the Anasazi living in Chaco Canyon. All three branches shared an architectural mode for communal living, but construction methods and quality of workmanship differed (see Figures 3.2 and 3.3). Among lesser handicrafts, pottery was an especially useful diagnostic element of the material culture for students of the Anasazi past. It was the most abundant kind of portable artifact in most sites. All Anasazi used the same fundamental ceramic technologies, but some raw resources, vessel shapes, and decorative styles produced end products that became hallmarks of particular regions.

Despite these relatively minor regional differences among the Anasazi as a whole, archeologists assumed that the three branches somehow had marched in unison through time. There was no means of dating Southwestern antiquities to verify or reject such a premise. Therefore, students of the Anasazi held the simplistic view that identifiable culture variances from enclave to enclave across the greater expanse of the Colorado Plateau provided the means for placing individual sites and their former inhabitants within an areal developmental framework that everywhere was at the same level of advancement at any given period. In 1916, the period with which most of the scientists were dealing was that culminating a cultural continuum of unknown duration. That was the period of Aztec Ruin.

Basing his judgment on these kinds of distinctions among groups of otherwise identical Anasazi, prior to excavation Morris felt that some observable elements at Aztec Ruin suggested either a local cultural hybridization between Chacoan and Mesa Verdian branches of the Anasazi or their contemporaneous sharing of the village. In either case, that sort of site utilization would have been unusual. To Morris, sandstone masonry remnants poking above the crust of the mounds and the configuration of the town plan were unquestionably of Chacoan derivation. However, the cobblestone southern enclosure was out of pattern for usual Chaco constructions. It also was not typically Mesa Verdian, but similar prehistoric houses in the vicinity contained what Morris believed to be Mesa Verdian trash. This was particularly true of recovered pottery. Morris concluded that most of it was of Mesa Verdian manufacture or strongly influenced by styles of that area. He observed a similar Mesa Verdian connection in litters of potsherds on the surface of the Aztec mounds. Only actual digging would resolve the questions.

To get excavations under way, Morris assigned one group of shovelers and tenders the task of using hand tools to clear the single row of low cobblestone rooms along the south side of the pueblo. Picks, shovels, and screens were the primary instruments, but occasionally close work required more ingenuity. For example, Morris resorted to the blast pipe off his blacksmith forge to remove fine soil from around delicate objects (see Figure 3.4).

Although the southern contiguous dwellings were discernible and posed no serious difficulties for the crew, they did produce a few surprises for the dig director. The maximum height of walls was less than eight feet ranging down to a one-foot foundation. Other than several stone-lined bins and fire hearths, floor features were absent. Occasional poles and copious amounts of adobe mud were incorporated into partitioning walls. Although a Mesa Verde mug was taken from Room 1, refuse in the fill struck Morris as generally Chacoan. He based this opinion primarily, if not totally, on

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[10] Ibid., 268-71.

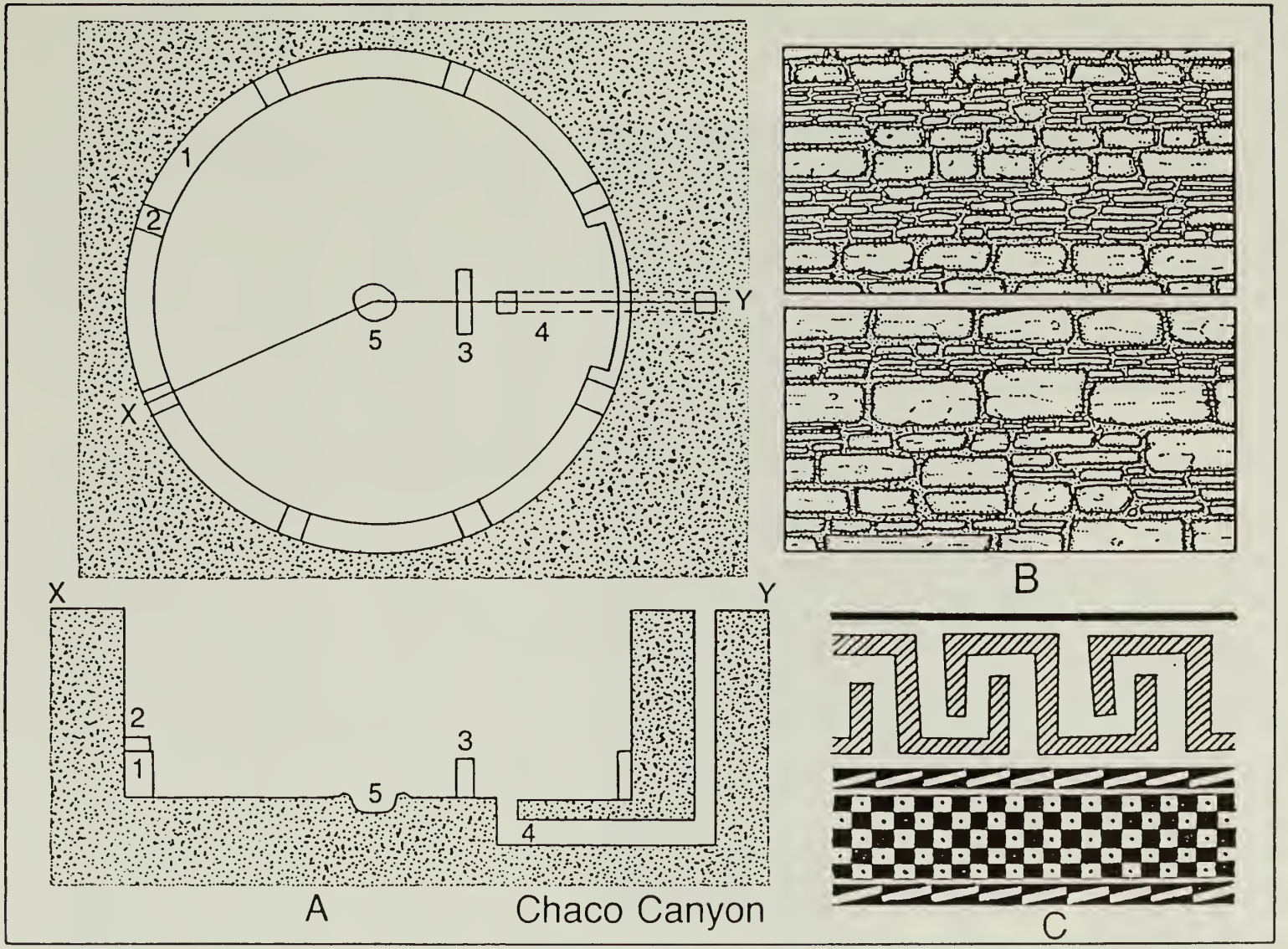


Figure 3.2. Chaco cultural traits present at Aztec Ruins. A) Plan and profile of typical kiva: 1, bench; 2, low pilaster; 3, deflector; 4, ventilator shaft; and 5, firepit. B) masonry types. C) pottery designs. (After Lister and Lister, 1987: 89).

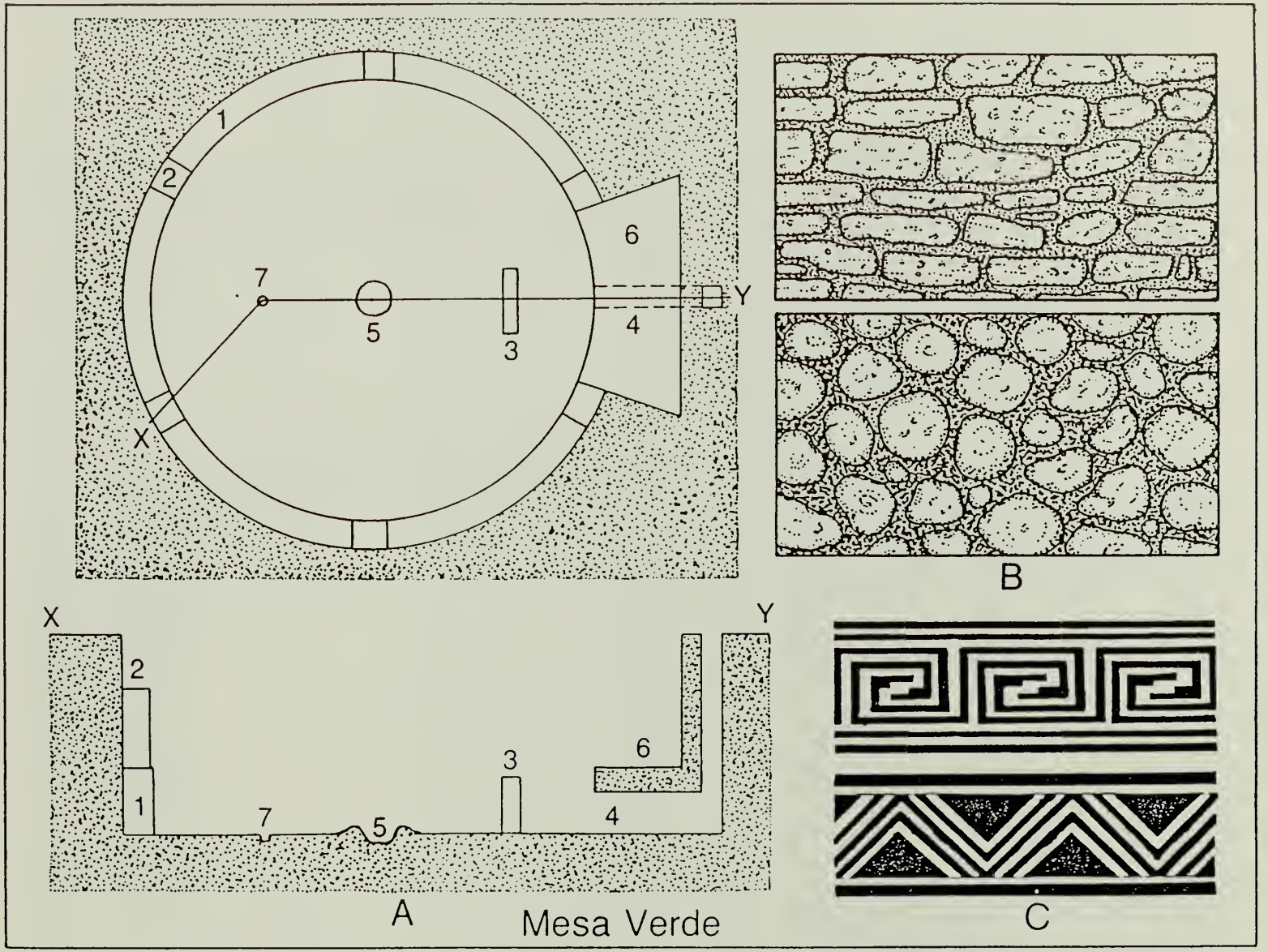


Figure 3.3. Mesa Verde cultural traits present at Aztec Ruins. A) Plan and profile of typical kiva: 1, bench; 2, high pilaster; 3, deflector; 4, ventilator shaft; 5, firepit; 6, southern recess; and 7, sipapu. B) masonry types. C) pottery designs. (After Lister and Lister, 1987: 96).

diagnostic pottery decorated in mineral pigment and a single fragmentary ceramic effigy figure from Room 5. Figurines of this sort were a unique specialization of Chaco potters. Morris had expected the south unit to represent Mesa Verdian tenancy. Moreover, the South Wing structures sat on what appeared to be several feet of dispersed refuse containing Chacoan potsherds. In neglecting to extend excavations down to sterile ground, Morris missed a possible opportunity to determine the extent and kind of earlier utilization of that spot. Although it was not yet recognized as such, some of the recovered pottery (termed by Morris as "archaic") was typically Basketmaker III or Pueblo I in time. This implied an occupation predating the main structure, if not underlying the row of cobblestone rooms at least in the immediate vicinity.



Figure 3.4. Workers removing fine fill dirt by means of a forge bellows. (Courtesy American Museum of Natural History).

Diggers found three small, circular, subterranean chambers believed to be clan ceremonial rooms, or kivas, in the courtyard just to the north of the cobblestone units. Morris kept no record of the dimensions of these structures and only limited notes about the precise variety of ceramics or other goods retrieved from them.[11]

Kiva A was just inside where the former outer village wall would have been along the southeastern perimeter. Surviving notes reveal that one gallon of pieces of black-on-white pottery and two quarts of grey "coil ware" were recovered during the clearing of this feature. All Anasazi pottery was constructed by a coil method, but Morris used the phrase "coil ware" to denote the ubiquitous grey utility pottery. Coils on the most common cook pots were left unobliterated but crimped to facilitate handling and to better retain heat. Coils on decorated wares were smoothed. Without fuller descriptions, it is impossible to determine regional derivations of these particular earthenwares because all three Anasazi branches made black-on-white and grey wares. Since black-on-red ceramics were not part of the repertories of either Chaco or Mesa Verde potters, a handful of such potsherds likely were remains of trade goods. Apparently in Kiva A, Morris observed no interior architectural features usually

[11] Kiva A, B, and C are briefly discussed in Earl H. Morris's West Ruin kiva notes (Morris Memorial Collection, University of Colorado Museum, Boulder; Document file, Aztec Ruins National Monument Headquarters, Aztec, New Mexico).

present in kivas. This suggests that it might have been a family pithouse in use some time prior to the erection of the final great house rather than being a coeval ceremonial chamber. In 1916, pithouses had not been found or studied in the eastern San Juan Basin.

When discovered, neighboring Kiva B was filled with naturally deposited earth and fallen roof and wall rubble. Its surface depression subsequently had become a dump ground for household sweepings and trash. Excavation exposed an encircling banquette upon which pilasters were raised to support roof timbers. The structure lacked a southern recess, a shank projection characteristic of Mesa Verde kivas, and a sipapu, or symbolic entrance to the nether world. Burials of an infant and a juvenile were among discarded goods littering the floor. Surviving field notes do not specify the kind of associated grave furnishings, if any.

Morris arbitrarily elected to roof Kiva B. For unclear reasons, he used a partially intact, cribbed-log kiva roof at Peabody House (now Square Tower House) in Mesa Verde as a model.[12] He justified the reconstruction to Nelson as being less costly than resetting the kiva's cobblestone walls in cement to withstand exposure. Up until 1984, the replaced flat roof, with its central hatchway at ground level, was noticeable in the southeast court (see Figure 3.5). However, reroofing this relatively minor construction proved to be a mistake. Because of the slope of the terrain and the kiva's situation in the lowest part of the site, underground water percolated into it. The roof prevented natural evaporation, making eventual backfilling of the structure the only possible solution for its preservation. It lies hidden beneath a thick layer of earth along a service road exiting from the southeast corner of the house compound.



Figure 3.5. Roofed Kiva B, 1916. (Courtesy American Museum of Natural History).

The third kiva exposed in 1916 appeared to have been built within some larger circular masonry unit. It lacked usual kiva elements, except for a firepit and a ventilator tunnel beneath a partial banquette, which did not connect with a shaft to the ground surface. Morris did not determine

[12] Morris to Nelson, September 3, 1916 (Aztec Ruins files, Department of Anthropology Archives at the American Museum of Natural History, New York).

the cultural affiliation of Kiva C. Modern interpretation suggests it was a pithouse, rather than a kiva, that probably predated the masonry complex to its north side. Kiva C is no longer visible because it has been covered by an extension of the earthen courtyard.

A second group of workers undertook to clear rooms comprising the southern end of the eastern wing of the great house. Cells of various sizes backed up to the solid outer village wall on the east. They were more inset from the court than the uniformly designed complex of rooms to their north and perhaps were tacked on at a later time. The sandstone masonry was composed of a veneer facing over a rubble core typical of Chacoan workmanship. Because of the incorporation of large jagged chunks of purplish concretions, cobblestones, and unsightly daubs of adobe mortar, it was less neatly executed than usual. A stratum of refuse and stubs of dismantled walls lay beneath the surface building.[13] As elsewhere in the ruin, rooms originally had ceilings from nine to 11 feet high. These were made of heavy pine or spruce stringers, small cross supports or peeled poles at right angles above them, and a cedar bark capping (see Figure 3.6). In instances of a second-story room, builders spread a layer of



Figure 3.6. Exposed first-story roof of primary beams, cross poles, and strips of cedar bark.

packed earth and clean sand over the bark to create a floor for the upper level. In this part of the village, most ceilings that once had separated two stories were gone. The result was masonry shafts filled with compacted rubble of fallen walls; broken, charred, or sagged ceiling timbers; and some

[13] Morris, "Notes on Excavations," 294.

prehistoric trash. Dismantled adobe and cobble walls and Chaco refuse at floor level underlay part of this room block.[14]

In order to photograph the lower portions of the East Wing rooms, Morris had to sit astraddle the crossbeam of a flimsy, high-legged sawhorse placed over the excavated shafts and point his camera straight down (see Figure 3.7).



Figure 3.7. Morris on an elevated scaffold photographing the ruin. (Courtesy University of Colorado Museum).

As work proceeded, the East Wing was threatened with being swallowed again in its own residue. Hence, Morris relied on his farm hands to scrape aside this disturbed earthen cocoon through use of teams of horses and fresnos rented from local barnyards (see Figure 3.8). This practice explains an entry unusual in archeological field expenditures for $1.80 to cover the cost of 75 pounds of oats.[15] In order to expose the site more completely, workers laid 2,500 feet of rails through the alfalfa field between the two main mounds of West Ruin and East Ruin. The rails were for operating four steel ore

[14] Ibid., 276-78.

[15] Morris to Goddard, September 26, 1916 (Aztec Ruins files, Department of Anthropology Archives at the American Museum of Natural History, New York).

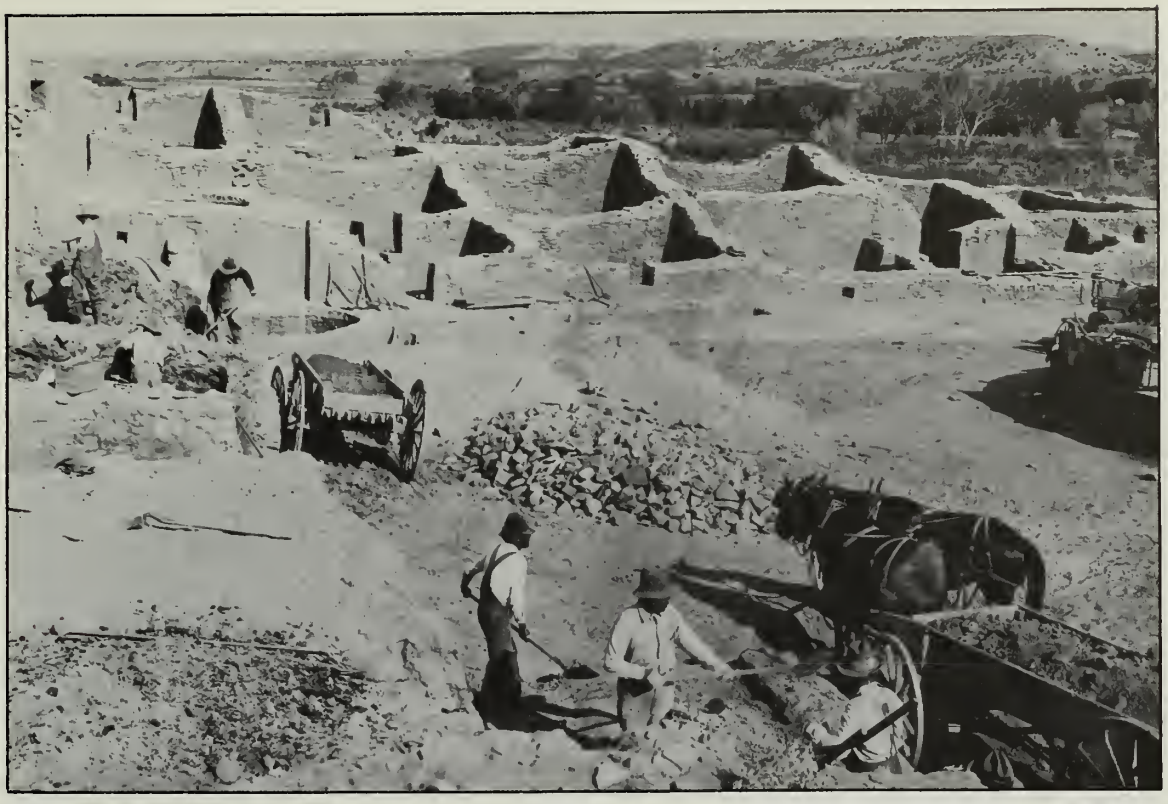


Figure 3.8. North Wing excavations in 1918.

cars drawn by horses (see Figure 3.9). The bulk of the sterile fill from the interior of the western site was deposited along one of the river's banks to the east of Mound H in the southeast occupational zone and away from the surrounding farm.[16] Had work commenced on the western wing of the house block, it was arranged to dump waste dirt in a young orchard to the west of the site that was on ground too low to be irrigated easily. Much of the debris from outer tiers of rooms simply was shoveled outside the village walls (see Figure 3.10). Morris did not adopt an alternate plan of using a sluice box carrying a head of water from a nearby irrigation canal to flush overburden to the Animas River. If he had, many small objects likely would have been lost. "A canal running at the foot of the hill north of the ruins would supply an ample quantity, and the fall is sufficient to enable a sluice box two feet on the bottom to carry all the dirt we could be in a position to dump into it," Morris wrote.[17] Building stone and sound but dislodged roof timbers usable in repair of walls and ceilings were stockpiled.

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[16] Map of Aztec Ruins National Monument, undated (ca. 1931-34); Drawing NM-AR-10,700A, east half, undated (Map file, Aztec Ruins National Monument Headquarters, Aztec, New Mexico); Nelson to Wissler, July 23, 1916 (Aztec Ruins files, Department of Anthropology Archives at the American Museum of Natural History, New York).

[17] Morris to Nelson, April 23, 1916 (Aztec Ruins files, Department of Anthropology Archives at the American Museum of Natural History, New York).



Figure 3.9. East Wing excavations in 1916.

Anasazi subsistence, which permitted the kind of sedentary cultural elaboration evident at Aztec Ruin, was based on farming. The environment along the Animas valley, assumed to be relatively unchanged over the last 700 years, today is riparian. The soil is fertile loam. However, geographers class the zone as a high desert more than 5,600 feet in elevation with abrupt and often unpredictable climatic fluctuations. The annual precipitation rate is 10 inches or less. Growing season for crops of corn, beans, and squash is 160 days. It is not known that the aborigines had knowledge of fertilization. One thing they did have was a permanent water supply in the perennial river, and they learned how to make use of it.

When Euro-American settlers came into the valley of the Animas in the 1880s, they saw some stretches of prehistoric canals leading off both sides of the river that could be traced for several miles.[18] One crossed what became the Abrams property between the West Ruin and the gravelly terrace

[18] Sherman S. Howe, *My Story of the Aztec Ruins* (Farmington: Times Hustler, 1947), 28; Morris, "Aztec Ruin," 8.

to the northwest.[19] Another on the east side of the Animas ran from north of Knickerbocker Arroyo south to Hampton Arroyo, due east of Aztec Ruins. Observers described these ditches as two and one-half feet wide and one and one-half feet deep, with a thick sediment deposit on sides and bottom.[20] Both channels took advantage of a gentle southward gradient. Undoubtedly, they provided water that could be directed onto bordering communal gardens. Modern farmers made use of them prior to digging ditches more suitable for their needs.



Figure 3.10. Workers in 1916 screening room fill; mine car and tracks to dump in background.

Some cultivated land depended on runoff from higher ground rather than on irrigation. Sherman Howe, crew member from a pioneer family, recalled waffle gardens of the Anasazi at the mouth of

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[19] A National Park Service geologist noted traces of irrigation ditches in 1936. Report of Region Geologist on Aztec Ruins National Monument, New Mexico, July 8, 1936 (National Park Service: Aztec Ruins National Monument files at the National Archives, Washington). Homer Hastings, in undated and unaddressed memorandum, wrote that when the Abrams land was surveyed prior to 1970, traces of a prehistoric irrigation ditch on the west side of the Animas River were observed by Soil Conservation Service personnel (Document file, Aztec Ruins National Monument Headquarters, Aztec, New Mexico).

[20] Dean Howe and Luther Hampton, map of east prehistoric irrigation ditch, Animas valley, 1940 (Map file, Aztec Ruins National Monument Headquarters, Aztec, New Mexico).

an unidentified arroyo. At some undetermined time, these plots had been covered by three to four feet of sand, probably deposited by a flash flood. In 1884, a violent summer rain washed away the sediment to reveal the Indian plots.[21] From their small size, modern researchers infer either a restricted production or diversified cropping practices. Probably they were the gardens of villages on the top of terraces, where loam and irrigation waters were lacking.

The canals associated with the Aztec Ruins environs and other sections of ditches near the confluence of the Animas and San Juan rivers were among the earliest to be recognized as part of Anasazi water-control measures.[22] They have disappeared with modern activities.

When Morris's crews finished digging at the end of the summer of 1916, considerable progress had been made in laying bare two arms of the house block and in establishing collection and preservation procedures to be continued in later work. Twelve rooms of the South Wing (Rooms 1-12), 16 of the East Wing (Rooms 13-29, 54), four of the North Wing (Rooms 76, 112, 154, 197), one of the West Wing (Room 121), and three possible kivas had been dug (see Figure 3.11). In correspondence, Morris gave the tally as 34 rooms and three kivas, but this does not jibe with the published accounting.[23] In the plaza clearing, a huge depression hinted at a possible Great Kiva, or community sanctuary, but its exploration awaited the future. Morris packed a sizable collection of specimens and sent it to New York. Its cataloguing was postponed until later. Workmen temporarily repaired some walls. They laid one cement slab to protect an original roof from moisture. They reroofed Kiva B. The combined results of the diverse aspects of the over-all project were sufficiently substantive to assure continuation of the work the next summer. In Wissler's view, the excavation and restoration of the Aztec Ruin would be a noteworthy monument to the American Museum of Natural History.[24]

In the summer of 1916, Morris sold the museum a collection of San Juan pottery, which he and his father had acquired over many years of digging. That gave him money to pay tuition and living expenses for a year's graduate study at Columbia University. While in New York, he continued his association with the American Museum.

1917: FIRST FULL-SCALE EXCAVATION

The season of 1917 commenced on June 10 with a labor strike and a change in field procedure. One disgruntled man felt he was not receiving adequate pay. Morris raised wages to $2.50 per day for 25 laborers and added an extra team of horses and a wagon. The tram cars were not satisfactory.

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[21] Howe, *Aztec Ruins*, 10.

[22] Frederic M. Endlich, *Description of Ruins near Aztec, New Mexico*, U.S. Geological and Geographical Survey of the Territories, Ninth Annual Report, 1875 (Washington: Government Printing Office, 1877), 176-91.

[23] Morris to Wissler, September 3, 1916; Wissler to Henry Fairfield Osborn, quoting Morris, October 23, 1916 (Aztec Ruins files, Department of Anthropology Archives at American Museum of Natural History, New York).

[24] Wissler to Osborn, October 23, 1916 (Aztec Ruin files, Department of Anthropology Archives at the American Museum of Natural History, New York).

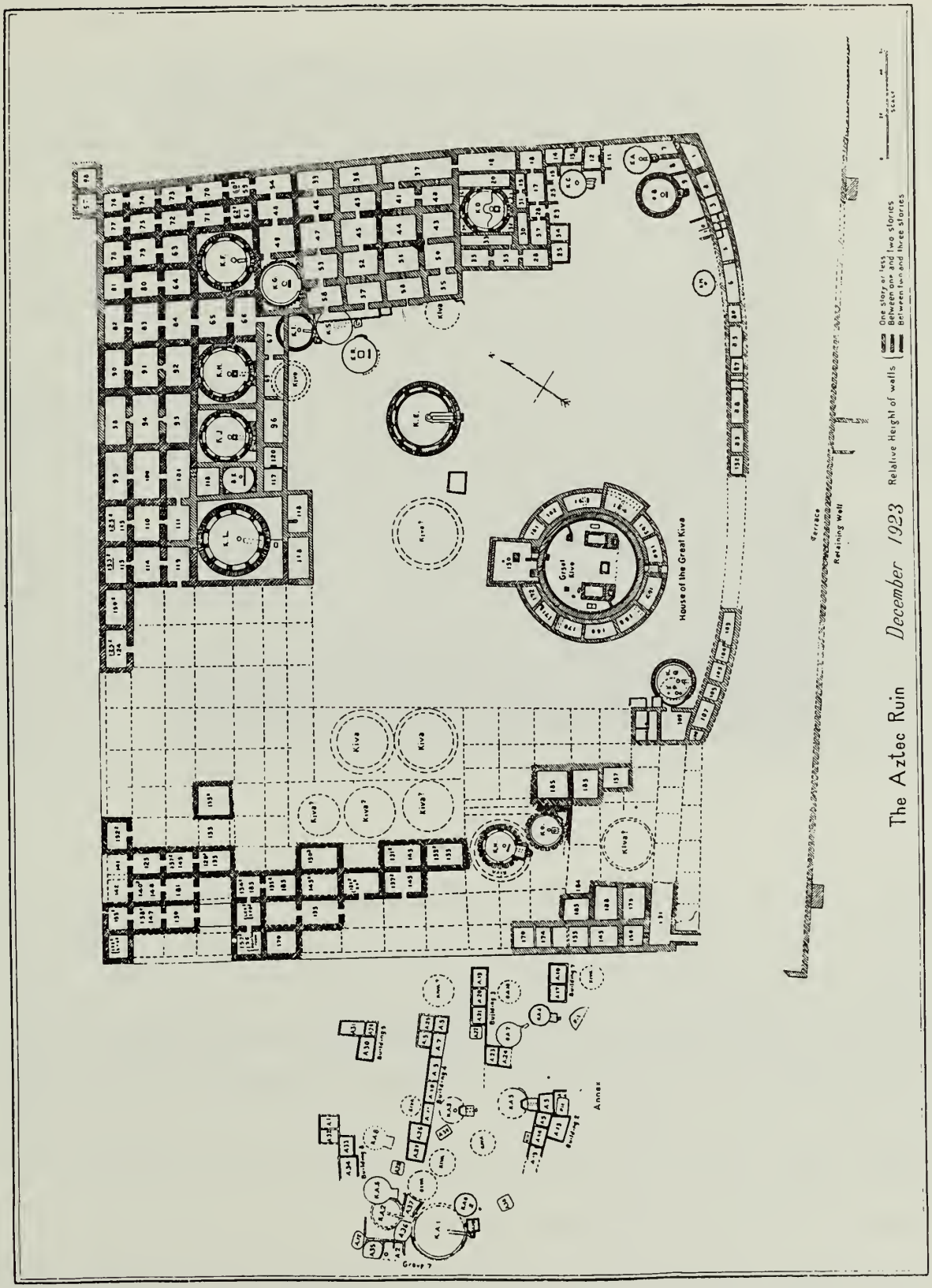


Figure 3.11. Excavated units at the time of the establishment of the monument.

The ones on hand had a capacity of only a half yard, but they could not be replaced because of the lightweight rails.[25] Cars and track were sold for $100.

As was his custom, over the winter Abrams grazed his sheep among the ancient mounds. This cropping of the vegetation had some advantage archeologically, as Morris reported to Nelson: "It is now plain to see where Morgan got the addition that he tacked on to the west end of the main building [the Annex]. There are the remains of a very considerable cobblestone structure which appear to run under the sandstone building. I should judge an older ruin."[26]

Intriguing as that idea was, excavation took up where it left off in the East Wing. Ralph Linton, then a graduate student at an Eastern university who worked with Morris on the La Plata drainage in New Mexico and at the Guatemalan site of Quirigua, joined Morris as an assistant. Probably he and Morris shared the house on Abrams's farm, but other than his arrival in June and departure in August, there is no further mention of his contributions to the Aztec project.

The opening days of the season yielded grim evidence of a tragic end for an Anasazi man and four children. The carbonized remains of their bodies were found in clearing Kiva D in the aberrant unit of rooms at the south end of the East Wing. Apparently they had been consumed by a fierce fire, which had raged through the structure, brought down the log roof, and baked the stone walls to a brick red.[27]

Morris put another part of the crew to work opening Kiva E. This was an unusually large chamber isolated and sunk into the courtyard close to the East Wing.[28] Its walls contained lenses of cobblestones set in adobe. Doubtless it would disintegrate rapidly if left exposed. Therefore, Morris ordered a new cribbed-log roof, again based on that in Peabody House at Mesa Verde (see Figure 3.12).[29] Unlike the ground-level roof on Kiva B, this one was elevated above the surface of the court. That was because an aboriginal retaining wall at least seven feet high upon which the roof structure rested encircled the kiva. The reason for the roof style was that Morris believed a Mesa Verde structure was superimposed over an earlier Chaco kiva in the same location. All that remained of the lower kiva was the foundation stones. Recovered artifacts discarded on the floor of the upper kiva were four bone awls, two stone pendants, one obsidian projectile point, and one piece of quartzite.

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[25] Morris to Nelson, Septemer 3, 1916 (Aztec Ruins files, Department of Anthropology Archives at the American Museum of Natural History, New York); Lister and Lister, *Aztec Ruins*, figure bottom p. 26, 27.

[26] Morris to Nelson, June 8, 1917 (Aztec Ruins files, Department of Anthropology Archives at the American Museum of Natural History, New York).

[27] Earl H. Morris, "Burials in the Aztec Ruin," *Anthropological Papers of the American Museum of Natural History* 26, pt. 3 (1924): 212.

[28] Lister and Lister, *Aztec Ruins*, figures bottom p. 23, 24.

[29] Earl H. Morris, "Further Discoveries at the Aztec Ruin," *American Museum Journal* 18, no. 7 (1918): 604.



Figure 3.12. Interior of Kiva E, showing reconstructed cribbed-log roof.

The next phase of the season's work entailed further clearing of the major room block of the East Wing. Work there was slowed by the physical exertions required to mine room shafts from the top of the mound down to lowest room floors and hoist out the debris (see Figure 3.13). Each room was filled with tangled masses of wooden ceiling elements, collapsed walls, drifts of household dust and windblown sand, and some deep strata of consolidated refuse that reached to the mound surface. The workers dumped buckets of spoil dirt into wheelbarrows, outside of walls, or directly into large, flat-bedded farm wagons, which carted the loads to an embankment of an abandoned river channel along the east side of Abrams's farm. Several floor boards of the wagon bed were removable so that contents could pour out.[30]

[30] Photographs #909-910 (Photograph file, Aztec Ruins National Monument Headquarters, Aztec, New Mexico).



Figure 3.13. Overview of the West Ruin in 1918 showing roofed Kiva E, Kiva I being cleared with hoist and bucket, storage shed, and capped walls.

As expected, much of the architecture was that common to the Chaco branch of the Anasazi.[31] The room block was made up of five parallel rows of rooms of equal size spaced from court to outside eastern wall. Access generally was from the court and from room to room. Hallways were nonexistent. The four rooms facing the court appeared to have been added after the remainder of the unit was erected. Their floors were three feet above those of neighboring rooms. Logically, that floor plane was the court level at the final occupation. The exterior eastern facade originally rose sheerly to two stories, with no apertures other than those small ones needed to ventilate inner chambers. Wall cores were rough stone and mud. Aboriginal masons had carefully laid veneers on each exposed surface of tabular sandstone separated by small, neat chinking anchored in limited amounts of mud mortar (see Figure 3.2B). The unavailability in the Animas area of sandstone that fractured into uniform blocks or thin tablets restricted duplication of top quality Chaco masonry. The sandstone used was thought to have been carried from quarries three to four miles away, where outcroppings of Tertiary beds were at the surface. The material was soft and subject to quick deterioration. Walls made of it were battered. That is, they were wider at their bases and became progressively thinner as they rose to the upper story. Although the walls appear not to have been bonded at their junctures, recent studies indicate that they were vertically interlocked as construction progressed.

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[31] Lister and Lister, *Aztec Ruins*, 35-44.

Door openings were both rectangular and T-shaped and were elevated a foot or so above the packed earthen floors. Series of eight to 12 small, peeled, wooden lintels remained in place. The arid environment forestalled decay. Slanted vertical stone ledges offset at doorway sides were meant to support a stone, mat, or hide closure. At least one corner doorway serving as an interior access angled between a lower and upper room.[32] Openings in this positon are a unique Chacoan construction.

Other features of a few rooms were fire hearths, storage bins, mealing bins, wall recesses, protruding pegs, and ventilator mouths. Some window-like openings between rooms were high up on walls and near corners.[33] There were occasional patches of mud plaster clinging to interior room walls.[34]

As diggers burrowed through the Aztec Ruin mound, it was increasingly obvious that the original building changed over time. Because present-day pueblos are known to be revamped constantly, this was not unexpected. At the West Ruin, some doorways were blocked with masonry. Other openings were altered to make them larger or smaller. Several successive earthen floors were in a single room. For example, in Room 40 approximately five feet of refuse separated the lower floor from a secondary upper floor.[35] An 11-foot ceiling height permitted that kind of reuse.

Detectable reoccupation of at least some parts of the house block presented Morris with opportunity to refine his reconstruction of the site's past history. The notion with which he began the project of joint but segregated tenancy by the two eastern branches of the Anasazi -- the Chacoans and the Mesa Verdians -- or some sort of cultural cross-fertilization of the two was open to question with the new evidence. During the season of 1917, Morris began to speculate about a sequential use of the site, first by Chacoan builders and then by Mesa Verdian migrants. That idea seemed confirmed by finds in Room 38. Fragments of Chaco pottery sprinkled the floor. At some time after the chamber was no longer used, two feet eight inches of fallen masonry obscured the floor. Later the remaining walls above this layer were repaired, and a new floor was smoothed over the debris rather than removing it. Eventually the room again was clogged with four to seven feet of discards including broken Mesa Verde pottery.[36] Applying the Nelson stratigraphic principles, Morris concluded that Chacoans had come and gone before Mesa Verdians moved in. The interval between the two occupations must have been substantial in order for the large volume of trash to have accumulated. With only four rooms thus far studied with demonstrable layered deposits of what appeared to be Chacoan material below Mesa Verde material, Morris admitted the evidence remained inconclusive (see Figure 3.14).

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[32] Ibid., figure top p. 44.

[33] Ibid., figure bottom p. 44.

[34] Ibid., figure right of p. 43.

[35] Morris, "Notes on Excavations," 297.

[36] Ibid., 303.



Figure 3.14. Mesa Verde-style wall built on top of Chaco debris in unidentified West Ruin room. (Courtesy American Museum of Natural History).

At the end of the season of 1917, the crew had opened 30 more rooms of the East Wing (Rooms 31 through 58), three rooms of the North Wing (Rooms 99, 112/122, 113/123), and six kivas (see Figures 3.11 and 3.15). They had repaired the most unstable walls. Less than half of the site had been explored. Wissler had hoped for greater progress, but difficult excavation made for slow going.[37] Four kivas (Kivas D, E, F, and H) had Mesa Verde characteristics, one (Kiva G) was Chacoan, and the style of one (backfilled Kiva I) is unknown. Its four-pilaster plan was unusual. Kiva E exhibited a Mesa Verde chamber placed over a lower Chaco chamber.

The yield of artifacts was great. Although the sort of specialized goods that came from the Hyde Exploring Expedition at Pueblo Bonito was lacking, what was recovered showed how fully and ingeniously the West Ruin dwellers had utilized their environment to create the material paraphernalia necessary to carry on a simple agrarian mode of life.

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[37] Wissler to Henry D. Abrams, October 23, 1916 (Aztec Ruins files, Department of Anthropology Archives at the American Museum of Natural History, New York).



Figure 3.15. Excavated rooms and two roofed kivas of the West Ruin at the end of the field season of 1917. (Courtesy American Museum of Natural History).

By far the most abundant category of artifacts was pottery (see Figures 3.16-3.19).[38] Presumably, it was made of local clays. At the time of the Aztec project, there had been none of the detailed ceramic studies destined to become central to Southwestern archeology. Even so, Morris had sufficient years of experience with the Animas valley pottery that he felt confident in identifications. He recognized two stylistic schools among the decorated whitewares, or what he called "two-color ware." Combinations of design format and elements, pigment, vessel shape, wall and rim treatments, and degree of excellence in manufacture distinguished Chacoan pottery from Mesa Verdian pottery. By Morris's calculations, a mere five percent of the whiteware ceramic sample was Chacoan or Chacoesque. Its presence precluded other considerations, such as secondary deposition. Although it now would be considered questionable interpretation, Morris counted any level containing Chaco pottery as a Chaco-related level. He regarded the remaining 95 percent of the pottery from Aztec Ruin as being of the Mesa Verde tradition. He used descriptive terms, such as archaic, nascent, or degenerate, to express some of the stylistic variations of the decorated types through time. Morris felt that he could suggest a relative temporal outline of the site's utilization based on pottery recovered and, through extension of the data, could supply a working chronology for the entire San Juan Basin.[39]

Utilitarian pottery was abundant in the debris of the West Ruin. It was a greyware (Morris's "coil ware"), which was both plain-surfaced and corrugated. Large corrugated jars commonly were encountered beneath floors, where they had been sunk to their orifices to serve as storage cists.

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[38] Morris, "Aztec Ruin," 65-92.

[39] Earl H. Morris, "Chronology of the San Juan Area," *Proceedings of the National Academy of Sciences* 7 (1921): 18-22.

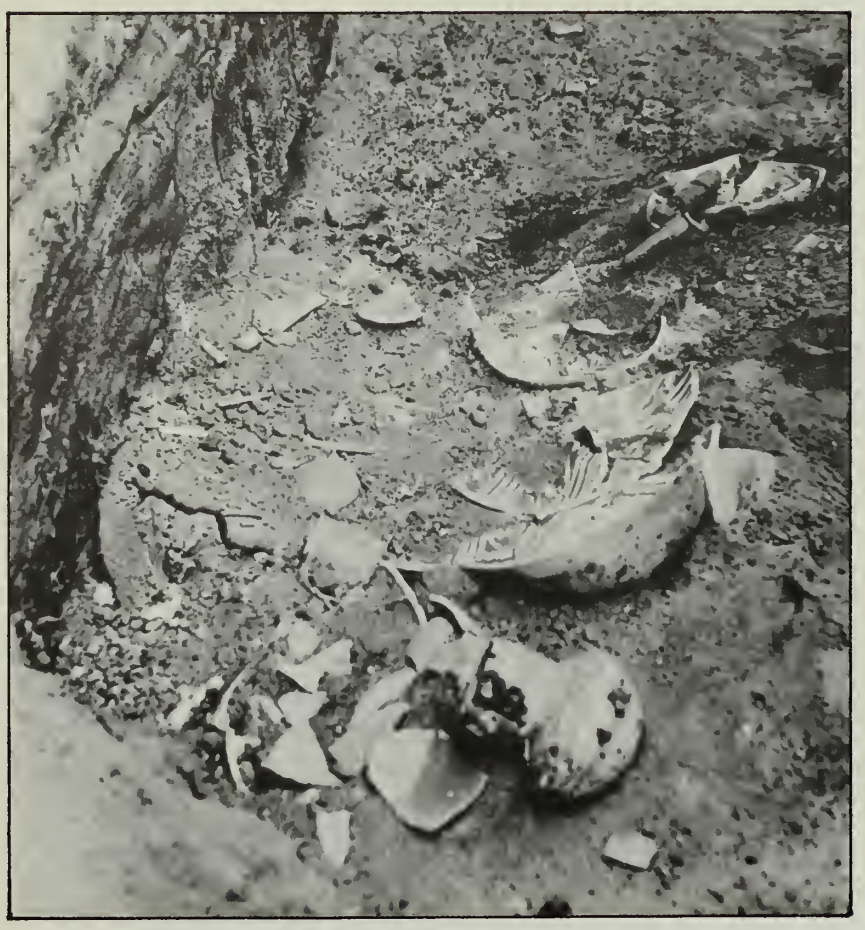


Figure 3.16. Room fill contained many shattered ceramic vessels.



Figure 3.17. Two Mesa Verde Black-on-White bowls in compacted room fill.



Figure 3.18. Three corrugated jars and a stone-lined mealing bin sunk into a room floor.



Figure 3.19. Workman sorting potsherds into decorative types.

Some ceramic trade was represented by smudged and corrugated types (Morris's "three-color ware") typical of a broad area astride the New Mexico-Arizona border to the south of Aztec. Another red-on-orange bichrome identified with the Kayenta branch of the Anasazi was not as frequently recovered at Aztec Ruin.

Many implements were ground or chipped from stone.[40] Among ground objects made from quartzite, granitic pebbles, sandstone, and hematite were generalized pecking, pounding, rubbing, and polishing tools used in construction, food preparation, clothing manufacture, and the making of jewelry. Items having identifiable function in these activities were hammers, mauls, axes, arrow straighteners, tcamahais, sandal lasts, pot covers, pipes, mortars, metates, and manos. The purpose of polished stone slabs, discs, and cylinders was unknown. Blades, knives, drills, and projectile points were chipped from quartzite, jasper, chalcedony, agate, and obsidian.

Stones with pleasing colors or sheen, mammal and bird bones, and shells were the resources from which Aztec Ruin jewelry was fashioned.[41] Selenite, quartzite, quartz crystals, turquoise, and other colored rocks were drilled to be strung into necklaces, anklets, and pendants. The most outstanding example of jewelry of this sort from the season of 1917 was a 57-foot strand of 31,000 black stone beads so tiny that the crew had to rush a flour sifter and a milk strainer into action in order to recover as many as possible from a bed of soft earth.[42] Bone beads, pendants, and foundations for inlays of gilsonite, turquoise, shell, and jasper represented by-products of the hunt. Nine genera of shells, many of Pacific species such as abalone, olivella, *Conus*, and marine bivalves, were cut and drilled into beads, pendants, or foundations for mosaics. Special ornaments were frog effigies or bracelets. Aboriginal craftsmen strung short lengths of bird bones to make necklaces and anklets.[43]

Other bone artifacts for more utilitarian purposes were awls, fleshers, and spatulas.[44]

One of the most significant contributions to a fuller knowledge of Anasazi material culture was an incredible assortment of perishable goods seldom reclaimed from sites situated in the open. Ten to 15 feet of vegetable substance filled some rooms (see Figure 3.20).[45] The collapse of construction rubble and a very dry environment had served to cap and preserve remains of clothing. In this general category were cotton textile fragments of three different weaves, some bearing red bands; leather scraps, thongs, and bags; feather cloth on a yucca cordage base; sandals of two varieties in sizes ranging from those suitable for children to those for adults; and leather moccasins for an infant. Among woven articles also were rush bags and others formed of cornhusks stuffed into a yucca cordage backing; sturdy coiled and plaited baskets and plaques; headbands or tumplines of woven yucca fiber; braided fiber rings of several sizes; twisted and braided cordage; and pot rests of cedar bark, cornhusks, grass, twigs, or plaited yucca. Wooden artifacts included reed arrows, some with wood foreshafts, feather

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[40] Morris, "Aztec Ruin," 19-34.

[41] Ibid., 92-103.

[42] Morris, "Burials in the Aztec Ruin," 156.

[43] Morris, "Further Discoveries," 609.

[44] Morris, "Aztec Ruin," 35-40.

[45] Lister and Lister, *Aztec Ruins*, figures top and bottom, p.31, top and bottom, p. 49, 47-48; Morris, "Aztec Ruin," 43-64.



Figure 3.20. A pile of cornhusks found in an unidentified East Wing room.

binding, and plaited bands; digging sticks; prayer sticks with the end occasionally flattened into snake heads; hoops for undetermined uses; painted bark; shaped wooden slabs and cylinders; and flower-like ceremonial objects. Grass ropes; rush and willow matting; reed-stem cigarettes; yucca needles; unfired clay plugs used to stopper ceramic jars; macaw feathers and skeletons from tropical Mexico; deer or antelope hoof rattles hung on yucca cord; corn-cob darts; and yucca or grass-stem hair brushes are the general miscellany left from daily life.

Other remains of a perishable nature, which revealed much about aboriginal life on the Animas, were caches in some rooms of raw materials needed for the production of necessary goods. These stores included slabs of cottonwood stacked in a corner, cedar bark for ceiling insulation, bundles of leaves of corn plants, and piles of potter's clay. Diggers also recovered many examples of foodstuffs. They took an estimated 200 bushels of loose corn from Room 41. Brown beans, walnut shells, squash and gourd rind, Mormon tea, and unidentified plants that might have been used for seasonings were other clues to Anasazi diet. Rodents confused the archeological record by bringing modern cherry, apricot, and peach pits into the ruin from neighboring orchards. Those fruits, unknown to the Anasazi, were introduced into the New World by the invading Spaniards of the sixteenth century.

Remains of animals and birds used for food, hides, feathers, and bone were coyote, gray wolf, deer, beaver, mountain goat, antelope, bobcat, hawk, eagle, and other smaller birds. A special find showed that tropical macaws had been traded north from Mexico.

Human burials, in some cases comprising the remains of an unknown number of individuals, were exposed in 1917. Persons of both sexes and all ages were represented. Interments in Room 52 were those of at least 15 children and infants. Some bodies were wrapped in matting and extended on floor or refuse-covered surfaces of rooms, where in time they were drifted over with other trash or detritus resulting from wall or ceiling deterioration. On occasion, bodies were nestled into shallow depressions scooped into unconsolidated household rubbish. Disturbance by rodents or other small animals scattered limb bones, vertebrae, and skulls.

Most burials were accompanied by some funerary goods. Burial 16 from Room 41 produced 119 catalogued specimens.[46] Curators assigned many of these items a lot number because of their small size or similarity, making the actual artifact count considerably larger. Typical articles placed as offerings were pottery, jewelry, and basketry. Burial 16 also was accompanied by a pile of 200 arrowpoints. Since all grave pottery recovered in 1917 was of Mesa Verde affiliation, Morris felt his emerging theory of a two-stage occupation of Aztec Ruin was verified. He suggested that rooms of the great house abandoned by Chacoans were converted into sepulchers by Anasazi moving southward out of the Mesa Verde region to reoccupy the West Ruin.

Even with an insatiable taste for specimens, Morris was satisfied with the artifact returns. Six weeks before field work was suspended in 1917, he wrote Pliny Earle Goddard, curator of ethnology at American Museum of Natural History, "I think you will agree that some of the specimens are among the finest ever brought from the Southwest, and I look forward to the day when the pick of them will have an honor place in the Southwest Hall."[47]

Meanwhile, Morris's desire to dig wherever and whenever possible remained undiminished. After finding a skull and some specimens in a cornfield near the West Ruin, he shot off an appeal to Wissler for authorization to engage in some extra-curricular shoveling. "There are many graves beneath the fields which Mr. Abrams has in cultivation," he wrote, "and one who knows what to look for can locate many of them when the ground is being plowed. Have I your permission to spend a few dollars exploring such burial places as come to light from time to time?"[48] After approval was granted, specimens from 12 sites in the immediate vicinity, but generally not on the monument preserve, were included with the West Ruin collections (see Table 13.1).[49]

The fact that two pieces of pottery in Morris's personal collection at the time of his death came from sites in the environs of Aztec Ruins shows either that additional digging was done or a division of artifacts recovered when he was digging under Wissler's authorization had occurred.[50] In the catalogue to the collection, he described how before sunrise on a Sunday morning he dug a trench

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[46] Morris, "Burials in the Aztec Ruin," 55-61.

[47] Morris to Goddard, October 16, 1917 (Aztec Ruins files, Department of Anthropology Archives at the American Museum of Natural History, New York).

[48] Morris to Wissler, n.d., 1917 (Aztec Ruins files, Department of Anthropology Archives at the American Museum of Natural History, New York).

[49] Earl H. Morris, Field Catalogue (Aztec Ruins files, Department of Anthropology Archives at the American Museum of Natural History, New York; Collection Accession file, Aztec Ruins National Monument Headquarters, Aztec, New Mexico).

[50] Robert H. Lister and Florence C. Lister, *Anasazi Pottery* (Albuquerque: University of New Mexico Press, 1978), Figures 20, 26-29, 35.

in an aboriginal rubbish heap on the Farmer ranch and hit a large, thick-walled corrugated jar and a Mesa Verde mug associated with the skeleton of an adult. The circumstance of most interest to Morris was that the grave pit was roofed, and the vessels had been placed on top of it. This was not a usual burial practice among the Anasazi.[51]

At the end of work in the fall of 1917, Morris felt threatened by the military draft brought on by the outbreak of World War I. Therefore, he spent time cleaning up details and shipping specimens to New York so that operations could be shut down for the duration. On October 25, Morris notified Wissler that, because his mother had sent an appeal to the governor of New Mexico for deferment of her only child and sole support, he had been freed for the present from the obligation to serve in the armed forces.[52] With total expenditures for the season reaching $6926.19, Morris requested another small appropriation in order to fence the site to keep vandals and stock out of the diggings. This request was denied. In December, Morris went East to personally unpack his haul and bask in praise from the museum hierarchy.

1918: THE BIG THRUST

Early in the spring of 1918, in anticipation of resumption of excavations at the West Ruin, J.M. Jackson, secretary of the San Juan Council of Defense, and Hunter S. Moles, San Juan County agricultural agent, lodged a protest with the American Museum over the $2.50 daily wage that was being paid laborers at the site. It was claimed that this wage, higher than what was offered elsewhere locally, lured farm hands away from activities, such as haying, which were essential to the war effort. Jackson suggested that outside help be brought in to do the job at Aztec Ruin.[53] *El Palacio*, organ of the Museum of New Mexico, reported: "The American Museum of Natural History, in charge of excavation and reconstruction work at Aztec, San Juan county, has given orders that all staff members and employees must assist in farm work in the San Juan valley whenever their assistance is needed."[54] Morris argued that the wages he paid were in line with current practice. With the fruit corp damaged by one of the recurrent early frosts, he regarded the museum payroll to 25 men as vital to the regional economy.[55]

Without consulting Morris, the museum provided him a field assistant for the season. This was B. Talbot Babbitt Hyde. As young men in the late nineteenth century, he and his brother, Frederick, funded Wetherill work in Grand Gulch, Utah, which first recognized the Basketmakers, and a four-year effort at Pueblo Bonito. The collections from both endeavors went to the American Museum of

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[51] Earl H. Morris, Introduction to catalogue of pottery collection, entries 40 and 51 (Morris Memorial Collection, University of Colorado Museum, Boulder).

[52] Morris to Wissler, October 25, 1917 (Aztec Ruins files, Department of Anthropology Archives at the American Museum of Natural History, New York).

[53] Hunter S. Moles to Wissler, April 4, 1918; Morris to T.A. Pierce, April 20, 1918; J.M. Jackson to Morris, May 10, 1918 (Aztec Ruins files, Department of Anthropology Archives at the American Museum of Natural History, New York); Jackson to American Museum of Natural History, May 10, 1918 (Morris Memorial Collection, University of Colorado Museum, Boulder).

[54] *El Palacio*, July 17, 1918.

[55] Clark Wissler, Annual Report, American Museum of Natural History, December 1918 (Aztec Ruins files, Department of Anthropology Archives at the American Museum of Natural History, New York).

Natural History. In 1918, Talbot retired from business and became an eager volunteer worker at the museum. Since he had no field training in archeology, Wissler suggested to museum president Henry Fairfield Osborn that Hyde be allowed to spend the summer at Aztec Ruin. His travel expenses and maintenance could come out of project funds.[56]

Arriving in late June, Hyde and his wife set up housekeeping in a large, white, walled tent placed in the lee of the unexcavated West Wing. Meanwhile, Morris moved into a newly erected frame shed east of the courtyard Kiva E (see Figure 3.13). This structure was to provide storage and office space as well as temporary living quarters for the field director.

At first, Hyde was enthusiastic about what he observed at Aztec and took it upon himself to dispatch detailed reports to Wissler and Osborn. He recounted how Morris cleverly handled the fracas over using local farm labor in time of war by hiring the protesting sheriff's son and how his pick of a number of applicants permitted assembling a top-notch labor force. Hyde also supplied details that are missing from other records about the ruin, dimensions of its chambers and their condition, and how the compound was being worked. He stated that at the end of July, 2,500 cubic yards of earth and rock fill already had been removed to a dump by three teams of horses and wagons. This laborious aspect of the project could be eliminated, he remarked, if only the museum acquired ownership of the land. The present owner understandably did not want spoil dirt deposited on planted fields adjacent to the house block. As to repair of the prehistoric edifice, Hyde noted that the largest budget item to that point was $500 for a train car of cement to be used in resetting masonry.[57]

The North Wing of the Anasazi pueblo, making up about half the total building mass and up to 29 feet in depth in places, was the arena of the season's attention. At the end of the effort, Morris described the excavation as the most difficult of his experience.[58] The earth's crust was as hard as the masonry stones, and beneath it was a mass of stone, fallen timbers, and dust in which was blended a filthy amalgam of decayed and desiccated snakes, badgers, and rats. Worse of all was the miserable condition of bulging, cracking, and distorted walls. All the unpleasant fill had to be removed in order to reach floor level of the first story. After lifting much of it in two or three stages, some 6,500 cubic yards of material were hauled away. Other unwanted dirt and rocks were shoveled into wheelbarrows to be dumped at the outer walls of the structure.[59]

The architecture of the North Wing resembled that of the East Wing. There was the added interest of a series of lower rooms with intact ceilings, those broken into by early settlers, and some plastered walls with painted dados (see Figure 3.21). Rooms were stacked to three stories in places and tiered so that as many as possible could benefit from the solar warmth provided by a southern exposure. Although remodeling suggesting reuse was evident in portions of the North Wing, Morris thought that the northeast corner of the compound had been abandoned and cleared of all furnishings

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[56] Wissler to Osborn, May 2, 1918 (Aztec Ruins files, Department of Anthropology Archives at the American Museum of Natural History, New York).

[57] B. Talbot B. Hyde to Wissler, July 23, 1918; Hyde to Osborn, July 29, 1918 (Aztec Ruins files, Department of Anthropology Archives at the American Museum of Natural History, New York).

[58] Morris to Nelson, December 21, 1918 (Aztec Ruins files, Department of Anthropology Archives at the American Museum of Natural History, New York).

[59] Photographs #909-910 (Photograph file, Aztec Ruins National Monument Headquarters, Aztec, New Mexico).

long before Chaco inhabitants vacated the rest of the village.[60] Kivas were of both Chaco and Mesa Verde style.

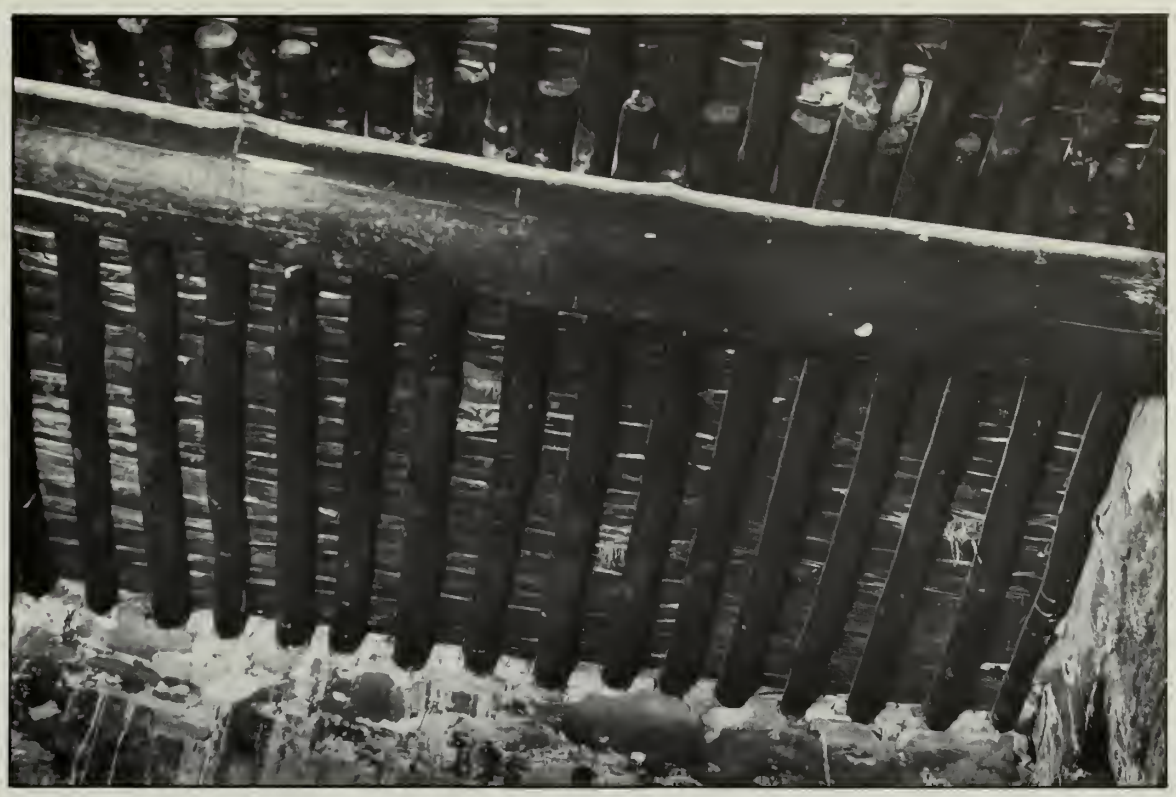


Figure 3.21. Intact aboriginal ceiling in the West Ruin as seen from the floor.

Specimens were comparable to those of the previous summer. In a letter of December 6, 1918, Morris wrote Wissler that although the specimen array was less than in 1917, special or fragile articles were more plentiful.[61] Unusual objects were enormous stone hammers weighing as much as 38 1/2 pounds, cotton cloth, coiled and plaited baskets, large mats of plaited rushes, bow fragments, painted wooden altar equipment, and a cradle board with withes and reed stems attached. Associated pottery indicated that burials found on or below floors were those of Mesa Verdians.

With the original appropriation of $5,000 about to be exhausted, in August a supplemental $5,000 was authorized by Robert Lowie, acting curator of anthropology, to carry work into December.

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[60] Morris to Nelson, December 21, 1918 (Aztec Ruins files, Department of Anthropology Archives at the American Museum of Natural History, New York).

[61] Morris to Wissler, December 6, 1918 (Aztec Ruins files, Department of Anthropology Archives at the American Museum of Natural History, New York).

Because he felt Morris was sure to be drafted into military service and monies would be curtailed due to the war, it was Wissler's plan to push concerted efforts this season.[62]

The work accomplished in 1918 included clearing 12 rooms in the South Wing, 48 rooms in the North Wing, and four kivas. Rooms 97 and 98 at the exterior of the northeast corner, discovered by Hyde, also were cleaned out (see Figure 3.11). Since "archaic" (Basketmaker III-Pueblo I?) pottery was found in them, they are suspected of having been left from a settlement there before erection of the great house.[63] It was estimated by the end of the season of 1918 that half of the West Ruin was excavated. The first paper of volume 26 of the *Anthropological Papers of the American Museum of Natural History*, devoted to the Aztec Ruin project, was in press.

During the summer, friction developed between Morris, the young Western professional, and Hyde, the older Eastern amateur. Morris complained that his assistant was impractical. Hyde's suggestion that some specimens be left *in situ* as museum exhibits rankled Morris.[64] Wissler agreed that leaving certain floors as an open exhibit would be unwise.[65] Even through Hyde had spent his career in the commercial world, Morris could not bring himself to delegate aspects of the business side of the operations to him. For his part, Hyde carried out supplementary field duties and tried to learn archeological techniques. He did not approve of Morris's methods or what he considered outright procrastination in regard to acquisition of the property for the museum.

Hyde was upset that vandals had broken into the restored kiva and sawed into some of its roof beams. Wooden lintels had been pulled from other rooms. He urged employment of a full-time caretaker, inferring that Morris was unable to control the situation and suggesting that sale of booklets about the ruins and entrance fees for the growing number of visitors could help recoup the expenditure. Morris doubted that funds would be forthcoming for a resident caretaker. Hyde deplored lack of action on fencing the site. This was a need Morris had recognized from the beginning explorations, but he had been unable to persuade the museum to appropriate the money. In 1918, he planned to sell unused cement at the end of the summer to finance the work. If that did not meet the cost, he would draw upon payments made by the county for spoil dirt from the excavations dumped into the rutty road leading to the ruins.[66]

By the end of the year, Morris was ready to settle down to writing reports free of charge and to contemplate the site's development.[67] He wrote Wissler, "My interest in it is the same as if I were doing it upon my own initiative, and with my own funds. Therefore, as far as the future is concerned,

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[62] Wissler to Morris, October 3, 1918 (Morris Memorial Collection, University of Colorado Museum, Boulder).

[63] Morris to Nelson, December 21, 1918 (Aztec Ruins files, Department of Anthropology Archives at the American Museum of Natural History, New York).

[64] Morris to Wissler, September 20, 1918 (Aztec Ruins files, Department of Anthropology Archives at the American Museum of Natural History, New York).

[65] Wissler to Morris, October 3, 1918 (Morris Memorial Collection, University of Colorado Museum, Boulder).

[66] Morris to Wissler, November 20, 1918 (Aztec Ruins files, Department of Anthropology Archives at the American Museum of Natural History, New York).

[67] Morris to Wissler, October 28, 1918 (Aztec Ruins files, Department of Anthropology Archives at the American Museum of Natural History, New York).

you may depend upon me to the limit of my powers."[68] Morris's formal public assessment of the project was that the exploration of the Aztec Ruin eventually would enable researchers to make the most thorough and detailed reconstruction of the material culture of the prehistoric Pueblos than from any other known Southwestern ruin.[69]

To his mentor, Nels Nelson, Morris added a less academic observation: "The court of the ruin is a glare of ice at night, and a veritable pond in the day time. The house we built in it is my present habitation, and I may find it afloat some day."[70]

1919: THE SEASON AZTEC RUIN DATING STUDIES BEGAN

Realization that the Aztec Ruin project might never be resumed at the scale of the earlier two summers came when Morris was notified that the appropriations for 1919 were to be only $4,000. Since this amount was to cover his stipend, maintenance, and automobile expenses, it was obvious that the administration in New York did not foresee much digging. It had been Wissler's plan all along that, after the big thrust of 1918, work at Aztec would proceed at a more leisurely pace with less expenditure of dwindling funds. He just had not told Morris. Beside the practicalities of spreading the project out to conserve money and energy, it would allow more deliberate field analysis and write-up time so that excavation did not overwhelmingly outstrip publication. A one-man scientific staff could scarcely be expected to do all the necessary tasks simultaneously.[71]

In 1919, Morris turned to getting his notes and thoughts in order. At the same time, he continued to act as the museum's representative in negotiations with Abrams and in late summer began construction of a small house at the southwest corner of the aboriginal community.

Meanwhile, some excavation, repair, and cleaning of the site continued. In Room 139 at the juncture of the North and West wings, excavators uncovered a particularly interesting find illustrating a prehistoric medical procedure. A female between 17 and 20 years of age had suffered massive injuries that left her pelvic girdle crushed and her left forearm fractured. Some aboriginal medicine man fastened six splints around the arm, but death came before healing. The crew erected a temporary roof over Room 117 to protect incised mural ornamentation.[72] Outside the structure, the men cleared fallen earth and stone for 100 feet along the east end of the North Wing. They capped exposed sandstone walls with cement.

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[68] Morris to Wissler, December 17, 1918 (Morris Memorial Collection, University of Colorado Museum, Boulder).

[69] Earl H. Morris, Annual Report, American Museum of Natural History, 1918 (Aztec Ruins files, Department of Anthropology Archives at the American Museum of Natural History, New York).

[70] Morris to Nelson, December 21, 1918 (Aztec Ruins files, Department of Anthropology Archives at the American Museum of Natural History, New York).

[71] Wissler to Morris, December 9, 1918 ((Morris Memorial Collection, University of Colorado Museum, Boulder).

[72] Photographs #26, 140-43 (Photograph file, Aztec Ruins National Monument Headquarters, Aztec, New Mexico).

Two years before excavations began at Aztec Ruin, Wissler became excited about the possibilities of dating Southwestern antiquities through the growth patterns of pine and spruce beams often recovered in them. Actually, he may have been the first American scientist to grasp the potential significance to Southwestern archeology of studies being done by an Arizona astronomer, Andrew E. Douglass, in correlating patterns of rainfall with tree-rings. Following a Douglass article in the *Geographical Society Bulletin* describing this research, Wissler contacted the author to ask if it might be possible through analysis of their growth rings to date some timbers from Pueblo Bonito obtained through the Hyde brothers.[73] Douglass was interested in the idea but unable to come up with meaningful results.

Undeterred, the next year Wissler wrote the president of the University of Colorado requesting that a young graduate student, who was doing a bit of digging in sites in northern New Mexico under an agreement between the University of Colorado and the American Museum, secure 18-to-24-inch samples from all sound timbers that he might unearth.[74] The student was Earl Morris, who found no wood in the La Plata villages he was working but did submit a log from a Johnson Canyon cliff house to the west and several beams from old houses in the Gobernador area east of Aztec Ruins. These samples likewise proved unusable.[75]

Regardless of these early disappointments, Wissler jumped into action when the Anasazi house at Aztec turned out to be stuffed with ancient door and window lintels, primary roof stringers, and secondary cross members. On April 20, 1918, before work for the summer got under way, Wissler asked Morris to ship Douglass five specimens from the site and five specimens of living pine from the general Animas region. The modern wood could be used for comparative purposes.[76]

Douglass was especially interested to correlate the building of Pueblo Bonito in Chaco with that of Aztec Ruin through dates at which ceiling beams and aperture lintels had been felled and probably put in place. To Wissler he noted, "I think it would be possible to get evidence on the timbers from Chaco Valley and Aztec as to whether the ruins were contemporaneous. If they overlap for fifty years I think there would be a good chance of finding it out."[77] Morris supplied him with six sections from Aztec and three from Pueblo Bonito. Once more, the sample was unsatisfactory. Morris took the samples from unprovenienced stockpiles of reclaimed materials.

Finally in May 1919, nine additional wood samples from Aztec Ruin and Pueblo Bonito yielded promising results. Aztec relative cutting dates extended over two years. One example was cut in autumn, two in late summer, one in early spring, and one in mid spring. The comparative age between Chaco and Aztec specimens remained illusive. Douglass commented, "I am inclined to think that they

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[73] Wissler to A.E. Douglass, May 22, 1915 (Aztec Ruins files, Department of Anthropology Archives at the American Museum of Natural History, New York).

[74] Wissler to Livingston Farrand, June 1915 (Morris Memorial Collection, University of Colorado Museum, Boulder).

[75] Douglass to Wissler, April 1, 1916 (Aztec Ruins files, Department of Anthropology Archives at the American Museum of Natural History, New York).

[76] Wissler to Morris, April 20, 1918 (Aztec Ruins files, Department of Anthropology Archives at the American Museum of Natural History, New York).

[77] Douglass to Wissler, April 30, 1918 (Aztec Ruins files, Department of Anthropology Archives at the American Museum of Natural History, New York).

[the Aztec Ruin Anasazi] had a better average condition of rainfall than has existed for the most part for the last two hundred years."[78] This is a statement at odds with a common explanation of drought having been a factor in the settlement's eventual abandonment.

Taking on the tree-ring dating problem more directly, that fall Douglass made a trip to Aztec to consult with Morris personally about the kinds of specimens needed and how best to obtain them. The fact that he could tap materials still in place in intact rooms was most appealing. After examination of these ancient dwellings, Morris then escorted Douglass to an area about 40 miles north of Aztec in southwestern Colorado known as Basin Mountain. Morris thought this region had been a source for much of the timber used locally by the aborigines.

After having closely examined the *in situ* timbers and discussing with Morris how best to secure a sample without endangering either the beams themselves or the floors above, Douglass told Wissler that he had made a suitable tool for the task. He added, "I hope with this to get a sample from a large number of beams in the same ruin and check the order of construction as worked out by you. If I can do that and obtain records from trees that were cut at small intervals one after the other I can make out a very much stronger case for myself in the dating of the ruin."[79]

At year's end, Morris had detailed instructions from Douglass on how best to proceed in getting specimens with a small-toothed tubular saw. The tool was designed to cut a core about an inch in diameter from beams still in place that would reveal a pattern of concentric rings from the outer surface, when the timber was cut, to its heart, when its life began. In order to maintain a tight control on provenience data, Douglass suggested that each core extracted be designated by the letter H followed by numbers in order after 30. The hole left in the beam from which the core was removed should be identically identified with permanent markings. Douglass felt it was imperative to take four or five samples from beams in any given room to be sure all were cut at approximately the same time. A comparable series of cores should be secured from various parts of the ruin considered from architectural or archeological evidence to be of different ages. Douglass further wondered if it were possible that the Indians had dragged the logs from the distant hills in the winter using the "snowshoes," willow loops with yucca lacing, which had been retrieved in room fill.[80]

1920: DENDROCHRONOLOGICAL PROMISE AND LIMITED DIGGING

Working during several winter months to bore cores from ceiling beams in the West Ruin, Morris decided the implement supplied by Douglass was not satisfactory because it cut very slowly, was made of too soft material, and was too short. Thinking the cores were too rough, crooked, and

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[78] Douglass to Wissler, May 22, 1919 (Aztec Ruins files, Department of Anthropology Archives at the American Museum of Natural History, New York).

[79] Douglass to Wissler, October 7, 1919 (Aztec Ruins files, Department of Anthropology Archives at the American Museum of Natural History, New York).

[80] Douglass to Wissler, November 14, 1919 (Aztec Ruins files, Department of Anthropology Archives at the American Museum of Natural History, New York).

incomplete, he quit the task after taking 10 samples from the North Wing. In place of the tubular saw, he suggested a tool modeled after an ordinary bit with the central screw removed.[81]

Within two months, Douglass enthusiastically responded with the startling news that, with only three or four exceptions, every core submitted by Morris showed a reliable relative date in the Aztec series. Even more amazing was that all the dates clustered within an eight-year span. The principal times of cutting were relative dates 524 and 528.[82]

Earlier, Douglass had indicated that a series of relative dates from Pueblo Bonito ranged from R.D. 476 to 487. This meant that part of the great house construction there had occurred some 40 years before the intensive building program took place at the West Ruin of Aztec.[83]

Elated at this progress but astonished at the short interval required to build such a large establishment as the West Ruin without metal tools or mechanical implements, during the rest of the year Morris worked with the tubular saw. Ultimately, he supplied Douglass with 52 tree-ring samples from the West Ruin.[84] The number of specimens available was less than hoped because some logs in the primary structure were found to span two rooms. Timbers from what were presumed to be more recent portions were decayed. Additionally, Morris secured four specimens of living red spruce from Pine Gulch, a *rincon* some 18 miles northeast of Aztec. He had come to consider that region a more probable source of construction timbers than the more distant Basin Mountain.

In the spring, small-scale excavation continuing in the West Wing uncovered Room 156. It was in the first story along the west wall of the village and was especially well preserved six feet below the mound surface. Much of the original plaster of this room was unblemished.[85] A red wainscoting reached from the dirt floor to a height of approximately three feet five inches. Above that, walls were whitewashed to the ceiling. Nine sets of three red triangles extended from the junction of the wainscoting to upper white walls. The underlying earth-colored plaster was composed of clay tempered with sand. The pale red color seen in this and other protected patches came from solutions made from disintegrated red sandstone applied as washes over the earth-colored coat. White plaster streaked by seepage from above was made from impure gypsum from nearby deposits. Two straight clean pine logs a foot in diameter spanned the ceiling, on top of which was a pole layer of six sets of three cottonwood saplings. A tree-ring sample taken from them in 1934 by Harry T. Getty, of the Laboratory of Tree-Ring Research, University of Arizona, yielded a date of A.D. 1115.[86] White hand prints were daubed on beams in several places. Morris believed the room was of Chaco construction, but masonry-sealed doorways pointed to a later Mesa Verdian reoccupation. A passageway, obscured by modern

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[81] Morris to Douglass, February 3, 1920 (Morris Memorial Collection, University of Colorado Museum, Boulder).

[82] Douglass to Morris, February 16, 1920 (Morris Memorial Collection, University of Colorado Museum, Boulder).

[83] Douglass to Morris, February 6, 1920 (Morris Memorial Collection, University of Colorado Museum, Boulder).

[84] *Aztec Independent*, February 13, 1920.

[85] Morris, "Notes on Excavations," 383-84; Photographs #821-26 (Photograph file, Aztec Ruins National Monument Headquarters, Aztec, New Mexico).

[86] Harry T. Getty to Johnwill Faris, May 18, 1934 (Document file, Aztec Ruins National Monument Headquarters, Aztec, New Mexico).

stabilization, cut through the west wall of the room gave access to the cobblestone structure irregularly sprawled just west of the main house block.

Morris was so pleased with the Anasazi construction skills demonstrated by Room 156 that he hoped to build a full-size replica at the American Museum. He told Wissler that the stones for the masonry could be from elsewhere, but the ceiling members should be original ones taken from the ruin.[87] He probably had in mind the stacks of salvaged timbers saved for future repairs.

On July 23, 1920, the *Aztec Independent* carried a story about the painted room, which estimated that the village construction had required some 200 pine logs 30 feet long and a foot in diameter, 600 cedar logs 10 feet long and of the same diameter, 1,200 poles of pine and cottonwood, and 100 cords of split cedar splints. The dependency of the West Ruin builders for pine and cedar obviously was upon some undetermined upland source at a distance from the Animas valley.

Workers cleared Rooms 149, 150, and 155 in the extreme southwest corner of the village. These units had relatively high standing walls. The men covered the rooms with modern plank-and-tar paper roofs and converted them into a garage for Morris's car, a blacksmith shop, and a privy. They removed portions of fallen west walls of Rooms 149 and 150 to permit ready access from the modern house then being erected just to the west.

Several walls in these and other West Wing rooms incorporated narrow bands of thin, tabular, green stone set within the typical tan, blockier sandstone (see Figure 3.22). Reasons for these elements are unclear, since when finished, many walls were covered inside and out with mud plaster. That would seem to eliminate aesthetics; however, it may point to a practical use of all available resources but in an attractive way. During Morris's day, the quarry where such stone was obtained was not located.

Elsewhere in the site, excavators worked primarily to prevent further deterioration. For example, in a second-story room in the North Wing, they removed a load of debris threatening to break ceiling timbers of the room below from which tree-ring samples had been removed. Laborers hauled 85 wagon loads of earth from this room and from around the ruin to mud holes in the road leading to the site. All these various jobs consumed $800 of the annual budget. Another $100 was spent on ruin repair.

In planning for the future commitment of the American Museum to the Aztec project, Wissler asked for an appraisal from Morris of what was left to be done. Morris replied, "My feeling is that our knowledge of the ruin will not be complete until we have found out the condition and contents of every chamber in it." He went on to estimate that there were approximately 175 unexplored rooms, exclusive of the cobblestone South Wing, which could be exposed and repaired by a crew of four diggers and some laborers working for 700 days at an expenditure of about $3,000.[88]

At the same time, Morris reminded Wissler of an untested depression in the courtyard of the West Ruin, which he judged to be the surface indication of a subterranean Great Kiva. Similar large ceremonial chambers were in Chaco Canyon, several being suspected to grace plazas of Pueblo Bonito. None was excavated. However, in 1920 when the National Geographic Society initiated a new excavation program at Pueblo Bonito, Morris began to agitate for permission to clear Aztec's Great Kiva at once. He longed to be the first to dig such a structure in order to make the Aztec Great Kiva

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[87] Morris to Wissler, May 10, 1921 (Aztec Ruins files, Department of Anthropology Archives at the American Museum of Natural History, New York).

[88] Morris to Wissler, October 1, 1920 (Morris Memorial Collection, University of Colorado Museum, Boulder).



Figure 3.22. Room in southwest corner of the West Ruin showing bands of green stone inset within more typical sandstone masonry. Modern tar paper roof at center right covered a utility room during the 1920s. Mound at upper left was an aboriginal refuse dump.

the type example to which other archeologists would have to refer. "I am most desirous of opening and describing this at present unknown type of structure before the Chaco Canyon people dig out a similar one," he wrote.[89] It was not just professional competition and doubtless envy at the ample

[89] Morris to Wissler, November 21, 1920 (Aztec Ruins files, Department of Anthropology Archives at the American Museum of Natural History, New York).

funding and staffing afforded his colleague, Neil Judd of the U.S. National Museum, but comparable constructions would reinforce Aztec's ties to the grander remains within Chaco Canyon. Morris petitioned to have his crew work on this effort through the winter. To his disappointment, the Great Kiva clearing had to wait until the next appropriation.

1921: YEAR OF SUBSTANTIATED CULTURAL THEORIES AND THE GREAT KIVA

As soon as funds were available in February, work commenced on the Great Kiva (see Figure 3.23). Morris figured that excavation and repair of the structure would take $600 from an annual appropriation of $4,800.[90] Despite cold weather and partially frozen ground, he pushed his crew so that by the end of the month 10 ground-level rooms of a concentric tier of 15 arc-shaped rooms (Rooms 160 through 173) around the upper limit of the kiva were opened and about three-fourths of the



Figure 3.23. Excavation of the Great Kiva, 1921.

[90] Morris to Wissler, October 1, 1920 (Morris Memorial Collection, University of Colorado Museum, Boulder); Morris to Wissler, April 11, 1922 (Aztec Ruins files, Department of Anthropology Archives at the American Museum of Natural History, New York).

subterranean kiva itself was bared. A month later, job completed, Morris already was at work on his report (see Figure 3.24). It was published that same year.[91] A personal race had been won.

In addition to the size of the Great Kiva, 48 feet in interior diameter, features that differed from the clan kivas included the 15 encircling surface rooms. All had doorways opening to the courtyard. The largest room on the north axis was enriched with a raised square platform, which Morris called an altar. The rooms were connected to the subterranean chamber by wooden rungs inset vertically into the kiva's masonry wall. A bench wrapped around the lower wall of the kiva. On the floor of the chamber were outlines of two large rectangular vaults that originally might have been covered with planks to make foot drums. Between them was a squared fire hearth. Forming a square at the perimeters of the circular floor space were the stubs of four squared masonry columns, which had supported a log roof over the kiva and its attached rooms. Horizontal layers of small poles were embedded in the columns to reduce their rigidity. During the interval when these features were puzzling the crew because of their unusualness, Morris spent three weeks heading a repair crew at Pueblo Bonito. That gave him the chance to reassure himself that his work at Aztec was correct.

Excavations revealed the beginning, middle, and end of the Aztec Great Kiva. It was sunk into a trashy stratum covering a surface in the south part of the central courtyard, which was peppered with fragments of Chaco Black-on-White pottery. After having functioned for a time as a community sanctuary, the Great Kiva fell into disrepair and collected drifts of trash. Subsequently, the Great Kiva was refurbished and put back into use. Then, final usefulness of the building ended in an outburst of flames that consumed its mighty roof. Morris read this evidence from the ground as an erection of the Great Kiva and its use by Chacoans, a period of abandonment, followed by reuse by Mesa Verdians until a conflagration brought the structure down.

Substantiation for this scenario of phased occupation of the Aztec Ruin came by chance. In the past, Morris and Wissler walked over the southwest corner of the courtyard and decided it was a plot that did not warrant testing. To pass the time in the winter of 1921 while waiting for excavation of the Great Kiva to begin, Morris casually began to shovel there. What he soon discovered were two kivas, one superimposed over the other. The top of the lower unit was eight feet below the courtyard surface. Debris mantling the upper chamber, or Kiva P, contained Mesa Verde pottery fragments. Nearby dwelling rooms produced identical types. The lower and larger kiva, designated Kiva Q, also had been the depository for a large concentration of discarded material goods. Stone scrapers, bone awls, bone tubes, sandstone pot covers, stone skinning knives, worked gilsonite, chipped knife blades, arrowpoints, a flint drill, bone and stone pendants, shell beads, a carved shell disc, turquoise inlay fragments, and yellow pigment came from the fill. What was most electrifying, however, was the relative abundance of the rare Chaco pottery. Morris took 25 complete or partial black-on-white bowls, four black-on-white dippers, one black-on-white vase, one human effigy, one quadruped effigy, and a number of pieces of broken effigies of Chaco-style ceramics from this structure.[92] Because there were no Mesa Verde ceramics mixed in with this deposit and Kiva Q was situated beneath Kiva P, Morris

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[91] Earl H. Morris, "The House of the Great Kiva at Aztec Ruin," *Anthropological Papers of the American Museum of Natural History* 26, pt. 2 (1921): 115-38; Florence C. Lister and Robert H. Lister, *Earl Morris and Southwestern Archaeology* (Albuquerque: University of New Mexico Press, 1968), figure 9 in center signature.

[92] Morris, Field Catalogue (Aztec Ruins files, Department of Anthropology Archives at the American Museum of Natural History, New York); Photograph #785 (Photograph file, Aztec Ruins National Monument Headquarters, Aztec, New Mexico) includes a hunchback human figure that may have been from Kiva Q. Perhaps it was repaired by Alma Adams in 1934, but it is now deposited at the American Museum of Natural History because of its special nature.



Figure 3.24. Excavated Great Kiva in 1921, showing floor features. Above, view to south; below, view to north.

was certain that he had the most indisputable evidence thus far encountered for his hypothesized sequence of occupation. It had been four years in coming.

Wissler responded to this bit of news, as he replied, "I am quite pleased with your recent pottery find where two time periods in the history of the ruin seem to be differentiated. I hope you will make the most of this discovery."[93] Of that, there was no doubt.

While enjoying the satisfaction of this accidental discovery, Morris made a second surprising find diagonally across the courtyard at the juncture of the East and North wings. Work in 1917 in this area had not gone beneath the hard-packed surface. In the spring of 1921, Morris stumbled onto another refuse-filled kiva [Kiva R?] under four feet of detritus there. It was crammed with potsherds representing what he considered the richest ceramic complex he had ever seen. Chaco types predominated, but in addition, there were variants new to Aztec and some trade pottery. To Morris, an earthenware effigy of a human male with well developed genitals and lines representing sandal ties on one foot clinched the Chaco affiliation of the deposit.[94]

In retrospect, it now appears that the room Morris found may have been a pithouse rather than a ceremonial room. He described it as a pit dug into the earth and plastered, with no bench or pillars. Perhaps after its abandonment, it had become a dumping place for later trash. The finding of this buried construction and that deeper one at the opposite corner of the pueblo showed Morris that from the beginning of explorations at Aztec Ruin he should have looked for superimposition in the courtyard.[95] To rectify this oversight, he immediately dug test pits in other parts of the courtyard fill. He found that at least three feet of deposition had accumulated in some sectors. However, at the time he did not happen upon any further constructions. Diagnostic potsherds scattered at lowest depths further convinced the young archeologist that Chacoans had been there first and for a considerable interval.[96]

Although Morris sought an additional $100 to stabilize the earthen walls, the second structure bolstering his reconstruction of prehistory of Aztec Ruin is obscured beneath the court.[97]

Wissler rationalized over the events of the spring as he mused to Morris, "It seems rather curious that we should have begun at just the wrong end of this ruin, but perhaps it is best as it is because we shall have worked over the whole in anticipation of the solution."[98]

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[93] Wissler to Morris, January 21, 1921 (Aztec Ruins files, Department of Anthropology Archives at the American Museum of Natural History, New York).

[94] Morris to Wissler, April 20, 1921 (Aztec Ruins files, Department of Anthropology Archives at the American Museum of Natural History, New York).

[95] Morris to Wissler, May 3, 1921 (Aztec Ruins files, Department of Anthropology Archives at the American Museum of Natural History, New York).

[96] Wissler to Morris, April 26, 1921 (Aztec Ruins files, Department of Anthropology Archives at the American Museum of Natural History, New York).

[97] Morris to Wissler, May 3, 1921 (Aztec Ruins files, Department of Anthropology Archives at the American Museum of Natural History, New York; Morris Memorial Collection, University of Colorado Museum, Boulder).

[98] Morris, "Notes on Excavations," 295.

The good fortune of the season of 1921 continued with the finding of Burial 83 in Room 178, the sixth room south from the northwest corner of the compound.[99] An adult male more than six feet tall, an unusual height among the short-statured Anasazi, was laid out in a shallow pit in the floor. The body was wrapped in feather cloth and rush matting. A tightly-woven, coiled basketry plaque three feet in diameter, with colored fibers and a decorative border of flecks of selenite, covered the remains. Morris called it a shield. A similar piece of basketry was taken from one of the Mesa Verde cliff dwellings by early explorers. That underscored the probable cultural affiliation of the Aztec deceased. Although they generally would be regarded now as utilitarian digging or game sticks, three wooden shafts suggested swords to Morris. He saw stone tools with wooden handles as weapons. A number of examples of pottery, basketry, jewelry, and stone implements were placed as offerings about the body. Obviously, the man in Burial 83 was someone important in the village. When Morris colorfully described him as a giant warrior, he made good newspaper copy for reporters, who in the early 1920s had a propensity for sensationalism when discussing the unfamiliar civilizations of the Wild West.

From the outset of their association, Wissler continually urged his young protege to publish his field work and cultural interpretations in order to establish his authority in Southwestern archeology. After the important pottery finds of the spring of 1921, he promoted an immediate ceramic analysis to support Morris's solidifying ideas of the progression from Basketmaker to classic Anasazi. For Morris, digging was not only pleasurable but therapeutic; he was easily tempted to put his foot to the shovel, while his sketchy handwritten excavation notes grew cold. Nevertheless with reluctance, Morris soon followed Wissler's advice to write his version of the chronology of the prehistoric San Juan area. Because he fully intended to undertake an in-depth ceramic study at some future date, pottery was treated superficially. Aztec Ruin was important to the temporal thesis he put forth. The pueblo was presented as the type site for the climatic stage of Anasazi cultural evolution characterized by great communal houses sheltering many families and regional craft specialization.[100]

Morris showed Kivas N and O in the West Wing, R and S in the court off the East Wing, J, K, and L in the North Wing, and M in the court just north of the southeast corner as excavated since 1918 on a revised site map of 1921.[101] Nine other kivas were indicated but not cleared. Six of them were in the partially exposed West Wing. Presently, all of the subterranean chambers in the court, with the exception of Kiva E and the Great Kiva, are backfilled for preservation purposes and to simplify interpretation for visitors. The excavated kivas contained a mix of Chaco and Mesa Verde attributes, the latter being the more numerous. Kiva K was placed by Mesa Verde remodelers as a circular construction within a rectangular room only about 12 by 14 feet. The room originally was built by Chacoans. The small size of the kiva and recovered potsherds of what Morris believed was a decadent Mesa Verde style were his evidence that the kiva was used at the final period of occupation. According to Morris's viewpoint, the village population at that time dwindled to a few families, and demoralized potters no longer maintained their former high standards.

The site map of 1921 provides additional information. It shows that 26 rooms in the portion of the compound where the North and West wings merge were excavated. What remained untouched was much of the southwest corner of the compound, a string of cobblestone units extending to the east, and a scattering of other cobblestones dwellings and kivas at the western side of the great house

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[99] Morris, "Burials in the Aztec Ruin," 193; Lister and Lister, *Earl Morris*, figure 8 in center signature.

[100] Morris, "Chronology," 18-22.

[101] Earl H. Morris, Aztec Ruin map, 1921 (Aztec Ruins files, Department of Anthropology Archives at the American Museum of Natural History, New York).

referred to by Morris as the Annex. Morris's estimate in 1920 of 175 unexcavated rooms appears to be too high.

1922: WINDING DOWN

Exploration of the confused complex of rooms and kivas just to the west of the main West Ruin structure opened the final season of active American Museum archeological involvement in the site. This extramural cobblestone village was home to Mesa Verdians. The adjacent West Wing of the great house was where Morris believed most Mesa Verdians concentrated. This opinion was based upon the number of burials recovered there accompanied by Mesa Verde ceramics. The Annex, in effect, was their suburbs. More substantial masonry wall stubs, some running beneath the large standing building, showed that a probable Chaco community was dismantled to make space and material for the Mesa Verde addition.[102] None of this Annex complex was especially noteworthy or produced many artifacts. Although an alert observer can ascertain occupational hummocks, today the Annex is obscured beneath landscaping and a visitors' trail.

In another development, Morris spied a skeleton and Chaco pottery weathering out of the southeast trash mound trenched in 1916 by Nelson.[103] This attracted his attention because it constituted one of only five Chaco-affiliated burials encountered among the 186 graves examined during the Aztec project. Two others were removed from the same southeast trash deposits. Two more were found lying in interior rooms of the house.

Although at Mesa Verde proper they generally made use of trash heaps for burials, the Mesa Verdians who reoccupied the Aztec Ruin preferred to dispose of their dead within the structure. It was a matter of taking care of the dead with the least amount of trouble. With unused chambers available, why not use them? Thus, 149 Mesa Verde graves were identified through associated ceramics. Twelve additional burials were counted as probables. The remainder were in too poor condition to be definitely categorized. The largest number of Mesa Verde burials were within the West Wing. Most typically, these inhumations were beneath floors of rooms still in use, in pits scraped into soft debris previously drifted across abandoned dwellings, or placed in the open in unused rooms where they were covered by trash gradually thrown in by Mesa Verde housewives. Occasionally, many bodies came to rest within a single room. Mesa Verde grave furnishings ranged from extravagant to nil.[104]

On one occasion, Morris hired two men for a day to do odd jobs that unexpectedly turned up unusual archeological finds. With their assigned tasks done before quitting time, they started clearing Room 196[2] in the North Wing. This was a second-story room. Oley Owens and Morris shoveled side by side on the floor level to uncover a coiled basket, a stone axe with wooden handle still attached by bright yucca cord wrappings, and the skeleton of a dog. Owens then struck a long wooden object. He had exposed a few feet of it by time to stop for the day. With the light of a lantern, Morris continued digging around this mysterious specimen, until at 11 o'clock he had before him a remarkable

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[102] Earl H. Morris, "The Aztec Ruin Annex," *Anthropological Papers of the American Museum of Natural History* 26, pt. 4 (1924): 227-57.

[103] Morris to Nelson, May 16, 1922 (Aztec Ruins files, Department of Anthropology Archives at the American Museum of Natural History, New York).

[104] Morris, "Burials in the Aztec Ruin," 145-225.

runged ladder (see Figure 3.25).[105] Its transverse poles, lashed in place by sturdy bindings, were well polished by the rub of many feet. As Morris reconstructed events, the ladder had been at least 12 feet long when complete. It had leaned against the edge of the ceiling hatchway but had been pushed over when large masonry blocks tumbled from above. The first ladder of its kind found in the ruin, it now forms part of a prominent display in the visitor center.



Figure 3.25. Partial poles-and-rungs ladder recovered from a North Wing room.

Otherwise, to the dismay of Morris, 1922 was a time for closing down the operation. The American Museum was not going to fulfill its pledge to completely excavate the village. Nervously, Morris inquired about the future of the project but received no positive answer.[106]

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[105] Lister and Lister, *Aztec Ruins*, figure p. 50.

[106] Morris to Wissler, April 11, 1922 (Aztec Ruins files, Department of Anthropology Archives at the American Museum of Natural History, New York).

Having initially recommended that the American Museum undertake this endeavor, Nels Nelson was bitter. He and several associates shelved their own Southwestern studies for five years so that funds were available for Aztec. They felt betrayed at the museum's withdrawal before Aztec Ruin was totally rid of the overburden of centuries of neglect. This was anger Nelson shared with Morris, as he lamented, "The museum and American archeology generally have been enriched, I am sure. For myself, I sometimes wish I had never seen the damn place. Aztec left to Kidder might possibly have yielded you just as good a chance and Andover would presumably have seen the job through [a reference to excavations then under way at Pecos Pueblo]. I personally do not expect to see the American Museum spending any more money on the Aztec Ruin, and I don't look for any other institution to take the unfinished task during my lifetime."[107]

A less prejudiced opinion was that, although the ruin was not completely excavated, the primary goal of the American Museum to reclaim one of the classic Anasazi settlements in the eastern San Juan Basin was achieved. In addition, the ruin was temporarily repaired to withstand weather and looters. That, in itself, was a notable accomplishment for the times. About 75 percent of the house block was cleared. This totaled 200 rooms, 18 residential kivas, and a Great Kiva. The American Museum could take satisfaction in the fact that, even in its derelict condition, the Aztec great house as revealed had an aura of grandeur and illuminated a darkened passage of prehistory. Excavations demonstrated that out of a Stone Age background, its masons summoned up the expertise and human muscle to transform common stone, mud, and wood into permanent shelters of beauty. By 1922, the site supplied raw data from which answers eventually would come as to how many centuries it had taken the Anasazi to reach the formula of having sleeping, eating, working, and worshipping space sharing common ground within the security of the confines of a single edifice. As exemplified at Aztec Ruin, it was apparent that, once accepted, these basic patterns were the standard for all Anasazi communities. There were, of course, some variations attributable to environmental, temporal, perhaps unknown sociological factors, or influences from outside the Anasazi sphere. However, the most typical settlement design applied whether the structures were large or small, whether they were in the bleakness of Chaco Canyon or in the shadowed alcoves of Mesa Verde. If Douglass's idea of the erection of Aztec Ruin within an eight-year period was correct, that implied a social urgency, a master plan, and a high degree of organization in order to bring it to completion. It also implied a purposeful scheme of satellite communities, such as those up and down the Animas valley, around a central administrative or political point. Aztec Ruin and its neighboring large mound might have been that point.

Another facet of Anasazi life, which excavations of Aztec Ruin made obvious, was the prevailing unsanitary conditions with which Anasazi contended. Occupied quarters were typified by inadequate ventilation, heat, light, space, and the lack of flooring except for use-hardened earth. Furniture of any sort to get living activities off the ground was absent. Adjacent chambers were jammed to overflowing with rubbish, turkey droppings, human excrement, and decomposing bodies of the dead. Such conditions fostered inevitable infestations of rodents, snakes, insects, and bacteria. All these factors surely combined to drive most residents out of doors as much as possible, if not for elbow room, at least for a lung full of fresh air. However, the central gathering place, or courtyard, also was strewn with such a volume of the residue of human living that its level raised many feet over the years. It was not surprising that recovered human remains indicated a life expectancy of about 35 to 40 years. Although traces of at least three dozen infants and adolescents were recovered, a probable high infant mortality rate was obscured by the rapid decay of the fragile small bones of the young.

Slightly more than 7,000 catalogued specimens of Anasazi possessions were retrieved at Aztec Ruin. This figure was exaggerated to 76,000 by reporters at the *Farmington Times Hustler*, who may

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[107] Nelson to Morris, May 1, 1922 (Aztec Ruins files, Department of Anthropology Archives at the American Museum of Natural History, New York).

have speculated about the mass of fragmentary objects Morris presumably discarded.[108] A clue to the amount of artifacts is seen in an inventory of 441 stone projectile points, 168 stone axes, 704 bone awls, 662 pieces of whole or restorable pottery, 87 baskets, 77 arrows, 143 fiber pot rests, 104 sandals, 24 skinning knives, 53 stone knives for other purposes, 45 pendants, and more than 60,500 beads that had been elements of necklaces, bracelets, and other ornaments. The beads were catalogued in group lots, rather than individually. That obscured a higher actual artifact yield. Untabulated in the above listing was the mass of plant and animal remains that sustained the population in one way or another. Not considered also were the minor things that said a great deal about the Anasazi -- the woven bag filled with fibrous packing meant to pad a baby's hard cradle board, the scraps of meager clothing that offered only limited protection from winter chill and summer heat, the delicate wooden altar outfittings found carefully stored in an interior recess, the miniature earthenware vessels that probably were the toys of little girls. Together, these kinds of major and incidental goods provided the substance with which daily prehistoric life on the Animas could be reconstructed.

Morris helped publicize the Aztec Ruin, its contents, and the environment in which the Old People flourished and ultimately failed. He produced seven papers on Aztec Ruin prehistory. Two for the museum's volume concerned results through the season of 1917 and the Great Kiva. Two other journal articles dealt with topics indirectly related to Aztec Ruin research. The price tag for work from 1916 through 1922 stood at $34,238.37. Morris's salary of $4,000 came out of that sum; the remainder were field expenses. Funding came from John P. Morgan (1916), Archer M. Huntington (1917-1921), and the American Museum (1922).[109]

Morris hid his disappointment over the termination of the Aztec Ruin project behind the rationalization that a portion of every site should be left for future researchers with more advanced techniques. Later he was to write: "I do not believe that any great ruin which it is intended to leave as a permanent exhibit should be completely excavated. To my mind it is more instructive and rather essential to an understanding of what has actually taken place to leave a portion of any such structure as it was before the work of excavation and repair was begun."[110] He received no raise in pay for the six-year duration of the endeavor, but he was provided a forum for his ideas. He earned a reputation as a dedicated, skillful field archeologist. When worked ceased at Aztec, his services soon were sought elsewhere.

1923-1928: WRAPPING UP

During a final five-year interval in the 1920s, Morris squeezed odd bits of Aztec Ruin research and the tedious task of reporting it in between far-flung activities from the out reaches of the Colorado Plateau to those of southern Mexico. A permit good for three years' work, issued by the National Park Service in 1923, allowed excavation of Room 189. This was a first-story unit in the corner of the house block where the North and West wings met. Other rooms in this part of the site were productive of articles. This caused Morris to hope for further interesting finds. Also, its clearing continued the opening of the West Wing. Morris's unpublished government report indicated the same Chaco-to-Mesa

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[108] *Farmington Times Hustler*, April 4, 1918.

[109] List of expenditures (Aztec Ruins files, Department of Anthropology Archives at the American Museum of Natural History, New York).

[110] Morris to Faris, November 27, 1933 (Morris Memorial Collection, University of Colorado Museum, Boulder).

Verde sequence of occupation that he noted elsewhere in the West Ruin. Ninety-six artifacts included Chaco pottery on the floor level, a wooden ladder, a hafted stone knife, the dried carcass of a dog who had clawed the plaster, and Mesa Verde potsherds in upper levels of trash.[111]

After the American Museum purchased the second parcel of Abrams land in 1927, Morris hastened to satisfy his curiosity about the East Ruin by putting two men to work doing some exploratory testing. While he was attending the first Pecos Conference, a gathering that was to become an annual exchange of archeological field information by men and women engaged in regional studies, the workmen cleaned out two small first-story rooms in the northwest corner of the pueblo. They found the rooms unharmed by seepage from the irrigation ditch along the north side of the ruin.

With just two exceptions, the diggers unearthed Mesa Verde potsherds in the excavations in the East Ruin from a cut driven into the long, low aboriginal embankment paralleling the north side of the pueblo, from the floor levels of two rooms in the southeast corner of the site cropping into the bank of the old river bed, and from a recent wash between the site and a large refuse mound to the south. On the basis of this pottery, Morris concluded that the structure was constructed by Mesa Verdians during a time of reoccupation of the general area by persons of that affiliation after Chacoans moved elsewhere.[112]

Another find the excavators made in 1927 was a probable funeral pyre. It was in a heap of waste from wall construction dumped along the north side of the East Ruin. The crew dug a test trench through the pile to uncover several thin layers of burned vegetable substance. In the topmost of these layers was charred residue of at least five burned bodies. Scattered bones lay in the dirt on both sides of the cut. The bodies were placed close together, provided with the usual wrappings and offerings, burned, and then covered with earth. When found, the carbonized mass engulfing the human remains contained quantities of charcoal derived from matting, sandals, cloth, and baskets.

If a communal cremation were represented by this mound, it was an oddity deserving further study. Morris asked for and received some money to continue his exploration.[113] No report is known to have resulted. Because a landscaping campaign in 1934 leveled the area, further investigation was not possible. Morris's personal pottery collection now at the University of Colorado Museum includes a Mesa Verde Black-on-White mug taken from this site.[114]

The writing part of Morris's remaining obligations to the American Museum came to fruition in two papers published in 1924. He devoted these to burials recovered in the West Ruin and to the excavation of the Annex. In 1928, Morris's room-by-room description of the site as then exposed was the final number of the American Museum volume devoted to Aztec Ruin.[115]

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[111] Earl H. Morris, Report on Excavation of Room 189, to National Park Service, 1923; Morris to Douglass, September 6, 1927 (Morris Memorial Collection, University of Colorado Museum, Boulder).

[112] Morris to Wissler, September 3, 1927 (Aztec Ruins files, Department of Anthropology Archives at the American Museum of Natural History, New York).

[113] Wissler to George H. Sherwood, September 10, 1927 (Aztec Ruins files, Department of Anthropology Archives at the American Museum of Natural History, New York).

[114] Morris, Introduction to catalogue of pottery collection, entry 49 (Morris Memorial Collection, University of Colorado Museum, Boulder).

[115] *Anthropological Papers of the American Museum of Natural History* 26, 5 pts. (1919-28).

In the late 1920s, two significant developments greatly molded interpretations of aboriginal cultural developments on the Colorado Plateau. One occurred in the summer of 1927, when the individuals attending the conference convened by Alfred V. Kidder at Pecos Pueblo accepted a chronology of Anasazi evolution as they had outlined it by their varied explorations and established a mutually understandable terminology for it. This was the Pecos Classification. By application of the criteria for observable periods of that sequence, Morris knew that Aztec Ruin in its most typical manifestation fell into a grouping called Pueblo III, a time of cultural culmination that faded with Anasazi exodus from the San Juan area. Earlier occupation evident beneath the great house and in some surrounding spots likely was of Pueblo I or Pueblo II phases or perhaps even the earlier Basketmaker III. At those stages, the regionalizations expressed later in certain crafts had not materialized.

The second major step forward was the emergence of the science of dendrochronology. During the Pecos Conference in 1927, Douglass, the astronomer for whom during the preceding decade Morris had gathered tree-ring samples from ancient Anasazi structures, thrilled him with the prospects of an approaching conclusion to the long-term quest for dates through analysis of tree-rings. Wood samples taken from more than 30 aboriginal sites across the Colorado Plateau were about to connect a floating prehistoric chronology on to rings of the oldest living coniferous trees in the Southwest.

Anticipating the momentous accomplishment, which would put Anasazi sites on the Christian calendar, Morris immediately sent Douglass 15 wood cores from timbers of the East Ruin to see how they might compare with those from the West Ruin submitted eight years earlier.[116] Then, he waited.

Linkage of the present to the past did not come until two years later. Finally in 1929, the tree-ring chronology was taken back to A.D. 700 with such certainty that it was known exactly when the Aztec Ruins great houses had been built and how they related in time to sites at the centers of the two branches of the Anasazi Morris believed were involved. Some roof elements in the West Ruin were cut in a span of time from A.D. 1106 to 1121. The heaviest cluster of dates fell between A.D. 1111 and 1115. Researchers secured comparable twelfth-century dates from East Ruin samples; they grouped others from that house in the third decade of the thirteenth century.[117] Comparisons of dates from Chaco Canyon and Mesa Verde showed that the Pueblo III efflorescence in those regions occurred about a century apart. The Anasazi of Chaco Canyon had risen to their zenith in the 1100s. Those of Mesa Verde rose to theirs in the 1200s. Morris ended his research association with Aztec Ruin reassured that the cultural sequence he felt he had demonstrated with his shovel and trowel was reinforced by these new data obtained by his coring implement.[118]

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[116] Morris to Douglass, September 6, 1927 (Morris Memorial Collection, University of Colorado Museum, Boulder).

[117] Getty to Faris, May 18, 1934 (Document file, Aztec Ruins National Monument Headquarters, Aztec, New Mexico).

[118] By 1974, 135 dates had been compiled from the West Ruin, East Ruin, Hubbard Mound, and unprovenienced features within the monument. William J. Robinson, Bruce G. Harrill, and Richard L. Warren, *Tree-Ring Dates from New Mexico* (Tucson: Tree-Ring Research Laboratory, 1974).

CHAPTER 4

A HOUSE IN RUINS

When the American Museum of Natural History acquired title to the land upon which Aztec Ruin sat, it became necessary to keep unauthorized persons and animals off the property and to protect specimens and field equipment stored in the temporary frame shed put up in the courtyard of the compound. No modern dwelling was included in the plot.[1] With that in mind, while Clark Wissler was at Aztec in the summer of 1919 to finalize the acquisition of the property, he suggested that Morris build a small house somewhere near the West Ruin. Morris and his mother could reside there while looking after the site, and Morris could make this his headquarters during preparation of the anticipated reports resulting from the excavations. This plan immediately was adopted. Thus, Morris was to have the unique distinction of living amid the focus of his professional interest.

Together, the two men selected a locale for the new building at the southwest corner of the ruin precinct and discussed its general floor plan. As they talked, Wissler made a rough sketch of his idea of this structure. Although a copy of this hasty drawing was sent in 1931 to the custodian at Aztec Ruins, it has not been found.[2] The men agreed that the exterior style of the new house should harmonize with the old one on its northeastern flank. Modern amenities to make life comfortable should be added to the interior. The profile should be low, blocky, and flat-roofed. The exterior walls should be of unplastered banded masonry in the Chaco style using salvaged stones from the rubble of the ruin not needed for repair. Several decorative bands of green stone would increase the similarity to adjacent portions of the West Wing of the Anasazi house.[3] Since the reclaimed prehistoric construction supplies were regarded as waste, neither of these distinguished scholars considered their reuse to be improper.[4]

Not being engaged in large-scale excavation at the time, Morris commenced construction of the house within a few weeks after Wissler's visit. So far as it is known, Morris never had built such a sizable building but had at least three seasons of experience in attempting to copy Anasazi masonry and could draw on a great fund of practical construction knowledge among his crew. Jack Lavery, leading mason in the ruin repair activity, was drafted to work on the house.

Shortly, a progress report went to New York. "The house is coming along nicely," Morris informed Wissler. "To our surprise a great depression once occupied the site we chose. This the aborigines had filled up with a variety of substances, among them quantities of sandstone spalls, refuse, adobe, etc. The resulting loose deposit somewhat complicated the matter of securing a solid foundation,

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[1] Clark Wissler to Earl H. Morris, October 3, 1918 (Morris Memorial Collection, University of Colorado Museum, Boulder).

[2] Morris to Johnwill Faris, January 3, 1931 (Morris Memorial Collection, University of Colorado Museum, Boulder).

[3] Photograph #140 (Photograph file, Aztec Ruins National Monument Headquarters, Aztec, New Mexico).

[4] Wissler to Morris, n.d. (Aztec Ruins files, Department of Anthropology Archives at the American Museum of Natural History, New York).

but I think we have met the difficulty satisfactorily" (see Figure 4.1).[5] The builders of the Annex situated just to the north likely had been responsible for the trash.

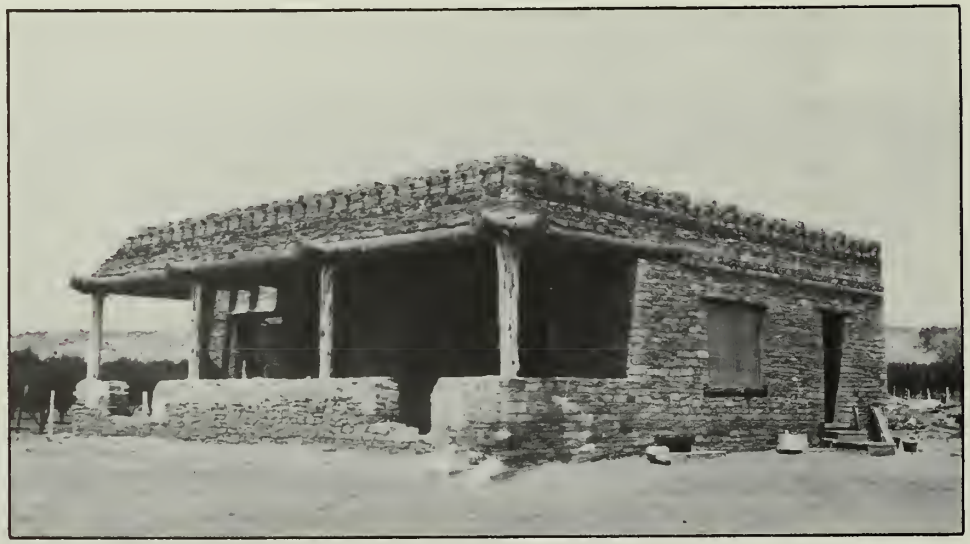


Figure 4.1. American Museum field station, built of shaped stone from Aztec Ruin and occupied by the Morris family from late 1920 to 1933, as it appeared about 1923-1924. The western room, planned as an exhibit hall, was not yet roofed.

Three months later, walls were up, roofs were on, and it was time to close in the building. Morris wired that every effort was being made to conform to Anasazi practices. He explained by adding, "My mason is building a beautiful wall which is laid without any mortar showing on the outer surface, thus heightening the similarity to the weathered portion of the ruin."[6]

Although not spacious, the interior was comfortable and exhibited a Southwestern Pueblo flavor (see Figure 4.2). The floor plan was a rectangle. The eastern two-thirds was divided into four small rooms: a living room, a kitchen, and two bedrooms. During a secondary building phase, another large unpartitioned room was planned on the west side of the building. That room would provide space for a museum. As was the case in the Anasazi dwelling, interior walls were whitewashed. Ceilings were made of aged beams and smaller poles taken from downed roofs of the West Ruin. Contemporary doors and windows afforded light, ventilation, and easy access. A corner fireplace of Hispanic style in the living room and a wood range in the kitchen provided the luxury of heat, which, except for small open cooking hearths, Anasazi homes lacked. Other improvements over the Indian mode of life were household water lifted to the kitchen sink by a hand pump from a large cistern dug to one side

[5] Morris to Wissler, August 8, 1919 (Aztec Ruins files, Department of Anthropology Archives at the American Museum of Natural History, New York).

[6] Morris to Wissler, November 16, 1919 (Aztec Ruins files, Department of Anthropology Archives at the American Museum of Natural History, New York).

of a cellar beneath the house, a pine floor, and artificial light from gasoline lanterns. Up to that time, the Abrams cistern supplied drinking water for excavation crew and visitors.[7]



Figure 4.2. The Morris living room with collections of Indian objects. Ceiling beams are twelfth-century elements removed from the West Ruin. Window and door lintels are modern wood installed in the Anasazi way.

A long porch covered the front, or southern, facade of the house. The top courses of stone in a low wall across its face and some of the upper house walls were set in obvious cement mortar to imitate repaired walls in the ruin.[8] The porch was supported by four cedar posts placed upside down so that the spread of roots embraced the ends of roof cross beams. Morris borrowed the idea for posts used in this way from late seventeenth-century Indian houses in the Gobernador region east of Aztec.[9] Purists considered them inappropriate for a building at Aztec Ruin. Given the fact that the concept of a porch also was foreign to the Anasazi, the complaint appears irrelevant. Harder to explain were low masonry parapets around the roof line, for which there is no known regional counterpart (see Figure 4.1).

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[7] Morris to Wissler, December 17, 1918 (Morris Memorial Collection, University of Colorado Museum, Boulder).

[8] Photograph #522 (Photograph file, Aztec Ruins National Monument Headquarters, Aztec, New Mexico).

[9] Morris to Faris, January 3, 1931 (Morris Memorial Collection, University of Colorado Museum, Boulder).

To the rear of the American Museum building, three rooms of the West Wing of the ruin were reworked for modern purposes. One inner chamber covered with a timber-and-tar paper roof was a privy. Adjoining prehistoric cells were roofed similarly. They became a garage and a blacksmith shop. Wooden barn doors closed these spaces (see Figure 4.3).[10] In time, the courtyard shed was moved to the back of the house. A portion of the south extension of the Annex was leveled in preparing a suitable base for it. For a half dozen years, the shed was a general utility building and display space for artifacts.[11]

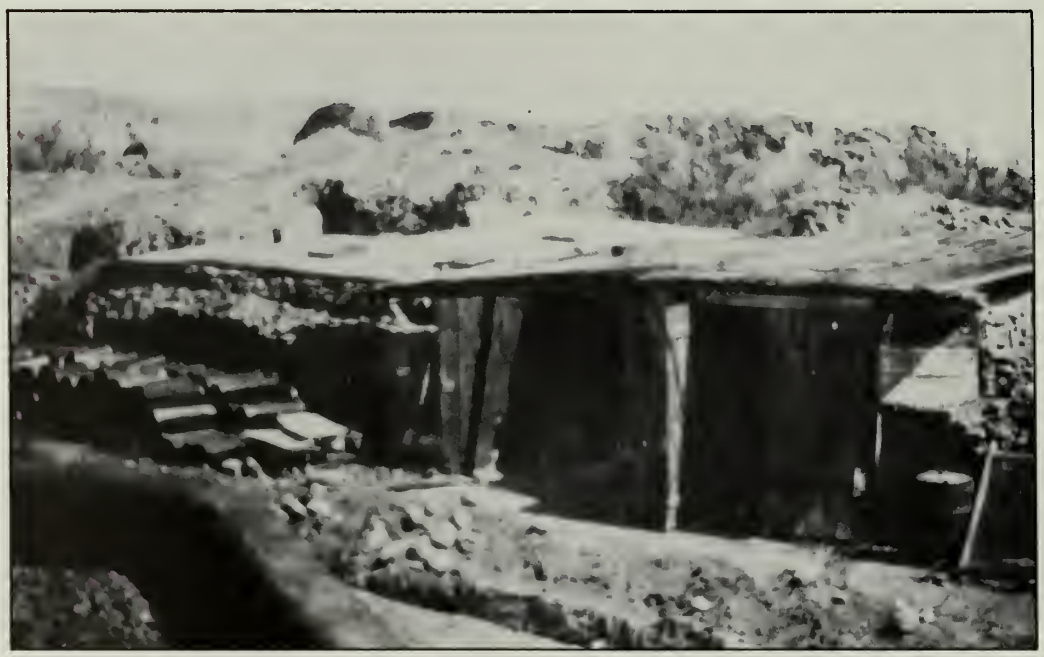


Figure 4.3. Three rooms of the southwest corner of the Aztec Ruin revamped by Morris during the 1920s for personal purposes. Unexcavated West Wing rooms are in the background.

The total cost figures for construction of the American Museum building have not been located, but they are believed to have been minimal by present standards. In 1919, expenditures for materials and the wages of a carpenter, mason, and helper came to $1,026.33. An unknown amount of recycled stone and wood came from the ruin at no cost other than labor. Morris asked for a $1,000 appropriation to complete the house.[12] When he and his mother moved into their unfinished new quarters the next November, he was over that allotment by $1,339.51, explaining that the windows cost $74, the doors $42, the flooring $131, and the roofing paper $82.50. Morris apologized to Wissler for going over budget. He listed his reasons for proceeding with the building as his responsibility to his

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[10] Photograph #864 (Photograph file, Aztec Ruins National Monument Headquarters, Aztec, New Mexico).

[11] Photograph #523 (Photograph file, Aztec Ruins National Monument Headquarters, Aztec, New Mexico).

[12] Expenditures on house construction, 1919, compiled from Morris correspondence (Morris Memorial Collection, University of Colorado Museum, Boulder); Morris to Wissler, February 18, 1920 (Aztec Ruins files, Department of Anthropology Archives at the American Museum of Natural History, New York).

mother, his need to be in residence at the site during the winter, the damage that the woodwork would have suffered from exposure, and because he did not want to have to work on the house during the next digging season.[13]

The principal delay in completing the house was the lack of ancient ceiling beams. Construction had depleted them. Builders used new wood for baseboards and lintels after it was scorched so that it would blend with the reused timber. During remodeling in 1959, workmen retrieved several fragments of a *Denver Post* of the 1920s from beneath some of this finish wood.[14] To get enough old poles to complete the ceilings of the domestic rooms and the unroofed exhibition room, Morris said it would be necessary to excavate another six to 10 rooms.[15]

A year later, the house still was not finished. This situation was attributable to the perennial shortage of funds at the museum and to Morris's full schedule of field work and writing. In December, Morris noted that a cement floor needed to be laid in the basement. The lower portion of the front porch also should be cement plastered. The porch roof over the exhibition room was uncompleted. These improvements could be done, he wrote, for $250.[16]

Using a large chunk of the building budget of $297.50 for 1922, workers provided a dry basement for specimens retained at Aztec.[17] The so-called exhibition room remained a roofless shell. Work on it stopped as its masonry walls approached the height of the adjoining house.[18] Morris wanted to negotiate with Wissler over the original plan stipulating a 13-foot ceiling for the room capped on the exterior by an additional five-foot parapet.

Completion of the stone house was put on hold for the next two years. Still lacking timbers, Morris advised Wissler, "The large timbers I have, and perhaps one third enough of the small ones. To obtain a sufficient quantity of the latter, it would be necessary to dig out two or three rooms where I know fallen ceilings to be readily accessible. This I think could be done for less than $100."[19] At the same time, Morris pleaded that he be permitted to roof the exhibition room at the same level as the remainder of the building to the east. Within a week, Wissler returned an approval for the change of

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[13] Morris to Wissler, October 1, 1920 (Morris Memorial Collection, University of Colorado Museum, Boulder).

[14] n.d. *Denver Post* clipping (National Park Service: Aztec Ruins National Monument files at the National Archives, Washington).

[15] Morris to Wissler, October 1, 1920 (Morris Memorial Collection, University of Colorado Museum, Boulder).

[16] Morris to Wissler, December 29, 1921 (Morris Memorial Collection, University of Colorado Museum, Boulder).

[17] List of expenditures, n.d. (Aztec Ruins files, Department of Anthropology Archives at the American Museum of Natural History, New York).

[18] Photograph dated 1923, Aztec City Museum, Aztec, New Mexico.

[19] Morris to Wissler, September 17, 1924 (Morris Memorial Collection, University of Colorado Museum, Boulder).

ceiling height and the additional money to dig for timbers.[20] Months passed, however, without any action. In December, Morris again estimated that, in addition to obtaining the old wood, he would need another $400 in order to finish roof, floor, partition, doors, and windows for the west room; cement for the porch; and plaster the front walls.[21] By then, winter had closed in.

Work through July, August, and September of 1925 at last saw the house done. Morris secured necessary beams from the West Ruin under a government excavation permit.[22] Six years of very sporadic efforts produced the American Museum field station. Wissler appraised its value at between $500 and $1200. Because it was almost two miles from town, he thought it would never sell for more than the lower figure.[23]

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[20] Wissler to Morris, September 23, 1924 (Morris Memorial Collection, University of Colorado Museum, Boulder).

[21] Morris to Wissler, December 15, 1924 (Morris Memorial Collection, University of Colorado Museum, Boulder).

[22] Morris to Wissler, July 17, July 25, August 10, and September 7, 1925 (Aztec Ruins files, Department of Anthropology Archives at the American Museum of Natural History, New York).

[23] Wissler to George H. Sherwood, September 15, 1926 (Aztec Ruins files, Department of Anthropology Archives at the American Museum of Natural History, New York).

CHAPTER 5

A NATIONAL MONUMENT, STILLBORN

After Nels C. Nelson's recommendation that the American Museum of Natural History undertake excavation of Aztec Ruin, on January 15, 1916, Pliny Earle Goddard, associate curator of anthropology, made the first overtures for the museum's involvement with the site.[1] Three weeks passed before a reply was received from Henry D. Abrams, owner of the farm that encircled the principal prehistoric mound and a dozen lesser ancient dwellings. Although delayed because of deep snow on mountain passes to the northeast, which had held up the mail trains, the response was favorable.

Excavation of Aztec Ruin was something to which Abrams obviously had given much thought. "In the matter of excavating the ruins I may outline an [sic] tentative understanding," he wrote. "Among the things will be the removing of the debra [sic] from the wall on the outside clearing out the rooms and court restoreing [sic] of the walls in minor places strengthening and capping them with cement where required to leave them in a permanent condition, a creditable collection of specimens to remain permanently in such a manner that it cannot be disposed of by any person." In suggesting a three-year project, Abrams generously offered the use of a shaded camp spot, water from his cistern, and assorted fruits from his orchard.[2] He also stipulated that work commence before August 1, 1916.[3] To make it official, he notified Wissler, "I hereby grant to the Department of Anthropology, American Museum of Natural History, a concession to excavate and study the whole series of prehistoric ruins (known as Aztec Ruins) on my land in northwest New Mexico" (see Appendix C).

On behalf of the museum, Wissler quickly agreed to all these conditions, including clearing down to the original surface, removing debris adjacent to the exterior walls to assure drainage and passage, and compensating Abrams for any damage to crops planted in tillable areas between several mounds of house remains.[4]

About the matter of a specimen collection, Wissler expressed reservations. This was not because of any perceived impropriety in an individual's yen for private acquisition of scientifically valuable public artifacts. It was because of the attitudes of potential donors to the museum's field programs. "When you specify that a representative collection of objects is to be left in your keeping, a great deal depends upon your idea of a representative collection," Wissler cautioned Abrams. "You see it might be very difficult to persuade a donor to contribute several thousand dollars to put another man's ruin

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[1] Pliny Earle Goddard to Henry D. Abrams, January 15, 1916 (Aztec Ruins files, Department of Anthropology Archives at the American Museum of Natural History, New York).

[2] Abrams to Goddard, February 5, 1916 (Aztec Ruins files, Department of Anthropology Archives at the American Museum of Natural History, New York).

[3] Abrams to Clark Wissler, March 27, 1916; Wissler to Henry Fairfield Osborn, April 11, 1916 (Aztec Ruins files, Department of Anthropology Archives at the American Museum of Natural History, New York).

[4] Wissler to F.A. Lucas, March 16, 1916; Wissler to Abrams, March 27, 1916; Wissler to Osborn, April 11, 1916 (Aztec Ruins files, Department of Anthropology Archives at the American Museum of Natural History, New York).

in shape and then leave him the collection as well."[5] Nonetheless, in order to secure the deal, the museum agreed that an Abrams collection would be kept at the site or its vicinity for local display and, furthermore, that the project would not be abandoned before the entire village was excavated.

The season of 1917 at Aztec Ruin was so fruitful in artifact returns and in prospects for future research that museum officials began to give serious thought to the permanent conservation of the site. It was an idea that would have a very long gestation period, at the end of which no one would be totally satisfied. One proposal was to persuade Abrams to turn the land over to an established institution or executive board which, in turn, would create a perpetual park incorporating the major and associated satellite remains. In the glow of favorable publicity about the archeological finds being made at the site on the Animas, Wissler felt the museum would have little trouble raising funds for this purpose and in administering the holding.[6] He was not aware of a charter of the museum prohibiting such activity. A second suggestion was that Abrams and several associates form a corporation, with themselves as trustees, to manage this kind of facility.[7] Before any action could be taken on the first option, World War I dried up sponsorship funds for the museum; Abrams, a small-town merchant and farmer, was not sufficiently sophisticated to undertake the second. For the time being, the ruin's future remained in a state of status quo.

Although Abrams had a sincere interest in the ruins, perhaps as much from the celebrity status they provided him locally as from any moral conviction, his primary concern was his farming enterprise. Nor, apparently, was he a man to be rushed into hasty decisions. With detailed instructions in hand concerning the museum's terms for acquisition of the land, Morris and Talbot Hyde conferred with Abrams on several occasions during the summer of 1918 without conclusive results. A flood of proposals and counter proposals ensued.

By 1918, the museum had decided to attempt to purchase approximately 25 acres of the Abrams farm having the densest concentration of Anasazi mounds (see Appendixes D and E). Since the owner was not financially able to donate the ruins to the museum, an outright purchase was necessary.[8] The museum administration made this decision with an eye to future work at a pace slower than had been possible earlier and, at the same time, to protect a previous sizable investment of time and money. The funds to do this were to come from Archer M. Huntington, whose name was not to be used in the negotiations. President Henry Fairfield Osborn remarked that, "the name of Huntington looms large in the West like that of Morgan and Rockefeller," and the price would inflate accordingly.[9] Wissler favored a down payment and two subsequent annual installments. Abrams could retain

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[5] Wissler to Abrams, March 18, 1916 (Aztec Ruins files, Department of Anthropology Archives at the American Museum of Natural History, New York).

[6] Wissler to Earl H. Morris, October 4, 1917 (Morris Memorial Collection, University of Colorado Museum, Boulder).

[7] Wissler to Abrams, January 15, 1917 (Aztec Ruins files, Department of Anthropology Archives at the American Museum of Natural History, New York).

[8] Comments on the Proposed Purchase of the Aztec Ruins (1918?) (Aztec Ruins files, Department of Anthropology Archives at the American Museum of Natural History, New York).

[9] Osborn to Wissler, October 21 and November 25, 1918 (Morris Memorial Collection, University of Colorado Museum, Boulder).

cultivation privileges for the 10 years but would forfeit all claim to specimens retrieved in the past or in the future.[10]

Providing he could replace them with suitable land at the same figure paid for the ruins, Abrams responded with an offer to sell the 25 acres. He set the sale price for the ruins and encompassing land between $6,000 and $6,500.[11] Since the prevailing price of Animas valley farm land was $300 per acre, Abrams felt that in actuality he would be donating the ruins to the museum and seeking compensation only for the usable land.[12] He would not accept time payments.

Nor, as he made clear in a letter to Wissler, would Abrams give up rights to his artifact collection. "Now as to the relics after having cared for and protected the ruins from destructive 'diggers' holding them untill [sic] such a time when just such an institution, as now working them, should take charge of and conduct an [sic] Scientific operation, I feel that I am justly entitled to the few relics that have so far been apportioned to me by your museum."[13] So far as can be determined, Abrams had only a few specimens from the exploratory season of 1916.

Morris stated that the "relics" Abrams had selected but allowed to be shipped to New York for study were among some of the choicest exhumed at the site. Regardless, he felt that Abrams could be persuaded to relinquish them if he could be shown "that without the shadow of a doubt that this archaeological exhibit would be maintained in perpetuity."[14] One of the provisions written into the tentative outline of the sale was that the property would be used solely for scientific and educational purposes and that there be a permanent exhibit of duplicate specimens from the site.[15]

As for the farm itself, Abrams wanted continued use of the tract surrounding the ruins for three to five years and would take care of any upkeep to internal cross fences. He had just planted alfalfa in part of the open land and valued the untillable mounded areas as winter shelter for his stock. At the end of whatever time the museum allotted him, he would remove all pens and sheds from the ruin area except the large hay barn situated to the northeast of the East Ruin. The moving of this structure to another location on his farm would be the museum's responsibility.

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[10] Comments on the Proposed Purchase of the Aztec Ruins (1918?) (Aztec Ruins files, Department of Anthropology Archives at the American Museum of Natural History, New York).

[11] B. Talbot B. Hyde to Wissler, September 10, 1918 (Aztec Ruins files, Department of Anthropology Archives at the American Museum of Natural History, New York).

[12] Comments on the Proposed Purchase of the Aztec Ruins (1918?) (Aztec Ruins files, Department of Anthropology Archives at the American Museum of Natural History, New York).

[13] Abrams to Wissler, September 17, 1918 (Aztec Ruins files, Department of Anthropology Archives at the American Museum of Natural History, New York).

[14] Morris to Wissler, December 10 and 17, 1918 (Morris Memorial Collection, University of Colorado Museum, Boulder).

[15] Comments on the Proposed Purchase of the Aztec Ruins (1918?) (Aztec Ruins files, Department of Anthropology Archives at the American Museum of Natural History, New York).

Because of the slowness of both parties in coming to an agreement, the museum then asked for and received a five-year extension of its excavation contract with Abrams. This arrangement took its tenure to April 1, 1924.[16]

Meantime, Huntington unexpectedly refused to acquire the property on his own. However, he had no objections to the museum buying it with monies he provided. At that point, the museum lawyers informed Wissler that, even under the guise of a donor name, the institution charter would not permit its permanent retention of real estate. The Trustees added to the dilemma by balking at allowing Abrams to occupy and use the property after its purchase.[17] There, the dealings stalled.

Doubtless frustrated, in the spring of 1919 Wissler asked museum president Osborn for permission to go to Aztec in order to personally present Abrams with four alternatives: (1) the purchase by the American Museum of Natural History of the entire group of antiquities of which the West Ruin was the heart, a tract estimated then at some 23-plus acres, for $6,500; (2) purchase of the West Ruin only; (3) purchase, with a five-year option, of either of the above; or (4) lease either for the purpose of excavation. In the same memorandum, Wissler asked Osborn to approve repair funds for Aztec Ruin because the unusually severe winter had caused many walls to fall.[18]

To Wissler's dismay, Osborn was weary of the seemingly unending troubles associated with Aztec Ruin. "In view of the difficulty of preserving the excavated ruins, and possibly legal questions with reference to the museum's holding such property," Osborn told him, "I do not consider it advisable to purchase the ruins outright."[19] Osborn advocated a long-term lease not to exceed $1,000, with no additional expense after excavation ended. To him, the perpetual preservation of this bit of Anasazi cultural history was not worth the cost.

Notwithstanding this change of heart on the part of the museum's president, Wissler traveled to Aztec during the following summer to put into motion the involved proceedings, which would result in the purchase of only the ruin being dug (see Appendix F). The museum proposed to offer $3,000, contributed by Archer M. Huntington, for the West Ruin and the 6.4 acres of land upon which it sat. The parcel included the area selected for the Morris house.[20] Huntington's reputation had elevated the price. The $3,000 figure did not correlate with the earlier price tag of four times the land for double the amount. Even so, upon learning that Abrams might be considering presenting the property

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[16] Wissler to Abrams, January 16, 1919 (Morris Memorial Collection, University of Colorado Museum, Boulder; Aztec Ruins files, Department of Anthropology Archives at the American Museum of Natural History, New York); Abrams to Wissler, February 20, 1919 (Aztec Ruins files, Department of Anthropology Archives at the American Museum of Natural History, New York).

[17] Wissler to Morris, January 16, 1919 (Aztec Ruins files, Department of Anthropology Archives at the American Museum of Natural History, New York).

[18] Wissler to Osborn, May 8, 1919 (Aztec Ruins files, Department of Anthropology Archives at the American Museum of Natural History, New York).

[19] Osborn to Wissler, May 20, 1919 (Aztec Ruins files, Department of Anthropology Archives at the American Museum of Natural History, New York).

[20] Outline of Proposed Agreement with Mr. H.D. Abrams, July 1919; Wissler to Osborn, October 17, 1919; Wissler to Morris, October 27, 1919 (Aztec Ruins files, Department of Anthropology Archives at the American Museum of Natural History, New York).

to the state of New Mexico, the museum was anxious that Huntington be recognized as the donor and get philanthropic credit.[21]

To further justify actions contrary to Osborn's wishes as of that May, Wissler claimed that, by owning the land, dirt from the excavation could be dumped where convenient and not have to be hauled away. That would save cartage fees. What were considered "unpromising" parts of the settlement would not have to be dug. The museum no longer would be bound by the agreement of 1916 to expose the entire structure. Perhaps most persuasive of all was the publicity the museum would receive from the growing number of visitors to the ruin. Some 1,200 sightseers had been counted in 1918.[22]

As interest in the acquisition of Aztec Ruin rose, Morris was appointed by the American Museum as its resident agent at an annual salary of $1,200. One of his assignments was to forward the draft of the deed to the West Ruin property and the abstract of title to New York for approval as soon as they were prepared (see Appendix G).[23] With them, Morris enclosed a note saying that, providing a representative collection of specimens was kept at the ruin, Abrams waived all right to "relics." On the condition of a local collection, Abrams was adamant. Although he failed to make it explicit, it seems that he did not intend that the displayed specimens necessarily be from his personal assortment.

The immediate question was what was the museum going to do with a crumbling, large Anasazi community, which had proved impossible to organize and endow as an independent park. Knowing that the museum could act only as an interim landlord while scientific work was under way, activity for which there no longer was financial support, the Trustees would not sanction its acquisition until the matter of final disposition was resolved. There were no legal obstacles to retaining the Morris house and a small plot of adjacent land as a field station until such time as the museum's interest in Southwestern research ceased.[24]

A review indicated that there were three public bodies who might accept as a gift the remaining ruin property and the extensive repairs already made to it. These were the federal government, the state of New Mexico, and the village of Aztec. Wissler leaned toward presenting the West Ruin to the federal government. He learned during several exploratory interviews in Washington that a definite policy was being formulated for the care and enlargement of national parks containing prehistoric ruins.[25] The previous lack of this special attention by the two-year-old National Park Service to antiquities in reserves in the Southwest was the source of much criticism among professional archeologists. Jesse Walter Fewkes, director of the Bureau of American Ethnology, was the only known scientist to lobby the Department of the Interior to accept the ruin as an addition to the national park

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[21] Wissler to Osborn, October 17, 1919 (Aztec Ruins files, Department of Anthropology Archives at the American Museum of Natural History, New York).

[22] Ibid.

[23] Wissler to Morris, December 9, 1918; Morris to Wissler, January 12, 1920 (Aztec Ruins files, Department of Anthropology Archives at the American Museum of Natural History, New York).

[24] Wissler to Lucas, December 21, 1921 (Aztec Ruins files, Department of Anthropology Archives at the American Museum of Natural History, New York).

[25] Wissler to Morris, March 23, 1920; Wissler to Abrams, March 24, 1920 (Aztec Ruins files, Department of Anthropology Archives at the American Museum of Natural History, New York).

system. Fewkes's endorsement was met with skepticism by persons outside the government. He was one whose inept, even destructive, work at Mesa Verde National Park had caused much alarm.[26] Moreover, the National Park Service itself did not express interest in having Aztec Ruin in its trust. Arno B. Cammerer, later to become director of the National Park Service, came to Aztec at Morris's invitation, but it is not known that he advised the current director -- Stephen T. Mather -- on its desirability.[27] Neither is there any available documentation to indicate that either New Mexico state officials or the Aztec town council were contacted. In any event, it soon was known that none of the groups considered as possible caretakers would be able to accept the gift under the terms of the tentative deed. Particularly in the case of the federal government, there were stringent laws against any arrangements that called for future expenditures. The stipulation of the Abrams deed mandating construction of a museum did just that.[28] Unless Abrams was willing to trust the government, without a written guarantee, to proceed with the ruin's development and protection as funds were available, the entire transaction was in jeopardy.[29]

Being a capable administrator and not willing to see his plans go awry, Wissler set about oiling the wheels. He wrote Abrams lavishly praising his continued high ideals for the ruin. He noted that a national park would put the town of Aztec on the map in a noteworthy way and pave the way for its future expansion. "I hope to see your other ruins properly excavated and eventually added to this so that ultimately we may have one of the most remarkable National Parks in existence near your town," he continued.[30] He held out a further enticement by assuring Abrams he would be permitted to retain his rights to a duplicate collection. This, Abrams could loan to the government at a later date when space was erected.

The flattery and concessions worked: Abrams reluctantly agreed to sell to the government, with the American Museum as intermediary.[31] The museum retained a 1.8-acre plot of the southwestern corner of the site, including a fraction of the Anasazi house block, as its field headquarters in the event that future excavations were done. An original plan to keep most of the cobblestone South Wing lying west of the Great Kiva was dropped on Morris's suggestion.[32] Four provisions of the deed as finally

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[26] John Ise, *Our National Park Policy* (Baltimore: Johns Hopkins University Press, 1961), 34-41.

[27] Morris to Wissler, November 6, 1922 (Aztec Ruins files, Department of Anthropology Archives at the American Museum of Natural History, New York).

[28] Conditions e and f; see Appendix G.

[29] Wissler to Abrams, March 24, 1920 (Morris Memorial Collection, University of Colorado Museum, Boulder).

[30] Wissler to Abrams, April 1, 1920 (Morris Memorial Collection, University of Colorado Museum, Boulder).

[31] Wissler to Osborn, October 23, 1918 (Aztec Ruins files, Department of Anthropology Archives at the American Museum of Natural History, New York).

[32] Wissler to Morris, n.d. (Aztec Ruins files, Department of Anthropology Archives at the American Museum of Natural History, New York).

accepted concerned the right of Abrams to use a road along the west side of the premises and ditch entitlements by both parties to the contract.[33]

As soon as Abrams signed this deed of sale, Morris was instructed to have a lawyer draw a deed of gift from the American Museum of Natural History to the United States of America, with a token payment to the museum of $1.00. It was a bitter pill to swallow, as Morris explained. "Personally I dislike the prospect of seeing the ruin passed over to the United States because of my abhorrence of politically chosen and usually inefficient supervisors, and the labyrinthian red tape which seems to enmesh all government activities."[34]

Other than a plat which Morris prepared, during the following two years no further action was taken for adding adjoining ruins to the museum holding. Morris's drawing indicated four distinct blocks of land that at some future date might be incorporated into the ruin precinct. One encircled the East Ruin and its southern refuse mound. The second was the ruin northeast of Abrams's barn, later named the Earl Morris Ruin. The third was a small circular mound between the East Ruin and West Ruin, later designated Mound F. The fourth block took in a number of minor structures or drifts of ancient debris. Abrams was ready to deed blocks one through three to the museum. He preferred to hold the fourth in escrow for a period of 10 years.[35] It was to be six years before any of these secondary areas were formally set aside.

Meanwhile, the original transfer of 4.6 acres and the West Ruin was moving slowly through institutional channels. An American Museum of Natural History resolution of April 19, 1922, took cognizance of the fact that the government could give no guarantees about the site's maintenance and upkeep. For their part, the Trustees could not promise to provide a custodian but were willing that Morris serve in that capacity when he was in residence.[36] In essence, neither the government nor the American Museum fully accepted the responsibility inherent in the archeological recovery of Aztec Ruin.

Eventually seven years after the American Museum committed itself to the Aztec Ruin project, the site that its excavator had known since boyhood became the common property of all the citizens of the United States as the 26th national monument, the 14th under National Park Service protection (see Figure 5.1). It was a birth without ceremony. The deed, as it was hammered out over several years, was presented to government officials. Washington staffers drew up a document putting Aztec Ruin in care of the National Park Service by authority of the Antiquities Act of 1906. It was forwarded to the White House for the signature of President Warren G. Harding. Later, Wissler wrote Morris, "We

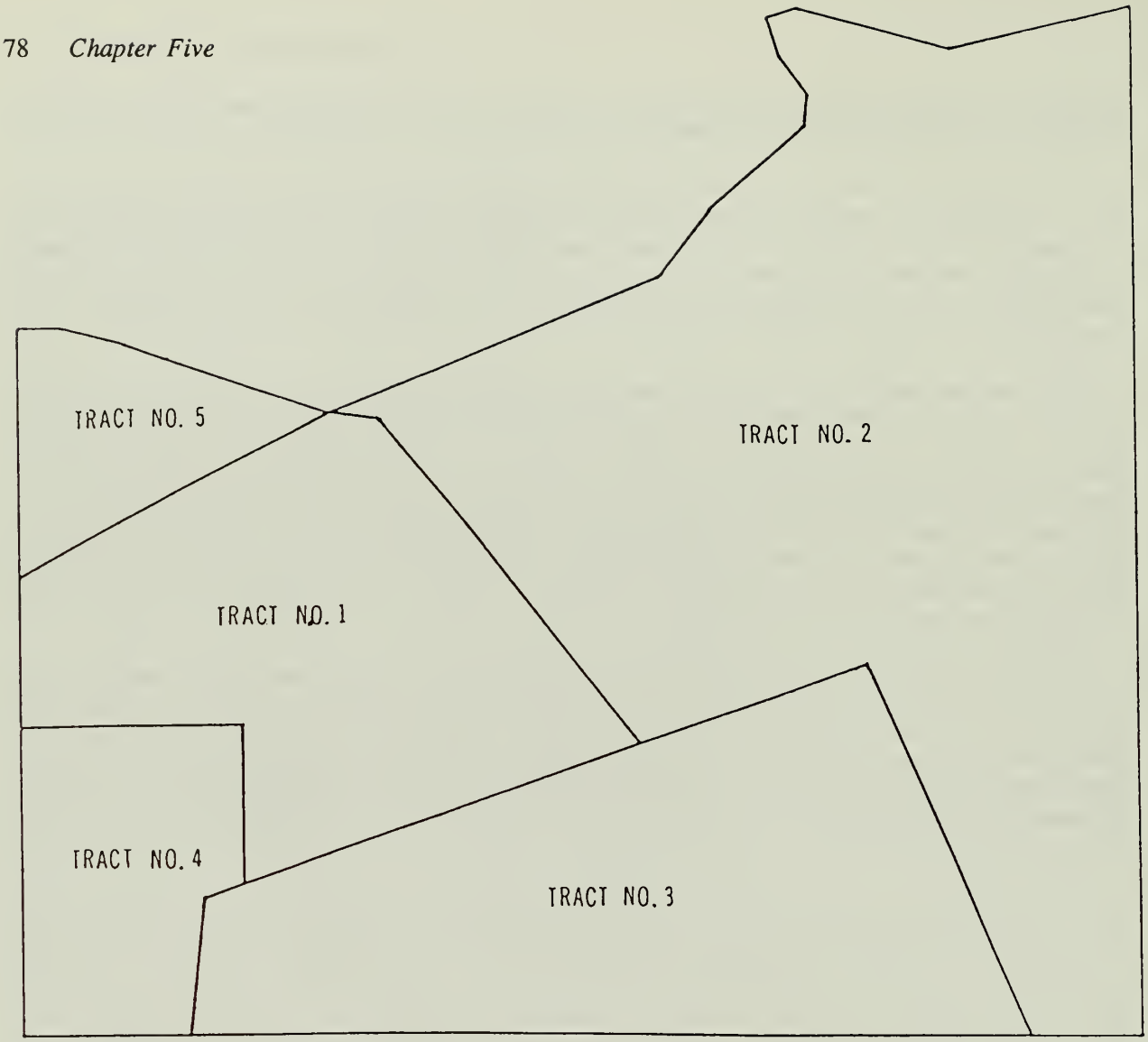
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[33] Wissler to Morris, April 1, 1920; Morris to Wissler, April 10, 1920 (Morris Memorial Collection, University of Colorado Museum, Boulder; Aztec Ruins files, Department of Anthropology Archives at the American Museum of Natural History, New York).

[34] Morris to Wissler, March 31, 1920 (Aztec Ruins files, Department of Anthropology Archives at the American Museum of Natural History, New York).

[35] Morris to Wissler, January 13, 1922 (Morris Memorial Collection, University of Colorado Museum, Boulder).

[36] American Museum of Natural History Resolution, April 19, 1922 (National Park Service: Aztec Ruins National Monument files at the National Archives, Washington).



Tract No. 1, Establishment of Aztec Ruins National Monument. Deed No. 1, American Museum of Natural History. Presidential Proclamation by Warren G. Harding, No. 1650 -- Jan. 24, 1923 -- 42 Stat. 2295. 4.6 acres.

Tract No. 2, Enlargement of Monument. Deed No. 2, American Museum of Natural History. Presidential Proclamation by Calvin Coolidge, No. 1840 -- July 2, 1928 -- 45 Stat. 2954. 12.6 acres.

Tract No. 3, Enlargement of Monument. Deed No. 3, Purchase by Government. Presidential Proclamation by Herbert Hoover, No. 1928 -- Dec. 19, 1930 -- 46 Stat. 3040. 6.8788 acres.

Tract No. 4, Enlargement of Monument. Deed No. 4, American Museum of Natural History. Presidential Proclamation by Herbert Hoover, No. 1928 -- Dec. 19, 1930 -- 46 Stat. 3040. 1.8 acres.

Tract No. 5, Enlargement of Monument. Deed No. 6, Southwestern Monuments Association. Presidential Proclamation by Harry S Truman, No. 2787 -- May 27, 1948 -- 63 Stat. 1513. 1.255 acres.

Total acreage, Aztec Ruins National Monument, 27.1338 acres, rounded

Figure 5.1. Growth of Aztec Ruins National Monument.

have signed a proclamation establishing the Aztec Ruin National Monument.[37] This is a great satisfaction to us particularly since it marks a definite period in the undertaking. I am also informed that you have been nominated as custodian for the ruin at the magnificent salary of $12.00 per year."[38] Two local newspapers carried confirming reports.[39] The museum unburdened itself, Huntington had the satisfaction of having made a substantial and scientifically significant gift to the American people, and the government in effect regained a patrimony for which it demonstrated little enthusiasm.

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[37] Proc. No. 1650 (42 Stat. 2295); Appendix A.

[38] Wissler to Morris, January 31, 1923 (Morris Memorial Collection, University of Colorado Museum, Boulder).

[39] *San Juan Review*, February 2, 1923; *Farmington Times Hustler*, February 16, 1923.

CHAPTER 6

THE DECADE OF DISSENTION, 1923-1933

JOINT CUSTODY OF AZTEC RUIN

Since neither the American Museum nor the National Park Service had clear-cut definitions of its future role in the Aztec Ruin and the vague interests of each organization at least theoretically intersected, conflicts arose from muddled administration. The lack of government funding and real interest in the intrinsic importance of the ruin threw a tremendous burden upon the donating institution. When accepting Aztec Ruin on behalf of the National Park Service, Stephen T. Mather, director from 1917 through 1928, stated, "It would be absolutely impossible for us to spend any money on the Aztec Ruin for many years to come, aside perhaps from that of putting in necessary metal warning and fire signs."[1] In the view of the National Park Service, the purpose of creating the monument was nothing more than giving the protection of federal laws to the area.[2] However, if the museum's important investment were not to be lost, it was imperative not only to halt human and natural attrition, but to push forward the research that it hoped would lead to its scholarly understanding. The desire to continue to do these things was there, but the wherewithal was limited and, according to some, no longer the responsibility of the museum.

Nevertheless, although Morris was to be paid by the museum, he also was charged as custodian for protecting government property and furthering government interests. He was to determine ruin repairs necessary to its maintenance and to oversee the work. The cost of laborers' wages and some materials would be met by the government. Minor excavations were to be continued sporadically by a few workmen under Morris's supervision, but the permits to carry on this work now had to come through government channels.[3]

In addition to Morris becoming custodian and Abrams being given a nonpaid semi-official title of U.S. Commissioner, Palmer T. Hudson, a local man who had worked on the excavations, was named park ranger at a token salary of $12.00 per annum.[4] These men legally could apprehend trespassers and turn them over to law enforcement officers. A copy of Rules and Regulations for Use and Management of National Monuments was to be their guidebook (see Appendix H).

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[1] Stephen T. Mather to Clark Wissler, n.d., 1923 (National Park Service: Aztec Ruins National Monument files at the National Archives, Washington); Arno B. Cammerer to Earl H. Morris, February 9, 1923 (Document file, Aztec Ruins National Monument Headquarters, Aztec, New Mexico).

[2] Cammerer to Henry D. Abrams, February 9, 1923; Morris to Cammerer, February 9, 1923 (Document file, Aztec Ruins National Monument Headquarters, Aztec, New Mexico).

[3] F.M. Goodwin to Wissler, March 10, 1923 (Document file, Aztec Ruins National Monument Headquarters, Aztec, New Mexico).

[4] [Chief Clerk] Vipond to Morris, March 6, 1923 (Morris Memorial Collection, University of Colorado Museum, Boulder); Cammerer to Abrams, February 9, 1923 (Document file, Aztec Ruins National Monument Headquarters, Aztec, New Mexico).

One of the aspects of site management not spelled out in the change of ownership from the museum to the government was its visitation by the public. Mather's curt statement upon acceptance gave no formal recognition of this underlying reason for the ruin's conservation except to note that development funds did not exist. It seems to have been assumed that Morris would continue to take visitors through the house block, as he had from the beginning of exploration of Aztec Ruin. Perhaps it was not realized to what extent the tourist traffic would grow. Morris inquired, "Do you wish me to keep as close track as possible of the number of visitors who come here?"[5]

In the decade of the 1920s, the San Juan Basin was a relatively isolated northwest corner of New Mexico. A branch railroad line, the Red Apple Flyer, came down the Animas valley from Durango to the village of Aztec. After much local agitation for it, an undeveloped automobile road paralleled the same route for approximately 35 miles.[6] A rutty dirt track cut across the generally uninhabited uplands of the state from the Rio Grande to Bloomfield and to Farmington and Shiprock. A side road went from Bloomfield north to Aztec to join the continuation of the Durango road along the Animas to Farmington. A similar dirt road ran south from Shiprock through the western sector of the Navajo Reservation to connect at Gallup with the transcontinental U.S. Highway 66 and the Santa Fe Railroad (see Figure 6.1). All these routes across the northern wilderness of the state were subject to being closed in winter by deep snows and in summer by flash floods, slippery mud, or clouds of choking dust. As late as the 1930s, these conditions continued. "Cars are being pulled through sections of the Durango road with tractors, the Cuba road is closed, and our only road is now from Gallup," the custodian at Aztec Ruin wrote. "We walked to town several times this month."[7]

Despite these drawbacks, from the beginning of the archeological work at Aztec many curious individuals made their way to the well-publicized site (see Figure 3.9). At first, these were local folks, who drove their buggies out in the country to watch friends toiling with residues of the past. Like a proud parent, Morris enjoyed showing off "his" site and explaining what was being learned about its former inhabitants. As automobiles became common after World War I and the urge to travel in them took Americans ever farther from home, the volume of visitation to the ruins increased. Miserable roads notwithstanding, at the end of the first year of the monument's existence more than 7,000 persons had come to the Anasazi great house on the Animas.[8] To prepare for this onslaught of sightseers, Morris hoisted an American flag at one corner of a barbed wire fence across the front yard of the museum property upon which was a sign announcing the hours of visitation (see Figure 6.2).[9] More time was demanded by visitors than could be reasonably expected of an unpaid one-man staff, yet those who made government appropriations did not see fit to provide Aztec Ruin with full-time employees.

For most of the first seven months of 1923, Morris was at Aztec Ruin taking on these various tasks, as well as trying to settle down to writing the excavation reports that were beginning to weigh

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[5] Morris to Cammerer, February 9, 1923 (Morris Memorial Collection, University of Colorado Museum, Boulder).

[6] Morris to Wissler, January 5, 1921 (Aztec Ruins files, Department of Anthropology Archives at the American Museum of Natural History, New York); *Aztec Independent*, February 25, March 4, March 18, March 25, April 1, and May 13, 1921.

[7] Johnwill Faris report, February 1932, Southwest Monuments Monthly Report, Coolidge, Arizona.

[8] Palmer T. Hudson report, January 1924, Southwest Monuments Monthly Report, Coolidge, Arizona.

[9] Photographs #1213 and 1225 (Photograph file, Aztec Ruins National Monument Headquarters, Aztec, New Mexico).

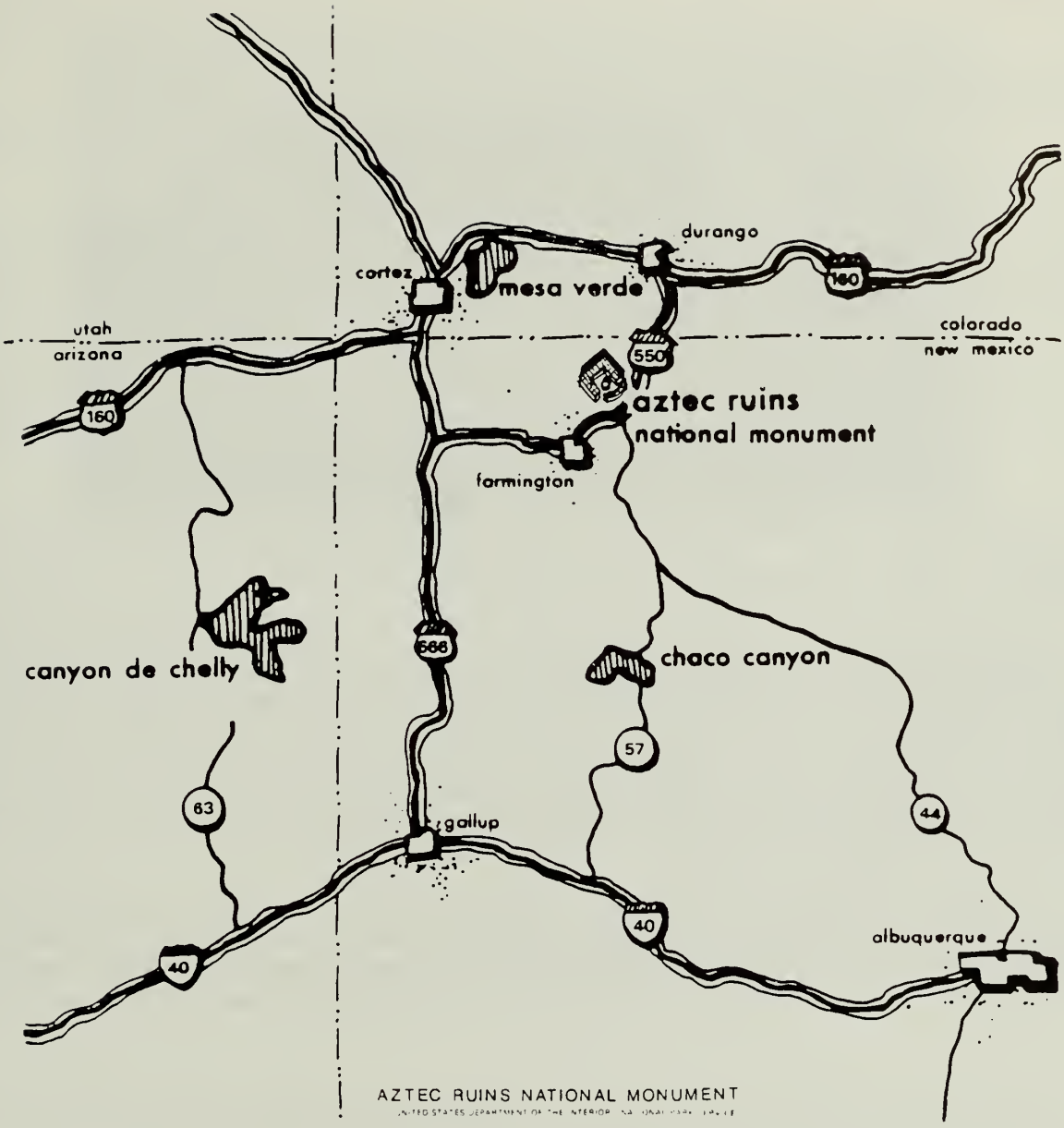


Figure 6.1. Map of location of Aztec Ruins National Monument and connecting highways in the Four Corners area.

on his conscience. However, that fall, with grants from the American Museum and the University of Colorado, he set out upon a new absorbing excavation program in Canyon del Muerto, Arizona. As it turned out, that research spread over the next four autumns. More important to his commitment at Aztec Ruin was his acceptance of a position with the Carnegie Institution of Washington. That job required him to be in Yucatan, Mexico, for six months a year.

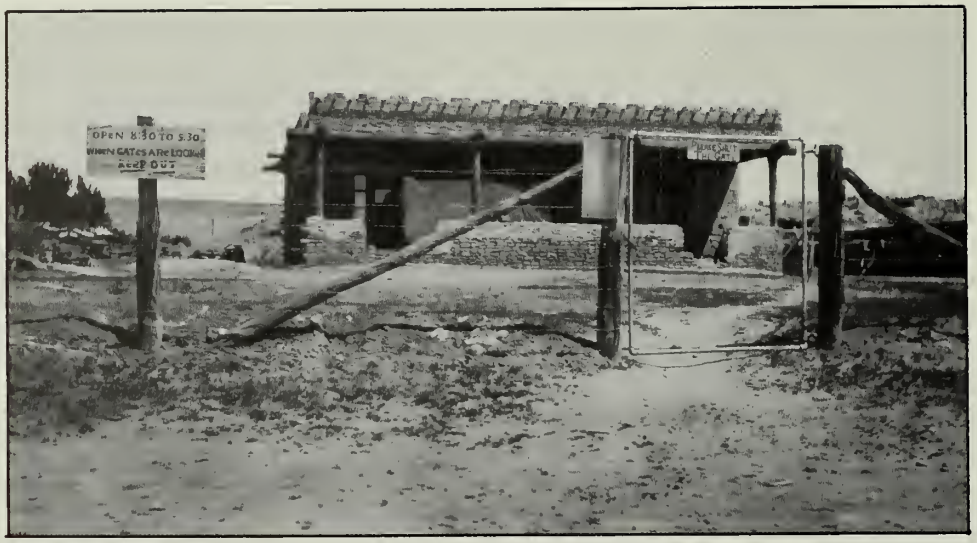


Figure 6.2. Morris house serving as monument entrance prior to 1934.

Because his services to the two groups involved at Aztec were entangled, preparations to cope with Morris's withdrawal were equally complicated. The American Museum arranged that Morris be given an annual six-months leave of absence to take the Carnegie Institution position and that he continue to have use of the Aztec house under a 10-year lease upon payment of $1.00 per year.[10] The first leave period was January through June 1924. The museum employed Hudson as caretaker of its property at $50 monthly during this time.[11] Abrams agreed to serve free of charge as the museum's agent in the event the caretaker encountered any problems.[12] Since Hudson already had an appointment as park ranger, he was empowered to act on the government's behalf.[13]

Hudson was to occupy the stone house so that someone always would be at the site.[14] Hudson misunderstood his mission, took on another job, and was gone most of the day. As a result, the National Park Service was upset that visitors could not gain entrance through the locked gate in front of the property, and the American Museum was fearful because its specimen collection had been left

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[10] Wissler to Morris, December 3, 1923 (Aztec Ruins files, Department of Anthropology Archives at the American Museum of Natural History, New York).

[11] Wissler to Morris, December 3, 1923; Wissler to George H. Sherwood, January 21, 1924 (Aztec Ruins files, Department of Anthropology Archives at the American Museum of Natural History, New York).

[12] Abrams to Wissler, December 15, 1923; Wissler to Abrams, December 20, 1923 (Aztec Ruins files, Department of Anthropology Archives at the American Museum of Natural History, New York).

[13] Morris to Frank Pinkley, December 8, 1923 (Aztec Ruins files, Department of Anthropology Archives at the American Museum of Natural History, New York).

[14] Wissler to Abrams, December 29, 1923 (Aztec Ruins files, Department of Anthropology Archives at the American Museum of Natural History, New York).

unguarded.[15] After Morris completed his second fall season at Canyon del Muerto in 1924, Hudson's appointment was terminated.

The only archeological work at Aztec Ruin during 1924 was small repairs and the excavation of Room 191[2]. These projects were done during the summer by Owens and Tatman, two helpers from the original crew. The single specimen recovered was a woven headband.[16]

Barely having time to repack his field gear between fall digging in Mummy Cave in Canyon del Muerto and winter rebuilding of the Temple of the Warriors at Chichen Itza in Yucatan, Morris began to realize the hopelessness of his further control of affairs at Aztec Ruin and the evaporating prospects of his completing the ruin's total excavation should the American Museum ever decide to do so. Wissler continued to hold out hope that such a program would happen eventually. In the meantime, he would try to keep the American Museum interest alive. "I will endeavor to bring it about that it will be the Museum's policy to try to tide over by making these modest improvements to the house," he said, "keeping up minor repairs on the ruin, and providing such additional custodianship as may be needed."[17]

With this support, Morris's next choice for a replacement to meet his dual obligations to the American Museum and to the National Park Service to which he personally could not attend was Otha (Oley) O. Owens, a 52-year-old local farmer whom Morris converted into a competent archeological field hand. In the past, Owens looked after the ruin in Morris's absences. As Morris outlined the park ranger job to Owens, "Your duties as ranger will be the guarding of the ruin against vandalism, the keeping of a daily record of the number of visitors, and the sending of a report at the close of each month giving the total to Mr. Frank Pinkley, Sup't. of Southwestern Monuments, Blackwater, Arizona."[18] The National Park Service had begun its management of Aztec Ruin with the prerequisite governmental record keeping. To forestall any repetition of the dereliction of responsibility to the museum which was paying his $75 monthly stipend, Morris also cautioned Owens, "The Museum will expect in return for your salary your presence day and night at the ruin; that is, it is to be as if you were actually living there. If you have to be absent, I would prefer that you leave Oscar Tatman in your place. It is understood that you keep close watch of the Museum's property, and that you will take special pains to guard the building where the specimens are against fire."[19] Morris listed other tasks he wanted done. Most of these related to finishing details on the house. From August through December 1925, the museum expended $1,049.99 at Aztec, of which at least one-third was for completion of the house.[20] Four other projects within the ruin confirmed the museum's intention to continue modest repair and development.

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[15] Morris to Pinkley, December 2, 1924 (Aztec Ruins files, Department of Anthropology Archives at the American Museum of Natural History, New York).

[16] Earl H. Morris, Archaeological Report to the National Park Service, 1924 (Document file, Aztec Ruins National Monument Headquarters, Aztec, New Mexico).

[17] Wissler to Morris, September 10, 1924 (Aztec Ruins files, Department of Anthropology Archives at the American Museum of Natural History, New York).

[18] Morris to Oley Owens, December 16, 1924 (Aztec Ruins files, Department of Anthropology Archives at the American Museum of Natural History, New York).

[19] Ibid.

[20] Earl H. Morris, Statement of Expenditures, 1925 (Document file, Aztec Ruins National Monument Headquarters, Aztec, New Mexico).

Owens took his new assignment seriously, as is shown in a follow-up letter to Wissler. "I have not been able to do much yet," he explained, "as it came a big snow the next day after Earl left. Then the mercury dropped to 24 below zero. And has been hanging around there ever sence [sic]. And every thing will be looked after in no. 1 shape."[21]

Owens turned out to be a more reliable caretaker than Hudson. The National Park Service had no complaints. Upon his return to Aztec in the summer, Morris reported, "I am well satisfied with Owens's management of things here during my absence. He expended to advantage the residue of last year's Government funds for repair and did some digging in addition." Morris remained frustrated by having to attend to visitors at the ruins when he was back in Aztec. He asked that Owens continue to do this so that he could write.[22]

The digging in 1925 to which Morris referred occurred in two rooms, 192 on the second story of the West Wing and 193 in the North Wing. The first chamber was relatively sterile, so far as artifacts were concerned. A refuse deposit in Room 193 provided 73 specimens, including pottery, sandstone discs, stone implements, bone awls, yucca cordage and strips, yucca sandals, arrow shafts, fiber pot rests, basketry, and wooden objects.[23] From a large assortment of potsherds, Morris restored a mug, a jar, and two canteens. These vessels remain at Aztec Ruins.[24]

Owens once again served as ranger and caretaker of Aztec Ruin during the winter season of 1926. When Morris came back to Aztec that summer, he soon was off on a brief trip to inspect some ancient salt mines in the vicinity of Camp Verde, Arizona, taking Owens with him. In the fall, the two men went back to Canyon del Muerto to continue that exploration. During these absences, at his own expense, Morris employed a single, elderly man, Paul Fassel, a German whom he had met in Yucatan, to share the frame shanty with the archeological collection and the field equipment.

THE BOUNDEY ERA, APRIL 1927-OCTOBER 1929

For three years after the establishment of the monument, the American Museum continued to provide a watchman, who primarily looked after its property but also kept an eye on the ruin. The Trustees decided not to continue offering this service to the government as of January 1, 1927. This move probably was taken to force the government into assuming its rightful responsibility. To that time, only $24 a year actually had been committed to the site's protection, other than $500 for ruin repairs: $12 for a custodian and $12 for a park ranger. Andrieus A. Jones, senator from New Mexico, urged Director Mather to try to get the American Museum to continue its support for a short additional period. Jones planned to pressure the congressional Appropriations Committee to increase its aid to all

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[21] Owens to Wissler, January 12, 1925 (Aztec Ruins files, Department of Anthropology Archives at the American Museum of Natural History, New York).

[22] Morris to Wissler, July 25, 1925 (Aztec Ruins files, Department of Anthropology Archives at the American Museum of Natural History, New York).

[23] Earl H. Morris, Archaeological Excavation Report and Catalogue of Specimens, 1925 (Document file, Aztec Ruins National Monument Headquarters, Aztec, New Mexico).

[24] Collection Accession file, Accession 8, Aztec Ruins National Monument Headquarters, Aztec, New Mexico.

32 national monuments. In 1926, that budget totaled just $21,270.[25] During the same interlude, Morris acknowledged a letter from the superintendent of the Southwest Monuments, Frank Pinkley, stating that the government could not provide a custodian until at least the fiscal year beginning in July 1928. Considering his own commitments, Morris decided that meant that for an intolerable interim of a year and nine months there would be no one in residence at Aztec Ruin. Realizing that the National Park Service and its regional Southwest division were actively trying to remedy this situation, he placed the blame on the Bureau of the Budget and the Appropriations Committee of Congress. Even after three days of testimony, the individuals in these groups did not comprehend the destructive problems faced by vulnerable prehistoric entities in the Southwest.[26]

On December 24, 1926, Arno B. Cammerer, then assistant director of the National Park Service, notified George H. Sherwood, acting director of the American Museum of Natural History, that at last Congress had approved a permanent custodian for Aztec Ruin. The same message already had been dispatched to Morris in New Orleans, where he was making preparations to sail to Yucatan for another season for the Carnegie Institution.[27] After three years in limbo, Aztec Ruin was to become a full-fledged part of the federal park system. Events soon showed that this was not to be accomplished without a personnel battle.

In his December telegram, Cammerer asked for advice from Morris about whom to appoint to fill the permanent custodian position. Morris found himself in a quandary. He knew of no one with sufficient intellectual grasp of the archeological significance of the site to, in his opinion, properly interpret it to the public. Owens was the obvious person, other than Morris, with the most intimate association with Aztec Ruin as it had been revealed. Still, Morris felt Owens lacked the knowledge and the managerial skills to be a full-time custodian. Although he apologized for appearing self-serving, Morris suggested that he have the official appointment. He would choose someone else to carry out the immediate routine duties and receive the $100 monthly remuneration until such time as he could give Aztec Ruin his own full attention.[28] In the meantime, Morris was obliged to continue paying Fassel $20 a month out of his own pocket until some definite decision about the ruin's protection was reached.

For the next three months, confusion reigned over the newly created position at Aztec Ruin. Since Fassel already was at the site under an agreement with Morris, he was employed as assistant custodian at an annual stipend limited to $480. Several days later Cammerer again wired Morris in New Orleans that, despite his advice, Owens was chosen as ranger and Fassel was reduced to laborer. Owens was to be paid $1,140 yearly.[29] Probably Pinkley's opinion of Fassel had something to do with the decision not to continue him as assistant custodian. Earlier while the monument staffing matter was

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[25] Andrieus A. Jones to Mather, December 2, 1926 (National Park Service: Aztec Ruins National Monument files at the National Archives, Washington).

[26] Morris to Pinkley, September 23, 1926; Pinkley to Morris, October 2, 1926; Wissler to Cammerer, n.d.; Morris, Memorandum to whom it may concern, November 25, 1926 ((Aztec Ruins files, Department of Anthropology Archives at the American Museum of Natural History, New York).

[27] Cammerer to Morris, December 22, 1926; Cammerer to Sherwood, December 24, 1926 (National Park Service: Aztec Ruins National Monument files at the National Archives, Washington).

[28] Morris to Cammerer, December 23, 1926 (National Park Service: Aztec Ruins National Monument files at the National Archives, Washington).

[29] Cammerer to Morris, January 5, 1927 (Morris Memorial Collection, University of Colorado Museum, Boulder).

before the Appropriations Committee, Pinkley wrote Mather, "Fassel is as honest as the cigar store Indian who used to try to present every casual passer-by with his handful of cigars, and has just about as much brains when it comes to imparting the information the visitor wants concerning the Aztec Ruin."[30] Upon learning of the offer to Owens, Fassel angrily shot off a letter to Pinkley lodging complaints against Owens's aggressiveness in continuing to take visitors through the ruins, although Morris had not authorized him to do so, and generally ignoring Fassel's semi-official status.[31]

The friction between the two men vying for control at Aztec led National Park Service officials to by-pass potential problems by appointing an outsider to the custodian post and rescinding the offer to Owens.[32] They selected George L. Boundey, a career National Park Service man, who had been Pinkley's assistant at Casa Grande National Monument in Arizona. In order to reward his past meritorious service, Boundey's rank was upgraded to custodian at an annual salary of $1,320. Since there could not be two custodians, a brief form letter abruptly informed Morris that his services were terminated without prejudice.[33] He was not thanked for his four years of service without pay, nor was the American Museum of Natural History thanked for its contributions to maintenance of the site until the National Park Service was able to fully take the reins. Not until a month later did Morris receive a letter of explanation of the personnel changes made during the spring.[34] If he felt hurt by this summary treatment, he did not express it in writing.

The townfolks of Aztec always took a keen interest in what was going on at the ruin. They regarded the rejection of Owens in favor of an unknown man from Arizona as a personal affront. Some of them lost little time in protesting to Congressman John Morrow. They complained that Owens was betrayed for political reasons.[35] The reply from Acting Director Arthur E. Demaray that a more experienced man was needed to run the monument and that Owens could be assured of employment in ruin repair did not erase the resentment.[36] Since Morris's exploits in the Southwest and Mexico made him a local celebrity, Aztecans likely included his release among their suspicions of government motives.

Had Morris been in residence at the time of the transition period, the alliance between the National Park Service and the American Museum of Natural History would have been less shaky. As it was, he was anxious that National Park Service employees not exercise unwarranted privileges on

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[30] Pinkley to Mather, December 12, 1926 (National Park Service: Aztec Ruins National Monument files at the National Archives, Washington).

[31] Paul Fassel to Pinkley, January 21, 1927 (National Park Service: Aztec Ruins National Monument files at the National Archives, Washington).

[32] Morris to Fassel, May 18, 1927 (Morris Memorial Collection, University of Colorado Museum, Boulder).

[33] George E. Scott to Morris, March 19, 1927 (National Park Service: Aztec Ruins National Monument files at the National Archives, Washington).

[34] Arthur Demaray to Morris, April 15, 1927 (Morris Memorial Collection, University of Colorado Museum, Boulder).

[35] John Morrow to Mather, April 11, 1927 (National Park Service: Aztec Ruins National Monument files at the National Archives, Washington).

[36] Demaray to Morrow, April 13, 1927 (National Park Service: Aztec Ruins National Monument files at the National Archives, Washington).

museum property he was supposed to protect. Immediately upon learning of his own termination as custodian, he dispatched several telegrams to Fassel cautioning him not to allow that to happen.[37]

When Boundey reported for duty in April 1927, he was not qualified or able to carry out three of the four activities listed in the newly defined custodian job description.[38] He was familiar with the necessary administrative duties, but he was not sufficiently educated about the Anasazi to be an effective guide nor did he understand the demands of the kind of necessary ruin repair. There was neither museum nor specimens, the preparation of which was another of his outlined duties. These facets of the custodian's job at Aztec Ruin caused Boundey difficulties and plunged his administration into turmoil. Eventually, it was his solution to the museum problem and his paranoid behavior arising from imaged wrongs committed by Morris and the American Museum that resulted in his transfer in October 1929 to Tumacacori National Monument, Arizona, where he served as custodian. His administration was the most tumultuous in the recent history of Aztec Ruin.[39]

MUSEUM PROPERTY ADJACENT TO THE MONUMENT

One complication to the establishment of Aztec Ruin National Monument was property adjacent to the monument retained by the American Museum of Natural History. In looking after that holding, Morris was minding his own residence. In 1922, he had been given a long-term lease on the house and associated prehistoric units for utilitarian purposes, with his assumption of upkeep of the water rights, buildings, and taxes.[40] Morris insisted upon the provision that he be allowed to terminate the lease at his discretion. Developing interest in research away from Aztec and uncertainties attendant at that time in the pending transfer of the ruin to some corporate body other than the American Museum might force a move. The use of the house by Morris, the retention of three rooms of the Anasazi structure for personal purposes, and the cistern beneath the house and its outside pump, which provided the only drinking water in the immediate vicinity, caused considerable resentment by National Park Service personnel throughout the first decade of the monument's history.

If the house had been occupied when the Boundeys came, it might have been taken more for granted. Since it was rather special for its day, erroneously believed to have cost as much as five times more than it really had, the house was a daily reminder of a perceived injustice. There it sat, empty, next to the monument, while Boundey was compelled to rent less attractive, less convenient quarters elsewhere. Boundey became so incensed over the house that he made a trip to the county courthouse to check on the lease. That bit of snooping left him flabbergasted at the document's generous terms in favor of Morris. Boundey was unaware of Wissler's sense of indebtedness to his young protege for past and probable future contributions to the American Museum underscoring this deal. The museum felt that Morris's presence and interest in the ruins helped maintain the educational and scientific value of a large financial investment by a prime donor. Moreover, the museum intended

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[37] Morris to Fassel, May 1927 (Morris Memorial Collection, University of Colorado Museum, Boulder).

[38] Cammerer to Pinkley, March 24, 1927 (National Park Service: Aztec Ruins National Monument files at the National Archives, Washington).

[39] Pinkley to Director, National Park Service, December 1927, Southwest Monuments Monthly Report, Coolidge, Arizona.

[40] Morris to Wissler, April 11 and November, 1922 (Aztec Ruins files, Department of Anthropology Archives at the American Museum of Natural History, New York).

to use the residence as a place from which to carry on other studies in the Southwest.[41] In Boundey's warped frame of mind, the lease seemed to represent some unsavory blackmail.

Another irritation Boundey added to his list was that the sole access to the monument was through museum property at the southwest corner of the tract. All other surrounding land was under cultivation or not reachable by road. Both the National Park Service and American Museum pieces of land were fenced to keep out livestock and vandals. Visitors parked in a designated space before the fence in front of the house (see Figure 6.3). They could picnic at a table under a ramada on the



Figure 6.3. Custodian Johnwill Faris in monument parking lot, ca. 1932. Picnic ramada in background.

terrace between the ruin and its outer revetment.[42] To reach the ruin proper, visitors walked through a gate, circuited what was thought to be an ancient trash dump, crossed the side yard of the house, and went past the Anasazi rooms with modern roofs. Typically, materials and tools used in ruin repair were strewn about (see Figure 4.3).[43] It was not an attractive approach. The museum accepted it as a temporary solution necessitated by the unanticipated fact of its having to regulate visitation. Even after the National Park Service took charge of this part of the operation, existing property boundaries allowed no substantial change to the entrance. Cars parked along the county road, and visitors came to the ruin at its westernmost point but still through the Morris yard.

In the summer of 1928 when Morris returned to the battleground that Aztec Ruin had become, he and Boundey suffered heated arguments. Usually a very reserved man, Morris let his anger show in a plea to Wissler to allow him a way out of some of the difficulties. He described Boundey as having a venomous attitude concerning the work that had been done at the site. According to Morris, Boundey was so opposed to the American Museum that he went so far as to accuse the institution of robbery in taking the archeological specimens to New York. The major Boundey grievance, however, was that the museum had not deeded the entire West Ruin to the government. For the sake of peace, Morris offered to pay for removing the tar paper roofs from these rooms if the museum would consider

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[41] Wissler to Sherwood, September 15, 1926 (Aztec Ruins files, Department of Anthropology Archives at the American Museum of Natural History, New York).

[42] Photograph #336 (Photograph file, Aztec Ruins National Monument Headquarters, Aztec, New Mexico).

[43] Photograph #864 (Photograph file, Aztec Ruins National Monument Headquarters, Aztec, New Mexico).

transferring them to the National Park Service.[44] No immediate decision on the gift of this part of the West Ruin to the government was made.

SECOND ENLARGEMENT OF AZTEC RUIN NATIONAL MONUMENT

Before the first tract of Abrams land was proclaimed a national monument, Morris made a survey and suggestions for a second section to include all the prehistoric structures to the east of West Ruin. This was a parcel that was temporarily eliminated in the protracted dealings with Abrams. After an inspection trip in 1925 by H.C. Bumpus, former director of the American Museum of Natural History, Wissler instructed Morris to initiate a plan with Henry Abrams's five heirs for acquisition of this plot.

The second addition took in 12.6 acres and a dozen ruins, the East Ruin being the most prominent. Working through Boyd, the eldest Abrams son who took over the original farm, Morris proposed a one-year option to purchase the tract for $3,500. The money again was to come from the Archer M. Huntington fund. Previous difficulties with encumbrances made both parties distrustful of extras being committed to paper. It was agreed verbally that a natural water course between the West and East ruins was an allowable means of carrying off waste water from the cultivated area to the north. Should waste water ditches be relocated in the future, other provisions would be made for drainage of the Abrams farm.[45] The hay barn to the northeast of East Ruin could be used until money for its removal was obtained.[46] Because negotiations were unsettled before Morris had to depart again for Yucatan, he asked Mrs. H.B. Sammons, of the First National Bank in Farmington, to be the museum's agent in securing the option, having a survey done, and filing the legal documents.[47]

Exactly a year later, in January 1927, the American Museum purchased the second piece of land. The deed was under the scrutiny of the museum's legal advisor. With that transaction, it became the responsibility of Fassel to watch over the property until Morris himself resumed his role at Aztec Ruin in July. Wissler continued to bait Morris with the possibility of future research at Aztec, as he wrote, "What pleases me more is that we have been able to carry out in part, at least, your ideals with respect to the group and to place the ruins in a position where you can at some future time continue their exploration, if that seems advisable. It is of course possible that Mr. Mills [Ogden Mills, New York legislator and later Secretary of the Treasury] may be interested in providing for the exploration of these new ruins in which case I will take the matter up with you before making other arrangements."[48]

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[44] Morris to Wissler, July 27, 1928 (Morris Memorial Collection, University of Colorado Museum, Boulder); Jesse Nusbaum to Cammerer, July 27, 1929 (National Park Service: Aztec Ruins National Monument files at the National Archives, Washington).

[45] Statement for Management, Aztec Ruins National Monument (Santa Fe: Southwest Regional Office, National Park Service, August 1985), 9.

[46] Morris to Boyd Abrams, December 24, 1925, and January 4, 1926; Morris to Pliny Earle Goddard, January 4, 1926 (Aztec Ruins files, Department of Anthropology Archives at the American Museum of Natural History, New York).

[47] Morris to Mrs. H.B. Sammons, December 24, 1925, and January 4, 1926 (Aztec Ruins files, Department of Anthropology Archives at the American Museum of Natural History, New York).

[48] Wissler to Morris, January 18, 1927 (Morris Memorial Collection, University of Colorado Museum, Boulder).

The American Museum wanted to add the new tract to the monument as expeditiously as possible. In laying the ground for this second gift to the National Park Service in the name of Huntington, President Osborn contacted Director Mather in March: "On this plot is one major ruin about as large in ground plan as the Aztec Ruin, also three smaller ruins of similar form, and lastly, a unique circular structure [Mound F], well preserved, and promising to be of unusual interest," he explained. "Further our experience in the National Monument leads us to anticipate that a number of older ruins will be found underneath the soil of this new plot."[49]

Just as it appeared that the latest process of increasing the monument size would go through without a hitch, the museum legal staff discovered an error in the deed. It occurred as figures from the original document were transferred to the heirs' deed. Rectifying the mistake took up the fall and winter months of 1927.[50] Then, the gift of the land with the token payment of $1.00 was accepted.

On July 2, 1928, the second Aztec Ruin proclamation was signed by President Calvin Coolidge (see Appendix A).[51] It enlarged the boundaries of the federal holding to incorporate a total of 17.2 acres and 13 ruins and changed its name to Aztec Ruins National Monument (see Figure 5.1). On-the-scene oversight of the second tract passed from Morris, American Museum representative, to Boundey, National Park Service custodian.

THE ARCHEOLOGICAL SPECIMENS AND THEIR EXHIBITION IN THE FIRST TWO MUSEUMS

The goods the Anasazi made for their daily needs were the source of trouble from the time Euro-Americans first entered the Animas valley. They were the lures that prompted many settlers to violate prehistoric sites, unknowingly or carelessly destroying irreplaceable scientific data. They were prizes offered to financiers of shoveling explorations, such as those conducted by Morris himself. At Aztec Ruin, the worn cast-offs, the burial offerings, the objects left by the grinding bins upon departure many centuries ago became a kind of spoils-of-war.

From the initial meeting between landowner Abrams and museum operatives, the division of artifact finds was of uppermost concern. It was commendable for the times that Abrams never thought of a personal collection except in terms of what could be shown to those who took the trouble to come see the old communal house on his farm. A building housing these materials was his primary goal, and none of those who dealt with him over the next nine years of his life doubted it. Still, behind this ideal there probably was a characteristically Western frontier suspicion of Easterners. Abrams likely would not have been surprised if the museum stripped the site, leaving him only a bare-bones, rocky skeleton of what had been.

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[49] Henry Fairfield Osborn to Mather, March 7, 1927 (Aztec Ruins files, Department of Anthropology Archives at the American Museum of Natural History, New York).

[50] Wissler to Morris, October 7 and November 1, 1927; Morris to Mrs. H.B. Sammons, November 25, 1927 (Morris Memorial Collection, University of Colorado Museum, Boulder).

[51] Proc. No. 1840 (45 Stat. 2954); Appendix A.

It is unclear whether, at the conclusion of the exploratory work by the American Museum in 1916, Abrams actually was allowed to select an assortment of small objects taken from the fill of various units. This may have been his stake in exposing old dwellings on his land. It is more probable that the entire haul was shipped to New York. So that there would be no suspicion that the museum was simply out for loot at all costs, Wissler hastened to justify this procedure. "As those specimens have a scientific value," he wrote, "we think it inadvisable to deposit them in the ruin or in the vicinity until proper provisions have been made for their care and housing."[52] For the moment, this was a position to which Abrams acquiesced.

Notwithstanding, at the end of the productive season of 1917, Abrams insisted on earmarking a selection of artifacts for himself prior to allowing the collection to leave the premises. The field catalogue after work stopped indicated 27 specimens as "left with Mr. Abrams" and 65 specimens as "selected by Mr. Abrams."[53] As Morris explained to Wissler, "Most of the specimens would be ready for shipment now were it not for the fact that Abrams insists on going over them, and coming to at least a tentative agreement concerning their division. He is willing then that everything be shipped and remain in the museum several years if necessary for study purposes. I would have preferred not to have taken up this matter at all at this time, but I think Abrams would try to stop shipment unless some understanding were arrived at."[54] Wissler intended to have Abrams come to New York at museum expense and make a division when all the materials were in one place, but Abrams's suspicions made that plan impractical.[55]

About one-third of the artifacts chosen by Abrams came from the rich deposits found in Room 41. Some were outstanding specimens, such as quartzite or onyx knives with wooden hafts still attached, portions of strands of shell or stone beads, mosaic fragments, and especially fine pieces of decorated earthenwares. One of the pieces of pottery was a greyware dipper with black and red decorations. Morris mentioned it in the field catalogue with the notation, "would appreciate the specimen, if at completion of excavation it can be spared from museum exhibit."[56] Morris illustrated 14 of these items in the report upon which he was then working.[57] The artifacts were marked as being for the Abrams collection but were kept in the East.[58] The rationale for this was that analysis for future

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[52] Wissler to Abrams, April 10, 1916, and January 15, 1917 (Aztec Ruins files, Department of Anthropology Archives at the American Museum of Natural History, New York).

[53] Earl H. Morris, Field Catalogue (Aztec Ruins files, Department of Anthropology Archives at the American Museum of Natural History, New York; Collection Accession file, Aztec Ruins National Monument Headquarters, Aztec, New Mexico).

[54] Morris to Wissler, September 29, 1917 (Aztec Ruins files, Department of Anthropology Archives at the American Museum of Natural History, New York).

[55] Wissler to Morris, October 4, 1917 (Morris Memorial Collection, University of Colorado Museum, Boulder).

[56] Morris, Field Catalogue (Aztec Ruins files, Department of Anthropology Archives at the American Museum of Natural History, New York; Collection Accession file, Aztec Ruins National Monument Headquarters, Aztec, New Mexico).

[57] Earl H. Morris, "The Aztec Ruin," *Anthropological Papers of the American Museum of Natural History* 26, pt. 1 (1919): 7-108.

[58] Earl H. Morris, List of Abrams Collection, 1917 (Aztec Ruins files, Department of Anthropology Archives at the American Museum of Natural History, New York).

publication might be carried out there.[59] The war and other circumstances actually shifted most later analysis to whatever quarters Morris occupied during long winters in New Mexico.

During the next several years when negotiations for purchase of the ruins were under way, the question of ownership of specimens became so complicated by alternative proposals that likely neither party to the contract was sure of its current standing. Further divisions of artifacts were postponed. The American Museum felt a sale agreement with Abrams would negate his claim to them. Abrams refused to accept such terms. The museum persisted. Abrams reluctantly gave in.

A museum of sorts was in the offing. Most artifacts, other than skeletal materials and rare items, then were being held at Aztec because they duplicated specimens already in New York, where storage space was at a premium. Wissler considered it pointless to pay intercontinental freight on potsherds or weighty stone objects.[60] A small display, an equitable part of which surely was considered Abrams property although nothing was marked accordingly, was arranged in the storage shed at Aztec Ruin. This showing was to comply with the excavation contract stipulations. Simple as that exhibit was, it was the first museum at the site.

After Wissler came to Aztec in 1919 to discuss a sale, Abrams had a clause inserted into his tentative deed to the property that a formal museum must be established not later than January 1, 1923. Doubtless he was unhappy at the delay in his favorite project and sought to force some action over the next four years. To further secure the rights of the Abrams family and to guarantee a facility available to the town of Aztec, the lawyerly document read: "The exhibit, when installed, shall be open to the public at reasonable hours and seasons of the year, and the grantors and family, and specially invited guests shall have access to the exhibit at such times as the same is customarily open, free of whatever admission charges that may be imposed upon the general public, which charges, if any are made, shall be reasonable at all times."[61]

The museum clause was stricken from the Abrams deed when an American Museum gift of the site to the government seemed feasible. Federal restrictions prohibited its implied future expenditures. Nevertheless, Abrams continued to demand that a museum be included in development plans. To Wissler he wrote, "As to the relics or specimens taken from the ruin under the old contract I am in no hurry for them and wish you to keep them untill [sic] you have made your study of them then I would like to place them in your museum here."[62]

In 1922, the museum to which Abrams referred was the partially finished exhibition room on the west side of the stone house. Meanwhile, after requesting permission to do so on two previous occasions, Morris moved the courtyard shed to the back yard of his house so that there would be no question as to whether the museum or the National Park Service owned the artifacts stored and

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[59] Wissler to Abrams, January 19, 1922 (Aztec Ruins files, Department of Anthropology Archives at the American Museum of Natural History, New York).

[60] Morris to Wissler, April 29, 1920, and January 22, 1922 (Aztec Ruins files, Department of Anthropology Archives at the American Museum of Natural History, New York).

[61] Proposed Abrams deed, item f, February 17, 1920 (Aztec Ruins files, Department of Anthropology Archives at the American Museum of Natural History, New York).

[62] Abrams to Wissler, February 6, 1922 (Aztec Ruins files, Department of Anthropology Archives at the American Museum of Natural History, New York).

exhibited in it.[63] In the process, a portion of the flimsy Annex remains was leveled.[64] Earlier a buried kiva was found in the same area while digging a post hole.[65]

The next year when the National Park Service took over, Abrams repeated his familiar message, indirectly acknowledging American Museum, rather than federal, ownership of the artifacts. "Whenever the American Museum of Natural History finishes the exhibit room at the Aztec Ruin I will request them to place therein my part of the relics they have, that have been taken from this ruin, there to remain as a permanent exhibit."[66]

In 1923, one of Wissler's instructions to Morris prior to his first departure for the Carnegie program in Yucatan was to ship all unusual or especially valuable artifacts from Aztec Ruin to New York but to keep at Aztec objects needed for reports scheduled to complete the museum's Aztec volume and an exhibition series to cover obligations to Abrams. He also notified Abrams of these directives.[67]

A year later, the same instructions were repeated, implying that they had not been carried out yet to his satisfaction. Possibly they were intended as a subtle prod to get Morris back to writing about work completed at Aztec Ruin instead of heading for further digging in Canyon del Muerto.

There was a glimmer of hope in 1924 that a museum designed specifically to show Abrams and American Museum artifacts might be constructed. Wissler reported that he was vice-chairman of a new committee formed within the American Association of Museums to work with the "Parks Service" to raise funds for such constructions and their administration within national precincts. Already the committee had obtained money for two museums. Aztec was being considered as the location of a third.[68] An immediate decision about the selection of Aztec Ruin seems to have bogged down. Two years later Bumpus visited Aztec Ruin on behalf of the committee to judge its value as a museum locale.[69] Because two months later Abrams was dead, it is unknown if he was able to confer personally with Bumpus to impress upon him his deep conviction of the necessity for a museum. Very likely he was disillusioned and sure that he had indeed been victimized by Easterners. He no longer had the Aztec Ruin, apparently never had personal custody of any appreciable number of specimens from it, and no museum was in sight.

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[63] Morris to Wissler, n.d. 1920, December 29, 1921, and April 11, 1922 (Aztec Ruins files, Department of Anthropology Archives at the American Museum of Natural History, New York).

[64] Morris to Wissler, May 1, 1922 (Aztec Ruins files, Department of Anthropology Archives at the American Museum of Natural History, New York).

[65] *Aztec Independent*, July 23, 1930.

[66] Abrams to Cammerer, January 31, 1923 (National Park Service: Aztec Ruins National Monument files at the National Archives, Washington).

[67] Wissler to Morris, October 29, 1923; Wissler to Abrams, November 14, 1923 (Aztec Ruins files, Department of Anthropology Archives at the American Museum of Natural History, New York).

[68] Wissler to Morris, September 10 and September 23, 1924 (Morris Memorial Collection, University of Colorado Museum, Boulder; Aztec Ruins files, Department of Anthropology Archives at the American Museum of Natural History, New York).

[69] Wissler to Abrams, April 22, 1925 (Aztec Ruins files, Department of Anthropology Archives at the American Museum of Natural History, New York).

When the American Museum declined to provide further caretaker service to the National Park Service at the end of 1926, Morris was faced with the problem of security of his own possessions, as well as those in the shed where the first Aztec Ruin museum display was kept. He elected to have Fassel continue to occupy the shed in which he had been ensconced for much of the previous year. Morris moved the display of specimens and boxes of other archeological materials stored there to the greater safety afforded by the basement of his stone house. Morris explained his action to Pinkley, to whom he owed no accounting but whose good will was essential to the successful, albeit unofficial, joint operation of the installation. "I am not willing to be personally responsible for the safety of the specimens housed in a firetrap like the shanty in which they were displayed," he said. "Therefore I have removed and stored the exhibit until the future shall provide decent quarters for it."[70] He also notified Wissler of this move.[71] Both men agreed that under the circumstances storage was the wisest action. The exhibit fell victim to Morris's foreign assignment and to the government's abrogation of responsibility in not manning the monument.

Given the local interest in the welfare of Aztec Ruin, Morris anticipated that there would be a public outcry when the closing of the primitive museum became known. He imagined a clamorous drive for community subscriptions to keep the facility open, but that in the end there would be little money collected and the effort would result in a great deal of abrasive bother. He intended to keep any American Museum artifacts under lock and key until such time as the government demonstrated its sincere interest in providing a suitably monitored museum.[72]

Even with administration backing, Morris remained so worried over possible adverse reaction to his decision by the Abrams family and the community at large that he left a general memorandum in the files detailing his perception of the situation as it then existed at Aztec Ruin. He stated that he anticipated the specimen withdrawal to be a temporary measure.[73]

When Boundey became aware of the situation four months later, he was unsympathetic, apparently preferring to think Morris had acted imperiously rather than cautiously. Probably he was not privy to the agreements between the museum and Abrams about the specimens. His hostile attitude was reinforced when he learned that the splendid painted Room 156 in the West Wing had been resealed shortly after its discovery in 1920 (and has remained so to the present time). Mistakenly, he believed it to be hidden somewhere within the portion of the ruin retained by the American Museum.

In June 1927, Superintendent Pinkley made an inspection trip to Aztec Ruin to see how Custodian Boundey was getting along. He received a barrage of grievances, one of which concerned the Anasazi artifacts. From Crown Point en route back to his office in southern Arizona, Pinkley

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[70] Morris to Pinkley, November 26, 1926 (National Park Service: Aztec Ruins National Monument files at the National Archives, Washington).

[71] Morris to Wissler, November 26, 1926 (Aztec Ruins files, Department of Anthropology Archives at the American Museum of Natural History, New York).

[72] Morris to Pinkley, September 23, 1926 (Morris Memorial Collection, University of Colorado Museum, Boulder).

[73] Morris, memorandum, November 1926 (Morris Memorial Collection, University of Colorado Museum, Boulder).

dispatched a three-page letter to the Washington office recounting these many sore points.[74] The most positive part of the communication was a request that the director attempt to ascertain ownership of the specimens from the site. If the objects did belong to the American Museum, Pinkley asked the director to secure either a donation or a loan of some of them. The reply threw the problem back to the local representatives. "In reference to the ownership of the representative collection of artifacts at the Ruin," it said, "we do not feel inclined to take this matter up at this time, because we feel that you and Mr. Boundey will be able to work out a satisfactory solution of this and other matters with Mr. Morris."[75] In other words, Washington was not interested.

Within two weeks after his return to Aztec from the winter of 1927 in Yucatan, Morris sought and received permission to temporarily loan the government a selection of the archeological materials stored in the basement of the American Museum house.[76] Considering the personal animosity shown by Boundey, the loan was inordinately generous. In November, Morris and Boundey signed an itemized list of some 261 specimens slated to be displayed in a space that Boundey planned to revamp into the second Aztec Ruin museum.[77]

Reflective of the range of artifacts collected from the site, pottery was predominately represented in the loan collection by 139 vessels and a few sherd assortments of both decorated and corrugated styles. Several examples of trade pottery were included, as were two examples that Morris called "archaic." These probably were scavenged from earlier dwellings in the surrounding valley. Of special interest were 11 vessels from Kiva Q and 24 from Kiva R recovered by Morris in 1921 and considered by him to confirm the earlier Chaco occupation. Morris also loaned Boundey manos, metates, grooved axes, chipped knife blades, arrowheads, beads, pendants, quartz crystals, sandals, and one incomplete coiled basket. He likewise offered for exhibit the remains of two children from East Wing rooms, one a burial bundle and the other a skeleton.

Not satisfied with the American Museum loan, Boundey solicited additional contributions from valley residents having assorted "relics." He claimed that more than 500 such articles were turned over to him.[78] Three hundred forty-one specimens received during Boundey's time at Aztec Ruin can be accounted for. Current Aztec museum accession records indicate that a collection of 142 objects was loaned by Sherman Howe on August 25, 1927. In 1928, Mrs. Oren F. Randall, of Aztec, placed

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[74] Pinkley to Director, National Park Service, June, 1927 (National Park Service: Aztec Ruins National Monument files at the National Archives, Washington); Unnumbered, undated map, Aztec Ruins National Monument (Map file, Aztec Ruins National Monument Headquarters, Aztec, New Mexico).

[75] Demaray to Pinkley, June 18, 1927 (National Park Service: Aztec Ruins National Monument files at the National Archives, Washington).

[76] Morris to Wissler, July 27, 1927 (Morris Memorial Collection, University of Colorado Museum, Boulder).

[77] Wissler to Horace M. Albright, March 31, 1931 (National Park Service: Aztec Ruins National Monument files at the National Archives, Washington); Accession 1 (Collection Accession file, Aztec Ruins National Monument Headquarters, Aztec, New Mexico). Present Aztec Ruins National Monument collections records list 261 items presented as a loan from the American Museum of Natural History on November 11, 1927; Agreement Concerning Archaeological Specimens from the Aztec Ruin, Loaned by the American Museum of Natural History to the National Park Service. Of these specimens, only 253 now remain at Aztec or at the Western Archeological and Conservation Center, Tucson. Another 24 specimens in the accession are missing, making the actual total 277.

[78] George L. Boundey to Nusbaum, May 5, 1928 (National Park Service: Aztec Ruins National Monument files at the National Archives, Washington).

36 specimens at the monument on a 10-year loan.[79] The largest contribution was that by Abrams's widow, Rosa, who loaned 163 specimens in 1928.[80]

Stimulated by Boundey, Mrs. Abrams sought to get returned the specimen collection promised to her late husband. Wissler recognized the legitimacy of her request and expressed regret that so many years had passed without the full analysis of the Anasazi material culture represented by the articles.[81] A search at the American Museum revealed that Morris actually had published on some of the specimens chosen in 1917 for Abrams. This increased the importance of their being held at the museum, as did the necessity of keeping intact some group lots, such as beads making up necklaces. Wissler suggested privately that Morris make suitable substitutions from other assortments of Aztec Ruin artifacts. He added a handwritten note on the margin of his letter to Morris that there was no reason for Mrs. Abrams to know of this action. Wissler had no thought of cheating her, but such a step could be misunderstood by those already antagonistic toward the museum.[82]

When Morris was in New York later that fall, he sorted through the storage cabinets and withdrew 43 catalogue entries for Mrs. Abrams. Thirteen were from the Abrams list of 1917, the remainder being substitutions. None of the artifacts illustrated in the report of 1917 was included. Five examples were from sites other than the West Ruin. Perhaps some of those had been on the Abrams farm but were eradicated.[83] The quality of these selections ranged from excellent to poor, as did those taken from the ruin itself. They included pottery of various decorative styles and forms, bone awls, bone tubes, bone scrapers, fiber pot rests, yucca sandals, a hair brush, fragments of cotton cloth, and one packet of 25 of an original cache of 200 arrowpoints. The number of these specimens seems small when considering that the initial division for Abrams was planned to be about 20 percent of the total. However, they were representative of the full variety of most typical goods and were to go to a site museum that already had 261 specimens and the prospects of hundreds more from those stored at the American Museum field headquarters.

This retrieved collection probably formed part of the much larger assortment of artifacts Mrs. Abrams turned over to Boundey. The bulk of that grouping must have been specimens gathered by her late husband over many years at Aztec Ruin and elsewhere in the Animas valley. More than half of them had no known provenience other than the general vicinity.

Without doubt, the amateur collectors took pride in having their own special possessions on public display. Although there was the danger that it encouraged further illicit digging, the inclusion of their specimens fostered the good will of local people. The specimens exemplified Anasazi mode of life, but their scientific value was diminished by lack of pertinent data about them. Many of the sites

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[79] Accession 4 (Collection Accession file, Aztec Ruins National Monument Headquarters, Aztec, New Mexico).

[80] Accession 2 (Collection Accession file, Aztec Ruins National Monument Headquarters, Aztec, New Mexico).

[81] Wissler to Rosa Abrams, October 3, 1928 (Aztec Ruins files, Department of Anthropology Archives at the American Museum of Natural History, New York).

[82] Ibid., Wissler to Morris, October 3, 1928 (Aztec Ruins files, Department of Anthropology Archives at the American Museum of Natural History, New York).

[83] Bella Weitzner to Morris, May 2 and May 10, 1929 (Aztec Ruins files, Department of Anthropology Archives at the American Museum of Natural History, New York).

within the Animas valley from which they had been taken no longer existed; if they did, circumstances of artifact deposition were not known. Many of those sites in adjacent regions were not sufficiently studied to determine their cultural affiliation. Nowadays, official policy excludes artifacts not recovered on the monument.[84]

If there were questions about the objects shown in Boundey's museum, there were more about the facility itself. Rooms 197, 198, 141, 142, 199, 200, and 201 on the first floor of the northwest corner of the North Wing of the house block were those originally entered in 1882 by regional schoolboys and their teacher. Room 197 at the west corner was partially exposed by a fallen ceiling. After working down to its floor level, the intruders tunneled horizontally eastward from one room to another, breaking jagged holes in partitioning masonry walls. The Anasazi doorways opened to the south. Each cellular room with original ceiling intact along the northern outer wall was totally dark. There were no windows on the outside wall of the village compound, and small ventilation openings to that exposure were covered with drifted debris. Rooms on the southern flank also were covered. Entrance to the area was by means of a wooden ladder down a mounded area over Room 193. Boundey opened a line of communication from east to west through seven rooms by shaping the irregular settler breaches into doorways (see Figure 6.4).[85] Locked wooden doors were put at each end of this passage (see Figure 6.5).[86] Light from kerosene lanterns provided artificial illumination until the unroofed quarters along the southern side of the museum rooms were cleared in order that natural daylight could pour into the darkened recesses.[87] Electricity was extended to the monument in 1928. A planned wooden plank floor to cover the packed earth original never was laid. Winter visitation was expected to be uncomfortable, consequently brief, since the interior stone chambers retained numbing cold and dampness.

Today's standards condemn modern remodeling to create doorways where they had not been prehistorically and in so doing destroy the structure's integrity. In the 1920s, this was regarded as no more outrageous than Morris's adding roofs to some ancient dwellings. It was the removal of debris from the chambers to the south of the line of proposed museum rooms to provide light for the museum to which professionals objected. The cleared rooms later were numbered 239, 147, 144, 126, 205, and 206. Boundey began work in them in December 1927 and continued into the early spring of 1928.[88]

Later, Boundey stated that he carefully drew a plan of each room and indicated on it the exact locations where artifacts were unearthed.[89] No such records have been found. Moreover, Boundey's system for cataloging the 227 recovered specimens was not understood by later researchers. Approximately 135 photographs, which seem to be those of the museum displays but taken outdoors,

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[84] Collection Management Plan, Aztec Ruins National Monument, 1980, 12.

[85] Unnumbered, undated map, Aztec Ruins National Monument (Map file, Aztec Ruins National Monument Headquarters, Aztec, New Mexico).

[86] Photographs #72 and 73 (Photograph file, Aztec Ruins National Monument Headquarters, Aztec, New Mexico).

[87] Boundey report, November 1927, Southwest Monuments Monthly Report, Coolidge, Arizona.

[88] Ibid., December 1927 and January 1928.

[89] Boundey to Nusbaum, May 5, 1928 (National Park Service: Aztec Ruins National Monument files at the National Archives, Washington).

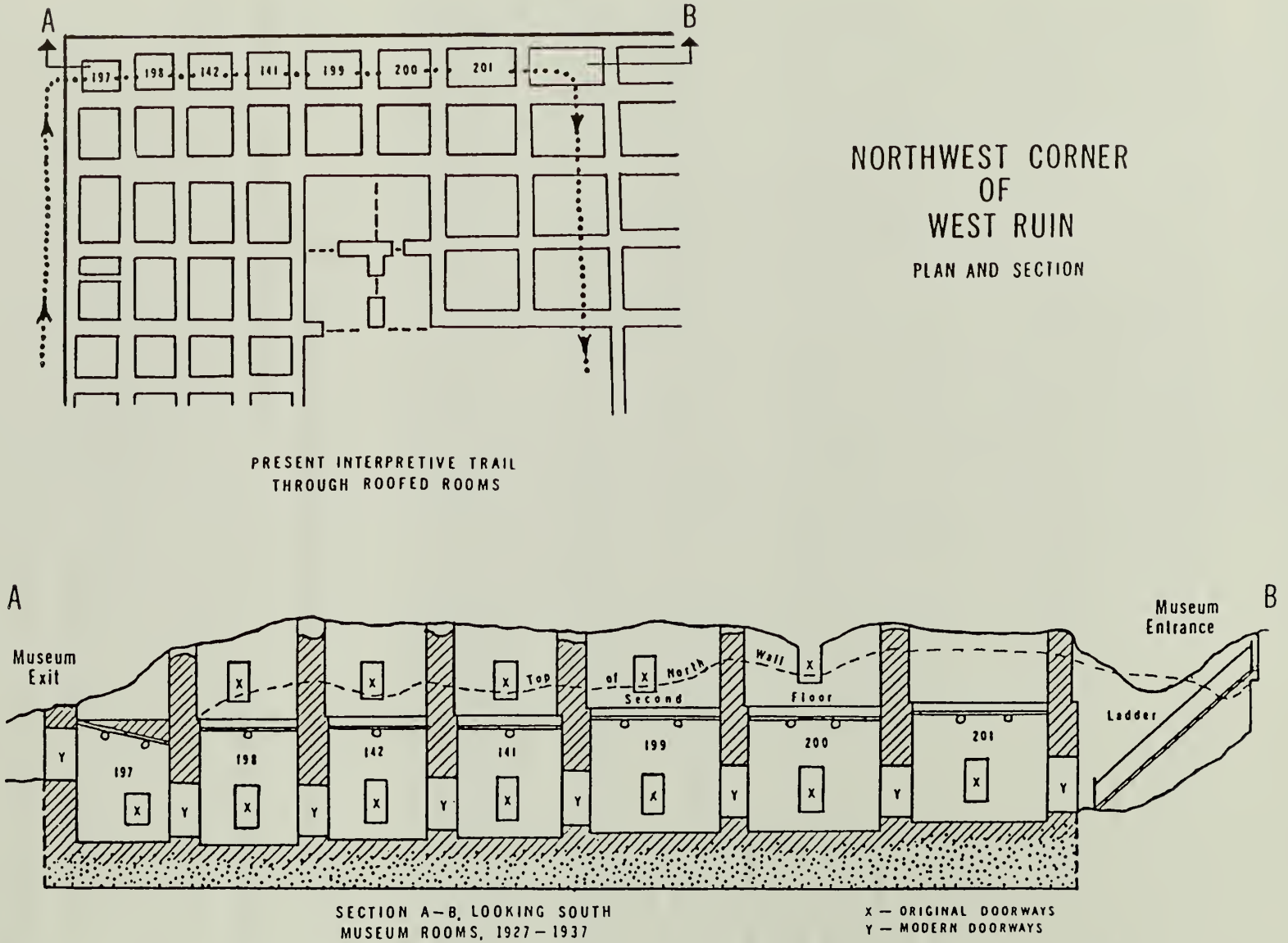


Figure 6.4. Northwest corner of West Ruin, plan and section.

are unidentified groups of objects on cloth-draped shelves.[90] Lacking close-up views of catalogue numbers on them, it would be a time consuming, maybe fruitless, effort to correlate photographs and objects. Some photographs may have been of ceramics restored in the 1930s. At any rate, it appears likely that Boundey was accused wrongfully of willful pothunting without regard to maintaining proper documentation. His crime was not to provide data in a form recognizable by those who came later.[91]



Figure 6.5. West exit from roofed rooms of North Wing used from 1927 through 1937 as the second museum at Aztec Ruin.

After reporting on several occasions the work to provide light for the make-do museum, Pinkley received a severely worded directive from Director Mather. Neil Judd, Southwestern archeologist on the staff of the U.S. National Museum and long-time friend of Morris, lodged a strong protest about reputed illegitimate digging at Aztec. Whether Morris had a hand in bringing the problem to public attention is unknown. Mather wrote that activity being done at Aztec Ruin by an untrained person lacking proper authorization would bring criticism of the National Park Service, was to be discontinued immediately, and that the custodian should be instructed to confine his efforts to administration and

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[90] For example, photographs #211, 222, 231, 236, 729, 773-75 (Photograph file, Aztec Ruins National Monument Headquarters, Aztec, New Mexico).

[91] Earl H. Morris, room notes, n.d. (Aztec Ruins files, Department of Anthropology Archives at the American Museum of Natural History, New York). Gloria Fenner, curator at the Western Archeological and Conservation Center, Tucson, on a notation of Aztec Ruins catalogue records, February 16, 1983, suggests that a two-part numbering system on Boundey's accessions indicate room number followed by sequential object number. A hasty tabulation against a ruin map seems to confirm this idea, but, because room numbers in this part of the house block were changed by later workers, there remains some uncertainty about particular designations.

protection of the monument. Pinkley's unfounded protests that Boundey reclaimed artifacts missed by Morris were ignored.[92] Morris excavated only the second-story units now numbered Rooms 191, 195, and 196, none of those below.[93] The earliest Euro-American entrants on the ground level cleaned out whatever items were visible on the surface. Boundey undertook to finish the job and did recover some overlooked artifacts.[94] Morris had not touched the rooms to their south.

Officials at the Department of the Interior asked Jesse Nusbaum, advisor to the department, to look into what was going on at Aztec. Nusbaum's main complaint was that the excavation was being done without the permit which government authorities saw as a necessary means of curbing vandalism of culturally important resources. By implication, he recommended that work cease at Aztec.

Expectedly, Boundey became defensive. According to him, the Morris house was built to serve as a fireproof museum. Because of Morris's refusal to allow it to be used for that purpose, Boundey was forced into the action he took. He continued, "When I was a boy of twelve I owned 1,000 perfect arrow points and was known as "Arrowhead George." Have been digging for thirty years, have never sold an article for money and everything excavated is in some Public museum."[95]

To soften his own criticism, Nusbaum acknowledged that the editor of the *Durango Democrat Herald* reported in his newspaper that a recent tour of Aztec Ruin was the most educational of any he had taken in 25 years.[96] That statement probably reflected the feelings of many others. Boundey personally guided each visitor or group of visitors around the ruin, ending the tour by walking through the new museum. Whether his interpretations were correct or current remains questionable. He was not well grounded in Anasazi research. Furthermore, he could not singlehandedly deal with the acceleration of tourist traffic. Volunteers, including Sherman Howe, were called upon to take people through the ruins, while Boundey remained stationed in the museum.[97]

In the museum as it was then set up, the large specimens were placed where they might have been used by the ancient residents. Small objects, such as beads, awls, or arrowpoints, were exhibited in cotton-lined mounts.[98] Many visitors found the hushed, dark atmosphere of the rooms intriguing and likely came away with a heightened appreciation for the architectural skills of the Anasazi. Nonetheless, the open displays and dearth of labels or other descriptive materials meant that the custodian had to be at their elbows to function both as guard and instructor. The lack of protective covering for some kinds of artifactual materials invited possible theft or harm from uncontrolled atmospheric conditions. Their true worth was nullified by scarcity of relevant information.

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[92] Pinkley to Director, National Park Service, April 28, 1928 (National Park Service: Aztec Ruins National Monument files at the National Archives, Washington).

[93] Earl H. Morris, "Notes on Excavations in the Aztec Ruin," *Anthropological Papers of the American Museum of Natural History* 26, pt. 5 (1928): 375, 370, 363.

[94] Ibid., 412-13.

[95] Boundey to Nusbaum, May 5 and July 2, 1928 (National Park Service: Aztec Ruins National Monument files at the National Archives, Washington).

[96] Nusbaum to Director, National Park Service, May 4, 1928 (National Park Service: Aztec Ruins National Monument files at the National Archives, Washington).

[97] Boundey report, March 1929, Southwest Monuments Monthly Report, Coolidge, Arizona.

[98] Ibid., August 1928.

THE MONUMENT FACES ECONOMIC EXPLOITATION

At first, for some valley farmers wages from day labor at the monument supplemented income derived from cash crops, always at the mercy of fluctuations of weather and markets. Later, a sprinkling of tourist dollars began to flow into cash registers of local hotels and eateries. These economic benefits from a national monument at the edge of town were not expected to greatly increase until improved roads were built connecting Aztec with better known points of interest. Pinkley followed the first staffing of the monument with hopes that anticipated road expansion would be beneficial to several national monuments within his region. "We think we can deflect a line of traffic from Mesa Verde through Durango," he speculated, "past the Aztec and Chaco Canyon national monuments into Gallup instead of letting it go by way of Shiprock."[99] For the time being, however, the existing roads remained a trial in inclement weather, and construction of new links were a long time in coming.

Local organizations remained optimistic. The Aztec Club, an organization of the town's businessmen, ordered 100 signs to point the way to the town and the nearby Anasazi ruins.[100] Not to be outdone, the Women's Club of Aztec paid for erection of a three-pillar arch over the junction of the secondary road to the ruins and the Aztec-Farmington highway to call attention to the attraction of Aztec Ruins. The county highway department helped out by grading the road. In the fall of 1928, a new $100,000 bridge was being put across the Animas River. Indirectly, it would promote travel to the monument.[101]

A hint at the possible effectiveness of the signs, if not improved road conditions, appeared in a brief newspaper article of the period: "Thousands of tourists from all parts of the world visit the Aztec Ruins National Monument every year but this month holds the record with the largest number of visitors for a single month. From the 25th of May to the 25th of June, this year, 1,757 people visited the monument. The visitors represented every state in the Union and several foreign countries including East India, Mexico, Italy, China, Canada, and the Philippine islands."[102]

To take advantage of growing tourism, several individuals expressed interest in opening commercial establishments where they could profit from visitation to the monument. John J. Herring, of Denver, requested permission to operate a curio store on the monument property. Boundey denied this request because of lack of available land and access.[103]

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[99] Pinkley to Mather, April 22, 1927 (National Park Service: Aztec Ruins National Monument files at the National Archives, Washington).

[100] Boundey report, April 1928, Southwest Monuments Monthly Report, Coolidge, Arizona; *Aztec Independent*, May 1, 1928.

[101] Boundey report, November 1928, Southwest Monuments Monthly Report, Coolidge, Arizona.

[102] *San Juan Review*, June 29, 1928.

[103] John J. Herring to Custodian, Aztec Ruins National Monument, October 8, 1927; Boundey to Herring, October 22, 1927 (National Park Service: Aztec Ruins National Monument files at the National Archives, Washington).

The next month a rumor was making the rounds that one of the Abrams family was planning to lease land across the dirt road along the west side of the monument for a campground and store.[104] The stock market crash and resulting Depression delayed these constructions for a year. In October 1930, the pseudo-Pueblo style building that was to have been an Abrams store fronting on the western boundary road was rented as a residence to the new custodian at Aztec Ruins.[105] The campground in the orchard at one side, which opened that May, began to fill.[106]

AZTEC RUINS NATIONAL MONUMENT GROWS FOR THE THIRD TIME

The remaining parcel of Abrams land the American Museum once intended to acquire in its original purchase was a strip of what was then a cornfield between the major ruin complex and a road running in an easterly direction from the monument entrance along the south property line toward the Animas River. Since there were no extant ruins on this plot, its acquisition was not pursued. With the monument established, this plot allowed more open ground around the prehistoric zone on which administrative necessities, such as a museum-office building and a custodian's house, a more adequate parking area, and an appropriate entrance could be erected. The idea of a National Park Service campground there gained support. However, the government could not purchase the property. The Abrams tentative deed carried the obligation to maintain a lateral irrigation ditch from the 1892 Farmers Ditch, across the museum land, to bring water to seasonal crops generally planted there and to pay its annual assessment fees.[107] Consequently, that little ditch, less than a foot deep and eight to 10 inches wide, and the encumbrances it entailed held up the rounding out of the monument boundaries for a decade.

Preliminary negotiations determined that the Abrams estate would sell Tract 3, as this section was designated, for $1,500. Family members wanted assurance that either they be given a concession to operate tourist-related businesses on the land or that no such enterprise would be allowed there to compete with those they were planning to the west of the monument.[108] There was no formalized agreement on these points, but there was sufficient tacit understanding to satisfy the sellers.[109]

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[104] Morris to Nusbaum, November 8, 1928 (National Park Service: Aztec Ruins National Monument files at the National Archives, Washington); Boundey report, January 1929, Southwest Monuments Monthly Report, Coolidge, Arizona.

[105] Photograph #4252 (Photograph file, Aztec Ruins National Monument Headquarters, Aztec, New Mexico).

[106] Johnwill Faris reports, May and October 1930, Southwest Monuments Monthly Report, Coolidge, Arizona.

[107] The Farmers Ditch Company was established to assure irrigating 1082.4 acres with 27.06 cubic feet of water per second. In 1907, a Jones extension added 200.6 acres to be watered by 5.01 cubic feet per second. Wissler to Albright, December 19, 1929 (National Park Service: Aztec Ruins National Monument files at the National Archives, Washington); Irving D. Townsend to Regional Director, National Park Service, July 1, 1945 (Document file, Aztec Ruins National Monument Headquarters, Aztec, New Mexico).

[108] Pinkley to Director, National Park Service, June 26, 1930 (National Park Service: Aztec Ruins National Monument files at the National Archives, Washington).

[109] Demaray to Faris, February 23, 1931 (Document file, Aztec Ruins National Monument Headquarters, Aztec, New Mexico).

With this Abrams offer in hand and on behalf of the Department of the Interior, Nusbaum approached Madison Grant, of New York City, about buying the desired Tract 3 to contribute it to the government. Grant previously made a smaller gift for purchase of some land in Chaco Canyon. Since that was set aside permanently, Nusbaum suggested that his gift, plus a bit more, be applied to Aztec.[110] Soon afterwards, Grant agreed to put up half of the cost of Tract 3 as his gift to the government. A ruling came down that water ditch maintenance and assessments as appurtenant to land gifts were interpreted as charges for routine services necessary to the monument's operation for the benefit of the American people and that National Park Service representatives were authorized to participate in the affairs of stockholders in a private company, such as the Farmers Ditch Company.[111]

Until the question of the museum property, or Tract 4, was resolved, the National Park Service could not proceed with the monument's full development. It was the long-standing plan of the American Museum to present this holding to the National Park Service whenever that branch of government was in a position to accept it and whenever its own plans for future work in the Southwest, Aztec Ruins in particular, did not require a field station.[112] By 1930, the American Museum decided to withdraw from the Southwest archeological field. With that decision and the federal title to the adjoining Tract 3, that institution forwarded to Horace M. Albright, then director of the National Park Service, the deed to its Tract 4 Aztec property with interest in the Farmers Ditch Company as appurtenance.[113]

An era of scientific accomplishment and public-spirited attitudes on the part of the American Museum of Natural History and one of its foremost supporters, Archer M. Huntington, ended. On December 19, 1930, President Herbert Clark Hoover signed the third proclamation enlarging the Aztec Ruins National Monument by another 8.68 acres, to a size it retained for the next 18 years (see Figure 5.1).[114]

Johnwill Faris, whose father had served in the Southwest for many years as an agent for the Indian Service, became acting and then full custodian from October 1, 1929, through November 1936. Faris came to the job with great energy and enthusiasm and seemingly with more tact and humility than his predecessor. One of his first assignments, which he took on with relish, was to put out old fires. Forthwith, he set about making friends with the Morris family and the citizenry of the town of Aztec. He profusely thanked everyone for past favors and cooperation. After a trip to Folsom, New Mexico, to view the first finds of manmade projectile points associated with extinct bison, Morris wrote

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[110] Albright to Madison Grant, October 24, 1930 (Document file, Aztec Ruins National Monument Headquarters, Aztec, New Mexico).

[111] Albright to Wissler, January 21, 1930 (National Park Service: Aztec Ruins National Monument files at the National Archives, Washington); Hillory A. Tolson to Regional Director, National Park Service, January 13, 1945 (Document file, Aztec Ruins National Monument Headquarters, Aztec, New Mexico).

[112] Wissler to Sherwood, September 15, 1926; Wissler to Albright, December 19, 1929; Wissler to Morris, September 13, 1930 (Aztec Ruins files, Department of Anthropology Archives at the American Museum of Natural History, New York).

[113] Together, Tracts 3 and 4 carried entitlement to water sufficient to irrigate 4.6 acres of land. Weitzner to Morris, November 21, 1930 (Aztec Ruins files, Department of Anthropology Archives at the American Museum of Natural History, New York); Townsend to Regional Director, National Park Service, July 1, 1945 (Document files, Aztec Ruins National Monument Headquarters, Aztec, New Mexico).

[114] Proc. No. 1928 (46 Stat. 3040); Appendix A.

Wissler, "I found the new custodian installed here. He seems to be a first class sort with none of the objectionable features of the previous one, and I look forward to most pleasant relations with him."[115]

During his administration, Faris continued to display an effusiveness that caused him to overstep bounds of propriety. One incident of this sort was when he sent the director of the National Park Service and the Secretary of the Department of the Interior paper weights made from chunks of aboriginal beams taken from Aztec Ruins. The officials in Washington politely acknowledged the gifts but soon afterward sent Faris a memorandum concerning the official policy against giving away archeological artifacts from national monuments.[116]

Faris took advertisements in the local papers wishing the community seasons greetings at Christmas time and for several years sent a flurry of Christmas cards bearing a picture of the ruins to visitors who signed the register and to national officers of the National Park Service.[117] Harmony returned to Aztec Ruins.

Faris arrived at a time when the Aztec Ruins National Monument finally was being rounded out to a workable entity and government budgets permitted some basic improvements. Faris proved himself capable of the demanding jobs ahead.

One of the first considerations in the monument's development was the American Museum stone house. Prior to the transfer of Tract 4 to the National Park Service, Superintendent Pinkley and Director Albright wrote to Morris asking if, since the lease he held with the American Museum was due to expire on November 30, 1931, would he be willing to renegotiate a new lease issued by the National Park Service.[118] Providing that the new lease be made for an additional five years, Morris responded that he would accept the change. He was not yet in a position to move away from Aztec. However, should the museum house be desired as part of a headquarters unit, he would give it up in exchange for a new building. He understood one was being planned.[119] Pinkley advised Thomas Vint, chief landscape architect of the National Park Service, of that possibility.[120] After considerable review,

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[115] Morris to Wissler, October 27, 1929 (Aztec Ruins files, Department of Anthropology Archives at the American Museum of Natural History, New York).

[116] Faris to Director, National Park Service, June 20, 1933; Albright to Secretary, Department of the Interior, June 26, 1933: Faris to Director, National Park Service, April 12, 1934 (National Park Service: Aztec Ruins National Monument files at the National Archives, Washington).

[117] Albright to Faris, January 4, 1930; Faris to Albright, December 25, 1933 (National Park Service: Aztec Ruins National Monument files at the National Archives, Washington).

[118] Morris to Wissler, September 7, 1930 (Aztec Ruins files, Department of Anthropology Archives at the American Museum of Natural History, New York); Albright to Morris, November 8, 1930 (National Park Service: Aztec Ruins National Monument files at the National Archives, Washington).

[119] Morris to Albright, November 12, 1930 (Morris Memorial Collection, University of Colorado Museum, Boulder).

[120] Pinkley to Thomas Vint, December 29, 1930 (National Park Service: Aztec Ruins National Monument files at the National Archives, Washington).

the National Park Service decided to let Morris remain where he was for the duration of his lease. That was extended to November 30, 1936, at $1.00 per year.[121]

A month after the American Museum plot was incorporated into Aztec Ruins National Monument, Director Albright recommended to New Mexico Senator Sam G. Bratton a budget of $6,900 to cover cost of the four most needed improvements for the benefit of staff and visitors.[122] With apparent approval, by June 1931 a 73-foot-deep well for drinking water was drilled to replace the cistern, a pumphouse built, two rest rooms served by a septic tank to the east of the house installed, and the first telephone brought the monument in ready contact with the outside world.[123] Rest rooms (or "comfort stations" in the National Park Service terminology of the time) were planned for the west side of the stone house, but to meet objections from Morris, they were put in a small building constructed in the east yard (see Figure 7.2).[124]

Contracts were let for a custodian's residence and a multipurpose building to be used as a shop, tool shed, and one-car garage. These structures (buildings 2 and 3) faced on to the southern county road at the eastern end of Tract 3 (see Figure 10.5). When completed, the house was three rooms, a bath, and a porch. Its cost was $3,200. Workers mixed adobe for it and the garage in an ageless contraption consisting of a large wooden box in which was a lever attached to an upright pole that was turned by horsepower (see Figure 6.6). Water was dumped into the box. It mixed with earth to emerge at the base of the box at the proper consistency to be poured into brick-shaped molds.

Faris was pleased with his new quarters, which echoed the Puebloan style popular in New Mexico in the 1930s. "Two foot adobe walls insure permanency and comfort in both winter and summer. Equipped with hot and cold water, automatic water heater, bath and shower bath, fire place, and many built in features, it is indeed a pleasure to occupy such a place," he enthused.[125] Because of destructive physical characteristics inherent in the chosen location, the "permanency" was only 18 years.

An enlarged parking area in front of the stone house and a rearranged entrance accommodated more vehicles and offered a better first impression. The new arrangement provided easy access to rest rooms and a preliminary space for introductory explanatory remarks to visitors.[126]

The custodian granted the unused part of Tract 3 in a short-term lease to a local farmer for a vegetable garden.

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[121] Faris to Pinkley, April 29, 1934, citing permit I-20p-286 (National Park Service: Aztec Ruins National Monument files at the National Archives, Washington); Morris to Director, National Park Service, October 13, 1931; Pinkley to Faris, April 29, 1934 (Document file, Aztec Ruins National Monument Headquarters, Aztec, New Mexico).

[122] Albright to Sam G. Bratton, January 23, 1930 (National Park Service: Aztec Ruins National Monument files at the National Archives, Washington).

[123] Faris reports, January and June 1931, Southwest Monuments Monthly Report, Coolidge, Arizona.

[124] Albright to Vint, January 10, 1931 (National Park Service: Aztec Ruins National Monument files at the National Archives, Washington); Morris to Wissler, September 7, 1930 (Aztec Ruins files, Department of Anthropology Archives at the American Museum of Natural History, New York).

[125] Faris report, January 1931, Southwest Monuments Monthly Report, Coolidge, Arizona.

[126] Ibid.

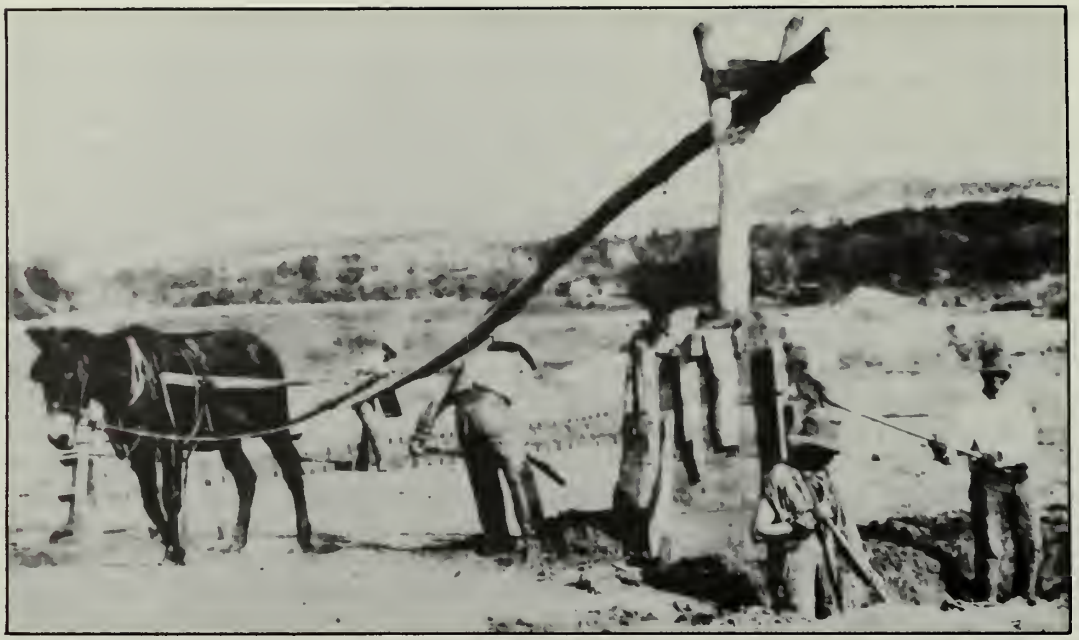


Figure 6.6. Apparatus used to mix adobe mud for sun-dried bricks needed for construction of a custodian's residence, 1931. Bricks drying in the background.

One of Faris's crusades was over the deplorable mile-long entry road, which he called a cowpath. It was impassable in the worst of winter and the worst of summer (see Figure 6.7).[127] He failed to persuade the New Mexico Highway Commission to grade and gravel it. He was no more successful in a letter written for the Aztec Chamber of Commerce to the director of the National Park Service asking him to use his influence to have a proposed Park to Park Highway from Mesa Verde to Carlsbad come through Aztec. That surely would force improvements of the secondary monument road.[128]

The bad roads could not be blamed for much of the drop in visitation. In 1929, some 18,193 persons were tabulated as having visited Aztec Ruins; in 1932, this number fell to 8,322.[129] The Depression and lack of money for pleasure travel were responsible.

In the area of archeological attractions at Aztec Ruins, Faris left the makeshift museum in the ruin. A wood stove heated two rooms during coldest weather. New locks increasing security were

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[127] Photographs #435-37 (Photograph file, Aztec Ruins National Monument Headquarters, Aztec, New Mexico).

[128] Faris to Director, National Park Service, February 1, 1931 (National Park Service: Aztec Ruins National Monument files at the National Archives, Washington).

[129] In a Six Year Development Program, September 14, 1931, Custodian Faris lists 1929 visitation figures at 17,425. He estimated that the 1932 visitation would be about 15,500. This estimate was contingent on the economy rebounding. (Document file, Aztec Ruins National Monument Headquarters, Aztec, New Mexico).

installed after a human skull was taken.[130] In 1931, Morris selected 250 additional specimens from those still stored in his cellar. This required Faris to redo some exhibits. The newly-loaned specimens were things awkward or too heavy for shipment, such as time-stiffened matting, manos, metates, mauls, rubbing stones, or mortars.[131] A seasonal ranger helped guide summer visitors through the ruin. As for himself, Faris was eager to reassure his superiors that he was not straying from his assigned duties as administrator and contracting officer for the new improvements.[132]

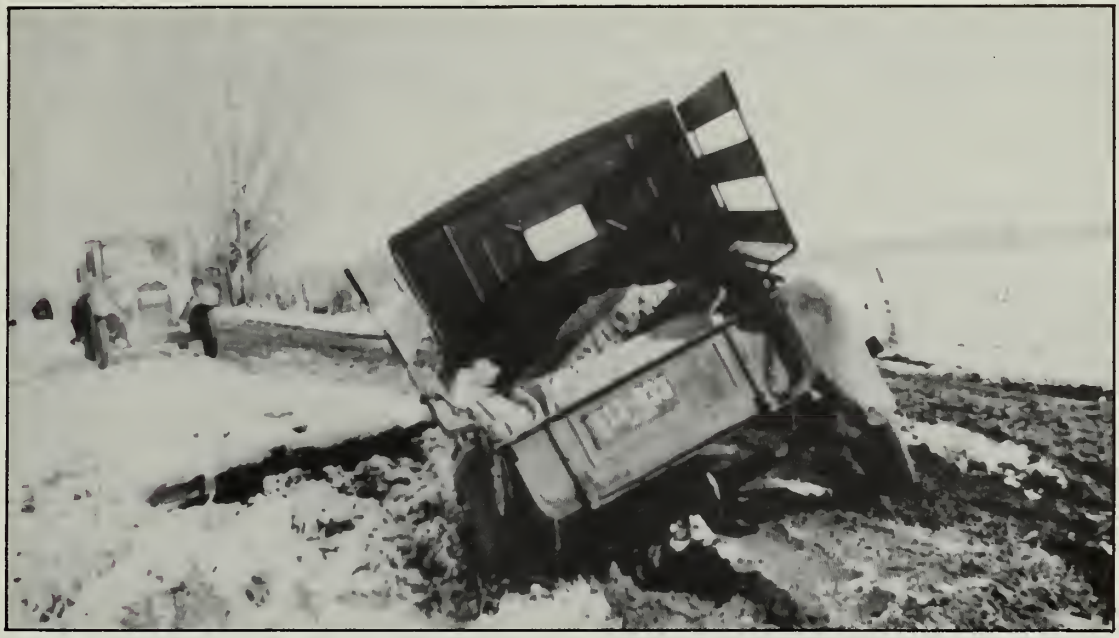


Figure 6.7. Truck stuck in the dirt entrance road to Aztec Ruins National Monument, 1930s.

When it released its Aztec property, the American Museum requested permission for the specimen collection to remain in storage at least until it was certain that Morris had completed all the reports he was likely to do involving them or until his lease expired at the end of 1931.[133] Wissler suspected that few further papers would be written. Although Morris had left the Carnegie Mexican project, he continued to devote himself to Southwestern studies.[134] Regretfully he told Wissler, "I certainly hope to publish further on the Aztec Ruin, but see no way of doing it within the next few

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[130] Faris reports, November 1929 and July 1931, Southwest Monuments Monthly Report, Coolidge, Arizona.

[131] Wissler to Albright, November 31, 1931 (Aztec Ruins files, Department of Anthropology Archives at the American Museum of Natural History, New York).

[132] Faris to Pinkley, January 1931, Southwest Monuments Monthly Report, Coolidge, Arizona.

[133] Wissler to Sherwood, November 3, 1930 (Aztec Ruins files, Department of Anthropology Archives at the American Museum of Natural History, New York).

[134] Wissler to Morris, February 20, 1931 (Aztec Ruins files, Department of Anthropology Archives at the American Museum of Natural History, New York).

years. To round the thing out properly, I have thought of one paper on general architecture, one on kivas, and a third -- a big one -- on specimens."[135] None of these reports was written.

So much time had elapsed since the artifacts came from the ground and the boxes containing them periodically had been sorted to withdraw specimens to loan to the National Park Service, to return to the Abrams claimants, or to send to New York that the objects and their records were confused. Wissler wanted a full accounting. He felt the entire ruin was not fully represented in the run of specimens housed in the American Museum. Also, he needed a complete record for the National Park Service files. Despite discrepancies in several lists, Morris was confident that all specimens at Aztec could be accounted for, and further, that sending additional examples to New York was not worthwhile.[136] A suggestion that, should the government need the cellar space, the collection be sent to the Laboratory of Anthropology in Santa Fe was rejected.

During this period of consideration of the future of the collection, the assistant director of the National Park Service sent a memorandum to his superior in which he made the unequivocal statement that the American Museum would be glad to donate it to the National Park Service. Assurance that it would be properly preserved and exhibited was implicit in this understanding. Nusbaum agreed about the prospects of such a gift from the American Museum to the government.[137] No documentation has been found to confirm that such a gift either was contemplated by the museum or forthcoming.

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[135] Morris to Wissler, March 31, 1931 (Aztec Ruins files, Department of Anthropology Archives at the American Museum of Natural History, New York).

[136] Morris to Wissler, March 31, 1931 (Aztec Ruins files, Department of Anthropology Archives at the American Museum of Natural History, New York); List of specimens not forwarded to the American Museum of Natural History, compiled by Morris, undated (Collection Accession file, Aztec Ruins National Monument Headquarters, Aztec, New Mexico).

[137] Nusbaum to H.C. Bryant, March 3, 1931 (Aztec Ruins files, Department of Anthropology Archives at the American Museum of Natural History, New York).

CHAPTER 7

THE GREAT DEPRESSION AND CAPITAL IMPROVEMENTS

During the hard times of the 1930s, the United States government undertook programs to provide employment for its citizens by improving the facilities of all National Park Service installations in the Southwest. This included Aztec Ruins National Monument. As enacted, the legislation called for funded work to be completed within a very short period of time. Fifty years later many of the things accomplished then continue to enrich the public property.

CIVIL WORKS ADMINISTRATION PROGRAM

The condition of the West Ruin needed prompt attention. The pueblo was falling into disrepair faster than the custodian could put it back together. After every severe storm, portions of walls collapsed, endangering weakened adjoining sections. In his first monthly report, Faris said, "Because of the heavy wet snows and freezing and thawing the walls of ruins are falling or giving away almost daily and repairs mounting steadily."[1] The soft sandstone masonry of the structure was decaying slowly from moisture seeped upward by capillary action. The earthen mortar used by aboriginal masons was being eaten away. Such hazardous conditions threatened the old house, as well as the safety of those walking through the ruins. Faris grossly underestimated repair costs, originally requesting just $300 per year.[2]

The townfolks of Aztec were concerned. The president of the Aztec Chamber of Commerce wrote New Mexico Senator Dennis Chaves urging repairs. "A few thousand dollars used now will insure the original architectural beauty and effect for generations to come," he said. The editor of the *Aztec Independent* sent a similar letter to the other New Mexico senator, Bronson Cutting. A more formal resolution from the Chamber of Commerce as a body followed (see Appendix I).[3] These appeals prompted little immediate action in Washington.

While not dangerous, the appearance of the monument was unsightly. Once the compacted rind over the West Ruin cracked, exposed detritus that collected over the centuries was released to cause disposal problems for excavators. At first, the bulk of it lacking archeological significance was carried away from the vicinity of the site in order to make digging easer. Dislodged building stones and timbers were stockpiled nearer at hand in anticipation of future use in repair or restoration. However, during sporadic work in the 1920s, quantities of culturally sterile debris merely were shoveled outside of walls, where they banked against the three sandstone masonry sides of the village or lay in

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[1] Johnwill Faris report, January 1931. Southwest Monuments Monthly Report, Coolidge, Arizona.

[2] A Six Year Development Program, Aztec Ruins National Monument, prepared by Faris, September 14, 1931 (Document file, Aztec Ruins National Monument Headquarters, Aztec, New Mexico).

[3] President, Aztec Chamber of Commerce, to Senator Dennis Chaves, February 11, 1931; George Bowra to Senator Bronson Cutting, February 17, 1931 (National Park Service: Aztec Ruins National Monument files at the National Archives, Washington); Appendix I.

hummocks in the courtyard. Heaps of meaningless earth and rocks strewn about made it difficult for visitors to comprehend the ground plan and grandeur of the Anasazi town. In addition, the roofed utility rooms in the southwest corner of the house block, the storage shed, cross fences and extraneous buildings left from the days when Aztec Ruins was an integral part of an operating farm, and a barren landscape devoid of trees or shrubs detracted from the monument's over-all attractiveness.

Various civic groups and private citizens launched a lobbying campaign in the belief that both the ruin and local taxpayers would be helped by some attention from the government. The case for ruin repair and face lift was indisputable. Local residents felt that perhaps Washington bureaucrats were less aware of the misery that filled the Animas valley in the early 1930s due to the Great Depression. For many, jobs to supplement uncertain farm income were vital for survival.

The preliminaries to getting a combination relief and improvement program launched were filled alternately with hope and discouragement. Early in 1933, Faris went to work on a list of immediate needs. It was approved by the Washington office and then forwarded to Secretary of the Interior Harold L. Ickes, administrator of the Special Board for Public Works.[4] In summer, word came that Congress had approved a large appropriation for Aztec Ruins National Monument.[5] Pinkley sent Faris a list showing that Aztec Ruins was to get $32,000 under the National Industrial Recovery Act.[6] Job applicants besieged Faris. Weeks passed with no official confirmation of the appropriation. Finally, in despair, F.M. Burt, head of the Aztec Chamber of Commerce, wired the director of the National Park Service, saying, "We were informed weeks ago that thirty two thousand dollars had been allotted for improvement Aztec Ruins National Monument. We have large and growing list unemployed no relief in sight and winter approximately only sixty days away. Therefore earnestly implore you start work immediately if at all possible."[7] A same-day reply contained the disheartening news that a lesser sum finally approved by Congress ruled out the requested money for Aztec Ruins National Monument.[8]

The next ray of hope was a supplemental bill before Congress budgeting $10,000 for an administration and museum building at the monument.[9] The opportunity for the National Park Service to proceed with that improvement arose during the year when Morris moved out of the stone house to return permanently to Boulder. Because the tourist traffic through the yard disturbed him, Morris forfeited three years of his lease. Still pleading the cause for immediate employment of local men, Burt pursued this new proposal with another telegram to Washington. "Permit us, therefore, to urge with all the earnestness at our command and in the name and behalf of humanity that nothing be permitted

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[4] Conrad Wirth to Faris, August 30, 1933 (National Park Service: Aztec Ruins National Monument files at the National Archives, Washington).

[5] *Farmington Times Hustler*, July 7, 1933.

[6] Frank Pinkley to Faris, June 24, 1933 (Document file, Aztec Ruins National Monument Headquarters, Aztec, New Mexico).

[7] F.M. Burt to Director, National Park Service, September 7, 1933 (National Park Service: Aztec Ruins National Monument files at the National Archives, Washington).

[8] Hillory A. Tolson to Burt, September 7, 1933 (National Park Service: Aztec Ruins National Monument files at the National Archives, Washington).

[9] Ibid.

to delay starting work at Aztec Ruins National Monument at the earliest possible moment and before winter comes."[10]

The next week the $10,000 appropriation passed, but it hit a snag. Since there was a statutory provision that no building in excess of $1,500 could be built in any federal park or monument, the Attorney General had to rule on its legality. At last, in October, a favorable decision was reached allowing expenditures to be made.

Still trying to get all he could for his monument and his neighbors, Faris aggressively went directly to the top of the Civil Works Administration hierarchy with a personal telegram to Ickes requesting further funding for improvements. As he wrote Morris, "The main idea of the work this fall is to create good feeling among the local people as much as possible."[11] In particular, Faris wanted to accomplish two immediate objectives by clearing away unwanted debris around the site and using it to fill quagmires in his hated "cowpath" of an entry road. The county road department agreed to this plan.[12]

Two weeks later Faris was informed that an allotment of $17,175 was available for Aztec Ruins National Monument through the Office of National Parks, Buildings, and Reservations. This grant came under the provisions of the National Industrial Recovery Act of 1933 (FP 503).[13] The amount was about half what originally was planned for the monument. The *Farmington Times Hustler* promptly reported the news: "Custodian Johnwill Faris, upon receipt of word that $17,175 had been allotted for repair work on the Aztec Ruins, has commenced plans for preliminary work to begin as soon as the funds are placed to the credit of local officials. Mr. Faris has stated that much of the repair work cannot be done until spring, but that he expects to work fifteen men for a period of six weeks this fall and hopes to have the men on the job before another week passes. Minimum wages will be 45¢ per hour, working a five day week of six hours a day. This is the first relief appropriation Aztec has received and is expected to give needed employment to a part of the jobless of the county."[14]

Even though he lacked authorization to do so, Faris wasted no time in hiring a crew of 16 men. With alarm over Faris's penchant for crashing onward, Superintendent Pinkley tried to clear this hasty action with the National Park Service director. The director on the same day returned instructions to have Faris stop work immediately.[15] At the moment, officials in Washington were trying to engage the services of Earl Morris, on loan from the Carnegie Institution, to direct the repairs for which the

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[10] Burt to Director, National Park Service, September 13, 1933 (National Park Service: Aztec Ruins National Monument files at the National Archives, Washington).

[11] Faris to Earl H. Morris, November 3, 1933 (Document file, Aztec Ruins National Monument Headquarters, Aztec, New Mexico).

[12] Faris to Harold L. Ickes, November 1, 1933 (National Park Service: Aztec Ruins National Monument files at the National Archives, Washington).

[13] Ickes to Faris, November 13, 1933 (National Park Service: Aztec Ruins National Monument files at the National Archives, Washington); Allotment Advice No. 1129, Southwest Monuments, F.P. 503, Repairs to Ruins, November 20, 1933 (Document file, Aztec Ruins National Monument Headquarters, Aztec, New Mexico).

[14] *Farmington Times Hustler*, November 10, 1933.

[15] Pinkley to Director, National Park Service, November 21, 1933; Arthur Demaray to Pinkley, November 21, 1933: Demaray to Faris, November 21, 1933 (National Park Service: Aztec Ruins National Monument files at the National Archives, Washington).

funds were intended. Faris remained determined to provide some employment. On November 22, he wired Director Hillory Tolson that he was acting on advice from Morris as where best to put his crews to work cleaning up the grounds and gathering stone for planned restoration. He pleaded that he be allowed to keep the men at work while the weather continued good.[16] Financial relief was desperately needed. A return telegram gave him that permission.[17]

The Civil Works Administration program for Aztec Ruins was in effect from December 6, 1933, to April 12, 1934, a relatively brief time for work contemplated. The total allotment amounted to $23,880, of which $20,165.24 actually was committed (see Table 7.1).[18]

Table 7.1. Civil Works Administration Program
Aztec Ruins National Monument
December 6, 1933-April 12, 1934

Statistical Summary[a]

Project		
1.	Barn removal	$ 829.58
2.	Fencing monument	1,769.67
3.	Parking area	8,742.81
4.	Clean-up and landscaping	7,722.03
5.	----	
6.	Archeological work	1,101.15
	Total	$ 20,165.24

[a] National Park Service: Aztec Ruins National Monument files at the National Archives, Washington.

Two weeks after Faris received authorization to proceed beyond his initial hiring, 63 men and two women were on the payroll. Washington questioned the large number of employees because some of the work was on a road off the monument.[19] Instead of full-time employment as expected, the government imposed a 15-hour weekly limit so that more individuals could share the available funds.

[16] Faris to Tolson, November 22, 1933 (National Park Service: Aztec Ruins National Monument files at the National Archives, Washington).

[17] Tolson to Faris, November 22, 1933 (National Park Service: Aztec Ruins National Monument files at the National Archives, Washington).

[18] Faris to Director, National Park Service, April 27, 1934 (Document file, Aztec Ruins National Monument Headquarters, Aztec, New Mexico).

[19] Faris to Frank A. Kittredge, November 26, 1933 (Document files, Aztec Ruins National Monument Headquarters, Aztec, New Mexico).

The number of employees declined as various assignments were completed until, at the termination of the program, there remained just a seven-man crew. Pinkley and Faris praised the diligence with which individuals responded. Everyone was grateful to be gainfully employed.[20]

Six interrelated projects made up the package of goals to be accomplished under the Civil Works Administration program.
(1) Project 1, under direction of seasonal ranger Thomas Thompson, moved the Abrams hay barn from the edge of the East Ruin to a location on the family farm selected by Orrin Abrams, replaced its worn siding, treated the structure with old motor oil, and baled loose hay stored in it (see Figure 7.1).

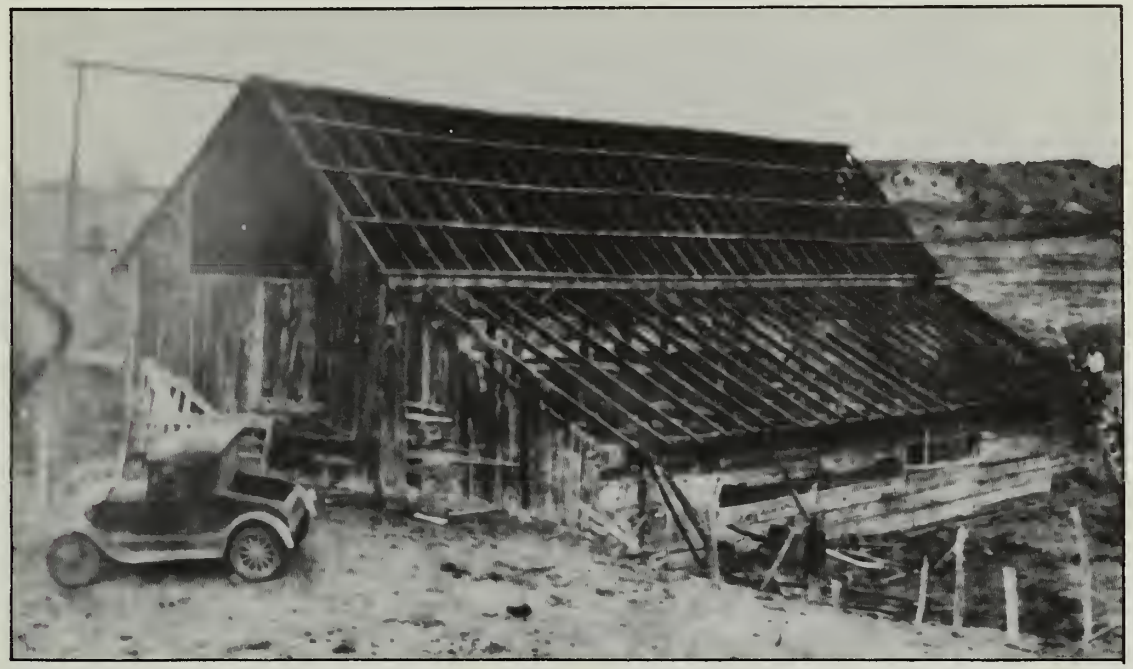


Figure 7.1. Abrams hay barn being dismantled for removal from the monument, 1933.

(2) Project 2 removed interior cross fences surrounding individual parcels and, through contract with the Santa Fe Builders Supply, installed a new outer boundary fence of 47-inch woven wire with a single barbed strand at the top.[21] The north boundary fence was erected with flood gates and rock dikes. In times of sudden rushes of water downslope, the gates could be opened. The dikes hopefully would divert water into a nondestructive course. Post holes on the fence lines hit some evidence of former occupation. The fences were a measure taken to keep livestock off the monument.[22]

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[20] Faris and Pinkley reports, December 1933, Southwest Monuments Monthly Report, Coolidge, Arizona.

[21] Faris to Director, National Park Service, April 27, 1934; CWA Project No. 1, Barn Removal (Document file, Aztec Ruins National Monument Headquarters, Aztec, New Mexico).

[22] Photographs #854-57, 859, 862-63; Faris to Director, National Park Service, April 27, 1934; CWA Project No. 2, Fencing Monument (Photograph file, Aztec Ruins National Monument Headquarters, Aztec, New Mexico).

(3) A large piece of ground at the south end of Tract 4, a prehistoric trash mound, was removed as Project 3 so that visitors could park. Because of ground frozen in December, the building of a parking lot there was difficult. Workers turned the sod with hand plows and teams of horses in the late afternoons when the soil was warm; they graded the areas the following mornings. They spread a rock base for future pavement on top of the smoothed soil. Because of the cold, engineers decided, rather than using adobe bricks, to construct the walls surrounding the lot of rock rubble plastered to resemble adobe. Sand and mortar water were warmed in drums and boilers set over bonfires. A curbed island formed the center of the lot. Designers placed an ornamental gate at the entrance (see Figures 7.2 and 7.3).[23] At a cost of $8,742.21, the parking lot was a bigger investment than yet had been made to serve the monuments for which the facility was established.



Figure 7.2. View of 1933 from southwest corner of the West Ruin showing roofs of three aboriginal rooms put to modern purposes, the comfort stations, the Morris house, the cistern pump at one side, the cement-lined pond at the rear, and the walled parking area in front.

[23] Photographs #840-45 (Photograph file, Aztec Ruins National Monument Headquarters, Aztec, New Mexico).

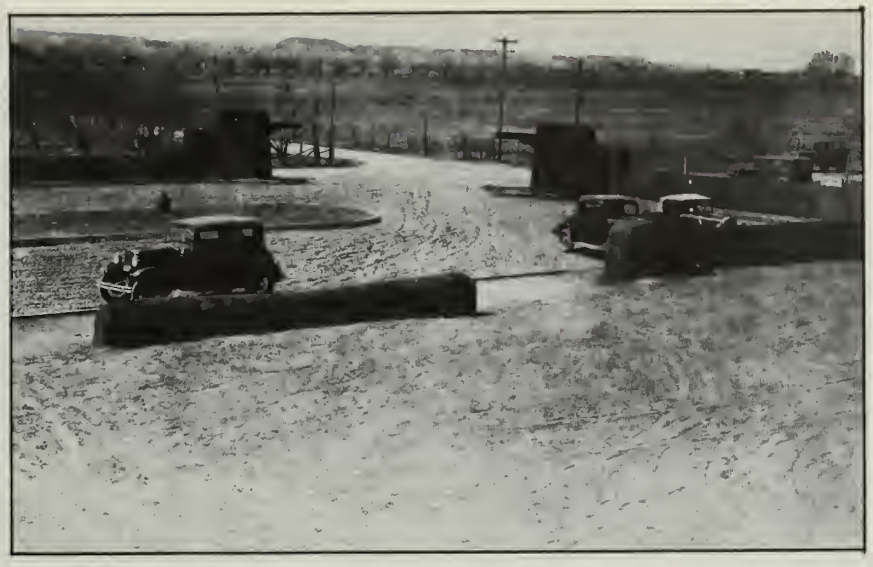


Figure 7.3. Parking lot in front of Aztec Ruins National Monument headquarters, ca. 1934.

(4) Project 4 was the cleaning of areas around the ruins of dead brush, sticks, old lengths of barbed and woven wire, and trash, and hauling off unwanted earth (see Figures 7.4 and 7.5).[24] The dense vegetational cover developing in the northeast sector of the preserve as a consequence of overflow irrigation waters was not permanently eradicated. As another aspect of this project, Tatman led an archeological reconnaissance and survey of the monument. He was in charge of partial or complete excavation of six rooms, six kivas, a two-roomed extramural structure, six burials, and the trenching of the southeastern refuse mound. Some of the results of these activities are discussed more fully below.[25]

(5) Project 5 was the creation of a picnic ground on the southern Tract 3. In 1933, workmen prepared the spot but, since it was in oats, the planting of trees was postponed.

(6) Project 6 was the restoration of recovered fragmented pottery and the cataloging of archeological specimens. Upon the recommendation of Morris, Alma Adams, a young lady from Boulder, undertook the painstakingly slow pottery work.[26] Her expertise merited a salary of $1.00 per hour.[27] Because the

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[24] Charles A. Richey to Pinkley, December 30, 1933 (National Park Service: Aztec Ruins National Monument files at the National Archives, Washington); Photographs #865-74, 886-88, 895, 964-65, 970-72, 979-80, 986 (Photograph file, Aztec Ruins National Monument Headquarters, Aztec, New Mexico).

[25] Faris to Director, National Park Service, April 27, 1934 (Document file, Aztec Ruins National Monument Headquarters, Aztec, New Mexico).

[26] Morris to Faris, November 27, 1933 (Document file, Aztec Ruins National Monument Headquarters, Aztec, New Mexico).

[27] Faris to Morris, December 21, 1933 (Document file, Aztec Ruins National Monument Headquarters, Aztec, New Mexico).



Figure 7.4. Relays of horse-drawn wagons hauling debris from West Ruin to fill ruts in entrance road, 1933.

$300 allotted for ceramic restoration was exhausted before she completed all the vessels, the Carnegie Institution provided funds for an additional month's effort. Adams's technique involved repainting the vessels after they were reassembled so as to duplicate their former appearance. Because the original fabric is obscured, such total restoration now is considered improper for archeological specimens. A number of photographs of vessels arranged on tiers of cloth-covered shelves may have been meant as documentation of her work. Adams's assistant was Janet Case, who was responsible for the cataloging.[28] One result of the efforts of these two women was that government relief funds were expended on artifacts belonging to a private institution. The American Museum of Natural History had neither loaned nor given the pottery to the government, but it was repaired and included in the monument catalogue.

Cleaning Up the Monument

The clean-up project was the one that was most readily to change the appearance of the monument. It was necessary to proceed cautiously so as not to disturb any unknown ancient constructions outside the great house and not to remove talus that might buttress weak walls. Since in

[28] Faris to Robert Rose, December 21, 1933 (Document file, Aztec Ruins National Monument Headquarters, Aztec, New Mexico).



Figure 7.5. Removing debris from West Ruin courtyard during clean-up effort, 1933.

that part of the ruin there was little danger of outward thrust from pressure of deposits within the rooms, Morris suggested taking away debris from the north side of the house block up to the walls of the building. The excavated rooms or those having original ceilings served to anchor walls in place. The last level of occupation was established in the excavation of the northeast corner and was to be followed throughout. On the west side of the house, Morris advocated caution. He thought it probable that in that area there were flimsy structures not visible on the surface.[29] On the east side, there was likelihood of much reusable stone. An insufficient amount of building blocks had been recovered previously in that sector to account for the fall of several stories of the building. In 1917, a trench was dug outside the east wall to permit masons to reset the stones. The ditch was backfilled, forestalling possible disintegration upon removal of outer talus.[30] In the court, Morris suggested that piles of earth

[29] Morris to Faris, November 27, 1933, and January 16, 1934 (Document file, Aztec Ruins National Monument Headquarters, Aztec, New Mexico).

[30] Morris to Jesse Nusbaum, November 27, 1933 (Aztec Ruins National Monument files, Library, Southwest Regional Office, Santa Fe); J.B. Hamilton, Final Construction Report on Repairs to Ruins, F.P. 503.14, May 31, 1935; Nusbaum to Faris, November 24, 1933 (Document file, Aztec Ruins National Monument Headquarters, Aztec, New Mexico).

dumped on the east side of the Great Kiva excavation should be removed in anticipation of work to commence there the next spring.[31]

Twenty-one men with three teams of horses and six wagons went to work to finish this part of the general program by the end of 1933. Photographs of the period show a relay of wagons moving up and down the road leading to the ruin to deposit their loads in numerous pot holes (see Figure 7.4).[32] A horse-pulled grader transferred from Mesa Verde to Aztec leveled out the dirt.[33] The desired reserve of building stones did not materialize.[34]

Foreman Tatman's report on the clearing operation stated that the building stone was saved, and the dirt was taken to washes and low spots for proper leveling and landscaping. All debris was removed from around the Great Kiva. The stone was sorted into refuse, rough stone, and facing stone. Refuse or disintegrated stone was discarded; the rough stones and facing stones were saved for ruin repair. All told, 2,900 wagon loads of spoil materials were hauled away.[35]

As part of the clean-up campaign, the American Museum shanty behind what had been the Morris house was dismantled partition by partition and moved to the property of a former workman, Arthur Lawson, by the iron bridge across the Animas (see Figure 7.6). Paul Fassel moved along with it and continued to occupy the structure for some years. It now serves as a bait shop.[36]

Beautification of the monument setting as part of this project undoubtedly resulted in unintentional wholesale eradication of archeological resources and irreversible alteration of the prehistoric landscape. The old Animas River channel at some earlier time had cut a deep swath along the east boundary of the monument. It left behind a high embankment and a wake of uprooted, matted vegetation. Of more concern to archeologists was that it impinged upon the easternmost mound of the East Ruin complex, perhaps exposing structural elements and artifacts. Morris used the area slightly to the south of the ruin itself as a dumping ground for some of the fill from the interior West Ruin rooms. The solution in the 1930s to making this part of the monument more pleasing in appearance was to cut down the terrain and redeposit several thousand yards of earth in low spots and arroyos along the eastern perimeters of the preserve. Doubtless, hundreds of inconspicuous specimens went with the dirt. Proudly, Faris reported that all the land surrounding the visible ruins was plowed and harrowed, 400 native trees and shrubs were planted, and the irrigation ditch across the south was rocked.[37] With those actions, any traces of ancient roadways, waffle gardens, or earthen constructions

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[31] Morris to Faris, November 27, 1933 (National Park Service: Aztec Ruins National Monument files at the National Archives, Washington).

[32] Photograph #925 (Photograph file, Aztec Ruins National Monument Headquarters, Aztec, New Mexico).

[33] Photograph #666 (Photograph file, Aztec Ruins National Monument Headquarters, Aztec, New Mexico).

[34] Morris to Faris, December 1, 1933 (Morris Memorial Collection, University of Colorado Museum, Boulder).

[35] Oscar Tatman report, December 1933, Southwest Monuments Monthly Report, Coolidge, Arizona; Photographs #963, 987 (Photograph file, Aztec Ruins National Monument Headquarters, Aztec, New Mexico).

[36] Faris to Morris, December 21, 1933; Morris to Faris, January 6, 1934 (Document file, Aztec Ruins National Monument Headquarters, Aztec, New Mexico).

[37] Faris to Director, National Park Service, April 27, 1934; CWA Project No. 4, General Cleanup (Document file, Aztec Ruins National Monument Headquarters, Aztec, New Mexico).



Figure 7.6. Dismantling the American Museum storage shed at rear of Morris house, 1934.

were erased. Ironically, those clean-up measures cost the taxpayers seven times the amount devoted to concurrent archeology at the monument.

Excavations

Excavations were done in order to make safer trails, to repair walls, to obtain building stones for reconstruction purposes, or as a result of various new constructions exposing prehistoric features. Tatman was overseer of a six-man crew under the general direction of Morris. One young man on the team was Robert Burgh, borrowed from the coeval work at Mesa Verde. He later became a laboratory assistant to Morris in Boulder.[38]

[38] Faris to Rose, December 20, 1933 (Document file, Aztec Ruins National Monument Headquarters, Aztec, New Mexico).

To prevent collapse, a weighty layer of windblown sand and decayed ceiling elements was taken from second-story Room 202².[39] Pressure needed to be removed from the intact ceiling of the ground-level room below. No small artifacts were present in the fill.

Morris's Room 203 (current number, Room 249) in the North Wing contained 17 feet of fill. This was removed to make access easier to the first-story museum rooms. The crushed skeleton of a small child with wrappings of feather cloth and plaited rush matting was on the floor. The burial body reposed on a mat of peeled willows with flattened side upward. Above these remains, about a five-foot deposit of wall stone was thrust across the chamber when the north boundary of the room split at the bottom and collapsed. The crushed timber of the second floor covered the stone. On the second floor was a small accumulation of refuse, the most conspicuous element of which was a mass of corn tassels done into small bundles tied with a twined lacing of yucca strips. Charred remains of the ceiling of the third story lay above the earth, which had formed the floor of the second. The remainder of the fill was composed of stone and adobe, resulting from the gradual disintegration of the upper walls. Tatman's crew recovered bone awls, bone cylinders, potsherds, and a quantity of lignite, such as was used for the manufacture of beads and ornaments.[40]

Tatman then turned to five rooms in the southwest corner of the house block in order to further understand this sector of the village. Room 151 forming a southwestern limit was a narrow corridor about 85 feet long west to east with a hall-like southward extension at its western end. Reminiscent in its length of some similar features in Chaco Canyon, for a number of years this passage was used by the National Park Service as an entrance to the pueblo's central courtyard. Whether it functioned in Anasazi times as a passage from the outside to the village center is uncertain. There also is a probable entrance through the line of southern cobblestone chambers. Associated rooms (209-212) were only partially intact.[41] They contained some adobe walls in which reinforcements of two-inch poles were laid horizontally in mud alternating with layers of brush and sticks. Occasionally, small straight sticks were inserted as a layer diagonally through the walls. The construction method was not unlike that used for the four massive square columns supporting the roof of the Great Kiva. The method of execution in the domestic units was less precise.

In an area intensely occupied for at least two to three centuries, cultural materials were present wherever digging was done. As work continued around the monument, random finds were a small two-room cobblestone structure 24 feet northwest of the northwest corner of the West Ruin; a skeleton farther to the west of this dwelling accompanied by a Mesa Verde mug, bowl, and corrugated jar; a portion of a cobblestone wall beneath the north wall of the new parking lot; the ventilator shaft and southern recess of a kiva beneath the east wall of a patio created behind the house; a boulder-lined

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[39] The numbering of units after Room 180 is confused because work done after that of Morris sometimes duplicated his numbers or those assigned later, transposed numbers in a given set, or omitted numbers altogether. John M. Corbett to John T. Turney, August 19, 1960; Albert H. Schroeder to Supervisory Archeologist, Southwest Archeological Center, September 30, 1960; Roland Richert to Schroeder, October 13, 1960; Schroeder to Richert, October 18, 1960 (Document file, Aztec Ruins National Monument Headquarters, Aztec, New Mexico; Aztec Ruins National Monument files, Library, Southwest Regional Office, Santa Fe). Whenever possible, the Metzger numbering system of 1988 has been used in this text. Todd R. Metzger, *Structure Numbering System at West Ruin, Aztec, New Mexico* (Santa Fe: Southwest Cultural Resource Center, National Park Service, 1988).

[40] Morris, folder 232, miscellaneous notes, n.d, (ca. 1934) (Morris Memorial Collection, University of Colorado Museum, Boulder).

[41] Faris, report for CWA Project 20003-A, Archeological Reconnaissance, March 16, 1934 (National Park Service: Aztec Ruins National Monument files at the National Archives, Washington; Document file, Aztec Ruins National Monument Headquarters, Aztec, New Mexico).

firepit, 24 by 38 inches, dug to a depth of 28 inches south of the village retaining wall; and six burials and associated pottery between Kiva A2 [Annex] and a trash heap to its southeast.[42] Individually, none of these finds contributed much to the history of the site, but together, they confirmed earlier discoveries.

The open expanse of the courtyard that formed the heart of the village was trenched during the Civil Works Administration work so that a large drain tile could be laid diagonally from higher ground in the northwest to lower ground in the southeast. The drain was needed to carry off ground and storm water endangering the friable sandstone walls of the various building units. Workers cutting the trench hit three subsurface kivas of various sizes. Their finding cemented Morris's earlier opinion that the court was where the cultural sequence of the site eventually could be delineated.[43] On behalf of Morris, Nusbaum sought authorization from the director of the National Park Service to excavate any archeological features exposed during the drainage work. Because of the danger of loss of scientific data, this aspect of the project, not spelled out earlier, could not be ignored.[44]

What appeared to be either an unfinished or dismantled Great Kiva, some 40 feet in diameter and situated just northwest of its excavated counterpart, was the most spectacular of the previously unsuspected structures in the courtyard. It was under portions of three surface chambers forming a ring around the known Great Kiva.

The trenchers happened on to two small kivas more than nine feet beneath the last used court surface to the east of the excavated Great Kiva. In Morris's opinion, both were of Chacoan derivation, with multiple layers of smoke-blackened plaster indicating long usage. One was in the part of the site where Morris began his explorations in 1916. Since it was isolated from adjoining house remains, it had been overlooked. Workers found a third small kiva with a pronounced southern recess of a Mesa Verde style 10 feet below the court surface almost abutting the east face of Kiva E, excavated and reroofed in 1917. Despite its Mesa Verdian attributes, pottery scattered on its floor was of a Chacoan tradition. Other explorations in the courtyard found an abandoned, filled, small kiva under Room 166, a surface chamber in the southern arc of rooms around the excavated Great Kiva. Morris assumed that this lesser room was an earlier Chacoan construction.

Only one ceremonial room within the house block, Kiva T, was examined in the Civil Works Administration effort. Morris regarded the kiva, poorly built, as a Mesa Verdian remodeling exercise.[45]

PUBLIC WORKS ADMINISTRATION PROGRAM

As the Civil Works Administration program was phased out, funding on a broader scale came from another new agency, the Public Works Administration. Ruins repair, the restoration of the Great

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[42] Ibid.

[43] Morris to Clark Wissler, May 3, 1921; Morris, kiva notes, n.d. (Morris Memorial Collection, University of Colorado Museum, Boulder).

[44] Nusbaum to Arno B. Cammerer, April 21, 1934 (National Park Service: Aztec Ruins National Monument files at the National Archives, Washington).

[45] Morris, kiva notes, n.d. (Morris Memorial Collection, University of Colorado Museum, Boulder; Document file, Aztec Ruins National Monument Headquarters, Aztec, New Mexico).

Kiva, and the construction of an administration and museum building were under its jurisdiction. The parking lot was carried over from the Civil Works Administration program. After basic construction, it was paved with an extra allotment of $6,000.[46]

Ruin Repair

In 1916, it was not expected that the West Ruin would be eaten away by waters from an upslope irrigation ditch. This situation was exacerbated by a naturally high water table in the valley. Apparently, a threatening condition did not exist prior to excavation, as the wealth of dry perishables retrieved from some rooms attested. Other parts of the great house also were moisture free. Morris noted, "When the roofed kiva at Aztec [Kiva E] was excavated the earth was as dry as earth could be."[47] But that changed. Exposure, saturation of the subsoil, and expanded farming caused underground water to work through capillary action up into a foot or more of walls, weakening them at their foundations and leading to exfoliation of the lower masonry courses. Although repair work was done in tandem with excavation, by the 1930s, it was proving to be impermanent, ineffectual, even destructive.

In early 1933, Engineer James B. Hamilton came to Aztec to appraise the situation for the National Park Service. While he felt that earlier repair efforts halted or slowed some damage, the cement used was not reinforced nor provided with expansion joints. As it aged, it cracked extensively, thus permitting water to reach into cores of walls or soak ceiling wood. Up to that time, no means of coping with the irrigation water were tried.

Because protection or repair of Southwestern ruins was something new to the National Park Service, it was a time of experimentation. Hamilton only suggested a few obvious ways to attempt control of these ills. These measures were replacing old wall cappings with more effective materials, redoing cement covers over intact ceilings or remodeling those in fair shape, installing tile-lined drainage trenches to lead water away from weak walls, putting fans or sump pumps in damp kivas, and experimenting with substances that could be sprayed or painted onto wall surfaces to waterproof them.[48]

By 1925, Morris already recognized that reroofed Kiva E was a special problem.[49] In the Anasazi manner, he had covered the steeply pitched, cribbed, cedar poles of the superstructure with packed earth. To protect that layer, he had added a heavy concrete slab topping. Above that as further protection, carpenters erected a shell of lumber and tar paper. Over time, the concrete slab beneath the uppermost roof sagged and cracked. Further, seepage encroached on the chamber. Morris reported, "...a damp spot appeared at the foot of the north wall and in the course of two years it spread entirely

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[46] Pinkley to Director, National Park Service, April 15, 1935; Director, National Park Service to Pinkley, July 1, 1935 (National Park Service: Aztec Ruins National Monument files at the National Archives, Washington).

[47] Morris to Rose, January 6, 1934 (Morris Memorial Collection, University of Colorado Museum, Boulder).

[48] Hamilton, Report on Preservation of Aztec Ruins and Roofing the Kiva, February 11, 1933 (National Park Service: Aztec Ruins National Monument files at the National Archives, Washington).

[49] Morris to Pinkley, August 5, 1925 (Morris Memorial Collection, University of Colorado Museum, Boulder).

across the kiva floor southward and rose up on the side walls."[50] The National Park Service managers considered the kiva an eyesore and a hazard. Because they wanted to use the structure as a possible lecture room, they felt something had to be done to make Kiva E safe and attractive. As often was the case, there was no money.

In 1934, Hamilton recommended that the cement and tar paper roofs of Kiva E be stripped down to the cribbed logs. A new watertight roof should be raised over the logs, leaving an air space between roof and logs to prevent dry rot. Then, the whole construction should be covered with earth so that it would resemble the original model. He asked that an objectionable wooden railing leading to the kiva hatchway be eliminated.[51] Hamilton thought a drainage system or sump pump would take care of unwanted moisture that was sure to increase because test holes showed water about three feet below the kiva floor.[52]

Using Hamilton's proposals as a plan of attack and Morris's archeological advice, a Public Works Administration repair crew started work in March 1934. Their first priority was digging a drainage ditch across the courtyard of the West Ruin. In places, they trenched as much as 17 feet below the surface in order to take the drain at least three feet below the floor of Kiva E. A large tile tubing was put in the trench. This was covered with gravel hauled by two teams and a wagon.[53] The tubing was connected with drains from the roof of the Great Kiva and edges of Kivas E and I and was extended some distance southeasterly out of the courtyard to emerge at ground level. There, collected water was allowed to soak into the earth. The planners hoped the small opening would prevent animals from entering the system.[54] To complete the job, workers filled the trench with the excavated dirt and straw. The tendency of these materials to hold water and work into the lines made this action a mistake. Kiva E did dry more than it had for several years, but that was only a temporary condition.

Even though engineers saw that the length of the drainage excavation was cribbed, its construction was hazardous. Unknown, unstable, subterranean kiva and room walls beneath the modern surface sometimes unexpectedly gave way. One near-tragedy occurred when a man standing in the bottom of the trench was engulfed in a thundering cloud of earth crashing down upon him. His fellow workers furiously pushed off the dirt to free his head. They put a large wooden box over him to shield him from additional fall until they could get the lower body free. Morris explained, "They had been digging a continuous trench. I suggested that instead of doing this they sink pits just long enough to give plenty of room to work in, timbering them well as they went down, about ten feet apart. Then when bottom had been reached to tunnel through from one to the other. This they did and no more cave-ins occurred."[55]

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[50] Morris to Rose, January 6, 1934 (Morris Memorial Collection, University of Colorado Museum, Boulder).

[51] Hamilton, Report on Preservation, February 11, 1933 (National Park Service: Aztec Ruins National Monument files at the National Archives, Washington).

[52] Faris to Morris, November 24, 1933 (Morris Memorial Collection, University of Colorado Museum, Boulder).

[53] Faris report, March 1934, Southwest Monuments Monthly Report, Coolidge, Arizona.

[54] PWA F.P. 503, Drain Ditch, Aztec Ruins National Monument (Document file, Aztec Ruins National Monument Headquarters, Aztec, New Mexico).

[55] Morris to Al Lancaster, November 19, 1945 (Document file, Aztec Ruins National Monument Headquarters, Aztec, New Mexico).

Public Works Administration repairs concentrated on the northwest part of the village. The outer north wall was in such deplorable shape that water worked its way into rooms used as a museum, dampening lower stones and dirt floors. Exterior veneer loosened from the wall core or fell. As a flood control measure, workers scraped earth and debris well back from this corner and then hauled it away. They removed the facing stones for 117 feet of the north facade from the northwest corner, working vertically from a height of nine feet down to the foundation (see Figure 7.7). The stones were reset in cement.[56] The exterior base of the wall remained six to eight feet above the level of floors of first-story rooms inside the building. The men installed a drain system with vitrified tile to the north of the ruin after auger holes confirmed the soil's heavy moisture content at about a depth of 12 feet.[57] The drain ceased to function properly and was abandoned after several months.

For 97 feet from the northwest corner, the west village wall at a height of about seven feet was dismantled and redone in similar fashion.[58] In that case, the men banked earth against the lower part because rooms inside had not been cleared. This helped direct water away from the house. Faris reported that matching the green stone bands along the west wall was tedious and slowed the effort.[59]

Morris's report on the 1934 ruin repair work described other important accomplishments. He estimated that 2,100 square feet of wall face was repaired or rebuilt at a cost of $1.16 per square foot. In a slow effort to duplicate the fine aboriginal masonry, the northeast arc of Kiva L was refaced for a length of 20 feet to a height of three feet. Veneer of half of Room 249 was replaced.[60]

Hamilton tried a new technique to preserve ceilings. He installed a reinforced concrete evaporation basin in second-story Room 202^2 in the North Wing and remodeled the previously existent concrete floor of Room 196^2, also to serve as an evaporation basin, by the removal of wall stones and the casting of a reinforced rim around the edge of the older concrete slab. This was an experiment in order to avoid having to remove damaged concrete slabs installed by the American Museum crews. To Morris, the experiment was unsuccessful. The new basins did not remain watertight.[61]

Nonetheless, two years later Faris requested a sum of $4,700 to cover 20 rooms with the reinforced concrete roofs of the catchment type designed by Hamilton. He disagreed with Morris regarding the success of the earlier experiment.[62] No record that this work was carried out has been found.

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[56] Photograph #943 (Photograph file, Aztec Ruins National Monument Headquarters, Aztec, New Mexico).

[57] Faris to Morris, November 24, 1933 (Morris Memorial Collection, University of Colorado Museum, Boulder).

[58] Photograph #97 (Photograph file, Aztec Ruins National Monument Headquarters, Aztec, New Mexico).

[59] Faris report, May 1934, Southwest Monuments Monthly Report, Coolidge, Arizona.

[60] Morris, folder 232, miscellaneous notes, n.d. (ca. 1934) (Morris Memorial Collection, University of Colorado Museum, Boulder).

[61] Hamilton, Final Construction Report, Aztec Ruins National Monument, May 31, 1935; Kittredge to Director, National Park Service, June 13, 1936 (National Park Service: Aztec Ruins National Monument files at the National Archives, Washington).

[62] Faris to Pinkley, June 3, 1936 (National Park Service: Aztec Ruins National Monument files at the National Archives, Washington).



Figure 7.7. Resetting exterior wall of North Wing, 1934. Rubble core and shaped sandstone veneer evident.

Although Hamilton was in charge of daily repair work, a visiting National Park Service engineer wrote the director, "I am very impressed with the thorough, commonsense, and cooperative way in which Mr. Morris is proceeding with this work. We as engineers are looking forward to

learning much in the coordination of engineering methods with archeological preservation and restoration from him."[63]

The repair task at Aztec Ruins was so enormous that six weeks into the project it was obvious more money was needed. Morris appealed for an additional $24,600. He cited the need to cap 4,500 linear feet of wall, to protect 6,000 linear feet of wall bases, to patch and chink 15,000 square feet of walls, and to remove 12,500 yards of earth from around exterior walls. He further argued that repair measures being tested at Aztec Ruins would provide a future model for all National Park Service monuments with antiquities.[64] Knowing that an appropriation bill for additional Public Works programs was then before Congress, Faris fired off his own request for $25,000.[65] After personally inspecting Aztec Ruins National Monument, Assistant Director Demaray agreed that Morris easily could invest from $5,000 to $18,000 in its immediate repair.[66] However, the top project was to be the restoration of the Great Kiva, for which $10,000 of the original $17,175 allotment was earmarked. Otherwise, $7,000 already had been expended on the various aspects of the over-all program. That left little to complete the other things that Morris felt were necessary. His request was denied.[67] Thus, repairs that were essential to the ruin's preservation were not done. That caused a good deal of resentment among those given this responsibility. Cement, reinforcing steel for the roof of Kiva E, and other supplies were stockpiled. What was lacking was money for labor.[68]

Because Morris was in charge of repairs going on at Mesa Verde at the same time he was overseeing similar projects at Aztec Ruins, he succumbed to the temptation of sharing materials between the two areas. The most questionable instance of this happened when Al Lancaster noted in his field notes for work being done at Cliff Palace in Mesa Verde, "In afternoon helped Mr. Morris mud around beams in Speaker Chief Tower. Beams brot [sic] from Aztec."[69] Very probably the beams in question were recovered during the clean-up or excavation jobs under way at Aztec and were unprovenienced. However, their transfer out of context to a different Anasazi region compromised their usefulness for dating purposes.

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[63] Kittredge to Director, National Park Service, May 4, 1934 (National Park Service: Aztec Ruins National Monument files at the National Archives, Washington).

[64] Morris to Demaray, May 24, 1934 (Document file, Aztec Ruins National Monument Headquarters, Aztec, New Mexico).

[65] Faris to Pinkley, May 30, 1934; Demaray to Faris, May 23 and June 9, 1934 (Document file, Aztec Ruins National Monument Headquarters, Aztec, New Mexico).

[66] Demaray to Tolson, May 12, 1934 (National Park Service: Aztec Ruins National Monument files at the National Archives, Washington).

[67] Demaray to Morris, July 14, 1934 (National Park Service: Aztec Ruins National Monument files at the National Archives, Washington).

[68] Faris to Pinkley, August 9, 1934 (Document file, Aztec Ruins National Monument Headquarters, Aztec, New Mexico).

[69] Lancaster, field notes, Mesa Verde, June 12, 1934 (Mesa Verde Research Center, Mesa Verde National Park, Colorado).

Great Kiva

When the Great Kiva was cleared in 1921, there was no money to fix its slumping walls and floor features or to cover it in any way. Three years later, after the Aztec Ruin was the property of the government, Morris notified the American Museum of the rapid deterioration of the structure, saying:

> Of repair the ruin needs a great deal. In my opinion the most desirable portion of it would be the placing of the House of the Great Kiva in a condition comparable to that now existent in the East Wing of the ruin. The masonry of this structure is badly disintegrated, and most of it would have to be taken down and rebuilt. Fully $1500 would be necessary for this work.[70]

Ten years later the Great Kiva became an offensive tumble of stones and a pond of standing water after every rain (see Figures 7.8 and 7.9). Hamilton reported that the Great Kiva in 1933 had "lost almost all form and outline."[71] He recommended the restoration of the Great Kiva, using the Morris report of 1921 on its architecture as a guide and suggesting that $1,500 be set aside specifically for this purpose.[72]

Morris was appalled at the low estimate of costs to put the Great Kiva into acceptable condition. Although 10 years previous he also had used the $1,500 figure as an estimate, in 1933, he believed that the proposed budget would pay to replace less than half the existing walls to their height at that time. "The ideal thing would be completely to restore the Great Kiva," he stated, "replacing its roof, and making available to the public an example of the most intricate sort of sanctuary that was ever developed by the Pueblo people. To do this as it should be would require a probable expenditure of $10,000, with $8,500 as an absolute minimum."[73]

Director Arno Cammerer responded to the idea of totally rebuilding the Great Kiva, rather than merely repairing it in its incomplete state, by asking John C. Merriam, director of the Carnegie Institution, to loan the National Park Service the services of Morris. Cammerer wanted Morris to supervise all the repairs and restoration work at Aztec, as well as carry out some remedial measures on cliff dwellings at Mesa Verde National Park. This action was approved in November 1933. The

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[70] Morris to Wissler, December 15, 1924 (Morris Memorial Collection, University of Colorado Museum, Boulder).

[71] Photographs #989-90 (Photograph file, Aztec Ruins National Monument Headquarters, Aztec, New Mexico); Hamilton, Report on Preservation, February 11, 1933 (National Park Service: Aztec Ruins National Monument files at the National Archives, Washington).

[72] Earl H. Morris, "The House of the Great Kiva at the Aztec Ruin," *Anthropological Papers of the American Museum of Natural History* 26, pt. 2 (1921): 109-38.

[73] Morris to Cammerer, August 12, 1933 (Morris Memorial Collection, University of Colorado Museum, Boulder; National Park Service: Aztec Ruins National Monument files at the National Archives, Washington).



Figure 7.8. Great Kiva after excavation in 1921 (Courtesy American Museum of Natural History).



Figure 7.9. Deteriorated condition of Great Kiva prior to reconstruction in 1934.

following April, Morris was appointed a collaborator-at-large in the National Park Service. His salary was paid by the Carnegie Institution, and $5.00 per diem was handled by the National Park Service.[74]

While trenching for the courtyard drainage ditch was going on, preparations for the reconstruction of the Great Kiva commenced. Seasoned timber for roofing the Great Kiva was cut and hauled from the San Juan National Forest. At the monument, laborers peeled and sawed logs to proper lengths for the various roof, lintel, and ladder elements. Additional shaped sandstone blocks were hauled from a Chaco outlier site in the La Plata valley that Morris dug in 1930. A water softener was installed so that uncontaminated water could be used to mix mortar. The fallen materials that clogged the Great Kiva were removed. Meanwhile, Morris went to Chaco Canyon to learn what he could about architectural details from opened Great Kivas there. With disappointment, he reported, "The result was largely negative, hence I shall have to rebuild guided entirely by local evidence."[75] Two colleagues, Alfred V. Kidder and Jesse Nusbaum, came to Aztec to confer with Morris about how to confront this unique problem. As Chairman of the Division of Historical Research at the Carnegie Institution, Kidder was Morris's superior; Nusbaum was archeologist for the Department of the Interior.

In late May, an unparalleled effort in the history of Southwestern archeology was begun with the reconstruction of the Great Kiva.[76] Dismantling walls and resetting the stones in cement was a routine process that had been followed at Aztec Ruins since work began in 1916. Several of the 1934 crew, who had been participants in the American Museum of Natural History excavations for one or more seasons, could go forward without much direction. Very soon, however, they learned that one factor not recognized in the earlier excavation was that two benches encircled the Great Kiva at its floor level. A Mesa Verdian remodeling covered a more carefully crafted, earlier Chaco bench. With that discovery, Morris decided to restore the Great Kiva as it was built originally.[77] It was later determined that the orientation of the building at the time of use was in alignment with Alkaid in the Ursa Major, a constellation of importance to modern Pueblos in certain agricultural ceremonies.[78]

By June, Faris reported that the subterranean chamber with its floor elements and the rooms spaced around it at ground level were taking shape.[79] There were two entrances to the central chamber on the room's primary axis. One was through the altar room on the north, and the other was in the south wall. Because they were seen in similar configuration elsewhere, scientists did not question the accuracy of the restoration of the two so-called foot drums and the fire hearth on the kiva floor. The

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[74] Cammerer to John C. Merriam, November 24, 1933; Merriam to Cammerer, November 25, 1933; Cammerer to Pinkley, December 13, 1933 (Document file, Aztec Ruins National Monument Headquarters, Aztec, New Mexico); Cammerer to Morris, April 25, 1934 (Morris Memorial Collection, University of Colorado Museum, Boulder; National Park Service: Aztec Ruins National Monument files at the National Archives, Washington).

[75] Morris to Nusbaum, April 29, 1934 (Aztec Ruins National Monument files, Library, Southwest Regional Office, Santa Fe).

[76] For photographs and drawings of the Great Kiva reconstruction see Morris, "The House of the Great Kiva," Figures 2-3; Robert H. Lister and Florence C. Lister, *Aztec Ruins on the Animas* (Albuquerque: University of New Mexico Press, 1987) Figures 59-79.

[77] Morris, Great Kiva restoration report, n.d. (Morris Memorial Collection, University of Colorado Museum, Boulder; Document file, Aztec Ruins National Monument Headquarters, Aztec, New Mexico).

[78] Jonathan Reyman to D.F. Huggins, June 13, 1972 (Document file, Aztec Ruins National Monument Headquarters, Aztec, New Mexico).

[79] Faris report, June 1934, Southwest Monuments Monthly Report, Coolidge, Arizona.

rungs of ladders leading to the surface rooms inset within the upper walls of the subterranean portion of the chamber and the altar platform in the north surface room were questioned. Nevertheless, Morris felt then and for the remainder of his life that there was ample archeological justification for his reconstruction of all aspects.[80] After a visitor fell and broke a leg descending the inset stairs from the north room to the kiva floor, maintenance workers placed wooden staircases with rails at the north and south entrances.[81]

Four columns three feet square rose to an estimated 18 feet to support a massive, flat, circular roof of approximately 90 tons in weight.[82] It was this part of the reconstruction that raised most questions among archeologists, who never had visualized such a sophisticated piece of architectural wizardry being executed by the relatively technologically unadvanced Anasazi. The columns themselves demonstrated a rather remarkable basic engineering knowledge. They were constructed of masonry courses interspersed with series of cross-bedded poles laid in alternating directions, which withstood movement as occurs in columns and in a large unbraced structure of this kind. Furthermore, each pillar in a subfloor, masonry-lined cist six feet deep was seated on a stack of four ponderous circular slabs of stone three feet in diameter. The cists rested on a deep base of compacted lignite, below which was a foundation of cobblestone and sandstone in adobe. This composited underpinning prevented the combined weight of pillars and roof from sinking into the ground upon which the kiva rested. The placement of the pillars in a square in the outer circumference of the kiva precluded a cribbed superstructure such as those on smaller clan, or residential, kivas. From the pattern of burned ceiling residue recovered on the kiva floor, Morris theorized radiating logs extending like spokes of a wheel from this central square to the outside walls of the surface rooms. Over this framework, shorter lengths of timbers were spaced in cross pattern. As in domestic ceilings, these were covered with shredded cedar bark and a foot of tamped earth.

After two and a half months and many decisions about the intentions of the prehistoric builders, the Great Kiva was nearing completion. Morris told Kidder that the inner wall and the pillars of the Great Kiva were finished. The outer wall was well above ground. He said that the weighty disks beneath the four columns set on a bed of coal shale duplicated identical methods at the Chaco ruin of Chetro Ketl. He was pleased that after examining a single beam in the wall of one of the floor vaults, Douglass read a date of A.D. 1131.[83] That placed the first construction of the sanctuary within, or perhaps a decade later than, the time span of the great house behind it.[84]

Throughout his association with work at Aztec Ruin, Morris continually ran out of money with which to complete a given task. In July 1934, he found himself in the same predicament in regard to the Great Kiva. With only enough money to carry the work through two more weeks and the roof not

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[80] Morris, ca. 1953: personal communication.

[81] Faris report, March 1936, Southwest Monuments Monthly Report, Coolidge, Arizona.

[82] Irving D. Townsend measured them at 18 feet, the height from floor to roof being 19 feet 8 inches. Townsend to Erna Fergusson, July 16, 1949 (Document file, Aztec Ruins National Monument Headquarters, Aztec, New Mexico).

[83] Morris to A.V. Kidder, July 13, 1934 (Morris Memorial Collection, University of Colorado Museum, Boulder).

[84] A tree-ring sample list compiled by David Breternitz and sent to John M. Corbett by Bryant Bannister, Laboratory of Tree-Ring Research, University of Arizona, on October 4, 1960, erroneously states, "There are presently no dated specimens from the Great Kiva at Aztec." (Document file, Aztec Ruins National Monument Headquarters, Aztec, New Mexico).

yet in place, he appealed to Merriam at the Carnegie Institution to ask Secretary of the Interior Harold L. Ickes personally for an additional $2,500.[85] Ten days later Merriam forwarded the request to National Park Service Director Arthur E. Demaray. Demaray advised Ickes, "In the event this request is approved, it will provide for the proper completion of a memorial to the ingenuity of a prehistoric people in a creditable manner and protect the investment already made by the government in the restoration of the House of the Great Kiva."[86] Within a few days, he had to tell Morris that no more money would be supplied by the Public Works program.[87] Faris wrote directly to Ickes in the interim.[88]

Discouraged, Morris told his troubles to Kidder. The Great Kiva was standing with major ceiling logs in place but lacking both roof and plaster finish (see Figure 7.10). He doubted that Ickes would respond favorably to appeals for help.[89] It seemed he was right when the first reply from Washington was that the only monies available were those unused on some other phase of the general project.[90] These funds did not exist. On August 15, just $70 remained uncommitted.

Two weeks later, the request for supplemental money for the Great Kiva unexpectedly was approved.[91] Not wanting to see the work halted before completion, Kidder already had secured permission from the Carnegie Institution for the loan of a light truck and six weeks wages for two men in order to finish the roof under the direction of Gustav Stromsvik, a Carnegie Institution employee who had worked with Morris in Yucatan and Canyon del Muerto. On October 10, the allotment was reduced to $2,250, a setback that immediately sent Faris to the Western Union office with another plea to the director of the National Park Service. The next day the full amount was restored.[92]

In October, the finishing step on the Great Kiva was coating the interior with cement plaster and painting it. A dark red wainscoting below an upper expanse of white duplicated the typical scheme found on domestic quarters and recovered in small traces in the excavation of the Great Kiva. John Gaw Meem, a Santa Fe architect familiar with Pueblo architecture, provided a formula for the red concocted from modern ingredients that would be more permanent than the hematite used by the

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[85] Morris to John C. Merriam, August 1, 1934 (Document file, Aztec Ruins National Monument Headquarters, Aztec, New Mexico).

[86] Demaray to Ickes, August 10, 1934 (Document file, Aztec Ruins National Monument Headquarters, Aztec, New Mexico).

[87] Demaray to Morris, July 14, 1934 (Document file, Aztec Ruins National Monument Headquarters, Aztec, New Mexico).

[88] Faris to Ickes, August 13, 1934 (Document file, Aztec Ruins National Monument Headquarters, Aztec, New Mexico).

[89] Morris to Kidder, August 20, 1934 (Morris Memorial Collection, University of Colorado Museum, Boulder).

[90] Tolson to Superintendent, Southwest Monuments, August 24, 1934 (Document file, Aztec Ruins National Monument Headquarters, Aztec, New Mexico).

[91] Demaray to Kidder, September 12, 1934; Faris to Hugh M. Miller, September 15, 1934; Tolson to Faris, September 18, 1934; Tolson to Superintendent, Southwest Monuments, September 21, 1934 (Document file, Aztec Ruins National Monument Headquarters, Aztec, New Mexico).

[92] Faris to Director, National Park Service, October 15, 1934; Tolson to Faris, October 16, 1934 (Document file, Aztec Ruins National Monument Headquarters, Aztec, New Mexico).

Indians.[93] Morris supplied a small sample of the red to redo a wall mural in the tower of Cliff Palace in Mesa Verde. He lost a second request for $7,500 to place a reinforced concrete or composition roof over the less durable copy of the aboriginal one.[94]

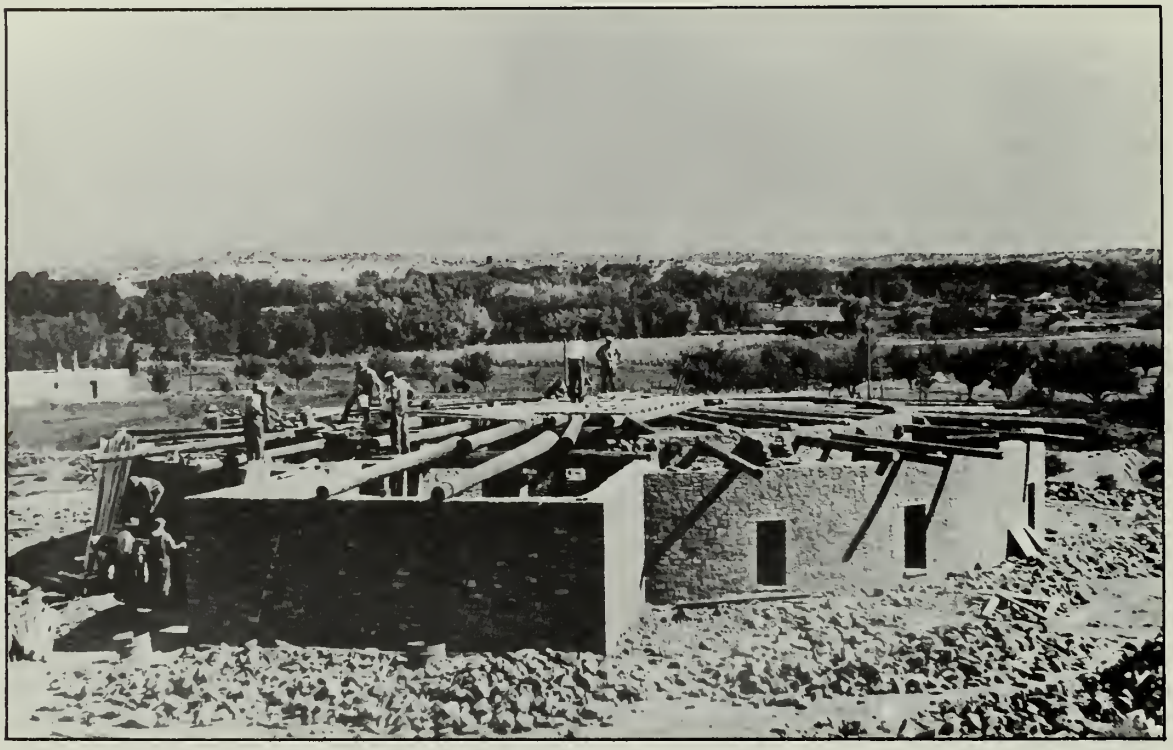


Figure 7.10. Erection of roof on restored Great Kiva, 1934. Custodian's residence at left center. Tatman's apple orchard at right center. Village of Aztec behind trees at upper center.

The excavation in 1921 of the Great Kiva took a small crew six weeks working on a shoestring budget. Its restoration 13 years later required five months' work by a large crew and considerable cash outlay (see Table 7.2).[95] Together, the two operations were unusual in being the responsibility of one scientist. Because of that, the Great Kiva in one sense is a memorial not only to the Anasazi but to

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[93] Formula for red colorant used in the Great Kiva restoration was: to each sack of approximately 100 pounds of white Atlas cement, add 9 buckets of reddish sand, 8 pounds of hydrated lime, 2 pounds of mineral red mortar color, 2 pounds of burned umber, 1 pound of Vandyke brown, and 2 1/2 pounds of raw sienna (Morris Memorial Collection, University of Colorado Museum, Boulder).

[94] Faris to Kittredge, September 3, 1934 (Document file, Aztec Ruins National Monument Headquarters, Aztec, New Mexico).

[95] A financial audit dated December 31, 1961, by auditor-in-charge Robert A. Browne placed the cost at $12,450.76. (Document file, Aztec Ruins National Monument Headquarters, Aztec, New Mexico).

Morris. The present National Park Service policy rejects this sort of total rebuilding, but unquestionably laymen have a clearer idea of how communal kivas looked when they were in use (see Figures 7.11 and 7.12). That was Morris's goal. Its maintenance added to the preservation burdens of the National Park Service.

Table 7.2. Public Works Administration Program
Aztec Ruins National Monument
F.P. 503.14

Statistical Summary[a]

Restoration of Great Kiva	$ 12,450.76
Drainage of Ruins Court	2,961.18
Patching, Restoration, and Capping Walls	2,358.88
Protection of Original Ceilings	660.86
Protection of Roof of Kiva E	173.38
Protection of Museum against Flooding	198.88
Restoration of Pottery	480.12
Clean-up	390.94
Total	$ 19,675.00

[a]J.B. Hamilton, Final Construction Report on Repair of Ruins, May 31, 1935 (National Park Service: Aztec Ruins National Monument files at the National Archives, Washington).

The scaffolding scarcely had been removed before the public began asking permission to use the rebuilt chamber for various special functions not related to the monument's purpose. These included such affairs as weddings or association conventions. The largest public gathering in the Great Kiva was an Easter sunrise service in April 1938 for all San Juan County religious organizations. More than 2,400 persons attended.[96] This important interaction between the monument and the community continues.

Administration Building and Third Museum

According to blueprints drawn in November 1933, the vacated five-room Morris house, including the west room the American Museum had intended as an exhibition hall, was to be remodeled into monument offices and a museum under a Public Works Administration project. A lobby of approximately 980 square feet would be built to connect this structure with the comfort station

[96] Thomas C. Miller report, April 1938, Southwest Monuments Monthly Report, Coolidge, Arizona.



Figure 7.11. Interior of restored Great Kiva, looking toward north altar room. Crossbedded poles in roof support column left exposed to demonstrate method of construction.

complex to the east erected two years earlier (see Figure 7.13). A 1,305-square-foot museum would be placed on the west side of the old house. A new porch would extend across the front of the lobby, a door from the museum opening on the original porch at the west.[97] As had always been the case at Aztec Ruins, it was the museum which would cause most controversy.

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[97] Preliminary Sketch for Administration and Museum Building, Aztec Ruins National Monument, November 29, 1933 (National Park Service: Aztec Ruins National Monument files at the National Archives, Washington).



Figure 7.12. Reconstructed Great Kiva, northwest side. Doorways open into encircling surface rooms.

The first phase in the process of getting a satisfactory museum for the monument was an inspection by Carl P. Russell, field naturalist with the Landscape and Education Office in San Francisco. What he saw was the display as it had been arranged by Custodian Boundey of almost 1,500 objects within the seven ruin rooms.[98] Faris did some reorganizing and installed a few glass cases to protect special artifacts.[99] Russell deplored the poor lighting, lack of visual explanatory materials, the necessity for the services of a guide, and rainwater that ran into the east entry to soak floors. He wanted to see a more controlled, up-to-date facility. He further recommended cataloging the undocumented assortment of accrued specimens, especially the American Museum collection, prior to curatorial work.[100]

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[98] This figure implies continued use of articles loaned or donated by private collectors, as well as those loaned by the American Museum of Natural History.

[99] Faris report, May 1933, Southwest Monuments Monthly Report, Coolidge, Arizona.

[100] C.P. Russell to Rose, May 17, 1933 (National Park Service: Aztec Ruins National Monument files at the National Archives, Washington).

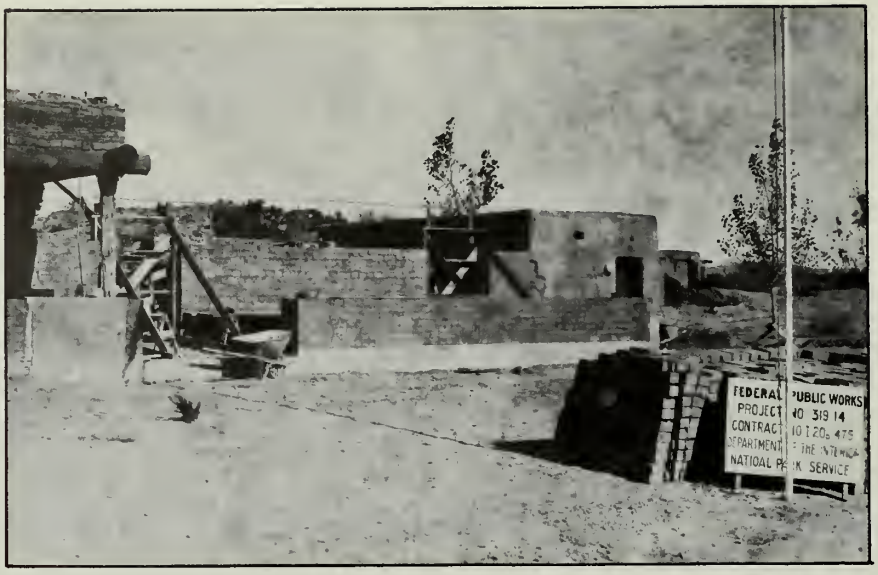


Figure 7.13. Lobby being erected between Morris house and comfort stations, 1934.

Although Morris agreed with Russell's appraisal, adding that theft, breakage, and dust were other drawbacks, Custodian Faris remained enthusiastic about the museum within the ruin.[101] He argued that its atmosphere appealed to the viewing public more than what he called a "glass coffin" standard museum. It was an argument he lost.

Proceeding on Russell's report, plans were prepared for the administration and museum building according to the preliminary blueprints of November 1933.[102] A sum of $9,000 was allotted for its construction. On the following July 5, 1934, invitations for bids were sent to six construction firms: one in Aztec, three in Durango, one in Boulder, and one in Los Angeles. No bids were returned. None of the contacted companies felt it could do the job for the sum allocated. The main problem was that the museum as designed was too elaborate for the permissible budget. The museum was eliminated from the final plan. When he returned a bid of $8,400, Harry Gedney, of Durango, was awarded the

[101] Morris, folder 232, miscellaneous notes, n.d. (ca. 1934) (Morris Memorial Collection, University of Colorado Museum, Boulder); Faris report, February 1934, Southwest Monuments Monthly Report, Coolidge, Arizona.

[102] Construction drawing No. 319/80,005 (Map file, Aztec Ruins National Monument Headquarters, Aztec, New Mexico); Preliminary Sketch of Administration and Museum Building, Aztec Ruins National Monument, November 29, 1933 (National Park Service: Aztec Ruins National Monument files at the National Archives, Washington).

contract for construction of the remaining building.[103] The foundation and fill for the museum were included. These were dropped, and the amount of the Gedney contract was reduced by $408.[104]

William Gebhardt, assistant architect in the Branch of Plans and Design, Western Division, was in residence at Aztec for four months during the winter of 1934-35 to oversee the erection of a condensed version of the administration building (see Figure 10.1). The Morris living room with its small corner fireplace and front bedroom were converted into a custodian's office. The kitchen was to house a clerk. Even though there was no such position on the Aztec Ruins roster, the large room on the west end of the building was assigned to the naturalist. This part of the combined units of the building still was covered with twelfth-century ceiling elements. The stone masonry of the same age was under plaster. The new spacious lobby (23 by 35 feet) had walls of exposed, carefully laid, stone masonry over a hearting of locally made adobe bricks. A ceiling of large and small peeled beams mirrored the regional style. Doors front and rear permitted a flow of tourists directly through the building.

On the exterior, crenelations were removed from the roof line, and both the new and old sections of the building were plastered to simulate adobe. The stairs to the cellar were aligned so that they paralleled the rear wall of the building. A beamed porch put on this same facade was removed 30 years later because the wood rotted. The added front porch duplicated that on the house in having cedar posts reversed so that spreading roots engaged the roof. A modified Puebloan edifice emerged from all these changes.[105]

Privately, Morris was disgusted that, after all the years of anticipating a formal museum to show to the world the Anasazi material goods he recovered with so much effort and cost, it was abandoned as being something superfluous. "While there was a Public Works allotment for the construction of a formal museum at the Aztec Ruins, what impressed me as an extremely stupid procedure on the part of the Branch of Plans and Designs in sending out specifications for the structure which could not possibly be met with the amount of money available, the museum will not be built at the present time."[106]

Faris was not discouraged; from the beginning, he had opposed the plan for this particular kind of museum. When it was obvious that there was no support for keeping the museum in the ruin, he turned to advocating the use of the Great Kiva for that purpose. He knew that it would make a very favorable, long-lasting impression on visitors. Ansel F. Hall, Field Division of Education, seconded the notion.[107] This was not an entirely original idea. Staff members at the American Museum once had suggested a new museum building along the same plans. "It is hoped that in the near future it will be

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[103] Contract for Construction. R.P. No. 319.14, Office of Chief Architect, Board of Plans and Design; Statement and Certificate of Award, August 3, 1934 (National Park Service: Aztec Ruins National Monument files at the National Archives, Washington).

[104] Faris to Pinkley, September 4, 1934 (Document file, Aztec Ruins National Monument Headquarters, Aztec, New Mexico).

[105] Photograph #333 (Photograph file, Aztec Ruins National Monument Headquarters, Aztec, New Mexico).

[106] Morris, folder 232, miscellaneous notes, n.d. (ca. 1934) (Morris Memorial Collection, University of Colorado Museum, Boulder).

[107] Faris to Pinkley, September 4, 1934 (Document file, Aztec Ruins National Monument Headquarters, Aztec, New Mexico).

possible to construct a small building for museum purposes," the report stated. "The building possibly to duplicate the general plan of the structure known as the Great Kiva, one of the large ceremonial chambers excavated. If such a museum building should be provided for by outside support, the American Museum will undoubtedly contribute the plot and building still held in its name."[108]

Use of the reconstructed Great Kiva as a museum was a suggestion Faris submitted with a detailed outline.[109] He proposed to have Chacoan artifacts at floor level around one side of the chamber, Mesa Verdian around the other, thus clearly differentiating the two occupations. The altar room would contain a special exhibit on burials. The other surface rooms would house lesser artifacts or serve as study areas. Technical problems of heating, lighting, flooring, ventilation, security of specimens, and the possibility of detracting from the religious nature of the structure ultimately ruled out his interesting plan.

In January 1935, $3,100 was set aside for museum furniture, nine display cases of different types, and preparation and installation of exhibits.[110] A year later, $1,950 was added to the museum fund.[111] Just where that museum was to be and how it was to be arranged was not decided. That did not mean that Faris, for once, was without ideas. Both he and Park Ranger Robert Hart sent suggested detailed layouts to Pinkley.[112] Their plans were based on experience with the flow of visitor traffic through the site. In their proposals, the new lobby was a staging area, a place where some orientation to the area's physical environment and the prehistoric cultural story was explained. The guided tour then would proceed to the Great Kiva, out across the courtyard, and through the sequence of rooms with ceilings. Despite the fact that moisture was a worsening problem, both men were reluctant to leave these rooms bare. Faris wanted a series of drawings placed there to explain Anasazi cultural evolution from Basketmaker III through Pueblo V and suggested installing some life-sized models of persons at various daily chores. A later project was designed to put one experimental mannequin grouping in place. Apparently, this was not done.[113]

The Faris-Hart tour would continue to the rear T-shaped door on the west end of the administration building to enter the museum room (approximately 12 by 24 feet). There, Faris suggested various aspects of Anasazi life at Aztec Ruins be exemplified. Two windows on the west exposure and a door on the south would be sealed to provide sufficient wall space. The Faris plan for exhibits in this room reflects the tendency of older museums to overload cases with specimens. In Faris's plan, a second smaller room created out of half of the custodian's office would contain further materials, especially a Chaco burial to, as Faris said, "send the visitors off with a thrill. One might think off hand that anything but a burial would be the thing to send him off with a good taste in his mouth, but they

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[108] Unsigned, undated report (ca. 1924) (Aztec Ruins files, Department of Anthropology Archives at the American Museum of Natural History, New York).

[109] Faris report, November 1934, Southwest Monuments Monthly Report, Coolidge, Arizona.

[110] Tolson to Faris, January 5, 1935 (Document file, Aztec Ruins National Monument Headquarters, Aztec, New Mexico).

[111] Rose to Faris, February 28, 1936 (Document file, Aztec Ruins National Monument Headquarters, Aztec, New Mexico).

[112] Suggested museum layouts, executed by Robert Hart and Johnwill Faris, to Pinkley, May 21, 1936 (Document file, Aztec Ruins National Monument Headquarters, Aztec, New Mexico).

[113] Ansel F. Hall to Faris, August 3, 1936 (Document file, Aztec Ruins National Monument Headquarters, Aztec, New Mexico).

like them and we have some mighty dandy examples."[114] The exit from this room would be to the front of the building, after the visitor registered.

Because a door between the west room and his office did not exist, Faris asked Ansel Hall, who was in charge of museum plans for Aztec Ruins, to have one cut.[115] Faris's mistake in not working through proper channels caused problems. To do this small remodeling entailed using money not meant for that purpose. An immediate rebuke from Pinkley canceled the request.[116] Faris left Aztec to become custodian at Canyon de Chelly National Monument without seeing his Aztec museum become a reality.

The Field Division of Education at the Western Museum Laboratory in Berkeley prepared interpretive displays for the museum and supplied cases after a plan drawn by Louis Shellbach.[117] One of these featured tree-ring dating, which just five years earlier had given Aztec Ruins a secure time slot in regional prehistory. Sid Stallings, Laboratory of Anthropology in Santa Fe, plotted a demonstration beam section.[118] Another display was of the small, well-worn hand tools used by Morris, accompanied by his photograph and that of the Anasazi great house he helped expose and preserve.[119] A floor plan showed other cases devoted to Southwestern archeological chronology, stratigraphy, and resources. In the center of the lobby was to be a floor case containing a Mesa Verde burial with accompanying goods.[120]

Although their final placement was not determined, shipments of museum exhibits and equipment were received through the spring of 1935. Faris conceded that visitors seemed to like these displays.[121] In August, a dinner for former Director Horace Albright and 90 local businessmen dedicated the structure.[122]

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[114] Faris to Pinkley, May 21, 1936 (Document file, Aztec Ruins National Monument Headquarters, Aztec, New Mexico).

[115] See Master Plan Drawing NM AZT 4039, January 1, 1936, for floor plan prior to installation of connecting doorway (Map file, Aztec Ruins National Monument Headquarters, Aztec, New Mexico).

[116] Pinkley to Faris, March 31, 1936 (Document file, Aztec Ruins National Monument Headquarters, Aztec, New Mexico).

[117] Berkeley Exhibit Plan, Project No. 1000, 1934 (National Park Service: Aztec Ruins National Monument files at the National Archives, Washington).

[118] Louis Shellbach to Nusbaum, November 9, 1934 (Aztec Ruins National Monument files, Library, Southwest Regional Office, Santa Fe).

[119] Morris to Shellbach, December 19, 1935 (Document file, Aztec Ruins National Monument Headquarters, Aztec, New Mexico).

[120] Temporary Museum Layout, May 21, 1936 (Document file, Aztec Ruins National Monument Headquarters, Aztec, New Mexico).

[121] Faris report, April 1935, Southwest Monuments Monthly Report, Coolidge, Arizona.

[122] Ibid., August 1935.

CIVILIAN CONSERVATION CORPS

The Civilian Conservation Corps was a third Depression-period agency to help improve Aztec Ruins National Monument through an extensive work program. Beginning in April and continuing through September 1935, 15 to 20 young men and three supervisors were transported daily by two trucks from a camp set up at Durango. Working in coordination, the National Park Service branches of Plans and Design and Engineering and the Emergency Civil Works program requested seven specific projects for Aztec Ruins at an estimated total cost, including supervisors' salaries, of $1,660. These were: (1) grade, gravel, and landscape a rear patio behind the administration building, put a foot bridge over the pond there, and install a drinking fountain; (2) remove an old shed still leaning against the ruin and the Morris garage in one of the ruin's rooms; (3) rework old farm fields and replant them with native trees and shrubs; (4) obliterate barrow pits, dumps, and exploration trenches and put debris from them in arroyos in the vicinity; (5) pave bottoms and banks of irrigation ditches to prevent erosion; (6) construct a 175-foot-long adobe wall from three to nine feet high around the residential area; and (7) install cement seats for public use along the patio wall.[123]

Because a permanent park ranger position was added to the Aztec Ruins National Monument staff, a second residence on the monument was needed.[124] Its budgeted cost was $3,900, with $1,500 in addition for a supervisor of the Civilian Conservation Corps crew. Work commenced on the house in November by making adobe bricks. Because the adobes froze and cracked in the winter cold, Pinkley received permission for substitute projects to build sewage tanks, cesspools, and a connecting line, and put a cattleguard at the entrance gate.[125]

Emergency Civil Works employee William H. Hart made an inspection of Aztec Ruins in March 1936. With the exception of the park ranger house, he found all the listed projects completed or nearly so. The proposed residence was not built until 1949.[126] Twenty years later, the surrounding land was incorporated into the Aztec city limits, and livestock were not allowed to roam freely. That made the cattleguard unnecessary. It was removed.[127] In 1961, the pond in the patio, fed periodically by the irrigation ditch running diagonally across the north yard, was a dry depression. It was filled and converted into a patch of lawn.[128]

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[123] Emergency Work Plans, Aztec Ruins National Monument, May 31, 1935 (National Park Service: Aztec Ruins National Monument files at the National Archives, Washington).

[124] Assistant Director, National Park Service, to Pinkley, July 31, 1935 (National Park Service: Aztec Ruins National Monument files at the National Archives, Washington).

[125] Pinkley to Director, National Park Service, May 31, 1935 (National Park Service: Aztec Ruins National Monument files at the National Archives, Washington).

[126] Townsend report, June 1949, Southwest Monuments Monthly Report, Santa Fe.

[127] Homer Hastings report, October 1956, Southwest Monuments Monthly Report, Globe, Arizona.

[128] Photograph #885 (Photograph file, Aztec Ruins National Monument Headquarters, Aztec, New Mexico).

CHAPTER 8

THE MILLER ADMINISTRATION, 1937-1944

In December 1936, Thomas C. (Cal) Miller succeeded Johnwill Faris as custodian of Aztec Ruins National Monument. After a youthful experience as a working cowboy in central Arizona, Miller came into the National Park Service in the early 1930s. Like so many others in the southwestern branch of the Service, he got his training as a seasonal ranger at Carlsbad Caverns National Monument. From there, he moved on to be custodian at Chaco Canyon for two years prior to being transferred to Aztec.

Miller's seven year stint at Aztec Ruins National Monument focused on four principal administrative areas: personnel, physical plant, ruin repair and archeology, and relationship with the public. In addition, for several years he made periodic inspections of Yucca House and Hovenweep, two archeological zones to the northwest of Aztec, to oversee the work of Roving Ranger Roland Richert.

Since there was neither housing nor other facilities at either of these detached holdings, Richert lived out of the back of his pick-up truck as he tended to his duties in virtual isolation. This prolonged solitary existence may have let him cultivate an almost psychopathic fear that his middle Germanic name of von Steen would cause associates to regard him as a Nazi sympathizer. Thereafter, he carefully avoided use of that name in the several reports he was destined to write about Aztec Ruins.[1]

PERSONNEL

For the first several seasons of National Park Service administration of the enlarged Aztec Ruins National Monument, Faris worked alone. His wife took his place during times when he was away or ill in a role known in the Service as HCWP (honorary custodian without pay). Because Service policy mandated personal interpretation, he hired seasonal guides to take over some responsibilities when traffic was heaviest.

With the new facilities completed under the government relief program, Aztec Ruins National Monument was mature enough to warrant the second position of a permanent park ranger, Grade 8. This position first was filled by Robert W. Hart in August 1935. He served for a year.[2] At the time Miller assumed custodianship, the position was vacant. Therefore, when the spring tourist season of 1937 began, Miller hired Mr. and Mrs. Charles Turner at a $3.50 daily wage to be temporary guides until the Civil Service provided an eligibility list for the permanent post. Shortly, complaints were lodged with the director by several individuals. They claimed that the Turners, not being archeologists, were incompetent. Oscar Tatman also worked for Miller as a temporary guide, but his knowledge of the ruins was unquestioned. While the protests may have been another example of the personal interest

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[1] Homer Hastings, October 1989; personal communication.

[2] Frank Pinkley to Director, National Park Service, August 19, 1935 (National Park Service: Aztec Ruins National Monument files at the National Archives, Washington).

of townfolks in "their ruin," Miller was inclined to disregard them. The names used on the letters to Washington were not known in the Animas valley area to those to whom he spoke.

Regardless, the matter was resolved in June, when Herbert S. (Pete) Day filled the permanent position. Day appeared to like his assignment and took to writing a weekly column for the *Aztec Independent* entitled "Rumblings from the Aztec Ruins National Monument."[3] Because the job did not allow him archeological research time, he soon grew dissatisfied and resigned after six months. Miller once again had to find an assistant.[4]

To avoid this sort of misunderstanding, Superintendent Pinkley wrote a formal job description for the position of park ranger. Ideally, the duties were divided into four categories. All of them dovetailed with the custodian's role. Since an understanding of the Anasazi was the primary reason for the monument, 60 percent of the person's time was to be devoted to conducting groups of visitors through the museum and ruin. Twenty percent of the ranger's time was to be given to checking, policing, and maintaining the physical plant and grounds. Ten percent was to be spent in general museum housekeeping by cataloging specimens, preparing exhibits, and compiling visitor statistics. The remaining 10 percent of time was to be taking charge of the monument during absences of the custodian.[5] Although an archeological background was desirable for interpretive authority, scientific research was not part of the position design. The designation of archeologist was dropped from the job title.

In these early decades of the National Park Service operations in the Southwest, relatively few individuals were involved in administration. They enjoyed a clubby relationship as they frequently crossed paths from job to job at the various monuments. Such was the case with the next two rangers at Aztec Ruins National Monument, who had taken their entrance examinations together. James A. Brewer, Jr., became park ranger in April 1938 at an annual salary of $1,860. In November, he was transferred to become custodian at Navajo National Monument.

Two months later, Brewer was replaced at Aztec Ruins National Monument by Homer Hastings. Hastings had attended Fort Lewis College and Western State College in Colorado, where he minored in anthropology. After a season at Carlsbad Caverns and three summers at Chaco Canyon, he decided to make the National Park Service his career. The assignment at Aztec Ruins launched that on a permanent basis. Hasting's duties were outlined as 80 percent registering and guiding visitors and 20 percent as general maintenance of museum, comfort stations, and trails.[6] He carried out these tasks until March 1942, when he was named custodian at Montezuma Castle National Monument, Arizona.

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[3] T.C. Miller report, October 1937, Southwest Monuments Monthly Report, Coolidge, Arizona.

[4] Pinkley report, December 1937, Southwest Monuments Monthly Report, Coolidge, Arizona.

[5] Park Ranger Job Description, Aztec Ruins National Monument, April 1938 (National Park Service: Aztec Ruins National Monument files at the National Archives, Washington).

[6] Park Ranger Job Description, Aztec Ruins National Monument, January, 1939 (National Park Service: Aztec Ruins National Monument files at the National Archives, Washington).

PHYSICAL PLANT

As Miller moved into the custodian's residence, natural gas heat was put into all the modern monument buildings. A gas burner was positioned in the old coal-burning furnace of the administration building.[7] The next year an underground phone line replaced former conspicuous poles and wires.

Almost coincident with Faris's departure, he requested $6,500 for a new house for the custodian. Since plans to erect a park ranger's house were scrapped during the Civilian Conservation Corps program, the old custodian's residence could fill the need. In March 1937, the request was approved. Detailed specifications under a Public Works Administration project were completed a month later.[8] Again, action on the construction was postponed.

Otherwise, routine maintenance work was done on leaking roofs at the administration building, Great Kiva, and custodian's residence. New linoleum was laid in two modern buildings, rooms were repainted, water pipes were repaired. Cracked plaster on the residence was touched up and repainted. Its cement floor was waterproofed.[9]

A study was made of the monument's water rights because of Farmers Ditch adjudication proceedings.[10]

At the outset of Miller's administration, the museum arrangement was not settled. The proposed doorway to the west room, which got Faris in trouble, was not authorized nor had display or storage shelving been built. After Miller secured permission to proceed with the doorway, he appealed for prompt action in equipping the museum in three rooms of the administration building.[11] "The past winter has been a hard one on our artifacts stored in the underground rooms in the Ruins," Miller reported. "The rooms have been wet from snow and rain for more than sixty days now. Some of the artifacts have been removed from the Ruins and stored in the Administration building to keep from ruining them."[12] The estimated cost of new cases and the work of preparing them came to $645.55.[13]

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[7] Miller report, December 1936. Southwest Monuments Monthly Report, Coolidge, Arizona.

[8] Director, National Park Service, to Miller, November 25, 1936; Miller to Regional Director, National Park Service, March 22 and April 30, 1937 (National Park Service: Aztec Ruins National Monument files at the National Archives, Washington).

[9] Dale S. King, Inspection Report, Aztec Ruins National Monument, October 7, 1941 (National Park Service: Aztec Ruins National Monument files at the National Archives, Washington).

[10] A. van V. Dunn, Aztec Ruins National Monument Farmers Ditch Analysis, May 13, 1944; Dunn to Director, National Park Service, April 25 and May 13, 1944 (Document file, Aztec Ruins National Monument Headquarters, Aztec, New Mexico).

[11] Pinkley to Dorr G. Yeager, March 6, 1937 (Document file, Aztec Ruins National Monument Headquarters, Aztec, New Mexico).

[12] Miller to Hugh M. Miller, March 1, 1937 (Document file, Aztec Ruins National Monument Headquarters, Aztec, New Mexico).

[13] Estimated Museum Equipment Costs, n.d. (ca. 1937) (Document file, Aztec Ruins National Monument Headquarters, Aztec, New Mexico).

By summer, the door was cut, new cases were arriving, and exhibits were being arranged with the help of Archeologist Charlie R. Steen. Eight new cases doubled the amount of materials shown. Four cases held pottery, two basketry and weaving, one stone, bone, and wood artifacts, and eight were devoted to the place of Aztec Ruins in Southwestern prehistory.[14] The floor of the exhibit room was reinforced to resist the tramp of many feet, which had been rocking cases. In order to alleviate some congestion in the small front room, in warm weather the registration desk was moved to the front porch so that visitors could be greeted before they went into the museum.

A few imperishable specimens continued to be shown in the ruins until 1942. At that time all artifacts were taken out of the ruins, and the shelving upon which they rested was dismantled.[15]

In 1940, Sherman Howe caused concern for the monument staff by withdrawing 42 specimens from his collection to present them to the Museum of New Mexico in Santa Fe. Although approximately 100 Howe items remained at Aztec Ruins, Dorr G. Yeager, then assistant museum chief, felt that the Western Museum Laboratory in Berkeley should have been permitted to arrange a small attractive exhibit of selected representative specimens for Santa Fe.[16] However, since none of the specimens came from ruins within the monument boundaries, they were unprovenienced and of limited scientific value.

National Youth Administration enrollees cleaned the irrigation ditches, chopped weeds, planted native shrubs such as sage, chico, and chamiza, and watered the vegetation.

By 1940, Southwest Monuments Superintendent Hugh M. Miller was impressed with the progress that had been made at Aztec Ruins. He reported, "From the standpoint of accessibility, facilities, and administration, Aztec is one of the top monuments in the Southwestern group."[17]

RUIN REPAIR AND ARCHEOLOGY

Just two years after extensive repairs were carried out under a Public Works Administration program, the walls of the West Ruin were failing at an alarming rate. In the month of February 1937, the unusually harsh weather brought down 42 weakened portions of walls. One nearly fell on a touring party.[18] The next month, two laborers were called in to shore up these and other weather-beaten wall sections and to waterproof seven original leaking ceilings. Knowing these efforts were at best temporary solutions that could be undone with the next blizzard or upcoming summer thunderstorm season, Miller

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[14] New Exhibits at Aztec Ruins National Monument, September 10, 1937 (Document file, Aztec Ruins National Monument Headquarters, Aztec, New Mexico).

[15] Miller report, September 1938, Southwest Monuments Monthly Report, Coolidge, Arizona; Southwest Monuments Circular, March 1942, Coolidge, Arizona.

[16] King, Inspection Report, Aztec Ruins National Monument, to Superintendent, Southwest Monuments, December 9, 1940 (National Park Service: Aztec Ruins National Monument files at the National Archives, Washington); Resources Management Plan for Aztec Ruins National Monument, September 1976, p. 59, lists 91 Howe items at Aztec Ruins National Monument and 27 Howe items in Santa Fe.

[17] Hugh M. Miller, Report on Inspection, Aztec Ruins National Monument, September 15, 1940 (National Park Service: Aztec Ruins National Monument files at the National Archives, Washington).

[18] Miller report, February 1937, Southwest Monuments Monthly Report, Coolidge, Arizona.

appealed for further sustained repair activities at Aztec Ruins. He estimated that a minimum of 3,000 man-hours would be needed soon.

In 1938, Pinkley organized a relief squad of men to be trained on the job to cope with relentless deterioration of a number of sites under his administration. Aztec Ruins was on its itinerary as the unit moved throughout the Southwest Region. Custodian Miller was committed to spending an increasing part of his time directing ruins repair efforts (see Chapter 12).

The first archeological work done after the Depression projects was carried out by Charlie Steen in 1938. After graduating from Denver University with a degree in anthropology, Steen joined the National Park Service in 1934 as a ranger at Casa Grande National Monument, Arizona. Two years later, he was named archeologist attached to the Southwest National Monuments headquarters in Coolidge. Beloved for his wit and respected for his technical abilities as an excavator and ruins stabilizer, except for an interval during World War II when he served in the China-Burma-India theaters, Steen remained in the southwestern ranks of the National Park Service until retirement in 1970.

At Aztec Ruins in 1938, Steen's assignment was to eliminate a physical hazard potentially harmful to visitors. For eight days, enrollees of the Indian Civilian Conservation Corps Mobile Unit, under the direction of Steen, cleared Rooms 193, 249, and 202 in the North Wing so that the visitor trail could be rerouted. In the past, persons exiting from the connected rooms with ceilings used a ladder in Room 193 to reach the top of the mound in the unexcavated portion of the ruin (see Figure 6.4). The excavations eliminated this obstacle by making it possible to walk through the site at ground level.

Artifacts retrieved from the three rooms included Mesa Verde and Chaco black-on-white and corrugated potsherds, bone awls, bone beads, a bone whistle, stone knives, arrowpoints, a stone pendant, an abalone shell pendant, and numerous unworked fragments of faunal and bird bones. Partial remains of eight individuals were recovered. Seven of them were children. Because it contained little refuse, Steen concluded that Room 202 had been used until nearly the time of final abandonment of the site. However, a cutting date of A.D. 1110 from one beam indicated it had been put in place by Chaco builders during their main construction effort. Adjoining Rooms 203 and 204 apparently had become middens during the Mesa Verde tenancy.[19]

Other scientific research during the Miller years carried out by persons not connected with the National Park Service concerned tree-ring dating of the site. In the early developmental period of dendrochronology, tree-ring dating had a big impetus from 52 specimens from the West Ruin submitted by Earl Morris. After the series of relative dates was connected to absolute dates, several other collections were made at the village for purposes of cross checking data. Harry T. Getty, Laboratory of Tree-Ring Research at the University of Arizona, bored a few cores in 1934. In 1940, Deric O'Bryan, Gila Pueblo, collected 92 additional samples.[20] The range of dates for the West Ruin continued to cluster from A.D. 1110 to 1115, as they had in Douglass's first appraisal. The years A.D. 1106 and 1131 were the earliest and latest dates of the series. Samples from beams in what had been the American Museum field house conformed to those from the Anasazi communal house. The

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[19] Charlie R. Steen, Excavation of Two Rooms in the Northwest Corner of the Aztec Ruin, Aztec Ruins National Monument, November-December 1938 (Manuscript on file, Aztec Ruins National Monument Headquarters, Aztec, New Mexico; Aztec Ruins National Monument files, Library, Southwest Regional Office, Santa Fe).

[20] Miller report, July 1940, Southwest Monuments Monthly Report, Coolidge, Arizona.

neighboring East Ruin produced wood dates in the period identified with Chacoan tenancy. In addition, three examples from the site dating in the 1230s conceivably reflected Mesa Verdian building or remodeling.[21]

Four dates obtained during this interval from a large unexcavated cobblestone construction beside the entrance road at Estes Arroyo seemed to represent a widespread regional occupation predating erection of the multiroomed village of the West Ruin. These covered four years from A.D. 1091 to 1097.[22]

RELATIONSHIP WITH THE PUBLIC

Custodian Miller had the misfortune of settling in at Aztec during a winter season with the most severe weather on record in northwestern New Mexico. Deep snows and extreme subzero temperatures played havoc with new and ancient structures on the monument and virtually closed the miserable dirt entrance road for a month. Miller laid a temporary board walk across the courtyard of the ruin so that intrepid visitors braving the wintry conditions would not sink up to their ankles in slush and mud. A helper dragged a scraper by hand to clear trails around the monument.[23]

Custodians Faris and Miller were convinced that Aztec Ruins National Monument would not be fully developed, bringing greater recognition to the installation and economic benefits to the neighboring community, until the dirt entrance road was paved. The mile-long road was negotiable when the weather was dry. Otherwise, getting to the monument by vehicle was challenging. For years, Faris lobbied state officials for help, even resorted to grading the road himself, all to no avail. Miller likewise made little immediate headway in obtaining state help to improve the road. Ultimately, however, his agitation led to a meeting among the San Juan County Commissioners, local businessmen, and the governor of New Mexico, Clyde Tingley. The outcome was a promise from the governor that, if the commissioners would secure title to land for right-of-way, he would see that a decent road was constructed. In May 1937, Miller reported to Southwest Monuments headquarters that he had the right-of-way, the fences were set back, and "we are waiting for the road."[24]

Shortly, grading and leveling work on the approach road began and continued through June and July. Aztec merchants bought, erected, and maintained several signs directing travelers to the monument. However, it was not until a year later that the road finally was seal-coated, ending years of complaint.

The new entrance road and New Mexico Highway 550 from Farmington through Aztec to Durango, paved at the same time, and a national climate of rising well-being accounted for a good year of visitation in 1938. More than 20,000 persons registered at the monument. Across the road from the

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[21] List of tree-ring samples provided John M. Corbett by Bryant Bannister, Laboratory of Tree-Ring Research, University of Arizona, October 4, 1960 (Document file, Aztec Ruins National Monument Headquarters, Aztec, New Mexico).

[22] Harold S. Gladwin to Miller, January 23, 1941 (Aztec Ruins National Monument files, Library, Southwest Regional Office, Santa Fe).

[23] Miller report, January 1937, Southwest Monuments Monthly Report, Coolidge, Arizona.

[24] Miller report, May 1937, Southwest Monuments Monthly Report, Coolidge, Arizona.

entrance, the Westward Ho Curio Store opened in an Abrams building. Mr. and Mrs. Ernest P. (Doc) Josey hoped to benefit from the new tide of tourism with craft items, sandwiches, and soda pop.

The diplomatic skills of the custodian at Aztec Ruins were tested in balancing the desires of the curious traveling public to be educated about the Anasazi heritage, which the facility helped preserve, and those of individuals and organizations wishing to make use of the restored Great Kiva for personal enjoyment not related to the monument's intent. Public usage fostered good will essential to the success of a government holding within a settled area; the fact that the structure was not aboriginal outweighed fear of profanation. Miller was successful in this delicate intermeshing of needs. While general visitation climbed, an increasing after-hours use of the Great Kiva occurred. The Odd Fellows, Boy Scouts, Federated Women's Clubs, Rebekahs, American Legion, Masons, assorted church groups, and unidentified families met, prayed, or were married in what a Santa Fe newspaper termed "a heathen temple."[25] At the request of the Aztec Chamber of Commerce, the 25¢ entrance fees were waived for persons attending Easter sunrise services in the Great Kiva.[26]

During the war years, visitation expectedly dropped precipitously. It reached its lowest level of 4,574 persons in 1944 (see Appendix K). Entrance fees again were waived for those in military uniform and for Native Americans.[27]

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[25] *New Mexico Sentinel*, March 1, 1939.

[26] George Bowra to Director, National Park Service, January 30, 1940 (National Park Service: Aztec Ruins National Monument files at the National Archives, Washington).

[27] Hugh M. Miller to T.C. Miller, November 20, 1940; Demaray to Secretary of the Interior, June 25, 1942 (National Park Service: Aztec Ruins National Monument files at the National Archives, Washington).

CHAPTER 9

SATELLITE ATTRACTIONS

HUBBARD MOUND

Acquisition

Dale S. King, executive secretary of the Southwest Monuments Association, and Erik K. Reed, National Park Service regional archeologist, learned in the fall of 1946 that Clyde C. Hubbard, owner of a portion of the former Abrams property, was planning to hire a steam shovel to remove a large Anasazi mound on his farm. The site was situated just 200 yards north of the northwest corner of the West Ruin block.[1] The mound had been well known during the American Museum project. Part of it then was used by the owner as a root cellar. A northeast room was dug into about 1918 by J.S. Palmer, one of Morris's crew, who found several skeletons and some "degenerate" Mesa Verde pottery.[2] In 1946, the ruin, densely covered with brush, rose above a young peach orchard. Cursory examination convinced King and Reed that it was the remains of a detached Great Kiva. They immediately tried to arrange its acquisition through financial contributions amounting to membership in the Southwest Monuments Association. Ultimately, the Farmington Lions Club and seven private individuals -- including traders Gilbert Maxwell and Dean Kirk and archeologists Harold Gladwin, Marjorie Tichy (Lambert), and Bertha Dutton -- responded sufficiently to meet the $300 asking price for the ruin and a 1.255-acre piece of land upon which it was located.[3] A 20-foot road easement along the monument west boundary was allowed. Its upkeep was Hubbard's responsibility.[4] The Southwest Monuments Association gave the parcel (Tract 5) to the government. It was proclaimed a part of the Aztec Ruins National Monument by President Harry S Truman on May 28, 1948, bringing the total acreage to 27.14 acres (see Figure 5.1).[5]

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[1] Erik K. Reed to Harold S. Gladwin, October 17, 1946 (Document file, Aztec Ruins National Monument Headquarters, Aztec, New Mexico).

[2] Earl H. Morris to Reed, November 12, 1946 (Morris Memorial Collection, University of Colorado Museum, Boulder).

[3] Dale S. King to Dean Kirk, November 13, 1946; Irving D. Townsend to Kirk, November 14, 1946; Townsend to Regional Director, National Park Service, December 13, 1946; King to Farmington Lions Club, February 19, 1947 (Document file, Aztec Ruins National Monument Headquarters, Aztec, New Mexico).

[4] Reed to Morris, October 28, 1946 (Morris Memorial Collection, University of Colorado Museum, Boulder); King to Minor R. Tillotson, November 18, 1946 (Aztec Ruins National Monument files, Library, Southwest Regional Office, Santa Fe); *Durango Herald Democrat*, January 27, 1949.

[5] Proc. No. 2787 (63 Stat. 1513); Appendix A.

Excavation and Interpretation

Although from surface indications Morris felt the Hubbard Mound and Mound F between the two great houses likely were related somehow to the Great Kiva tradition of architecture, he thought they differed in having a small center kiva and from two to three rows of encircling rooms. At one time he sunk a pit into Mound F, which hit a burial and Mesa Verde potsherds. A modern storage cellar also intruded upon the Anasazi construction. In his opinion, both structures were remains of Mesa Verde occupation.[6] The structural interpretation ran counter to those of National Park Service personnel, as Reed revealed, and led them to ask for Morris's help. "The ruin is pretty surely a detached Great Kiva, which we should like to see excavated for comparison with the Great Kiva within the main Aztec Ruin, which you excavated and restored. Do you feel that you might be able to do this excavation as a Carnegie Institution project, perhaps in the near future?"[7] Translated, that meant that the National Park Service did not have the funds but needed to know what it was that had been acquired. The Carnegie endeavor did not come about, nor did one to interest Deric O'Bryan, then of Gila Pueblo.[8] Digging by the National Park Service, which followed seven years later, confirmed Morris's reading of the earth.

By 1953, the volume of visitation to Aztec Ruins was of such proportions that it was desirable to open more of the physical remains within the monument to disperse visitors. Almost 22,000 more individuals came to the site that year than came eight years earlier.[9] With such an objective, Thomas B. Onstott, from the regional office, spent June and most of July 1953 initiating excavation of the Hubbard Mound. During the fall, Onstott was followed by R. Gordon Vivian and Tom Mathews, whose assignment was to prepare the site for inclusion in the monument's interpretive program.

Born and raised in New Mexico, Gordon Vivian was one of a growing number of local men and women who, during the late 1920s, aspired to careers in regional archeology under the tutelage of Edgar L. Hewett, then chairman of the new Department of Anthropology at the University of New Mexico. He cut his scientific eye teeth in Chaco Canyon and later was destined to spend several decades there in excavation and ruins stabilization. It was the latter in which he developed such a high level of practical competence that he deserved to be known as the father of this subsidiary field to dirt archeology. However, in 1953 he was given the opportunity to do what he most enjoyed -- dig and interpret what he found.

Hubbard Mound was formed by four distinct occupational levels piled on top of each other (see Figure 9.1).[10] The earliest stratum contained some adobe rooms and a kiva built on a gravel alluvial

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[6] Morris to Reed, November 12, 1946 (Morris Memorial Collection, University of Colorado Museum, Boulder).

[7] Reed to Morris, October 28, 1946 (Morris Memorial Collection, University of Colorado Museum, Boulder).

[8] Reed to Gladwin, October 17, 1946 (Document file, Aztec Ruins National Monument Headquarters, Aztec, New Mexico).

[9] Travel Reports (Aztec Ruins National Monument Headquarters, Aztec, New Mexico); Appendix K.

[10] For full description see R. Gordon Vivian, *The Hubbard Site and other Tri-wall Structures in New Mexico and Colorado*, Archeological Research Series No. 5 (Washington: National Park Service, 1959).

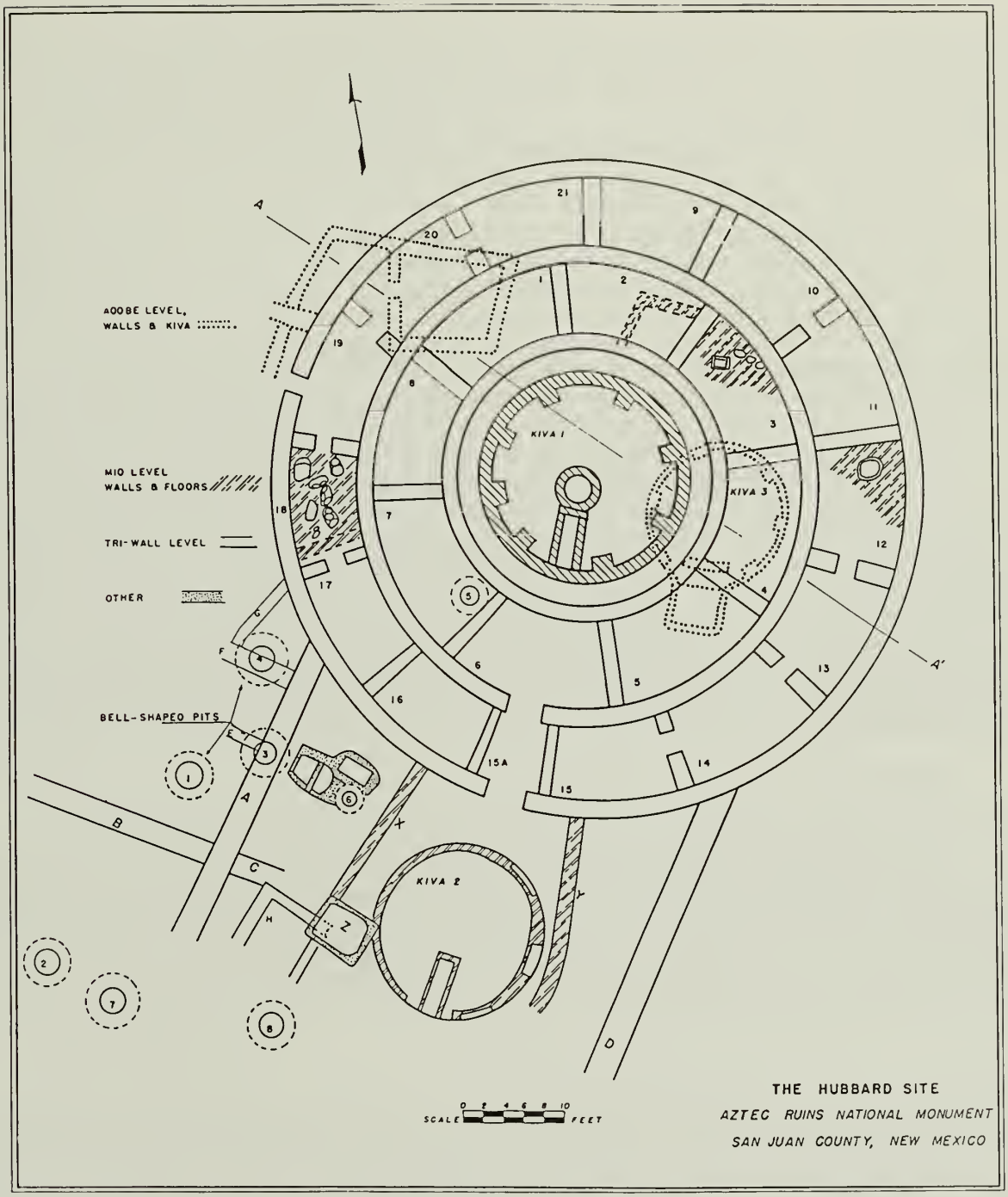


Figure 9.1. Ground plan of the Hubbard Site. (After Vivian, 1959, 6).

fan deposited by runoff from the cliffs bordering the valley bottom. The monument west boundary cuts across this level, now putting unexcavated parts of the first village under a dirt road leading to the Hubbard house. At some undetermined later period, a second series of rooms and a kiva were placed over the first series. These were of sandstone masonry. The second occupation, of which only wall bases and floors were discernible, came and went and slowly reverted back to earth. Excavators considered the two lower occupations to have been those of Chaco-affiliated peoples. A single dendrochronological date of A.D. 1148 may have come from one of these levels, but exact provenience is uncertain.[11] That date is somewhat more recent than the range of twelfth-century dates from either the West or East ruins but suggests some degree of contemporaneity.

Following a period of abandonment, which Vivian felt may have corresponded to that which took place in the West Ruin as Chacoans moved elsewhere, a third utilization of the same ground took place. It is the disintegrated structures of this period that comprise the crest of the modern mound. As Morris predicted, these were a triple-walled, circular complex 64 feet in outside diameter consisting of a small, deep, central kiva and two rows of surrounding rooms. Whether the kiva ever was roofed is uncertain. It was not a Great Kiva as defined in other explorations, nor was it a tower as some suspected. It also was far smaller than many examples of similar constructions. During the second half of the twelfth century, the site had good astronomical alignment with Alkaid, just as did the West Ruin Great Kiva.[12]

Vivian considered the Aztec structure to be a Mesa Verdian building. He noted that the other most easily observed tri-wall of approximately 10 known examples is at Pueblo del Arroyo, Chaco Canyon, a village that also was reoccupied by persons of Mesa Verde Anasazi affiliation. Nonetheless, some archeologists regard both Hubbard Mound and the tri-wall at Pueblo del Arroyo as probably Chacoan.[13]

A surface scattering of cobblestones and considerable refuse did not relate to this tri-wall unit. Seven large bell-shaped pits lined with cobblestones plastered with mud were unearthed; more are believed to be undisturbed beneath untested portions of the mound and its vicinity. While such fire pits have a wide distribution in some areas near to the Animas drainage, their function is unknown.

Onstott did enough trenching in Mound F to show that it was of similar plan except that three rows of rooms enclosed the central kiva. Mound F was not cleared for visitor inspection.

Both the known tri-wall complexes at Aztec and a possible third just to the north of the East Ruin (Mound A) generally are thought to be late manifestations of the San Juan Anasazi. That opinion is now being questioned. The exact purpose of the tri-wall structures likewise remains debatable. Ceremonial aspects of an isolated kiva enclosed by rooms are counterbalanced by obvious domestic usage of the rooms. Vivian theorized that the units, scattered throughout the eastern San Juan Basin, were the turf of an incipient priestly class, which for a variety of reasons including status, lived near

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[11] Stephen H. Lekson, Dating the Hubbard Triwall and other Triwall Structures, 1982 (Manuscript on file, Aztec Ruins National Monument Headquarters, Aztec, New Mexico).

[12] Jonathan E. Reyman to D.F. Huggins, June 13, 1973 (Manuscript on file, Aztec Ruins National Monument Headquarters, Aztec, New Mexico).

[13] Lekson, Dating the Hubbard Triwall, 1982; Robert P. Powers, William B. Gillespie, and Stephen H. Lekson, *The Outlier Survey* (Albuquerque: National Park Service, Division of Cultural Research, 1983): 154-56.

but not in the cultural center proper.[14] An intriguing observation of the symmetry of the layout of the Aztec tri-walls and the Great Kivas within the two house blocks does imply a formalized landscape concept for a ceremonial center.[15]

A trail leading from the northwest corner of the West Ruin to the top of Hubbard Mound allowed visitor viewing from above of 22 rooms, two kivas, and rudimentary wall features (see Figure 9.2). Visitors found the complexity of its superimposed features to be confusing, and the elements quickly ravaged the exposed structure. Since the site was not contributing to the meaningful visitor experience at Aztec Ruins and the methods used to stabilize it to withstand seepage and water drainage problems were not successful, after several decades, the major part of the Hubbard Mound was backfilled.[16]

EAST RUIN

Located about 150 yards northeast of the West Ruin, the architectural remains called the East Ruin are two adjacent mounds 16 feet high in places and more than 300 feet from east to west. After abandonment, the easternmost house slumped into a mound that was formerly thought to have been cut into along its eastern slope by an ancient channel of the Animas River but may have been mined for building stones by late nineteenth-century settlers. Otherwise, the heap of consolidated rubble lies virtually undisturbed under a shroud of rocky soil and thorny vegetation.

When first visited by valley settlers, the larger western mound was similarly densely covered with sage, greasewood, and saltbush. However, irregular sandstone masonry and cobblestone walls, some two stories, jutted through the mound's hardened shell at what appeared to be the northwest corner of a rectangular building. A series of long, weathered beams projected in a line from the north wall of the building at what seemed to have been a second story level (see Figure 1.3). Morris called this a balcony. The presence of subterranean chambers was indicated by sunken depressions in open plaza areas between the building's wings. It was a site inviting exploration, which apparently began in the 1880s.

In 1915, when Morris and Nelson scouted the area for a suitable site in which to excavate, they passed over the East Ruin. It already was potholed, particularly in some buried rooms with intact original ceilings. Morris himself did a little digging there that spring. As Vivian later noted, "...holes had been broken through walls in every direction in the hopes of finding further underground rooms, pits dug in the floors, and savinos [secondary beams] cut off for souvenirs."[17] Moreover, the men

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[14] Vivian, *Hubbard Site*, 85.

[15] John R. Stein and Peter J. McKenna, *An Archeological Reconnaissance of a Late Bonito Phase Occupation near Aztec Ruins National Monument* (Santa Fe: Southwest Cultural Resources Center, 1988): 68-69, Figure 10.

[16] Chief, Southwest Cultural Resources Center, to Associate Regional Director, National Park Service, July 29, 1982 (Aztec Ruins National Monument files, Library, Southwest Regional Office, Santa Fe).

[17] R. Gordon Vivian, Limited Stabilization of the East Ruin, Aztec Ruins National Monument, 1949 (Stabilization files, Aztec Ruins National Monument Headquarters, Aztec, New Mexico).

thought the settlement was not as large as that just to the west, nor was what was seen of its masonry of as high a caliber. To them, the East Ruin was of lesser importance.



Figure 9.2. Hubbard Mound, a unique tri-wall structure, ca. 1954.

During the years when American Museum of Natural History excavations were under way, Morris often engaged in after-hours probing elsewhere, which included the East Ruin. Once the title to Tract 2, encompassing the site, was acquired, Morris put a small crew to work to systematically clear some deposits to learn more definitely how they compared to those in the West Ruin. In all, 10 roofless rooms in the northwest corner were explored by the end of 1927, but no field notes survive.

Once the site was incorporated into the monument in 1928, there was no further digging in it for 30 years. Although the public may have been interested in an overview of an unexcavated pueblo of this magnitude, monument managers considered it too hazardous for visitation. Unstable walls and a number of depressions posed possible dangers to persons scrambling through the site. In 1946, some parts were backfilled to halt further deterioration.

After World War II when the stabilization Mobile Unit was reestablished, Room 24 of the westernmost mound of the East Ruin was opened so that access could be gained to a series of nine first-story rooms in a block (see Figure 9.3). All had intact aboriginal ceilings much like those in the sister site. Weak timbers in these rooms were braced by new uprights. In 1957, the heavy overburden on top of the ceilings was removed, protective roofs were installed over nine rooms, and the interior fill of 14 rooms was excavated and hauled off. An inventory of 1965 listed 24 excavated and partly excavated roofed rooms in the East Ruin, one of which is a partially exposed kiva.

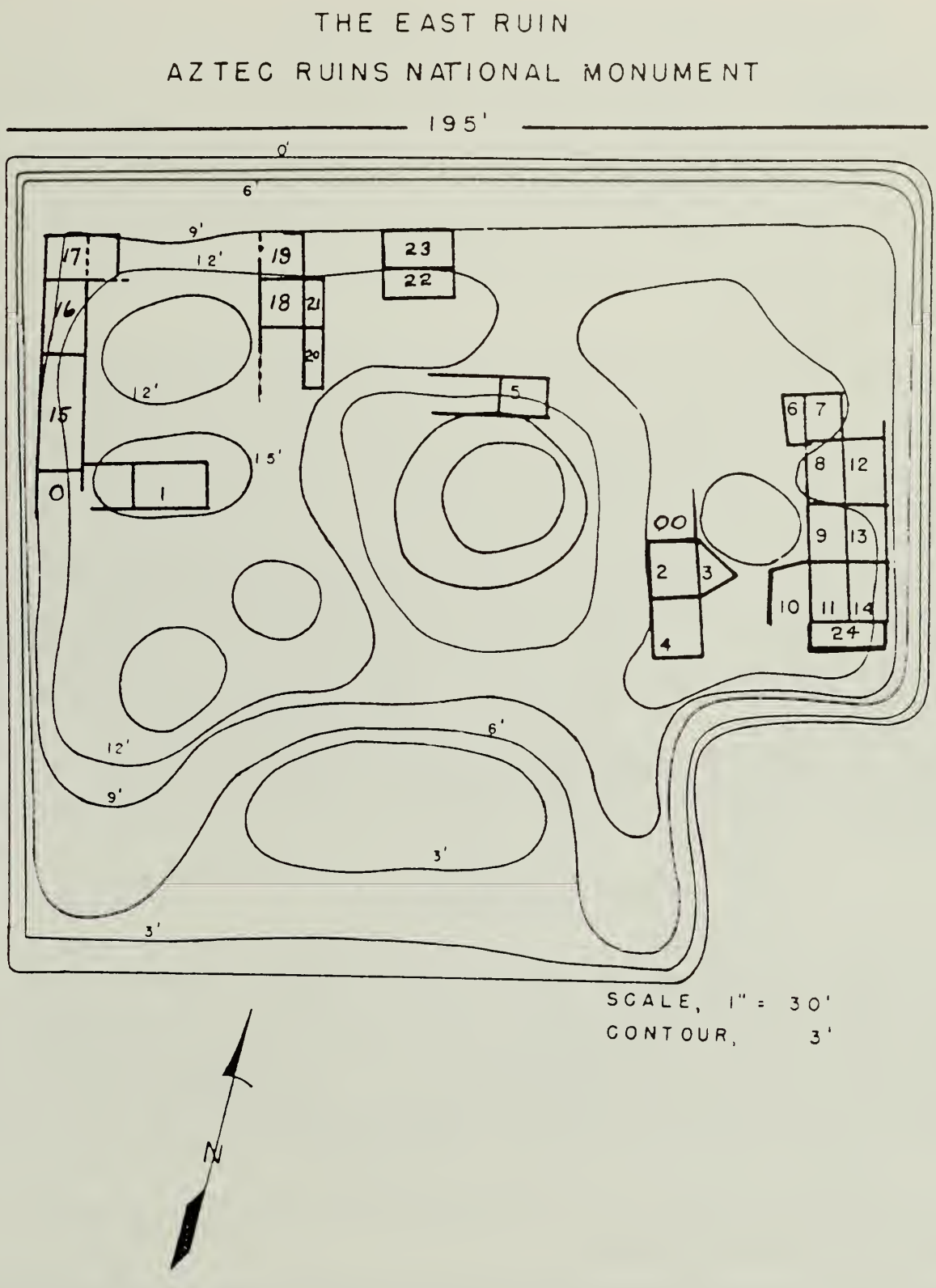


Figure 9.3. The East Ruin, Aztec Ruins National Monument. (After Richert, 1957, with additions).

On the basis of inferior construction as compared to parts of the West Ruin and a high proportion of Mesa Verde pottery recovered, Morris was convinced that the East Ruin represented a community of the thirteenth century when, according to his reconstruction of past events, Mesa Verdians flooded into the valley to reoccupy abandoned Chaco domain. There was no research done at the time contradicting this view. Morris's professional stature was such that a generation of National Park Service staff accepted this accounting without question. Roland Richert saw his finds of Mesa Verde ceramics in deposits cramming some rooms to a depth of many feet as further confirmation of Morris's interpretation. He regarded 10 cutting dates of dendrochronological samples ranging from A.D. 1115 to 1125, or exactly contemporaneous with the West Ruin, as reused wood. He believed three dates in the 1230s were actual construction dates for the East Ruin as a whole.[18] Five recently obtained 1200s dates from wood recovered in three rooms proves that at least parts of the structure were built during the final occupation.[19]

Nevertheless, questions about earlier judgments have been raised from time to time by the scientific community, no more so than now with the recent research at Chaco Canyon. The quality of the masonry of the East Ruin notwithstanding, it generally was done in the core-and-veneer Chaco method rather than the dimpled, double-block Mesa Verde style lacking a rubble hearting. The East Ruin appears to be of a size comparable to the West Ruin. Mappers recently preparing a preliminary ground plan of the former were able to discern approximately 122 rooms and 10 kivas in the western houseblock and 56 rooms and five kivas in the eastern houseblock. One of these latter kivas may have a Mesa Verde-style southern recess. Another four clan kivas were identified in the plaza (see Figure 9.4). Both the East and West ruins have a multistoried north tier of rooms, wings of room blocks at right angles to it incorporating a courtyard with a Great Kiva having encircling surface rooms, and an orientation to the south. Several possible features unique to the East Ruin are an earthen platform, walkway, and ramp. If similar constructions originally were present in the West Ruin, they were not recognized during excavations and may have been destroyed. The town plans of these two sites can be duplicated in a number of settlements in Chaco Canyon but not on the Mesa Verde. Perhaps the differences in construction can be explained by differences in personal abilities or standards. As to pottery, Mesa Verde wares were similarly more plentiful at the West Ruin. In both cases, that might be explained by longer Mesa Verdian tenancy, larger population, and perhaps burial customs. Only controlled excavations can answer the many questions about the East Ruin and how it interacted with its neighbor.

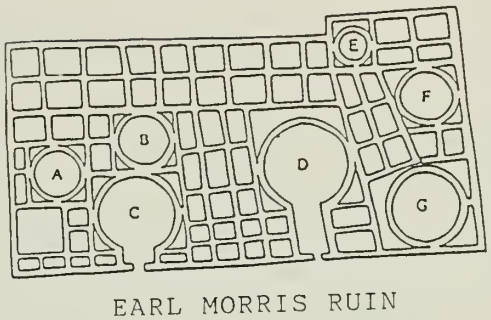
EARL MORRIS RUIN

This is an unexcavated, rectangular settlement at the extreme northeastern boundary of the original national monument, which is overgrown by rank vegetation as a result of waters overflowing from a farmer's pond and cultivated fields. A mapping project carried out in 1988 tentatively traced outlines of some 63 cellular chambers and seven kivas incorporated within the unit (see Figure 9.4). Between this village and the northeast corner of East Ruin, a circular depression suggests a second isolated Great Kiva, smaller than that within the East Ruin courtyard and lacking surface rooms. Peter McKenna, National Park Service archeologist working with the mapping team, believes a wall once

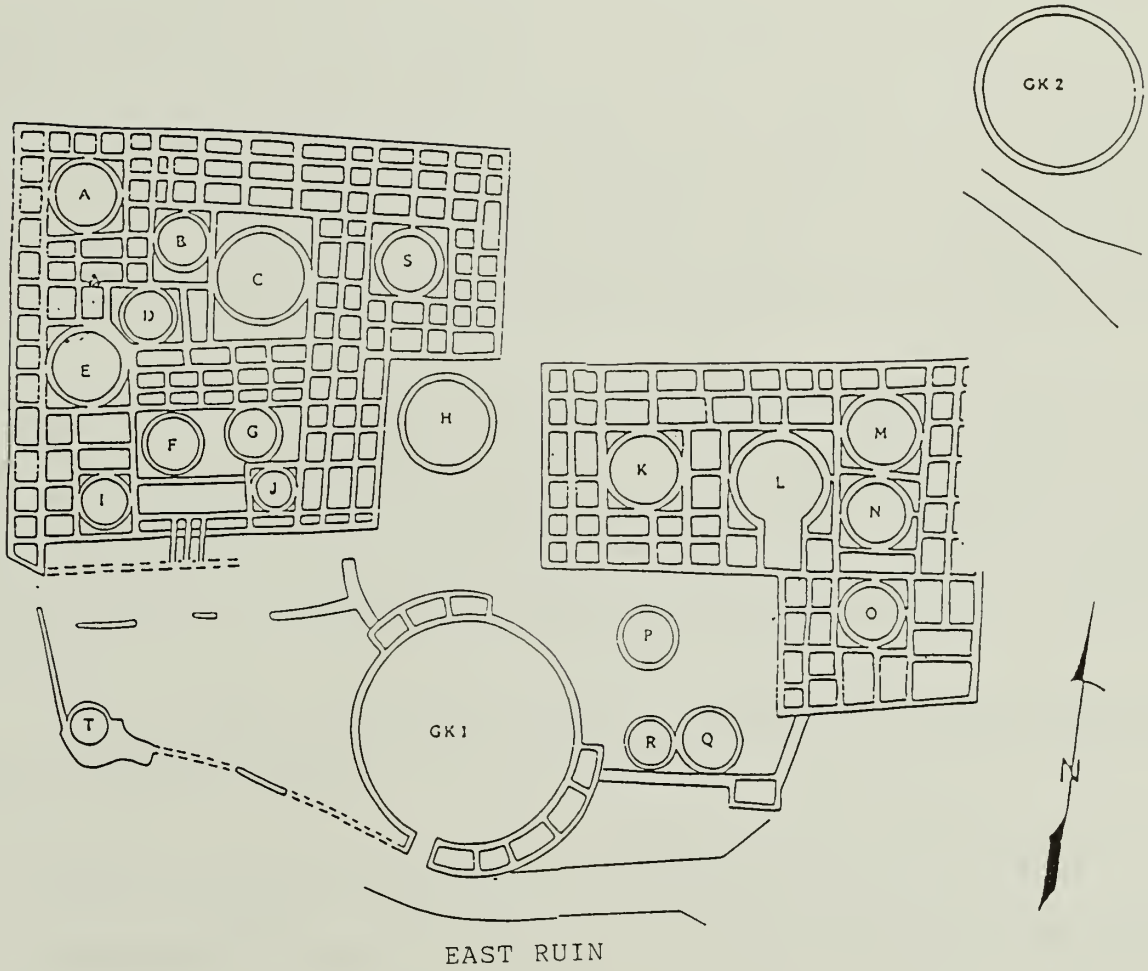
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[18] Roland Richert, East Ruin, Combined Excavation-Stabilization by the National Park Service in 1957, January 10, 1961; personal communication.

[19] Peter J. McKenna, Stabilization Observations at the Aztec Ruins: Prospective for the Superintendent, Division of Anthropology, Southwest Cultural Resources Center, 1989.



EARL MORRIS RUIN



EAST RUIN

Figure 9.4. Map of East Ruin and Earl Morris Ruin, based upon interpretations of a National Park Service concept plan, May 1989, by Andrae, Ford, McKenna, and Stein.

existed that ran from Mound A to Mound C to the northeast corner of East Ruin to enclose a formal plaza west and south of the Earl Morris Ruin (see Figure 11.1).[20]

At present there are no plans to excavate the Earl Morris Ruin or incorporate it into the interpretive program. That development may come with implementation of the General Management Plan of 1988 (see Chapter 11).

[20] McKenna, November 1989: personal communication.

CHAPTER 10

THE MISSION OF MISSION 66

On a tide of peace, prosperity, and renewed national vigor that characterized the mid-1950s, planners for the National Park Service implemented a bold effort to upgrade all aspects of the facilities at the 179 holdings it maintained at that time. That meant modernizing or constructing new buildings to accommodate increased public usage and to provide for necessary augmented staffing, to build or improve roads and trails for easier or greater accessibility, to push stabilization measures where needed, to bring written, oral, and visual interpretation in line with current research, and to expand each installation's offerings for greater visitor enjoyment.[1] Aztec Ruins National Monument was slated to receive the benefits of this 10-year program, known as MISSION 66 in recognition of the Service's upcoming 50th anniversary in 1966. It was none too soon. Both physical and presentation capabilities of the monument were inadequate and outmoded.

At the root of the problems faced at Aztec Ruins was the fact that the 1950s witnessed a remarkable popularity of the subject of archeology. Recent global wars perhaps stimulated interest in the world's cultural past. In the Four Corners, it was rather ironic that explorations to satisfy the twentieth century's dramatic energy needs focused unusual attention upon the human pageant played out there the previous millennium. A cobweb of jeep trails lay over sweeps of inhospitable terrain scarcely penetrated by Euro-Americans for the preceding 100 years. Along with the discoveries of coal, natural gas, oil, and uranium were those of the remains of scores of Anasazi sites. Nomadic Native Americans, who wandered through the area since the 1400s, superstitiously generally avoided these homes of the ancient people. Not being restrained by the same fears, Caucasian Americans pothunted as never before. This was redeemed somewhat by their new awareness of the civilization that once evolved in, and then departed from, this unforgiving wilderness. In an oblique way, this was reflected in the filming within the precincts of Aztec Ruins of part of the James Cagney movie *Run for Cover*.[2]

Boom conditions in the San Juan Basin resulting from energy developments brought changes affecting Aztec Ruins. One was a rapid tripling of local population. Another was a system of paved highways ending the regions' isolation (see Figure 6.1). Tourists by the thousands took to their automobiles to find that, although Aztec Ruins was not in the spectacular setting of Mesa Verde or Chaco Canyon, it could be enjoyed during a brief side trip while en route to somewhere else. School field trips to easily reached places of interest became a standard part of the curriculum. All these factors coming together -- interest, numbers of adults and children, and accessibility -- accounted for an annual visitation at the monument that burgeoned to almost 40,000 by 1956 and was expected to increase further as the local natural gas and oil activities expanded.[3]

The ways in which the National Park Service made the monument available to visitors involved a number of coordinated facets to the operation. The most urgent of these were targets for improvement under the MISSION 66 umbrella.

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[1] John Ise, *Our National Park Policy* (Baltimore: Johns Hopkins University Press, 1961), 352.

[2] Photograph #338 (Photograph file, Aztec Ruins National Monument Headquarters, Aztec, New Mexico).

[3] Master Plan, Aztec Ruins National Monument, 1964.

National Park Service monument and park headquarters transformed into visitor centers in accord with the underlying mission of MISSION 66 to emphasize users rather than managers. The visitor center at Aztec Ruins National Monument was designed to serve two interrelated spheres of the monument's purpose.

FOR USERS

The Fourth Museum

An informative, attractive museum was a vital cog in the educational machinery which MISSION 66 wished to stress. Ideally it was where the goods of daily life demonstrated Anasazi adaptation to this particular setting and to each other. The great house behind the modern buildings was a mere backdrop, sterile in its excavated state except for the obvious building expertise and muscle power of Anasazi workers. The existing Aztec Ruins museum, however, did not come up to standards of the 1950s. From its beginning 20 years earlier, it was regarded as a temporary display of specimens. A drawing prepared in 1950 suggested an arrangement reclaiming the north end of the main museum room as a work area. This loss of space would be compensated for by a new extension southward. The actual square footage of exhibition space would not increase.[4] This remodeling was not done. Six years later the MISSION 66 prospectus prepared by Superintendent Homer Hastings stipulated that a first program for the monument must be either the rehabilitation of the existing museum, provisions for additional exhibit space, or both.[5] The prospectus, including an estimated $136,000 for new construction to incorporate a museum, was approved in 1957 by Robert M. Coates, acting chief of MISSION 66.[6] Finally, during the tenure of Albert H. Henson, the fourth, and only adequate, Aztec Ruins museum became a reality (see Figure 10.1). More than 40 years passed since Henry Abrams expressed his dream of just such a depository.

On May 21, 1958, an invitation for bids on a new museum wing to the administration building at Aztec Ruins National Monument was issued by the Western Office, Division of Design and Construction, in San Francisco.[7] Seven months later the *Farmington Daily Times* announced that the construction was completed. It was designed by Charles Sigler and overseen by Ray T. Olsen, both of the Western Office, Division of Design and Construction, and executed by Goodman and Sons, contractors of Farmington. The cost was $72,631.90 (see Table 10.1), a phenomenal sum when considering that the museum proposed 20 years earlier overshot the $9,000 limit of the total administration-museum building and was eliminated.

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[4] Drawing 2101-a (Map file, Aztec Ruins National Monument Headquarters, Aztec, New Mexico).

[5] Homer Hastings report, July 1935, Southwest Monuments Monthly Report, Coolidge, Arizona; Prospectus, MISSION 66, Aztec Ruins National Monument (Document file, Aztec Ruins National Monument Headquarters, Aztec, New Mexico).

[6] Robert M. Coates to Regional Director, National Park Service, September 23, 1957 (Document file, Aztec Ruins National Monument Headquarters, Aztec, New Mexico).

[7] Invitation for Bids, Aztec Ruins National Monument, May 21, 1958, issued by Western Office, Division of Design and Construction (Document file, Aztec Ruins National Monument Headquarters, Aztec, New Mexico).

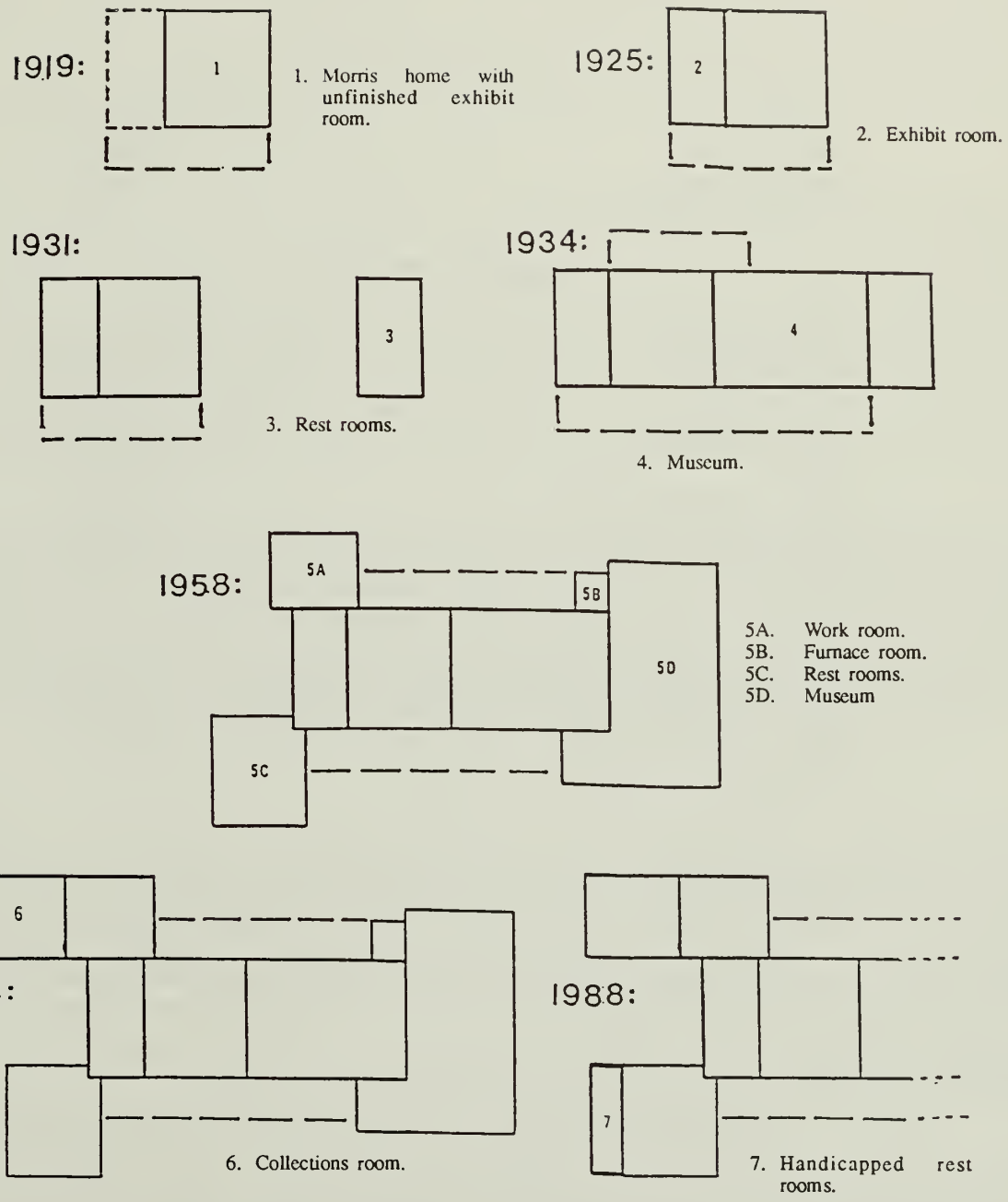


Figure 10.1. Evolution of Visitor Center.

Table 10.1. MISSION 66 Expenditures
Aztec Ruins National Monument
Funded in Fiscal Years 1958, 1959, 1960, 1962[a]

Public Projects	
Museum	$ 72,631.90
Visitor Center	74,508.77
Trails, 0.7 miles	5,908.42
Wayside Exhibit	332.23
Utilitarian Projects	
Residence #9	$ 24,951.34
Utility Building	7,615.91
Parking area	3,000.00
Sewer System	13,182.83
Irrigation System	3,333.59
Fence	2,293.34
Walls, well house, gate	3,684.42
2 fire hose houses	1,532.71
Lawns	418.00

[a]Aztec Ruins National Monument, MISSION 66 Accomplishments; Superintendent to Regional Director, National Park Service, July 1, 1956; July 16, 1963; August 20, 1963 (Document file, Aztec Ruins National Monument Headquarters, Aztec, New Mexico).

Although the first plans for this fourth Aztec Ruins museum called for a square room to be added to the northeast corner of the administration building, it emerged finally as a squared-U room of approximately 1,200 square feet wrapped around the east end of the masonry-walled lobby built in the 1930s. A southern projection extended at the east end of the entrance porch and a northern projection matched it at the opposing end of the rear porch.[8] The northern room housed a new furnace to replace the obsolete heating apparatus in the basement. Constantly rising costs ruled out the sort of imitation of Anasazi architectural details as had enhanced the first lobby.

The lobby, formerly used for orientation, became a place where visitors could sit to enjoy Admatic projected scenes related to the Anasazi experience or their colorful Four Corners homeland. Several wall bays still held stationary exhibits. One of these was a cross section of a hypothetical deposit to show how trash layers accumulated. This exhibit was put in place after 1935.

[8] Drawing NM AR 10,700A, west half, October 1956; Photograph #501 (Map file, Photograph file, Aztec Ruins National Monument Headquarters, Aztec, New Mexico).

Exhibits and Collections

The new museum exhibit plan worked out in 1957 by Museum Specialist Myron Sutton was approved by the regional chief of interpretation and the monument superintendent.[9] It drew heavily on recycled materials from the museum of 1937; in fact, displays simply were shifted from one room to another.[10] In the new, spacious, well-lighted location, they appeared shabby and old-fashioned. They relied too much on drawings, printed matter, and cluttered charts. The 20 intervening years between the third and fourth Aztec museums witnessed great changes in museum techniques in general and interpretations of Southwestern prehistory in particular.

Within several years after its installation, so much dissatisfaction was expressed about the supposedly updated Aztec Ruins museum that Museum Specialists Leland Abel, Western Museum Laboratory, and Franklin Smith, from the regional office, made a trip to Aztec to review the exhibits case by case. They agreed that only two of the 26 exhibits could be reused without alteration. For the others, they recommended corrections of labels, rewriting of texts, or complete redesigning of contents to make them current scientifically.[11] The corrected archeological map of the site replaced the Morris map of 1924.[12] Duplications of similar exhibits in other Southwestern monuments were eliminated. These included dendrochronological and archeological methods, the unique topography of the Four Corners, modern Northern Pueblos (who might be descendants of some of these Anasazi), and early life of a pueblo dweller.

The over-all emphasis of the revamped museum was on sparse but succinct wording, relatively few but diagnostic objects, and art work conveying meaning but also attracting attention. Retained were modified cases devoted to architecture, agriculture, hunting and gathering, healing and curing, weaving, pottery making, trade, and religion. Material in several cases outlined the discovery of the area by Euro-Americans and the site's excavation by Morris. An exhibit on food preparation contained a sketch of roasting pits similar to ones found the previous summer during stabilization of Rooms 51 and 52 in the East Wing.[13] Sixteen wall exhibits and three free-standing exhibits made up the presentation in

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[9] Museum Prospectus, Aztec Ruins National Monument, March 1957 (Document file, Aztec Ruins National Monument Headquarters, Aztec, New Mexico); Myron Sutton to Hastings, November 27, 1957; Hastings to Regional Director, National Park Service, December 7, 1957 (Aztec Ruins National Monument files, Library, Southwest Regional Office, Santa Fe).

[10] Information and Interpretive Services, Report 10A2, 1959 (Document file, Aztec Ruins National Monument Headquarters, Aztec, New Mexico).

[11] John W. Jenkins to Director, National Park Service, September 23, 1960; John F. Turney to Regional Director, National Park Service, June 20, 1961 (Document file, Aztec Ruins National Monument Headquarters, Aztec, New Mexico). For views of the exhibits prior to revision see photographs #615-22, 1203, 1217-20 (Photograph file, Aztec Ruins National Monument Headquarters, Aztec, New Mexico).

[12] John M. Corbett to Turney, August 19, 1960; Albert H. Schroeder to Supervisory Archeologist, Southwest Archeological Center, September 30, 1960; Roland Richert to Superintendent, Aztec Ruins National Monument, October 25, 1960 (Aztec Ruins National Monument files, Library, Southwest Regional Office, Santa Fe).

[13] Turney report, July 1960, Monthly Narrative Report, Southwest Region, National Park Service, Santa Fe; James C. Maxon, Excavation of a Mound, Aztec Ruins National Monument, 1960; Photographs #146-53, 171, 173, 797-98, 1192 (Manuscript on file, Photograph file, Aztec Ruins National Monument Headquarters, Aztec, New Mexico).

new cases to which the Farmington Construction Company applied furring strips at a cost of $1,990.[14] The various changes were not completed until the end of 1965.[15]

One special object shown in a case prepared at this time was a coiled basketry plaque 36-by-31 inches. It was decorated at its outer edge with minute flecks of selenite and coils stained red and green. Morris called it a shield when he found it in a grave in 1921. Although a hard wooden handle attached to its under side made it an object that could be held erect in front of the body, whether it was a shield is uncertain. Regardless of function, it was a rare specimen whose fragile condition required expert preservation attention. This was particularly true if it were to be shown in a vertical position. The specimen was sent to the Archeological Preservation Laboratory at Globe in 1956 to undergo treatment.[16] Fearing that it would fall apart under museum conditions, curators there proposed that a display replica be commissioned from either a Hopi or Pima craftswoman. The original specimen should be kept in controlled storage.[17] That course of action proved to be an impossibility. Either modern Indian women did not want to copy an aboriginal object due to superstitions about it, or they could not imitate old basket making techniques.[18] In the end, the so-called shield was shipped to the Western Museum Laboratory, where it was rehabilitated, mounted, and returned to the monument in February 1964.[19]

Included in the Aztec Ruins museum case with the shield were Mesa Verde Black-on-White pottery vessels, bone awls, a hafted stone knife, and ornaments found associated with the remains of an adult male. Morris thought of him as a warrior because of the presumed shield. The actual skeleton of this individual was omitted from the exhibit.

Collections available for exhibition in the new museum at Aztec Ruins had not changed appreciably during the years between the first and fourth museums. Approximately 300 items were acquired because of excavations necessitated by stabilization or expansion of the interpretive program.[20] However, the basic resources remained materials loaned to, but not owned by, the government.

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[14] Turney report, October 1961, Monthly Narrative Report, Southwest Region, National Park Service, Santa Fe.

[15] Superintendent's Annual Report, Aztec Ruins National Monument, 1962, and Information and Interpretive Services, Report 10A2, 1963, state that exhibits were finished earlier, but this information is contradicted by Information and Interpretive Services, Report 10A2, 1965 (Document file, Aztec Ruins National Monument Headquarters, Aztec, New Mexico).

[16] Hastings to General Superintendent, Southwest Monuments, January 9, 1956 (Document file, Aztec Ruins National Monument Headquarters, Aztec, New Mexico).

[17] R. Gordon Vivian to Agnes Kewanwytewa, September 5, 1960 (Document file, Aztec Ruins National Monument Headquarters, Aztec, New Mexico).

[18] Jenkins to Regional Director, National Park Service, January 15, 1964 (Document file, Aztec Ruins National Monument Headquarters, Aztec, New Mexico).

[19] Information and Interpretive Services, Report 10A2, 1964 (Document file, Aztec Ruins National Monument Headquarters, Aztec, New Mexico).

[20] Inventory of Collections Pertaining to the Southwest Archeological Center, Aztec Ruins National Monument, February 1961, revised June 1963 (Aztec Ruins National Monument files, Library, Southwest Regional Office, Santa Fe).

Two private collections received notable attention during the interim period between museums. One was that of Sherman Howe. In 1940, he withdrew approximately a third of his personal artifact collection, but in 1953, at the age of 83 he gave the balance to the Aztec Ruins museum. A small ceremony in the lobby featured his signing the necessary papers to make the transfer legal (see Figure 10.2).[21]

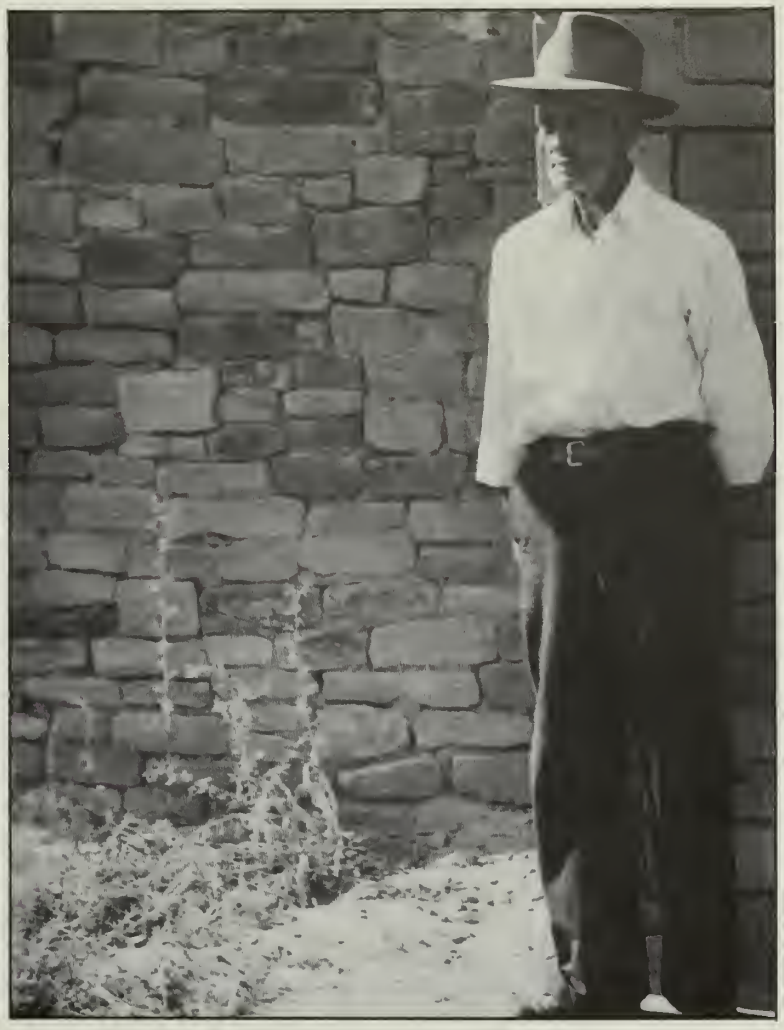


Figure 10.2. Sherman S. Howe, lifelong friend of Aztec Ruins. Photograph taken in 1949 at age of 83 years.

A second withdrawal occurred in 1954-55 when Rosa Abrams, angered about transfer away from the monument of her family donations housed at the site since 1928, asked to have most of the specimens in the Abrams collection returned. The Abrams family was assured originally and as recently

[21] Photograph #594 (Photograph file, Aztec Ruins National Monument Headquarters, Aztec, New Mexico).

as the late 1930s that the entire assortment would be kept forever on exhibit.[22] Given the changing physical circumstances of the installation, this was a condition to which it was impossible for the museum to adhere. Furthermore, the acceleration of regional archeology robbed most of the specimens of their uniqueness. In 1954, Homer Hastings, who had returned to Aztec Ruins National Monument the previous year to be superintendent, tabulated 163 artifacts or groups of artifacts as donated by the Abrams family. Of that number, 70 were then on exhibit, 19 missing items were presumed to have disappeared from the earlier open displays in the ruin, and the remaining were moved for storage elsewhere.[23] A list of 1955 indicates that at that time 160 specimens were returned to Mrs. Abrams. Hastings acknowledged another 38 articles given by her to the National Park Service, of which 20 were kept. The remainder were so fragmentary or decayed as to be worthless.[24] The two listed assortments do not tally to 163 but probably diverge slightly because of numbers assigned to bulk entries or to fragments.

The Abrams misunderstanding resulted from movement of specimens from Aztec to the National Park Service's newly acquired facilities at Gila Pueblo in Globe, Arizona. This transfer began in 1953 and continued intermittently over the next 12 years.[25] Ultimately, between 1,700 and 1,800 artifacts of a total of 3,555 to more than 4,200 items were moved to the Southwest Archeological Center.[26]

The removal of artifacts from Aztec Ruins was necessitated by unacceptable storage conditions in the 576-square-foot basement of the house built by Morris in 1920. During his active years at the site, Morris stacked duplicate specimens, those too weighty or cumbersome to ship to New York, or other things needed for preparation of reports in cardboard boxes or put them on wooden shelves around the walls. After the house was given to the government, the American Museum requested permission to leave the artifacts stored there so long as Morris continued to hold a lease on it.[27] When Morris vacated the house in 1933, the collection was left in the basement under care of the monument custodian. In the course of the construction begun at that same time, much shifting of these materials occurred when sacks of cement were piled in what had been the cistern at a lower level and when a new furnace was installed in the basement itself. Predictably, some labels were lost, paper bags broke, contents of boxes were shuffled, there was not enough manpower to keep order, and there was no other

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[22] Hastings to General Superintendent, Southwest Monuments, July 13, 1954 (Collection Accession file, Aztec Ruins National Monument Headquarters, Aztec, New Mexico).

[23] Ibid.

[24] Hastings to Rosa Abrams, April 29, 1955; List of Returned Abrams Specimens, May 1955, signed by D.B. Abrams (Collections Accession file, Aztec Ruins National Monument Headquarters, Aztec, New Mexico).

[25] Gloria J. Fenner to Dana Howlett, February 3, 1980, lists the following specimen shipments from Aztec Ruins National Monument received at the Southwest Archeological Center, Globe, Arizona: October 13, 1953; October 10, 1954; April 24, 1955; January 9, 1956; October 1956; between October 1957 and May 1959; September 21, 1959; June 8, 1962; between summer 1961 and March 21, 1962; September 3, 1965; and between September 15, 1965 and November 24, 1965. Ultimately between 1,700 and 1,800 specimens of a total of 3,555 to more than 4,200 items were moved to the Southwest Archeological Center. Exact figures of the total number of specimens, however, differ. Statement for Management, 1985; Collection Management Plan, 1980; Resources Management Plan, September 1987, all prepared for Aztec Ruins National Monument.

[26] Exact figures differ. See Resources Management Plan, September 1987; Collection Management Plan, 1980; Statement for Management, 1985. (Aztec Ruins National Monument Headquarters, Aztec, New Mexico).

[27] Clark Wissler to Earl H. Morris, February 20, 1931 (Aztec Ruins file, Department of Anthropology Archives at the American Museum of Natural History, New York).

adequate space available for what was then the largest artifact collection at any Southwestern monument.

Storage conditions did not improve during the next 20 years. As part of MISSION 66, the antique furnace was abandoned but not removed.[28] It, and a cement pillar supporting the lobby fireplace, continued to occupy most of the central floor. Steel shelving was provided for the remaining basement storage, and plastic sheeting kept some specimens dust-free. Because of lack of space, humid conditions or seepage, poor illumination, insects, rodents, the tendency to use the basement for extraneous goods, no physical security, and no curatorial help, arrangements remained unsatisfactory.

The principal collection upon which museum technicians could draw for the Aztec Ruins museum of 1958 was that which belonged to the American Museum of Natural History. National Park Service personnel mistakenly assumed it was given to the government, along with the various tracts of land, or was left at Aztec Ruins on permanent loan. Contributing to the clouded question of ownership was Morris's failure to keep complete records of specimens going to New York and those being kept at Aztec and the intermittent, inconsistent cataloging by National Park Service staff. One session of curation, carried out by Janet Case, was part of the 1934-35 Public Works Administration activities. Miss Case had no previous association with Aztec Ruins and may have made mistakes in attribution. Later, when war was imminent in 1941, an itemization listed 238 objects believed irreplaceable or unusually valuable as gifts from the American Museum. There is no verification of such transfers.[29] Another collection from the early excavations, comparable in size to that at the monument but considered superior in quality, was in New York.[30] In the meantime, some American Museum specimens had been or were being moved from Aztec Ruins to the Southwest Archeological Center. A second cataloging session at the monument came in 1957, when John Turney, then archeologist attached to the Southwest Archeological Center, brought accounts up-to-date in preparation for the new Aztec Ruins museum.

No articles exhibited in the new museum were borrowed directly from resources at the American Museum. Eventually 81 American Museum objects still at the monument or in Globe were incorporated into displays, where they have been for the past 30 years. Ten items included in exhibits in the new museum were part of the Howe gift. Three relatively insignificant Abrams artifacts -- a yucca pot rest, a piece of reed matting, and a sherd of trade pottery -- also were used. The remainder of displayed artifacts came from repair work or small individual donations.

The use of some artifacts from sites other than those in the monument is flawed presentation. Moreover, the available collections as a unit do not represent well the earlier phase of occupation present on the site. The major strength of the collections lies in the unusual range of perishables from the classic Pueblo III period.

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[28] Photographs #1212, 1234 (Photograph file, Aztec Ruins National Monument Headquarters, Aztec, New Mexico).

[29] List of Irreplaceable or Unusually Valuable Artifacts at Aztec Ruins National Monument, July 13, 1941 (Document file, Aztec Ruins National Monument Headquarters, Aztec, New Mexico).

[30] Morris to Wissler, March 31, 1931 (Aztec Ruins files, Department of Anthropology Archives at the American Museum of Natural History, New York).

Research

Research to increase viewer understanding of the prehistoric story laid bare at Aztec Ruins was one of the MISSION 66 goals. Planners considered several excavation possibilities and decided each was impractical at the time. One was the East Ruin. The scientific reasons for excavation of this site centered on settling questions of Chaco versus Mesa Verde occupations using field and laboratory techniques far advanced over those employed by the pioneering American Museum team of one. However, funding for the enormous and complex undertaking was not available. A second possible target for excavation was the courtyard of the West Ruin in order to determine the extent of its utilization before erection of the Chacoan great house. Work there had the drawbacks of inconvenience for both diggers and visitors and, because of severe drainage problems, of unfavorably tipping the delicate balance between ruin survival and its destruction. At the time, stabilization difficulties were at their most critical level.

Superintendent Hastings presented a number of other research topics, which he felt would enhance the Aztec Ruins story. These were a restudy of the two ceramic traditions represented at the West Ruin, analysis of the relationship of Chaco and Mesa Verde branches of the Anasazi, an archeological survey of surrounding areas, compilation of a trait list, and a collection and study of vertebrates and insects native to the locality.[31] The Master Plan of 1964 for Aztec Ruins National Monument and a contemporary Southwest Archeological Center report specified some of these same topics as worthy of consideration. The Southwest Archeological Center paper stressed the need for sampling horizons prior to the twelfth century.[32] None of these proposals was carried out.

Nonetheless, several lesser pieces of research were finished during the MISSION 66 period. One resulted from clearing the grounds in front of the visitor center so that they could be landscaped. What was suspected of being a prehistoric trash heap was located to the northeast of the parking lot (see Figure 3.22).[33] Archeologists James C. Maxon and George Chambers confirmed that the four-foot-high undisturbed mound was an aboriginal dump. Rodents cached intrusive peach and apricot pits in it.[34] The old refuse probably was left from the terminal occupation of the West Wing rooms just to its north, where Mesa Verde tenancy was most intense.[35] Even so, there were some signs of a Chacoan deposit

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[31] Hastings to General Superintendent, Southwest Monuments, May 2, 1956 (Document file, Aztec Ruins National Monument Headquarters, Aztec, New Mexico).

[32] Master Plan, Aztec Ruins National Monument, 1964; Inventory of Collections Pertaining to the Southwest Archeological Center, Aztec Ruins National Monument, February 1961, revised June 1963 (Aztec Ruins National Monument files, Library, Southwest Regional Office, Santa Fe).

[33] Turney reports, May and June 1960; June and July 1961, Monthly Reports, Southwest Region, National Park Service, Santa Fe; Charlie R. Steen to Superintendent, Aztec Ruins National Monument, March 19, 1959; Photographs #159-62, 168-71 (Document file, Photograph file, Aztec Ruins National Monument Headquarters, Aztec, New Mexico).

[34] Mollie S. Toll, Macrobotanical Material from Aztec Ruins National Monument, Appendix C, 1-9, in Susan E. Bearden and Ronald G. Hefner, Aztec Ruins National Monument Cataloging and Analysis Report, Submitted for Contract No. PX-7029-7-0678, May 1988.

[35] Maxon, Excavation of a Mound, 1960.

at the mound's eastern side. That correlates with Morris's description of a southwest Chacoan refuse deposit.[36]

A study done by Lyndon L. Hargrave, long-time student of the Anasazi and then a collaborator in ornithology and archeology at the Southwest Archeological Center, concluded with the identification of species of birds represented in bodily remains and artifacts uncovered during stabilization. Identifiable species probably used for food and feathers were Canada goose, red-tailed hawk, golden eagle, grouse, mourning dove, black-billed magpie, and common raven. All these types of birds are modern residents in the area. The overwhelming source for bird bone needed for objects such as awls and bead tubes was the sole species of turkey native to North America, the *Meleagris gallopavo*.[37] The great economic importance of the turkey was demonstrated further by a microscopic examination of feather materials on more than a 100 Aztec Ruins items at the Southwest Archeological Center in 1960. Articles with feather filaments, down, or barbs were socks, robes, bags, rope strands, and arrowshafts. Without exception, all these feather remains were *Meleagris gallopavo*.[38] Hargrave pointed out that leg or foot wear, actually socks that extended up a wearer's leg about six inches, were made of netted yucca cordage. Only under a microscope could he see tiny pieces of quill and feathers inserted into the meshes to provide warmth and comfort.[39]

The evidence for bird types examined by Hargrave does not represent the complete gamut present at Aztec Ruins. Of more exotic importance were macaws from Mexico. Their recovered remains are in the American Museum collections in New York.

Interpretation and a Self-Guiding System

Up to the 1950s, all visitors to the monument were conducted through the ruin and the museum by the custodian or park ranger, who, as the party moved along, informally explained features of the site and of Anasazi life as they comprehended them. Groups were limited to about 20 persons. The small size of inner chambers of the ruin and that of the museum made it difficult for the leader to project his remarks to those standing at a little distance. Also, designers meant narrow trails for single-file walking. When there were only two men on duty, one remained at the registration desk to collect required 25¢ fees. While stationed there, he introduced those waiting for the next tour to the history and natural surroundings of the monument as they were outlined in nearby displays.

The success or weakness of personal interaction between the National Park Service personnel and the public depended to a large degree upon the personalities of the guides and their abilities to

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[36] Earl H. Morris, "Notes on the Excavation in the Aztec Ruin," *Anthropological Papers of the American Museum of Natural History* 26, pt. 5 (1928): 414.

[37] Lyndon L. Hargrave and D.N. Dodgen, Bird Bone Artifacts from the West Ruin, Aztec Ruins National Monument, 1962 (Manuscript on file, Aztec Ruins National Monument Headquarters, Aztec, New Mexico).

[38] Lyndon L. Hargrave, Report on a Microscopic Study of Feathers from Aztec Pueblo, Aztec Ruins National Monument, 1960 (Manuscript on file, Aztec Ruins National Monument Headquarters, Aztec, New Mexico).

[39] Lyndon L. Hargrave, "Identification of Feather Fragments by Microstudies," *American Antiquity* 31, no. 2, pt. 2 (1965): 204-205.

convey knowledge in an interesting and accurate manner. What they said and how they did it inevitably molded the visitor's conception of the cultural story that unfolded at Aztec Ruins.

Just prior to MISSION 66, a small group of archeologists attached to the regional office in Santa Fe and to the Southwest Archeological Center at Globe were tangled in an imbroglio threatening to contradict the official National Park Service reconstructed history of Aztec Ruins. Erik K. Reed, Harvard educated regional archeologist responsible for interpretation, was convinced through his field work in Mancos Canyon during the 1940s that Morris was incorrect in his proposed sequence of occupation of the West Ruin. In Reed's opinion, there was a continuous, rather than interrupted, occupation of the village and of the general San Juan Basin. Complexes of "Chacoan" and "Mesa Verdian" attributes merely represented temporal phases of a long steady continuum of cultural evolution, not actual successive disruptive movements of people. He expounded upon this theory at a gathering of regional archeologists in the summer of 1953. To substantiate his beliefs, he stated erroneously that excavations then going on at Hubbard Mound failed to expose a sterile stratum demonstrating a break in site utilization.[40] Within a month, his theory became fact for Reed. He issued a dogmatic memorandum ordering Aztec men in the field to cease repeating a story that was "unacceptable" and to replace it with the "true situation."[41]

Upon receiving a copy of this memorandum, Morris responded with a long defense of his interpretation. He cited evidence from Rooms 43, 145, 149, 155, 174, and 189 of clear differentiation between lower Chaco and upper Mesa Verde deposits separated by various floors (see Figure 3.14) and the lack of mixed trash deposits such as one might expect had there been no interruption in utilization of them. "It would be difficult to convince me that there was not an hiatus between the Chaco and Mesa Verde phases," he wrote.[42]

Most National Park Service regional scientists joined in taking exception to what seemed to be Reed's untenable theory and to the ultimatum tone of his instructions to the men working at Aztec Ruins. The passage of time and stepped-up tempo of research warranted a reexamination of old ideas, but Morris's early day efforts were sound. They should remain unchallenged in the absence of any additional National Park Service excavation in the West Ruin, other than the limited Steen work in 1938. Everyone accepted the fact that in the San Juan Basin there had been interaction and overlapping of divergent strains of Anasazi development. To what extent remained a question for future researchers. For the present, the National Park Service archeologists recommended that guides at Aztec Ruins and distributed literature note that further work might lead to alternative explanations of what had transpired at this particular community. Reed withdrew his insistence upon a change in the Aztec Ruins presentation.

Within a few years, the National Park Service adopted a theme for Aztec of the dynamics of the cultural contact between Chacoans and Mesa Verdians, functioning because of the site's intermediate geographical location between the two focal areas and the continuity through time of the fundamental

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[40] See R. Gordon Vivian, *The Hubbard Site and Other Tri-Wall Structures in New Mexico and Colorado*, Archeological Research Series 5 (Washington: National Park Service, 1959).

[41] Reed to General Superintendent, Southwest Monuments, September 14, 1953 (Aztec Ruins National Monument files, Library, Southwest Regional Office, Santa Fe).

[42] Morris to Dale S. King, September 26, 1953 (Aztec Ruins National Monument files, Library, Southwest Regional Office, Santa Fe).

cultural content. This was demonstrated through pottery, architecture, trade, and possibly also through intermarriage and sociological intrusions.[43]

In the early 1950s, greater visitation and financial stringencies forced a change in procedure for introducing visitors to the monument. Because a self-guiding approach had been tried successfully in other Southwestern monuments, in September 1954, this practice was put into effect experimentally at Aztec Ruins.[44] Following a model written by Ranger Robert Hart in 1935, a booklet was prepared to give to each visitor explaining things to be observed at designated stops along a trail.[45] Judged effective, the next season self-guided trips were adopted routinely. With advance arrangements, large parties could request a tour guide. In months of greatest visitation, one or more rangers were on duty in the ruin to answer questions and to provide fuller background than what was presented in the brief printed matter.

A number of information aids made tours more enjoyable. Trailside exhibits and free-standing easels contained additional information.[46] Plate glass sealed into southern openings along the corridor of rooms with ceilings allowed a view of uncleared portions of the site or a piece of reed matting *in situ* over a doorway. Message-repeating equipment in the Great Kiva provided music such as once reverberated through the hall.

Over the years, other interpretive improvements were made. The trail route occasionally was changed for better or safer circulation or to provide opportunity to see other features. Visitors were not encouraged to walk into the inner East Wing from the court trail, but neither were they barred from doing so. Because getting there meant climbing on walls, most of the northwest corner of the house block was off limits. A new trail was cleared to the Hubbard Mound. As it became apparent that funds to undertake additional excavations along the route would not be budgeted, a more-encompassing path planned around the perimeter of the monument eventually was abandoned. Superintendent Jack R. Williams recommended that it not be built.[47] Trail guide booklets, keyed to 21 numbered stakes that later replaced trailside exhibits, underwent a half dozen revisions, some with colored photographs and some for sale. Committing the Aztec Ruins history to paper emphasized the need for interpretive

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[43] King to General Superintendent, Southwest Monuments, July 7, 1954; Luis A. Gastellum to Regional Director, National Park Service, July 8, 1954; Vivian to General Superintendent, Southwest Monuments, July 13, 1954; General Superintendent, Southwest Monuments, to Hastings, July 25, 1954 (Aztec Ruins National Monument files, Library, Southwest Regional Office, Santa Fe); Albert H. Schroeder, "Themes of Environmental Adaptation and Response in Southwestern National Park System Areas," *Southwestern Lore* 33, no. 2 (1967): 37-46.

[44] John M. Davis to Regional Director, National Park Service, July 20, 1954 (National Park Service: Aztec Ruins National Monument files at the National Archives, Washington); Hastings report, September 1954, Southwest Monuments Monthly Report, Globe, Arizona.

[45] Frank Pinkley to Director, National Park Service, December 26, 1935 (National Park Service: Aztec Ruins National Monument files at the National Archives, Washington).

[46] Drawing NM AZT 2302, July 1966, shows 12 signs or trailside exhibits within the West Ruin; Photographs #536-38 (Photograph file, Aztec Ruins National Monument Headquarters, Aztec, New Mexico).

[47] Jack R. Williams to Regional Director, National Park Service, September 30, 1963 (Document file, Aztec Ruins National Monument Headquarters, Aztec, New Mexico).

guidelines so that all parties concerned spoke with one voice. In 1963, John M. Corbett, chief archeologist for the National Park Service, prepared a comprehensive handbook.[48]

At first, the monument staff expressed apprehensions about allowing unaccompanied persons in the ruins. They wondered if the absence of personal contact with a ranger would reduce the value of the visit to those with no background in regional prehistory. They learned, on the contrary, that many people welcomed the chance to roam at will about the tumbled-down settlement, lost in their own thoughts. Would there be careless vandalism or personal accidents? Since ceiling beams generally were out of easy reach for those with an urge to carve initials and delicate patches of engraved or painted plaster were protected with screens, the threat of that kind of vandalism was reduced. Visitors might be tempted to get on to unstable walls. To discourage that, tops of such walls were lined with loose building stones. To insure personal safety, the precarious steps down to the Great Kiva floor from the ground level were replaced by a sturdier wooden staircase with hand rails.[49] Trails were rerouted, leveled, and surfaced. The incidents of harm to the ruin either because of legitimate visitors or trespassers who came after regulation hours proved negligible. Few injuries were reported.

FOR MANAGERS

Work Space and Utilities

A MISSION 66 project once again remodeled the old American Museum field station to provide more breathing space for the daily administrative business of the monument.[50] Doubtless, Morris would have been amused at the cyclic changes imposed on his structure, and doubtless, he would have been pleased to see a memorial plaque dedicated to him in July 1957 placed in a prominent place there.[51] Walls were rearranged to create a reception and information area with a sales counter in the two front rooms of the original house. Offices were made out of the rear rooms and the former museum. West windows and the south T-shaped doorway of the west room were reopened after having been sealed during the 1935-1958 museum interlude. The rear, or north, T-shaped doorway through which tours entered the museum gave access into a new work room added to the northwest corner. This room opened to a covered porch across the rear of the building. Two rest rooms and a plumbing

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[48] John M. Corbett, *Aztec Ruins National Monument, New Mexico*, Historical Handbook Series, No. 36 (Washington: National Park Service, 1963).

[49] King to Hastings, July 16, 1954; Hastings to General Superintendent, Southwest Monuments, September 2, 1954 (Document file, Aztec Ruins National Monument Headquarters, Aztec, New Mexico).

[50] Working Drawing of Visitor Center Additions and Improvements, June 1958; Individual Building Data, compiled by John F. Turney, April 15, 1961 (Map file, Aztec Ruins National Monument Headquarters, Aztec, New Mexico).

[51] Hastings to Chief, Western Office of Design and Construction, May 19, 1957; Harold A. March to Regional Director, National Park Service, July 11, 1957; Thomas C. Vint to Regional Director, National Park Service, July 20, 1957 (Document file, Aztec Ruins National Monument Headquarters, Aztec, New Mexico).

alley were put on the southwest front corner, from where they were connected to Aztec city water and sewer lines (see Figures 10.1 and 10.3).[52]

During the World War II years, adjudication proceedings were undertaken in order to ascertain rights held by stockholders in the Farmers Ditch Company. The nine original holders in 1892 had increased to 57 by 1944. Since the amount of his irrigated land transferred to the American Museum of Natural History totalled only 1.6 acres, Abrams sold the institution just one-sixteenth of his one-half share. In the 1950s, the water available was piped into 357 feet of 12-inch underground tile running across the Hubbard property from the Farmers Ditch to the northwest corner of the monument.[53] From there, it was diverted to irrigate new landscaping featuring native plants.[54]

Residential/Maintenance Area

The small adobe custodian's house (building 2) erected in 1931 on the southern piece of monument land was subject to the same troubles with underground water that were threatening the ruin (see Chapter 12). When Custodian Miller asked for a supplemental emergency appropriation to attempt correction of drainage within the Anasazi structure, he added:

> It might be well to mention here the condition of the custodian's quarters due to underground seepage. We have just finished replacing the floors in the kitchen and hall, which had rotted out due to moisture. Upon removal of the rotten flooring it was found that the concrete sub-floor was for the most part completely rotted out. Upon removing the mop boards it was found that the adobe partition walls were also completely water-soaked. All in all it is a dangerous situation and is certainly a detriment to the health of anyone living under those conditions.[55]

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[52] George D. Smith to Chief, Western Office of Design and Construction, April 25, 1957; Working Drawing NM AR 2150 and Utility Systems, NM AZT 2302, May 1966 (Document file, Map file, Aztec Ruins National Monument Headquarters, Aztec, New Mexico).

[53] Turney report, August 1961, Monthly Narrative Report, Southwest Region, National Park Service, Santa Fe.

[54] A. van V. Dunn, Analysis of Interest in the Farmer Ditch, Aztec Ruins National Monument, August 6, 1945; Dunn to Regional Director, National Park Service, June 27, 1958, suggested that 7.2 acre-feet of 2,346,127 gallons of water annually was the total amount to which Aztec Ruins National Monument was entitled because of the addition of the Hubbard Mound tract. This remains unconfirmed. Water Right Docket No. 1, State of New Mexico, County of San Juan, Case No. 01690; Photocopy of easement, May 27, 1958, from Lloyd A. and Annie Mae Hubbard; Drawing NM AR 7102; Master Plan, Aztec Ruins National Monument, 1961; Resources Management Plan, Aztec Ruins National Monument, 1976; Albert Henson to Regional Director, National Park Service, March 20, 1958; Resources Management Plan, 1981 (Water file, Document file, Map file, Aztec Ruins National Monument Headquarters, Aztec, New Mexico).

[55] T.C. Miller to Regional Director, National Park Service, Temporary Ruins Drainage, Aztec Ruins National Monument, Justification, December 14, 1943 (Stabilization files, Aztec Ruins National Monument Headquarters, Aztec, New Mexico).



Figure 10.3. Visitor Center, Aztec Ruins National Monument, 1959. Museum addition at right center; rest rooms at left center. Original American Museum field station, or Morris house, is at center rear left; lobby constructed in 1934 is at center rear right.

In the 12 years since the house was built, subsurface water had managed to work its way relentlessly downslope beneath the ancient house, beneath the modern house, and quite surely across the pasture land between the monument and the Animas River.

The next year Acting Custodian Russell L. Mahan submitted a proposal for rehabilitation of the house to include waterproofing the sub-floor, laying new hardwood, waterproofing adobe wall footings and replastering. He estimated the cost to be $1,280, or about a third of the original construction cost.[56] It was war time, so action on the plan was postponed.

After the war, a modest construction program revitalized the residential area of the monument (see Figures 10.4 through 10.8). The custodian's house was so dilapidated that it was razed to make way for a 1,400-square-foot cement block structure (building 8) consisting of a living room, dining alcove, kitchen, three bedrooms, two baths, and a utility room. The cost was $16,000.[57] In the same year, a frame-and-stucco addition was placed on the east side of the old garage to serve as an apartment for seasonal employees (building 4).[58] A four-to-eight-foot-high adobe wall with an elevated gate entry opened to the well-traveled county road. The wall provided privacy for what was planned to become a cluster of several houses but posed a visibility hazard on entering or leaving monument grounds.

One of the first constructions requested under the MISSION 66 program was a utility building (building 10).[59] It was erected of frame and stucco in 1958 just to the north of the garage and several years later could be reached through a paved utility court off the county road.[60] The dangerous adobe wall along the road was dismantled and replaced by chain link fencing.[61]

In the Master Plan Development Outline written by Superintendent Hastings in 1956, he stated that quarters for National Park Service personnel at Aztec Ruins were adequate.[62] Very shortly, the effects of the nearby natural gas and oil activities changed his mind. Housing became scarce and

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[56] Russell L. Mahan, Major Repair and Rehabilitation Program, Custodian Residence, Aztec Ruins National Monument, August 21, 1944 (Stabilization files, Aztec Ruins National Monument Headquarters, Aztec, New Mexico).

[57] Irving D. Townsend report, June 1949, Southwest Monuments Monthly Report, Coolidge, Arizona; Photographs #475-76, 1205-06 (Photograph file, Aztec Ruins National Monument Headquarters, Aztec, New Mexico).

[58] Photographs #455, 1207 (Photograph file, Aztec Ruins National Monument Headquarters, Aztec, New Mexico).

[59] Photographs #392-93 (Photograph file, Aztec Ruins National Monument Headquarters, Aztec, New Mexico).

[60] Asssistant Regional Director to Regional Director, National Park Service, May 8, 1964 (Document file, Aztec Ruins National Monument Headquarters, Aztec, New Mexico).

[61] Unnumbered blueprint, October 1935; Photograph #654; Turney to Chief, Western Office of Design and Construction, September 25, 1962 (Map file, Photogrpah file, Document file, Aztec Ruins National Monument Headquarters, Aztec, New Mexico).

[62] Master Plan Development Outline, prepared by Homer Hastings, 1956 (Aztec Ruins National Monument Headquarters, Aztec, New Mexico).

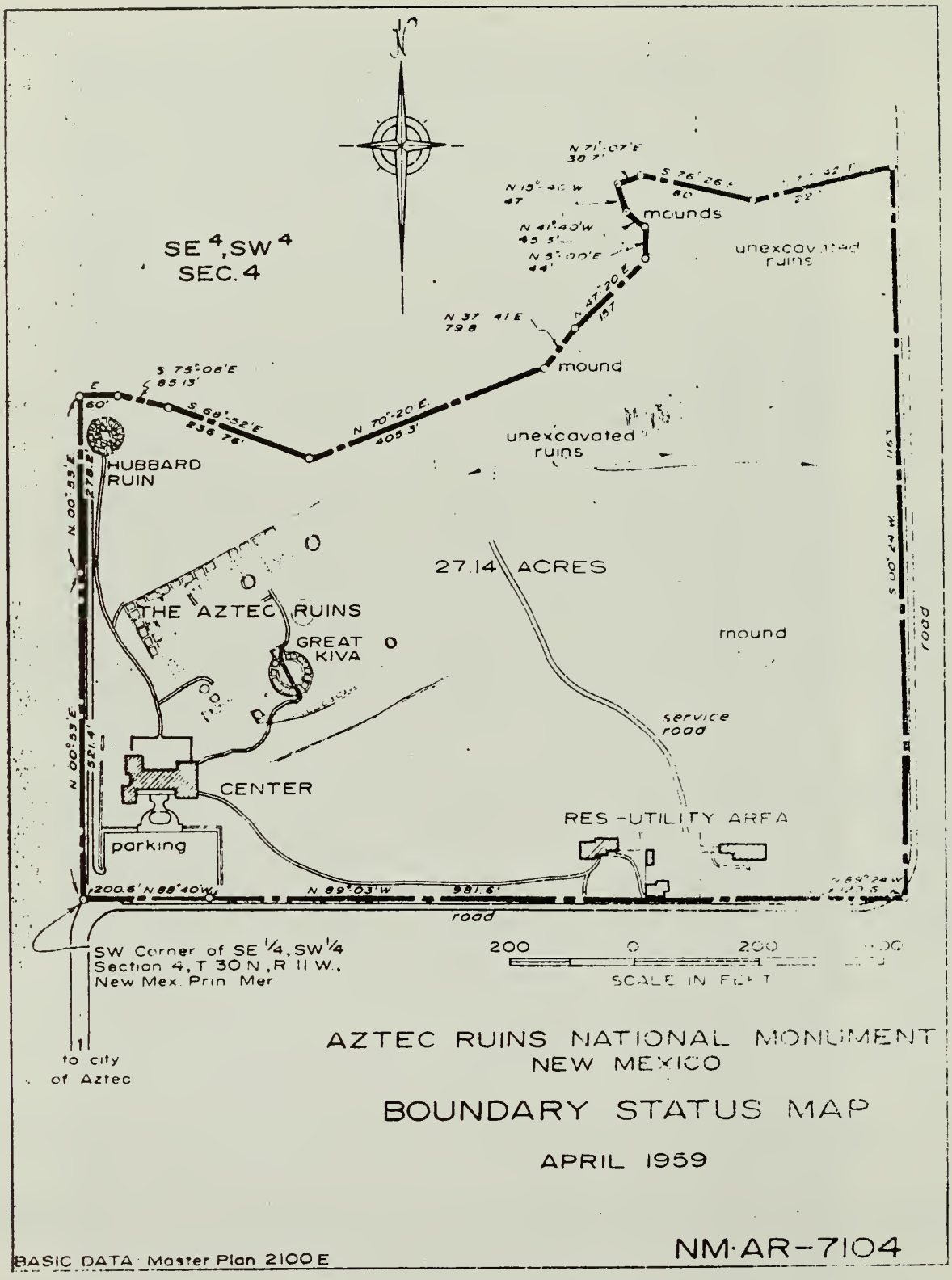
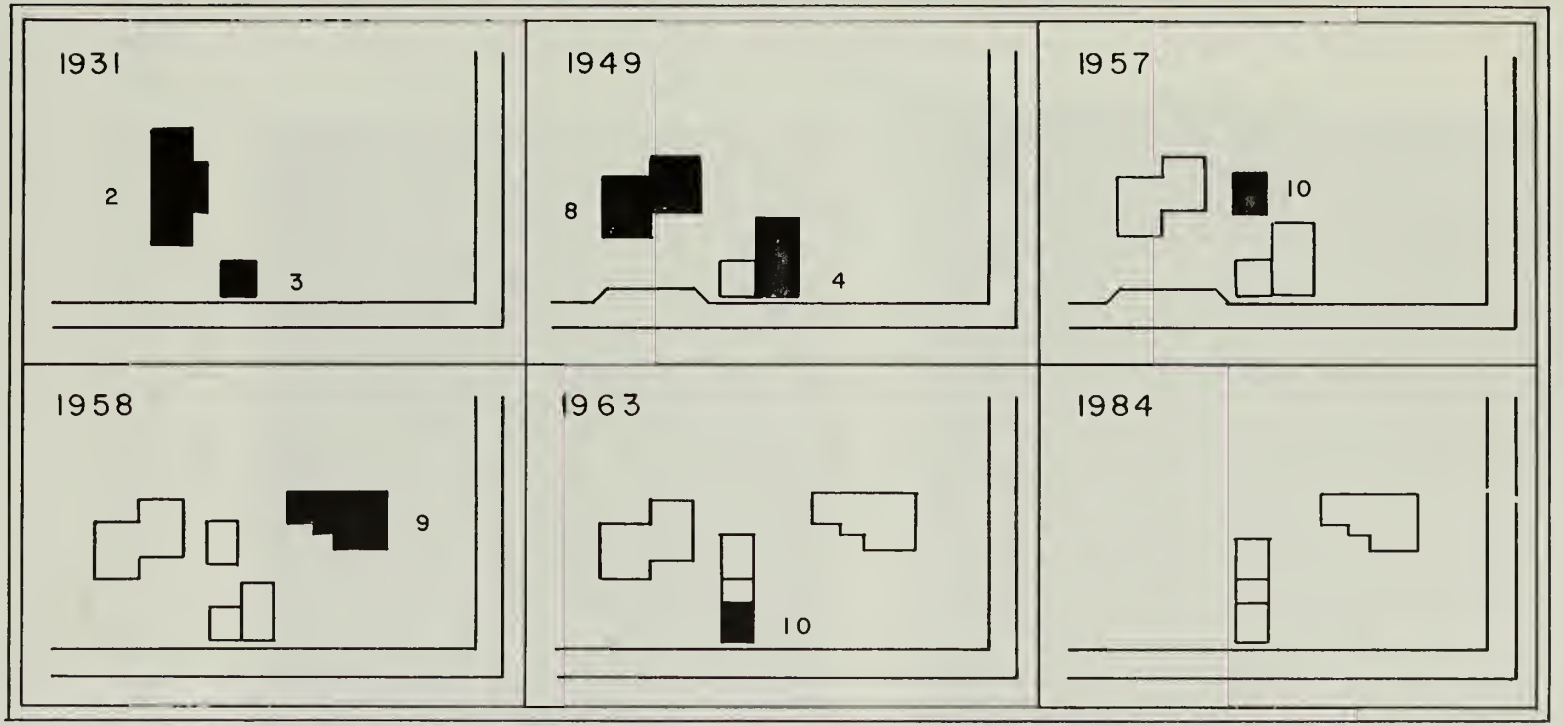


Figure 10.4. Aztec Ruins National Monument, boundary status map, 1959.



1931. Building 2, Residence. Adobe. Built, 1931; razed, 1949. Building 3, Garage. Adobe. Built, 1931; razed, 1963.

1949. Building 4, Apartment, Frame and stucco. Built, 1949; razed, 1963. Building 8, Residence. Cement block. Built, 1946; razed, 1984.

1957. Building 10, Garage and storage. Frame and stucco. Built, 1957.

1958. Building 9, Residence. Cement Block. Built, 1958.

1963. Building 10 addition, Shop. Frame and stucco. Built, 1963.

1984. Buildings 9 and 10, Residence and garage-storage-shop present. Extant in 1989.

Figure 10.5. Residence/Maintenance area.

expensive. Long-term development plans included the addition of two residences for permanent staff and a duplex for seasonals.[63]



Figure 10.6. From right to left, buildings 2, 3, and 4. Photograph taken in 1949 prior to the razing of building 2.

The first of the new houses (building 9), a three-bedroom cement block structure, was completed in 1958 at a cost of $24,951.34. It was placed to the east of the utility court (see Figure 10.8). This brought to four the number of service and domestic buildings in the southeastern part of the monument. The house was scarcely done before it was realized that a mistake had been made in the selection of its location. The southward slope of the land and natural drainage channels led directly to the house site. Surveyors established the elevation at the northeast corner of the West Ruin at 5,639.5 feet above sea level. At building 8, it was 5,622 feet above sea level, or a drop of 17 1/2 feet from approximately the north boundary of the monument to the south boundary.[64] The high water table and generally unstable bentonite subsoil added to the problems. Because of little drainage, water to a depth of nine to 18 inches rose beneath floors after rains, walls sweated, and the sewer system backed up. Maintenance workers made repeated attempts to pump water from under the new house, to install

[63] Master Plan, NM AZT 4039, January 1, 1936, indicated two proposed residences west of building 8, all facing on to a common patio. Drawings NM AR 2100G, General Development, and NM AR 2101G, Roads and Trails, show proposed building 13 to the west of building 8, and buildings 11 and 12 to the north.

[64] Working Drawing for Emergency Stabilization, Aztec Ruins National Monument, AR S192 (Document files, Mesa Verde National Park, Mesa Verde, Colorado).



Figure 10.7. Building 8, 1949.



Figure 10.8. Building 9, 1958.

dry barrels, and to remove sewage from the septic tank.[65] Finally in August 1961, all the residences were connected to the city sewer at a manhole at the southwest corner of the monument with the aid of a lift station.[66] The ground beneath building 9 remained eternally damp and sticky, and sewage disposal was not corrected satisfactorily. In 1962, a drain put in to the east of the house proved useless. Although it was redone two years later, it still did not work properly.[67]

A natural gas main along the south boundary supplied fuel for the houses.[68]

Government planners should have been more alert to the potential difficulties of using this sector of the monument for contemporary buildings. Similar problems to those at residence 9 had been encountered earlier in the other dwellings. It already was decided by the time of the MISSION 66 work that the seven-year-old apartment was in such precarious condition it would be eliminated. At the custodian's house, despite a very heavy foundation, settling of walls had caused gaping cracks and threw door and window jambs out of plumb.[69] Modern construction was attacked by the same combination of destructive elements that was destroying the ancient house: water and earth movements resulting from it. The Master Plan, 1964, stated, "The soils and underlying strata of the area are such as to create problems of building movement, both prehistoric and National Park Service facilities, as they expand and contract with moisture fluctuation. The residences show displacement of floors and walls. During part of the year, water will stand beneath residence #9 in depths of a foot or more."[70]

Numerous memoranda passed between offices about relocating the proposed residential sites.[71] However, as late as 1963 further housing construction still was scheduled, pending an inspection by the Western Office of Design and Construction. It was cancelled that same year, not by the Western Office of Design and Construction but by the Bureau of the Budget.[72] Meantime, the apartment was

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[65] Turney reports, July 1960; May, June, July, and August 1961, Monthly Narrative Report, Southwest Region, National Park Service, Santa Fe.

[66] Ibid., January and August 1961.

[67] Ibid., December 1961; Superintendent, Aztec Ruins National Monument, to Regional Director, National Park Service, April 13, 1962; Jack R. Williams to Regional Director, National Park Service, January 28, 1965 (Aztec Ruins National Monument files, Library, Southwest Regional Office, Santa Fe).

[68] Master Plan, Aztec Ruins National Monument, 1961 (Aztec Ruins National Monument Headquarters, Aztec, New Mexico).

[69] Drawing NM AZT 2031E; Photographs #476-79 (Map file, Photograph file, Aztec Ruins National Monument Headquarters, Aztec, New Mexico).

[70] Master Plan, Aztec Ruins National Monument, September 14, 1964 (Aztec Ruins National Monument Headquarters, Aztec, New Mexico).

[71] Turney to Chief, Western Office of Design and Construction, October 24, 1960; Charles B. Krueger to Regional Director, National Park Service, March 28, 1961; Thomas J. Allen to Director, National Park Service, May 24, 1961; Krueger to Assistant Director, Western Office of Design and Construction, March 27, 1963 (Document file, Aztec Ruins National Monument Headquarters, Aztec, New Mexico).

[72] Williams to Regional Director, National Park Service, July 15, 1963 (Document file, Aztec Ruins National Monument Headquarters, Aztec, New Mexico).

torn down. A second utility structure, connected to the first by a breezeway, took its place.[73] The seasonal ranger, who had stayed in the apartment, was moved to a house trailer parked under some trees just to the north. The Master Plan of 1964 concluded that no further housing be considered and that staff secure living accommodations in the adjacent towns.

[73] Ibid.

CHAPTER 11

THE LAST QUARTER CENTURY AND BEYOND

Steadily during the 1960s, the modern world around the Aztec Ruins crowded in upon that of the Anasazi. The aboriginal landscape had vanished with Euro-American settlement, but 80 years later even the cultivated rural setting was giving way to urbanization. The Aztec city manager apparently was more foresighted than some of his associates in recognizing that the town's image, as well as its economic well-being, had come to revolve in part around the tatters of another time fortuitously at its limits. He suggested retaining an open buffer, or green zone, adjacent to the monument. Nevertheless, expansion fueled by energy exploitation was the goal of the day. On December 2, 1964, the Aztec City Zoning Board voted down his proposal.[1]

Progress, it seemed, meant houses and businesses. What had been verdant orchard and pasture land to the south and southwest of the monument filled with nondescript house trailers and a subdivision of small look-alike homes. Later, authorities approved additional open pasture land due south of the residential and maintenance area of the monument for residential development.[2] With increased tourism from construction of the Navajo Dam and recreation area on the San Juan River to the east of Aztec, a second curio store was opened in 1964 by W.P. Shryock. It was across from the monument entrance on a parcel of land that had been zoned commercial.[3] A third similar store followed a few years later.

Ruins Road from New Mexico Highway 550 to the monument, which had been a sore point for Service managers for years, was narrow and traversed the new residential district. A school crossing was at one of its intersections. Since it was the sole automobile access to farms and gas explorations on the west side of the Animas River for a distance of some 12 miles, day and night it carried heavy truck traffic, which had to negotiate two right angle turns at the southwest and southeast corners of the monument. On a number of occasions, wide vehicles scraped the monument parking lot wall or dented guard rails. In 1971, a 20-year special-use permit was given to San Juan County for realignment of the road across 0.15 acres of the southeast corner of the preserve. The dangerous turn was not eliminated.[4]

The approach to Aztec Ruins no longer was aesthetically appropriate to the monument's message. Because of congestion, fumes, noise, traffic, and other quality-reducing factors of twentieth-century life, it could not within the space of one mile provide tempered transition from the past.

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[1] George W. Sanders to David J. Jones, October 5, 1962; Daniel M. Beard to Director, National Park Service, March 12, 1965 (Document file, Aztec Ruins National Monument Headquarters, Aztec, New Mexico).

[2] Statement for Management, Aztec Ruins National Monument, 1985.

[3] Photographs #1108-1109 (Photograph file, Aztec Ruins National Monument Headquarters, Aztec, New Mexico).

[4] Resources Management Plan, Aztec Ruins National Monument, 1976, p. 11, Division of Natural Resources Management, Southwest Region, National Park Service, Santa Fe.

To set the ruins aside from further modern encroachment, the Master Plan of 1964 noted the desirability of immediately acquiring a portion of the Hubbard property on the north and west. Through government stewardship of this tract, it would be possible to control irrigation waters that threatened Aztec Ruins, to keep houses at a distance, to protect other prehistoric sites known to be scattered along the mesa crest, to make available an overlook from where one could gain an overall view of the alignments of the complex of Anasazi structures on the valley bottom, and to have space for a future campground should it be desired.[5] No action was taken on this recommendation.

Fortunately for the monument's protection, the Hubbard farm was not subdivided. As the energy boom subsided, the growth of the town of Aztec remained static. At the same time, irrigation water continued to be a problem at the site. Pothunting in adjacent ancient mounds was commonplace.

Within the monument itself, there were few physical changes after MISSION 66. One was the removal in 1984 of building 8, a residence that had been uninhabitable and vacant for five years. That action reduced to two the number of service or domestic buildings (see Figures 11.1 and 11.2). In 1987, lift station pumps were rebuilt, and the sewer line to building 9 was replaced. Improvements were made to facilitate access by handicapped persons. (see Figure 10.1).

As for the preservation aspects of the site's management, in 1984, a badly needed climate-controlled storage room was added on the rear west side of the visitor center (see Figure 10.1). It was for specimens that had been in the basement for the previous half century and allowed a number of related improvements.[6] New steel shelving and cabinets, bright lighting, and a clean secure environment greatly upgraded curation. Objects were cleaned and rearranged according to categories. Small loose artifacts were relabeled and rebagged.

Except for the withdrawal of human remains out of respect for the wishes of Native American groups, the museum exhibits installed during the MISSION 66 expansion remained generally unchanged. The lobby was transformed into a small auditorium for meetings or lectures. Slides formerly shown there to give visitors a pictorial view of the Anasazi world were replaced during the 1970s by films and in the 1980s by video cassettes projected on a large television screen. Preconditioned to a televised mode of information transferal and as a substitution for face-to-face contact with monument interpretive personnel, visitors seemed to find the canned visual aspects of visitation almost as rewarding as on-site inspection.

The pace of activity by the monument staff was geared to routine service to the rising number of visitors and their vehicles. For a time, visitation leveled off to an average of 63,000 a year. Because of the month-long closing of the road into Mesa Verde National Park in 1972, it increased to nearly 80,000. Far fewer visitors came during the ensuing energy crisis of the early 1970s. In the next decade, another spurt in visitation saw almost 80,000 persons registering at the monument in 1988 (see Appendix K). The widespread use of large recreational vehicles or tour buses overcrowded the confined parking area, which was designed for 34 private cars and four recreational vehicles.[7] The grove of trees planted by the 1930s Civilian Conservation Corps became a popular picnic spot on hot summer days.

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[5] Master Plan, Aztec Ruins National Monument, 1964.

[6] Superintendent's Annual Report, Aztec Ruins National Monument, 1985, Southwest Region, National Park Service, Santa Fe.

[7] Statement for Management, Aztec Ruins National Monument, 1985.

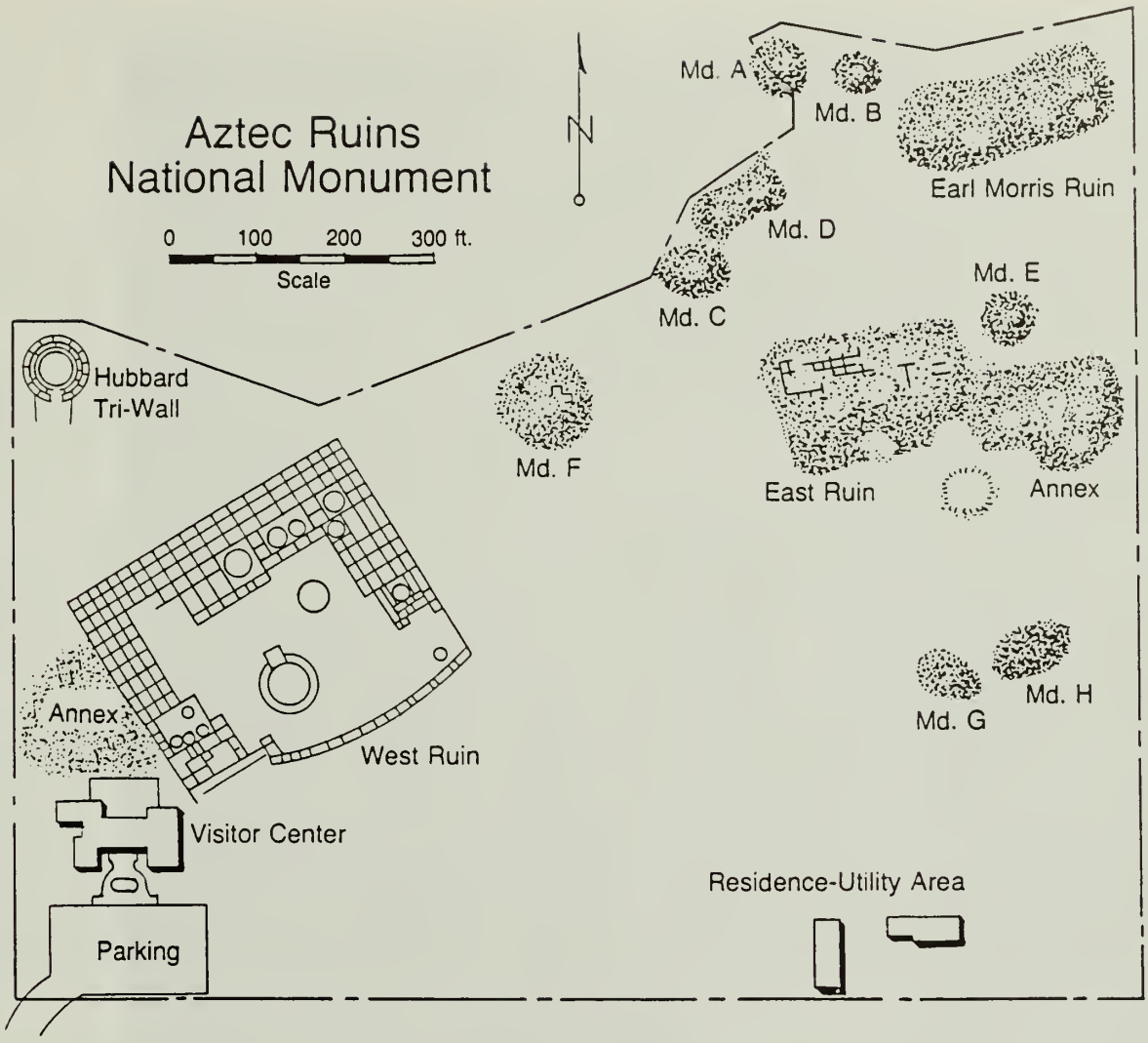


Figure 11.1. Structures within monument precinct, 1984.

During the long administration of Clarence N. Gorman (February 17, 1974-June 8, 1986), a new emphasis was placed on site interpretation and public relations. Throughout summer months, periodic talks by staff and volunteers were held in the Great Kiva and in the lobby. Occasional craft demonstrations and sales attracted attention from local people as well as travelers. Being a Navajo Indian from a prominent tribal family, Gorman was an important liaison between the National Park Service and the Native Americans living in the San Juan Basin. Through various cooperative programs with the Navajo Nation and the National Indian Youth Council, summer employment was offered in the monument to Navajo youths.

Gorman's successor, Charles B. (Barry) Cooper, has continued an active public relations program through participation in a number of local civic groups. A Christmas season luminaria display sponsored by the Aztec Kiwanis Club, the Lions Club, and the Chamber of Commerce has brought several thousand viewers to the Anasazi ruins in their midst.

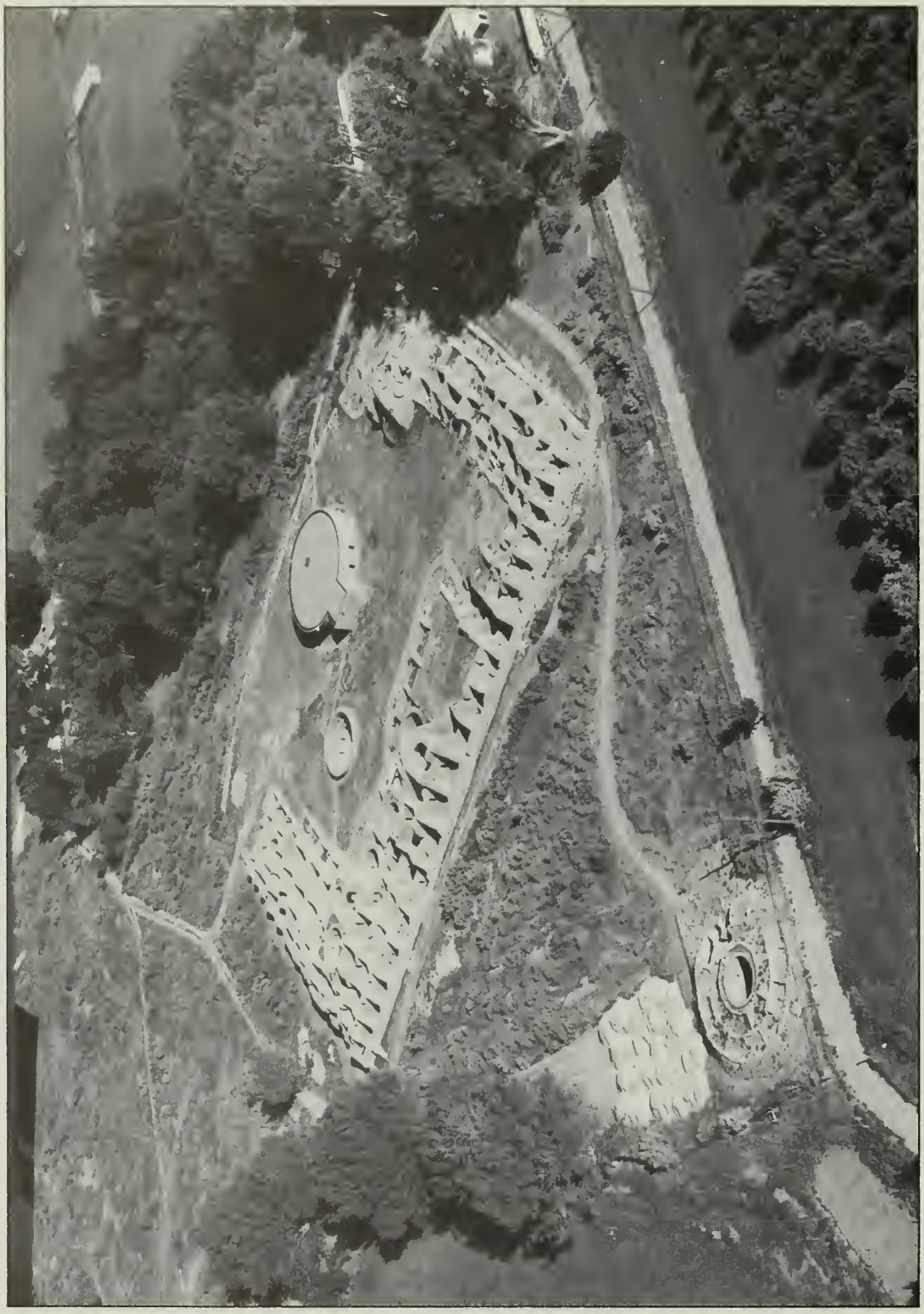


Figure 11.2. Aerial view of West Ruin and Hubbard Mound. Residential area at upper center; visitor center at right center (1984).

From August 12, 1967, to January 9, 1971, Aztec Ruins National Monument was under the general administration of Mesa Verde National Park. When an administrative realignment put Mesa Verde National Park in the Rocky Mountain Region, oversight of Aztec Ruins was assigned to the Navajo Lands Group, until that office closed on October 1, 1982.[8] Currently, administration is directly through the Southwest Region office.

By the 1980s, the permanent professional-level personnel roster included a superintendent, park ranger, two park technicians, and an administrative clerk. Two seasonal helpers were hired during peak visitation months (May through September) to meet visitors and guide them through the ruins several times a day on a fixed schedule. Most visitors continued to use the self-guiding system.[9]

Entrance fees were raised to 50¢ in 1964 in order to contribute to the Land and Water Conservation Fund. Two decades later prevailing higher costs of living and political considerations caused the fees to go to $1.00 for persons under 62 years of age. The Revenue and Expenditure Control Act of 1968 restricted employee hiring so that for a short time the monument closed on Tuesdays, Wednesdays, and holidays.[10] Presently, it is closed on Christmas and New Years Day.

Recognition of the value of Aztec Ruins to the heritage of the nation came in 1966, when the monument was placed on the National Register of Historic Places.[11] Even more prestigious was the United Nations Educational, Scientific, and Cultural Organization designation on December 8, 1987, of Chaco Culture National Historic Park as a World Heritage Center, which included Aztec Ruins as a star in the Chaco outlier constellation.[12]

That primary Chacoan affiliation, overlaid by a Mesa Verdian intrusion prior to abandonment, was reaffirmed as a result of long-term parallel research programs during the 1970s, one centered at Chaco Canyon and the other at the Chacoan San Juan outlier of Salmon Ruins. The latter site was found to be a sandstone core-and-veneer building of some 175 rooms stacked to two or three stories in places, which perhaps was erected a few years prior to the Aztec West Ruin and experienced the same general kind of usage.[13] A new generation of archeologists using technologically advanced research tools and a mass of accumulated comparative data from these relevant studies now is refining the linkage between Aztec and Chaco and concluding that the great houses, their associated tri-wall structures, and partially obliterated earthforms served as a northern planned aggregation of contemporary

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[8] Historic Listing of National Park Service Officials, (Washington: Department of the Interior, 1986), 115, 121.

[9] Superintendent's Annual Report, Aztec Ruins National Monument, 1984.

[10] Revenue and Expenditure Control Act, P.L. 90-364, June 28, 1968.

[11] *National Register of Historic Places* (Washington: Office of Archeological and Historic Preservation, National Park Service, 1972), 314.

[12] Superintendent's Annual Narrative Report, Aztec Ruins National Monument, 1988.

[13] Robert P. Powers, William B. Gillespie, and Stephen H. Lekson, *The Outlier Survey, a Regional View of Settlement in the San Juan Basin* (Albuquerque: Division of Cultural Research, National Park Service, 1983), 135-37.

Animas communities scattered along the valley bottom and adjacent terraces.[14] A few recently dated tree-ring samples suggest either that timbers salvaged from eleventh-century structures may have been used in portions of the West Ruin or that construction commenced earlier and proceeded less rapidly than formerly believed. However, because an unknown number of growth rings on these specimens are missing, that evidence is inconclusive.[15] A great percentage of cutting dates for the West Ruin still cluster in the first three decades of the twelfth century, or early Pueblo III. As elsewhere north of the San Juan River, the great houses were occupied in late Pueblo III times by persons practicing architectural and ceramic modes characteristic of the Mesa Verde branch of the Anasazi. The latest dating of this phase at Aztec ranges from the last quarter of the twelfth century to the mid-thirteenth century.[16] The perplexing question of whether these two expressions were the result of sequential movements into the Animas region of core Chacoans followed by core Mesa Verdians or whether they merely represented a shift in cultural focus by a resident indigenous group remains unanswered. It is increasingly likely that continuing research will show that the unbroken continuum in the upper San Juan Basin as postulated by Erik Reed in the 1950s, but which was rejected by his colleagues largely because of Morris's viewpoint, did in fact characterize the local progression of prehistoric past events.[17]

Unquestionably, the most significant administrative development regarding Aztec Ruins National Monument was the passage on October 28, 1988, of Public Law 100-559, which increased the size of the monument to 319.03 acres.[18] New Mexico Senator Jeff Bingaman sponsored the legislation. The boundaries were extended to incorporate farm lands in the valley bottom to the west, north, and east and uncultivated terraces to the west and north (see Figure 11.3). This was a move long advocated by those who feared violation of a score of prehistoric sites outside the former monument boundaries and those attempting to curb damage to the West Ruin caused by irrigation waters (see Chapter 12).

Concurrently, a new General Management Plan for Aztec Ruins National Monument was prepared to serve as a guideline for operation of the facility into the twenty-first century.[19] It underscored the complex problems associated with a public holding engulfed by private properties as diverse as family residences, gas well pads, alfalfa fields, and apple orchards and served by a county-maintained road carrying heavy individual and commercial traffic. The cultural and natural resources of the monument were reviewed in order to identify specific threats to both so that preservation will be assured and to balance and promote scientific and general public interest in their understanding. To accomplish this, the General Management Plan indicated that the entire monument area be designated

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[14] John R. Stein and Peter J. McKenna, *An Archeological Reconnaissance of a Late Bonito Phase Occupation near Aztec Ruins National Monument, New Mexico* (Santa Fe: Division of Anthropology, Southwest Cultural Resources Center, National Park Service, 1988).

[15] Peter J. McKenna, Stabilization Observations at the Aztec Ruins: Prospective for the Superintendent (Division of Anthropology, Southwest Cultural Resources Center, National Park Service, 1989), Appendix C.

[16] Ibid.

[17] Erik K. Reed to General Superintendent, Southwest Monuments, September 14, 1953 (Aztec Ruins National Monument files, Library, Southwest Regional Office, Santa Fe); Peter J. McKenna, Late Bonito Phase Developments at the Aztec Ruins, New Mexico, Paper presented at 53rd Annual Meeting, Society for American Archaeology, 1989.

[18] Superintendent's Annual Narrative Report, Aztec Ruins National Monument, 1988.

[19] General Management Plan, Development Concept Plan, Environmental Assessment, Aztec Ruins National Monument, Draft, August 1988; Finding of no Significant Impact, October 12, 1989.

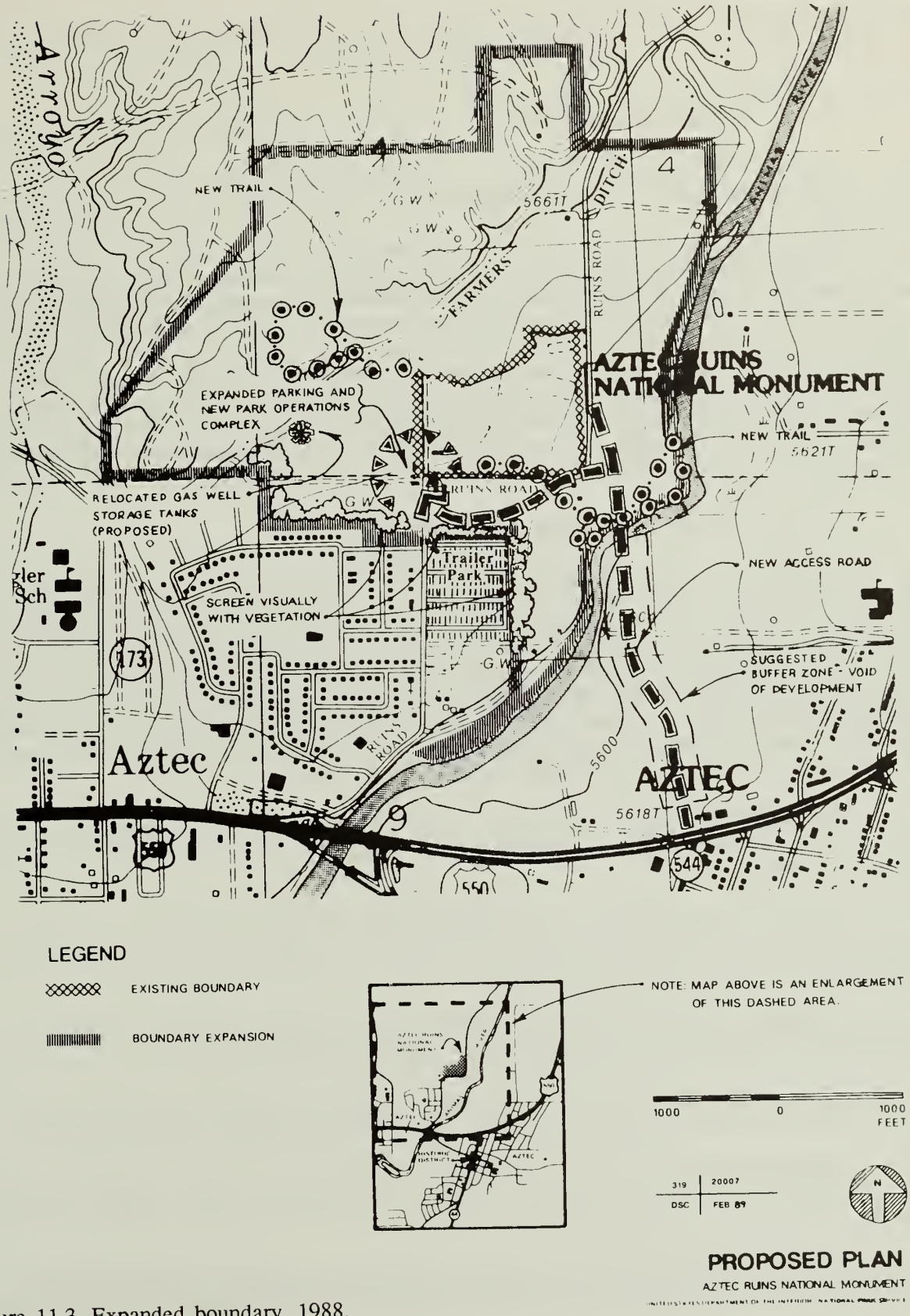


Figure 11.3. Expanded boundary, 1988.

a historic zone. The plan's authors further proposed that seven subzones listed below, each with specific management needs, be delineated within the monument.

GENERAL MANAGEMENT PLAN (1988) RECOMMENDATIONS

1. Preservation subzones to include the antiquities--excavated and unexcavated--and their natural environments.

The preservation and protection of the resources demands intensive ongoing monitoring. That necessitates documenting prestabilization and restabilization conditions and upgrading procedures accordingly so as to more correctly replicate where necessary or preserve what remains of aboriginal appearance, while at the same time assuring greater security. Vandalized sites not to be specifically included in the interpretive program and portions of excavated structures not open for public viewing will be backfilled to reduce their future deterioration and the staff workloads. Irrigation will be halted on lands adjacent to endangered sites, and flood controls will be installed in threatened places. The new boundary will be fenced to keep vandals and stock off the property. Other intrusive development will be restricted to trails and signs to guide visitors to overlooks.

2. Adaptive use subzone to include the visitor center.

The exterior of this structure will be maintained as it is, but the interior will be remodeled to allow more reception, exhibition, and audiovisual space, a fuller display dedicated to Earl Morris and his contributions to Southwestern archeology, and a work and office area for the interpretive staff.

Interpretive themes presented to visitors initially in the museum and subsequently on-site will depend upon perspectives emerging from the opportunity to more thoroughly examine the range of additional sites taken into the monument and to study their relationships to each other, to the large sandstone masonry structures comprising the centerpieces of the monument, and to the Chaco Phenomenon as theorized by the National Park Service program of the 1970s.

3. Park development subzone to include facilities for the monument operation and visitor use, such as offices, specimen storage, personnel housing, maintenance and stabilization areas, picnic tables, rest rooms, and parking lot.

The main improvements for which the plan provides are new centralized administrative and maintenance facilities removed from the visitor center and enlarged picnic and parking areas in anticipation of a steady increase in visitation.

4. Landscape management subzone to include plots east of the north-south county road presently farmed by private individuals and the riparian habitat by the Animas River.

Little change is proposed, other than restricted grazing of the bluffs in order to reduce damage to sites and to rid the area of certain vegetation. The aim is to maintain a green rural scene.

5. Landscape modification subzone to include presently irrigated fields immediately to the south, west, and north of the former monument boundaries and lands there where modern dwellings are situated.

The goal for this subzone is to return it to a habitat such as might have prevailed in the past. Because no evidence for them remains, possible Anasazi gardens will not be indicated. The irrigation

seepage that has threatened the principal ruins for the past 70 years will end. A more suitable vista for the structures will be provided.

6. Special mineral use subzone to include and exercise control over areas where future mineral extraction might occur.

7. Special use transportation/utilities subzone to include the existing Ruins Road, any road constructed in the future that changes access to the monument, and power lines.

The city of Aztec is considering construction of a new bridge across the Animas River and a strip of connecting road that will allow visitors to the monument to approach it from the east. If this project is consummated, the National Park Service will plant vegetation to screen the residential areas on Ruins Road from view and so create a more attractive, park-like entry.

The proposed monument development plan designed on the subzone concept will be implemented whenever Congress appropriates the necessary funding. Under the plan, the staff will be increased to 16.3 full-time employees to bring the annual personnel budget to $375,502. For the first time, a professional archeologist will be on regular duty. Cost estimates of 1988 for implementing the monument development are $4,204,500.

THE MASAU TRAIL

In December 1987, Congress approved legislation designating and interpreting a vehicular trail linking six Southwestern national parks and monuments containing materials of cultural significance.[20] Tentatively called the Masau Trail, after a Hopi deity believed to protect travelers, one of the installations on the route is Aztec Ruins National Monument. The bill authorizes the Secretary of the Interior to provide technical assistance in developing interpretive devices in order to enhance the public appreciation of the prehistoric and natural resources.

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[20] Public Law 100-225, December 31, 1987, 100th Congress, 101 Stat. 1539; Questions and Answers: The Masau Trail, Southwest Region, Santa Fe.

CHAPTER 12

STABILIZATION: THE HIGH COST OF WATER

Aztec Ruins has been a heavily-used testing ground for substances and means to unobtrusively hold it together for the benefit of posterity against what at times have been overwhelming odds. Ironically, the principal enemy in its preservation has been an overabundance of one physical element the periodic scarcity of which may have been a contributing factor in its abandonment six or seven centuries ago. That element is water.

In the beginning of nineteenth-century awareness of the grouping of sites that now compose Aztec Ruins National Monument, it was not water that constituted a threat to their survival, but man himself. Realizing this, John Koontz, the first owner of the land upon which the ruins are situated, attempted to prohibit indiscriminate digging in the largest of the mounds or robbing them of architectural materials. This was a policy subsequently followed by Henry Abrams, who purchased the land in 1907.

While curtailing vandalism was a goal, Abrams also dreamed of having the structure beneath the mounds become a well-preserved, if not restored, attraction. He therefore included their preservation as part of his long-term excavation agreement with the American Museum of Natural History. Already having the high-minded intention of in some way making the site available to the American public, it was a stipulation to which the museum readily agreed.

Thus, from 1916 to the present, the Anasazi great house now known as the West Ruin has received constant protection. That protection has had two facets: vigilance against despoliation and reparation. Reparation has spawned a new specialty called stabilization, subsidiary to research archeology, to the benefit of all Anasazi remains within the National Park Service system.

A chronological account of the efforts to save Aztec Ruins elucidates what has become a crucial part of the management of the monument. To minimize duplication, some relevant information presented in Chapters 3 and 7 will not be repeated.

1916-1922

Once into the clearing process, the American Museum of Natural History realized that many factors posed possible threats to the security of Aztec Ruin. With so many residents of the area being avid collectors of local antiquities, it would not have been surprising if some were tempted to engage in private exploring in unguarded open trenches. Until the National Park Service appointed a full-time custodian 10 years after active exploration began, Morris or one of his associates was in residence in or next to the site. During much of that time, the area was fenced for the purpose of discouraging that sort of activity. Actually, other than initials on beams, evidence for looting or vandalism is relatively minor.

The repair of the huge structure was a more daunting obligation of required protection and would have been of even greater consequence had the museum fulfilled its original pledge to uncover the entire site. Removal of ponderous accumulations of fallen construction stones, water- and wind-

deposited earth, and roots of the dense vegetational overgrowth released pressures that long had held components immobile. Once freed, some walls slumped, others fell. Some roof beams crashed downward or snapped at midsection. Their dangling stubs often pried out chunks of supporting masonry. Raw wall tops allowed moisture from rains or snows to work down into unconsolidated rubble cores, where it melted the mud that glued the mass together or froze and pushed off or ballooned the facing. These conditions made working within parts of the house block so hazardous that on many occasions Morris was forced to divert manpower and funds to repair, rather than to excavation. Stone masons became as important as diggers.

There are no records of the repair work undertaken during the period of the American Museum involvement with Aztec Ruin. Although specific chambers are seldom identified beyond notations about which sections of the site were cleared each season, Morris's personal letters, reports, and photographs do hint at the kind of measures taken.[1]

Morris's workers dismantled and relaid portions of the sandstone block veneer of many of the less stable walls using Portland cement for mortar (see Figures 12.1 and 12.2). In one season alone (1918), Morris purchased an entire boxcar of this material. The cement dried to a typical grey color and was very obvious in its contrasting color to that of the brown mud used by the original masons. It readily identified reworked sections. Many persons considered that distinction between old and new work as desirable for the sake of authenticity. In response to a later inquiry from Southwest Monuments Superintendent Pinkley about using colored mortar, Morris replied that the aesthetic effect of colored mortar would be greater than the pronounced contrast of white cement and dark stone. But he added, "If the coloring is made too close to the original earth mortar, many will not be able to distinguish between the work of the aboriginal and that of the modern masons. On the contrary the use of natural colored cement would create a condition that could not fail to be understood by anyone with sufficient intelligence to wonder about it."[2] He went on to suggest recessed mortar for vertical walls and colored cement for flat areas.

In the effort to make the modern American Museum field house as compatible as possible with the rehabilitated adjacent ruin, Morris turned to the conceit of having some of the upper courses of its new masonry set up in the natural colored concrete so that it, too, would appear to have been repaired (see Figure 4.1).

Troughed cappings of cement, designed to direct water along wall tops to drains from which it would flow away from the walls and into the courtyard, also were constructed of cement. Innovative but unsightly, they were effective in slowing wall decay until better preservation measures could be devised. At the same time, these troughs contributed to a damp plaza.[3] A fundamental flaw to use of cement was that it was not impervious and eventually water found its way through it. After cappings had gone through the first winter's exposure, Morris wrote, "The portions excavated show less

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[1] Earl H. Morris, "Discoveries at the Aztec Ruin," *American Museum Journal* 17, no. 3 (1917): 169-80; "Further Discoveries at the Aztec Ruin," *American Museum Journal* 18, no. 7 (1918): 602-10; "The Aztec Ruin," *Anthropological Papers of the American Museum of Natural History* 26, pt. 1 (1919): 7-108; "Notes on Excavations in the Aztec Ruin," *Anthropological Papers of the American Museum of Natural History* 26, pt. 5 (1928): 268-420.

[2] Morris to Frank Pinkley, October 18, 1924 (Morris Memorial Collection, University of Colorado Museum, Boulder).

[3] Roland Richert to R. Gordon Vivian, for Robert H. Lister and Florence C. Lister, January 10, 1961: personal communication.

deterioration than was to be anticipated, and it seems that a capping of cement will make the walls relatively permanent" (see Figure 12.1).[4]



Figure 12.1. View over northeast corner of West Ruin showing cement wall capping.

The American Museum masons spread cement over other exposed portions of the ruin. They covered dirt-filled corners surrounding circular kivas built in rectangular spaces in an attempt to keep moisture from soaking into the soil and then into the kiva walls. After an experiment conducted in 1916 with one room, they poured concrete slab roofs over about 10 rooms, which Morris found to have original ceilings of beams of several sizes, bark, matting, and earth.[5]

Morris's report in 1918 to the American Museum recounted some of the repair activity:

> For the most part the walls were in bad condition, hence a considerable proportion of the season's activities consisted of patching those that threatened to collapse, and of rebuilding those that had fallen. As a final protection against the elements, the tops of

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[4] Morris to Nels C. Nelson, June 8, 1917 (Aztec Ruins files, Department of Anthropology Archives at the American Museum of Natural History, New York).

[5] Ibid.; Morris to Clark Wissler, September 3, 1916 (Aztec Ruins files, Department of Anthropology Archives at the American Museum of Natural History, New York).





Figure 12.2. Two views of wall repairs, West Ruin, by American Museum of Natural History crews.

> the walls of the east wing, and those of north wing as far as they have been exposed, were capped with from one to three courses of stone laid in cement, the total area of wall surface so treated amounting approximately to 7500 square feet. By way of summary of the three years' work [1916-1918], the walls of the east wing and one half of the north wing have undergone the ultimate stages of repair.[6]

Records of the American Museum annual budget set aside for repair of the Aztec Ruin are sketchy. Although at the beginning of 1920 Morris requested a sum of $800 for fixing walls, just $100 was used for that purpose.[7] In October of that same year, Morris sent in an estimate of costs to repair 10 rooms at $1,105 and to lay concrete ceiling slabs at $850, but the museum did not respond favorably.[8] In 1921, $350 went to pay for cement slabs over nine roofs.[9]

1923-1933

In theory, the National Park Service assumed the role of protector of Aztec Ruin when it was designated a national monument in 1923. Beyond a few signs warning against trespassing and naming Morris a nominal custodian so that he would have authority to represent the government in any confrontation with looters, there was little serious attempt to fulfill that obligation. For two years, the National Park Service did provide $500 annually for limited repairs.[10] The American Museum on occasion also contributed small sums for repairs as were mandated under terms of the government excavation permit.[11] Together, these monies represented a greater investment in reparation than in the preceding excavation period.

In 1924, only $324.20 of the National Park Service repair money was spent. Two-thirds of the sum went to pay Owens, Tatman, and Hudson for work on the ruin and a week's work by a team and driver to haul off debris. Morris reported the works as:

> the rebuilding of the front wall of room 58, and the repair of the wall in front of this room; the repair of the cement drainage courses around Kiva G; the filling of sunken places at the northwest and southwest corners of Kiva J and recovering the same with

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[6] Earl H. Morris, "Further Discoveries," 602-03.

[7] Morris to Wissler, February 18 and November 21, 1920 (Morris Memorial Collection, University of Colorado Museum, Boulder).

[8] Morris to Wissler, October 1, 1920 (Morris Memorial Collection, University of Colorado Museum, Boulder).

[9] Morris to Wissler, December 29, 1921 (Morris Memorial Collection, University of Colorado Museum, Boulder).

[10] Morris to Wissler, September 17, 1924 and July 25, 1925 (Morris Memorial Collection, University of Colorado Museum, Boulder).

[11] F.M. Goodwin to Wissler, March 10, 1923 (Document file, Aztec Ruins National Monument Headquarters, Aztec, New Mexico).

> cement; the repair of the drainage spout in the wall between rooms 96 and 120; the construction of nine cement floors for the protection of intact ceilings beneath rooms 154^2, 152^2, 153^2, 191^2, 140^2, 127^2, 134^2, 179^2, and 133^2 (see Figure 12.3).[12]

In passing this information along to the director of the National Park Service, Pinkley knew that some explanation for concrete over roofs was needed. He wrote:

> Earl has found several cases where a two or three story tier of rooms have collapsed in the upper portion, but the ceiling over the lower room has held and is supporting the debris. It is necessary to take this superimposed weight off such ceilings in excavating the ruins and this leaves what was the second story floor exposed to the weather as a roof over the room below. Unless a skin of cement is run over such an exposed place and the drainage carried away, water seeps down and destroys the construction below.[13]

The same year Morris wrote Wissler of other required repairs. "In the west half of the pueblo approximately 40 rooms have been opened, the walls of which have been left as found. By strict economy it might be possible to rebuild where necessary, and to cap the walls for $30 per room, making a total of $1200, for the entire forty."[14] Again, this work was not done at that time.

While Morris was working in Yucatan in the spring of 1925, he had Oley Owens doing repair work at Aztec Ruin with the National Park Service money. Owens placed a cement covering over the troublesome roof on Kiva E, built up and capped the walls of Kiva L, and fixed various unidentified nearby room walls. He placed a cement protective slab over Room 178 and prepared the roof of Room 137 for later cementing.

Because $140.67 was left from the original $500 budgeted for 1925, Morris sought Pinkley's approval to have Owens return to a possible kiva in the courtyard. It lay deep beneath the surface to the west of Kiva E. Earlier this structure was partially dug out in hopes of finding another deeply placed deposit of Chaco pottery, but it was in such poor condition that work was halted.[15] By going some six to eight feet through its floor and then tunneling eastward to the base of Kiva E, Morris felt a drainage sump would be provided for Kiva E. That chamber already was suffering from collected moisture. When the sump was created, the unidentified kiva would be filled with loose rock.[16]

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[12] Morris to Pinkley, October 16, 1924 (Morris Memorial Collection, University of Colorado Museum, Boulder).

[13] Pinkley to Stephen T. Mather, October 18, 1924 (National Park Service: Aztec Ruins National Monument files at the National Archives, Washington).

[14] Morris to Wissler, December 15, 1924 (Morris Memorial Collection, University of Colorado Museum, Boulder).

[15] Morris to Oley Owens, December 16, 1924 (Aztec Ruins files, Department of Anthropology Archives at the American Museum of Natural History, New York).

[16] Morris to Pinkley, October 21, 1925 (Morris Memorial Collection, University of Colorado Museum, Boulder).

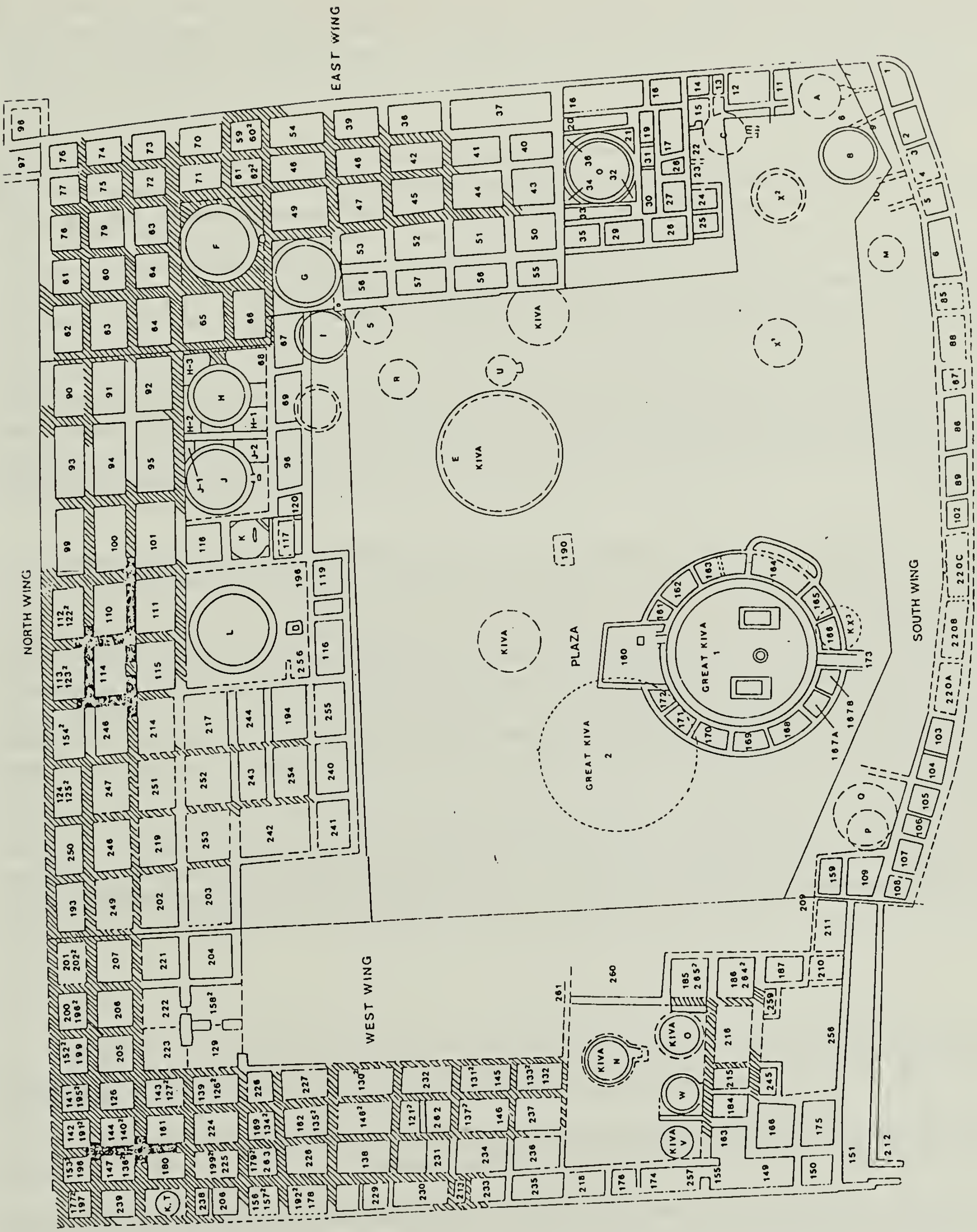


Figure 12.3. West Ruin, Numbering system of 1988.

The first two full-time custodians of the monument, George Boundey and Johnwill Faris, were faced continually with the enormous job of countering damage to walls of rooms and kivas caused by heavy summer rains and winter snows. Increasingly, a previously unrecognized source of trouble was subsurface drainage from irrigated fields to the north of the house block. This moisture undercut wall bases and even dissolved the friable sandstone of which the walls were built. Remedial actions usually were the responsibility of the custodians, who spent many hours bailing out potentially destructive water and reconstructing rock and mud walls. Only under dire circumstances was it possible for them to hire part-time assistants.

Boundey tried a number of preservation measures. Although he felt that adding a terra cotta colorant would improve the appearance of redone sections, he continued the use of natural cement for wall rebuilding. He improved drainage around bases of some walls by grading, and he dug dry barrels in the floor of certain chambers to collect standing water. Boundey discovered that many of the cement-covered kiva corners had cracked, allowing water to get down around the kivas and through their walls. He removed the cement and filled the spaces with crushed rock to absorb the moisture. He observed the same problem in a few roofs erected over prehistoric rooms with Anasazi ceilings. Boundey sealed cracks in those concrete slab roofs with tar.[17]

Because of the seriousness of the threats to the ruin, in the summer of 1928, Boundey hired a man to help with wall repair. Some of the higher walls were so precarious that he reported, "they will not hold out through winter" and that "...it is a mystery to me that they had not fallen long ago." Seventy-one units were capped during the Morris years, but there remained 42 exposed rooms with no cappings.

To counter man's damage, Boundey removed almost 10,000 initials scratched or scrawled on ceiling beams. A blow torch obliterated the former, a wet cloth dipped in sand the latter.[18]

With many prehistoric structures included within the Southwest Monuments, Superintendent Pinkley was very aware of the mounting difficulties in maintaining them. He sought the first of what was to become a succession of engineering studies for means of protecting them. As he explained to the director of the National Park Service, "This whole situation of the repairs to ruins has been almost unbearable. We have been in a situation of a half dozen men trying to put out a forest fire.... Wherever we were and however hard we worked with what we had, we knew Nature was getting ahead of us someplace else."[19]

Nevertheless, funds for ruin repairs were seldom allocated. Custodian Faris made repeated pleas to his superiors for money to take care of some of the trouble spots. Local citizens tried to help by going directly to their congressmen. In 1931, the Aztec Chamber of Commerce drafted a resolution, which was transmitted to the New Mexico congressional delegation (see Appendix I). It strongly urged

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[17] George L. Boundey report, April 1928, Southwest Monuments Monthly Report, Coolidge, Arizona.

[18] Ibid., April and September 1928; Boundey to Pinkley, February 24, 1928 (National Park Service: Aztec Ruins National Monument files at the National Archives, Washington).

[19] Pinkley to Director, National Park Service, April 13, 1933 (National Park Service: Aztec Ruins National Monument files at the National Archives, Washington).

an appropriation for repairs to the ruins, saying they were getting in "bad condition."[20] The document brought no immediate reactions, but the wheels of government were turning slowly.

In 1933, James B. Hamilton, assistant engineer from the National Park Service's field headquarters in San Francisco, was sent to Aztec to evaluate the precise condition of the ruins from a professional point of view and to work out methods that could be taken to keep them from reverting into rubble heaps. Upon finding several feet of water standing in some rooms, walls recently caved in, and the Great Kiva virtually obliterated, he concurred with local assessments and reported that, "At Aztec Ruins National Monument much work should be done soon to prevent deterioration which is progressing rapidly there."[21] Hamilton agreed that a soft, poorly consolidated sandstone used by the settlement's builders was being destroyed by dampness. Moisture attacked walls at foundations, from where it was drawn into the lower courses by capillary action. Precipitation soaking into wall tops rotted the stone, dissolved mortar, and, when it froze, split the construction.

Hamilton also observed that some of the earlier preservation aids were not satisfactory. The concrete troughs with which Morris had capped many walls were badly worn in places due to variation in quality and thickness of the cement used and lack of reinforcing elements or expansion joints. Water funneled through the resulting cracks into the cores of walls. Some concrete-slab, secondary roofs placed over rooms with intact ceilings had split, letting water reach the perishable ceilings below. Although Custodian Boundey previously removed faulty concrete coverings from soil-filled areas around some kivas, a few such cappings remained in place. They, too, were fractured and were not keeping water from the kiva walls. Moreover, the reconstructed cribbed-log roof and its concrete-and-tar paper shield covering Kiva E were in bad repair. Some logs were rotting from the effects of moisture that penetrated the roof.

Hamilton offered many recommendations, accompanied by engineering drawings, for further monitoring of destructive forces and upgrading means for dealing with them.[22] He said that test pits should be dug about and within the ruin to see if seepage from nearby irrigation ditches reached the footings of standing walls and the sides of subterranean kivas. If so, it should be intercepted and diverted. Troughed wall cappings should be replaced by more appropriate rounded coverings of several courses of selected stone laid in reinforced cement provided with expansion joints. Tar paper bases with water-tight connection to walls topped with earthen fill should be installed in order to eliminate undermining of walls. At the time of Hamilton's inspection, there were 20 known original ceilings. In order of the urgency of repairs to the roofs over them were Rooms 143, 132, 142, 197, 198, 200, 208, 156, 141, 61, 59, 124, 189, 178, 262, 146, 237, and 263. Severely cracked cement on these roofs should be removed; those not badly damaged should be repaired. A new outer tar paper roof should be put on Kiva E but hidden from view with a thick layer of dirt. Further, in order to keep the kiva dry, a tile drain should be implanted in the bottom of a deep, gravel-filled ditch. The floors of rooms most susceptible to standing water might be paved. Perhaps a skirt of pavement extending eight to 10

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[20] Appendix I. The figure cited as the American Museum of Natural History investment in excavation of the Aztec Ruin is incorrect (National Park Service: Aztec Ruins National Monument files at the National Archives, Washington).

[21] J.B. Hamilton, Report on Preservation of Ruins and Roofing of Kiva, February 11, 1933 (National Park Service: Aztec Ruins National Monument files at the National Archives, Washington).

[22] Ibid.; Hamilton to Branch of Engineering, November 22, 1933, lists drawings as NM/AZT 4936, NM/AZT 4937, and NM/ 4938. They have not been located.

feet away from the exterior walls of the house block should be considered.[23] A dry barrel should be dug into the room in the North Wing next to those housing the museum exhibits in order to collect rain water. Restoration of the Great Kiva, following a plan proposed by Earl Morris, should commence as soon as possible. Cost of necessary improvements was estimated to be $10,175, about what Morris also figured but short of the final output.[24]

In preparation for the big repair effort, Custodian Faris and Assistant Engineer Hamilton made three tests. They put down borings about 50 feet north of the northwest corner of the West Ruin. They encountered wet sand at the 12-foot level, or at an elevation of 5,630 feet above sea level. This was believed to be some three to four feet above the damp floor of Kiva E.[25] The two men also obtained two 20-pound samples of fine sand from exposed riffles in the Animas River, a sample of the monument water, and several cans of earth. These were shipped to the National Bureau of Standards laboratory in Denver. Hamilton wanted to know if the sand were suitable for the fine aggregate needed for masonry mortar, if the water were too alkaline to have sufficient strength, and what was the relative moisture content of the earth.[26]

The results of the tests were negative on two counts. The sand did not meet National Bureau of Standards grading requirements, and the water lowered tensile strength about three percent in a seven-day test.[27] The soil was of satisfactory organic and tensile strength.[28] That meant that sand had to be acquired commercially, and a water softener was needed to take care of the alkali.

In related preliminaries, Faris dug by wall bases in many portions of the pueblo to determine that their foundations did not go more than two and a half feet below the ground surface.[29] William J. Ashley, Branch of Engineering, supplied concrete specifications for capping the walls.[30]

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[23] Hamilton to Frank A. Kittredge, December 4, 1933 (Stabilization files, Aztec Ruins National Monument Headquarters, Aztec, New Mexico).

[24] Hamilton, Preservation of Ruins, February 11, 1933 (National Park Service: Aztec Ruins National Monument files at the National Archives, Washington).

[25] Johnwill Faris to Charles A. Richey, November 11, 1933; Hamilton to Branch of Engineering, November 22, 1933; Faris to Thomas Vint, December 1, 1933 (Stabilization files, Aztec Ruins National Monument Headquarters, Aztec, New Mexico).

[26] Hamilton to O.H. Cox, November 22, 1933; Hamilton to Faris, November 22, 1933; Faris to Cox, November 22, 1933 (Stabilization files, Aztec Ruins National Monument Headquarters, Aztec, New Mexico).

[27] A water quality test done in 1979 from the Aztec Ruins well used from 1931 to 1958 seems to contradict this report, calling the water fresh but with low parts per million of alkali, chlorides, and sulfates. Paul K. Christensen, Aztec Ruins Water Investigations, Water Resources Report, No. 80-2, 1979 (Document file, Aztec Ruins National Monument Headquarters, Aztec, New Mexico).

[28] National Bureau of Standards to Faris, December 14, 1933 (Stabilization files, Aztec Ruins National Monument Headquarters, Aztec, New Mexico).

[29] Hamilton to Kittredge, December 4, 1933 (Stabilization files, Aztec Ruins National Monument Headquarters, Aztec, New Mexico).

[30] W.J. Ashley, Concrete Specifications for Protective Cap, Ruin Walls, Aztec Ruins National Monument, January 27, 1934 (Stabilization files, Aztec Ruins National Monument Headquarters, Aztec, New Mexico).

1934-1936

As outlined in Chapter 7, between 1934 and 1936 some ruins repair was included in general clean-up and refurbishment, trail building, and flood-control activities under government relief funds. A major project of that time was the rebuilding of much of the outer north and west walls of the pueblo. This was made necessary when, during removal of debris from the exteriors of those walls to better delineate the ruin, it was discovered that they were in very poor state of repair. Therefore, Public Works Administration crews, with Morris acting as supervisor, gradually razed and rebuilt large portions of this part of the West Ruin. Morris cautioned the crews to be careful not to add to or subtract from what was actually existent when first discovered. Workmen reset stones in their original position using cement mortar and replaced some rotten wooden elements. In the North Wing, they removed untinted cement cappings and replaced them. To make the mortar less noticeable, they carefully pushed it well back of the rock facing.

Concurrent with the wall rebuilding, other laborers made an attempt to prevent ground water from getting into roofed Kiva E, the Great Kiva, and additional subterranean features by laying a subsurface drainage system in the courtyard of the ruin.[31] The plaza drainage system consisted of a 10-inch tile drain placed next to Kiva E at a depth of approximately 17 feet (see Figure 12.4). It had underground branch lines radiating outward, including several drop inlets to interrupt the normal surface runoff within the courtyard. When the Great Kiva was restored, its considerable roof runoff was channeled into the primary line. Although it was reported to deliver approximately 200 to 250 gallons of water every 24 hours, the drain became progressively ineffectual and ceased to work altogether in early 1938. This was due to blockage of the main line by mud and vegetation, breakage of tiles, and the very slight gradient of the outflow.[32]

Hamilton designed and installed an experimental type of reinforced concrete roof over intact ceilings of two rooms. Modeled after a comparable experimental roof already in place in Pueblo Bonito, they were meant as catch basins where water would evaporate in place.[33] After Hamilton tried to patch several of the concrete covers fabricated by Morris, he concluded, "It is certain that the old concrete covers will have to be removed and entirely new covers built."

Engineers drew designs for additional projects. Among these were recapping the triangular spaces around kivas within the room block, providing air vents through the kiva walls, and setting the cap onto walls rather than the dirt fill.[34] They prepared a plan for reroofing Kiva E, which still had

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[31] Faris reports, February and April 1934, Southwest Monuments Monthly Report, Coolidge, Arizona; Roland Richert, Stabilization report, West Ruin, Aztec Ruins National Monument, 1953 (Stabilization files, Aztec Ruins National Monument Headquarters, Aztec, New Mexico).

[32] Jesse Nusbaum to Regional Director, National Park Service, March 14, 1944 (Aztec Ruins National Monument files, Library, Southwest Regional Office, Santa Fe); Faris to Pinkley, May 21, 1934 (Stabilization files, Aztec Ruins National Monument Headquarters, Aztec, New Mexico).

[33] Hamilton, Final Construction Report on Repairs to Ruins, May 31, 1935 (National Park Service: Aztec Ruins National Monument files at the National Archives, Washington).

[34] Kittredge to Hamilton, April 25, May 11, and October 18, 1934; Pinkley to Kittredge, May 10, 1934; Kittredge to Pinkley, May 16, 1934 (Stabilization files, Aztec Ruins National Monument Headquarters, Aztec, New Mexico).

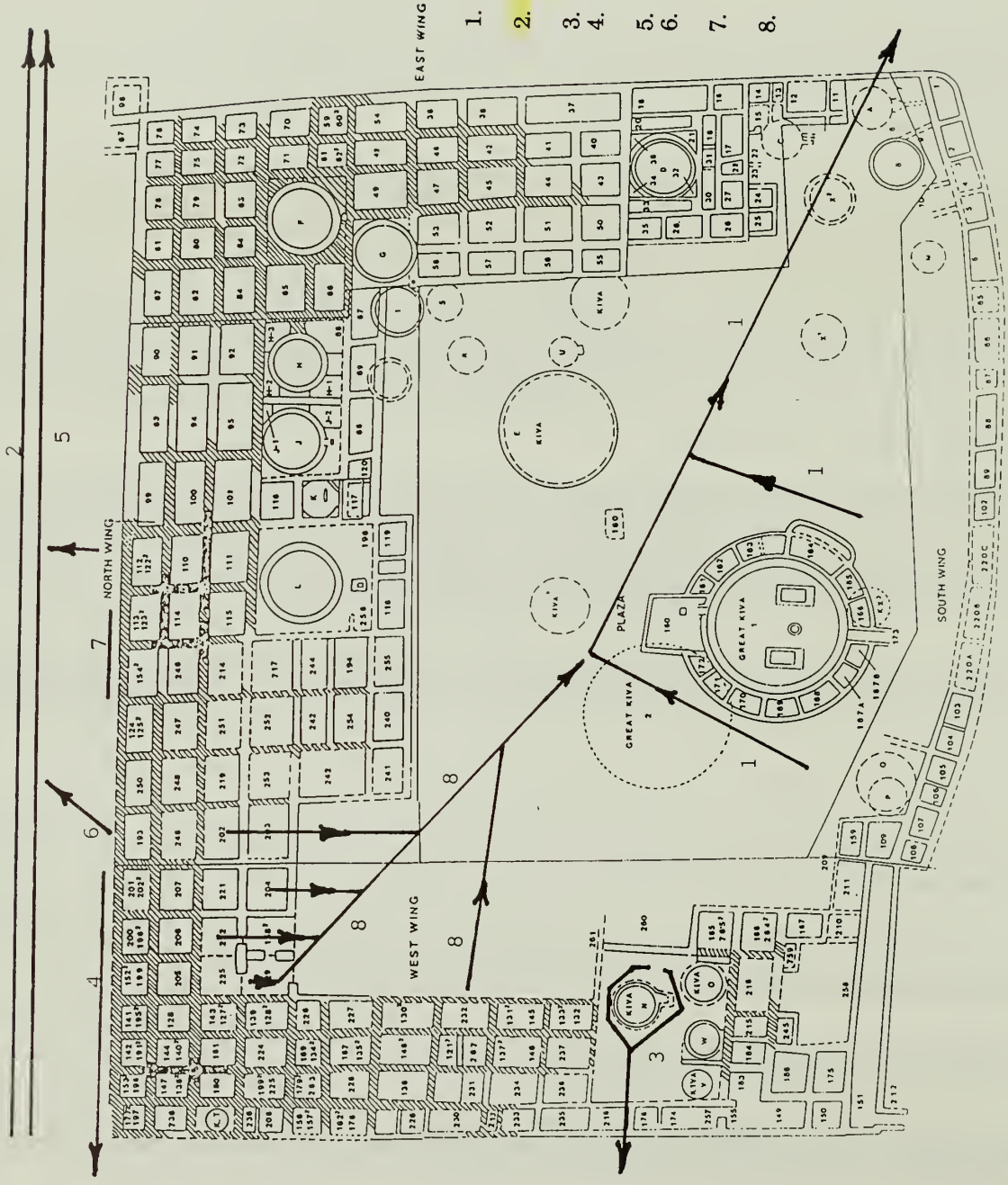


Figure 12.4. Schematic plan of major drains, West Ruin.

its old Morris wood, tar paper, and cement cover, with a new reinforced cement slab raised a foot above four girders.

Because the Great Kiva reconstruction absorbed the allocated funds, these various contemplated repairs remained in limbo but gradually were incorporated into an evolving 10-year program for protection of Southwestern ruins.[35] Previously in the early 1930s, Pinkley asked Faris to develop a six-year repair plan for the monument, but it was lost in the flood of developments made possible by federal relief programs.[36]

Because of his experiences during the Public Works Administration programs at Mesa Verde and Aztec Ruins, Morris favored a permanent plan for ruin survey within the National Park Service holdings synchronized with an annual schedule of repairs. His qualifications for an individual to head such an endeavor included a range of skills such as had not been generally cultivated in the new field of ruin stabilization, other than in Morris himself. As he wrote the director of the National Park Service, a person to lead this important task should have "practical commonsense, intimate familiarity with and understanding of the material used by the ancient builders, wide and penetrating observation of original methods of construction, a working knowledge of masonry technique, an eye to aesthetic effect, and intense interest in the work at hand."[37] These qualifications were in addition to a great deal of actual experience.

By the summer of 1935, something had to be done about the wetness of Kiva E. The idea of the moment for correcting this situation was a fan to circulate air. Investigation by Faris revealed that he could procure a 12-inch exhaust fan for about $32 to $100. It could be installed by the kiva's ventilator shaft or framed into the roof. His financial account had neither the necessary balance for such a purchase nor funds to cover the electric bill that would result from continual use of the appliance. An alternative was a sump pump operated by a float switch, but this was more costly. The third idea was to install tile drains within the kiva connecting to the main courtyard drain. That would have meant removing and rebuilding the hearth and ventilator opening. Besides, the primary drain outside the kiva already was showing signs of becoming useless.[38] Faris decided to try a fan specially built with motor and blades fashioned to his particular needs. How he financed it is unknown. For a time, the fan seemed to help dry out the chamber.[39]

Meantime, National Park Service engineers went to work on the basic problem of seepage. They drafted Plan AZT-4958. It called for excavating into the floor of Kiva E to reach the primary court drainage line, laying soil pipe and fittings in a gravel and sand bed, and backfilling the trench.

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[35] Pinkley to Kittredge, May 10, 1934; Kittredge to Pinkley, May 16, 1934 (Stabilization files, Aztec Ruins National Monument Headquarters, Aztec, New Mexico).

[36] Pinkley to Faris, Pictures and Descriptions of the Aztec Ruins National Monument, to be used in the Six-Year Program and Repairs to Ruins, November 4, 1933 (Stabilization files, Aztec Ruins National Monument Headquarters, Aztec, New Mexico).

[37] Morris to Director, National Park Service, December 28, 1934 (Stabilization files, Aztec Ruins National Monument Headquarters, Aztec, New Mexico).

[38] Faris to Pinkley, July 22, 1935; Pinkley to Faris, August 4 and October 29, 1935; A.W. Burney to Hamilton, August 19, 1935; Hamilton to Branch of Engineering, August 8, 1935 (Stabilization files, Aztec Ruins National Monument Headquarters, Aztec, New Mexico).

[39] Faris to Pinkley, November 3, 1935 (Stabilization files, Aztec Ruins National Monument Headquarters, Aztec, New Mexico).

This could be done at a cost of $375.[40] Even though Chief Engineer Frank A. Kittredge had included Aztec Ruins National Monument in his general request of the previous summer for $150,000 for protection of Southwestern ruins, there was no money to carry out this particular job.[41]

Troubles mounted during the winter of 1936, as, with a single exception, all the protective roofs over Anasazi ceilings failed. Faris did what he did with regularity: he sent off a request for a supplemental appropriation for ruin repairs. He got his usual reply. Hugh M. Miller, then acting superintendent of Southwest Monuments in Pinkley's absence, curtly said that since the monument had received a large sum for that purpose as recently as two years previously, the request would be met with a cool reception. Miller continued, "It is going to be a little awkward to explain to the Secretary that we had the money but spent most of it for restoration of the Great Kiva and neglected urgent work on the main ruin."[42]

Faris persisted with a following letter to Pinkley, explaining that eight or 10 roofs simply had to be repaired at once and the remaining 15 shortly thereafter. He hoped perhaps another contingent of Civilian Conservation Corps youths could be put to work on damaged walls, if only somehow $500 could be found.[43] In hopes of favorable response, he obtained a print of Engineer Hamilton's plan (AZ 4950) for placement of roofs over original ceilings.[44] Since Faris's request of March was met with silence, in June, he forwarded to Superintendent Pinkley yet another one for repair funds. This time the amount was set at a whopping $7,400 to pay for 20 catchment-type protective roofs, reroofing Kiva E with the reinforced cement covering designed in 1934, and a protective cement roof over Room 117 with incised murals.[45]

On August 30, a two-inch downpour engulfed the monument within an hour. One can feel the tone of despair as Faris lamented to Pinkley, "There is about five inches of water in our roofed kiva [Kiva E], several walls fell in and the bench around our show kiva [Great Kiva] where the logs were exposed which contained the offerings is falling down at an alarming rate. The big drain trench settled in several places leaving large holes, low places are filled with muck and stagnant water. The whole place carried a terrible odor from the mess and weeds have popped up six inches in the past two

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[40] Burney to Pinkley, December 19, 1935, and January 9, 1936 (Stabilization files, Aztec Ruins National Monument Headquarters, Aztec, New Mexico).

[41] Kittredge to Director, National Park Service, June 13, 1935 (Stabilization files, Aztec Ruins National Monument Headquarters, Aztec, New Mexico).

[42] Hugh M. Miller to Faris, February 21, 1936 (Stabilization files, Aztec Ruins National Monument Headquarters, Aztec, New Mexico).

[43] Faris to Pinkley, March 1, 1936 (Stabilization files, Aztec Ruins National Monument Headquarters, Aztec, New Mexico).

[44] Burney to Faris, March 23, 1936 (Stabilization files, Aztec Ruins National Monument Headquarters, Aztec, New Mexico).

[45] Faris to Pinkley, June 3, 1936 (Stabilization files, Aztec Ruins National Monument Headquarters, Aztec, New Mexico).

days."[46] To top it off, the fan in Kiva E was drowned and destroyed. Five unidentified Anasazi ceilings were repaired shortly before the storm; the remainder held.[47]

Engineers from the San Francisco office determined that so much water rushed down or over the roof spouts of the Great Kiva, some of which were plugged, that the court drain was unable to carry it out of the area rapidly enough to prevent it from backing up into Kiva E.[48]

1937-1942

Within a few months after his appointment as custodian in 1937, Thomas C. Miller began the same litany of hopelessness, followed by small repairs and requests for more financial help. That winter was especially hard on the ruin, causing sections of 42 walls to topple and up to 25 inches of water to stand on the dirt floor of Kiva E. Because current policy was against any sort of surfaced path, visitors either had to wade ankle-deep in mud across the courtyard or not view it.[49] Miller borrowed a pump and fire hose from the city of Aztec to get the water out of the kiva, after which he set a two-burner oil stove in the chamber to help dry it.[50] Southwest Monuments gave Miller $100 for emergency work, but that had to be shared with Chaco Canyon, where crews were busy cleaning debris and ancient rip-rap from behind Threatening Rock.[51] With that money, two laborers were hired to mend unstable walls, reroute the drainage around Kiva E, and waterproof roofs protecting the aboriginal ceilings in five rooms.[52]

Miller's helpers just had time to finish righting the wrongs of one period of devastating weather when another struck. During July, 1 1/2 inches of rain pounded Aztec Ruins in a half hour. Not only were the ancient chambers battle scarred once again, but modern roofs on the restored Great Kiva, the administration building, and the custodian's residence leaked like sieves.[53]

Looking to the future, Miller suggested some possible preservation measures. He thought it might be wise to pour concrete footings beneath the bases of the more critical walls and then secure

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[46] Faris to Pinkley, September 2, 1936 (Stabilization files, Aztec Ruins National Monument Headquarters, Aztec, New Mexico).

[47] T.C. Miller to Hugh M. Miller, April 2, 1937 (Stabilization files, Aztec Ruins National Monument Headquarters, Aztec, New Mexico).

[48] Faris report, September 1936, Southwest Monuments Monthly Report, Coolidge, Arizona; Kittredge to Hamilton, September 8, 1936; Faris to Hamilton, September 26, 1936 (Stabilization files, Aztec Ruins National Monument Headquarters, Aztec, New Mexico).

[49] T.C. Miller report, February 1937, Southwest Monuments Monthly Report, Coolidge, Arizona.

[50] Hamilton, conference memorandum, February 19, 1934 (Stabilization files, Aztec Ruins National Monument Headquarters, Aztec, New Mexico).

[51] Charlie R. Steen to T.C. Miller, February 23, 1937 (Stabilization files, Aztec Ruins National Monument Headquarters, Aztec, New Mexico).

[52] T.C. Miller report, March 1937, Southwest Monuments Monthly Report, Coolidge, Arizona.

[53] Ibid., July 1937.

the second and third floor structures above them. Although he and Engineer Kittredge were concerned that their mere installation might weaken walls, Hamilton endorsed the idea of cement footings.[54] Miller also recognized the ineffectiveness of the heavy, pervious, cement-slab roofing over prehistoric ceilings and recommended that any future plans to insure their conservation consider built-up roofing of wood and tar paper.[55] In April, he sent in a request for $10,415.90 for the frequently recited jobs of protecting ceilings, caring for the roof of Kiva E, filling the spaces between round kivas and square rooms, and patching walls.[56]

It was during the same year of 1937 that the National Park Service at last acknowledged the necessity of approaching ruins repair in a more systematic fashion if it were to meet the charge to save its Southwestern archeological holdings from destruction. It was an idea that had been simmering throughout the decade, but now a formally organized team was authorized to devote its time and energies to this specific endeavor. With that action, the word stabilization and the concept it represented of strengthening aboriginal architectural remains as inconspicuously as possible to endure the future -- but not reconstruct them -- became part of the Southwestern archeological creed.

The new ruins repair effort was set up as a program under the Civilian Conservation Corps by agreement between the National Park Service and the Bureau of Indian Affairs.[57] The National Park Service provided materials, equipment, and supervision of a person well grounded in regional archeology who also had demonstrated some practical construction skills. The Navajo Agency supplied a crew of 25 Native American enrollees to work out of a base camp in Chaco Canyon. For five years, the unit moved between 14 Southwestern monuments containing aboriginal structures of various sorts doing both emergency and routine maintenance stabilization work as required. The number of Navajo participants decreased to 20 in 1938, then to 10 in 1940. Between 1942 and 1946, the Civilian Conservation Corps Mobile Unit was disbanded because of World War II.[58] When reorganized, Navajo workers were joined by other minorities.

Although for many years their procedures necessarily remained on a trial-and-error basis, the Navajos enrolled in the first program soon jelled into an efficient group of stone masons. Their early work was at Chaco Canyon and Aztec Ruins, where constructions rapidly were falling into disrepair because of many of the same environmental reasons. However, the damage from underground water was peculiar to Aztec Ruins. The compromise between sound building methods and authenticity in appearance was a constant challenge. The policy became one of retaining the look of Anasazi architecture as it was found upon excavation, while calling for reinforcement on such modern chemical products as would not alter that. A systematic inspection of ruins and a standardized style of

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[54] Hamilton to Branch of Engineering, March 19, 1934 (Stabilization files, Aztec Ruins National Monument Headquarters, Aztec, New Mexico).

[55] T.C. Miller report, February 1937, Southwest Monuments Monthly Report, Coolidge, Arizona; Richert, Stabilization Report, West Ruin, Aztec Ruins National Monument, 1953; Stephen E. Adams, Scope of Work Statement, Protective Roofs, West Ruins, Aztec Ruins National Monument, March 20, 1978 (Stabilization files, Aztec Ruins National Monument Headquarters, Aztec, New Mexico).

[56] T.C. Miller to Hugh M. Miller, April 2, 1937; Hamilton, Cost of Specific Jobs of Ruin Repair, 1937 (Stabilization files, Aztec Ruins National Monument Headquarters, Aztec, New Mexico).

[57] Richert to Assistant Chief, Division of Archeology, April 27, 1970 (Aztec Ruins National Monument files, Library, Southwest Regional Office, Santa Fe).

[58] Richert, Stabilization Report, West Ruin, Aztec Ruins National Monument, 1953 (Stabilization files, Aztec Ruins National Monument Headquarters, Aztec, New Mexico).

documentation of remedial treatment were instigated so that future technicians would be enabled to distinguish original from treated constructions and know how to proceed.[59] Stabilization advanced from repairs done after the fact to setting up long-range plans to deal routinely with unstable ruin walls and to observe them over time to prevent, rather than fix, damage.

From 1938 to 1942, the Civilian Conservation Corps Mobile Unit did intensive stabilization at Aztec. Although Archeologist Vivian was general supervisor, Custodian Miller actually directed the crew at Aztec until the winter of 1941-42 because of Vivian's involvement elsewhere.[60] Miller discontinued the use of natural cement. Instead, the Mobile Unit adopted the practice of adding bitumen, an asphalt derivative, as waterproofing to mud mortar for wall capping and laying walls. Initially, the consensus was that this combination of substances was satisfactory and better looking than earlier mortars.

During 1938 and 1939, workers gave special care to the West Wing and the southwest corner of the ruin. The Indian crew redid walls of 14 rooms with heavy integral capping reinforced by bitudobe to replace the old gutter caps. They covered six Anasazi ceilings formerly having cement-slab roofs with a two-inch waterproof layer of bitudobe.

At last, Kiva E was reroofed. Laborers removed the old outer lumber-and-tar paper roof and the concrete slab covering it. They tamped a soil bitumen plating in place over the native soil and cribbed logs and applied a topping of sand. As a final touch, they raised the masonry of the outer wall above the roof level, with weep holes added for drainage. With Vivian giving the cost of materials as $25, one wonders why the replacement of the roof had been postponed for so many years.[61] The men eliminated an unsuitable wooden railing leading to the ladder in the kiva hatchway.

Elsewhere in 1939, workmen sunk tile drains in several rooms to gather and direct surface water away from the ruin. They repaired Rooms 249, 202, and 193 after their excavation by Archeologist Steen.[62] Finally, the men painted the Great Kiva roof with bitumuls and then rolled it with sand.[63]

At this time, the numbering of some rooms on the map used in preparing early stabilization records became confused. The map was based on Morris's map of 1919 without realizing it had been amended in 1924 and 1928 to include the later excavations. Therefore, stabilizers scrambled numbers of rooms that already had been numbered and added new numbers to this error-ridden base as their own work progressed (NM/AZT 5301). The record is particularly confused for the northwest corner of the compound and the West Wing chambers. Numerous attempts have been made since the 1950s

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[59] Ibid.

[60] Ibid.

[61] R. Gordon Vivian, West Ruin Stabilization, 1939 (Stabilization files, Aztec Ruins National Monument Headquarters, Aztec, New Mexico).

[62] Vivian, CCC Mobile Unit Record Sheets, July 1939 (Stabilization files, Aztec Ruins National Monument Headquarters, Aztec, New Mexico).

[63] Pinkley to Regional Director, National Park Service, August 18, 1939 (Stabilization files, Aztec Ruins National Monument Headquarters, Aztec, New Mexico).

to correct the mistakes, most recently by Todd R. Metzger of the Southwest Regional Office in Santa Fe (see Figure 12.3).[64]

While Vivian's men were busy with repairs to the West Ruin structure, Miller continued to struggle with the destructive drainage problem. He and his rangers dug down to the courtyard drain put in just four years earlier and found that tiles were crushed, collars were disconnected, and exposed sections were blocked by the mud and straw of the trench fill. Furthermore, the outlet was plugged with rock and soil.[65] All the work, money, and near death of one laborer to lay the drainage system apparently were for naught.

Various stabilization efforts continued in 1940. Crews made repairs to Kiva K, which endangered the visitor trail, and to Kiva L. Workers rolled the plaza surface and former ruin museum floors to compact them and reduce erosion. Custodian Miller remained anxious, as he reported, "...we still have about 300 rooms that have had no stabilization and unless treated at an early date, deterioration is certain."[66] The number of chambers was exaggerated, but the problem was not. Miller was given $300 for repairs, but he replied that he really needed $1,000 over several years.[67] In November, Southwest Monuments added $100 to the Aztec Ruins National Monument stabilization account.[68]

That fall, in response to a survey by Southwest Monuments of repairs needed to all the ruins in its jurisdiction, Miller reported 226 rooms and 19 kivas excavated to December 1940, 45 rooms and two kivas with protective wall capping, all rooms with aboriginal ceilings waterproofed, and courtyard graded and drained. That represented 24 years of hard, and often frustrating, labor. Miller estimated 179 rooms still needing capping and 250 square yards of wall requiring patching.[69] Although it was realized that it would take many additional years of work, Miller's stabilization budget then had a balance of $19.02.[70] It was obvious that any further repairs would have to be delayed.

Into the next year, the ruin continued to crumble down around the hapless monument staff. As relief ranger Ed Albert said, "...ruins may be seen falling before one's eyes...hardly a foot of uncapped wall which has not suffered serious damage. In the southwest wing of the pueblo, a huge section of

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[64] Todd R. Metzger, *Structure Numbering System at West Ruin, Aztec, New Mexico*, Southwest Cultural Resources Center, National Park Service, Santa Fe, 1988.

[65] Nusbaum to Regional Director, National Park Service, March 14, 1944 (Stabilization files, Aztec Ruins National Monument Headquarters, Aztec, New Mexico).

[66] T.C. Miller report, March 1940, Southwest Monuments Monthly Report, Coolidge, Arizona.

[67] Dale S. King to T.C. Miller, April 6, 1940; T.C. Miller to Hugh M. Miller, May 16, 1940 (Stabilization files, Aztec Ruins National Monument Headquarters, Aztec, New Mexico).

[68] T.C. Miller to Hugh M. Miller, November 18, 1940 (Stabilization files, Aztec Ruins National Monument Headquarters, Aztec, New Mexico).

[69] T.C. Miller to Superintendent, Southwest Monuments, December 15, 1940 (Stabilization files, Aztec Ruins National Monument Headquarters, Aztec, New Mexico).

[70] T.C. Miller to Hugh M. Miller, January 10, 1941 (Stabilization files, Aztec Ruins National Monument Headquarters, Aztec, New Mexico).

wall and door have collapsed." And he sent forth another fruitless cry in the dark, "Stabilization is urgently required."[71]

Meantime, because in January tons of cliff known as Threatening Rock crashed down upon Pueblo Bonito, the Civilian Conservation Corps Mobile Unit had its hands full. It was not until September that the crew could return to work at Aztec Ruins and then only on 29 affected rooms and three kivas. This schedule took the men through the winter and the start of World War II.

Because the Mobile Unit was disbanded in April 1942 for the duration of the war, just one or two Navajos continued to work. They patched walls in the North Wing that could not wait until the fighting stopped. They reset walls of Kivas H and J and improved the drainage around them. Miller asked for $48 to have the Great Kiva roof waterproofed but was told that the monument account had a balance of only $39.68.[72] For the lack of less than $7.00, the structure was doomed to leak. However, the next month Southwest Monuments came through with another $125.[73] Regardless of this token allotment, ruins repair at Aztec remained understaffed and underfunded. With warfare raging around the world, Aztec Ruins was on the brink of its own archeological skirmishes and the soldiers were the custodian and his two rangers, Russell L. Mahan and R. Madson, who were drafted into stabilization duty ordinarily performed by the Mobile Unit.

1943-1947

Leakage of the Great Kiva roof became so substantial during spring thaws in 1943 that the Southwest Monuments administration was able to secure emergency monies for a reroofing job. Miller submitted a job justification amounting to $250, but the final bill came to $328.[74] Miller and his helpers followed a process of filling larger cracks with cotton membrane and painting lesser cracks with a heavy-duty coating called Zone. They then spread asbestos felt around the circumference of the roof up on the parapet wall. Flashing material held in place with hot asphalt sealed the juncture of roof and parapet. Workers laid asbestos roofing over the entire roof and covered it with a hot asphalt layer. When this surface dried for several days, they applied a final coat of Zone to make the roof leak-free.[75] Or so they hoped.

Other unending difficulties besetting Aztec Ruins worsened until, in September, Miller again called for help. He and the rangers were regularly bailing out subsurface water percolating into Kivas E and I. This amounted to 200 gallons daily in Kiva I and 350 gallons daily in Kiva E. Some interior

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[71] Ed Albert report, February 1941, Southwest Monuments Monthly Report, Coolidge, Arizona.

[72] King to T.C. Miller, April 29, 1942 (Stabilization files, Aztec Ruins National Monument Headquarters, Aztec, New Mexico).

[73] Richey to Custodian, Aztec Ruins National Monument, May 15, 1942 (Stabilization files, Aztec Ruins National Monument Headquarters, Aztec, New Mexico).

[74] T.C. Miller to Superintendent, Southwest Monuments, June 12, 1943 (Stabilization files, Aztec Ruins National Monument Headquarters, Aztec, New Mexico).

[75] Aztec Ruins National Monument Custodian to Superintendent, Southwest Monuments, August 12, 1943; T.C. Miller, Great Kiva Roof Repair, 1943 (Stabilization files, Aztec Ruins National Monument Headquarters, Aztec, New Mexico).

walls of Kiva I gave way, making the support of a later house wall that crossed it very uncertain. Damp spots appeared on the floors of the vaults of the Great Kiva. The men feared that it was just a matter of time until the primary flow of water worked its way southward into that structure. Bases of room walls along the North Wing, where dry ground conditions earlier were typical, were disintegrating from moisture. After an inspection by Steen, the staff decided that electric pumps placed in pits in the floors or ventilator shafts of the waterlogged kivas might be the answer. Unfortunately, the pumps failed to draw out sufficient water standing next to the lower courses of weakened masonry walls. Next, the determined rangers repaired a leaky flume on the Hubbard farm just below the Farmers Ditch. That did nothing to halt seepage within the compound. This was followed by their digging three six-foot-square pits outside the north exterior village wall, which were sunk to depths from 13 to 21 feet. A secondary hole in the easternmost pit went down 42 feet before hitting hardpan.[76] Pumps lowered into two of the pits operated around the clock. Working together over a two-month period, the pumps, helped by cessation of the irrigation season, caused a slight drop in the water table level. Kiva I began to dry, but Kiva E remained flooded. Its walls were saturated. Salts formed a deposit on the roof timbers. An emergency sum of $900 was expended without beneficial results.[77]

In 1944, several studies were done by various National Park Service officials and drainage and soil experts from the Soil Conservation Service in Albuquerque to determine the exact nature and scope of the environmental problems afflicting Aztec Ruins and how best to resolve them. The volumes of data produced merely confirmed earlier beliefs: the source of the distressing subsurface water was from the north and northeast of the ruin, where a major unlined canal and irrigated fields existed. Topography and soil conditions contributed to the difficulties.[78]

According to Jesse Nusbaum, one of those studying the matter, there were two natural and two man-caused reasons for the adverse conditions, which seemed to have suddenly become so much worse. The year 1942 was one of drought in the Southwest, with Aztec Ruins recording a low precipitation of slightly over six and a half inches. This followed an unusual high in 1941 of 23.59 inches. With the local aquifer having its source in the high elevations of the San Juan Mountains to the north, Nusbaum theorized that the greatly increased volume of moisture in 1941 took 12 to 18 months to descend 50 miles of intervening, uptilted, sedimentary formation to abruptly reach the 5,600 foot elevation of the monument about August 1943. Coincidentally, during the spring of 1943, the Farmers Ditch was more thoroughly cleaned than at any time in years. This cut out the lining of water-deposited clays and silts that inhibited seepage. Natural loss of water through the earthen canal walls and floor, added to irrigation during the summer growing season and a plethora of rodent burrows, spelled trouble for the ruins situated downslope at a point where the soils became less porous and interrupted the general southeastward flow of underground water.[79]

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[76] Nusbaum to Regional Director, National Park Service, March 14, 1944 (Stabilization files, Aztec Ruins National Monument Headquarters, Aztec, New Mexico).

[77] Richey, memorandum for files, December 15, 1943 (Stabilization files, Aztec Ruins National Monument Headquarters, Aztec, New Mexico).

[78] Nusbaum to Regional Director, National Park Service, March 14, 1944; Jack R. Williams to Regional Director, National Park Service, January 28, 1965 (Aztec Ruins National Monument files, Library, Southwest Regional Office, Santa Fe).

[79] Nusbaum to Regional Director, National Park Service, March 14, 1944 (Aztec Ruins National Monument files, Library, Southwest Regional Office, Santa Fe).

The most practical long-term solution these studies proposed was one to provide an adequate primary drain or cutoff along the northern boundary of the monument. The consultants believed the drain would lower the water table in the preserve below the depth of the floor of Kiva E, its deepest known structure. The proposal (AZ-M-6) was adopted, to be implemented after the war.

Meantime, Miller submitted another job justification calling for an expenditure of $1,324.75 for temporary ruins drainage, stating that the entire monument land was becoming a quagmire and corrective action was needed immediately.[80] It took three months for the Washington office to return a $1,300 allotment.[81]

Miller planned to add eight wells to the three previously dug north of the ruin. The wells, 18 feet deep with a two-foot sump, were to be 20 feet apart and set within four-foot-square wooden boxes. Miller hoped they could be incorporated into the permanent system when it was installed. Rough-sawn wood for some of the cribbing was transferred from Gran Quivira.[82] Other timber was secured from local saw mills. In spite of the urgency for action, work was delayed. One of the Navajo laborers suddenly enlisted in the army, and the second prospective helper was busy herding sheep. But by the end of April, construction of the wells began. Within several weeks, the farmer of the cornfield just to the north turned water into his fields, and all the wells on the north monument boundary promptly began to fill. One that had not yet been timbered was a total loss.[83]

When the wells finally were completed, they were connected by pipe so that flow of ground water was led to a central well. From that well, the water was pumped into an irrigation ditch to the west of the monument. Acting Custodian Mahan reported that the flow into Kiva E had not increased. He was optimistic that the latest effort would be successful.[84] But that was not to be. The wells proved one thing: that the underground water was a very complex phenomenon, which likely would need a different system than the planned permanent drainage line.

When Irving D. Townsend arrived in September to assume the monument's superintendency, he wrote eye-witness accounts of the dire state in which he found the West Ruin. In one, he recounted the well-known troubles at Kiva E and stated that considerable portions of Kiva I were caved in.[85]

Three weeks later Townsend desperately notified the regional director of the danger to Aztec Ruins. A cloudburst and hail storm dealt another severe blow by filling one of the wells with sand and silt. The pumping equipment was flooded out as a wall of water poured down the depression

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[80] T.C. Miller to Regional Director, National Park Service, December 14, 1943 (Stabilization files, Aztec Ruins National Monument Headquarters, Aztec, New Mexico).

[81] Hillory A. Tolson to Regional Director, National Park Service, April 1, 1944; Richey to Acting Custodian, Aztec Ruins National Monument, April 8, 1944 (Stabilization files, Aztec Ruins National Monument Headquarters, Aztec, New Mexico).

[82] Richey to Acting Custodian, Aztec Ruins National Monument, April 8, 1944 (Stabilization files, Aztec Ruins National Monument Headquarters, Aztec, New Mexico).

[83] Russell L. Mahan to Regional Director, National Park Service, June 22, 1944 (Stabilization files, Aztec Ruins National Monument Headquarters, Aztec, New Mexico).

[84] Ibid.

[85] Irving D. Townsend to Regional Director, National Park Service, September 21, 1944 (Document files, Aztec Ruins National Monument Headquarters, Aztec, New Mexico).

between the West and East ruins. In the house block, rocks fell from walls, the ventilator shaft of Kiva E half filled with water every 24 hours, and the south village wall was undermined. He continued, "Numerous leaks have appeared in the original roofs of the rooms through which tours are conducted, allowing water to seep down the walls, drip from the cross beams and generally to expose considerable roof timber to water seepage."[86]

Townsend also called attention to a problem that was developing in respect to the use of bitumen additives to mud mortar for ruins repair, a practice begun with high hopes in 1938. Although at first effective, after a period of years the asphalt-fortified mortar began to disintegrate. By the late 1950s, its use would be stopped.

Shortly after the flood of October 16, Louis R. Caywood, recently custodian at Tumacacori National Monument in Arizona, made a visit to Aztec to inspect the damage. While there, he repaired or replaced the protective roofs over six North Wing rooms and extended the pipeline from Kiva E, which took water out of the plaza. Complying with Caywood's recommendations, Townsend replaced the roof over mural Room 117 by using four-by-four-inch timbers, new felt, and bitumuls. He began a program of rodent control and saw that all short drains and gutters were cleaned.[87]

In 1944, government officials looked ahead to what would be needed for the preservation of aboriginal ruins within the National Park Service system once the war was over. A call went out for statements showing comprehensive stabilization necessary under a Major Repair and Rehabilitation Program (also called Comprehensive Post-War Stabilization Program) outlined by Acting Director Hillory A. Tolson. The Southwest Regional Office solicited statements concerning interim work necessary to carry regional sites over until the larger endeavor could get started.[88] Mahan estimated $3,900 would be required for work in the East Ruin and northeast corner of the West Ruin and in Kivas I and F. He suggested that the damaged Kiva I be backilled, using some of the dirt left from digging the drainage wells.[89] He further stipulated that $300 should be spent in backfilling the northwest sector of the East Ruin, where exposed walls were disintegrating, and in bracing sagging beams of intact roofs there.[90]

The major project for 1945 was preparatory work for installation of a deep north drainage system as outlined by National Park Service Engineer James R. Lassiter and seconded by Roy S.

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[86] Townsend to Regional Director, National Park Service, October 17, 1944; Louis R. Caywood to Regional Director, National Park Service, October 30, 1944 (Document file, Stabilization files, Aztec Ruins National Monument Headquarters, Aztec, New Mexico).

[87] Townsend reports, October and November 1944, Southwest Monuments Monthly Report, Coolidge, Arizona; Caywood, Recommendations for Ruins Stabilization, Aztec Ruins National Monument, October 25, 1944 (Stabilization files, Aztec Ruins National Monument Headquarters, Aztec, New Mexico).

[88] Richey to Mahan, July 11, 1944 (Stabilization files, Aztec Ruins National Monument Headquarters, Aztec, New Mexico).

[89] Mahan to Regional Director, National Park Service, June 26, 1944 (Stabilization files, Aztec Ruins National Monument Headquarters, Aztec, New Mexico).

[90] Mahan to Regional Director, National Park Service, July 12, 1944; Richey to Regional Director, National Park Service, August 16, 1944 (Stabilization files, Aztec Ruins National Monument Headquarters, Aztec, New Mexico).

Decker of the Soil Conservation Service.[91] Crews removed shoring timbers and pumping equipment from some of the temporary wells and located sources of gravel to be used to fill the trench. Townsend sought laborers, who were scarce because of the war.[92]

An archeological crew dug an exploratory ditch parallel to the line of the proposed drainage system to see whether any prehistoric features might be impacted. It extended along the northern boundary of the monument above the West Ruin, as well as to the north of the unexcavated East Ruin. The only evidence of aboriginal occupation the men encountered was what was described by Ranger James A. (Al) Lancaster as an oven-cist approximately three feet below the surface. The dragline bucket cut more than half of it away before Lancaster was notified. The drawing he made at the time provides little information other than cobbles and charcoal in the bottom of a domed structure of burned earth approximately 30 inches high. It is impossible now to know if the cist might have resembled some pits subsequently found at the Hubbard Mound in the same general part of the monument.[93] Lancaster reported the area free of antiquities that might be harmed by the drainage line.[94]

In preparation for the drain, pipe and manholes were stockpiled.[95] A power shovel was borrowed from Mesa Verde National Park and parked at the gravel pit. There, it was used to dig gravel and load it into trucks for hauling to the construction site. When sufficient gravel was accumulated, the shovel was moved to the ruin and modified into a dragline. Another dragline was provided by the Soil Conservation Service.[96]

During the summer and fall, the trench digging, manhole construction, and laying of pipe progressed slowly, hampered by mechanical breakdowns, labor shortages, and cave-ins (see Figure 12.5). As stories circulated of the mishap in the courtyard trench, laborers were reluctant to get into this trench.[97] On occasion, Superintendent Townsend, in such poor health that he resigned prematurely from the Service, was forced to operate some of the heavy equipment.[98]

Some 17 months after trenching began, the project was finished on May 21, 1946. A Soil Conservation Service bulldozer backfilled the trench. Shortly afterwards, Townsend judged that the drain was functioning. A small stream of water, which increased following irrigation of fields above

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[91] J.R. Lassiter to Regional Director, National Park Service, October 26, 1944; Roy S. Decker to Joe B. Christy, October 26, 1944 (Stabilization files, Aztec Ruins National Monument Headquarters, Aztec, New Mexico).

[92] Townsend report, January 1945, Southwest Monuments Monthly Report, Coolidge, Arizona.

[93] Townsend to Regional Director, National Park Service, December 12, 1945 (Stabilization files, Aztec Ruins National Monument Headquarters, Aztec, New Mexico); R. Gordon Vivian. *The Hubbard Site and Other Tri-Wall Structures in New Mexico and Colorado*, Archeological Research Series, No. 5 (Washington: National Park Service, 1959), Figure 11.

[94] James A. Lancaster to Regional Director, National Park Service, March 14, 1945; Townsend to Regional Director, National Park Service, March 14, 1945 (Stabilization files, Aztec Ruins National Monument Headquarters, Aztec, New Mexico).

[95] Townsend report, March 1945, Southwest Monuments Monthly Report, Coolidge, Arizona.

[96] Ibid., April and May 1945.

[97] Lancaster, February 1989: personal communication.

[98] Townsend reports, June-December 1945, Southwest Monuments Monthly Report, Coolidge, Arizona.

the ruin, ran from the end of the drain. Kiva E was drier than it had been for two years. Moisture building up on subterranean walls of the Great Kiva disappeared.[99]



Figure 12.5. Dragline digging deep north drainage trench, 1946.

Upon completion, the drainage system represented an outlay of $8,000.[100] It stretched 1437.2 feet from west to east between the monument and private land to the north. At the bottom of the trench, varying in depth from seven to 21 feet, a tile drain six inches in diameter intercepted the subflow and conveyed it to the northeast corner of the monument. There, it emptied into a waste ditch, flowed through a culvert under the county road and down a natural drainage channel to the Animas River. A series of nine manholes along the line permitted inspection of the drain and a way of flushing it if necessary.

Two months after being declared operational, the east end of the drain was filled with mud and fine gravel. Crews placed a pump in the last open manhole to keep that part of the line clear.[101] Soon, about 300 feet of the opposite end of the drain also was stopped up. For the remainder of the year and until the spring of 1947, work on the system continued. Additional manholes were built to gain access to the nonfunctioning section of the line. Because heavy equipment to clean out the line was not available, various kinds of probes and reamers were tried. All efforts failed. At last in March and April, a coordinated effort between the monument staff, the Soil Conservation Service, and the Water and Fire Departments of Aztec and Farmington succeeded in getting a traveling nozzle to force water

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[99] Ibid., January-May 1946.

[100] Tolson to Regional Director, National Park Service, December 4 and 12, 1944 (Stabilization files, Aztec Ruins National Monument Headquarters, Aztec, New Mexico).

[101] Townsend report, July 1946, Southwest Monuments Monthly Report, Coolidge, Arizona.

under pressure into the lower end of the blocked pipe. The drain was kept open after that by frequent flushing. By September 1947, the water table beneath the ruins had fallen dramatically by almost four feet.[102]

During April 1945, while one crew was engaged in the drain project, Ranger Lancaster, aided by workers including Sherman Howe, carried out some emergency stabilization of walls of 22 rooms and three kivas and worked on protective roofs over Rooms 112, 59, and 156. Decaying wooden lintels in some doorways were replaced.[103]

Al Lancaster, off a bean farm in southwestern Colorado and without academic training in archeology, had years of practical experience on the excavation crews of Paul Martin, Field Museum of Natural History in Chicago, J.O. Brew, Peabody Museum of Harvard University, and the National Park Service at Mesa Verde National Park. At the latter post, he worked for a time under the direction of Earl Morris. A soft-spoken, humble man, Lancaster went on to become a legend in Southwestern archeology for his keen insight and sound excavation and stabilization methods.

The next year, 1946, much needed stabilization of upper portions and tops of walls and around doorways continued in 39 rooms and three kivas. Stabilizers sloped the area outside the north exterior wall of the pueblo to carry surface water away from the wall.[104] Lancaster was field director; Erik K. Reed and Dale S. King were his supervisors. Reed greatly underestimated the dangers facing the site. He informed the regional director that the problems with the West Ruin structure were small.[105] This was an opinion at odds with that of Superintendent Townsend, who noted the continued rotting of wall bases and loss of wall facing.

Even with the deep north drain operating, Kiva E was subjected to moisture-induced erosion. Workers rushed a pump with electrical motor into action. Archeologist Reed objected to an above-ground cable strung across the front of the ruin and a highly visible discharge pipe to the southeast corner of the compound. Then, the men tried other ways to dry the kiva. All were unsuccessful. Finally, there was no alternative: the roof was removed.[106] Not long afterward, improved ventilation and exposure to the sun ended the soggy saga. The roof was in place exactly 30 years and allowed visitors to observe how a clever cribbing without use of nails, tenons, or other fasteners spanned a circular structure. But given the uncontrollable factors, it proved detrimental.

Meanwhile, another maintenance difficulty developed at the Great Kiva. In 1943, the roof was stripped of its old felt sheathing and the roof redone. However, it continued to leak almost every summer through the 1940s.

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[102] Ibid., August-December 1946, January-September 1947.

[103] [Vivian], Ruins Stabilization Report, April 2, 1948 (Stabilization files, Aztec Ruins National Monument Headquarters, Aztec, New Mexico).

[104] Townsend to Regional Director, National Park Service, December 1, 1946; [Vivian], Ruins Stabilization Report, April 2, 1948 (Stabilization files, Aztec Ruins National Monument Headquarters, Aztec, New Mexico).

[105] Erik K. Reed to Regional Director, National Park Service, July 10, 1946 (Aztec Ruins National Monument files, Library, Southwest Regional Office, Santa Fe).

[106] Reed to Regional Director, National Park Service, June 4, 1947 (Aztec Ruins National Monument files, Library, Southwest Regional Office, Santa Fe).

In 1945, a potentially more dangerous situation at the Great Kiva was reported by Lancaster, who happened to be in the structure with a group of visitors during a high wind storm. He noticed that the velocity of the wind generated so much pressure that the entire hatbox-shaped superstructure was lifted up slightly from the supporting members. When the pressure was released, the roof cap settled back into place with a resounding jar that cracked plaster. Later monitoring indicated that vibration of the building was not uncommon during strong winds. The Anasazi designed their massive roof-supporting columns so they would not be rigid, one must assume with knowledge that some accommodating flexibility was essential to counter movement of the building. However, the inflexible roof itself surely posed problems for them, as it did for modern preservationists. Perhaps their solution was the same as for the National Park Service architect: add more external weight to the roof. For the Anasazi, it was extra basketfuls of earth dumped over it; for stabilizers, it was soil weighted and impregnated with chemical bitumuls.[107] That modern procedure unfortunately did not work.

An architect from the regional office found that the sub-roof was earth, over which the two-by-four-inch framing had spans of too great a length. Nor was it fastened down at enough points. Also, the sheathing had shrunk. As a consequence, the roof structure was shaky. He recommended removal of the sheathing, addition of more two-by-fours of shorter span, and the entire roof be relaid.[108]

With the physical condition of the ruin continuing to decline in 1947, Reed again appraised the stabilization needs of Aztec Ruins to be minimal. A bit of loose veneer, a few wall bases in the southwest corner, the leaks in the Great Kiva roof, and water standing on the floor of Kiva E nevertheless were noted in his report.[109] No repair followed, other than removal of the roof of Kiva E.

1949-1956

For the first quarter century of National Park Service stewardship of Aztec Ruins, the care and preservation of the West Ruin consumed so much time and money that the sister East Ruin was unattended, except for backfilling some rooms in 1946. The probability that underground water from a pond and adjacent cultivated fields might be rotting both structure and any perishable artifacts it contained prompted Vivian to put stabilization funds and energies to work at the East Ruin as soon as the Mobile Unit was reestablished following the war.

During a spring month in 1949, Vivian observed that conditions of ceilings in 14 East Ruin rooms he entered varied from good, to those where beams were cracked but had not caused displacement of the ceiling, to bad where removal of beam sections let down large parts of the ceiling. In several other rooms examined, he found that ceilings were so porous that rooms below were almost filled with debris sifting downward. In such instances, he made no attempt at preservation. In Rooms 1 through 14, the Mobile Unit supported weakened beams with vertical timbers and screw jacks set on concrete blocks, plugged holes in walls, and improved ventilation in connecting Rooms 6 through

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[107] Townsend to Regional Director, National Park Service, October 3, 1945 (National Park Service: Aztec Ruins National Monument files at the National Archives, Washington).

[108] Raymond T. Lovelady to Regional Landscape Architect, National Park Service, May 3, 1946; Townsend to Regional Director, National Park Service, March 8, 1946 (Stabilization files, Aztec Ruins National Monument Headquarters, Aztec, New Mexico).

[109] Reed to Regional Director, National Park Service, June 4, 1947 (Stabilization files, Aztec Ruins National Monument Headquarters, Aztec, New Mexico).

14. The men erected two wood-and-tar paper roofs above four aboriginal ceilings. Vivian was relieved to observe dry conditions in the lower portions of the house block.[110]

Stabilization of the West Ruin by the Mobile Unit was resumed in 1950 after a three-year lull. Archeologist Aide Raymond Rixey undertook rehabilitation of large sections of the North and East wings. This began what might be considered the modern period of stabilization of the main ruin. The destructive problems were identified and continued relentlessly year after year. Only their intensities varied with fluctuating environmental circumstances. Methods to counter them settled into a cyclical pattern with no end and no beginning: removing, replacing, resetting, regrouting, recapping, and then repeating. As soon as one section of the structure seemed restored to a satisfactory state, another section fell apart. As new products promising holding power appeared, they were used, and after a trial period, generally were rejected in favor of a new generation of other products. Stabilizers slowly lost ground.

Well-intentioned efforts to keep the Anasazi house block together also shortsightedly steadily altered its aboriginal appearance. Some wall openings, such as vents for air circulation, shelf-pole or ceiling beam sockets, or storage niches were sealed to create smooth veneers having reduced amounts of chinking. Over the years, such changes were so poorly documented that future researchers had increasing difficulty in determining what had been Chacoan or Mesa Verdian work and what was that of the modern masons.

The season of 1950 marked the first attempt to correct the deterioration of wall bases by removing soft and decomposed stones. The men filled undercut areas with concrete containing Hydropel, a waterproofing compound. They patched and capped precarious walls with mud mortar strengthened with bitumens. They cleaned and rerouted existing tile room drains.[111]

The following year Archeologist Roland Richert directed the reopening and stabilization of the single-tiered rooms of the cobblestone or mud-and-stick South Wing. This portion of the site remained backfilled after its excavation by Morris, who considered the walls too weak to be left free-standing. By the 1950s, the monument staff believed that opening up the South Wing would improve the appearance of the ruin and allow visitors to understand the entire ground plan. Workmen reset loose cobbles in mud mortar fortified with yet another product. This was soil-cement, a calcined mixture of clay, limestone, and earth. Masons refaced mud-and-stick walls with fresh plaster made from a combination of the same ingredients.

Other work during the season of 1951 was in the East Wing, where crews repointed or recapped walls of 45 rooms and two kivas. They reworked 27 North Wing chambers with a mud-bitumen mortar. Some men were assigned the job of removing troughed, or gutter-type, concrete cappings fashioned by Morris's farm hands and replacing them with crowned, waterproofed caps. Still other laborers poured water-resistant concrete foundations under badly eroded wall bases. They replaced missing wooden lintels. They mended cracks in protective concrete slabs poured over tops of three rooms with original ceilings.[112]

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[110] Vivian, Limited Stabilization of the East Ruin, Aztec Ruins National Monument, 1949 (Library, Western Archeological and Conservation Center, Tucson).

[111] Raymond Rixey, Stabilization Records, the West Ruin, Aztec Ruins National Monument, 1950 (Stabilization files, Aztec Ruins National Monument Headquarters, Aztec, New Mexico).

[112] Richert, The West Ruin, Aztec Ruins National Monument, 1951 (Stabilization files, Aztec Ruins National Monument Headquarters, Aztec, New Mexico).

Because of the large-scale endeavors of the years 1950 and 1951, Vivian believed Aztec Ruins was brought to a state where only the Great Kiva roof needed attention in 1953. Nevertheless, those in the stabilization program worried about ceilings suffering from moisture and excessive weight. In the largely unexcavated East Ruin, Richert found main supporting beams in two rooms broken. He repositioned them and braced them with tubular steel jacks resting on poured concrete foundations. Although he also recommended that tons of fallen upper-story debris be taken off rooms with ancient ceilings and that lightweight wood-and-tar paper roofs be substituted, this was not done. Nor were deteriorating East Ruin walls repaired.[113]

During the season of 1953 in the West Ruin, Richert took charge of giving renewed protection to 16 rooms with weakened ceilings or roofs. Morris and Hamilton constructed concrete slab roofs over these rooms between 1916 and 1934. Later, a variety of materials, such as tar, sand, bitumens, and large amounts of earth, periodically were applied to the slabs to stop leaks. The net result in most cases was to add extra weight to an already heavy structure, causing the original large roof elements to bend and break under the strain. To expose the concrete roof slabs, Richert removed the overburden of dirt and other materials, which sometimes weighed as much as 20 tons. Before reroofing, the crew strengthened walls of the rooms below and capped them where necessary with bitumen-enriched mortar. New roofing consisted of three layers of asphalt felt mopped with tar. Workers sealed junctures between walls and roofs with asphalt-impregnated fabric coated with tar. They rolled fine-grained gravel over the final tar application. Wherever possible, they set large, galvanized metal trough drains in walls flush with new roofing. Roofs were sloped properly to drain into them. The workers resurfaced and repointed a partial roof of tar paper and wood over Room 117 so that it would not be conspicuous from the courtyard trail. Richert speculated that the new roofs would last for 10 to 15 years.

A secondary aim of the 1953 effort was to treat and cap as many walls of rooms in the central room block of the North Wing as possible with available funds. However, since the earlier soil-cement stabilization of the South Wing was not as enduring as anticipated, it was necessary to redo some of those rooms. Being constructed of irregular cobbles, the walls of the South Wing were particularly insecure.[114]

One task completed in 1954 was the reroofing of the Great Kiva for the second time in its 20-year history.

A second job for 1954 was the stabilization of the Hubbard Mound after its excavation. Since the site was just a few feet from an irrigated orchard, with a central kiva and room foundations below the farm land, there was the likelihood of insurmountable preservation problems. Several generations of aboriginal builders created a communal house of poor grade sandstone set up in copious amounts of even softer mud mortar. A thick finish coat of mud plaster covered all surfaces. Stabilizers were faced with especially difficult preservation. They reset and capped facings and the top one or two courses of sandstone block masonry using tinted cement mortar. They replaced many decayed stones along wall tops and bases and rebuilt expanses of eroded mud wall cores to which some original plaster still adhered. Prior to its inclusion in the monument, owners of the site broke into and cleared out several of the Anasazi rooms, reroofed them with planks, set doors in openings made in the walls,

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[113] Richert, Limited Stabilization, East Ruin, Aztec Ruins National Monument, 1953 (Stabilization files, Aztec Ruins National Monument Headquarters, Aztec, New Mexico).

[114] Richert, Stabilization file, West Ruin, Aztec Ruins National Monument, 1953 (Stabilization files, Aztec Ruins National Monument Headquarters, Aztec, New Mexico).

and used them for root cellars. The stabilizers removed the modern roofs and doors and filled the holes in the walls.[115]

1956-1969

National Park Service experts judged 20 years of concerted stabilization at Aztec Ruins National Monument to have been sufficient at last to place the structures in such a state of repair that future work could be devoted to routine care. This was what was called "maintenance status." Also, by that time the Mobile Unit was renamed the Ruins Stabilization Unit, with headquarters in the recently formed Southwest Archeological Center in Globe, Arizona. Gordon Vivian remained its director.

During the summer of 1956, a Ruins Stabilization Unit crew, supervised by Vivian and directed in the field by Richert, corrected problems on walls of nine rooms and Kiva E and sealed leaks in concrete slab roofs over four rooms and the shed roof above Room 117. Stone masons used tinted cement mortar, sometimes concealed on wall faces by mud grouting. Other accomplishments in the West Ruin in 1956 included modifying the surface drainage north of the ruin so that water flowing on to the monument from adjoining private lands was diverted by earthen dikes to the southeast and out of the area. The drainage line laid in 1946 along the north boundary was cleared and repaired. A dry well was sunk at the northwest monument corner, and various drain systems within the ruin proper were reconstructed. It was at this time that a burial found in a nearby field was placed as an exhibit in Room 141.[116]

Richert also spent several weeks during the summer of 1956 making repairs to the East Ruin, where previous preservation dealt with rooms with original ceilings. This time the crew worked in seven excavated or partly excavated roofless rooms, most of which were dug by Morris in the 1920s. Convinced that Earl Morris's interpretation of the East Ruin as a Mesa Verdian construction was correct, Richert is thought to have modeled his repairs after the style of masonry used in that area. The men replaced or reset loose cobbles and capped tops of some walls. In both instances, they used colored cement mortar. Because of their poor condition, it was necessary later to backfill Rooms 15, 16, and 17.[117]

At the end of the field work in 1956, it was time to take stock once again of what had been accomplished and what remained to be done in the foreseeable future. The principal problem in the East Ruin was the large amount of heavy debris over aboriginal roofs causing beams to split. In the West Ruin, the continual stoppage of the deep north drainage line, promoting periodic flooding of the northern tier of rooms, was listed as a high priority problem. With self-guided viewing a possibility,

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[115] R. Gordon Vivian and Tom Mathews, Stabilization file, The Hubbard Mound, Aztec Ruins National Monument, 1954; Vivian, Ruins Stabilization Inventory, 1956 (Stabilization files, Aztec Ruins National Monument Headquarters, Aztec, New Mexico).

[116] Richert, Maintenance Stabilization Report, West Ruin, Aztec Ruins National Monument, 1956; Superintendent, Aztec Ruins National Monument, to Regional Director, National Park Service, January 28, 1965 (Stabilization files, Aztec Ruins National Monument Headquarters, Aztec, New Mexico).

[117] Richert, Stabilization Report, East Ruin, Aztec Ruins National Monument, 1956 (Stabilization files, Aztec Ruins National Monument Headquarters, Aztec, New Mexico).

stabilizers were concerned that tops of walls did not become walkways. Comprehensive stabilization of the Hubbard Mound was considered complete.[118]

Attention to the East Ruin was renewed during the summer of 1957, when Richert placed shielding roofs over seven more rooms having intact prehistoric ceilings. That put 11 such superstructures in the East Ruin, with four ceilings still lacking protective cover. Workers scraped away mounded wall rubble and dirt, nine feet in places, before roofs of reinforced concrete covered with pitch and obscured by dirt were secured in place. As usual, workers capped and repointed standing walls of rooms cleared for repair with tinted cement mortar. They carefully removed the fill that accumulated within the open chambers, varying in depth from 15 inches to five feet eight inches, so that room walls could be worked. They replaced beam supports in some cleared rooms by steel cradle braces suspended from the new concrete roofs.[119]

Maintenance stabilization was resumed in the West Ruin on a large scale during the fall of 1959 and the summer of 1960 by Joel L. Shiner, supervised by Richert. Shiner's crew consisted of eight Navajo Indians. During the first phase of this major effort, the Indians worked over 14 rooms, four kivas, and parts of the northern sector of the courtyard. In 1960, they attended to another 51 rooms, nine kivas, and other parts of the courtyard. During these campaigns, masons used tinted cement mortar, frequently pointed over with local mud, to recap certain walls and reset sandstone blocks in kiva and wall veneers and basal courses. Laborers replaced some wooden lintels over doorways and ventilator openings. Using waterproofed concrete, the men poured foundations under a few walls and took down and rebuilt sections of walls whose veneers separated from cores and expanded outward. They dug dry wells to improve interior room drainage. They made repairs to wood-and-tar paper roofs over concrete slab coverings of seven rooms.[120]

Because the modern shed roof covering Room 117, which contained some designs scratched in the plaster, was damaged by seepage from higher construction in the North Wing, laborers dug along the exterior of the north room wall. They plastered the wall surface with a cement and Hydropel mixture. When dry, they then coated that surface with tar before they graded the ground around to drain away from the room.[121]

In the on-going search for a mortar that would approximate Anasazi mud in appearance but be more long lasting, by 1960 Vivian decided that bitumens and soil-cement were unsatisfactory. Consequently, Shiner and a Navajo crew set about reworking walls in the Hubbard Mound. They stripped the failing soil-cement off stone block and cobblestone walls and recapped them with unadulterated tinted cement. They reset missing and decaying stones with the same building material. After nailing poultry wire to wall surfaces, they spread tinted cement plaster over them. They elected

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[118] Vivian, Ruins Stabilization Inventory, 1956 (Stabilization files, Aztec Ruins National Monument Headquarters, Aztec, New Mexico).

[119] Richert, Stabilization Report, East Ruin, Aztec Ruins National Monument, 1957 (Stabilization files, Aztec Ruins National Monument Headquarters, Aztec, New Mexico).

[120] Joel L. Shiner, Stabilization at Aztec Ruins National Monument, 1959-1960 (Stabilization files, Aztec Ruins National Monument Headquarters, Aztec, New Mexico).

[121] Ibid.

to leave stones protruding through the plaster to emphasize the fact that the walls were built primarily of stone. The finished product was ugly and failed to resemble the work of the Anasazi.[122]

For three months during the summer and fall of 1961, Shiner returned with a Ruins Stabilization Unit crew varying from five to 14 Navajos. One more time, they recapped and repointed walls of the North and West wings of the West Ruin. In all, they treated 38 rooms and one kiva.[123]

Cracks developing in the walls of the Great Kiva prompted a professional examination of its foundation in relation to the conditions of water table, precipitation, and irrigation. Hydrological experts drilled five test holes near the structure. The holes went down to 5,617 feet above mean sea level, or what was presumed to have been the surface at the time of construction. Next, the team bored 24 hand auger test holes in and around the exterior of the Great Kiva. The consultants concluded that natural precipitation and poor roof drainage were more to blame for moisture and cracking within this particular building than was irrigation seepage. Unless function of the kiva changed, the experts considered the building to be safe, although standing water was observed at nine feet below the surface.[124]

Upon an inspection in 1962 of the deep north drain line, Richert discovered that, apparently without knowledge of its existence, workers at some time graded the land on the north side of the West Ruin and buried at least three manholes. They could not be located or opened for examination. The line was perennially plugged, and the outfall was silted up and overgrown with dense brush. Overflow of the Hubbard pond was creating an adjacent bog and threatening the East Ruin.[125] Remedial action by the Ruins Stabilization Unit group was carried out the following year.

A 10-man Navajo Ruins Stabilization Unit crew, led in the field during the summer of 1965 by Charles B. Voll and Martin T. Mayer, continued replacing bitumen mortar with colored cement. Part of the group reworked 22 rooms and three kivas of the West Ruin. Another group repaired roofs and treated all exposed prehistoric wood in 16 ceilinged chambers with a wood preservative. In the West Ruin, masons regrouted the walls of 19 rooms with colored cement. They treated six rooms and one kiva of the Hubbard Mound in a similar manner.

A stabilization inventory prepared in 1965 stated that further repair work at Aztec Ruins could be done at five-year intervals. This should be accompanied by frequent preventive measures, such as cleaning out the metal trough drains over protective roofs, the sump located outside North Wing Room 193 that collected drainage from the four north-south chambers through which the visitors' path led into the courtyard, and the tile room drains. Weeds and brush that could interrupt the drainage should

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[122] Shiner, The 1960 Stabilization of the Hubbard Mound, Aztec Ruins National Monument (Stabilization files, Aztec Ruins National Monument Headquarters, Aztec, New Mexico).

[123] Shiner, Stabilization of the West Ruin, Aztec Ruins National Monument, 1961 (Stabilization files, Aztec Ruins National Monument Headquarters, Aztec, New Mexico).

[124] San Juan Testing Laboratory, Kiva Foundation Investigation, Aztec Ruins National Monument, November 18, 1966; Williams to Regional Director, National Park Service, January 28, 1965 (Stabilization files, Aztec Ruins National Monument Headquarters, Aztec, New Mexico).

[125] Richert to Superintendent, Aztec Ruins National Monument, October 16, 1962 (Stabilization files, Aztec Ruins National Monument Headquarters, Aztec, New Mexico).

be kept at a minimum. The north side drain should be flushed out with water under pressure at least once a year.[126]

Following an unusually heavy series of rains during the spring of 1967, which caused parts of both ruins to give way abruptly, the Ruins Stabilization Unit again was called to the rescue. Mayer and five Navajos spent a week in September undoing the wreckage. They administered stabilization first aid to cobblestone walls of two rooms in the East Ruin and similar walls of almost all rooms of the South Wing of the West Ruin.[127]

Sanders Construction Company, of Farmington, was awarded a contract in February 1968 totalling $11,371.50 to redo two roof drains at the Great Kiva and install new pipe, concrete drop inlets, and associated earthworks in the courtyard.[128]

1970-1980

It was apparent by 1970 that, despite frequent stabilization work at Aztec by dozens of the most experienced men in the business and the investment of large sums of money, the condition of the ruins was becoming worse. What initially were mere vestiges of a long-departed civilization were being further devastated. The Resources Management Plan of 1973 proposed a five-year major overhaul followed by annual preventive stabilization.[129] Additional intensive stabilization and refurbishment of earlier repair attempts were in order. These measures were to include chemical waterproofing of floors, fill, and wall bases, and chemical preservation of the masonry stone. The usual wall capping, resetting of loose stones, work on the drainage, and bracing of weakened roof beams should continue. An emergency appropriation for badly needed multiyear endeavors was solicited from the Regional Office.

Funds were made available for a three-to-four-year special preservation project. The severity of the problems so intensified as work progressed that it took six seasons and additional money to bring the Aztec Ruins to an acceptable state. Beginning in June 1973 and continuing for three or more months each summer through 1978, trained crews of five to a dozen workers, most of whom were Navajos, applied their expertise to Aztec Ruins. The first three seasons, George Chambers of the Ruins Stabilization Unit then headquartered at the Arizona Archeological Center in Tucson planned the work. Each season different trainees in ruins preservation techniques oversaw the field program. These were Peter Laudeman in 1973, Marianne Trussell in 1974, and Stephen Adams in 1975.

The team in 1973 rehabilitated 47 rooms and three kivas, principally in the West Ruin, using tinted cement and soil-cement mortars. Apparently soil-cement had returned to good standing. The workers repaired basal erosion of walls, recapped degenerate wall tops, and regrouted and replaced

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[126] Charles B. Voll and Martin T. Mayer, 1965 Maintenance Stabilization, West Ruin, East Ruin, and Hubbard Mound, Aztec Ruins National Monument, New Mexico; Ruins Stabilization Inventory, August 1965 (Stabilization files, Aztec Ruins National Monument Headquarters, Aztec, New Mexico).

[127] Martin T. Mayer, Stabilization Reports, East and West Ruins, Aztec Ruins National Monument, 1967 (Stabilization files, Aztec Ruins National Monument Headquarters, Aztec, New Mexico).

[128] Contract No. 14-10-7: 971-114 to Sanders Construction Company, Farmington, New Mexico (Document file, Mesa Verde National Park, Mesa Verde, Colorado).

[129] Resources Management Plan, Aztec Ruins National Monument, 1973.

loose or missing stones in wall veneers. They spent a lot of time reworking Kiva N of the West Ruin and Kiva 2 in the Hubbard Mound, where hard rains during the previous winter caused considerable havoc. They replaced tile drains, whose outlets were flush with the exterior of the north wall of the West Ruin, by metal drains extending far enough beyond the wall to carry water away from its vertical face and beyond its foundation.[130]

The 1974 season of the program saw stabilization finished on 46 rooms and one kiva of the West Ruin. Again, workers carried out deep and shallow grouting, respalling, and recapping efforts with tinted cement and soil-cement mortar. They obtained stone to replace absent or decayed examples from a prehistoric quarry four miles from the monument. The same quarry was discovered to have been the source for the green stone the Anasazi used for some decorative banding.[131]

The use of tinted cement mortar, for which great promise was held when it was first introduced about 1956, began to be discontinued about this time. It developed several undesirable characteristics after being in place and exposed to the elements for several years. Its color often changed from the earth tones of recently laid mortar to an unpleasant purplish hue after it weathered. Furthermore, cement was harder than most sandstone and, when used for grouting or pointing walls, tended to outlast the construction material. A spider-web effect resulted as the harder cement in the interstices contrasted with the softer, disintegrating, coursed, sandstone blocks. The attempt at preservation was more obvious than the original substance.

The Great Kiva was reroofed in 1974 by a private constructor. The previous roof was on for 20 years and cost half as much.[132]

In 1975, Adams oversaw the rehabilitation project. It concentrated on the plaza sides of the North and East wings, by reveneering, regrouting, respalling, and recapping. Thirty-six rooms and four kivas brought the general six-year project to 83 percent completion.[133]

Although the Ruins Stabilization Unit at Tucson became an entity of the National Park Service Western Region following a 1971 realignment, for five years it continued to service Aztec Ruins, Chaco Canyon, and other areas in the Southwest Region. However, in 1976, the Southwest Region created its own stabilization team at the Navajo Lands Group in Farmington, New Mexico, an office then administering Aztec Ruins National Monument and five other National Park Service installations on or close to the Navajo Reservation. Concurrently, a research and supervisory group of preservationists, to become part of the Southwest Cultural Resources Center, was assembled in the Southwest Regional Office in Santa Fe.

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[130] Peter Laudeman, Aztec Ruins National Monument, West Ruin, Hubbard Tri-Wall Structure, 1973, Stabilization Report (Stabilization files, Aztec Ruins National Monument Headquarters, Aztec, New Mexico).

[131] Marianne Trussel, Aztec Ruins National Monument, Aztec, New Mexico, May 1974-October 1974, Stabilization Report, 2 parts (Stabilization files, Aztec Ruins National Monument Headquarters, Aztec, New Mexico).

[132] Gilmer Construction Company, Contract, 1974 (Stabilization files, Aztec Ruins National Monument Headquarters, Aztec, New Mexico).

[133] Stephen E. Adams, West Ruin, Aztec Ruins National Monument, Stabilization Report, 1975, 2 parts; Protective Roofs, West Ruin, Aztec Ruins National Monument, March 20, 1978 (Stabilization files, Aztec Ruins National Monument Headquarters, Aztec, New Mexico).

During this interval, the primary repair work done at Aztec was by a commercial roofing company in Farmington. It was hired to repair seven of the roofs over the original museum rooms in the North Wing. Cement ceiling slabs laid in the 1920s were covered in 1953 by secondary roofs, which, in turn, were refurbished in 1965. The roofers stripped accumulated layers of tar, asphalt felt, and gravel down to the wooden decking and rebuilt the roofs.[134]

Stephen Adams, named ruins preservation specialist for the Navajo Lands Group, and a small crew of Navajo men from Chaco Canyon worked at rehabilitation tasks at Aztec from May to November 1977 of what comprised the fifth season of the master stabilization program. They undertook the usual relaying, recapping, and repointing repairs to 34 rooms, five clan kivas, and two axis surface rooms of the Great Kiva. Wherever possible, they knocked out loose tinted cement mortar that turned purple and replaced it with soil mortar strengthened with yet another in the roster of modern additives with which stabilizers experimented. This was Wilhold, brand name for a latex-based concrete adhesive. Workers also took down the wooden roof and sides of a late nineteenth-century root cellar at Mound F.[135]

Larry Nordby, of the Regional Office, tried to improve the drainage about Kivas N, O, V, and W, located at a featured viewpoint on the visitor trail (see Figure 12.4). Ground water soaking into walls of subterranean chambers caused stones to break down, leaving deposits of soluble salts on their surfaces. Nordby's crew implanted perforated drain pipes, bedded in gravel-filled trenches, to collect and transport water away from the ruin. These laborers relaid stones in the damaged sections of the walls and repainted them with fortified soil mortar.[136] Their work revealed that Kiva N was three nested units of different age and styles.[137]

The number of units at Aztec Ruins receiving some attention in the final year (1978) of the special long-term stabilization program reached an impressive total of 76 rooms and five kivas. Work was directed by Adams, succeeded by William Schart, ranger at the monument, and continued the process of replacing tinted cement mortar with a soil and Wilhold mixture to combat basal and veneer erosion.[138]

Important measures were initiated to replace various kinds of roofs used over a half century to protect aboriginal ceilings with modern lightweight structures of composition materials that would be self-supporting, durable, well ventilated, and easily maintained. As of 1978, protective roofs of assorted types were over West Ruin North Wing Rooms 59, 61, 112, 113, 121, 140, 143, 191, 195, 196, 197, 198, 201, and a partial one over Room 117. West Wing Rooms 132, 134, 146, 156, 178, and 179 had similar protection. In the East Ruin protective roofs were installed over Rooms 1, 2, 4,

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[134] Ibid.

[135] Adams, Completion Report, Construction Package #110, Stabilize West Ruin 1977 (Stabilization files, Aztec Ruins National Monument Headquarters, Aztec, New Mexico).

[136] Larry V. Nordby, Drainage Installation on a Portion of the South Wing of the Aztec Ruin, 1977, Southwest Regional Office, Santa Fe (Stabilization files, Aztec Ruins National Monument Headquarters, Aztec, New Mexico).

[137] Nordby, Archeological Materials Recovered from Preservation Drainage Excavation at Aztec Ruins, 1977 (Aztec Ruins National Monument files, Library, Southwest Regional Office, Santa Fe).

[138] William L. Schart, Aztec Ruins National Monument, New Mexico, West Ruin, Ruins Preservation, Field Season 1978 (Stabilization files, Aztec Ruins National Monument Headquarters, Aztec, New Mexico).

8, 9, 11, 12, 13, 14, and 24 (partial). This left Rooms 3, 5, 6, and 7 of the East Ruin with aboriginal ceilings but no modern covering.

Adams directed the job of putting new experimental roofs on four rooms. The new superstructures consisted of urethane board, polyethylene film, and epoxy grout covered by dirt, laid upon a wooden lattice decking anchored in walls rising above the Anasazi roof. Adams left a six-inch ventilated airspace between the ancient roof and the new protective covering and secured an eyebolt in the roof for lifting it out for repairs.[139]

Another phase of the project of 1978 tackled the eternal problem of water penetration. Basal sections and floors of seven rooms in the North Wing through which the visitor trail passed were being attacked. Because the surface level outside the north walls of these rooms now is almost four feet higher than the interior floor level of the rooms, subsurface moisture and water draining off the modern roofs moved laterally through the wall bases and over the floors. Salts were deposited on the interiors of the lower walls, floors were frequently wet, and moisture trapped in the walls was subject to freezing and thawing in winter. To correct this unfavorable situation, stabilizers laid a perforated tile drainage line at the bottom of a gravel-filled trench parallel to the north exterior wall outside the seven rooms (see Figure 12.4). In digging for this pipe, they hit stubs of Chaco-style core-and-veneer walls below the ground surface, one more clue to an earlier occupation of the locale. Water was collected by the drain and routed to an irrigation ditch west of the ruin. An earlier attempt to waterproof the walls by plastering their exteriors with bitumens was not successful.[140]

Walls of the Hubbard Mound, which had been plastered with tinted cement, continued to deteriorate. Beside being unrealistic and unattractive, the cement attracted moisture and held it until it soaked into the underlying soft sandstone walls. Many stones beneath the plaster became waterlogged and fell apart on touch. Workers took the damaged plaster and its reinforcing poultry wire off most of the walls. Then, they repaired wall defects with strengthened soil mortar. They backfilled a large part of the structure to protect its fragile walls. Backfilling was predicted by Vivian 25 years earlier. After being repaired once again, some rooms and the central kiva were left open for interpretation purposes.[141]

In 1978, workmen reopened the deep drainage line along the north boundary of the monument. Installed in 1946, it functioned only sporadically, frequently becoming choked by roots of vegetation that grew along the line or filled by silt that did not flush through the line.[142]

Schart's progress report at the end of the 1978 program states, "The six-year project is now complete and definite progress has been made. However, funding and staffing at Aztec Ruins National

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[139] Adams, Protective Roofs, West Ruin, 1978 (Stabilization files, Aztec Ruins National Monument Headquarters, Aztec, New Mexico).

[140] Nordby, Drainage Installation along the North Wall of Aztec Ruins, 1978, Southwest Cultural Resources Center, National Park Service, Santa Fe (Stabilization files, Aztec Ruins National Monument Headquarters, Aztec, New Mexico).

[141] Schart, Aztec Ruins National Monument, Hubbard Site, Field Season, 1978 (Stabilization files, Aztec Ruins National Monument Headquarters, Aztec, New Mexico).

[142] Adams, Completion Report. Aztec Ruins National Monument, Improve Drainage to Protect West Ruin, 1982 (Stabilization files, Aztec Ruins National Monument Headquarters, Aztec, New Mexico).

Monument remain insufficient to carry out a maintenance program in a ruin of this size."[143] This statement may have opened the way for future additions to the permanent monument staff.

In 1979, workmen carefully removed old wood-and-tar paper roofs from seven rooms in the West Ruin and replaced them with the high-technology protective roofs Adams began installing the year before. They rebraced ceilings of four rooms not open to visitors with two-by-four-inch and four-by-four-inch timbers. They performed emergency work on parts of walls of 15 rooms that had given way during the previous winter.[144]

Over the years, so much stabilization activity took place at Aztec Ruins that periodically it became necessary to pause long enough to get it recorded and to pass along suggestions for keeping the containment situation under control. A Ruins Stabilization Guide, written by Adams in 1979, was one result. This report proposed two types of programs to be followed by local crews. One was annual maintenance. This was to include inspection of each ruin at least once a year; to maintain drains and drainage systems by removal of weeds, trash, and sand; and to make minor structural repairs as needed. The second program was a more thorough cyclic ruins maintenance, including the activities listed above plus larger structural repairs to be carried out under the guidance of a ruins stabilization specialist.[145]

The unending water problem plaguing Aztec Ruins would not go away. In April 1982, Adams was called back to the monument to attempt yet another solution. A recent study by a National Park Service hydrologist claimed that the aquifer was below the clay level in which the 1946 dragline worked. Nevertheless, Adams decided to put a French drainage system along the north side of the West Ruin to intercept the subsurface water at what he felt was the higher aquifer level (see Figure 12.4).[146] An associated earthen berm by the north monument boundary diverted surface water to a pond on private land north of the East Ruin. The French-type drain consisted of a perforated 12-inch PVC pipe laid in the bottom of a gravel-filled trench dug just five feet deep. The earlier drain was more than 20 feet deep at its maximum. Clean-outs were spaced at frequent intervals along the 900-foot drain across the rear of the West Ruin and eastward, to connect with the lower half of the old system north of the East Ruin. There, the French interceptor line was cut into the deep drain by drilling a hole into the side of a concrete manhole and connecting the PVC pipe to the manhole. This work took four months. The line has operated for the past seven years.[147]

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[143] Schart, Ruins Preservation, 1978 (Stabilization files, Aztec Ruins National Monument Headquarters, Aztec, New Mexico).

[144] Adams, Completion Report, Cyclic Maintenance, Complete Stabilization of the Hubbard Mound, Replace Protective Roofs on the West Ruin, October 15, 1979 (Stabilization files, Aztec Ruins National Monument Headquarters, Aztec, New Mexico).

[145] Adams, Ruins Preservation Guide, Aztec Ruins National Monument, 1979 (Stabilization files, Aztec Ruins National Monument Headquarters, Aztec, New Mexico).

[146] Paul K. Christensen, Aztec Ruins Water Investigation, Water Resources Report No. 80-2K, Southwest Region, National Park Service, November 1979.

[147] Adams, Completion Report, Improve Drainage to Protect West Ruin, October 13, 1982 (Stabilization files, Aztec Ruins National Monument Headquarters, Aztec, New Mexico).

Also in 1982, crews backfilled five West Ruin rooms not seen by visitors to ease lateral structural stress caused by differential fill in adjacent rooms. They built up the southeast side of Hubbard pond to prevent overflow.[148]

1981-1988

Meantime, in 1981, a permanent historic preservation position was added to the Aztec maintenance roster. A trained masonry worker, James D. Brown, was named to supervise the continual upkeep of the monument's Anasazi communities. Stabilization experts, exhibit specialists, and archeologists in the Southwest Cultural Resources Center, continued to monitor and evaluate the work performed at Aztec, to introduce new methods when applicable, and to take care of jobs beyond the capability of the local maintenance force. By 1983, Brown's crews were conducting routine annual maintenance of Aztec's vulnerable archeological remains. Each summer, based on a Scope of Work Plan usually formulated by the Southwest Cultural Resources Center, three to five experienced laborers work for six or seven months on cyclical and emergency stabilization designed to keep the ruins at status quo (see Figures 12.6-12.9). At times, the National Park Service crews are supplemented by young men and women enrolled in summer training programs, such as the Youth Conservation Corps, a federally funded plan, or the Summer Youth Employment Training Program, sponsored by the State of New Mexico.

Brown's tenure at Aztec is marked by still another new additive in preparing soil mortar for grouting, pointing, capping, and plastering original construction or repairing previously stabilized units. This is called Rhoplex, an acrylic polymer solution. Although the formula of sand, soils, water, and Rhoplex has been modified several times in seeking a fortified soil mortar that will meet preservation standards and endure through time, this combination of substances seems to be proving satisfactory. However, past experience shows that it is too soon to know whether Rhoplex will be the mortar additive of the future.

Between April and September 1983, Brown's crews took care of two large projects. One was repair of the wall veneer of Kiva L, a Chaco kiva with high quality masonry. The other was the rebuilding of an extensive section of one wall of the long corridor Room 151. In addition, the men restabilized three additional rooms and four kivas by recapping tops of walls and replacing weathered sandstone veneer elements.[149]

During five months of the summer of 1984, the local Aztec ruins stabilization team returned to work remedying the worsening condition of 21 rooms. The men and their youthful helpers removed discolored cement wall cappings and supplemented them with coatings of soil mortar, and they replaced some eroded original building stones with sound stones. They also reconditioned the masonry of three kivas and the Great Kiva.[150]

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[148] Adams, Improve Drainage, 1982 (Stabilization files, Aztec Ruins National Monument Headquarters, Aztec, New Mexico).

[149] James D. Brown, Completion Report, Day Labor Project, Construction Package No. A17, Stabilize West Ruin, Aztec Ruins National Monument, December 8, 1986 (Stabilization files, Aztec Ruins National Monument Headquarters, Aztec, New Mexico).

[150] Ibid., January 8, 1987.



Figure 12.6. Routine maintenance stabilization at Aztec Ruins being done in connection with regional training exercises, May 1989.



Figure 12.7. Routine maintenance stabilization at Aztec Ruins being done in connection with regional training exercises, May 1989.



Figure 12.8. Routine maintenance stabilization at Aztec Ruins being done in connection with regional training exercises, May 1989.

A special preservation job done in the summer of 1984 by experts from the Southwest Cultural Resources Center was the replacement of the spoke-like beams that supported the Great Kiva roof over the outer surface rooms. The decaying condition of these beams was so advanced by the late 1970s that their ends projecting beyond the exterior wall were cut back three feet. This was done in hopes of forestalling further rot but was not successful. By 1984, the deterioration reached the wall sockets, threatening the stability of the entire roof. Therefore, a team headed by Exhibit Specialist John T. Morgart placed temporary supports beneath the room roofs and replaced 18 weakened beams with new members. The new beams extend four feet out from the exterior kiva wall, as did the original stringers put in place by Morris 50 years earlier. The next season a new ballasted membrane roof replaced an earlier elevated roof that shifted off some of its vertical supports because of vibration.[151] This was the fourth roof since the 1934 reconstruction.

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[151] Larry V. Nordby, Douglas C. Hicks, James Trott, and John T. Morgart, Drainage System Installations and Great Kiva Outer Ring Primary Beam Replacement, Aztec Ruins National Monument, Southwest Cultural Resource Center, National Park Service, 1984; Structural Engineer to Assistant Manager, Southeast/Southwest Team, Denver Service Center, February 28, 1984 (Stabilization files, Aztec Ruins National Monument Headquarters, Aztec, New Mexico).



Figure 12.9. Routine maintenance stabilization at Aztec Ruins being done in connection with regional training exercises, May 1989.

In a second Southwest Cultural Resources Center project in 1984, Archeologists Larry V. Nordby and James Trott led the study of surface grades, differential soil levels in adjacent rooms, and surface runoff and ground water percolation in various parts of the ruin. They corrected seepage along a stretch of the north wall exterior by connecting a new length of below-ground tile drain to the French drain put in by Adams in 1982. Elsewhere in the West Wing, they attempted to solve water problems by backfilling some rooms, excavating others, and installing drains between rooms. They channeled water into the northwest section of the courtyard, from where a subterranean drain carried it to the main courtyard drainage line west of the Great Kiva. The Nordby-Trott crew also backfilled several small kivas located away from the interpretive trail, including Kiva B roofed in 1916, in order to provide them with greater protection.[152]

In 1985, the Aztec stabilization team reconditioned and then backfilled a portion of the cobblestone wall of the southern arc of rooms in front of the Great Kiva. This feature was particularly difficult to keep intact. Workers also recapped, regrouted, and replaced stones in walls of approximately 33 rooms of the West Ruin. They repaired parts of the East Ruin, whose exposed walls were battered by heavy rains.[153]

A very wet summer and fall in 1986, when Aztec recorded 17 inches of precipitation, caused surfaces of several walls to expand or fall and eroded the tops and bases of other walls. Some of the

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[152] Nordby, Hicks, Trott, and Morgart, Drainage System Installations and Great Kiva Outer Ring Primary Beam Replacement, 1984 (Stabilization files, Aztec Ruins National Monument Headquarters, Aztec, New Mexico).

[153] Brown, Day Labor Project, Package No. A17, November 5, 1986; Construction Package No. 402, Stabilize East Ruin, November 5, 1986 (Stabilization files, Aztec Ruins National Monument Headquarters, Aztec, New Mexico).

crew restabilized 12 rooms and four kivas in work ranging from rebuilding downed and insecure walls to recapping or replacing decayed stones and dislodged or discolored cement. Workmen directed by Morgart replaced one of the eight primary beams in the Great Kiva roof.[154]

Unfavorable weather continued to whip the time-worn remains at Aztec with expected results. In the winter of 1986-87, it was unusually heavy snows, which developed veneer bulges and eroded joints in 30 rooms and four kivas. Men resigned to the fact of perpetual repairs rebuilt fallen and weakened walls. They removed decomposed stones and redid 2,632 square feet of masonry. They treated some original roofs with wood preservatives. At the East Ruin, they reworked most of the exposed walls and protective roofs.[155]

The inability of the Aztec Ruins stabilization workers to keep abreast of the mounting difficulties afflicting the monument's archeological resources had remained a matter of great concern. Recently, this led the Southwest Cultural Resources Center to engage the services of professional archeologists to assess the present condition of certain features of the ruin and to determine specific emergency requirements. Their report was a Scope of Work Plan, which it is hoped will serve as a guide for local workers to help them incorporate such stabilization into their regular round of annual duties.[156] The battle for survival of one of America's outstanding archeological treasures goes on, even with the realization that much of the modern work on the great house has compromised the building's integrity. To attempt to halt that trend and in time return the West Ruin as much as now is possible to its appearance prior to any stabilization, an intensive search through all relevant surviving written and photographic records is being made. The goal is to compile a wall-by-wall record of the original architecture and all the modifications made to it over the past three-quarters of a century. These data will guide future stabilization activities.

Because of an activity other than ruin repair, alteration of the aboriginal landscape undoubtedly has occurred. Preservation should have been expanded to include that aspect of the site but was not. Environmental change has come through the development of the monument to make its setting attractive in modern terms and supply it with facilities for visitors and staff. Recent reconnaissance of Anasazi villages on the bordering mesas believed to have been coeval with those in the valley bottom suggests the possibility of a number of adjunct manmade earthforms, such as embankments, platforms, berms, or roadways.[157] If these constructions actually are proved by archeology as having been existent in the outlying communities, they also very likely were in the immediate vicinity of the hub complex. If so, those that might have been present near the West Ruin long ago were eradicated through modern tilling of the soil, leveling around the ruin, landscaping, and construction. Such lost resources cannot be reclaimed, but their possible verification may come through more cautious future development of other parts of the monument. Native vegetation has restored some feeling of the aboriginal scene.

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[154] Morgart, et al., Great Kiva Primary Beam Project, 1986, Southwest Cultural Resources Center, National Park Service, Santa Fe (Stabilization files, Aztec Ruins National Monument Headquarters, Aztec, New Mexico).

[155] Brown, Construction Package No. A17, Stabilize West Ruin, January 8, 1987 (Stabilization files, Aztec Ruins National Monument Headquarters, Aztec, New Mexico).

[156] Todd R. Metzger, Emergency Stabilization Assessments of Eleven Structures of the West Ruin, Aztec Ruins National Monument, August 1987, Nickens and Associates, Montrose, Colorado (Stabilization files, Aztec Ruins National Monument Headquarters, Aztec, New Mexico).

[157] John R. Stein and Peter J. McKenna, *An Archeological Reconnaissance of a Late Bonito Phase Occupation Near Aztec Ruins National Monument, New Mexico* (Santa Fe: Division of Anthropology, Southwest Cultural Resources Center, National Park Service, 1988).

INSTRUCTIVE OR DESTRUCTIVE ARCHEOLOGY, OR BOTH?

The long recital of the stabilization efforts at Aztec Ruins would be incomplete without some consideration of the pluses and minuses inherent in the practice of field archeology. At the time when excavation first began in the West Ruin, the excavator and the institution sponsoring him were strongly motivated by the desire to acquire the material goods that lay concealed within its heart. More important to both parties, however, was gaining insight into what was then an almost unknown fragment of the nation's patrimony, to strip away the fantasy and replace it with facts. That the exposure of the great house and its contents was a worthwhile endeavor is beyond question. Every scrap of information about man's past enriches all, whether or not there is a biological or cultural connection to present observers. Moreover, if Morris had not reclaimed the treasure trove of perishable artifacts when he did, it is probable that within a decade those in lower deposits would have been reduced to a malodorous ooze of decaying vegetation. Surrounding intensified agricultural pursuits deeply plowed the land and soaked it with diverted river waters in a way far beyond any Anasazi capabilities. That retrieval of Anasazi material culture is the positive side of archeology.

On the other hand, had the rocky rind of the Aztec Ruin mound not been stripped away, the old village would have remained cocooned, perhaps for many centuries. It would have been hidden from a barrage of ruinous natural forces from above and from man's own good and bad intentions toward the site. By removing this mothering mantle, the ruin was put in jeopardy. That is the negative side of archeology. The threat of destruction from underground moisture, nevertheless, would have remained beyond the control of the excavators.

So, which horn of this dilemma should be rejected? Or can there be a satisfactory balance of interests? Although the amount and persistence of the detrimental factors menacing Aztec Ruins are unique, that is a question that continues to haunt regional prehistoric studies. In the case of the Aztec Ruins, the demands of archeology and the commitment to place the results on permanent exhibition were paramount. While concomitant preservation needs were recognized from the outset, their enormity, their perpetual recurrence, their possible distortion of the prehistoric record, and their huge expense were not then appreciated. It was only in later years that the National Park Service came to a full understanding and acceptance of the ramifications of the responsibility it had almost unknowingly acquired.

The costs of preservation have been staggering. The American Museum of Natural History excavation and repair expenditures were approximately $35,000. Subsequent limited government-conducted archeology, done when costs of labor and materials were higher, may have equaled that sum. But a glance at the incomplete tabulations of stabilization costs for Aztec Ruins National Monument show an estimated financial outlay approaching one million dollars (see Appendix A).

To some, the fact that the village has not yet collapsed into a jagged pile of dislodged stone blocks and rotted timbers and that only rare visitors realize that maybe a tiny fraction of what they see is original fabric marks the venture as successful, albeit never finished and not quite honest. To others, the expense does not justify what so far have been only temporary and often inaccurate results. They charge the National Park Service with negligence in not more conscientiously adhering to Anasazi style and form.[158]

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[158] Peter J. McKenna, Stabilization Observations at the Aztec Ruins: Prospective for the Superintendent, Southwest Cultural Resources Center, National Park Service, 1989.

CHAPTER 13

SPECIMEN COLLECTIONS: RECENT ASSESSMENTS AND THEIR SIGNIFICANCE FOR FUTURE RESEARCH

AMERICAN MUSEUM OF NATURAL HISTORY COLLECTION

At the conclusion of each excavation season from 1916 through 1919, artifacts recovered from the West Ruin were packed, taken by freight wagon to the nearest railhead, and shipped by train to New York. As the excavation drew to a close in the early 1920s, most items, other than human remains, were kept at the site, either because they duplicated those already at the museum or because their weight or shape made shipment impractical. A total of 5,220 specimens eventually were deposited in the American Museum of Natural History.[1] Because he was concerned about rough treatment from those who did not share his personal involvement, for the first three seasons Earl Morris went East to take charge of unpacking the boxes.

Some exhibits of Aztec Ruin finds were arranged. Early in the program, these were for staff only. During the 1920s, permanent exhibitions were installed in the museum's Southwest Hall. So far as is known, all that was included were two cases of pottery and a large model of the ruin (see Figure 13.1). How long these displays were mounted is unknown.[2]

In the 1950s, the Southwest Hall at the museum was closed. All the Aztec Ruin materials then were relegated to an archeological heaven filled with rows of identical metal storage cabinets holding the rich hauls of Anasazi material goods from Grand Gulch (1893-94, 1899), Chaco Canyon (1896-99), and Canyon del Muerto (1923-28). These were finds which were instrumental in igniting the fires of scientific and lay interest in the prehistory of the Colorado Plateau. Twenty-three similar cabinets were needed for the Aztec Ruin collection. One tray in these cabinets was filled with the results of Nels Nelson's test trench in the southeast refuse mound at the Aztec Ruin. A 24th cabinet contained a pottery collection from the lower La Plata valley of New Mexico, which it is assumed was that sold by Morris to the American Museum to finance his graduate studies at Columbia University during the academic year of 1916-17.

In Morris's opinion, the Aztec Ruin collection at the American Museum represented the best artifacts retrieved in terms of workmanship, physical condition, uniqueness, or characteristic features. He wrote Wissler, "I culled the cream in the way of especially fine and unusual objects, and sent them on to you."[3] Morris made the selection to give the donor who underwrote the project tangible returns

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[1] Earl H. Morris, Field Catalogue (Department of Anthropology Archives at the American Museum of Natural History, New York). According to the present assistant registrar, American Museum of Natural History records list only 3,306 specimens from Aztec. Belinda Kay, March 30, 1989: personal communication.

[2] David Hurst Thomas, March 21, 1989: personal communication; Belinda Kaye, March 30, 1989: personal communication.

[3] Morris to Clark Wissler, March 13, 1931 (Morris Memorial Collection, University of Colorado Museum, Boulder).

for his investment and to cement his own reputation with the museum as a producer. He emphasized intact objects or those sufficiently complete to be identifiable and therefore suitable for display. The scraps of household sweepings and everyday discards such as form the bulk of most archeological field collections were noticeably absent. When saved, those were among specimens left at Aztec.



Figure 13.1. Model of the West Ruin prepared for exhibition at the American Museum of Natural History.

There is some basis for being critical of this attitude because an on-site museum always was in the background of long-range plans. Perhaps Morris and Wissler regarded the Abrams allotment as sufficiently diversified to adequately stock such a facility. Morris's own appraisal of what was left at the ruin was expressed candidly in response to an inquiry from Wissler. "The bulk of the stuff [remaining at Aztec Ruin], aside, of course, from some good pottery, would be of great value for study, but most unprepossessing for exhibition."[4]

The collection in New York is eminently suitable for both display and study. Morris published one paper describing artifacts obtained during the first two seasons in what was one of the earliest descriptive reports of Anasazi material culture from the San Juan Basin.[5] The collection was greatly augmented thereafter and has never been analyzed. Although Morris intended to prepare a detailed monograph covering the total assortment, the pressures of other work, the loss of some notes, and family illness prevented him from doing so. Despite the passage of time, a straightforward account of

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[4] Ibid.

[5] Earl H. Morris, "The Aztec Ruin," *Anthropological Papers of the American Museum of Natural History* 26, no. 1 (1919), 3-108.

these items still would be of interest in order to fill gaps in the inventories of Anasazi worldly goods. But perhaps of more value would be expanded studies in the light of recent research, using the Aztec data as a base.

For example, Morris based his theory of sequential occupations of the West Ruin on a number of stratified deposits wherein, according to his interpretation, Chacoan refuse was beneath, and therefore older than, Mesa Verdian refuse. Other than pottery, he failed to identify or describe specific cultural items that might distinguish the two. His separation of the complexes of artifacts was not done on mere intuition but on field experience and familiarity with the results of other research. Much of that research remained unpublished and unavailable to those outside the inner circle of field workers.

It has been the sad history of San Juan archeology that publication has lagged many years behind field work. The Hyde Expedition work at Pueblo Bonito during the 1890s was published in 1920, and National Geographic Society excavation studies at the same site in the 1920s did not appear in print until 1954, just two years before Morris died. An artifact collection with some relevance to Aztec Ruin recovered in 1947 at Chetro Ketl in Chaco Canyon finally was described in a publication in 1978. At Mesa Verde, modern research began to catch up with past "relic" collecting during the 1950s and 1960s, when the National Park Service and the University of Colorado unearthed and published on findings of the local aboriginal material culture. The large, culturally related Salmon Ruins west of Bloomfield, New Mexico, was excavated but only partially reported on in the following decade. A comprehensive interpretive report is yet to come.

However, now a century after discovery and earliest exploration, it might be possible to detail contrasting diagnostic elements of each major contributor to the Aztec Ruin story -- Chaco and Mesa Verde. Through such sorting out of material possessions, insight into degree, kind, and length of occupancy of the house block might result. The cultural biases peculiar to each occupation might be defined. The results of the 10-year study in the 1970s of Chaco Canyon archeology reveal the complex of Aztec Ruins as the most important outlying aggregate settlement at a distance from the canyon proper but contributing in undetermined socio-economic ways to the well-being of the core communities. This revelation underscores the need to understand exactly what constituted Chacoan material culture at Aztec Ruins and whether it represented a colonial transfer of actual goods or an imitative process by persons already living away from the principal Chaco center.

Dominating the American Museum assortment are pottery vessels. The more than 186 burials found within the protective walls of the house block, rather than in trash mounds strewn in the open, account for an unusually large number of unbroken earthenwares that had been placed beside bodies as funerary offerings. Grave 25 in North Wing Room 111, for instance, contained more than 50 pieces of pottery. Over subsequent centuries, other grave vessels were crushed *in situ* by falling beams, masonry, and trash. Excavators were able to gather up their fragments for reassembly. After work shut down for the day, Morris spent hours by the light of a kerosene lamp fascinated by the jigsaw-puzzle process of putting pots back together. According to Talbot Hyde, his field assistant one year, this was done at the expense of keeping notes or cataloging specimens.[6] Other reconstruction was completed while Morris periodically was at the museum in New York between field seasons. A fair number of pots could be only partially reclaimed. The few sherds left in the storage trays likely were pieces that did not fit. The Morris field catalogue indicates 398 pieces of ceramics at the American Museum. This contrasts to 264 vessels recovered during American Museum excavations now divided

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[6] B. Talbot B. Hyde to Wissler, August 21, 1918 (Aztec Ruins files, Department of Anthropology Archives at the American Museum of Natural History, New York).

between Aztec Ruins National Monument and the Western Archeological and Conservation Center. Many of the pots still in the West were restored by the Civil Works Administration project of 1934.[7]

The pottery collection from Aztec Ruin never was described as such, but background information obtained from it surely was incorporated into the rather exhaustive treatment of regional ceramics included in Morris's later large monograph on sites in the neighboring La Plata drainage.[8]

Approximately 160 vessels in the collection at the American Museum can be definitely assigned stylistically to the modern McElmo Black-on-White and Mesa Verde Black-on-White classifications. They were the principal evidence for what Morris interpreted as a reoccupation of the West Ruin by persons affiliated with a Mesa Verdian cultural orientation. Of the Mesa Verde pots, there are 132 bowls in a range of sizes from small to very large. Other forms represented are mugs, ladles, kiva jars, canteens, forms with modeled animal representations, and necked jars.

At least 25 vessels are of the Chaco mineral-paint tradition, but some of these may more properly be considered Mancos Black-on-White. That is a Pueblo II style that was a precursor to the vegetal-paint Mesa Verde series but with wide distribution both north and south of the San Juan. Almost exclusively, the Chaco types were recovered from refuse. They include bowls, pitchers, seed jars, and necked jars. One bowl retains a leather thong passed through holes on either side of cracks to cinch the vessel together. This method of vessel repair is commonly seen but rarely with the vital connector in place.

Although at Aztec Ruin, as in other Pueblo II-III communities, corrugated cooking and storage vessels were much more frequent than decorated service ones, they are not numerous in this collection. That is because of the selective standards by which the assortment was amassed. Many corrugated earthenwares were recovered at Aztec, buried beneath floors of the house block, where they had been used as storage cists (see Figure 3.18). Others were retrieved from drifts of trash. These and still others remained at Aztec. They were mostly in broken condition until the Civil Works Administration project. Several unusual corrugated examples, which did get to New York, were a tiny three-inch-high jar found with its stone lid beside Grave 29 in Room 141 and a partial jar whose corrugations were overlaid with applied clay spines. A similar spiked, small-mouthed, lugged olla lacking corrugations is on exhibit at the monument. It was taken in 1925 from Room 193 in the North Wing, when the season's work was done under permit from the National Park Service. A black-on-white sherd with spines is illustrated by Morris in his first detailed Aztec Ruin report.[9] It came from a small house 150 yards north of the northeast corner of the Aztec Ruin. Was this uncommon spiny form of decoration a local idiosyncrasy?

Unfired clay plugs, some with fingerprints, used to stopper utilitarian earthenware jars and a series of flat, shaped, stone jar covers round out the inventory of basic cooking and storage receptacles.

Neither the Mesa Verde nor Chaco examples of the usual earthenware forms are of the top quality of these two traditions as seen in the centers of their development. Why this should be so is a matter to be resolved by future research. Are the reasons temporal, provincial, or because of a local

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[7] Morris, Field Catalogue (Aztec Ruins files, Department of Anthropology Archives at the American Museum of Natural History, New York; Collection Accession file, Accessions 1 and 8, Aztec Ruins National Monument Headquarters, Aztec, New Mexico).

[8] Earl H. Morris, *Archaeological Studies in the La Plata District, Southwestern Colorado and Northwestern New Mexico* (Washington: Carnegie Institution of Washington, 1939), 143-244.

[9] Morris, "Aztec Ruin," Fig. 55.

imitative manufacture? Or a combination of all three? If physical analyses were done, perhaps trade exchanges could be identified through ascertaining types of temper used.

Among the Chaco exotic ceramics are crudely modeled effigy vessels generally bearing some black decoration over a white ground. Most of the 25 examples in this collection are fragments of deer, skunk, birds, frogs, unidentified animals, and humans. The projections of their appendages made them subject to breakage.[10] Eight fragments were from Room 47 in the East Wing. This chamber was filled up to eight feet with what Morris classed as Chaco rubbish. Another four pieces came from Room 48 next door, a room also crammed with Chaco waste.[11] Kiva Q beneath the southwest corner of the West Ruin courtyard yielded at least a dozen pieces of Chaco pottery. Among them were a nearly complete seated deer or mountain sheep figure (F.S. 4304) and a partial squatting hunchback figure (F.S. 4303) with arms on knees but lacking left leg and hand. Both objects have been heavily restored. Probably the work was done by Alma Adams, who repaired many of Morris's personal vessels and later was employed to work on specimens at Aztec. In most particulars, the human figure was like a more fragmentary specimen taken from the fill of Room 47.[12] On both humans, black lines indicate facial features, hair, body tattooing, and arm or neck bands. Faces are flat, ears are pierced with holes (maybe for suspended earbobs?), and basal air holes prevented breakage during firing. A comparable but finer example was owned by Mrs. Oren F. Randall, of Aztec, who once loaned it to Custodian Boundey for exhibit.[13] They also are reminiscent of fragments illustrated from Pueblo Bonito and presumably like a specimen taken by John Wetherill from a grave near Pueblo Alto in Chaco Canyon.[14]

The human effigy at the American Museum is particularly intriguing because in the same storage case is a near-twin. The second effigy was purchased in the early 1920s by Morris on behalf of Charles Bernheimer from a collector in Blanding, Utah. The lower legs are missing from this figure. Blanding was, and has remained, a hotbed of pothunting activities. The provenience of this specimen probably was not nearby, since no Chaco outlier community is known thereabouts. It could have been a trade item or trophy, which got far beyond its usual range. At any rate, Bernheimer was another of the museum's wealthy patrons of the time, who eventually must have donated this figure to that institution.

The possibility of the use of molds to form effigy figures such as these would be a worthwhile study contributing to the knowledge of Anasazi ceramic technology. The distribution of the finished products would add to information about Anasazi interactions. Did the figures have esoteric meaning or, less plausible, were they merely fun? Or, as among Pueblos today, were they made for commercial reasons? The hunchback figurines might be part of the cult revolving around Kokopelli, the ubiquitous Anasazi fertility symbol.

A rather impressive trade pattern is inherent in an estimated 33 vessels originating in other parts of the Anasazi world but exhumed within the West Ruin. These include a variety of redwares that were

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[10] Ibid., Figs. 56, 59.

[11] Earl H. Morris, "Notes on Excavations in the Aztec Ruin," *Anthropological Papers of the American Museum of Natural History* 26, pt. 5 (1928): 304-05, 307-08.

[12] Morris, "Aztec Ruin," Fig. 56.

[13] Morris, miscellaneous notes (Morris Memorial Collection, University of Colorado Museum, Boulder).

[14] Ibid.; Neil M. Judd, *The Material Culture of Pueblo Bonito*, Smithsonian Miscellaneous Collections, Vol. 124 (Washington: Smithsonian Institution, 1954), Figs. 60-62.

characteristic of the Kayenta district, Kayenta-allied colonies in the so-called San Juan Triangle, or the Little Colorado drainage. These are areas as much as several hundred miles west and southwest of Aztec in northeastern Arizona and southeastern Utah. Another group of imported ceramics were black-on-whites and highly burnished brownwares with manipulated exterior surfaces from the region south of Zuni straddling the New Mexico-Arizona border, also more than 100 miles away. Most of the recovered trade pottery came from portions of the West Ruin Morris regarded as Chacoan. That fact takes on added significance when considering the network of roads, probably at least in part an aspect of trade, now known to have laced together the Chaco domain and the prevailing absence of foreign pottery in sites on the Mesa Verde proper. A study of the long-distance traffic in very breakable ceramics in the eastern San Juan Basin might revolve around the Aztec findings, which represent some of the most northerly and easterly occurrences of these alien types.

The American Museum excavators found 10 trade vessels in Room 111 in the North Wing. Since they were part of a rich burial, they might have represented a valuable offering or perhaps the personal property of a trader.[15] The workers also recovered similar pottery in adjacent Kiva L. Morris calls this the largest concentration of Tularosa ceramics encountered in the ruin.[16]

During the thirteenth century, dozens of small cobblestone houses peppered the environs of the Aztec Ruin. Because quantities of carbon-painted Mesa Verde ceramics were found in them, Morris attributed them to an occupation by a population allied to the Mesa Verdian cultural orientation. In 1915, a plowman turned up 86 complete vessels of this type at one site 50 yards north of the east end of the Aztec Ruin. The man's plow shattered an unknown number of others before he was stopped.[17] Because he gave most of the recovered vessels to a scientific institution, Morris rationalized his own pothunting in these sites as justifiable. That accounts for pots from 12 sites outside the West Ruin being included with the American Museum collection (see Table 13.1).

Specimens from a dwelling 225 yards east of the West Ruin include objects representative of the entire Anasazi continuum from Basketmaker III through the Pueblo II and Pueblo III periods of both Chaco and Mesa Verde branches. That is an estimated span of some 600 years. A Basketmaker III vessel from another house 125 yards west of the Abrams farm is a further clue to an early occupation of the valley. Diggers unearthed a child's burial in Room 106 in the South Wing of the West Ruin, which was accompanied by a Basketmaker III-Pueblo I bowl. One may guess that it had been obtained from vandalizing some earlier remains in the vicinity. The question of horizons both predating and postdating the West Ruin complex may be dealt with in part through these and similar pottery finds.

The basketry in the American Museum collection from Aztec Ruin, of which there are at least 74 examples of various types and completeness, has never been studied. A twilled ring basket with concentric-diamond pattern and several relatively insignificant coiled fragments, a plaited rush bag, and a meshwork basket-like container were mentioned by Morris after the season of 1917, but he delayed further discussion of this category of objects in anticipation of better specimens to be uncovered in later

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[15] Earl H. Morris, "Burials in the Aztec Ruin," *Anthropological Papers of the American Museum of Natural History* 26, pt. 3 (1924): 165.

[16] Morris, "Notes on Excavations," 355-56.

[17] Robert H. Lister and Florence C. Lister, *Anasazi Pottery* (Albuquerque: University of New Mexico Press, 1978), 73, Fig. 35.

Table 13.1. Animas Valley Sites, other than West Ruin, Yielding Pottery in the American Museum of Natural History Collection.[a]

Ruin leveled by Abrams, 150 yards north of northeast corner of Aztec Ruin.
Ruin at foot of hill, 125 yards west of Abrams house, northwest of Aztec Ruin.
Ruin at west end Animas Bridge, Aztec.
Ruin in field northeast of Aztec Ruin.
Ruin 225 yards east of north corner of Aztec Ruin.
Ruin at foot of hill, northeast of Aztec Ruin.
Ruin on Randall farm, 1/4 mile east of Aztec Ruin.
Ruin east of wash that passes east end of Aztec Ruin [Mound K?].
Ruin between Aztec Ruin and Abrams ranch house [Hubbard Mound?]
Kiva northeast of Abram's hay barn, northeast of Aztec Ruin. [Earl Morris Ruin?]
Quarry, west side of Estes Arroyo, 2 miles northeast of Aztec Ruin.
Ruin in road north of Aztec Ruin.

[a] Earl H. Morris, Field Catalogue (Aztec Ruins files, Department of Anthropology Archives at the American Museum of Natural History, New York; Collection Accession files, Aztec Ruins National Monument Headquarters, Aztec, New Mexico).

work.[18] He included basketry in the gross enumerations of specimens recovered in each of the rooms.[19] Morris's definitive study of Anasazi basketry done in collaboration with Robert Burgh 24 years later

[18] Earl H. Morris, "Discoveries at the Aztec Ruin," *American Museum Journal* 17, no. 3 (1917): 177; "Aztec Ruin," 54, 56-57.

[19] Morris, "Notes on Excavations," 259-420.

did not include Aztec Ruin specimens. He stated that, although 24 coiled baskets had been recovered there, he did not have time to do the necessary cleaning and meticulous retracing of patterns to include these materials in that publication.[20] The only other recognition the Aztec Ruin basketry has had are a published photograph of one large plaited basket associated with a set of antlers from Room 95 in the North Wing and a badly worn coiled basket, which was recovered in Room 178 in the West Wing with the so-called Warrior's Grave and its large basketry shield.[21]

Included in the American Museum basketry assortment from Aztec Ruin are 25 close-coiled baskets or remnants. This count is one more than Morris's statement above. Some are so tight, firm, and bright that they seem to deny their 700- or-800-year age. Present also are five sausage-shaped plaited bags, six rim frames laced with yucca strips, one cylindrical reed basket, two plaited plaques, three coiled plaques, 12 plaited yucca baskets or their fragments, two baskets covered with a hardened red clay, and three meshwork containers still stuffed with tinder-dry corn husks. A very unusual item is a basketry ladle or dipper coated with red clay, which has a pebble rattle enclosed in the handle. This came from Room 189, cleaned out late in Morris's tenure at Aztec Ruin. The ladle was sent to the American Museum because of its uniqueness.

Although Morris wrote that all specimens were from the Mesa Verdian reoccupation, it seems probable that examples of Chacoan basketry arts are present in the American Museum collection.[22] He contradicted this in another passage by assigning the objects covered with red clay to Chaco refuse. Five additional specimens came from Room 48. Included with the Chaco trash was a cylindrical reed basket. Neil M. Judd found both basketry covered with red clay and cylindrical baskets at Pueblo Bonito.[23] Since Pueblo III Chaco basketry carried designs distinctive from those of Mesa Verde, it should be possible with careful analysis to more precisely determine cultural affiliation of the Aztec Ruin basketry.

Eighty-five sandals exhibiting various degrees of wear in sizes suitable for children and youths to those for adults are in the American Museum collection. Another 19 are at Aztec Ruins National Monument and the Western Archeological and Conservation Center, most having been recovered during American Museum work. The large number of these objects is due to the dry environment within the rooms. By contrast, Judd recovered just 15 fragmentary sandals during his work at Pueblo Bonito.[24] Morris borrowed some of the Aztec sandals for a proposed study of the entire Anasazi sandal craft from Basketmaker II through Pueblo III. It was a project never completed. Analysis of the Aztec sandals would fill out data concerning late Anasazi costume and weaving skills.

Two kinds of footgear are in this assortment. The coarser were twilled of pliable strips of undecorated yucca in an over-two-under-two weave. The finer type was of twined yucca or dogbane fiber cordage tightly woven to create an exceedingly thin, hard foot cover. Although these sandals appear fragile, they must have been fairly durable. Many of the Aztec specimens have black, brown,

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[20] Earl H. Morris and Robert Burgh, *Anasazi Basketry, Basket Maker III Through Pueblo III, A Study Based on Specimens from the San Juan Country* (Washington: Carnegie Institution of Washington, 1941), 41.

[21] Robert H. Lister and Florence C. Lister, *Aztec Ruins on the Animas* (Albuquerque: University of New Mexico Press, 1987), 49.

[22] Morris and Burgh, *Anasazi Basketry*, 41.

[23] Judd, *Material Culture of Pueblo Bonito*, Pl. 45, p. 321.

[24] Ibid., 73.

red, or yellow designs on the under surface. These resulted from use of dyed weft threads. The surface next to the wearer's foot was enriched by supplementary warps and wefts variously wrapped around each other.

A third kind of possible footgear, which thus far is unique to Aztec Ruin, are what Morris speculated were two pairs of snowshoe pads. These were willow loops crossed by yucca-strip lacing and padded with either corn husks or grass bundles.[25] Whether or not they were intended to get a wearer across a snow field is debatable.

Another aspect of the weaving skills of the residents of the West Ruin to be studied is the collection's 67 cotton textile fragments and 13 examples of cotton cordage. Generally white, some textiles also carry red or brown patterns. The quality of the cloth varies from fine to coarse and appears to have been constructed by several weaving techniques. The cotton itself would not have been grown in the vicinity.

Two assortments of wooden objects are in the New York collection. These should be examined forthwith. After recovery in 1918, the artifacts were stored away virtually unnoticed. Research since then has greatly enhanced their interpretive value. In 1947, a large find of comparable articles was made at Chaco's second great house, Chetro Ketl. It was not published until 1978.[26] Some similar, but not identical nor as numerous, objects were removed from Pueblo Bonito in the 1920s by the National Geographic Society but also were not described in print until 30 years later.[27] But it is the Chetro Ketl material that makes it most obvious that the Aztec examples were physical accoutrements of rituals practiced in Chaco at least by the late eleventh century and perhaps diffused some time in the twelfth century to the settlement on the Animas. Analysis of the Aztec sample would be an important contribution to interpretation of Anasazi ceremonialism as expressed by the Chacoans. Can these articles be attributed to a particular cult or group, perhaps with modern Pueblo counterparts?

The most exciting of the wooden objects are what may have been altar paraphernalia, headdresses, or items carried processionally. The American Museum crews retrieved 14 specimens in Room 72 of the North Wing. This is a unit in the first tier of rooms north of a large kiva within the house block that had been Chacoan originally but was remodeled by Mesa Verdians. Morris reports that when a wall of an adjacent chamber collapsed, it opened up the ceiling of Room 72. That allowed some five cubic yards of cultural materials and vegetal debris to pour down from the second story. The wooden specimens were part of a spill of what Morris considered Chacoan rubbish. Later refuse was dumped over this stratum. Pack rats disturbed the stratigraphy by dragging some of the wood upward through the secondary fill.[28] Considering the relatively crude excavation techniques of the times, it is more than likely that small pieces of the wood, especially those without applied color, were shoveled out with the fill. Excavators found several other specimens of the same style in two north rooms showing little or no domestic use. Perhaps the dark, inner chambers next to the village wall were storage chambers, and Room 72 overlooking Kiva L's hatchway was the dwelling of a clansman charged with caring for the ritual gear.

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[25] Morris, "Aztec Ruin," Fig. 36a,b.

[26] R. Gwinn Vivian, Dulce N. Dodgen, and Gayle H. Hartman, "Wooden Ritual Artifacts from Chaco Canyon, New Mexico: the Chetro Ketl Collection," *Anthropological Papers of the University of Arizona* 32 (1978).

[27] Judd, *Material Culture of Pueblo Bonito*, 275-76, Fig. 75, Pl. 76a-m.

[28] Morris, "Notes on Excavations," 319-20.

What were reclaimed are small, thin, flat pieces of wood that had been worked into various forms and had been painted.[29] Included are disc-shaped pieces with serrated green edges, flattened crescents, perforated rectangular slabs with blue, green, and white patterning, and curvates. Four green pieces reminiscent of leaves of a fan are attached to a central stave. Another fan form is green and red. Both fan-like specimens may have been representations of bird tails or perhaps nonfunctional arrows. A more obvious bird tail is made up of two wood pieces striped with green and blue pigment and tied together with yucca cord. An unpainted human arm of thin wood is attached to a green hand. Part of a human body is green. A wooden sandal last is blue, red, and green on both surfaces.[30] One smoothed wooden cylinder has black and red decoration.

A second grouping of related wooden objects consists of an estimated 45 ceremonial sticks such as also have been reported from Pueblo Bonito. George Pepper found 375 of these items in one room; Judd's excavations uncovered 16.[31] The Chetro Ketl collection likewise includes a few examples.[32] These are long slender rods worked in various ways at one end and tapered at the other. Seven of the Aztec specimens are bow shaped rather than straight. Some rods have knobs on one end. Bits of cloth adhere to a few. Incised spiral lines decorate others. Excavators found the ceremonial sticks in Rooms 111 and 112 in the North Wing adjacent to or two rooms removed from Kiva L, a large Chaco-style construction.

In addition to the ceremonial staffs, another kind commonly known as prayer sticks, or pahos, have straight shafts topped by a carved serpent head. These have been found throughout the Anasazi territory.

Although unimposing because of their mundane nature, the wealth of inflammable and perishable materials from Aztec Ruin now in storage at the American Museum offers a marvelous opportunity to gain some understanding of how the Anasazi ingeniously coped with a rigorous close-to-the-earth mode of life. Articles made from bark, sticks, mammal hides, sinew, rabbit fur, turkey feathers, grass, cotton, and two principal plants -- domesticated corn and wild yucca -- reveal how they were able to implement their lives. From such raw resources, the inhabitants of the West Ruin created weapons, clothing, blankets, toiletries, cordage, ties, cigarettes, fire hearths, pot rests, cradle boards, arm splints, sandal lasts, matting, farm tools, objects with religious significance, and many things whose meaning is lost. A variety of dried plants and animal remains testify to what was being stockpiled for consumption and discarded as garbage. No Chaco great house has yielded such a bewildering array of this kind of raw data; the perishables which banked the rubble of the Mesa Verde cliff houses were dissipated a century ago by looters and collectors.

Morris got off to an exhilarating start at Aztec Ruin with finding several burials in Room 41 of the East Wing of individuals who had been adorned with quantities of primitive jewelry. These were necklaces, bracelets, pendants, anklets, and mosaic inlays of stone, bone, and shell. Morris made another discovery of interest in this regard the following season of a grave in a North Wing room containing someone of unquestioned importance. He had been outfitted with a 12-foot strand of 865 white bird bone tubes alternating with 444 black beads, a strand 13 feet long of white stone beads, and assorted turquoise, abalone, lignite, and olivella shell ornaments. These goods of adornment enlivened

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[29] Vivian, Dodgen, and Hartman, "Wooden Ritual Artifacts," Figs. 2.5, 2.7, 2.9.

[30] Illustrated in Morris, *Archaeological Studies in the La Plata District*, Pl. 145.

[31] Judd, *Material Culture of Pueblo Bonito*, 267-72, Fig. 72.

[32] Vivian, Dodgen, and Hartman, "Wooden Ritual Artifacts," Fig. 39.

Morris's reports of almost seven decades ago.[33] They now would benefit from modern photography, reanalysis, and comparisons with subsequent jewelry finds, such as those made in Pueblo Bonito, Chetro Ketl, and Salmon Ruins.

The remainder of the American Museum of Natural History collection consists of a sample of bone awls and scrapers, stone projectile points, tcahamias; grinding, polishing, and pecking stones; manos, metates, pot covers, mauls, axes, and mortars.[34] One set of artifacts consists of a few adobe bricks, which Morris took from a late eleventh-century site on the property of Oren Randall near Estes Arroyo.[35]

Although Morris states that he sent all human remains recovered at Aztec Ruin to New York, the catalogued entries there total just 71, two of which came from locations away from the monument. Morris recorded 186 burials.[36] It must be assumed that some specimens were too fragile or fragmentary to be retained. Physical parts of 35 children or adolescents point to a high rate of infant mortality comparable to that noted elsewhere among the Anasazi population. In addition to 13 fairly complete skeletons of persons of all ages, a few still wrapped in feather cloth and rush matting, the Aztec Ruin physical anthropological specimens in New York include crania, jaw bones, hair, foot bones, miscellaneous long bones from a number of individuals, and one example of charred brain matter. At the American Museum, the human remains were withdrawn from the general archeological collection to be put with physical anthropological materials. Associated objects, such as jewelry, cloth, matting, or in one case, wooden splints around a broken arm, were kept with the primary specimen lot. The human remains have never been studied or exhibited.

Finally, a few small clues to Anasazi awareness of the world beyond their territory are in the Aztec Ruin collection at the American Museum. Feather, three skulls, and a skeleton of macaws, two tiny globular copper bells, and three beads of rolled sheet copper somehow worked their way northward from central or northern Mexico at a time from two to three centuries before the rise of the Aztec Indians for whom this distant settlement erroneously was named. The assumption is that these trade goods reached Aztec Ruin during its Chacoan era as a result of the flourishing trade network now known to have connected north central Mexico to the Colorado Plateau. This point needs to be verified, old data permitting, because of the absence generally of such commercial contacts between Mexico and the more geographically and culturally isolated Mesa Verde branch of the Anasazi.

Aside from consideration of the physical attributes of the various kinds of objects, it would be informative to plot out their proveniences within the house block to ascertain whether meaningful use patterns can be established for the structure. For instance, do the 110 stone tools and assorted beads and bits of colored stone and turquoise found in the fill of Room 110 in the South Wing imply some sort of workshop? Can various stockpiles of raw resources, such as potter's clay, cedar bark, bundles of corn husks, or hanks of cordage, be related to chambers that might have been a part of the collection and distribution system of the Chaco Phenomenon? Can religious articles be tentatively

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[33] Morris, "Aztec Ruin," 92-103; "Burials in the Aztec Ruin," 164-67.

[34] One hafted tcahamia from Aztec Ruin is illustrated in Morris, *Archaeological Studies in the La Plata District*, Pl. 165.

[35] Earl H. Morris, "Adobe Bricks in a Pre-Spanish Wall Near Aztec, New Mexico," *American Antiquity* 9, no. 4 (1944): 434-38.

[36] Morris, "Burials in the Aztec Ruin," 139-225.

assigned to particular kivas or surrounding rooms of clan members? Once they have been adequately defined, can Chacoan and Mesa Verdian refuse be used to map tenancy patterns through time?

NATIONAL PARK SERVICE COLLECTIONS

There are two collections of specimens from Aztec Ruins National Monument in the custody of the National Park Service, one at the monument and one in the depository at the Western Archeological and Conservation Center in Tucson. Two main accessions of these articles do not belong to the government, however, but remain the property of the American Museum of Natural History. Not only has there never been a gift of any artifacts to the National Park Service, but the American Museum never has extended to the National Park Service any permanent loan agreement. Recent correspondence indicates that so long as curation remains reasonably adequate, the museum will be satisfied to have the collection stay where it is and a formal loan document may be prepared at some future date.[37] After almost 70 years, there is no feeling of urgency in the matter.

Accession 1 is composed of the representative sample of objects that Morris, acting as agent for the American Museum, temporarily loaned in 1927 for the display Custodian Boundey arranged in seven rooms of the ruin. These were things in storage at the American Museum field house adjacent to the monument and came from diggings done after the major excavations had terminated. Morris included items from the Annex, three courtyard kivas, and the small-scale work carried out in the summers of 1924 and 1925, as well as heavy or bulky objects from earlier clearing. The loan agreement signed by Morris and Boundey listed 261 specimens.[38] However, an inventory done in 1988 shows a total of 277 entries in Accession 1. A wrapped burial from Room 153 (F.S. 3977) is included. This increase likely resulted from Morris having added to the displays after Faris became custodian. Of these specimens, 120 remain at Aztec, with 22 listed as being at Aztec but currently missing. One hundred thirty-three specimens of this accession are at the Western Archeological and Conservation Center, with two items in that file checked as missing.[39]

The remainder of the specimens obtained during phases of the American Museum of Natural History project were lumped together as Accession 8 in the monument cataloguing begun in 1934. An array of perishables, the garden-variety stone implements, pots restored since the 1920s and those not regarded as choice, batches of potsherds, debitage, and animal bone fragments are in this group. The inventory of 1988 lists 185 specimens of this accession as being at Aztec Ruins National Monument, with 21 missing. The tabulation of Accession 8 at the Western Archeological and Conservation Center is 1,424 specimens, with six missing. Together, a total of 1,636 artifacts is in Accession 8.[40]

Accessions 1 and 8, therefore, account for 1,913 American Museum specimens. A list of specimens Morris compiled about the time the monument was to be expanded to include the last of

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[37] Belinda Kaye to Charles B. Cooper, July 21, 1988 (Collection Accession file, Aztec Ruins National Monument Headquarters, Aztec, New Mexico).

[38] Collection Accession file, Accession 1, Aztec Ruins National Monument Headquarters, Aztec, New Mexico.

[39] Ibid.

[40] Ibid., Accession 8.

the American Museum land totaled 2,234 items.[41] The discrepancy between his figure and the current tally cannot be explained. The inadequate storage and security arrangements that formerly existed at Aztec and the number of times the objects were moved (from Aztec to Globe to Tucson) likely led to losses.

Six sequences of excavations on the monument have produced assemblages of specimens, including two burial bundles. These excavations were to clear rooms for a museum (1927), to realign the visitor trail (1938), to stabilize parts of the East Ruin (1956), to open the Hubbard Mound (1953-54), to trench a trash mound in front of the visitor center (1960), and to stabilize five rooms in the North and West wings (1984). A large return of artifacts came from Civil Works Administration excavations carried out in 1934 in connection with the cleaning up of the monument. Other scattered random finds have been made during the government's stewardship. Also in the past, private individuals donated personally collected artifacts to the monument. The majority of objects obtained in these diverse ways are or will be housed at the Western Archeological and Conservation Center, with only a small assortment being kept at the monument, where space and curatorial staff are restricted.

At the end of 1988, for the first time in the monument's history, cataloging of locally held specimens and their record keeping were brought up-to-date. A backlog of 31 large boxes of miscellaneous potsherds, lithics, bone fragments, and bits of wood, which for years had been in the administration building basement, was processed by Archaeological Enterprises, of Farmington.[42] The 1,100-plus new catalogue entries created from this effort have limited scientific value because of the relative unimportance of the materials in the total panorama of Anasazi material culture. That is why they remained ignored for so long. As a sign of the times, this cataloging of what Morris thought of as waste cost $15,000, or half the total expenditures for his six years of excavation.[43] Nevertheless, the slate at the monument is cleared of uncatalogued materials.

The approximately 60,000 specimens obtained in 1984 are being processed at the regional office in Santa Fe. This collection contains a large amount of organic material, which supplements earlier finds of the same kind of objects. The entire written catalogue file, including specimens in National Park Service facilities and the two American Museum of Natural History accessions, is being computerized using the Automated National Catalog system.

Although not as diverse or special as the collection in New York, the National Park Service assortment does afford research possibilities, such as those being undertaken by Peter McKenna.[44] In addition to supplementing data from the American Museum artifacts, some categories of objects are more plentiful in the government holdings. These include 94 projectile points, 53 grooved stone axes, and 287 bone awls, not including whatever is in the collection being processed. In regard to the distinctions between Chaco and Mesa Verde material culture, most of the finds from Kiva Q and

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[41] Earl H. Morris, List of Aztec Ruin Collection at Aztec, n.d. (Collection Accession file, Aztec Ruins National Monument Headquarters, Aztec, New Mexico).

[42] Susan E. Bearden and Ronald G. Hefner, Aztec Ruins National Monument Cataloging and Analysis Project: Accessions 8 (partial), 11 (partial), 23 (partial), 41 (partial), 78, 79, 80, 84, 85, 87, 88, and 89, Archaeological Enterprises, Farmington, New Mexico (Contract No. PX-7029-7-6078, May, 1988).

[43] Superintendent's Annual Narrative Report, Aztec Ruins National Monument, 1987.

[44] Peter J. McKenna, A Stabilization Trench in Aztec West Ruin's Room 231, Aztec Ruins National Monument, New Mexico, Division of Anthropology, Southwest Regional Office, Santa Fe, New Mexico, 1988.

Kiva R are available in these assemblages. Since Morris used these specimens to buttress his theory of sequential occupations, their study might be useful in segregating Chacoan diagnostics.

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Archives

Archeological Exploration:

The Morris Papers

At the time the West Ruin in Aztec Ruins National Monument was being excavated and initially prepared for public visitation, communication between the man in the field and his employing institution and between him and colleagues engaged in archeological research elsewhere in the northern Southwest was by mail or telegraph. Morris carried on an extensive correspondence with both groups, and he almost compulsively saved most of it.

One principal collection of Morris papers relevant to the opening up of the Animas valley complex of Aztec Ruins is housed at the University of Colorado Museum in Boulder. That institution purchased the documents, together with a personal collection of Anasazi pottery, shortly after Morris's death in 1956. The documents cover more than 40 years of Morris's adult life, from ca. 1912 to 1956 and afford invaluable insight into the evolving reconstruction of prehistoric life on the Colorado Plateau and the personalities involved. Since the studies were new and the man was young and eager, the Aztec years are well represented in approximately 24 linear feet of documents. Within a year, they will be available on microfiche at the monument headquarters. Although specifics about places, proveniences, times, and personages often are lacking, numerous photographs are part of the collection.

The second collection of Morris papers is in the archives of the Department of Anthropology at the American Museum of Natural History in New York. It covers the period from 1916 to 1928, when Morris terminated his appointment with the museum at the conclusion of the Canyon del Muerto project. Some of this correspondence duplicates that in the University of Colorado collection, but in addition it incorporates administrative details of each season's excavations and the amassing of the artifact collection. These letters have added appeal in being addressed to men on the museum staff--Clark Wissler, Nels Nelson, Pliny Earle Goddard-- who were among the giants of American anthropology at the time. A large photographic collection of Aztec Ruin and specimens from it is maintained by the museum library.

Both collections of Morris papers are disappointing in the absence of raw archeological data in the form of field notes. Wissler repeatedly urged Morris to deposit these records at the museum, first because of the possibility of his being called to military service during the first World War and later because of his prolonged absences while working in Mexico and in other parts of the Southwest.[1] Apparently this was done only in a limited way. The museum archives has one handwritten ledger containing the specimen catalogue giving field specimen number, a concise description of the artifact, and provenience. Another handwritten notebook consists of the materials published seven years after Morris quit digging at Aztec as "Room Notes on Excavations at the Aztec Ruin," *Anthropological Papers of the American Museum of Natural History* 26, pt. 5 (1928). Other than several ground plans of the West Ruin, there are no further notations, artifact descriptions, room measurements, or observations that would be of interest to current students.

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[1] Clark Wissler to Earl H. Morris, October 29, 1923 and September 10, 1924 (Aztec Ruins files, Department of Anthropology Archives at the American Museum of Natural History, New York).

There are two possible reasons for this dearth of field data. One is that notes simply were not kept as rigorously as they are today. Morris disliked this part of the process, a fact substantiated by Talbot Hyde in the field and to the writers personally.[2] Much of the mass of lesser artifactural materials, such as debitage, small bone or wood fragments, and potsherds, was regarded as waste and was not recorded. Morris relied on an amazing memory and an obsessive involvement in his work to help him recall details necessary to his reports.

Secondly, some documents may have been lost over time. A full decade elapsed between Morris's last excavation at Aztec and his move away from the monument. During this period, it is assumed any notes were packed away in the basement of the stone house. Upon his final departure, some personal possessions continued to be stored there. The next year when he returned to begin the restoration of the Great Kiva, he found bags of cement taking up most of the basement and many of his things missing. These included important notes on the Aztec Ruin kivas, which he planned to write up some nebulous day in the future. Years later, he learned that in the continual need for storage space at the monument, other of his boxes inadvertently were hauled to the dump.[3]

There is a scattering of Morris correspondence in National Park Service files at Aztec Ruins National Monument, the Southwest Regional Office, and the National Archives. His eldest daughter, Elizabeth, also a prominent Southwestern archeologist, has no documents or field notes pertaining to the Aztec Ruin.[4]

Preliminaries to the Monument:

In addition to Morris correspondence, folders of memoranda and letters written by Clark Wissler, Henry Abrams, Henry Fairfield Osborn, George Sherwood, and others in the archives of the Department of Anthropology at the American Museum of Natural History provide information about excavation rights, the prolonged negotiations for acquisition of various tracts of land, proposed deeds, the piecemeal gifting of the land to the government, the erection of the field station, the ownership of specimens, and the caretaking responsibilities assumed during the four-year period prior to the appointment of the first full-time National Park Service custodian.

Government Control:

Beginning in November 1927 and continuing through 1956, monument development and preservation are dealt with in varying detail in the monthly reports submitted by the monument custodians and superintendents. These reports were mimeographed and compiled into the Southwest Monuments Monthly Report and are available at the monument or regional office. Their informal chatty style allows a uniquely personal view of the daily routine of the monument's management. These were superceded by monthly or annual reports in memorandum format, which are more structured but nonetheless informative. Together, these files provide a basic chronology.

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[2] B. Talbot B. Hyde to Wissler, July 26, 1918 (Aztec Ruins files, Department of Anthropology Archives at the American Museum of Natural History, New York); Morris, ca. 1954: personal communciation.

[3] Morris to John M. Davis, December 1, 1953 (Morris Memorial Collection, University of Colorado Museum, Boulder).

[4] Elizabeth A. Morris, March 21, 1989: personal communication.

The National Archives in Washington, entries 6 and 7, contain one linear foot four inches of materials from 1923 to 1949 relative to National Park Service management of Aztec Ruins National Monument, construction within the precinct, and preservation of the ruins. Most of these inter-office and government-to-citizen documents are not duplicated elsewhere. They contain information about the formative years of the monument's history.

A lesser body of data, generally of the post-World War II era, is at the library of the Southwest Regional Office in Santa Fe. These materials consist primarily of operational memoranda and stabilization reports.

Files at Aztec Ruins National Monument headquarters are comparatively extensive. They are site maps of various periods of development, construction drawings, ruin plans, photographs, collections accessions, stabilization reports, and assorted documents. From the late 1920s through the 1960s, the latter are random and unorganized. They include custodian correspondence, news clippings, and developmental plans from the Civil Works Administration efforts in 1933 through the MISSION 66 era. Later documents are maintained in category files.

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ADMINISTRATIVE APPENDIXES

APPENDIX A

LEGISLATION

BY THE PRESIDENT OF THE UNITED STATES OF AMERICA

A PROCLAMATION

[No. 1650—Jan. 24, 1923—42 Stat. 2295]

WHEREAS, there is near the town of Aztec, New Mexico, a ruin of great antiquity and historical interest; and

WHEREAS, the ground on which said ruin stands has been donated to the United States for the establishment of a national monument with a view to the preservation of said ruin for the enlightenment and culture of the Nation:

NOW, THEREFORE, I, Warren G. Harding, President of the United States of America, by virtue of the power in me vested by section two of the act of Congress entitled, "An Act for the Preservation of American Antiquities," approved June 8, 1906 (34 Stat., 225) do proclaim that there is hereby reserved and set apart as a national monument to be known as the Aztec Ruin National Monument all that piece or parcel of land in the County of San Juan, State of New Mexico, shown upon the diagram hereto annexed and made a part hereof, and more particularly described as follows: Beginning at a point 347 feet north from the south line of section 4 and 20 feet east from the west side of the southeast quarter of the southwest quarter of section 4, township 30 north, range 11 west, N. M. P. M. and running thence north 0°53′ east 179.1 feet; thence north 64°46′ east 385 feet; thence south 81°23′ east 52.3 feet; thence south 42°45′ east 436.4 feet; thence south 67°01′ west 501.4 feet; thence north 0°53′ east 176.5 feet; thence west 240 feet to place of beginning, containing 4.6 acres, all in the southeast quarter of the southwest quarter of section 4, township 30 north, range 11 west.

Warning is hereby expressly given to all unauthorized persons not to appropriate, injure, destroy or remove any of the features or objects included within the boundaries of this monument and not to locate or settle upon any of the lands thereof.

The Director of the National Park Service, under the direction of the Secretary of the Interior, shall have the supervision, management and control of this monument, as provided in the act of Congress entitled, "An Act to establish a National Park Service, and for other purposes," approved August 25, 1916 (39 Stat., 535), as amended June 2, 1920 (41 Stat., 732).

IN WITNESS WHEREOF, I have hereunto set my hand and caused the seal of the United States to be affixed.

DONE at the City of Washington this twenty-fourth day of January, in the year of our Lord one thousand nine hundred and twenty-three, and of the Independence of the United States of America the one hundred and forty-seventh.

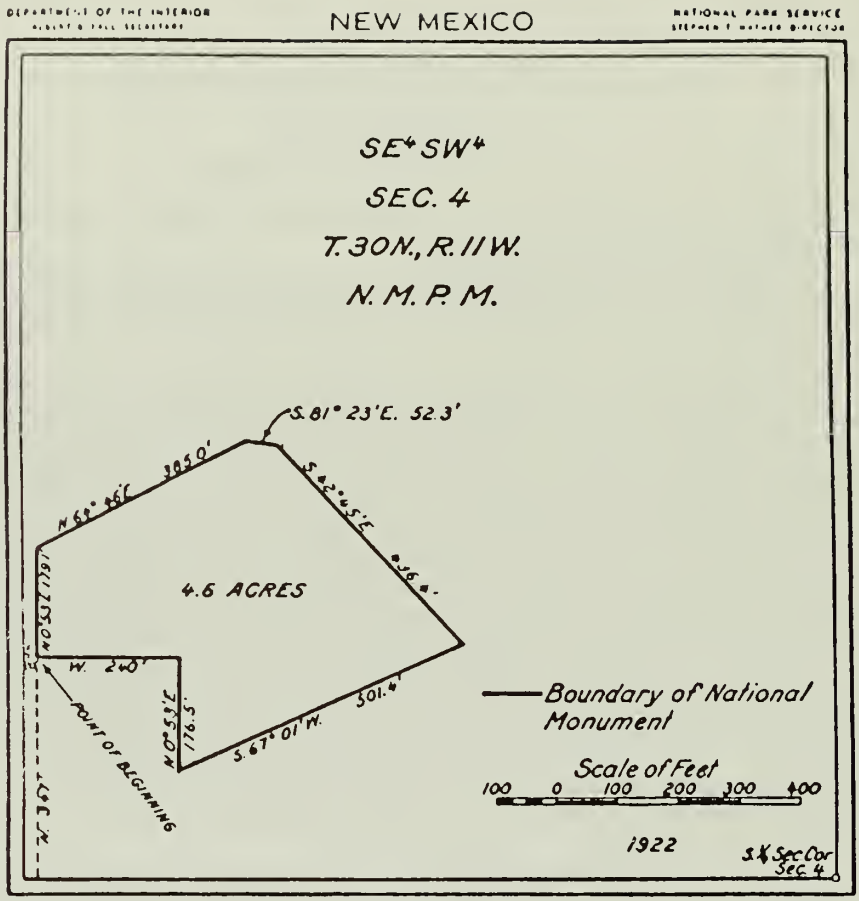
[SEAL]

WARREN G. HARDING.

By the President:

CHARLES E. HUGHES,

Secretary of State.



AZTEC RUIN NATIONAL MONUMENT

BY THE PRESIDENT OF THE UNITED STATES OF AMERICA

A PROCLAMATION

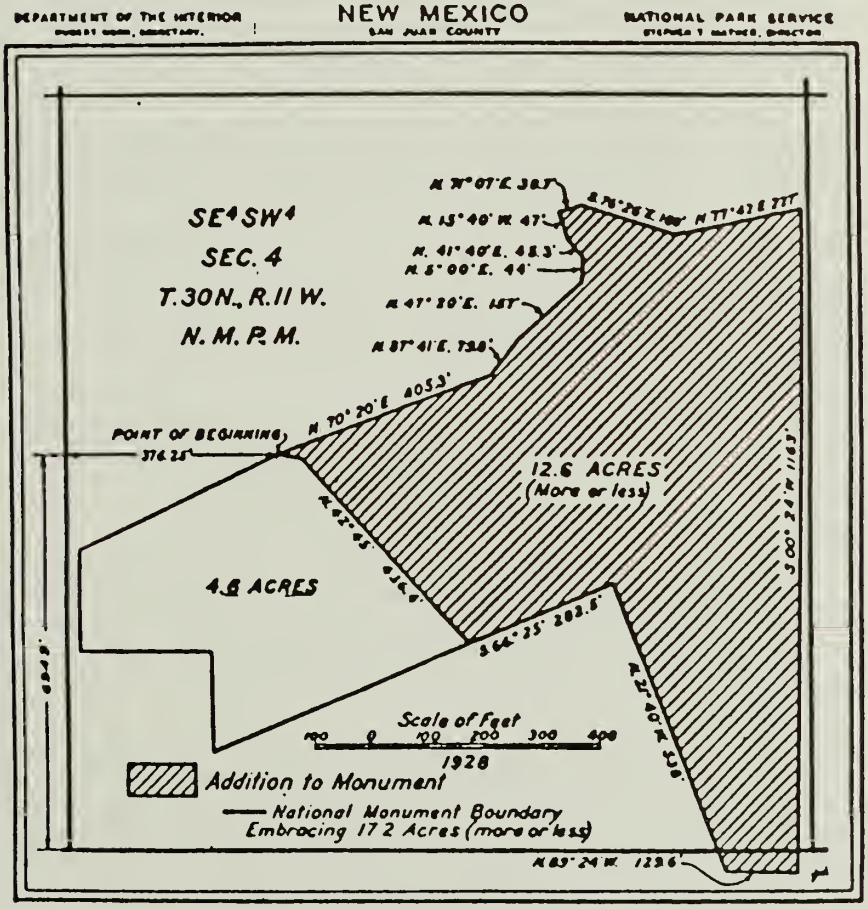
[No. 1840—July 2, 1928—45 Stat. 2954]

WHEREAS, the American Museum of Natural History, a corporation organized and existing by virtue of the laws of the State of New York, did on March 28, 1928, pursuant to the act of Congress entitled, "An Act for the preservation of American Antiquities" approved June 8, 1906, by its certain deed of conveyance, properly executed in writing and acknowledged, remise, release, and quit claim to the United States of America, the following mentioned lands at that time held in private ownership and situated in the County of San Juan in the State of New Mexico, and bounded and particularly described as follows, to wit:

Beginning 694.9 feet north and 376.25 feet east of the southwest corner of the southeast quarter of the southwest quarter of section four (4) township thirty (30) north, range eleven (11) west, New Mexico Principal

Meridian, and from said beginning point running, N. 70°20′ E. 405.3 feet, thence N. 37°41′ E. 79.8 feet, thence N. 47°20′ E. 157 feet, thence N. 5°00′ E. 44 feet, thence N. 41°40′ W. 45.3 feet, thence N. 15°40′ W. 47 feet, thence N. 71°07′ E. 38.7 feet, then S. 76°26′ E. 180 feet then N. 77°42′ E. 227 feet, thence S. 00°24′ W. 1163 feet, thence N. 8[illegible]. 24′ W. 129.6 feet, thence N. 21°40′ W. 538 feet, thence S. 66°25′ W. 282.5 feet, thence N. 42°45′ W. 436.4 feet, thence N. 81°23′ W. 52.3 feet to place of beginning, containing 12.6 acres more or less, all in the southeast quarter of the southwest quarter of section four (4), township thirty (30) north, range eleven (11) west, New Mexico Principal Meridian, and

WHEREAS, said conveyance has been accepted by the Secretary of the Interior in the manner and for the purposes described in said act of Congress, and



AZTEC RUIN NATIONAL MONUMENT

WHEREAS, there is located on said land a cluster of ruins related in historical and scientific interest with the single ruin embraced within the Aztec Ruin National Monument,

NOW, THEREFORE, I, Calvin Coolidge, President of the United States

of America, by virtue of the power vested in me by Section 2 of said act of Congress, do proclaim that said land hereinbefore described is hereby reserved from appropriation and use of all kinds under the public land laws and set aside as an addition to the Aztec Ruin National Monument, which shall hereafter be known as the "Aztec Ruins National Monument", and that the boundaries of said national monument are now as shown on the diagram hereto annexed and forming a part hereof.

Warning is hereby expressly given to all unauthorized persons not to appropriate, injure, destroy or remove any of the features or objects included within the boundaries of this monument and not to locate or settle upon any of the lands thereof.

The Director of the National Park Service, under the direction of the Secretary of the Interior, shall have the supervision, management and control of this monument, as provided in the act of Congress entitled, "An Act to establish a National Park Service, and for other purposes," approved August 25, 1916 (39 Stat., 535) as amended June 2, 1920 (41 Stat., 732), and March 7, 1928 (Public No. 100—70th Congress).

IN WITNESS WHEREOF, I have hereunto set my hand and caused the seal of the United States to be affixed.

DONE at the City of Washington this second day of July in the year of our Lord one thousand nine hundred and twenty-eight, and of [SEAL] the Independence of the United States of America the one hundred and fifty-second.

CALVIN COOLIDGE.

By the President:
W. R. CASTLE, JR.
Acting Secretary of State

BY THE PRESIDENT OF THE UNITED STATES OF AMERICA

A PROCLAMATION

[No. 1928—Dec. 19, 1930—46 Stat. 3040]

WHEREAS it appears that the public interest would be promoted by adding to the Aztec Ruins National Monument, in the State of New Mexico, certain adjoining lands for the purpose of including within said monument additional lands on which there are located ruins related in historical and scientific interest with the other ruins within the Aztec Ruins National Monument, and, also, that these lands are necessary for administrative purposes;

NOW, THEREFORE, I, Herbert Hoover, President of the United States of America, by virtue of the power in me vested by section two of the act of Congress entitled "An act for the preservation of American antiquities," approved June 8, 1906 (34 Stat. 225), do proclaim that the following described lands in New Mexico be, and the same are hereby, added to and made a part of the Aztec Ruins National Monument:

Beginning at the southwest corner of the southeast corner (SE. ¼) of the southwest quarter (SW. ¼) of sec. 4, T. 30 N., R. 11 W., New Mexico principal meridian, and running thence N. 0°53′ E. 521.4 feet; thence N. 64°46′ E. 22.1 feet to the northwest corner of the present Aztec Ruins National Monument; thence S. 0°53′ W. 179.1 feet along the west line of said national monument; thence E. 240 feet along the south line of said

national monument; thence S. 0°53′ W. 176.5 feet along the west line of said national monument; thence S. 67°01′ W. 46 feet; thence S. 7°13′ W. 158.4 feet; thence N. 88°40′ W. 200.6 feet to place of beginning, containing approximately 1.8 acres and being a fraction of the southeast quarter (SE.¼) of the southwest quarter (SW¼) of said above-mentioned section, township, and range. Also, all that certain parcel of land, situated within the county of San Juan, N. Mex., bounded as follows: Beginning at a point 200.6 feet S. 88°40′ E. from the southwest corner of the southeast quarter (SE. ¼) of the southwest quarter (SW. ¼) of sec. 4, T. 30 N., R. 11 W., New Mexico principal meridian, which is the place of beginning of this tract; thence N. 7°13′ E. 158.4 feet; thence N. 67°01′ E. 547.4 feet; thence N. 66°25′ E. 282.5 feet; thence S. 21°40′ E. 538.0 feet; thence N. 89°03′ W. 981.6 feet, to the place of beginning, containing 6.8788 acres.

Warning is hereby expressly given to all unauthorized persons not to appropriate, injure, destroy, or remove any feature of this monument and not to locate or settle upon any of the lands thereof.

The Director of the National Park Service, under the direction of the Secretary of the Interior, shall have the supervision, management, and control of this monument as provided in the act of Congress entitled "An act to establish a National Park Service, and for other purposes," approved August 25, 1916 (39 Stat. 535), and acts additional thereto or amendatory thereof.

IN WITNESS WHEREOF, I have hereunto set my hand and caused the seal of the United States to be affixed.

DONE at the City of Washington this 19th day of December, in the year of our Lord nineteen hundred and thirty, and of the Independence of the United States of America the one hundred and fifty-fifth.

[SEAL]

HERBERT HOOVER.

By the President:

HENRY L. STIMSON,

Secretary of State.

PROCLAMATION 2787

Enlarging the Aztec Ruins National Monument—New Mexico

WHEREAS there adjoins the Aztec Ruins National Monument, in the State of New Mexico, a certain 1.255-acre tract of land upon which are located ruin mounds of unusual prehistoric and scientific value of the same period and culture as those now contained in that monument; and

WHEREAS the Southwestern Monuments Association, an organization created for the purpose of fostering the development and preservation of the group of areas known as the Southwestern National Monuments, which include the Aztec Ruins National Monument, has donated the said tract of land to the United States for addition to such monument; and

WHEREAS it appears that it would be in the public interest to reserve such tract of land as an addition to the said Aztec Ruins National Monument:

NOW, THEREFORE, I, HARRY S. TRUMAN, President of the United States of America, under and by virtue of the authority vested in me by section 2 of the act of June 8, 1906, c. 3060, 34 Stat. 225 (16 U. S. C. 431), do proclaim that, subject to valid existing rights, the following-described tract of land in New Mexico is hereby added to and reserved as a part of the Aztec Ruins National Monument:

Beginning at a point N. 00°53' E., 521.4 feet from the southwest corner of the southeast quarter (SE¼) of the southwest quarter (SW¼) of section 4, T. 30 N., R. 11 W., New Mexico Principal Meridian, the northwest corner of the present Aztec Ruins National Monument; thence N. 00°53' E., 278.2 feet, thence east 60.0 feet, thence S. 75°08' E. 85.13 feet, thence S. 68°52' E., 236.78 feet thence S. 70°20' W., 20.33 feet, thence S 64°46' W., 385.00 feet, along the present northerly boundary of Aztec Ruins National Monument to the point of beginning, containing 1.255 acres, more or less.

Warning is hereby expressly given to all unauthorized persons not to appropriate, injure, destroy, or remove any feature of this monument and not to locate or settle upon any of the lands thereof.

The Director of the National Park Service, under the direction of the Secretary of the Interior, shall have the supervision, management, and control of this monument as provided in the act of Congress entitled "An Act To Establish a National Park Service, and for other purposes", approved August 25, 1916, 39 Stat. 535 (16 U.S.C. 1-3), and acts supplementary thereto or amendatory thereof.

IN WITNESS WHEREOF, I have hereunto set my hand and caused the seal of the United States of America to be affixed.

DONE at the city of Washington this 27th day of May in the year of our Lord nineteen hundred and forty-eight, and of the Independence of the United States of America the one hundred and seventy-second.

[SEAL]

HARRY S. TRUMAN

By the President:

ROBERT A. LOVETT,
Acting Secretary of State.

APPENDIX B

LEGAL COMPLIANCE

Basic guidance for management of the monument lies in its enabling legislation, included as appendix A, and from the general regulations which guide NPS operations and management contained in 36 *Code of Federal Regulations* (CFR).

Guidance for cultural resources management is provided by a whole hierarchy of laws, regulations, proclamations, orders, regulations, policies, standards, and guidelines. Relevant laws and regulations are itemized in NPS-28, *Cultural Resources Management Guidelines* (August 1985). NPS-28 draws upon and summarizes the various requirements to provide a servicewide guide for cultural resources management. The NPS *Management Policies* also provide a basic summary of cultural resources management mandates. For purposes of this GMP, the following items are deemed the most important.

The National Environmental Policy Act of 1969 (Public Law (PL) 91-190, 83 stat. 852; 42 USC 4321 et seq.) and its implementing regulations (40 CFR, parts 1500-1508) which directs the federal government to preserve important historic, cultural, and natural aspects of our national heritage.

The National Historic Preservation Act of 1966 as amended (PL 89-665; 80 stat. 915; 16 USC 470; amended by various public laws, including 96-515) declared a national policy of historic preservation. Among other provisos, section 106 of this act requires that the Advisory Council on Historic Preservation be afforded an opportunity to comment on any undertaking that affects properties listed on or eligible for the National Register of Historic Places. Section 110 of this act provides that "prior to acquiring, constructing, or leasing buildings for purposes of carrying out agency responsibilities, each Federal agency shall use to the maximum extent feasible, historic properties available to the agency." Other guidance is provided by 53 FR 4727-46, "Federal Agency Responsibilities under Section 110 of the National Historic Preservation Act." Amendments to this act in 1980 stressed the responsibility to preserve and conserve the intangible elements of our cultural heritage such as arts, skills, folklife, and folkways. Executive Order 11593, incorporated into NHPA by amendment, decrees that the federal government will provide leadership in preserving, restoring, and maintaining the historic and cultural environment of the nation. It also mandates that agencies are to inventory cultural resources on lands under their control or affected by their programs, nominate eligible resources to the National Register, and exercise due caution with respect to cultural resources--giving them appropriate and adequate consideration during planning.

Protection of Historic and Cultural Properties (36 CFR 800) gives the step-by-step procedures to be followed by federal agencies to ensure that undertakings under their control are in compliance with the 1966 Historic Preservation Act and Executive Order 11593.

Management and protection of archeological resources are more specifically outlined in the following acts and directives:

The Antiquities Act of 1906 (PL 59-209, 34 stat. 225; 16 USC 431 et seq.)

The Archeological Resources Protection Act of 1979 (PL 96-95, 93 stat. 721, 16 USC 470 aa-ii) and the implementing regulations (43 CFR 7) provide for sanctions against persons convicted of removal, defacement, and/or sale of cultural resources from federal lands. Recently enacted revisions to this act (PL 100-555, 102 2778; and PL 100-588, 102 stat. 2983) require that federal land managers establish programs to increase public awareness of the significance of archeological resources located on public lands. These revisions also lower the threshold under which penalties may be assessed and require agencies to have a schedule and plan for survey of cultural resources.

Special Directive 87-3, Conservation of Archeological Resources deals with the basic dichotomy between the NPS mandate to preserve archeological sites unimpaired for future generations, and the necessity to excavate sites to acquire mission-oriented information or materials; i.e., those needed for scientific information, interpretation, or excavations that are done to rescue data that are threatened by visitor activities, natural causes, or development approved as part of the general management planning process. This directive also stresses NPS responsibility for proper and timely curation, including provisions for adequate funding as part of projects.

The primary laws, rules, and regulations that deal with native American relationships are as follows:

The American Indian Religious Freedom Act, PL 95-341 (92 stat. 469, 16 USC 1996) which protects and preserves the right of American Indians to pursue traditional religious activities. As a corollary to this act, the Native American Relationships Management Policy (52 FR 35674) outlines procedures for dealing with a variety of Native American issues, and requires park managers to engage in the identification of and consultation with native American groups traditionally associated with park lands and other resources.

Staff Directive 88-1 (October 13, 1988) *Public Access to NPS Cultural Resources Management Bibliography Reports and Confidentiality of Archeological and Ethnographic Resources Information* provides direction for review and certification of NPS bibliographic materials and outlines the provisions for protection of confidential cultural resources information, noting that federal land managers shall not make available to the public information concerning the characteristics and location of any archeological or ethnographical resources where the release of such information might risk harm to the resources or sites.

Other guidance is provided by

Special Directive 87-3, Conservation of Archeological Resources

Special Directive 85-4, Procedures for the Museum Collections Repository, Western Archeological and Conservation Center, Tucson

Special Directive 80-1, Guidance for Meeting NPS Presentation and Protection Standards for Museum Collection

Archeology and Historic Preservation: Secretary of Interior's Standards and Guidelines. 1983 (48 FR 44716)

Management of Museums Acts of 1955. (PL 84-127; 69 stat. 242; 16 USC 18f).

APPENDIX C

EXCAVATION CONCESSION

I hereby grant to the Department of Anthropology of the American Museum of Natural History a concession to excavate and study the whole series of prehistoric ruins, known as Aztec ruins, on my land in northwestern New Mexico, particularly described as follows, the southeast quarter of the southwest quarter of Section Four (4) Township Thirty (30) north, Range eleven (11) west, N.M. P.M., subject to the following conditions.

1. The walls of the ruins excavated by you shall be capped with cement where necessary and otherwise strengthened by closing breeches and cracks. In general, the structure is to be left in such condition as it may become a permanent monument. All dirt and debris is to be cleared from the inside of the ruins down to the original surface and the debris adjacent to the outside of the walls removed to allow proper drainage and passage room. All dirt and excavated material is to be deposited outside the ruins on the east and west in depressions which will be indicated to your representative when on the ground.

2. A duplicate series of specimens to be retained by me as a permanent exhibit, but all other specimens of scientific value may be removed by you and placed in the American Museum of Natural History, to remain there as a permanent record of the site.

3. You shall have the use of space in the ruins and its immediate environs for field equipment, storage of tools and materials. That the owner shall be compensated for the use of additional space as may be agreed upon.

4. That a period of five years will be allowed you to complete the excavations and restorations, during which time no other institution or persons will be permitted to disturb any ruin or parts of ruins covered by this concession, provided the work is continued with reasonable diligence during proper season of each year for such work, provided also that the owner shall have and reserves the right to continue his permanent farm improvements.

5. That this agreement is conditional upon your beginning work on or before August 1st, 1916.

When I have your acceptance of these conditions, we will consider the negotiations closed except as to those matters referred to in the letter of date March 27, 1916, which are to be settled by your representative on the ground and myself.

(Signed) H.D. Abrams

Aztec, N.M. April 1, 1916.

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APPENDIX D.

CONSIDERATIONS OF 1918 ATTENDANT TO PURCHASE OF THE AZTEC RUIN

We want a tract (dimensions) upon which are situated the ruins comprising the main group of prehistoric remains, of which the so-called "Aztec" Ruin is the nucleus, and sufficient right in the ditch to irrigate a small portion of the same. For this tract and water therefor the American Museum of Natural History agrees to pay

The following are the considerations agreed to by Mr. Abrams and the American Museum of Natural History, in consideration of which the transfer of this property is made:-

The Museum agrees thoroughly and systematically to excavate these ruins: to remove all earth and debris handled in process of excavation to a reasonable distance, so that when the explorations are completed each structure will stand in clear and unobstructed view. However, if it seems desirable, one ruin may be left in its original condition, to demonstrate the appearance of the group as a whole before explorations were begun.

To repair all walls of the ruin cleared to the height to which they stand when the excavation of each individual ruin is begun, to cover them with stone laid in cement, as is now being done to the tops of the walls of the "Aztec" Ruin: that is to put each and every structure excavated in condition to withstand the destructive action of the elements.

To do a limited amount of reconstruction, such as the rebuilding of the roof, or the heightening of walls, for the purpose of conveying to the public an accurate and concrete idea of essential features of the various structures before their collapse.

There shall be left in situ certain rooms to show the fallen floors, and when possible, objects be left in situ, properly protected from the weather and visiting public. The desirability and extent of such reconstruction shall be left to the discretion of the person to whom the scientific aspect of the explorations is entrusted.

To continue the specified excavations and repair to the extent of a minimum expenditure of $5000 per calendar year; provided that should the present war, or other calamitous events beyond the power of man to foresee, enforce the temporary cessation of the work, the Museum agrees to resume its previous schedule of operations as soon as economic conditions are sufficiently readjusted to make this possible. The salary of the person in charge of excavations may be included in said $5000 appropriation, as it is at present.

To provide a caretaker, who shall admit visitors, guard against dispoilation [sic] of any and all of the aboriginal remains, and generally see to the welfare and preservation of the ruins.

To maintain upon the tract above specified a museum of sufficient proportions to house and exhibit a representative collection of the artifacts taken from the ruins,

sufficiently comprehensive to illustrate all of the known arts and technical processes of their makers. To utilize for this purpose a portion of one of the ruins or a building erected of stone saved during the process of excavation. To have this museum prepared and the collections installed not later than one year after the completion of the excavation of the Ruin now (1918) being explored.

To publish a guide book explanatory to the various ruins, and the artifacts exhibited in the local museum, to be furnished to those desiring it, at no more than 5% above actual cost of preparation and printing.

To enclose the main of "Aztec" Ruin, and eventually the entire tract, with a fence which will exclude animals and the general public.

The Museum specifically agrees to make no attempt to exploit the ruins for financial gain. However, it is understood that, after a caretaker has been provided, a nominal admission fee may be charged, the funds derived therefrom to be devoted to the maintenance of the caretaker and the incidental secondary repair work which may from time to time be found necessary.

Mr. Abrams, his family and special friends, to the number of not more than eight per day, shall be admitted free of charge, and shall be tendered the courtesies of the guide and caretaker at all times. Mr. Abrams shall be provided, free of charge, with a copy of each and every publication pertaining to the ruins or the objects taken therefrom.

When the visitors shall have increased to sufficient numbers, the Museum may provide such accommodations for their comfort as may seem desirable, such as housing, food, garage facilities, or whatever may lead to a greater advertisement of the reconstructed ruins, and give the tourists from a distance the assurance that they will be made comfortable during their sojourn. The right to provide said accommodation may be let to a responsible party or parties; provided, however, that any net profits to the Museum shall be used in the maintenance and care of the property under consideration. These accommodations may be made as attractive as possible, but in no wise compulsory for those inspecting the site.

Mr. Abrams shall be free to use for three years that portion of the tract in which he has been accustomed, in winter, to shelter his stock (sheep, horses, etc.), provided he does not excavate within any portion of any of the structures, nor in any wise contribute to their destruction.

The Museum will move to a reasonable distance, or replace all structures, such as dipping vats, hay sheds and corrals situated upon the tract prior to August, 1918.

If it should prove desirable and expedient, the privilege is granted to the Museum to transfer this property to a group of individuals designated by the Museum, who will trustee a fund which shall be sufficient to carry out the tenets of this contract in every respect; and said Board of Trustees, acting in lieu of the Museum, shall be bound to observe each and every promise of this contract.

Mr. Abrams, because of his interest and service in the proper protection and exploration of the aboriginal remains upon the tract above specified, and because of his special fitness so to act, shall be an active member of this Board throughout his lifetime.

Mr. Abrams values the ruins, area (25 acres) at the price he would have to pay to purchase 20 acres of land in the immediate vicinity which acreage is necessary to properly work his farm. Mr. Abrams agrees that the purchase price shall not be over $6500 and if he can secure the 20 acres for less, then that amount which he pays will be the cost of the ruin area to the Museum.

Mr. Abrams give the exclusive right to the Museum to excavate a certain ruin (boulder) near the road running south from his farmhouse. This ruin is not included in the tract because it would with the land surrounding cut his farm in two.

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APPENDIX E

PROPOSED PURCHASE AGREEMENT OF 1918

Outline of the Agreement

The following agreement with Mr. H.D. Abrams for the acquisition of the Aztec Ruin is made in conformity to the following policy. Continuation of mass excavation of Aztec seems inadvisable since the final solution of the problem involved necessitates minute archaeological analysis such as can only be carried on slowly and deliberately and chiefly at the hands of the investigator. Further, such work cannot be continuous, but must be alternated with long periods of museum study and formulation of such new phases of the problem as from time to time arise. We estimate that a minimum period of ten years will be required to bring this work to a satisfactory conclusion. Since the ruin is in private hands and the donor wishes it to become a permanent public exhibit, it seems best for us to acquire the property and hold the same during the period of investigation, and at the end of that time to transfer it to such organization or institution as promises to carry out the original obligations placed upon us by the former owner.

The following agreements are to be entered into between Mr. Abrams and the Museum.

1. Mr. Abrams is to transfer and deed to the Museum a tract of land (as described) of approximately twenty-five acres, upon which are situated the ruins comprising the main group of prehistoric remains of which the so-called Aztec Ruin is the nucleus, together with water rights in the ditch (as described) with which to irrigate the land. He shall also transfer with the property all rights to the ruins and all prehistoric objects whatsoever.

2. The following restrictions are placed upon the property by Mr. Abrams. The transfer is made with the understanding that the property can be used only for

educational and scientific purposes and that it shall be maintained as a public exhibit and that there shall be properly housed and exhibited on the tract as above stated, an exhibit of duplicate specimens from the ruin showing the culture of its prehistoric inhabitants. Further, that the transfer of this property by the Museum to any other corporation or individuals shall not to any degree waive this obligation.

3. For the transfer of the property (as described) Mr. Abrams is to receive from the Museum $6500. He is also to retain possession of the barn and stock sheds now upon the property with permission to use them free of charge for three years, at the end of which time he has permission to remove all such buildings. As to payments, Mr. Abrams is to receive $3000 in cash and the remainder in two annual payments.

4. The Museum pledges itself to repair all of the walls uncovered in the same manner as heretofore and to exercise due care in the preservation and protection of the ruin. The Museum also agrees to the best of its ability to complete the excavations now under way.

Finally, when it proves desirable and expedient, the Museum is to have the privilege of transferring this property to a group of individuals representing an institution or corporation already in existence or one specifically encorporated for this purpose, who will trustee a fund which shall be sufficient to carry out the tenets of this contract in every respect and said individuals or board of trustees, as the case may be, acting in lieu of the Museum shall be bound to observe each and every promise of this contract. In such event, Mr. Abrams, because of his interest and service in the proper protection of the aboriginal remains upon the tract above specified and because of his special fitness so to act, shall be an active member of such board or group of individuals throughout his lifetime.

5. In order that the Museum may fulfill the obligations of this agreement, Mr. Abrams is to donate the collections so far removed the Aztec Ruin; in return, he is to be recognized in the usual manner.

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APPENDIX F

PROPOSED PURCHASE AGREEMENT OF 1919

Outline of Proposed Agreement with Mr. H. D. Abrams, July, 1919.

Since we agree that the wishes of all concerned will be best realized by a sustaining organization of Trustees, it is desirable to give title to the property in the form which experience shows to be the most workable under such an organization. I have outlined all restrictions that we consider proper in the light of experience. In our conversations I have sketched over our plans for the future and am willing to make an agreement with you in so far as it is possible to bind us - I refer to plans of future organization, division of specimens, etc.

An early decision will be appreciated.

The following is our idea of the deed:-

1. Mr. H. D. Abrams to deed to Archer M. Huntington, a Trustee of the American Museum of Natural History, New York City, a tract of land, embracing the prehistoric ruin known as the Aztec ruin, as described, approximately eight acres, together with water rights in the ditch for irrigation and other purposes. Further, until the highway is opened on the west line of the property, Mr. Abrams is to have right of way to and from his farmhouse.

2. Mr. Abrams to waive his claim to all specimens taken from the ruin since excavations began.

3. The following restrictions are placed upon the property by Mr. Abrams. The transfer is made with the understanding that the property as described can be used only for educational and scientific purposes and that the ruin shall be maintained as a public

exhibit and that in due time provision shall be made for the exhibition of representative specimens from the ruin, provided such collections are available for that purpose.

Further, that the transfer of this property to any other person, or corporation shall not to any degree waive these obligations.

4. For title to real estate and ruin, as described, Mr. Abrams is to receive $3000.00.

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APPENDIX G

PROPOSED CONVEYANCE OF RUINS PROPERTY, 1919

Parties:

H.D. Abrams and wife to

_____, a representative of the American Museum of Natural History.

Consideration: $3000.00

Property to be conveyed:

A tract beginning at the Southwest corner of the South East quarter of the South West quarter of Section 4, Township No. 30 North of Range 11, West, N.M.-P.M. Running thence east 229 feet, thence north 173 feet, thence north 67° 18', East 555 feet, thence north 44° 59', West 434 feet, thence north 84° 29', West 74 feet, thence south 63° 51', West 406 feet, thence south 518 feet to point of beginning, and containing six (6) and seventy four (74) hundredths acres.

Reservation:

The grantor reserves the right to use as a private roadway a strip of land 20 feet wide along west side of premises conveyed until such a time as the grantee shall throw the same open as part of a permanent road.

Water right:
1/16 of one share of running space in Farmers' Ditch.

Additions:

(1) The grantee shall have the right to bring the water above described from the Farmers' Ditch to the boundary of his property through the headgate and laterals of the grantor; or shall be given right of way by the grantor for a lateral to convey this water.

(2) Abrams shall construct and maintain on his land a drain ditch paralleling the north-west boundary of the tract conveyed adequate to prevent waste water from crossing the boundary.

(3) Abrams shall furnish right of way for a drain ditch to carry waste water of grantee, which ditch grantee is to construct and maintain.

Reservation:

Abrams reserves right to convey water for irrigation purposes through the existing lateral parallel and adjacent to the west boundary of the tract conveyed; and from a point on this lateral chosen by the grantee, eastward to a point 229 feet east and 173 feet north of the southwest corner of the S.E. 1/4 of the S.W. 1/4, Sec 4, TS.30 north of Range 11, west. Shall the grantee see fit to change the existing trend of this lateral, it shall be done at his expense.

Covenants:

Regular covenants of warranty deed.

Conditions of Deed.

1. The property conveyed shall be used only for scientific and educational purposes.

2. The work of exploration and repair of the ruin situated thereon shall be continued along the general lines previously followed until the grantee shall consider it completed.

3. The grantor waives all rights to any and all specimens heretofore or hereafter exhumed on the above described property.

4. Such a collection as would have been the property of the grantor under the contract of April 1, 1916; that is an exhibit representative of every type, kind, and variety of specimens taken from the Aztec Ruin, shall be installed in a building provided on the premises by the grantee, and shall remain as a permanent exhibit. A reasonable part must be on display by January 1, 1923.

5. After the completion of initial excavation and repair, the ruin itself shall be kept in repair; it and the selection of specimens above described shall be maintained by the grantee as a permanent public exhibit.

6. This exhibit shall be open to the public at reasonable hours and seasons of the year. Mr. Abrams, his family, and specially invited guests shall have access to this exhibit at such times as it is customarily open, free of whatever admission charges that may be imposed upon the general public.

The obligations, covenants, reservations, privileges, and rights hereinunder shall extend to and be binding upon the premises herein conveyed, and upon the grantors, grantee, their and his heirs, executors, administrators, and assigns.

APPENDIX H

NATIONAL PARK SERVICE MANAGEMENT GUIDELINES, 1921

RULES AND REGULATIONS.

General Regulations.

The following rules and regulations for the use and management of the various national monuments under the jurisdiction of the National Park Service are hereby established and made public pursuant to authority conferred by the acts of Congress approved June 8, 1906 (34 Stat., 225), and August 25, 1916 (39 Stat., 535), as amended June 2, 1920, (41 Stat., 731, 732):

1. Preservation of natural features and curiosities.-- The destruction, injury, or disturbance, except as herein provided, of any ruins and other works and relics of prehistoric or primitive man on Government lands within any national monument is prohibited; as is also the destruction, injury, defacement, or disturbance in any way of buildings, signs, equipment, and other property or of trees, flowers or other vegetation, rocks or minerals, animal, bird or other life within any monument area.

The marking of any buildings, ruins, trees, or other property or natural formations with autographs, dates, initials, drawings, or other pencilings or carvings of any kind whatsoever is prohibited.

2. Examination of ruins.-- Permits for the examination and restoration of ruins, the excavation of archaeological sites, and the gathering of objects of antiquity or scientific interest may, upon application to the Director, National Park Service, be granted to accredited representatives of reputable museums, universities, colleges, or other recognized scientific or educational institutions, with a view to increasing the general knowledge on such objects and thereby aiding the general advancement of science, under the conditions and restrictions contained in present or future regulations promulgated to carry out the

provisions of the act of Congress, approved June 8, 1906 (34 Stat., 225), entitled "An act for the preservation of American antiquities."

The custodian of any national monument is authorized, in his discretion, to close any ruin on Government lands within such monument to visitors when it shall appear to him that entrance thereto would be dangerous to visitors or might result in injury to walls or other insecure portions thereof, or during repairs, reporting same promptly to the Director of the National Park Service.

3. Camping.-- No camp shall be made except in localities designated by the custodian, and when made must be kept neat and orderly.

Camp grounds must be thoroughly cleaned by the occupants before they are abandoned. Cans, bottles, cast-off clothing, and all other debris or refuse shall be placed in garbage receptacles or buried in pits provided for the purpose. Should camps be permitted in localities where pits or cans are not provided, all refuse shall be burned or hidden by the camper where it will not be offensive to the eye.

Campers and others shall not wash clothing or cooking utensils in springs, streams, lakes, or other natural waters of any monument, or in any way pollute them.

Campers may use dead or fallen timber only for fuel.

4. Fires.-- Fires constitute one of the greatest perils to some of the monuments. They shall be lighted only when necessary and when no longer needed shall be completely extinguished, all embers and ash beds being smothered with earth or water so that no possibility remains of their again becoming alive.

No lighted match, cigar, or cigarette shall be dropped in grass, twigs, leaves, or tree mould, or thrown away unextinguished.

5. Hunting.-- The hunting, killing, wounding, capturing, or frightening of any bird or wild animal in any monument is strictly prohibited, except poisonous snakes or predatory animals.

6. Private operations.-- No person, firm, or corporation shall reside permanently, engage in any business, or erect buildings in any monument without permission in writing from the Director of the National Park Service, Washington, D.C. Applications for such permission may be addressed to the Director through the custodian, or other officer in charge of the monument. Permission to operate a moving-picture camera must be secured from the custodian, or Director of the National Park Service.

Campers and all others, save those holding licenses from the Director of the National Park Service, are prohibited from renting their horses, trappings, vehicles, or any possession to tourists or visitors in any monument.

All persons, firms, or corporations holding franchises or operating permits in any monument shall keep the grounds used by them properly policed and shall maintain the premises in a sanitary condition to the satisfaction of the custodian. No operator shall retain in his employment a person whose presence may be deemed by the custodian, or other officer in charge, subversive of good order and management of the monument.

7. Gambling.-- Gambling in any form, or the operation of gambling devices, whether for merchandise or otherwise, is prohibited.

8. Advertisements.-- Private notices or advertisements shall not be posted or displayed within any area set apart as a National Monument, except as authorized by the National Park Service.

9. Grazing.-- The running at large, herding, or grazing of live stock of any kind on the Government lands in a monument, as well as the driving of live stock over same, is prohibited, except where authority therefor has been granted by the custodian in charge of such monument, or the Director of the National Park Service. Live stock found improperly on the monument lands may be impounded and held until claimed by the owner and trespass adjusted.

10. Fines and penalties.-- Persons who render themselves obnoxious by disorderly conduct or bad behavior shall be subjected to the punishment hereinafter prescribed for violation of the foregoing regulations, or they may be summarily removed from any monument by the custodian, or other officer in charge thereof, and not allowed to return without permission in writing from the Director of the National Park Service, or the custodian.

Any person who violates any of the foregoing regulations shall be deemed guilty of a misdemeanor and shall be subject to a fine of not more than $500, or imprisonment not exceeding six months, or both, and be adjudged to pay all costs of the proceedings.

(Sgd.) ARNO B. CAMMERER,
Acting Director
National Park Service

Approved, September 24, 1921,
E. C. FINNEY,
First Assistant Secretary
of the Interior.

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[PUBLIC—No. 209.]

An Act For the preservation of American antiquities.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That any person who shall appropriate, excavate, injure, or destroy any historic or prehistoric ruin or monument, or any object of antiquity, situated on lands owned or controlled by the Government of the United States, without the permission of the Secretary of the Department of the Government having jurisdiction over the lands on which said antiquities are situated, shall upon conviction, be fined in a sum of not more than five hundred dollars or be imprisoned for a period of not more than ninety days, or shall suffer both fine and imprisonment, in the discretion of the court.

SEC. 2. That the President of the United States is hereby authorized, in his discretion, to declare by public proclamation historic landmarks, historic and prehistoric structures, and other objects of historic or scientific interest that are situated upon the lands owned or controlled by the Government of the United States to be national monuments, and may reserve as a part thereof parcels of land, the limits of which in all cases shall be confined to the smallest area compatible with the proper care and management of the objects to be protected: *Provided*, That when such objects are situated upon a tract covered by a bona fide unperfected claim or held in private ownership, the tract, or so much thereof as may be necessary for the proper care and management of the object, may be relinquished to the Government, and the Secretary of the Interior is hereby authorized to accept the relinquishment of such tracts in behalf of the Government of the United States.

SEC. 3. That permits for the examination of ruins, the excavation of archæological sites, and the gathering of objects of antiquity upon the lands under their respective jurisdictions may be granted by the Secretaries of the Interior, Agriculture, and War to institutions which they may deem properly qualified to conduct such examination, excavation, or gathering, subject to such rules and regulations as they may prescribe: *Provided*, That the examinations, excavations, and gatherings are undertaken for the benefit of reputable museums, universities, colleges, or other recognized scientific or educational institutions, with a view to increasing the knowledge of such objects, and that the gatherings shall be made for permanent preservation in public museums.

SEC. 4. That the Secretaries of the Departments aforesaid shall make and publish from time to time uniform rules and regulations for the purpose of carrying out the provisions of this Act.

Approved, June 8, 1906.

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APPENDIX I

AZTEC CHAMBER OF COMMERCE RESOLUTION, 1931

Upon authorization of the Chamber of Commerce of Aztec, New Mexico, we respectfully request the action of the Honorable, Sam G. Bratton, Bronson Cutting, Dennis Chavez and the National Park Service, on the following resolution;

R E S O L U T I O N

Be it resolved, that we as members of the Aztec Ruins Committee for the Chamber of Commerce at Aztec, New Mexico, in regular line of duty on said committee, do hereby find the following conditions prevailing,

WHEREAS, Funds appropriated for repairs to ruins at the Aztec Ruins National Monument amounted for the year ending June 30, 1931, to not over $300.00, and

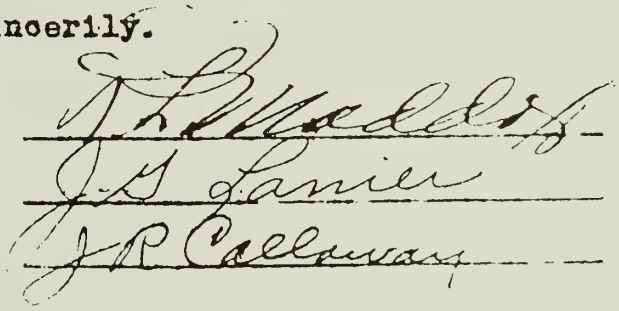
WHEREAS, repairs made in August to one of forty one kivas amounted to $174.95, and

WHEREAS, expenditures of some $50,000.00 for excavation spent by American Museum of Natural History of New York City, are rapidly falling away due to lack of repairs and upkeep, and

WHEREAS, unless immediate action is taken repair will be almost impossible due to the present exposure to the elements and deplorable condition of the walls, and

WHEREAS, this being property of the United States of America and within the boundaries of our State, we find after careful examination that it will take approximately $25,000.00 to remedy the present conditions and place them in a reasonable state of preservation, and as partial evidence of the urgent need of repairs, we submit the enclosed photographs, and we as representatives of the Aztec Chamber of Commerce respectfully request your immediate cooperation in this important matter.

Yours Sincerily.



[Retyped from xerox of original document]

APPENDIX J

CUSTODIANS AND SUPERINTENDENTS

Aztec Ruins National Monument

	Earl H. Morris	February 8, 1923-April 1, 1927
CUSTODIAN	George L. Boundey	April 1, 1927-October 1, 1929
	Johnwill Faris	October 1, 1929-December 1, 1936
	Thomas C. Miller	December 1, 1936-March 31, 1944
ACTING CUSTODIAN	Russell L. Mahan	March 26, 1944-August 24, 1944
	Irving D. Townsend	August 24, 1944-July 14, 1953
	Homer F. Hastings	July 14, 1953-April 2, 1958
	Albert G. Henson	April 2, 1958-January 18, 1959
	John F. Turney	February 17, 1959-January 19, 1963
SUPERINTENDENT	Jack R. Williams	February 17, 1963-May 8, 1965
	John W. Fisher, Jr.	June 20, 1965-August 12, 1967
	D.L. Huggins	February 25, 1968-June 22, 1972
	Leslie W. Cammack	June 25, 1972-February 3, 1974
	Clarence N. Gorman	February 17, 1974-June 7, 1986
	Charles B. Cooper	June 8, 1986-

APPENDIX K

VISITATION RECORDS (minus 1923-1929)

Aztec Ruins National Monument

Year	No. of Visitors Registering	Year	No. of Visitors Registering	Year	No. of Visitors Registering
1930	12,087	1950	17,411	1970	66,466
1931	10,084	1951	24,514	1971	74,047
1932	7,047	1952	25,631	1972	79,428
1933	7,397	1953	26,284	1973	65,366
1934	10,912	1954	28,021	1974	56,874
1935	11,046	1955	29,069	1975	67,578
1936	12,997	1956	35,994	1976	67,170
1937	14,411	1957	41,180	1977	71,324
1938	20,214	1958	44,026	1978	70,310
1939	15,188	1959	48,234	1979	58,064
1940	10,550	1960	38,106	1980	56,844
1941	12,631	1961	42,095	1981	64,902
1942	6,896	1962	41,421	1982	60,878
1943	4,979	1963	45,119	1983	61,693
1944	4,571	1964	47,942	1984	58,394
1945	4,574	1965	51,776	1985	58,187
1946	11,011	1966	54,329	1986	62,519
1947	13,382	1967	53,723	1987	65,459
1948	14,376	1968	56,625	1988	79,529
1949	14,911	1969	62,601		

STABILIZATION APPENDIXES

APPENDIX L

ROOMS OR KIVAS WHERE STABILIZATION IS INDICATED AS HAVING OCCURRED

Aztec Ruins National Monument

Records are incomplete because in some years specific tabulations are not given or the gross number of rooms does not correspond to the tabulations. The kind and amount of work varies. The scrambling of room numbers also has greatly confused the record. The Metzger map (1988) has been used as much as possible, with earlier numbers transcribed where possible.

WEST RUIN

1916-1922

10 protective roofs; 7,500 square feet of wall of possibly 71 rooms in East Wing and one half of North Wing; Kivas B and E roofed; partial roof over Room 117

References: Earl H. Morris, "Further Discoveries at the Aztec Ruin," *American Museum Journal* 18, no. 7 (1918): 602-03; Earl H. Morris to Clark Wissler, December 29, 1921 (Aztec Ruins files, Department of Anthropology Archives at the American Museum of Natural History, New York).

1924
Rooms: East Wing: 58
North Wing: 96, 120
Protective roofs: North Wing: 153^2, 154^2, 152^2, 191^2, 140^2, 127^2.
West Wing: 133^2, 179^2, 134^2
Kivas: G, K, J

References: Earl H. Morris to Frank Pinkley, October 16, 1924 (Morris Memorial Collection, University of Colorado Museum, Boulder); Earl H. Morris, Excavation Report to the National Park Service, 1924 (Document file, Aztec Ruins National Monument Headquarters, Aztec, New Mexico).

1925
Rooms: North Wing: Several unidentified rooms near Kiva L
West Wing: 137
Protective roofs: 178, 2 unidentified rooms
Kivas: E, L

References: Earl H. Morris to Frank Pinkley, October 21, 1925 (Morris Memorial Collection, University of Colorado Museum, Boulder).

1934
Rooms: North Wing: 203, 193
South Wing: 209, 212
Protective roofs: North Wing: 202, 196
Kiva: L
Exterior walls: North: Relaid 117 feet from northwest corner to height of 9 feet
West: Relaid 97 feet from northwest corner to height of 7 feet

References: Earl H. Morris, miscellaneous notes, folder 232 (Morris Memorial Collection, University of Colorado Museum, Boulder); Oscar Tatman report, December 1933, Southwest Monuments Monthly Report, Coolidge, Arizona; Johnwill Faris, Report for CWA Project 20003-A, Archeological Reconnaissance, 1934 (National Park Service: Aztec Ruins National Monument files at the National Archives, Washington).

1936
Protective roofs: 5 unidentified

References: T.C. Miller to Hugh M. Miller, April 2, 1937 (Stabilization files, Aztec Ruins National Monument Headquarters, Aztec, New Mexico).

1937
Rooms: 42 unidentified walls
Protective roofs: 5 or 7 unidentified rooms

References: T.C. Miller to Frank Pinkley, November 18, 1937 (Stabilization files, Aztec Ruins National Monument Headquarters, Aztec, New Mexico).

1938-1939
Rooms: North Wing: 59, 60, 61, 112, 113, 139, 140, 126, 141, 142, 143, 144, 152, 180, 198, 199, 200, 201, 225, 221, 222, 204, 205, 206, 249, 220, 139, 147
West Wing: 121, 132, 134, 137, 138, 156, 178, 179, 131, 184, 185, 186, 187, 188
Protective roofs: North Wing: 132, 121, 59, 61, 113, 112
Kiva: E, reroofed
Great Kiva: Roof repaired

References: T.C. Miller to R. Gordon Vivian, January 29, 1940; Milton J. McColm to Frank Pinkley, August 24, 1939; Frank Pinkley to Regional Director, National Park Service, August 18, 1939 (Stabilization files, Aztec Ruins National Monument Headquarters, Aztec, New Mexico); R. Gordon Vivian, West Ruin Stabilization, October 3, 1938 (National Park Service: Aztec Ruins National Monument files at the National Archives, Washington).

1940
Rooms: North Wing: 116, 101, 111, 115 (Possibly 90, 91, 92, 100, 101, 110, 111, 113, 114, 115, 124, 154, 193, 203, 202, 251)
Kivas: L, K

Reference: R. Gordon Vivian, Stabilization Records, Aztec Ruins National Monument, West Ruin, 1939-1941 (Stabilization files, Aztec Ruins National Monument Headquarters, Aztec, New Mexico).

1941
Rooms: 29 unidentified
Kivas: 3 unidentified

Reference: R. Gordon Vivian, Stabilization Records, Aztec Ruins National Monument, West Ruin, 1939-1941 (Stabilization files, Aztec Ruins National Monument Headquarters, Aztec, New Mexico).

1942
Rooms: North Wing: 69, 96, 66, 68, 95, 67, 154, 82, 90, 123
West Wing: 131
Roofs, waterproofed: North Wing: 153, 142, 141, 152
West Wing: 183, 184
Kivas: H, J
Great Kiva: Roof waterproofed

References: [Vivian], Stabilization of Aztec Ruins, 1939-1946, Southwest Monuments; Russell L. Mahan, Aztec Ruins National Monument, Ruins Stabilization Report, 1942 (Stabilization files, Aztec Ruins National Monument Headquarters, Aztec, New Mexico).

1943
Great Kiva: Reroofed

Reference: Custodian to Superintendent, Southwest Monuments, July 14 and August 12, 1943 (Stabilization files, Aztec Ruins National Monument Headquarters, Aztec, New Mexico).

1944
Rooms: East Wing: 18 unidentified
Protective roofs: 197, 198, 142, 141, 199, 200, 117, 201 (drain)
Kivas: 2 unidentified
Great Kiva: Roof repaired

References: Louis R. Caywood to Regional Director, National Park Service, October 30 and December 8, 1944 (Stabilization files, Aztec Ruins National Monument Headquarters, Aztec, New Mexico).

1945
Rooms: East Wing: 18, 19, 20, 25, 27, 28, 30, 31, 33, 35, 37, 38, 39, 46, 47, 50, 55, 58
North Wing: 59, 67, 112
West Wing: 156
Protective roofs: 156, 112, 59
Kivas: D, F, E
Great Kiva: Roof repaired

References: Irving D. Townsend, Stabilization Report, 1945; [Vivian], Ruins Stabilization Report, April 2, 1948; Stabilization of Aztec Ruins, 1939-1946, Southwest Monuments (Stabilization files, Aztec Ruins National Monument Headquarters, Aztec, New Mexico).

1946

Rooms: East Wing: 14, 15, 16, 17, 18, 19, 20, 21, 22, 24, 26, 36, 37, 40, 41, 44, 45, 49, 50, 52, 55

North Wing: 65, 73, 74, 77, 78, 79, 81, 84, 90, 91, 93, 143, 200, 207

Kivas: B, G, K

Great Kiva: Roof repaired (temporary cover over half)

References: Stabilization of Aztec Ruins, 1939-1946, Southwest Monuments; Irving D. Townsend to Regional Director, National Park Service, March 8 and December 1, 1946 (Stabilization files, Aztec Ruins National Monument Headquarters, Aztec, New Mexico); Townsend report, June and November 1946, Southwest Monuments Monthly Report, Coolidge, Arizona.

1947

Kiva: E, roof removed

Great Kiva: Roof repaired

References: Erik K. Reed to Regional Director, National Park Service, June 4, 1947 (Stabilization files, Aztec Ruins National Monument Headquarters, Aztec, New Mexico); Townsend report, November and December 1947, Southwest Monuments Monthly Report, Coolidge, Arizona.

1948

Great Kiva: Roof repaired

References: Irving D. Townsend, Annual Report, 1948; Townsend reports, August and December 1948, Southwest Monuments Monthly Report, Coolidge, Arizona.

1949

Great Kiva: Roof repaired

References: Irving D. Townsend reports, June and December 1949, Southwest Monuments Monthly Report, Coolidge, Arizona.

1950

Rooms: North Wing: 90, 91, 92, 99, 100, 101, 110, 111, 113, 114, 115, 124, 154, 193, 203, 202

West Wing: 209, 237, 213, 216

Great Kiva: Roof repaired

References: Raymond Rixey, Stabilization Records, West Ruin, Aztec Ruins National Monument, 1950 (Stabilization files, Aztec Ruins National Monument Headquarters, Aztec, New Mexico); Irving D. Townsend report, January 1950, Southwest Monuments Monthly Report, Coolidge, Arizona.

1951

Rooms:	East Wing:	14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58
	North Wing:	59, 60, 61, 62, 63, 64, 70, 71, 72, 73, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 91, 93, 94, 95, 97, 100, 112
	West Wing:	151
	South Wing:	1, 2, 3, 4, 5, 6, 85, 86, 87, 88, 89, 102, 103, 104, 105, 106, 107, 108, 109, 212, 220A, 220B, 220C

Kivas: D, G
Great Kiva: Roof repaired
Room 117 petroglyphs: Covered with alvar

References: Roland Richert, West Ruin, Aztec Ruins National Monument, 1951; Raymond Rixey to Naturalist, National Park Service, June 25, 1951 (Stabilization files, Aztec Ruins National Monument Headquarters, Aztec, New Mexico); Irving D. Townsend reports, February, June, July, September 1951, Southwest Monuments Monthly Report, Coolidge, Arizona.

1952
Great Kiva: Roof repaired

Reference: Irving D. Townsend report, April 1952, Southwest Monuments Monthly Report, Coolidge, Arizona.

1953

Rooms:	North Wing:	59, 60, 61, 62, 65, 66, 67, 69, 96, 112, 122, 113/123, 117, 118, 119, 120, 126, 127, 139/128, 144, 147, 153, 177, 180, 181, 194, 196[2]/200, 202[2], 205, 206, 207, 221, 224, 225, 198, 143, 197, 201/202[2], 239
	West Wing:	121, 132/133, 134/189, 135/182, 137/146, 145/131, 156/157, 178/192, 179, 187
	South Wing:	2, 3, 4, 5, 6, 102, 107, 220B
Protective roofs:		59, 61, 112, 113, 143, 198, 197, 201, 121, 132, 134, 146, 156, 178, 179, 117 (Partial)

Kivas: F, H, J, K, L, N, G, I, E
Great Kiva: Roof repaired

References: Roland Richert, Stabilization Report, West Ruin, Aztec Ruins National Monument, 1953 (Stabilization files, Aztec Ruins National Monument Headquarters, Aztec, New Mexico); Homer Hastings reports, April and November 1953, Southwest Monuments Monthly Report, Coolidge, Arizona.

1954
Great Kiva: Reroofed

Reference: Homer Hastings report, May 1954, Southwest Monuments Monthly Report, Coolidge, Arizona.

1956
Rooms: North Wing: 117, 140[2]/144, 141/195[2], 142/191[2], 152[2]/199, 193, 202, 203
West Wing: 134[2]
Protective roofs: 140[2], 195[2], 191[2], 199, 117
Kiva: E

Reference: Roland Richert, Maintenance Stabilization, Report, West Ruin, Aztec Ruins National Monument, 1956 (Stabilization files, Aztec Ruins National Monument Headquarters, Aztec, New Mexico).

1959
Rooms: North Wing: 120, 151, 199, 201, 205, 203
West Wing: 186, 187, 210, 215, 216, 229, 235, 236
Kivas: L, N, O, W

Reference: Joel Shiner, Stabilization of West Ruin, December 1959 (Stabilization files, Aztec Ruins National Monument Headquarters, Aztec, New Mexico).

1960
Rooms: East Wing: 51, 52, 53, 56, 58, 13, 14, 15, 17, 22, 23, 24, 25, 26, 27, 28, 35, 55, 58
North Wing: 65, 66, 67, 69, 71, 84, 85, 86, 87, 88, 89, 96, 120, 191, 199, 201, 205, 238, 240, 241, 118
West Wing: 151, 156, 157, 178, 186, 187, 192, 210, 215, 216, 229, 235, 236, 178/192
South Wing: 1, 2, 4, 5, 6, 102, 103, 104, 105, 106, 107, 108, 220A, 220B, 220C
Protective roofs: 156, 178, 5 unidentified
Kivas: E, F, G, J, K, L, N, O, W

Reference: Joel Shiner, Stabilization at Aztec Ruins National Monument, 1959-1960 (Stabilization files, Aztec Ruins National Monument Headquarters, Aztec, New Mexico).

1961
Rooms: North Wing: 118, 119, 126, 127[2], 128[2], 136[2], 140[2], 181, 252, 196, 199, 201, 205, 206, 206 lower, 207 lower, 207 upper, 221, 224 lower, 224 upper, 240, 241, 249, 239, 255
West Wing: 121, 130[2], 132, 135[2], 148[2], 150, 151, 176, 183, 227, 228, 234, 237
Kiva: H

Reference: Joel Shiner, Stabilization of the West Ruin, Aztec Ruins National Monument, 1961 (Stabilization files, Aztec Ruins National Monument Headquarters, Aztec, New Mexico).

1965
Rooms: North Wing: 118, 119, 194, 240, 243, 244, west of 119, 194
West Wing: 151, 185, 186, 188, 195, 196, 210, 218, 216, 229, 235, 236, 237, 260, west of 187

Protective roofs: North Wing: 197, 198, 141, 199, 196, 201, 113, 112, 61, 59
West Wing: 132, 146, 156

Kivas: L, N, O

References: Charles B. Voll and Martin T. Mayer, 1965 Maintenance Stabilization, West Ruin, East Ruin, and Hubbard Mound, Aztec Ruins National Monument (Stabilization files, Aztec Ruins National Monument Headquarters, Aztec, New Mexico).

1967

Rooms: South Wing: 1, 2, 4, 5, 6, 85, 86, 88, 102, 104, 105, 106, 107, 220A, 220B, 220C

Reference: Martin T. Mayer, Stabilization Records, East and West Ruins, Aztec Ruins National Monument, 1967 (Stabilization files, Aztec Ruins National Monument Headquarters, Aztec, New Mexico).

1973

Rooms: North Wing: 63, 64, 72, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 110, 111, 115, 181, 195, 196, 197, 199, 239, 224, 121
West Wing: 130, 132, 134, 135, 138, 145, 148, 151, 155, 156, 175, 178, west of 187, 216, 229, 230, 231, 234, 210, 235, 236, 237

Kivas: N, O, W

Reference: Peter Laudeman, Aztec Ruins National Monument, West Ruin, Hubbard Tri-Wall Structure, 1973, Stabilization Report (Stabilization files, Aztec Ruins National Monument Headquarters, Aztec, New Mexico).

1974

Rooms: East Wing: 12, 13, 14, 16, 18, 37, 38, 40, 41, 42, 46, 48, 54
North Wing: 59, 61, 63, 64, 65, 66, 67, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 83, 84, 90, 91, 92, 93, 94, 95, 98, 100, 101, 112, 113

Kiva: D

Great Kiva: Reroofed

Reference: Marianne Trussell, Aztec Ruins National Monument, May 1974-October 1974, Stabilization Report (Stabilization files, Aztec Ruins National Monument Headquarters, Aztec, New Mexico).

1975

Rooms: East Wing: 16, 17, 18, 19, 20, 24, 25, 26, 27, 28, 29, 30, 31, 33, 35, 43, 44, 45, 47, 49, 50, 51, 52, 53, 55, 56, 57, 58
North Wing: 59, 61, 68, 118, 119, 197, 240
West Wing: 218

Kivas: E, F, J

Reference: Stephen E. Adams, West Ruin, Aztec Ruins National Monument, Stabilization Report, 1975 (Stabilization files, Aztec Ruins National Monument Headquarters, Aztec, New Mexico).

1976
Protective roofs: 191, 195, 196, 197, 198, 199, 201

References: Purchase Order 4102176, Goodrich Roofing Company, Farmington, New Mexico; Stephen E. Adams, Scope of Work Statement, Protective Roofs, West Ruin, March 20, 1978 (Stabilization files, Aztec Ruins National Monument Headquarters, Aztec, New Mexico).

1977
Rooms: North Wing: 66, 67, 110, 114, 115, 126, 136, 143, 180, 201, 239, 249, 208, 205, 206, 207, 222, 240, 202, 203, 213, 255
West Wing: 151, 175, 185, 186, 188, 210, 212, 227, 258, 259, 260, 218
Kivas: L, N, O, W, I
Great Kiva: Rooms 160, 173

Reference: Stephen E. Adams, Completion Report, Construction Package 110, Stabilize West Ruin, 1977 (Stabilization files, Aztec Ruins National Monument Headquarters, Aztec, New Mexico).

1978
Rooms: North Wing: 126, 139, 143, 181, 191, 195[2], 252, 196, 197, 198, 199, 201, 249, 205, 214, 224, 203, 241, 242
West Wing: 130[2], 132, 134[2], 138, 145, 148[2], 149, 150, 151, 155, 174, 175, 176, 183, 184, 185, 186, 187, 188, 210, 211, 193, 226, 227, 229, 230, 231, 232, 233, 234, 235, 236, 237, 245
South Wing: 1, 2/3, 4/5, 6, 85, 86, 87, 88, 89, 102, 220A, 220B, 220C, 103, 105, 106, 107
2 unidentified rooms
Protective roofs: 178, 179, 197, 198, 191, 195, 199, 196, 201
Kivas: B, N, O, V, W

References: Stephen E. Adams, Protective Roofs, West Ruin, Aztec Ruins National Monument, March 20, 1978; William L. Schart, Aztec Ruins National Monument, Ruins Preservation, Field Season 1978 (Stabilization files, Aztec Ruins National Monument Headquarters, Aztec, New Mexico).

1979
Rooms: North Wing: 59, 61, 140, 143, 239
West Wing: 121, 134, 146, 132
South Wing: 88, 102, 104, 105, 220B
Protective roofs: 7 unidentified rooms, 4 ceilings braced

Reference: Stephen E. Adams, Completion Report, Cyclic Maintenance, Complete Stabilization of the Hubbard Mound, Replace protective roofs on the West Ruin, October 15, 1979 (Stabilization files, Aztec Ruins National Monument Headquarters, Aztec, New Mexico).

1982
Rooms Backfilled: North Wing: 124, 250
West Wing: 229, 230, 233

Reference: Stephen E. Adams, Completion Report, Aztec Ruins National Monument, Improve Drainage to Protect West Ruin, October 13, 1982 (Stabilization files, Aztec Ruins National Monument Headquarters, Aztec, New Mexico).

1983
Rooms: East Wing: 47
North Wing: 118, 238
West Wing: 175, 187, 210, 212, 229, 230, 233, 235, 245, 258, 151
Kivas: L, N, O, V, W

Reference: James D. Brown, Completion Report, Day Labor Project, Construction Package A17, Stabilize West Ruin, Aztec Ruins National Monument, December 8, 1986.

1984
Rooms: North Wing: 117, 119, 196, 207, 240, 225, 221, 222, 204, 129, 158[2], 202
West Wing: 149, 150, 155, 176, 183, 187, 210, 215, 232
Kivas: B, J, K
Great Kiva: Roof repaired, masonry of room walls

References: James D. Brown, Completion Report, Day Labor Project, Construction Package A17, Stabilize West Ruin, Aztec Ruins National Monument, December 8, 1986; Larry V. Nordby and John T. Morgart, Drainage System Installations and Great Kiva Outer Ring Primary Beam Replacement, Aztec Ruins National Monument, 1984 (Stabilization files, Aztec Ruins National Monument Headquarters, Aztec, New Mexico).

1985
Rooms: East Wing: 57, 58
North Wing: 66, 93, 96, 99, 110, 111, 112, 113, 114, 120, 124, 154, 191[2], 250
South Wing: 1, 2, 4, 5, 6, 86, 88, 89, 102, 103, 105, 106, 107, 220A, 220B, 220C

Reference: James D. Brown, Completion Report, Day Labor Project, Construction Package A17, Stabilize West Ruin, November 5, 1986 (Stabilization files, Aztec Ruins National Monument Headquarters, Aztec, New Mexico).

1986
Rooms: North Wing: 180, 225
East Wing: 16, 17, 18, 20, 22, 24, 25, 26, 27, 28
Kivas: D, F, L, I
Great Kiva: Reroofed

References: James D. Brown, Completion Report, Day Labor Project, Construction Package A17, Stabilize West Ruin, January 7, 1987; John T. Morgart et al, Great Kiva Primary Beam Project, 1986 (Stabilization files, Aztec Ruins National Monument Headquarters, Aztec, New Mexico).

1987
Rooms: East Wing: 40, 43, 44, 45, 47, 49, 50, 55, 56, 57
North Wing: 197, 201, 221, 61, 65, 66, 68, 71, 92, 96, 195, 196, 242, 202

West Wing: 186, 227, 185, 231, 234, 260
Kivas: F, G, H, O

Reference: James D. Brown, Completion Report, Day Labor Project, Construction Package A17, Stabilize West Ruin, January 26, 1988.

1988
Rooms: East Wing: 38, 39, 46, 47, 48, 49
North Wing: 201, 203, 238, 239, 220
West Wing: 213, 216, 151

Reference: Report in preparation.

EAST RUIN

1949
Protective roofs: 2, 4
Timber supports: 6, 7, 8, 9, 11, 12, 13, 14, unnumbered room (?)

Reference: R. Gordon Vivian, Stabilization Records, The East Ruin, 1949.

1953
Protective roofs: 8, 9, 11, 12, 13, 14, 24

Reference: Roland Richert, Stabilization Report, Limited Stabilization, East Ruin, Aztec Ruins National Monument, 1953.

1956
Rooms: 15, 16, 17, 18, 19, 20, 21

Reference: Roland Richert, Stabilization Report, East Ruin, Aztec Ruins National Monument, 1956.

1957
Protective roofs: 7 unidentified

Reference: Roland Richert, Stabilization Report, East Ruin, Aztec Ruins National Monument, 1957.

1965
Rooms: 3, 4, 5, 7, 8, 9, 11, 12, 13, 14, 18, 19, 20, 21, 22, 23, 24

Reference: Charles B. Voll and Martin T. Mayer, 1965 Maintenance Stabilization, West Ruin, East Ruin, and Hubbard Mound, Aztec Ruins National Monument, New Mexico.

1967
Rooms: 2, 15

Reference: Martin T. Mayer, Stabilization Records, East and West Ruins, Aztec Ruins National Monument, 1967.

1985
Rooms: 0, 00, 1, 18, 19, 23

Reference: James D. Brown, Completion Report, Day Labor Project, Stabilization East Ruin, Construction Package 402, Aztec Ruins National Monument, November 5, 1986.

APPENDIX M

STABILIZATION EXPENDITURES (INCOMPLETE), WEST RUIN

Expenditures for stabilization prior to the 1970s are gleaned from random correspondence or reports and therefore should be considered as merely suggestive. The American Museum of Natural History budgets did not distinguish between excavation and repair expenses. Itemized accounts for the CCC Mobile Unit or the Ruins Stabilization Unit, covering approximately 35 years of intensive work, have not been made available for this study. The figures given for these first 50 years of stabilization may represent materials only, materials and labor, or special appropriations for particular emergencies. Figures after 1981 include the salary of one full-time employee.

1918	$500.00		1954	$1,059.00	
1920	100.00		1968	11,371.00	(incl. court drain)
1921	350.00		1973	19,303.00	(incl. Hubbard Mound)
1924	324.00		1974	35,000.00	
1925	359.33		1975	31,700.00	
1933-34	8,705.42		1976	2,555.00	
1937	100.00		1977	38,900.00	(incl. Hubbard Mound)
1938	239.32		1978	30,500.00	(incl. Hubbard Mound)
1939	25.00		1979	5,491.00	
1940	400.00		1980	2,600.00	
1941	800.00		1981	11,367.00	
1942	785.71		1982	20,934.00	
1943	1,228.00		1983	80,092.00	(incl. French drain)
1944	2,762.83		1984	51,743.00	
1945	1,158.69		1985	50,785.00	
1946	10,021.06	(incl. north drain)	1986	29,903.00	
1948	1,000.00		1987	46,923.00	
1949	125.15	(East Ruin)	1988	71,146.00	

PUBLISHED REPORTS
OF THE
SOUTHWEST CULTURAL RESOURCES CENTER

1. Larry Murphy, James Baker, David Buller, James Delgado, Roger Kelly, Daniel Lenihan, David McCulloch, David Pugh; Diana Skiles; Brigid Sullivan. Submerged Cultural Resources Survey : Portions of Point Reyes National Seashore and Point Reyes-Farallon Islands National Marine Sanctuary. Submerged Cultural Resources Unit, 1984.

2. Toni Carrell. Submerged Cultural Resources Inventory: Portions of Point Reyes National Seashore and Point Reyes-Farallon Islands National Marine Sanctuary. Submerged Cultural Resources Unit, 1984

3. Edwin C. Bearss. Resource Study: Lyndon B. Johnson and the Hill Country, 1937-1963. Division of Conservation, 1984.

4. Edwin C. Bearss. Historic Structures Report: Texas White House. Division of Conservation, 1986.

5. Barbara Holmes. Historic Resource Study of the Barataria Unit of Jean Lafitte National Historical Park. Division of History, 1986.

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