

*Prehistoric and Historic Archaeology on
Laughlin Air Force Base*

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Produced under contract number 1443-CX-1200-94-005,
funded by the Air Education and Training Command, U.S. Air Force
through the National Park Service,
Interagency Archeological Services, Denver

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Center for Archaeological Research
The University of Texas at San Antonio
Special Report, No. 21

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Acknowledgments

The staff of CAR wish to express their sincere appreciation to the military and civilian staff at Laughlin Air Force Base for their enthusiastic support during this project. The attitude of "doing what is right" begun by Brigadier General Kenneth W. Hess, former commander of the 47th Flight Training Wing, and continued by his successor Col. Timothy A. Peppe established an atmosphere of cooperation that was echoed throughout the base. Members of the 47th Support Group headed by Col. Robert Barlow, former commander, Col. Carl Critchlow, commander, and Lt. Col. Roger B. Condit, deputy commander, supplied our field crew with technical support and equipment that enhanced our effectiveness. S. M. Sgt. Jefferies and the other members of the 47th Security Police Squadron kept in touch with our teams by radio, making us feel secure and twice saving us from torrential storms with their thoughtful and timely warnings. Our closest dealings were with the staff of the 47th Civil Engineer Squadron. The support from former commander Lt. Col. Paul W. Somers and present commander Maj. Hal M. Tinsley was put into action by Donnie Stillwell, Abe Lincoln, Jim Brown, and John Strange. Special thanks are due to Monica Fields, former chief environmental officer and to John Scarbrough, our patient and fearless backhoe operator. But most of all, thanks to Ralph A. Mitchell, Jr., our primary contact, who expedited all our requests, answered all our questions, and made everything work smoothly. The total support shown by the personnel at Laughlin Air Force Base made this project a pleasure from start to finish.

Our appreciation extends to people off the base as well. The staff at the Whitehead Memorial Museum in Del Rio enthusiastically supplied information and photographs for this report. Florence Marshall Major and Anselyn Marshall graciously provided photographs and family memories of pre-Laughlin life on the Zacatosa Ranch. And Steve De Vore with the National Park Service and Joe Labadie, archaeologist at Amistad National Recreation Area, shared their knowledge of the area. And finally, we want to acknowledge the National Park Service for recognizing the importance of sharing our project results with non-archaeologists.

Introduction

Archaeology concentrates on the remains left behind by humans during their everyday lives. These remains may consist of artifacts—objects of stone, bone, or shell that have been shaped by human activities, or pieces of broken pottery, glass, or metal from more recent times. Historic remains can also consist of architectural fragments such as bricks, concrete, window glass, and nails. Through basic knowledge of the comparative dates when such objects were created and used, the archaeologist can reconstruct the lives of the people who used those objects and estimate when they were there.

An archaeological site is a location where human activities took place. Archaeologists generally separate sites occupied by people in the past into two basic time periods: *prehistoric*, referring to the period from first entry of humans into the area to the arrival of the first Europeans; and *historic*, beginning with settlement by Europeans who kept written records, and continuing to the present. Typical prehistoric archaeological sites include camp sites where people lived, quarry sites where raw materials were gathered for making stone tools, and small hunting camps. Historic sites vary widely in type. They can include houses, farm or ranch sites, and commercial or industrial sites.

Archaeological features are areas within a site where specific activities took place, such as a hearth in a prehistoric site, or a foundation or well in a historic site. Features are carefully studied to retrieve information on the people living within the site. They often reveal the date of occupation, and information about the activities which took place there.

Archaeological projects are undertaken for various reasons. As objects of scientific research, archaeological sites are excavated to obtain information about the people who lived in an area at various times. Careful archaeological excavations can provide information about the lives of prehistoric people about whom little or nothing is known. Even when historic records are available, historic archaeology can tell us details about people's lives that were never recorded.

Public archaeology, along with protection of properties of historic, architectural, engineering and cultural significance, is a part of Cultural Resource

Management (CRM). CRM grew out of the federal law and similar state laws that protect archaeological sites on publicly owned property. The laws not only define the significance of archaeological sites, but also caution that it is against the law to collect artifacts or otherwise disturb archaeological sites on federal property. When a construction project is located on federal property or financed with federal funds, archaeological investigations are required by law to determine the impact the project will have on cultural resources such as archaeological sites. As a result of this federal concern, all military bases have been required to complete cultural inventories, and it is under this mandate that the survey Laughlin AFB was conducted.

The purpose of this project was to locate and identify all the archaeological sites on Laughlin AFB to help the Air Force meet its responsibilities under federal cultural resource laws intended to protect places of prehistoric and historic significance. The "significance" of a site is determined according to National Register of Historic Places (NRHP) criteria. The National Register was created by the National Historic Preservation Act of 1966 to record sites judged to be significant in American history, architecture, archaeology, and culture. To be eligible for inclusion on the NRHP, a site must have integrity of location, design, setting, materials, workmanship, feeling, and associations. In addition, it must be associated with an important event, or the lives of important people, or represent artistic values, or have yielded or be likely to yield information important in history or prehistory.

Not all sites found and recorded by archaeologists meet the NRHP criteria, and many of those found eligible are never listed on the Register. However, eligible sites, whether listed or not, are intended to be protected from adverse impacts associated with federal projects. If an archaeological site will be unavoidably disturbed by the action of a public agency, such as expanding family housing on a military base, steps must be taken to limit the disturbance and recover as much scientific and historical information as possible before the site is damaged or destroyed. It is also against the law for private individuals to collect artifacts or otherwise disturb archaeological sites on federal property, including Laughlin AFB and the leased land at the Air Force Recreation Area and Marina on Lake Amistad.

In some states, laws have been written that afford protection to public property similar to that given to federal lands by the National Historic Protection Act. The Antiquities Code of Texas, for example, provides that archaeological and other historical sites on land belonging to a state, county, city, or other political subdivision of the state are eligible to be designated state archaeological landmarks. Private landowners may also request this designation for significant sites on their property.

Before archaeological assessments can be made, it is necessary to compile all historic and archival information on the area involved. Reports of previous archaeological projects done in the surrounding area are studied and summarized for information that will be helpful in understanding and interpreting what will be found during the present project. All pertinent prehistoric and historic information is then assembled and used as the basis for planning the project.

Archaeological assessments are carried out in a series of steps or phases. The first of these is the survey, which consists of a carefully planned examination of the surface of the area in question. Archaeologists usually divide the area into sections, then walk across each section with crew members placed a set distance apart. Crew members progress slowly, examining the ground surface visually and recording on maps any indication of human activity including projectile points, chipped-stone fragments, or pottery in the case of prehistoric sites; or glass fragments, nails, or ceramic sherds for historic sites. After the survey is complete, the locations of the archaeological sites are recorded.

The next phase of assessment is testing to evaluate the size, depth, and content of the site. Testing is generally done by excavating a series of shovel tests on each site. Each test is approximately 30–45 centimeters (15–18 inches) in diameter and extends in depth to the point where no further evidence of human occupation is found. Careful recording of the location of these tests and their contents is then used to compare the sites in the survey area and to determine their importance relative to others in previously studied areas. Occasionally, relatively small test units, one meter (about 39 inches) square, are also excavated in order to obtain information about the layering of occupations within the site, or to obtain information for dating the site occupation. As in the survey phase, careful written and

photographic recording of all work is vital to later interpretation of the project results.

Based on the results of the survey and testing, conclusions can then be drawn about the effect that the proposed construction project or future use of the area will have on the archaeological sites. Recommendations are made regarding how any disturbance can be moderated, either by avoiding the sites or by mitigating the effect of the disturbance through further excavation. During this process, sufficient excavation is done to recover detailed information about the history and use of the site, whether historic or prehistoric, prior to the site's destruction. Determining when and how much additional excavation should be done is a joint process involving the lead federal agency, the State Historic Preservation Office, the Advisory Council on Historic Preservation, the project archaeologists, and other concerned parties.

The current project was carried out under the mandate for recording archaeological sites on military bases. To do this, a plan was proposed for survey and limited testing over the entire area of Laughlin AFB. A period of intensive research was necessary before this plan could be constructed. Archaeologists from the Center for Archaeological Research (CAR) of The University of Texas at San Antonio (UTSA) studied the history of the immediate area including the prehistoric use of the area as determined by previous archaeological projects, studies of changes in the environment, the history of Del Rio, maps and records of land transactions related to Laughlin, and oral history interviews with former area residents. Files at the base yielded valuable information on its acquisition and early history. Numerous photographs of ranch buildings that once stood on the base were most helpful in reconstructing the earlier history of the site.

Project Setting

The setting of an archaeological project is important for understanding the natural resources available for people to use. The plants, animals, and types of water sources all affect how an area was used, when, and by whom.

Laughlin Air Force Base and the Air Force Recreation Area and Marina are located in the southeastern part of Val Verde County, Texas, near Del Rio (Figure 1). Laughlin AFB is about 10 miles east of Del Rio, and the Marina is located on Lake Amistad on the Rio Grande about 18 miles northwest of the city. The country today is semi-arid, having a rainfall of 17 inches a year and a mean temperature of 70°F. The base has a gently rolling terrain with two flowing streams running

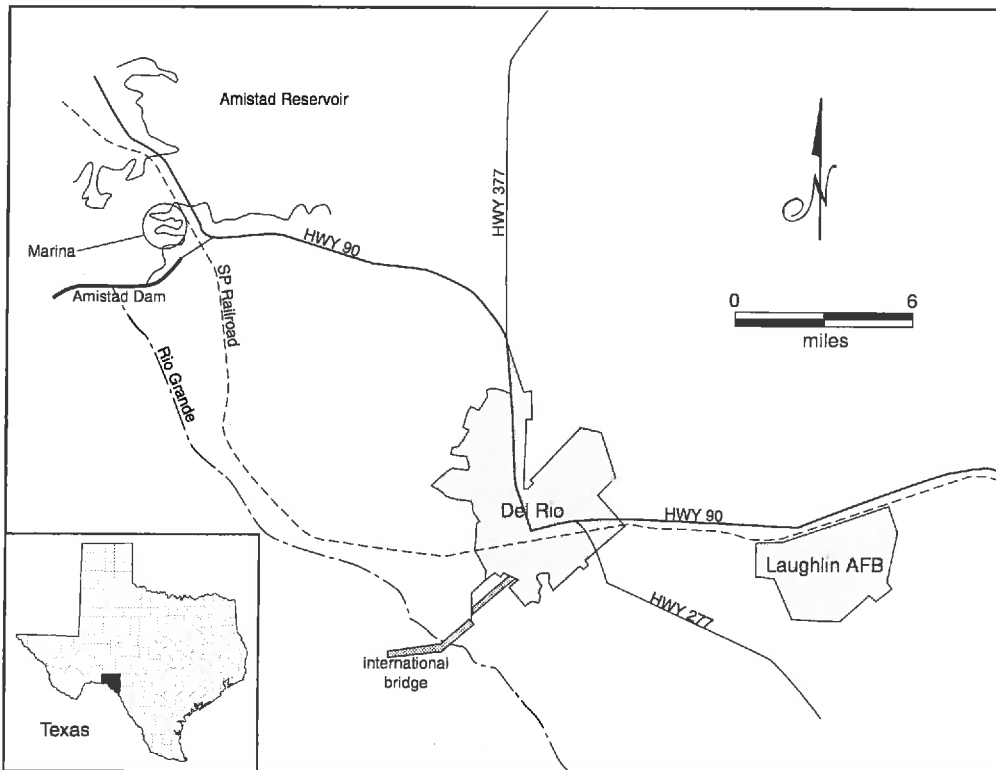


Figure 1. *Laughlin Air Force Base location map.*

through it: Zorro Creek in the extreme northwest part, and Sacatosa Creek along the eastern boundary and throughout the southeastern part. The area between the creeks consists of flat areas and low hills. Large mesquite trees, hackberries, reeds, sunflowers, and scattered prickly pear cactus grow along the creeks. Farther from the streams on the higher terraces and the upland hills and flats, the vegetation includes thorny and woody scrub-brush species such as cenizo, acacia, and scattered and stunted mesquite trees. A combination of the damming of the Rio Grande above Del Rio and overgrazing in the early-twentieth century has resulted in changes in the landscape since early Spanish explorers described extensive grasslands in the region.

Relatively little is known about the appearance of the area in prehistoric times. Studies of fossil pollen recovered in the Lower Pecos River area indicate that a drying and warming trend about 8,000 years ago replaced earlier parkland piñon pine, juniper forests, and grasslands with semi-arid shrubs and desert plants.

Today, three major biological areas merge in the region surrounding Laughlin AFB. The Tamaulipan province to the south is a semi-arid, mesquite-chaparral zone; the Chihuahuan province to the west and southwest is an arid, sotol-lechuguilla zone; while the Balconian province to the northeast and east is a scrub-forest zone of juniper and oak. The combination of terraces, canyons, and upland hills and flats has provided a great variety of plants to support human occupation in the area for thousands of years. Nearly every growing tree and plant was used by the prehistoric people. Mesquite wood was used for many purposes, including tool making and weaponry. The mesquite bean was a source of food, while sotol and lechuguilla, in addition to providing food resources, were used for making baskets, sandals, and rope (Figure 2). Various grasses were used for bedding and for making rope and string, in addition to providing seeds which were ground for eating. The prickly pear cactus pads were a source of food and served as containers for carrying and storing.

As a result of the convergence of the three biological areas, over 50 species of animals have been observed in the general area, including white-tail deer, bobcat, fox, coyote, opossum, javelina, raccoon, porcupine, skunk, mice, squirrels, jack rabbit, cottontail rabbit, and other rodents. Nearly all these animals were part of the diet of the prehistoric people, and the skins of the larger animals were used

for clothing. Rabbit skins were cut into strips which were wrapped around string and woven into cloaks for use in the colder months. Early in historic times, bear and pronghorn antelope were present. Various species of turtles, lizards, snakes, and fish would also have provided food sources for both prehistoric and historic peoples.



Figure 2. *Sandals from the Lower Pecos, woven from sotol leaves.*

History of the Project Area

A history of the Laughlin area was compiled from the results of the pre-field research. This included reconstruction of the prehistory and history as obtained from study of reports of earlier archaeological excavations, archival materials from the base files, historic accounts by early observers and settlers in the Del Rio area, government reports concerning climate change and flora and fauna in the general location, and oral history interviews.

The Prehistoric Period

The area directly northwest of Del Rio, where the Pecos and Devils rivers join the Rio Grande, is internationally known as an area of numerous prehistoric occupation sites, both on the river terraces and in the dry rockshelters beneath overhangs which provided shelter in the colder months. Because of their protected locations, rockshelter sites contain rich, well-preserved deposits of important archaeological materials as well as wall paintings (pictographs) and drawings pecked into the rock (petroglyphs). Many of these sites were studied by archaeologists before a large number of them were inundated following construction of the Amistad Reservoir.

While a great deal of research attention has been paid to the Rio Grande and its tributary canyons, relatively little is known about human activities away from the river. For this reason, archaeologists believe that the Laughlin sites have potential to produce valuable information about how the prehistoric people were living in this environment away from the Rio Grande and the protection of rockshelters.

Archaeologists divide prehistoric time in this region into periods. Dates are given as years before present (B.P.), calculated from 1950.

- Paleoindian (12,000–8800 B.P.)
- Early Archaic (8800–5500 B.P.)
- Middle Archaic (5500–3000 B.P.)
- Late Archaic (3000–1250 B.P.)
- Late Prehistoric (1250–250 B.P.)

Based on research and radiocarbon dating, these periods have been divided into phases (Table 1). They are based on differences in the archaeological record that reflect how people modified their way of life to adapt to changes in population size and climate. For each period, unique projectile points and other artifacts have been recovered (Figure 3).

Table 1. Regional Phases

Calendar Years	Geologic Epoch	Regional Period	Subperiod	Years B.P.	
1950	Late Holocene	Historic		0	
1000		Late Prehistoric	Infierno	1000	
		Late Archaic	Flecha		2000
Blue Hill					
Cibola					
1000		Middle Archaic	San Felipe	3000	
2000			Eagle Nest	4000	
3000		Middle Holocene	Early Archaic	Viejo	5000
4000					6000
5000		Early Holocene	Paleoindian	Oriente	9000
6000	Bonfire			10000	
7000	Pleistocene	Paleoindian	Aurora	11000	
8000			12000		
9000					
10000					

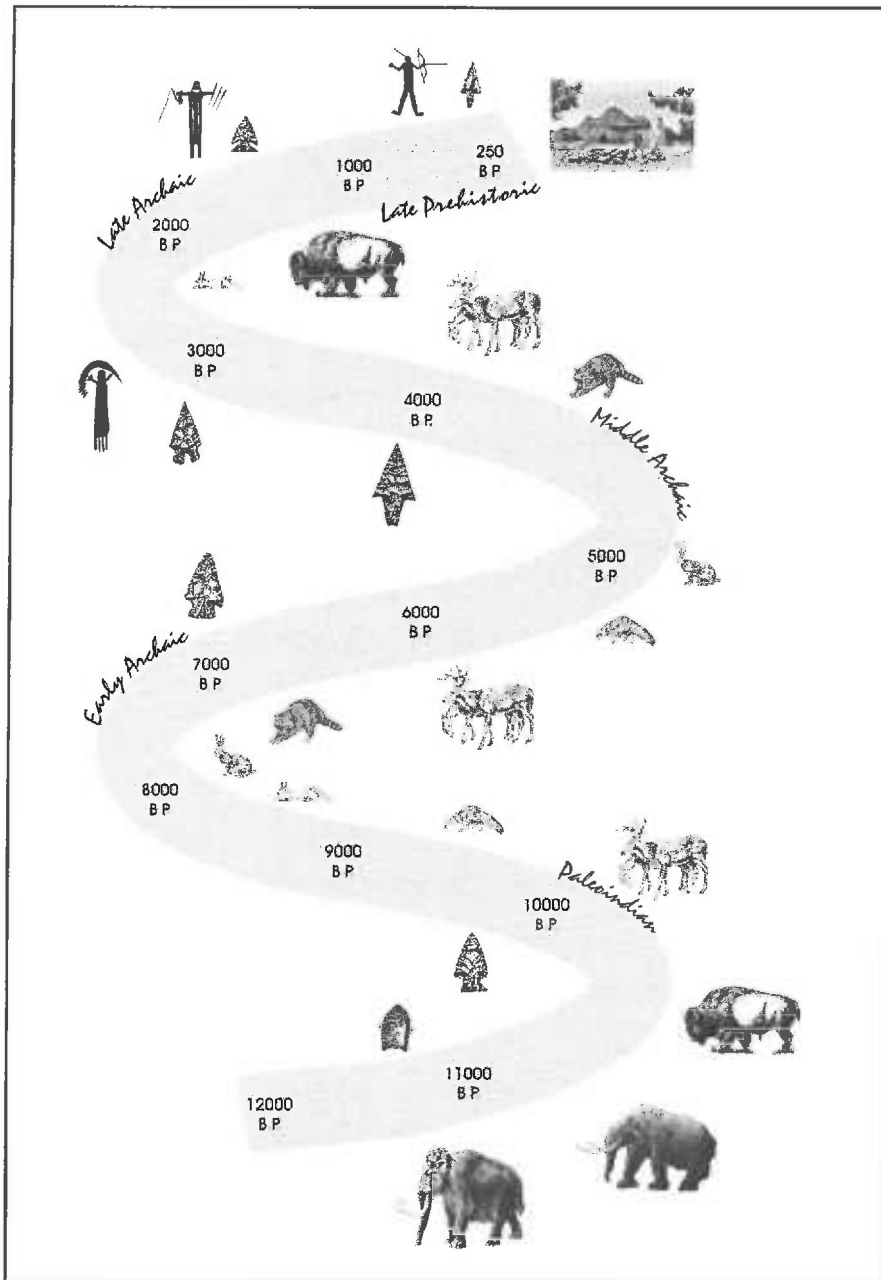


Figure 3. Prehistoric timeline.

Archaeological evidence tells us that the earliest people to occupy the Americas were big-game hunters who roamed over large areas in small bands following herds of now-extinct bison, camel, horse, and mammoth. Sites across North America from the Paleoindian period are identified by the presence of distinctive Clovis and Folsom projectile points (Figure 4). This earliest period of occupation in the Lower Pecos region was a time of general warming when grasslands needed to support herds of large animals expanded into the region. Although sites with Clovis points have yet to be discovered in the Lower Pecos, Folsom and Plainview points have been found associated with large numbers of butchered and heavily burned bones of extinct bison.

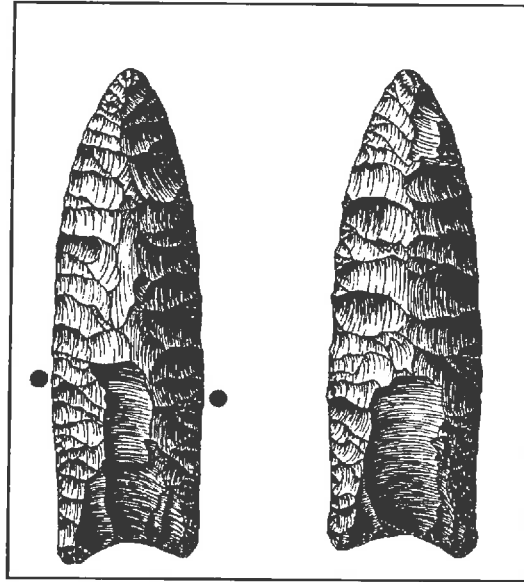


Figure 4. *Clovis spear point from Texas, front and back.* The dots show the extent of the smoothing along the edges of the stem (by Richard McReynolds, Courtesy of *La Tierra*).

Toward the end of the Paleoindian period in the Lower Pecos, the climate gradually became warmer and drier and the importance of hunting big game dwindled, giving way to smaller animals such as rabbits, squirrels, rodents, and fish. Plant foods such as black walnut, prickly pear, and mesquite became more important in the prehistoric diet. People began using the shelter provided by the caves along the major rivers as temporary campsites and began to weave mats and sandals from the desert succulents that start to flourish toward the end of this period.

The Early Archaic period is identified by a total shift in adaptive strategies to correspond with the increasingly dry conditions in the area. Evidence of defined sleeping, cooking, and latrine areas in rock shelters suggests these areas were used more frequently. Smaller game like deer, rabbit, rodent, and fish continued to be important in the diet as did black walnut, prickly pear, and mesquite. Sotol and

other desert succulents remained important sources of fiber for the manufacture of baskets, mats, sandals, and cordage, and also become a part of the prehistoric diet. Projectile points associated with the period include Early Stemmed and Early Corner Notched points. (Figure 5)

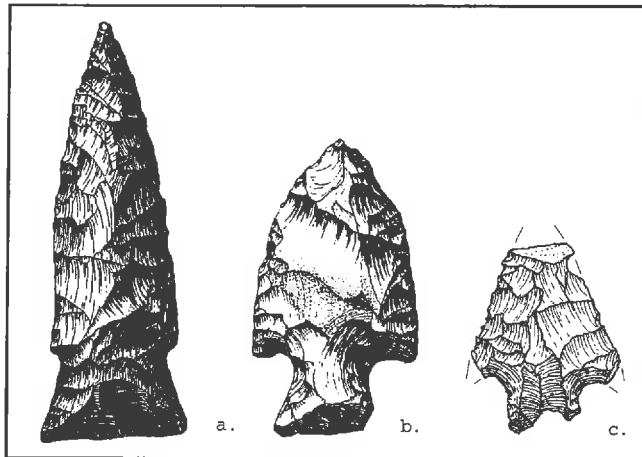


Figure 5. *Early Archaic projectile points.* a. Early Stemmed; (Early Side Notched); b. Early Corner Notched; c. Early Corner Notched from Laughlin AFB (a. and b. courtesy of *La Tierra*, c. by Bruce Moses). Not to scale

The Middle Archaic period is punctuated by periods of near-drought conditions. Prehistoric sites dating to this time are

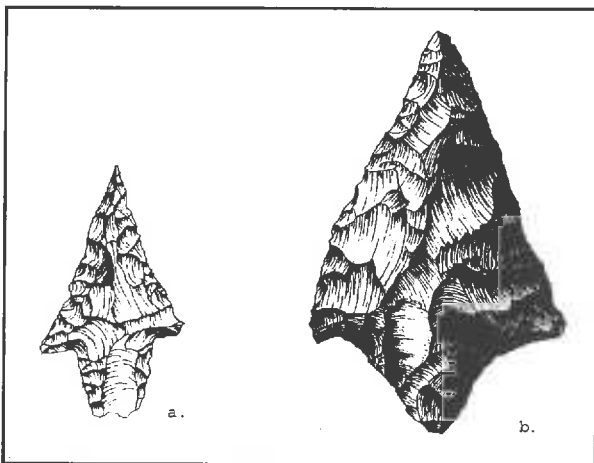


Figure 6. *Middle Archaic projectile points.* a. Langtry; b. Almagre (a. by Margie Greco, b. by Richard McReynolds, courtesy of *La Tierra*). Not to scale.

concentrated along the major rivers, suggesting the drier conditions limited the range of the people to areas near these sources of water. The appearance of projectile points styles distinctive to the region, like the Langtry and Almagre in Figure 6, is further evidence of a more restricted hunting and gathering range. Fruit from the desert lechuguilla appears for the first time, supplemented in the diet by fish and turtle. This is the period when the Pecos River

style rock art appears on the walls of Lower Pecos rock shelters for the first time (Figure 7). These paintings, called pictographs, contain life-size and larger representations of human and animal forms in red, black, yellow, green, and white. Some researches believe that the concentration of population along the rivers prompted the need for ritual activity associated with rock art.



Figure 7. *Example of Pecos River Style rock art from Panther Cave (copied by Forrest Kirkland, courtesy of the Texas Memorial Museum, accession 2261-25).*

During the Late Archaic period, the trend toward isolation seems to have been reversed. At the start of the period, a cooler, wetter interval occurred during which the bison apparently returned to the area. Judging from the appearance of Marshall, Castroville, and Montell projectile points (Figure 8) typically found in Central Texas sites during this period, hunters from other areas followed these herds to the Lower Pecos region. Shifts in burial practices and the appearance of red, miniature human stick-figure style of rock art known as Red Linear also suggest change (Figure 9). However, the same dependence on succulents, aquatic animals, and small mammals continued in sites where bison were not present, indicating that their appearance did not totally alter the prevalent life-style of the region.

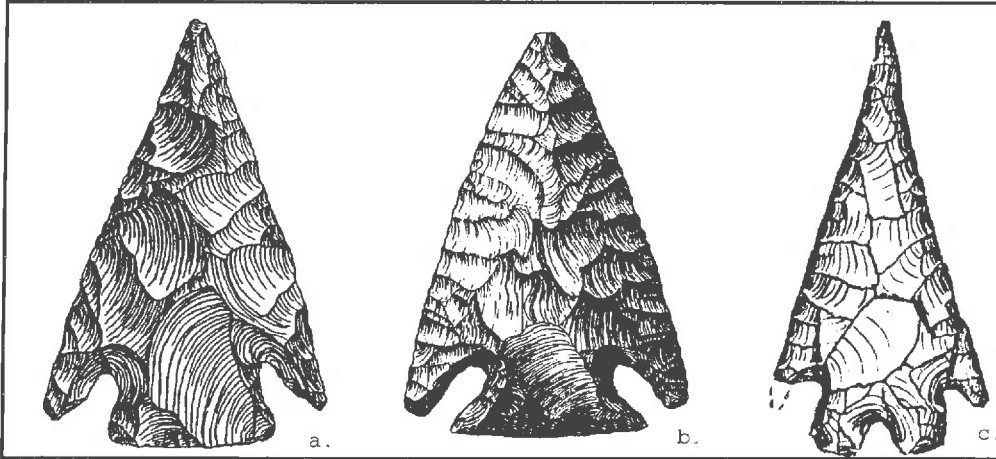


Figure 8. *Late Archaic points*. a. Castroville; b. Marcos; c. Montell point with one barb broken (a. and b. by Richard McReynolds, c. by Daniel E. Fox, courtesy of *La Tierra*). Not to scale.



Figure 9. *Red Linear style rock art from Presa Canyon* (copied by Forrest Kirkland, courtesy of the Texas Memorial Museum, accession 2261-52).

Toward the end of the Late Archaic period, there is evidence again, in the form of projectile-point styles, that desert-dwelling inhabitants of Northern Mexico may have expanded their range into the Lower Pecos, filling a void created by the withdrawal of the bison hunters at the return of a more arid climate. Sotol, yucca, and fish were of major importance in the diet. Dart points frequently found late in this period include Shumla, a typical Lower Pecos type that may have its origins in Mexico, and Ensor and Frio, two point styles that were common across a wide area of central and south Texas and adjacent areas of Mexico (Figure 10).

The Late Prehistoric period brought few cultural changes to the people of southwestern Texas, other than the introduction of the bow and arrow. Desert succulents continued to be important in the diet, and for the first time we see the appearance of rings and crescents of burned rock, the remains of stone ovens where these food items were processed. Small stemmed and unstemmed arrow points reflect the change in hunting technique (Figure 11). Two new styles of rock art appear in the shelters along the rivers. Both the Red Monochrome style with its full-bodied, naturalistic depictions of human and animals (Figure 12), and the red and yellow abstract designs of the Bold Geometric style (Figure 13) are thought to have appeared during the Late Prehistoric. The later part of this period is marked by the presence of stone tepee rings for pole supports, and hearths on high prom-

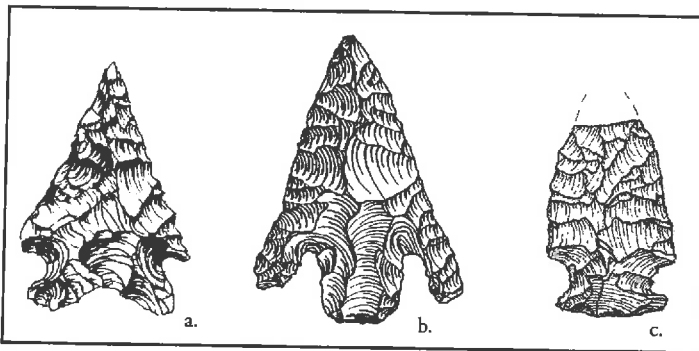


Figure 10. *Late Archaic points*. a. Frio; b. Shumla; c. Ensor from Laughlin AFB (a. and b. by Margie Greco courtesy of *La Tierra*, c. by Bruce Moses). Not to scale.

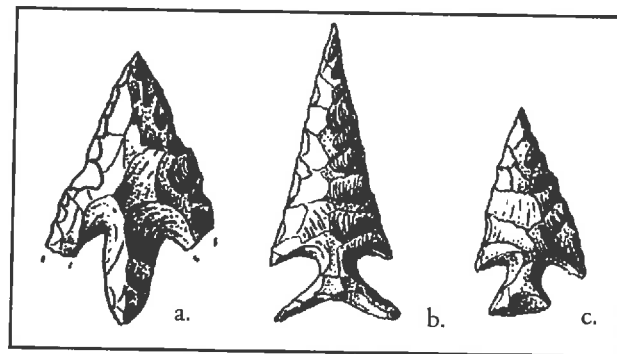


Figure 11. *Late Prehistoric arrow points*. a. Perdiz; b. Edwards; c. Scallorn (by Richard McReynolds, courtesy of *La Tierra*). Not to scale.

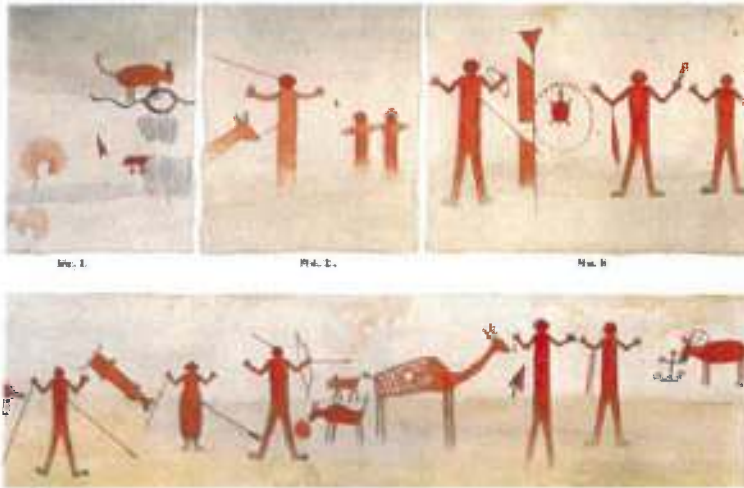


Figure 12. *Red Monochrome style rock art from Painted Rock Shelter* (copied by Forrest Kirkland, courtesy of the Texas Memorial Museum, accession 2261-46).

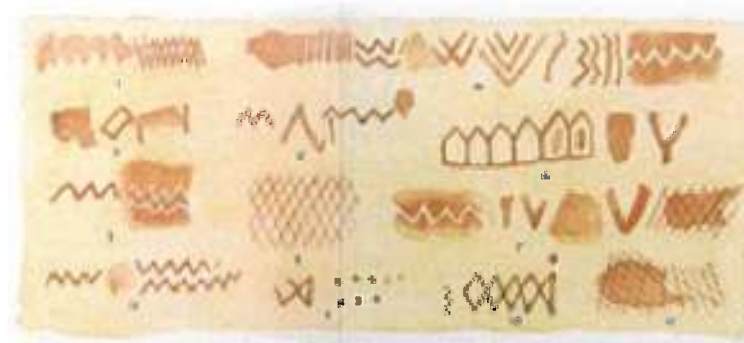


Figure 13. *Bold Geometric style rock art from Shuler Ranch, Chalk Draw* (copied by Forrest Kirkland, courtesy of the Texas Memorial Museum, accession 2261-80).

ontories overlooking the river and its tributaries. Undecorated brown pottery fragments also begin to appear in a few sites at this time.

The Historic Period

Early Spanish expeditions generally crossed the Rio Grande either below the Del Rio area in the vicinity of Eagle Pass or farther to the north at present-day Presidio. The only explorer known to approach the Laughlin area was Gaspar Castaño de Sosa, lieutenant governor of Nuevo León, who in July 1590 headed an expedition to New Mexico, ostensibly for colonization. It turned out that he had offered the expedition's backers payment in slaves which he expected to capture while he traveled through the pueblo country. The expedition crossed the Rio Grande near Del Rio and headed up the Pecos River valley. In October of the same year, the viceroy discovered what Castaño was intending to do, and sent Captain Morlete to make peace with the pueblos, free the captives, and arrest Castaño.

The first Franciscan missionary to venture into Texas in search of native converts was Father Juan de Larios of the Jaliscan Province in 1675. His expedition crossed the Rio Grande well below the Del Rio area. Subsequent expeditions heading for east Texas to found missions also tended to stay to the south, crossing below present-day Piedras Negras. In 1701 a settlement consisting of three missions and a presidio was founded in the Valley of the Circumcision, near the old crossing down river from Piedras Negras.

In discussing the historic Indians, it is important to recognize that by the time the first Europeans came into the area, the numerous small ethnic groups in south Texas had already felt the impact of the Spanish expansion into northern Mexico. This expansion subjected them to rapid changes in their organization and living habits. The Bacorame, Cohabita, Ervipiame, Gueiquesal, Hape, Pacuache, and Saesse lived in northeastern Coahuila across the Rio Grande from Del Rio. One of these very groups may have recorded their experience with the invading Europeans in historic Lower Pecos rock art (Figure 14). These Indians habitually crossed the river below the mouth of the Pecos in the vicinity of present-day Del Rio to hunt bison in the winter, ranging as far north as the southern margin of the Edwards Plateau.



Figure 14. *Historic rock art from Meyer Springs* (copied by Forrest Kirkland, courtesy of the Texas Memorial Museum, accession 2261-75).

Apparently these same trails between the Edwards Plateau and northern Coahuila continued to be used into the late-eighteenth and nineteenth centuries by raiding Lipan Apaches and Comanches who periodically swept through the area during that time. These Indian groups had been forced to abandon their traditional mode of agriculture, so returned to a hunting and gathering way of life, combining this with regular raids on other Indian groups and Spanish enclaves in Texas and northern Mexico.

It was not until the early 1800s that Mexican rancheros started to move into the confluence of San Felipe Creek and the Rio Grande, the later location of Del Rio. The tradition of cattle ranching, brought to Mexico by the Spanish and continued by the Mexican government, persisted through the 1840s. In 1845 the Texas Republic issued land grants to Anglo-American settlers who were attracted to the area by the prospect of easily accessible irrigation waters from the copious local springs. This combination of the Spanish ranching tradition and that of the early Texans set the stage for large-scale cattle ranching as a major economic base for the region.

Settlement was encouraged by statehood in 1846, prompting the U.S. Army to build a series of roads and two interrelated chains of forts to protect the western territories from Indians (Figure 15). An Army outpost known as Camp Del Rio was built on San Felipe Creek in 1857 and made a sub-post of Fort Duncan in Eagle Pass. This early military presence at posts in west and southwest Texas played an important role in the development of the ranching economy that later flourished in Del Rio and Val Verde County. The westward advance of the Texas frontier soon caused the town of San Antonio to become an economic center, and small settlements such as Del Rio sprang up on the roads going west.

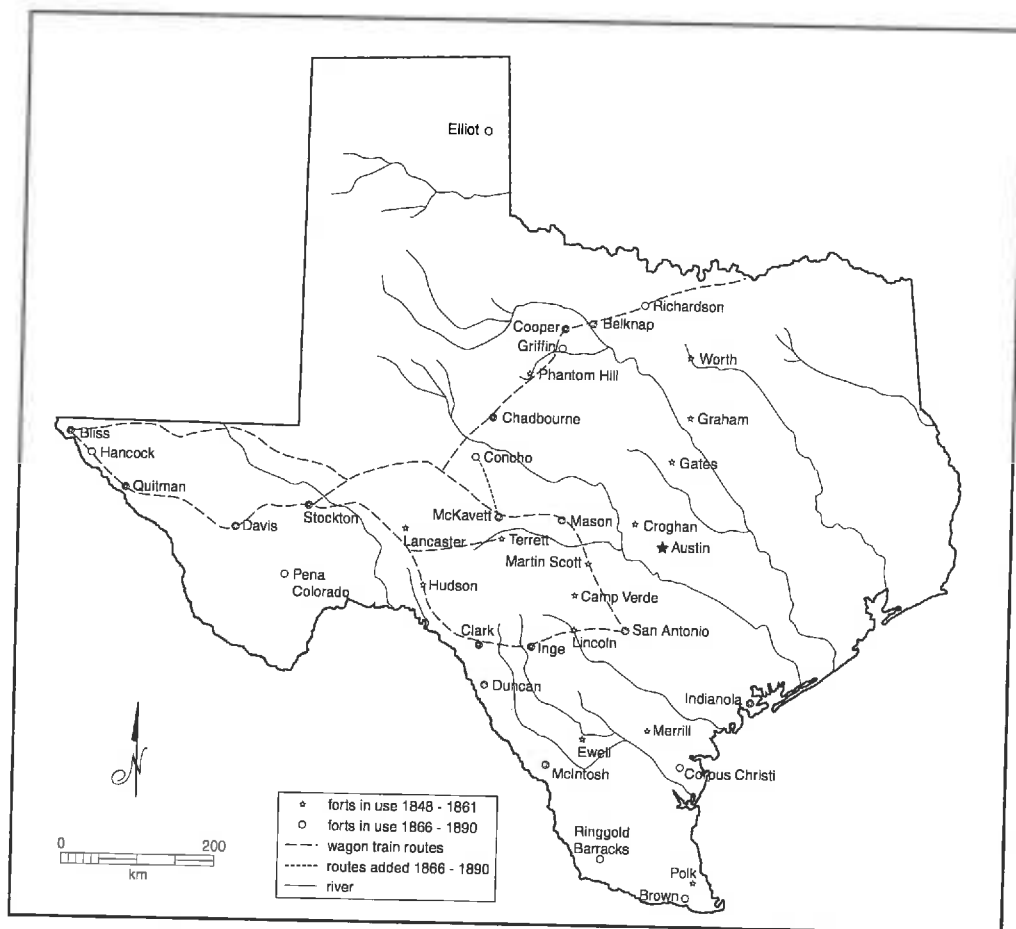


Figure 15. Texas frontier roads and forts.

In the last quarter of the nineteenth century, sheep and goat raising became an important industry in this part of Texas. The sheep business transplanted to the southwest by Spanish and Mexican *pastores* was adopted by Anglo-American and northern European sheep ranchers in southwest Texas. Sheep, first introduced into Texas by the Franciscan missionaries, were found to thrive in the arid south and west Texas climate. Combining as it did the cultural legacy of the Spanish and Mexican livestock ranches with the business acumen of the Anglo-Americans, sheep and goat raising rapidly became the predominant occupation of the settlers moving into the region. Mexican nationals coming across the Rio Grande in the late 1800s and early 1900s were hired by the large ranches during shearing time in the spring and early fall as sheep shearers and drivers. By the turn of the twentieth century, Texas was one of the nation's largest producers of wool and mohair.

The overland road from San Antonio to El Paso ultimately became the route of the southern continental railroad, completed in 1883. The railroad brought economic benefits to the town of Del Rio. Before the arrival of the railroad, wool was hauled by wagon from Del Rio to San Antonio for marketing. Once the railroad was completed, Del Rio was able to develop its own markets.

Wool was not the only product of the sheep ranches. By 1921 this area of the southwest was recognized as one of the best inland markets for lamb and mutton. Buyers from the grain-producing area of the northern United States also came to Del Rio to invest in lambs and mutton. Central to this prosperity was the Rambouillet, a breed of sheep first imported into the United States by George Kendall of Boerne, Texas. Del Rio, known for its high-grade Rambouillet wool, lambs, and mohair, soon became one of the largest warehouse and shipping centers of the southwest, transporting lamb, mutton, and *cabrito* directly to eastern markets and feed pens in cities such as Chicago. The Southern Pacific Railroad connected this frontier outpost to these lucrative markets.

The Zacatosa Ranch

In 1885 W. K. Jones consolidated three tracts of land along the train route into a single ranch. Two years later, Jones sold the property to the first of a chain of absentee landowners, the last of whom, B. S. Harrison, sold it to the Department

of Defense for Laughlin AFB. In 1921 George M. Marshall (Figure 16), a prominent midwestern livestock feeder and landowner, met Ben Harrison on a train while passing through the area. Marshall was persuaded to lease the Harrison property sight unseen, and sent his son, Gilbert C., to run the ranch.

When Gilbert C. Marshall arrived to run the ranch, he found neither livestock nor buildings. The only employee was an elderly Mexican man who spoke no English. Marshall hired laborers, drilled a well, and supervised construction of an adobe house, ranch buildings, and cross fences, and acquired a flock



Figure 16. *George M. Marshall and his wife Susie in front of the ranch corral (courtesy of the Marshall family).*



Figure 17. *Gilbert G. Marshall (son of Gilbert C.) showing off his blue-ribbon Rambouillet sheep at a 4-H event (courtesy of the Marshall family).*

of Rambouillet sheep (Figure 17). Over the years, the 15,000-acre ranch, leased by the Marshalls for \$.50 an acre, grew to be a complex operation, raising goats, cattle, and sheep and growing crops. Sheep and wool from the ranch were shipped to commercial centers in San Antonio and other western markets.

Many of the ranch hands crossed over from Mexico; there was not as much emphasis on the boundary at that time. Wild animals were a constant problem on the ranch. Predators included panthers, coyotes, wild cats, and bears in the earlier years. Marshall hired government trappers to keep the predator populations down. The ranch had over 70 miles of 48-inch woven wire with barbed strands at the top and bottom to protect the animals from both human and animal predators.

The Architecture at the Ranch

When Harrison sold the land to the government in 1942, the ranch headquarters included 12 buildings plus corrals and a water system. The headquarters consisted of a collection of buildings constructed for the housing and feeding of the ranch operators and laborers, buildings devoted to the care and feeding of the livestock, a water system, and a Delco electric generating plant (Figure 18). In addition, a system of corrals of various types was located in a flat, relatively open area in the surrounding brush.



Figure 18. *Zacatosa Ranch headquarters, about 1942. Looking west.* (Laughlin AFB Base Properties Files).

The various structures that made up the headquarters complex were typical examples of ranch architecture of the early twentieth century. Adobe, the traditional construction material in west Texas and Northern Mexico at the turn of the century, was beginning to disappear on the frontier as less labor-intensive building materials became available. Thus, the first house built on the ranch used adobe (Figure 19). Construction with wood became popular in the 1920s when the railroads could ship lumber in large quantities at economical prices.



Figure 19. *Adobe house, about 1942.* Looking west. (Laughlin AFB Properties File).

Texas farm houses of the 1920s era were either square in plan with a pyramidal hipped roof, or rectangular with a gabled roof. "Boxed" or "box and strip" construction was an



Figure 20. *The Zacatosa Ranch "Main House," about 1942.* Looking north. Note addition on the left and east end and porch of the adobe house are in the background at right. (Laughlin AFB Base Properties Files).

inexpensive method involving no wall studs. The vertical wall planks, nailed to a sill below and a plate at the roof line, were all that supported the roof. Wood framing was sometimes used for more substantial buildings such as the Main House on the ranch (Figure 20). Outbuildings were usually of sturdy but inexpensive construction, the choice of materials being based on the purpose for which the

building was to be used. Structures having perishable or flammable contents such as storehouses, feed houses, and pump and generator houses were often iron clad, sheet iron being more weather- and fireproof than wood.

The following descriptions and photographs of structures on the Zacatosa Ranch were found in the Appraisal Report in the Base Properties file at Laughlin AFB.

An adobe house, 24 x 40 ft, with a screened porch, two brick stove chimneys (small chimneys suspended above the floor level to take a stove pipe), and a shingled roof on a concrete foundation, surrounded by a woven wire fenced yard (Figure 19).

A frame house, 24 x 24 ft, with a pyramidal hipped roof and a 12-x-15-ft addition with a flat roof, on a block foundation, surrounded by a woven wire fenced yard (Figure 20).

A “chuck house” or kitchen, 16 x 24 ft, containing three rooms, of boxed construction, with shingled roof, on a block foundation, included within the yard of the frame house (Figure 21).

A labor or bunk house, 12 x 24 ft, of boxed construction, on a concrete foundation with metal gabled roof, within a yard surrounded by a woven wire fence (Figure 22).



Figure 21. *The three-room “chuck house” or kitchen* (Laughlin AFB Base Properties Files).



Figure 22. *The bunk house for laborers* (Laughlin AFB Base Properties Files).

A garage, 12 x 27 ft, of boxed construction on a block foundation, with a metal gabled roof.

A garage, 18 x 36 ft, of boxed construction on a block foundation, with a metal gabled roof.

A feed house, 20 x 24 ft, of ironclad construction (wood frame with a sheet-iron skin), with a metal gabled roof, on a concrete foundation.

A saddle house, 14 x 15 ft, of boxed construction with a metal shed roof, on a block foundation.

A sheep hospital, 12 x 22 ft, of stud construction with a metal shed roof, on a block foundation.

A storehouse, 12 x 15 ft, of ironclad construction, with a metal shed roof, on a block foundation.

A hen house, 8 x 10 ft, of boxed construction, with a metal roof, on a block foundation.

A house for a Delco generator, 6 x 8 ft, of ironclad construction, with metal shed roof, on concrete foundation (Figure 23).

A system of corrals built of horizontal boards or stacked logs. Stacked log corrals were popular throughout the sheep raising country of south and west Texas (Figure 24).

A water system consisting of a well, a windmill, a concrete storage reservoir, and concrete water troughs.

Mr. Harrison received permission to move all these structures except the adobe house, the smaller of the garages, the generator house, and corrals and water system, at the time the ranch was sold. However, apparently only the frame house was relocated to Marshall property south of the base. The remaining structures appear to have been dismantled and hauled away and the area was then bladed and scraped

level. Interviews with members of the Marshall family and records of the land transactions when the ranch was turned over to the government have been used to reconstruct the history of the ranch headquarters.



Figure 23. *The house for the Delco generator* (Laughlin AFB Base Properties Files).

Figure 24. *The system of corrals built of horizontal boards and stacked logs* (Laughlin AFB Base Properties Files).



Field Methodology

At the end of the research phase of the project, the archaeologists had sufficient information about both the prehistory and history of the Laughlin area to plan the archaeological investigations. The history of the Zacatosa Ranch was known, but not the exact location of its headquarters. A number of prehistoric sites had already been recorded, but not enough information existed about their size or the date of their occupation to determine their significance. The survey was designed to gather this information and identify any other sites, prehistoric or historic within the base and marina properties.

The Survey

The area of the main base to be surveyed was subdivided into three zones: 1) the upland areas of higher elevation which had not been developed, 2) an upland zone which contains the major base development, and 3) the zones bordering the creeks (Table 2). Each zone required specific and slightly different survey techniques because of its landform, vegetation, and the amount of development that had taken place there.

Archaeologists conduct a survey by walking across an area in a methodical manner, visually examining the surface of the ground. The survey in Zones 1 and 3 involved crews walking in straight lines about 20 meters (66 feet) apart, each surveyor searching the surface of the ground to the right and left in order to cover

Table 2. Laughlin AFB Archaeological Survey Zones

Zone Type	Area in Acres	Vegetation	Landform(s)	Ground Visibility
upland	1,471	shrub	upland hills and flats	40-60%
creek	533	dense shrub	floodplain, alluvial terraces, and areas within 100m of floodplain	0-40%
developed	851	yards and grass	disturbed	0-10%
recreation & marina	45	shrub	terrace	85-90%

as much area as possible (Figure 25). In Zone 2, where it was necessary to work around standing buildings, a zig-zag pattern was adopted, cutting across yards and around buildings. When evidence of a site was found, the location was marked on



Figure 25. *Archaeologists walking an area at measured intervals.*

a map and artifacts such as prehistoric projectile points or pieces of historic pottery or glass were collected. Approximate boundaries for sites were estimated by noting the extent of the area containing artifacts. Sites were permanently marked with engraved tags for future reference (Figure 26).



Figure 26. *Site being permanently marked.*

To accurately record all observations about the appearance and size of sites as they were found, special forms were designed in advance. The importance of writing down all work performed on a survey and testing operation as it is done can't be overstated. The great number of sites and the difficulty of relocating them later in the project requires careful and systematic recording (Figure 27). Photographic recording is also important for the same reasons. Each site is registered with the Texas Archeological Research Laboratory at The University of Texas at Austin and is given an official site number. The site number consists of the number 41, for the state of Texas; the letters VV for Val Verde County; and a sequential number on the list of sites recorded in the county. For example, 41VV1685 is the 1,685th site recorded in Val Verde County, Texas.



Figure 27. Systematic recording of a prehistoric site on Laughlin AFB.

Testing

Each significant prehistoric site located during the survey was tested by digging several shovel tests. Shovel tests are about 30–45 centimeters (15 to 18 inches) in diameter and are often used in archaeology to assess the size and depth of a site (Figure 28). In this case,



Figure 28. *Digging a shovel test to look for buried artifacts.*

shovel tests were limited to 50 centimeters (20 inches) in depth. All the soil removed from the shovel test was sifted through wire mesh. This technique, known as screening, allows the dirt to pass through the mesh, revealing artifacts left in the screen (Figure 29). Another type of testing used was the surface

collection unit. This method involves recording all the artifacts on the surface within a specified circle known as a dogleash unit. Dogleash units used here were 10 meters (33 feet) in diameter. The combination of dogleash recording and shovel testing allowed an accurate assessment of the comparative importance of a site.



Figure 29. *Screening dirt from a shovel test.*

For historic sites, the strategy involved mapping the location of structural remains visible on the surface and collecting any artifacts found in direct relation to the structures. Where the remains of structures were not obvious, dogleash recording units were used. All structural remnants were photographed and mapped as they were found (Figure 30).



Figure 30. Preparation for mapping structural remains at historic site 41VV1862.

Results

On Laughlin AFB, the archaeological survey located, tested, and recorded eight prehistoric sites, two historic sites, and one large site that was occupied in both the prehistoric and the historic periods. In addition, three previously recorded sites were reexamined. Although one prehistoric site had previously been recorded on the Air Force Recreational Area and Marina, it could not be relocated by this survey. This section discusses the prehistoric and historic sites separately.

The Prehistoric Sites

The prehistoric sites were found to range in size from only about 55.8 square meters (600 square feet) to more than 591 square kilometers (146 acres). All but one of the sites are located in the creek zone, near one of the two drainage systems. Two large and two smaller sites were located on the west

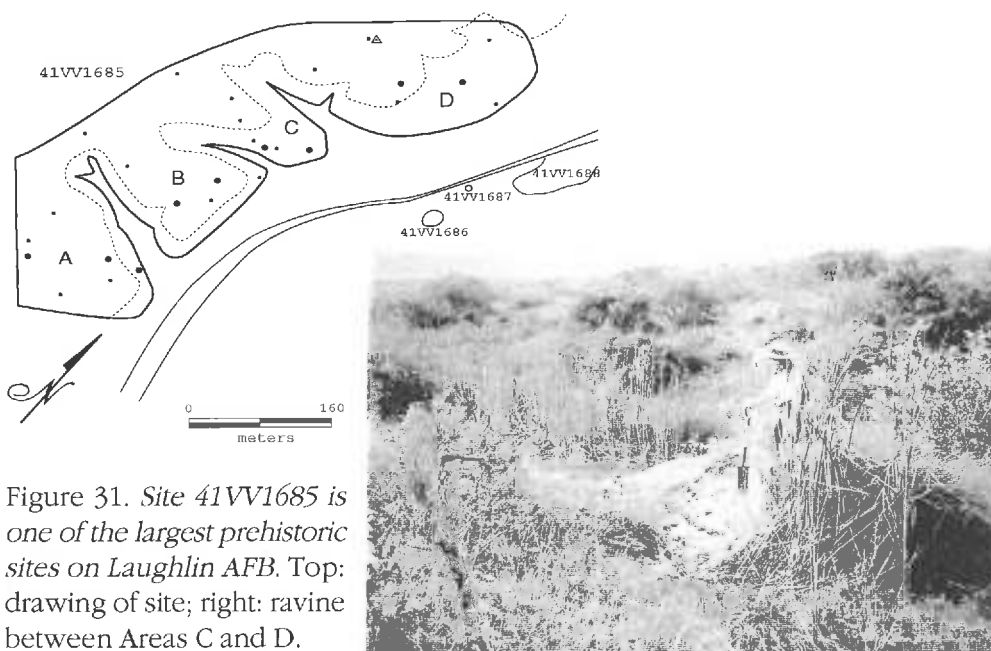


Figure 31. Site 41VV1685 is one of the largest prehistoric sites on Laughlin AFB. Top: drawing of site; right: ravine between Areas C and D.

along a stream (Figure 31). On the terrace at 41VV1685, the surface contains evidence that a variety of activities occurred at the site, probably over a very long period of time. The ground was covered by small flakes and chips of chert (sometimes called flint) as well as many cobbles that had been tested for the quality of their chert by breaking off one or two large flakes. A few projectile points and thick bifacial tools also were found. The naturally occurring gravels found on the site would have provided a good source of tool-making materials.

The largest site on Laughlin, 4VV1654 (Figure 32), appears to have been occupied repeatedly over as much as 4,000 years, from the Late Paleoindian period, when an early hunter lost a Golondrina/Barber spear point, to the Early Archaic period, when Gower and Wilson (Early Side Notched) dart points were being used. Large sites such as this may have many features such as concentrations of burned rock (Figure 33), hearths, middens, and other activity areas. Often, however, they have been visited so many times by so many ancient Texans that the archaeological record becomes mixed. In-depth investigations are necessary to fully understand these complex sites.



Figure 32. *General view of 41VV1654.*



Figure 33. *Burned rock cluster at 41VV1654.*

Smaller sites, such as the six recorded on the east side of Sacatosa Creek, are useful to the archaeologists because they provide a record from a limited number of occupations that have not become mixed by later prehistoric visits. One of these smaller sites, 41VV1690, had a scatter of chert flakes and chips, three ancient hearth features, and a modern campfire (Figures 34 and 35). These features were visible where a dirt road cut through the area. Features such as hearths that remain buried in riverbank silt may remain intact for hundreds of years while others, exposed by wind or water erosion, may disappear rapidly. Stone fragments and tools were found as deep as 30 centimeters (12 inches) in many of the small sites on the east side of the creek.

As indicated in our discussion of site 41VV1654, dating of the prehistoric sites on Laughlin AFB is based on the artifacts recovered during the survey and testing phases. Projectile points are the most useful artifacts for this purpose, because they changed in style over time. Archaeologists have been able to determine the dates during which various styles were popular through radiocarbon dating of

charcoal in deposits in which the points were found. While most sites must once have once contained numerous types of artifacts made of wood and fiber such as are found in the dry caves along the Pecos and Rio Grande, stone objects such as projectile points and tools are the materials that generally survive in open sites. The term projectile point is customarily used to refer to all stone points that were mounted on arrows or spears and used by prehistoric people for hunting or fishing. The term "arrowhead" is generally avoided by archaeologists, because only a few of these points were actually used on arrows. The majority, particularly the larger varieties, were mounted on spear shafts.

The projectile points recovered during this project were all made of chert. They date to the Late Paleoindian and Archaic periods. All but one came from recorded sites, the exception was found in the creek zone, but away from any of the sites. Figure 36 illustrates the projectile points and point fragments found during survey and testing.

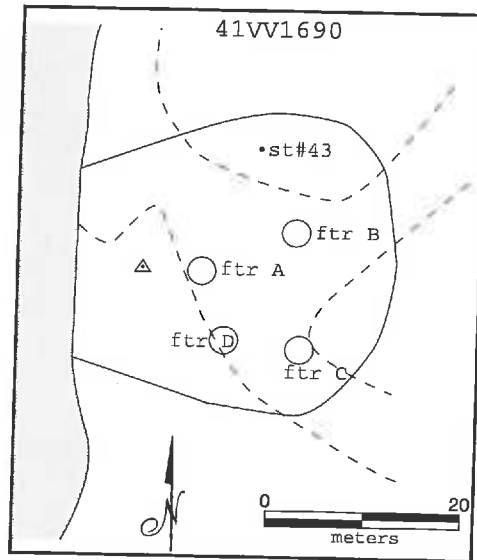


Figure 34. Site 41VV1690, one of the small sites that may have been occupied only a few times.



Figure 35. View toward Sacatosa Creek showing recent and prehistoric hearths at 41VV1690.

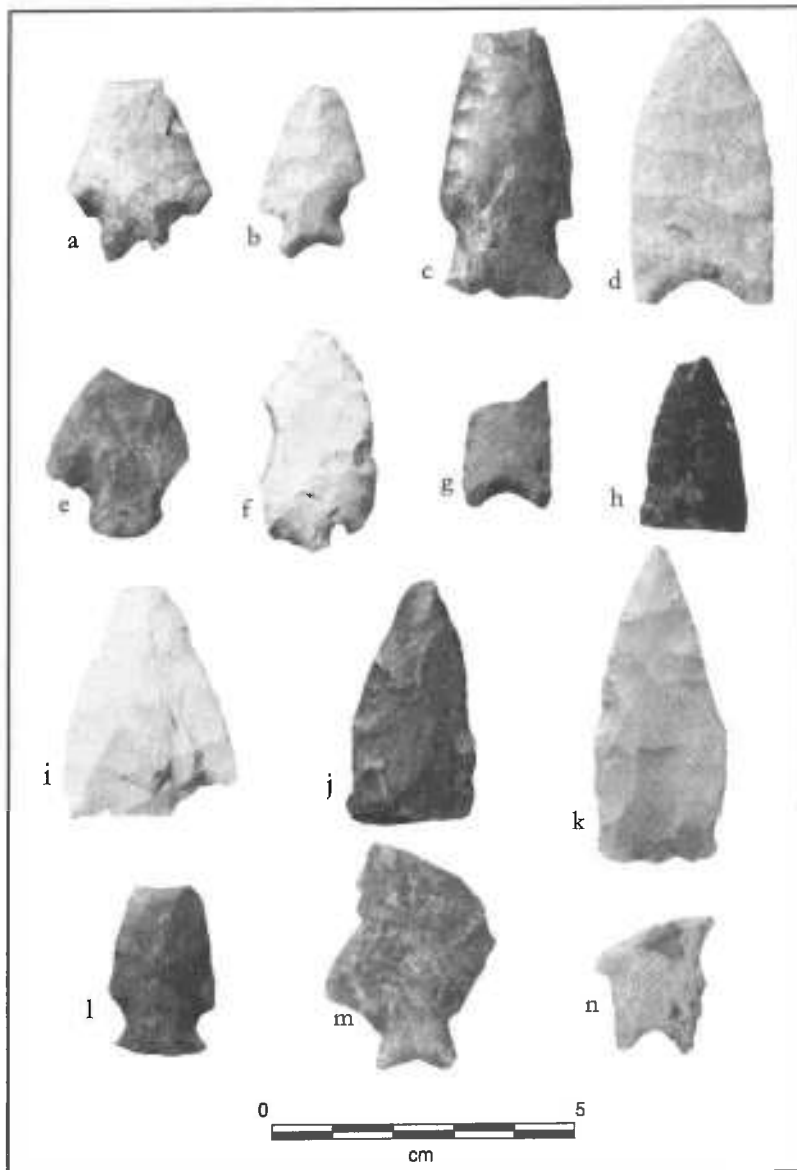


Figure 36. *Projectile points from Laughlin AFB.* a. Early Corner-notched; b. Gower; c. Wilson; d. Golondrina/Barber; e–g. untyped; h. Angostura-like; i, j. untyped; k. Kinney-like; l. Ensor; m. Bandy/Martindale; n. Pedernales-like.

Projectile points are not the only type of objects made and used by prehistoric people. Other stone tools include objects flaked on one side only (unifacial) or on two faces (bifacial), which are evidently used for various tasks such as digging up and preparing fibrous plants to use for food or for making basketry and rope. Large bifacially flaked tools were also probably used for cutting and preparing wood or bone to make other objects. Figure 37 illustrates some of the stone tools recovered during the project.

Various plant foods were ground using stone pestles, one of which is illustrated in Figure 38. Pestles of this type were used with bedrock mortars, which were holes worn by long usage into natural outcrops of limestone on the edge of streams or in the hillsides. In the Pecos River and the Rio Grande area these mortars are also commonly found around the rock shelters where people lived.



Figure 37. Stone tools from Laughlin AFB.

Just as no Late Prehistoric projectile points were found during the survey, no prehistoric pottery was encountered on any of the Laughlin sites. This is not a surprise, given that ceramics are rare throughout the Lower Pecos-Rio Grande region and, when found, are usually associated with Late Prehistoric high-promontory campsites and tepee rings not found at Laughlin AFB.

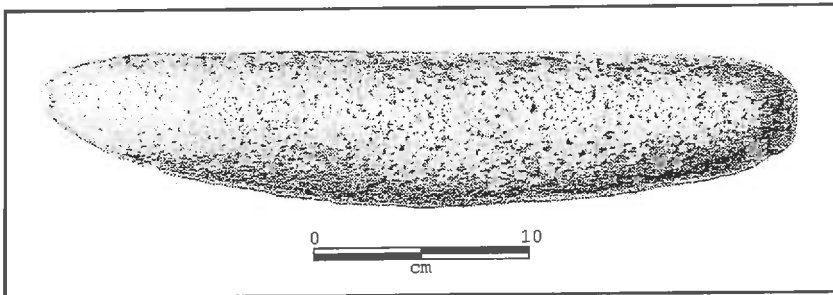


Figure 38. *Ground stone pestle from site 41VV1654.*

The Historic Sites

Two historic-period occupation sites were found during the survey. One, which is within the boundary established for 41VV1654, contained the traces of a small house occupied in the late-nineteenth century. Dating the artifacts at the site made it possible to identify it as a historic site, in spite of the fact that no written record of a house at that spot could be found. A member of the Marshall family remembers an old abandoned house at the location when they first lived at the ranch. The area where the house once sat has been severely disturbed by bulldozing.

Two livestock watering troughs were recorded in the extreme western part of the site (Figure 39). These were identical in construction and size to troughs found at the Zacatosa Ranch headquarters site, so are considered part of the ranch.



Figure 39. *Livestock trough remains at 41VV1654.*

The second historic site recorded was the location of the ranch headquarters. Careful examination of an area in a large field northeast of the base airfield revealed traces of a number of structures and a few artifacts associated with them (Figure 40). Bases of concrete watering troughs, sandstone slabs, and buried concrete blocks are all that remain of what was once the headquarters for an extensive ranching operation (Figure 41). By recording and mapping these various faint traces, it was possible to tentatively reconstruct

the cluster of buildings. It was soon apparent that there was not enough architectural or artifactual evidence left on this site to merit further work. Fortunately, each building was photographed in the 1940s before they were destroyed. The photographs are all on file at the base headquarters.

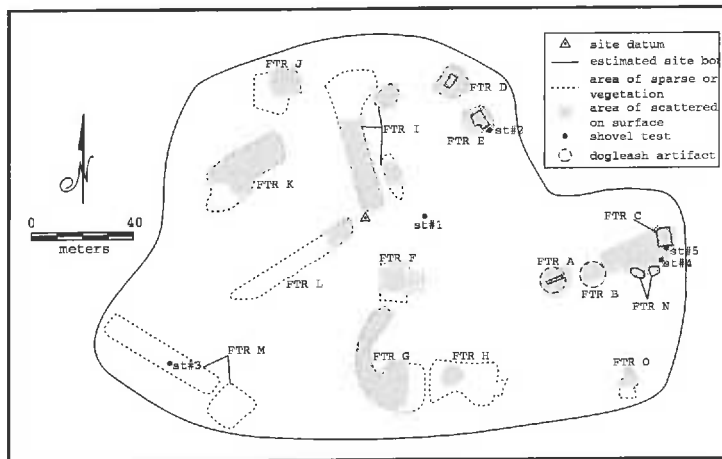


Figure 40. Archaeological remains of 41VV1682, the Zacatosa Ranch headquarters.

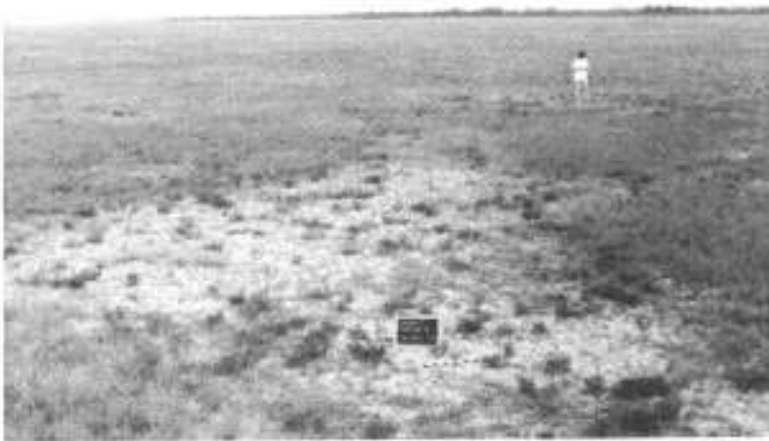


Figure 41. Overall view of 41VV1682.

Conclusions

Careful study of the results of the survey allows certain observations about the prehistoric occupations at Laughlin AFB. The types of projectile points recovered during the survey indicate the area was used from the late part of the Paleoindian period through the Late Prehistoric period—a span of about 8,000 years. All but one of the sites are within 100 meters (about 330 feet) of Zorro Creek or Sacatosa Creek, indicating the importance of these water sources to the early inhabitants. The lack of archaeological remains on the uplands may reflect a scarcity of plant and animal resources in this area.

Fourteen prehistoric sites were found during this project. Archaeological evidence indicates that two of the sites were probably locations for quarrying of stone to be used for tools and projectile points. The numerous hearths and different types of stone tools found at 41VV1654 suggest this site may frequently have served as a camp site where various residential activities were performed by a larger group of people. The remaining smaller sites may represent single visits by a few people, perhaps hunters or a small group collecting a specific plant resource. One site had been too disturbed by later activities to allow an assessment of its function.

Two historic sites were also recorded: a mid- to late-nineteenth century homestead, and the remains of the Zacatosa Ranch headquarters from the early twentieth century. The historic sites have been so completely disturbed that they are not likely to contain any further information about their history or the history of the area.

In addition to locating archaeological sites, one of the objectives of this project was to assess the relative importance of the sites and make recommendations as to which, if any, could be eligible for nomination to the National Register of Historic Places. Based on the fact that the prehistoric sites are likely to contain important information about the way early people used the areas away from the canyons and rockshelters along the large rivers, eleven of these sites have been recommended as eligible for nomination to the National Register of Historic Places and should be further examined.

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